RC 134

PROPOSAL XXX - 5AAC 92.125. Predation Control Areas Implementation Plans. Reauthorize the Upper Yukon–Tanana Predation Control Implementation Plan in Units 12, 20B, 20D, 20E and 25C as follows:

...

(b) **Upper Yukon/Tanana predation control area in Units 12, 20(B), 20(D), 20(E), and 25(C): the Upper Yukon/Tanana Predation Control Area is established to increase both the Fortymile Caribou Herd (FCH) throughout its range and the moose population in Unit 12 north of the Alaska Highway and in Unit 20(E) to aid in achieving intensive management objectives; the control area includes that portion of Unit 12 north of the Alaska Highway, that portion of Unit 20(D) within the Goodpaster River drainage upstream from and including the South Fork Goodpaster River drainage, and within the Healy River, Billy Creek, and Sand Creek drainages, that portion of Unit 20(B) within the Salcha River drainage upstream from and including the Goose Creek drainage, and within the Middle Fork of the Chena River drainage, all of Unit 20(E), and that portion of Unit 25(C) within the Birch Creek drainage upstream from the Steese Highway Bridge, and within the area draining into the south and west bank of the Yukon River upstream from the community of Circle, encompassing approximately 18,750 square miles; this predator control program does not apply to any National Park Service or National Wildlife Refuge lands unless approved by the federal agencies;** Notwithstanding any other provision in this title, and based on the following information contained in this section, the commissioner or the commissioner's designee may conduct a wolf population reduction or wolf population regulation program in the Upper Yukon/Tanana **Predation** [WOLF] Control Area in Units 12, 20(B), 20(D), 20(E), and 25(C)[, AND CONDUCT A BROWN BEAR POPULATION REDUCTION OR BROWN BEAR POPULATION REGULATION PROGRAM IN THE UPPER YUKON/TANANA BROWN BEAR PREDATION CONTROL AREA IN UNIT 20(E)]:

[(1) THE FOLLOWING PREDATION CONTROL AREAS ARE ESTABLISHED IN THE UPPER YUKON/TANANA REGION OF THE STATE:

(A) AN UPPER YUKON/TANANA WOLF CONTROL AREA IS ESTABLISHED TO INCREASE BOTH THE FORTYMILE CARIBOU HERD (FCH) THROUGHOUT ITS RANGE AND THE MOOSE POPULATION IN UNIT 12 NORTH OF THE ALASKA HIGHWAY AND IN UNIT 20(E) TO AID IN ACHIEVING INTENSIVE MANAGEMENT OBJECTIVES; THE CONTROL AREA INCLUDES THAT PORTION OF UNIT 12 NORTH OF THE ALASKA HIGHWAY, THAT PORTION OF UNIT 20(D) WITHIN THE GOODPASTER RIVER DRAINAGE UPSTREAM FROM AND INCLUDING THE SOUTH FORK GOODPASTER RIVER DRAINAGE, AND WITHIN THE HEALY RIVER, BILLY CREEK, AND SAND CREEK DRAINAGES, THAT PORTION OF UNIT 20(B) WITHIN THE SALCHA RIVER DRAINAGE UPSTREAM FROM AND INCLUDING THE GOOSE CREEK DRAINAGE, AND WITHIN THE MIDDLE FORK OF THE CHENA RIVER DRAINAGE, ALL OF UNIT 20(E), AND THAT PORTION OF UNIT 25(C) WITHIN THE BIRCH CREEK DRAINAGE UPSTREAM FROM THE STEESE HIGHWAY BRIDGE, AND WITHIN THE AREA DRAINING INTO THE SOUTH AND WEST BANK OF THE YUKON

RIVER UPSTREAM FROM THE COMMUNITY OF CIRCLE, ENCOMPASSING APPROXIMATELY 18,750 SQUARE MILES; THIS WOLF CONTROL PROGRAM DOES NOT APPLY TO ANY NATIONAL PARK SERVICE OR NATIONAL WILDLIFE REFUGE LANDS UNLESS APPROVED BY THE FEDERAL AGENCIES;]

[(B) AN UPPER YUKON/TANANA BROWN BEAR PREDATION CONTROL AREA IS ESTABLISHED TO INCREASE MOOSE NUMBERS IN CENTRAL UNIT 20(E) TO AID IN ACHIEVING INTENSIVE MANAGEMENT OBJECTIVES; THE CONTROL AREA INCLUDES THAT PORTION OF UNIT 20(E) WITHIN THE SOUTH FORK FORTYMILE RIVER DRAINAGE UPSTREAM FROM AND INCLUDING THE BUTTE CREEK DRAINAGE, THE MIDDLE FORK FORTYMILE RIVER DRAINAGE UPSTREAM FROM BUT NOT INCLUDING THE JOSEPH CREEK DRAINAGE, AND THE SIXTYMILE AND NORTH LADUE RIVER DRAINAGES, ENCOMPASSING APPROXIMATELY 4,050 SQUARE MILES;]

(1) [(2)] the discussion of wildlife population and human use information is as follows:

(A) the prey population information is as follows:

(i) the FCH population was estimated to be 350,000 - 568,000 caribou in the 1920s and numbered at least 50,000 caribou during the 1950s and early 1960s, but by the early 1970s the population declined to an estimated low of 5,000 caribou; between 1974 and 1990, the FCH grew slowly to about 23,000 caribou and remained at that level due to low calf survival until 1995; an intensive private wolf trapping effort, nonlethal wolf control, favorable weather conditions, and reduced hunting pressure enabled the population to increase to 43,375 caribou by 2003; **a June 2007 photo census indicated the population declined to 38,364 caribou, likely due to a combination of poor birth and survival rates; modeling indicates improvements in these rates may resulted in an increase to approximately 40,000 caribou by May 2008;** [BY MID-MAY 2004, THE POPULATION DECREASED TO AN ESTIMATED 42,000 CARIBOU, DUE LARGLY TO A COMBINATION OF PREDATION AND LOW PERCENTAGE OF BIRTHS IN THE HERD DURING 2003 (69 PERCENT BIRTHRATE) BECAUSE OF ADVERSE SUMMER WEATHER IN 2002; THE POPULATION FURTHER DECLINED TO AN ESTIMATED 39,700 CARIBOU BY EARLY MAY 2005, DUE LARGLY TO HIGH PREDATION MORTALITY AMOUNG CALVES AND ADULTSDURING ICING CONDITIONS AND DEEP SNOW IN WINTER 2004 - 2005]; in the 1920s, the FCH's range encompassed approximately 85,000 square miles extending from Whitehorse, Yukon to the White Mountains north of Fairbanks; currently the FCH's range occupies only about 25 percent of this area and only a small number of Fortymile caribou move into the Yukon Territory each year; the control area corresponds to the current FCH range in Alaska;

(ii) during fall 2000 – **2008** [2005], calves per 100 cows averaged **30** [28] (range 17-39);

(iii) during 2000 – **2008** [2005], spring birth rates averaged 85 (estimated birth rate of calves per 100 cows that were at least 36 months of age);

(iv) the estimated harvestable surplus of caribou within the control area in **2008** [2005] was 850 caribou; this is based on an annual herd harvest rate of approximately two percent of the early May population estimate of **40,000** [39,700] caribou, with 25 percent of the annual harvest comprised of cows and 75 percent of the harvest comprised of bulls;

(v) the intensive management population objective established by the board for the FCH is 50,000 - 100,000 caribou; the intensive management harvest objective is 1,000 - 15,000 caribou annually;

(vi) based on available data, habitat has not been a factor limiting FCH population growth since 1995; annual birth rates of radiocollared adult cows was 85 - 98 percent during 1995 – **2008** [2005], except in 2003 (69 percent) , [AND] 2005 (77 percent) **and 2006 (80 percent)**, indicating the herd was in good nutritional condition during most years; annual October calf weights during the last 15 years also indicated good nutritional status, except during 2003 , [AND] 2005 **and 2008**; reduced nutritional condition in 2003 , [AND] 2005 **and 2008** was likely related to adverse weather; winter samples obtained during the 1990s indicated that lichens were readily available and, therefore, winter range used by the herd was in excellent condition; in addition, most of the historic winter range not used for decades is still available and, except in burned areas, likely has abundant lichens; recent large burns in the FCH range in 2004 and 2005 likely improved the range in summer, when the diet contains predominately willows, sedges, grasses, and flowers; on burned winter ranges, lichens are reduced for decades, but caribou are well adapted to rapidly traversing vast distances, using unburned inclusions, and substituting evergreen shrubs and sedges for lichens in areas where lichens are rare; blood samples collected annually from the FCH during 1980 - 2003 indicate these caribou are generally healthy and there are no indications of impact from infectious diseases;

(vii) wolf predation has consistently been a major cause of death among Fortymile caribou; during nine years of detailed calf mortality studies (May 1994 - April 2003), wolves killed an average of 26 percent of radiocollared calves annually (47 percent of the usual calf mortality); during May 1991 - April 2005, wolves caused 80 percent of the total adult caribou mortality;

(viii) brown bears are also important causes of mortality among Fortymile caribou; during nine years of detailed calf mortality studies (May 1994 - April 2003), brown bears killed an average of 16 percent of radiocollared calves annually (28 percent annual calf mortality) and black bears killed an average of three percent of radiocollared calves annually (six percent of annual calf mortality);

(ix) the number of caribou that can be harvested from the FCH on an annual basis without causing a decline or altering its composition in a biologically unacceptable manner is less than the intensive management harvest objective set by the board;

(x) the FCH has been at low density since the 1970s; without an effective predation control program, the population will likely remain below the intensive management objective; implementation of this predation control implementation plan is expected to initiate an increase of the caribou population towards the intensive management population objective; given weather

favorable to caribou, this plan is expected to result in a rate of increase similar to that observed from 1995 (22,558 caribou) to 2003 (43,375 caribou); an 8.5 percent average annual rate of increase; the rate of increase resulted in part from an intensive private wolf trapping effort (winters 1995 - 1996 and 1996 - 1997), nonlethal wolf control (110 wolves in 15 key, remote packs in early winter 1997 reduced to 27 - 51 wolves each spring during 2000 - 2003), favorable weather conditions (spring 1996 - spring 2002) and reduced caribou hunting pressure (150 bulls annually during fall 1996 - fall 2000); this plan provides a means of action to reach the minimum intensive management population objective of 50,000 caribou and the harvest objective of 1,000 caribou by 2012;

(xi) the moose population size in Unit 12 north of the Alaska Highway and Unit 20(E) was estimated to be **2,600 -** 4,300 [- 5,200] in 2004, [AND] **3,400 – 5,100** [4,300 - 5,900] in 2005, **4,000 – 5,900 in 2006, and 4,000 – 6,100 in 2007**; these estimates were based upon extrapolations from surveys conducted in a 4,630 square mile area of southern Unit 20(E) in 2004 **- 2007** [AND 2005] and surveys conducted within a 1,200 square mile area of the Yukon Charley Rivers Preserve in northern Unit 20(E) in 2003 **and 2006**; **analysis of 2004 – 2007 moose survey data from southern Unit 20E, indicates the moose population increased in the 4,630 square mile area surveyed** [NO TREND IN POPULATION SIZE IS APPAENT FROM THESE SURVEYS BECAUSE CONFIDENCE INTERVALS AROUND ESTIMATES OVERLAP]; public observations and department surveys indicate the moose density was higher (1.0 - 1.5 moose per square mile) in the 1960s, but has been lower (less than 1.0 moose per square mile) since the late 1970s;

(xii) based on surveys conducted in a 4,630 square mile area of southern Unit 20(E), calves and yearling bulls per 100 cows averaged 18 and 9, respectively, during fall 2000 - 2004; fall 2005**, 2006, and 2007** surveys within the same survey area indicated 23**, 31 and 26** calves per 100 cows and 11, **6 and 11** yearling bulls per 100 cows **respectively**; surveys conducted within a 1,200 square mile area of the Yukon Charley Rivers Preserve in northern Unit 20(E) during 2003, indicated 25 calves per 100 cows and six yearling bulls per 100 cows;

(xiii) estimated birth rate of moose in Unit 12 north of the Alaska Highway and Unit 20(E) is likely 110 - 138 calves per 100 cows two years of age or older, based on research conducted during the 1980s in Unit 20(E) and on spring twinning rate surveys conducted in southern Unit 20(E) during spring 2004 **– 2008** [AND 2005];

(xiv) based on 2004 **- 2007** [AND 2005] recruitment estimates, and using a four percent harvest rate for bulls, the harvestable surplus of moose in Unit 12 north of the Alaska Highway and Unit 20(E) was **138** [135] – **202** [201] moose;

(xv) the intensive management moose objectives established by the board in Unit 12 are for a population of 4,000 - 6,000 moose, with a harvest of 250 - 450 moose annually; the intensive management moose objectives established in Unit 20(E) are for a population of 8,000 - 10,000 moose, with a harvest of 500 - 1,000 moose annually; in Unit 12 north of the Alaska Highway and Unit 20(E) where control activities are conducted to benefit moose, the geographically proportional intensive management objectives are for a population of 8,744 - 11,116 moose, with

a harvest of 547 - 1,084 moose; achieving these population and harvest objectives for this area will contribute to achieving the intensive management population and harvest objectives established for all of Units 12 and 20(E);

(xvi) based on available data, habitat is not a factor limiting moose population growth in Unit 12 north of the Alaska Highway and Unit 20(E); in southern Unit 20(E), [MODERATE] **average** twinning rates of **29** [30 percent and 24] percent **(range 17 – 47)** were observed during spring surveys in 2004 **- 2008** [AND 2005, RESPECTIVELY]; those twinning rates indicate the habitat is capable of sustaining a higher moose density; in addition, recent wildfires resulted in improved habitat conditions for moose in much of northern Unit 12 and in Unit 20(E), and fire suppression efforts are limited over most of this area; over 1,600 square miles of habitat were burned within and surrounding the control area in 2004 alone, which is expected to benefit moose productivity for decades;

(xvii) research conducted during 1981 - 1988 within Unit 20(E) indicates brown bear predation on calves and wolf predation on all sex and age classes throughout the year are important factors limiting moose population size and growth; in the research study area, wolves killed 12 - 15 percent of neonate moose calves, brown bears killed 52 percent, and black bears killed three percent; in addition, wolves and brown bears accounted for 89 percent of all yearling and adult moose mortality during the study; models developed from data collected during the research project indicated that within the research area, 81 percent of all moose mortality within the postcalving moose population was caused by predation and four percent and 15.5 percent of mortality was caused by hunting and all other causes, respectively; most brown bear predation occurred during the six weeks following calving, while wolf predation on all sex and age classes occurred throughout the year; due to current moose harvest restrictions, mortality from harvest by humans is likely a minor limiting factor for the moose population in the control area;

(xviii) the number of moose that can be removed from the moose population in Unit 12 north of the Alaska Highway and Unit 20(E) on an annual basis without causing a decline in the population or altering its composition in a biologically unacceptable manner is less than the harvest objective for this area;

(xix) the moose population in Unit 12 north of the Alaska Highway and Unit 20(E) has been at a low density since the late 1970s; without an effective predation control program, moose in the control area are likely to persist in a low density dynamic equilibrium state with little expectation of increase; data from moose mortality studies, and predator and prey studies, conducted throughout Alaska and similar areas in Canada indicate that reducing the number of predators in the control area can reasonably be expected to result in an increase in the survival of moose; reducing wolf [AND BEAR] predation on moose, in combination with the current restricted level of moose harvest, can reasonably be expected to initiate a[N] **gradual** increase of the moose population towards the population objective;

(B) the human use information for the prey population is as follows:

(i) the FCH has traditionally been an important subsistence resource for residents of Units 12, 20(B), 20(D), 20(E), and 25(C), including the communities of Central, Chicken, Circle, Boundary, Eagle, Eagle Village, Northway, Tanacross, Tok, and Tetlin; the FCH has also been important for other residents of interior, southcentral and southeast Alaska, as well as western Yukon Territory, Canada; the FCH's range also provides important hunting opportunities for nonresident hunters and the guiding and transporting industries;

(ii) since at least 1976, local communities have expressed concern about chronically low FCH density and have proposed various predator control programs to increase caribou numbers and caribou harvest to meet their needs; since 1995, management actions to increase the population and restore the herd to its former range were directed by the Fortymile Caribou Herd Management Plan (1995 - 2000) and the Fortymile Caribou Herd Harvest Plan (2001 - 2006) that were approved by the board; the management plan addressed many aspects of herd management and included provisions to reduce caribou mortality by decreasing harvest and by implementing the Fortymile Nonlethal Predator Control Program; the harvest plan provided for conservative harvest management to promote continued herd growth; initially the herd responded positively, increasing to 43,375 caribou by 2003, but declined to 39,700 caribou by early May 2005; a revised Fortymile Caribou Herd Harvest Plan (2006 - 2012) that was endorsed by the board in March 2006 called for renewed population growth and recommended lethal wolf control;

(iii) during 1996 - 2000, an average of 129 caribou were harvested annually by an average of 732 resident hunters; while an average of nine caribou were harvested annually by an average of 12 nonresident hunters; during 2001 – **2007** [2004], an average of **755** [731] caribou were harvested annually by an average of **2,665** [2,675] resident hunters; while an average of **80** [68] caribou were harvested by an average of **206** [191] nonresident hunters;

(iv) without a control program, there is a low probability that the FCH will increase sufficiently to meet harvest demands in the future;

(v) moose have long been an important subsistence resource for residents of Units 12 and 20(E), including the communities of Chicken, Boundary, Eagle, Eagle Village, Tanacross, Tok, Tetlin, and Northway, and for other residents of interior, southcentral and southeast Alaska; Units 12 and 20(E) also provide important hunting opportunities for nonresident hunters and the guiding and transporting industries;

(vi) since at least 1986, local communities have expressed concern about chronically low moose density due to predation and have proposed various predator control programs to increase moose numbers and moose harvest to meet their needs; during the February - March 2004 board meeting, the Upper Tanana/Fortymile Fish and Game Advisory Committee and the public provided testimony explaining the problem and made proposals to correct the situation, which resulted in the creation of this control program;

(vii) during 1995 – **2007** [2004], within Unit 12 north of the Alaska Highway and Unit 20(E), an average of **134** [135] moose were harvested annually by an average of **619** [593] resident

hunters, while an average of **17** [16] moose were harvested annually by an average of **73** [66] nonresident hunters;

(viii) both resident and nonresident **moose** hunter numbers steadily increased between 1984 and 2004 in Unit 12 north of the Alaska Highway and Unit 20(E); average annual numbers of resident moose hunters increased 38 percent from 497 during 1995 - 1999 to 688 hunters during 2000 - 2004; average annual numbers of nonresident moose hunters increased 53 percent (from 42 to 89 hunters) between the same two periods; **during 2005 - 2007 both resident and nonresident hunter numbers remained relatively stable averaging 704 and 100 respectively;** hunting pressure by both resident and nonresident moose hunters is expected to remain at current levels or [CONTINUE] increase[ING] **slowly over the next few years**; if the control program is successful, it will help to meet harvest demand for moose in the future; without a control program, there is a very low probability that the moose population will increase sufficiently to meet demands;

(C) the predator population information is as follows:

(i) the pre-control wolf population during fall 2004 within the wolf control area was 350 - 410 wolves (18 - 22 wolves per 1,000 square miles) in 50 - 70 packs; this estimate was developed using information from department wolf surveys, wolf research in interior Alaska and Yukon, anecdotal observations, trapper and hunter interviews, and sealing records; during winters 2004 - 2005 **to 2007 – 2008** [AND 2005 – 2006], wolves were reduced due to predation control activities in southern Unit 20(E) and **portions of northern** [NORTHEASTERN] Unit 12 and due to harvest by trappers; the fall **2008** [2005] wolf population estimate **for the entire predation control area** was 393 – 410 [300 – 375] wolves (**21 – 23** [16 – 19] wolves per 1,000 square miles) in 50 - 70 packs;

(ii) during winters 2004 – 2005 **to 2007 – 2008**, a**n average** [TOTAL] of **105** [128] wolves were reported taken in [A PORTION OF] the wolf control area **annually, with an average** [;] of **31** [THOSE, 58 WERE] taken by wolf control permittees and **74** [70 were] taken by trappers and hunters;

(iii) wolf population levels in interior Alaska, including the wolf control area, are primarily dependant on prey abundance and mortality associated with human harvest, intraspecific competition, and disease; there is no evidence that disease has contributed to significant mortality of wolves within the control area;

(iv) moose and wolf population data available for Unit 12 north of the Alaska Highway and Unit 20(E) indicated the moose-to-wolf ratio was **17**[19]:1 - 20:1 in fall 2004, [AND] **23**[24]:1 – **29**[27]:1 in fall 2005, **24:1 – 34:1 in fall of 2006 and 26.1 – 28:1 in fall of 2007**;

(v) winter migration of the Nelchina caribou herd through northern Unit 12 and southern Unit 20(E) provides alternative prey for wolves; however, they are not consistently available because migrations into the area vary each year;

(vi) studies in Alaska and elsewhere have repeatedly concluded that large reductions are required to reduce wolf population levels and to reduce predation by wolves on their prey; research indicates a reduction of about 60 - 80 percent of the pre-control wolf population may be necessary to achieve prey population objectives; once the wolf population has been reduced to the population control objective, annual reductions of less than 60 percent will regulate the wolf population at the control objective; the wolf population control objective for the wolf control area is 88 - 103 wolves, in order to achieve a reduction of between 60 - 80 percent of the pre-control minimum estimated wolf population of 350 wolves; the minimum wolf population control objective will achieve the desired reduction in wolf predation, and also ensure that wolves persist within the control area;

(vii) the FCH population is well below historical levels; the moose population in Unit 12 north of the Alaska Highway and Unit 20(E) is in a low density dynamic equilibrium state and numbers are likely to fluctuate at low levels indefinitely; if wolf predation control efforts continue under this plan and the wolf population is reduced according to the wolf population and harvest objectives, the wolf population within the control area will be maintained at reduced levels (88 - 103 wolves) for several years; once the caribou and moose populations increase and wolf control efforts are discontinued, the wolf population will increase in response to the increased prey base;

[(VIII) THE PRE-CONTROL BROWN BEAR POPULATION WITHIN THE BROWN BEAR PREDATION CONTROL AREA WAS ESTIMATED TO BE 170 BEARS IN JUNE 2004; IT WAS BASED ON EXTRAPOLATION OF A DENSITY ESTIMATE OBTAINED IN CENTRAL UNIT 20(E), INCLUDING THE ENTIRE 4,050 SQUARE MILE BEAR PREDATION CONTROL AREA, DURING 1986 AND ON INTENSIVE RESEARCH STUDIES CONDUCTED IN SIMILAR HABITATS WITH SIMILAR BEAR FOOD RESOURCES DURING 1981 - 1998 IN UNIT 20(A), 100 MILES TO THE WEST; THIS ESTIMATE VERY NEARLY REFLECTS THE HABITAT LIMITATIONS FOR BROWN BEARS WITHIN THE BROWN BEAR PREDATION CONTROL AREA, BECAUSE THE BROWN BEAR POPULATION IS ONLY LIGHTLY HARVESTED; A DNA-BASED MARK-RECAPTURE STUDY OF BROWN BEAR NUMBERS IN A 2,005 SQUARE MILE PORTION OF THE BEAR PREDATION CONTROL AREA RESULTED IN AN ESTIMATE OF 111 - 189 BEARS IN THE ENTIRE 4,050 SQUARE MILE BEAR PREDATION CONTROL AREA IN 2006;

(IX) DURING 1995 - 2004, THE AVERAGE ANNUAL BROWN BEAR HARVEST WITHIN THE BROWN BEAR PREDATION CONTROL AREA WAS EIGHT BEARS (RANGE 2 - 12); DURING THE FIRST YEAR OF THE CONTROL PROGRAM (JANUARY - DECEMBER 2005), A TOTAL OF NINE BROWN BEARS WERE TAKEN FROM THE BEAR PREDATION CONTROL AREA; THREE OF THESE BEARS WERE TAKEN BY CONTROL PROGRAM PERMITTEES AND SIX WERE TAKEN BY HUNTERS UNDER STATE HUNTING REGULATIONS;

(X) BASED ON RESEARCH DATA IN ALASKA AND CANADA, A 60 PERCENT REDUCTION IN THE BROWN BEAR POPULATION WITHIN THE 4,050 SQUARE MILE BROWN BEAR PREDATION CONTROL AREA SPECIFIED IN THIS PROGRAM IS EXPECTED TO RESULT IN AN INCREASE IN MOOSE SURVIVAL; TO ACHIEVE THE

DESIRED REDUCTION IN BROWN BEAR PREDATION, BUT ENSURE THAT BROWN BEARS PERSIST WITHIN THE PREDATION CONTROL AREA, THE MINIMUM BROWN BEAR POPULATION OBJECTIVE FOR THE PREDATION CONTROL AREA IS 68 BEARS, WHICH REPRESENTS A 60 PERCENT REDUCTION FROM THE PRE-CONTROL MINIMUM ESTIMATED BROWN BEAR POPULATION OF 170 BEARS; IF BROWN BEAR PREDATION CONTROL EFFORTS ARE SUCCESSFUL AND THE BROWN BEAR POPULATION IS REDUCED ACCORDING TO THE OBJECTIVES, THE BROWN BEAR POPULATION WILL BE MAINTAINED NEAR THE MINIMUM POPULATION OBJECTIVE OF 68 BEARS FOR SEVERAL YEARS;]

(D) the human use information for the predator population is as follows:

(i) total reported annual harvest of wolves in the wolf control area by both hunters and trappers during 1994 - 2004 averaged 74 wolves annually (range 39 - 141), well below levels required to significantly reduce the population; during the winter of 2004 - 2005, a total of 128 wolves were reported taken in the wolf control area; of those, 58 were killed by wolf control permittees and 70 were harvested by trappers and hunters under state trapping and hunting regulations; **during winters 2005 – 2006, 2006 - 2007 and 2007 - 2008, 86, 103 and 97 wolves were harvested respectively; of those 17, 23 and 27 were killed by wolf control permitees, and 69, 80 and 70 were harvested under hunting and trapping regulations**;

[(II) TOTAL REPORTED ANNUAL HARVEST OF BROWN BEARS BY HUNTERS IN THE BROWN BEAR PREDATION CONTROL AREA DURING 1994 - 2004 AVERAGED EIGHT BEARS (RANGE 2 - 12); DURING THE SPRING AND FALL 2005, A TOTAL OF NINE BEARS WERE REPORTED TAKEN IN THE PREDATION CONTROL AREA; OF THOSE, THREE WERE TAKEN IN THE BROWN BEAR PREDATION CONTROL PROGRAM AND SIX WERE TAKEN BY HUNTERS UNDER STATE HUNTING REGULATIONS;]

(ii) [(III)] the human population in the upper Yukon/Tanana predation control area is concentrated along the Alaska Highway in Unit 12 on the south border of the control area and along the Taylor Highway in Unit 20(E), and along the Steese Highway in Units 20(B) and 25(C); there are large portions of the control area that are remote and difficult to access; in addition, the low price of wolf pelts, [HIGH COST OF CARING FOR BROWN BEAR HIDES,] and high cost of fuel make it difficult for local residents to harvest a high number of wolves [AND BROWN BEARS];

(2) [(3)] predator and prey population levels and population objectives and the basis for those objectives are as follows:

(A) the estimated FCH population during late June **2007** [2005] was **38,364** [40,000 - 42,000] caribou; the FCH intensive management population objective is 50,000 - 100,000 caribou; this objective was based on historical information about caribou numbers, habitat limitations, sustainable harvest levels, and human use;

(B) the estimated moose population in Unit 12 north of the Alaska Highway and Unit 20(E) during fall **2007** [2005] was **4,000 – 6,100** [4,300 - 5,900] moose; the proportional intensive management moose population objective for this area is 8,744 - 11,116 moose; this objective was based on historical information about moose numbers, habitat limitations, sustainable harvest levels, and human use;

(C) the pre-control (fall 2004) estimated wolf population in the wolf control area was 350 - 410 wolves; studies in Alaska and elsewhere have repeatedly concluded that large, annual reductions of wolves are required to diminish wolf population levels and predation by wolves on their prey; consistent with scientific studies and department experience, the objective of this plan is to reduce the pre-control wolf population within the control area by 60 - 80 percent; this plan also has as a goal to maintain wolves as part of the natural ecosystem within the control area; to achieve the desired reduction in wolf predation, but ensure that wolves persist within the control area, the wolf population in the control area will be reduced to no fewer than 88 - 103 wolves;

[(D) THE PRE-CONTROL ESTIMATED BROWN BEAR POPULATION IN THE BROWN BEAR CONTROL AREA WAS 170 BEARS IN 2004; CONSISTENT WITH STUDIES IN ALASKA AND ELSEWHERE, THE OBJECTIVE OF THIS PLAN IS TO REDUCE PRE-CONTROL BROWN BEAR NUMBERS BY APPROXIMATELY 60 PERCENT TO DIMINISH BEAR POPULATION LEVELS AND PREDATION BY BEARS ON THEIR PREY; THIS PLAN INCLUDES A GOAL TO MAINTAIN BROWN BEARS AS PART OF THE NATURAL ECOSYSTEM WITHIN THE PREDATION CONTROL AREA; TO ACHIEVE THE DESIRED REDUCTION IN BROWN BEAR PREDATION, AND ENSURE THAT BROWN BEARS PERSIST WITHIN THE PREDATION CONTROL AREA, THE BROWN BEAR POPULATION IN THE PREDATION CONTROL AREA WILL BE REDUCED TO NO FEWER THAN 68 BEARS;]

(3) [(4)] the justifications for the predator control implementation plan are as follows:

(A) the estimated population of the FCH in the wolf control area in late-June **2007** [2005] was **38,364** [40,000 - 42,000] caribou; the harvestable surplus of caribou in the control area is estimated at 850 caribou and is not sufficient to meet the intensive management harvest objective; the caribou population and harvest objectives for the control area are not being met because growth of the FCH has stopped; research has shown that wolf and brown bear predation are the primary causes of FCH mortality and the primary factors limiting FCH population growth in the control area;

(B) the estimated density of moose in Unit 12 north of the Alaska Highway and Unit 20(E) in **2007** [2005] was **0.4** [0.5] – **0.7** [0.6] moose per square mile, with a population of **4,000 - 6100** [4,300 - 5,900] moose; the harvestable surplus of moose in the area is estimated at **160 – 244** [170 – 240] moose and is not sufficient to meet the intensive management harvest objective; the moose population and harvest objectives for the area are not being met because mortality has equaled or exceeded recruitment and moose are currently at low densities; research has shown that wolf and brown bear predation are the primary causes of moose mortality and hence the primary factors limiting moose population growth in the area;

(C) predation rates on the FCH by wolves are affected by the availability of caribou, snow depth, number of alternate prey, and other local factors; based on research conducted on the FCH during 1994 - 2005, wolves accounted for an average of 70 percent of adult and 43 percent of calf mortality annually during this period; based on this research 4,500 FCH adult and 5,900 FCH calf caribou were likely killed by wolves between mid-May 2004 and mid-May 2005, within the wolf control area;

(D) kill rates by wolves on moose are affected by the availability of moose, snow depth, number of alternate prey, size of wolf packs, and other local factors; in Alaska and Canada where moose are the primary prey of wolves, documented kill rates ranged from four to seven moose per wolf per winter (October 1 - April 30);

[(E) BASED ON RESEARCH CONDUCTED ON THE FCH DURING 1994 - 2005, BROWN BEARS ACCOUNTED FOR AN AVERAGE OF NINE PERCENT OF ADULT AND 31 PERCENT OF CALF MORTALITY ANNUALLY DURING THIS PERIOD; THEREFORE, AN ESTIMATED 850 ADULT AND 4,450 CALF CARIBOU WERE LIKELY KILLED BY BROWN BEARS BETWEEN MID-MAY 2004 AND MID-MAY 2005, WITHIN THE UPPER YUKON/TANANA PREDATION CONTROL AREA;]

[(F) RESEARCH CONDUCTED DURING 1981 - 1988 IN A 3,750 SQUARE MILE AREA WITHIN UNIT 12 NORTH OF THE ALASKA HIGHWAY AND UNIT 20(E) SHOWED THAT BROWN BEARS ACCOUNTED FOR 36 PERCENT OF ADULT AND 52 PERCENT OF CALF MOOSE MORTALITY ANNUALLY;]

(E) [(G)] reducing wolf numbers through a wolf predation control program within the wolf control area, combined with maintaining a restrictive caribou harvest, is the approach most likely to result in continued recovery of the FCH; wolf harvest through hunting and trapping efforts has not resulted in an adequate reduction in the wolf population to allow the FCH to continue growing toward the intensive management objective; public information and education programs have been implemented to improve understanding of the biological effect of predation on caribou and the potential benefits to the FCH of increasing harvest of wolves; education should help increase harvest to a limited degree in the long-term, but is not expected to result in a significant increase in the caribou population in the short-term; the FCH harvest **quota** was restricted to no more than 150 bulls during 1996 - 2000 and has been restricted to 850 - 950 caribou, with no more than 25 percent cows, during 2001 – **2008** [2005];

(F) [(H)] reducing wolf [AND BROWN BEAR] numbers within Unit 12 north of the Alaska Highway and Unit 20(E) through a wolf [AND BROWN BEAR] predation control program, combined with maintaining a restrictive moose harvest, is the approach most likely to **result in a gradual increase in** [SUCCEED IN A RECOVERY OF] the moose population, wolf [AND BROWN BEAR] harvest through hunting and trapping efforts has not resulted in an adequate reduction in the wolf [AND BROWN BEAR] population[S] to allow the moose population to grow toward the intensive management objective; [WAIVER OF THE $25 BROWN BEAR TAG REQUIREMENT IN UNIT 20(E), OUTSIDE OF THE YUKON CHARLEY PRESERVE, HAS NOT RESULTED IN A MEASURABLE INCREASE IN THE BROWN BEAR

HARVEST;] public information and education programs have been implemented in Units 12 and 20(E) to improve understanding of the biological effect of predation on moose and the potential benefits to the moose population of increasing harvest of wolves[AND BEARS]; education should help increase harvest to a limited degree in the long-term, but is not expected to result in a significant increase in the moose population in the short-term; in 2001, the Unit 12 and 20(E) moose seasons within the majority of each unit were restricted from a 14-day August spike-fork and 15-day September any-bull moose season, to a five-day any-bull August and a 10-day any-bull September season; these changes excluded the Labor Day weekend and a portion of September when bull moose are relatively vulnerable to harvest; in addition, a registration permit system for most of Unit 20(E) was established in the same year;

(G) [(I)] presently known alternatives to predator control for reducing the number of predators are ineffective, impractical, or uneconomical in the control area; hunting and trapping conducted under authority of ordinary hunting and trapping seasons and bag limits is not an effective reduction technique in sparsely populated areas such as the upper Yukon/Tanana predation control area; numbers of hunters and trappers are relatively low and educational programs to stimulate interest and improve skills in taking wolves [AND BROWN BEARS] have been unsuccessful because of the inherent wariness of wolves [AND BROWN BEARS], difficult access **and** [,] relatively poor wolf pelt prices[, AND THE EXPENSE OF PREPARING BROWN BEAR HIDES AS A TROPHY]; application of the most common sterilization techniques (surgery, implants, or inoculation) are not effective reduction techniques because they require immobilization of individual predators, which is extremely expensive in remote areas; relocation of wolves [AND BROWN BEARS] is impractical because it is expensive, and it is very difficult to find publicly acceptable places to relocate wolves[AND BROWN BEARS]; [ALTHOUGH HABITAT MANIPULATION MAY SOMETIMES IMPROVE MOOSE BIRTH RATES, RESEARCH INDICATES THAT INADEQUATE MOOSE SURVIVAL RATES, NOT BIRTH RATES, ARE THE PRIMARY FACTOR LIMITING MOOSE POPULATION GROWTH IN RURAL AREAS OF INTERIOR ALASKA;] [DIVERSIONARY FEEDING OF WOLVES AND BEARS AS AN ALTERNATIVE TO PREDATOR CONTROL HAS IMPROVED MOOSE CALF SURVIVAL IN TWO EXPERIMENTS; HOWEVER, LARGE NUMBERS OF MOOSE CARCASSES ARE NOT AVAILABLE FOR THIS KIND OF EFFORT AND TRANSPORTING THEM TO REMOTE AREAS OF ALASKA IS NOT PRACTICAL; STOCKING OF MOOSE IS IMPRACTICAL BECAUSE OF CAPTURING AND MOVING EXPENSES;] thus, the alternatives to a wolf [AND BROWN BEAR] predation control program are not likely to be effective in achieving the desired level of predator removal or are not economically feasible;

(H) [(J)] without an effective predation control program, the wolf [AND BROWN BEAR] reduction objectives cannot be achieved; therefore, the FCH is likely to persist below the intensive management population objective with little expectation of increase, and moose in Unit 12 north of the Alaska Highway and Unit 20(E) are likely to persist in a low density dynamic equilibrium state with little expectation of substantial increase; data from caribou and moose mortality studies, and predator and prey studies, conducted in Alaska, including research conducted in portions of the control areas, and similar areas in Canada indicate that reducing the number of wolves [AND BROWN BEARS] can reasonably be expected to increase the survival of caribou and moose; reducing predation on caribou and moose, combined with a conservative

harvest, can reasonably be expected to initiate an increase in the populations; aerial wolf predation control [AND LIBERALIZED METHODS FOR TAKING BROWN BEARS] makes it possible to increase take of **wolves** [THESE PREDATORS] over large portions of the control area[S];

(4) [(5)] the permissible methods and means used to take predators are as follows:

(A) hunting and trapping of wolves by the public in the control area during the term of the control program may occur as provided in the hunting and trapping regulations set out elsewhere in this title, including use of motorized vehicles as provided in 5 AAC 92.080;

(B) **notwithstanding any other provisions in this title,** the commissioner may issue public aerial shooting permits or public land and shoot permits **(including use of helicopters)** as a method of wolf removal under AS 16.05.783 ;

[(C) THE COMMISSIONER MAY REDUCE THE BROWN BEAR POPULATION WITHIN THE BROWN BEAR PREDATION CONTROL AREA BY MEANS AND DIRECTION INCLUDED IN THE BOARD OF GAME BEAR CONSERVATION AND MANAGEMENT POLICY (2006-164-BOG), DATED MAY 14, 2006, AND INCORPORATED BY REFERENCE;]

(5) [(6)] the anticipated time frame and schedule for update and reevaluation are as follows:

(A) for up to five years beginning on **July 1, 2009** [JANUARY 1, 2005], the commissioner may reduce the wolf [AND BROWN BEAR] population[S] in the upper Yukon/Tanana predation control area;

(B) annually, the department shall, to the extent practicable, provide to the board at the board's spring board meeting a report of program activities conducted during the preceding 12 months, including implementation activities, the status of moose, caribou, **and** wolf [AND BROWN BEAR] populations, and recommendations for changes, if necessary, to achieve the objectives of the plan;

(6) [(7)] other specifications that the board considers necessary:

(A) the commissioner shall suspend wolf control activities

(i) when wolf inventories or accumulated information from permittees indicate the need to avoid reducing wolf numbers below the management objective of 88 - 103 wolves specified in this section;

(ii) when spring conditions deteriorate to make wolf control activities infeasible; or

(iii) no later than April 30 during any regulatory year;

[(B) THE COMMISSIONER SHALL SUSPEND BROWN BEAR CONTROL ACTIVITIES

(I) WHEN EXTRAPOLATED POPULATION ESTIMATES FOR BROWN BEAR OR ACCUMULATED INFORMATION FROM PERMITTEES INDICATE THE NEED TO AVOID REDUCING BROWN BEAR NUMBERS BELOW THE MANAGEMENT OBJECTIVE OF 68 BEARS SPECIFIED IN THIS SECTION; OR

(II) NO LATER THAN JUNE 30 DURING ANY REGULATORY YEAR;

(C) WOLF AND BROWN BEAR CONTROL ACTIVITIES WILL BE TERMINATED

(I) WHEN PREY POPULATION MANAGEMENT OBJECTIVES ARE ATTAINED; OR

(II) UPON EXPIRATION OF THE PERIOD DURING WHICH THE COMMISSIONER IS AUTHORIZED TO REDUCE PREDATOR NUMBERS IN THE PREDATOR CONTROL PLAN AREA;]

(B) [(D)] the commissioner will annually close wolf hunting and trapping seasons, [AND BROWN BEAR HUNTING SEASONS], as appropriate to ensure that the minimum wolf [AND BROWN BEAR] population objective **is** [S ARE] met.

...

RC 135

Upper Yukon/Tanana Predation Control Implementation Plan and Activities
Division of Wildlife Conservation Report to the Alaska Board of Game
March 2009

Background

Residents of the upper Yukon/Tanana drainages have expressed concern, since the early 1980s, about the chronically low density of the Fortymile Caribou Herd (FCH) and of moose in Units 12 and 20E. They felt the low density of caribou was primarily due to wolf predation and the low density of moose was due to a combination of wolf and brown bear predation. During Board of Game meetings in March 2004 and 2006, the Upper Tanana/Fortymile Fish and Game Advisory Committee and the public provided testimony explaining the problem and requested corrective action.

The Board first adopted the Upper Yukon/Tanana Predation Control Implementation Plan in November 2004 to increase the moose population. The plan authorized control of wolves in Units 12 and 20E and control of brown bears in southcentral Unit 20E. In January 2006, the Board adopted a revised implementation plan in the form of an emergency regulation. The emergency regulation limited wolf control activities to northern Unit 12 and southern Unit 20E and clarified and updated key components of the plan that included: boundaries of the bear control area, wildlife population and human use information, predator and prey population levels and objectives, plan justifications, methods and means, time frame for updates and evaluations, and miscellaneous specifications. In May 2006, the Board further modified the emergency regulation and adopted it as a final regulation. Modifications included: adding a goal to increase the FCH, expanding the wolf control area to encompass the FCH range (all of Unit 20E and portions of Units 12, 20B, 20D and 25C), and expanding the brown bear control area to include more of southcentral Unit 20E. The plan is in effect for 5 years, and began on January 1, 2005. The Board authorized the commissioner to issue public aerial shooting permits or public land and shoot permits as methods of wolf removal pursuant to AS 16.05.783, and to reduce the brown bear population by means and direction included in the Board of Game Bear Conservation and Management Policy (2006-164-BOG). Objectives of the plan, as listed in 5 AAC 92.125, are to:

- Increase the Fortymile Caribou Herd to aid in achieving the intensive management population objective of 50,000–100,000 and harvest objective of 1,000–15,000.
- Increase the moose population in Unit 12 north of the Alaska Highway and in Unit 20E to aid in achieving the geographically proportional intensive management moose population objective of 8,744–11,116 and harvest objective of 547–1,084

Plan Implementation Activities

2007–2008 CONTROL PROGRAM

We conducted control activities during regulatory year (RY) 2007 under authority of the wolf and brown bear control program adopted by the Board in November 2004 and modified in January 2006 (regulatory year begins on July 1 and ends June 30, e.g., RY06 = July 1, 2006–June 30, 2007).

Wolf Control. We conducted wolf control activities in: that portion of Unit 12 north of the Alaska Highway; that portion of Unit 20D within the Goodpaster River drainage upstream from and including the South Fork Goodpaster River drainage, and within the Healy River, and the Billy and Sand creek drainages; that portion of Unit 20B within the Salcha River drainage upstream from and including the Goose Creek drainage, and within the Middle Fork of the Chena River drainage; all of Unit 20E; and that portion of Unit 25C within the Birch Creek drainage upstream from the Steese Highway bridge, and within the area draining into the south and west bank of the Yukon River upstream from the community of Circle. We received 73 applications for public wolf control permits and issued 51 permits (24 pilots, 27 gunners). The control program was in effect during October 10, 2007–April 30, 2008. Permittees were allowed to take wolves using aerial shooting or land and shoot methods. They took 27 wolves, and an additional 70 wolves were taken by hunters and trappers (Table 1). We were unable to reduce the population to 88–103 wolves, as specified in the predator control implementation plan adopted by the Board in May 2006.

Table 1. Wolf harvest and wolf control take in the Upper Yukon/Tanana Predator Control Area, RY01–RY07.

Regulatory Year	Hunting and Trapping Harvest	Wolf Control Take	Total Kill
2001–2002	50	-	50
2002–2003	65	-	65
2003–2004	56	-	56
2004–2005	75	58	133
2005–2006	69	17	86
2006–2007[a]	80	23	103
2007-2008[a]	70	27	97

[a] Control area expanded to include all of the FCH range in Alaska.

Brown Bear Control. We conducted brown bear control activities in that portion of Unit 20E within the South Fork Fortymile River drainage upstream from and including the Butte Creek drainage, the Middle Fork Fortymile River drainage upstream from but not including the Joseph Creek drainage, and the Sixtymile and North Ladue river drainages. We issued 36 control permits to the public, and registered 13 brown bear bait sites. The control program was in effect during August 1, 2007–June 30, 2008. Requirements and restrictions for the take of brown bears included in the Alaska Hunting Regulations

applied to the permittees, except that permittees did not have an individual kill limit, they had the option to bait brown bears and take brown bears same-day-airborne at bait stations if the bait stations were registered with our Tok office. Permittees took 6 brown bears, and an additional 5 bears were taken by hunters (Table 2). Four bears were taken at bait sites. We were unable to reduce the population to 68 bears, as specified in the predator control implementation plan adopted by the Board in May 2006.

Table 2. Brown bear harvest and brown bear control take in the Upper Yukon/Tanana Predator Control Area, RY01–RY07.

Regulatory Year	Hunting	Brown Bear Control Take	Total Kill
2001–2002	6	-	6
2002–2003	9	-	9
2003–2004	11	-	11
2004–2005	8	2	10
2005–2006	7	3	10
2006–2007[a]	2	1	3
2007-2008[a]	5	6	11

[a] Control area expanded to include a larger portion of southcentral Unit 20E.

2008–2009 CONTROL PROGRAM

We are conducting control activities during RY08 under authority of the wolf and brown bear control program adopted by the Board in May 2006.

Wolf Control. We are conducting wolf control activities in: that portion of Unit 12 north of the Alaska Highway; that portion of Unit 20D within the Goodpaster River drainage upstream from and including the South Fork Goodpaster River drainage, and within the Healy River, and the Billy and Sand creek drainages; that portion of Unit 20B within the Salcha River drainage upstream from and including the Goose Creek drainage, and within the Middle Fork of the Chena River drainage; all of Unit 20E; and that portion of Unit 25C within the Birch Creek drainage upstream from the Steese Highway bridge, and within the area draining into the south and west bank of the Yukon River upstream from the community of Circle. We received 73 applications for public wolf control permits and issued 52 permits (24 pilots, 28 gunners). The control program will be in effect during October 6, 2008–April 30, 2009 or until the wolf population is reduced to the control objective of 88–103 specified in the predator control implementation plan adopted by the Board in May 2006. We estimate that 290–328 wolves will need to be taken to reach the upper end of the control objective. To date, 24 wolves have been taken by control permittees.

Brown Bear Control. We are conducting brown bear control activities in that portion of Unit 20E within the South Fork Fortymile River drainage upstream from and including the Butte Creek drainage, the Middle Fork Fortymile River drainage upstream from but not including the Joseph Creek drainage, and the Sixtymile and North Ladue river drainages. To date, we have issued 30 control permits to the public, and registered 6

brown bear bait sites. The control program will be in effect during July 1, 2008–June 30, 2009 or until the brown bear population is reduced to the control objective of 68 bears specified in the predator control implementation plan adopted by the Board in May 2006. Requirements and restrictions for the take of brown bears included in the Alaska Hunting Regulations apply to the permittees, except that permittees do not have an individual kill limit, they may bait brown bears and take brown bears same-day-airborne at bait stations if the bait stations are registered with our Tok office. In addition, hunting regulations allowed both permittees and unpermitted hunters to sell the raw hide and skull of brown bears taken in the brown bear control area if they obtain a department sale tag and permit.

We estimate that 43–121 brown bears will need to be taken to reach the control objective. To date, no bears have been taken by permittees in RY08. An additional 5 brown bears have been taken by hunters.

Status of Prey and Predator Populations

CARIBOU POPULATION

Population Composition. Fall surveys indicated there were an estimated 37 and 33 calves per 100 cows in 2007 and 2008 respectively. Calves per 100 cows averaged 27 during the prior 5 years (fall, 2002–2006).

Population Size. Based on modeling results, the May 2008 herd size was estimated at 40,000–42,000 caribou. The last successful photo census was completed on the herd in July of 2007, with 38,364 caribou counted. This was the only photo census that has been completed since 2003, when 43,375 caribou were counted. The 2008 photo census attempt was unsuccessful, due to inadequate weather conditions. Another photo census is planned for June 2009. The May 2009 herd size is expected to show an increase over 2008, assuming normal to below normal late-winter mortality. Herd size is well below the intensive management objective of 50,000–100,000.

Harvest. Harvest is guided by the FCH Harvest Plan (2006–2012), which was developed by a coalition of fish and game advisory committees and the Eastern Interior Regional Subsistence Advisory Council in cooperation with Yukon First Nations, the Yukon government, US Bureau of Land Management and the Alaska Department of Fish and Game. The plan calls for continuing the present registration permit system with a conservative harvest rate of 2% or 850 animals to facilitate herd growth.

Average annual harvest during RY02–RY06 was 820. Harvest during RY07 and RY08 was 1,011 and 893 respectively. Based on our current population estimate and using guidelines in the FCH Harvest Plan, the harvest quota for RY09 will be approximately 850 caribou. Harvest is below the intensive management objective of 1,000–15,000 caribou.

MOOSE POPULATION

Population Composition. Since the beginning of the control program in January of 2005, we conducted surveys in a 4,630mi^2 area of southern Unit 20E during each fall (2005 – 2008). In this area, the estimated calves per 100 cows were 23, 31, 26 and 30 and yearling bulls per 100 cows 11, 6, 11 and 16 during each of these years respectively. During fall 2000–2004, calves and yearling bulls per 100 cows averaged 18 and 9, respectively. Additional surveys are planned during fall 2009. Current data suggests the proportion of young moose may be increasing in a portion of southern Unit 20E where the wolf population was reduced by ≥70% of the precontrol fall population level during 2005–2008.

Population Size. We estimated the moose population size in Unit 12 north of the Alaska Highway and Unit 20E at 2,600–4,300 in 2004, 3,400–5,100 in 2005, 4,000–5,900 in 2006, 4,000–6,100 in 2007 and 3,900–5,500 in 2008. These estimates were based on extrapolations from fall surveys conducted in a 4,630 mi^2 area of southern Unit 20E during 2004–2008 and surveys conducted within a 1,200 mi^2 area of the Yukon Charley Rivers Preserve in northern Unit 20E in 2003 and 2006. Additional surveys are planned for fall 2009. The current population is well below the intensive management objective of 8,744–11,116 and is likely stable in the overall area. However, current data suggests the population may be increasing within a portion of southern Unit 20E where the wolf population has been reduced by ≥70% of the precontrol fall population level during 2005–2008.

Harvest. Average harvest of moose in Unit 12 north of the Alaska Highway and in Unit 20E during RY02–RY06 was 142. Harvest during RY07 and RY08 was 149 and 200 respectively. Based on current 2008 estimates of recruitment and a 4% harvest rate of bulls only, the harvestable surplus was 156-220, well below the intensive management harvest objective of 547–1,084.

WOLF POPULATION

Population Size. We estimated the pre-control population in the current wolf control area during fall 2004 was 350–410 in 50–70 packs or approximately 18–2 wolves/1000 mi^2. This estimate was based on department wolf surveys, wolf research in interior Alaska and Yukon, anecdotal observations, trapper and hunter interviews, and sealing records.

During RY04, wolves were reduced due to predation control activities and hunter and trapper harvest. We estimated the fall 2005 population in the current wolf control area was 300–375 wolves in 50–70 packs (approximately 16–19 wolves/1,000 mi^2). This estimate was based on information from wolf research in Interior Alaska and Yukon, wolf control permittee reports, our observations, and sealing records.

During RY05, RY06 and RY07, additional wolves were taken by wolf control permittees, hunters and trappers. Using our PredPrey model, we estimated the fall 2006, 2007 and 2008 wolf population in the current wolf control area at 300–425, 366-398 and 393-431 wolves respectively. The model uses the relationship between spring wolf, moose and caribou population size to predict a likely growth rate for the wolf population to fall.

Mathematical equations which define model functions were taken from published predator-prey studies conducted across North America.

Harvest. Hunting and trapping harvest of wolves in the current control area during RY 01–RY07 averaged 66 annually (Table 1). An additional 58, 17, 23 and 27 wolves were taken in the wolf control program during RY04–RY07, respectively.

BROWN BEAR POPULATION

Population Size. In June 2004 we estimated the pre-control brown bear population within the current brown bear control area was 170 bears. The estimate was based on extrapolation of a density estimate obtained in central Unit 20E during 1986 and on intensive research studies conducted in similar habitats with similar bear food resources during 1981–1998 in Unit 20A, 100 miles to the west.

During May 20–July 18, 2006, we conducted a DNA-based mark-recapture estimate of brown bear numbers in a 2005 mi^2 portion of the current bear control area. The survey area core population estimate was 48 bears (20.8/1000 km^2). The core population is the average number of brown bears within the survey area. Extrapolation of these data resulted in an estimate of 150 bears (111–189) in the entire control area in summers of 2006-2008. This is higher than the 114–143 bears reported to the board in March 2007 and is the result of a more thorough understanding of the differences in bear distribution within the survey area.

Harvest. Hunting harvest of brown bears in the current control area during RY01–RY07 averaged 7 annually (Table 2). An additional 2, 3, 1 and 6 bears were taken in the bear control program during RY04–RY07, respectively.

Recommendations to Achieve Plan Objectives

We recommend reauthorizing the wolf control portion of the program for an additional 5 years beginning on July 1, 2009 and eliminating the bear control portion of the program.

Wolf reduction objectives have not been achieved for a variety of reasons, including lack of snow cover for tracking wolves and landing aircraft, dense tree cover in parts of the control area, and the high price of aircraft fuel. However, progress is being made, and the program should be continued to allow operations during more favorable snow conditions. In addition, department conducted control is recommended to help achieve wolf reduction objectives in areas where permittee efforts alone are unlikely to result in objectives being met.

Brown bear reduction objectives have also not been achieved. Control methods currently authorized have not been effective and more extreme methods such as snaring, same-day-airborne, or sale of tanned hides are not supported by the department in this area. However, results of the recent brown bear population survey 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 UYTPCP. 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.

While the current methods of bear control have not been effective under the conditions in this control area, we do not feel brown bear baiting, same-day-airborne at bait-stations and sale of raw hides would necessarily be ineffective in other areas. After 4-years of implementation, it is clear that the likelihood of success of future bear control programs should be assessed on a case-by-case basis. A specific method, or combination of methods, may prove ineffective in one area, but may be successful in another.

RC 136

Proposal 234D – GMU 20A Moose

EFFECT OF THE PROPOSAL:

- Reauthorize antlerless hunt
  - –Change registration hunt RM764 (Aug 25-February 28) to:
    - Fall Drawing (Aug 25-October 31; up to 500 permits)
    - Winter Registration (Jan 10-Feb 28)
  - –Recipients of Unit 20A antlerless drawing permits may not take an antlered bull moose in Unit 20A (same as in 2002 and 2003)

DEPARTMENT RECOMMENDATION: Staff proposal

Supported conditionally by majority of the 4 affected AC's

Proposal 234D – GMU 20A Moose

RATIONALE:

- Stabilize population
  - –Population reduced
    - 15,000-18,000 in 2003
    - 11,000-14,000 in 2008
  - –Scale back antlerless harvest from liberal (>3%) to moderate (1%-2%)
    - Prevent population growth
      - –Nutritional and habitat concerns
    - IM harvest mandate for elevated yield
- Fall drawing permit hunts
  - –Distribute hunters and harvest more uniformly across unit spatially and temporally
  - –Improve harvest reporting
- Nov 1-Jan 9 closure reduces conflicts with trappers
- Winter registration hunt used when hunt area harvest goals not met with fall drawing permit hunts
- Restricting recipients of antlerless drawing permits from taking a bull increases harvest of cow moose

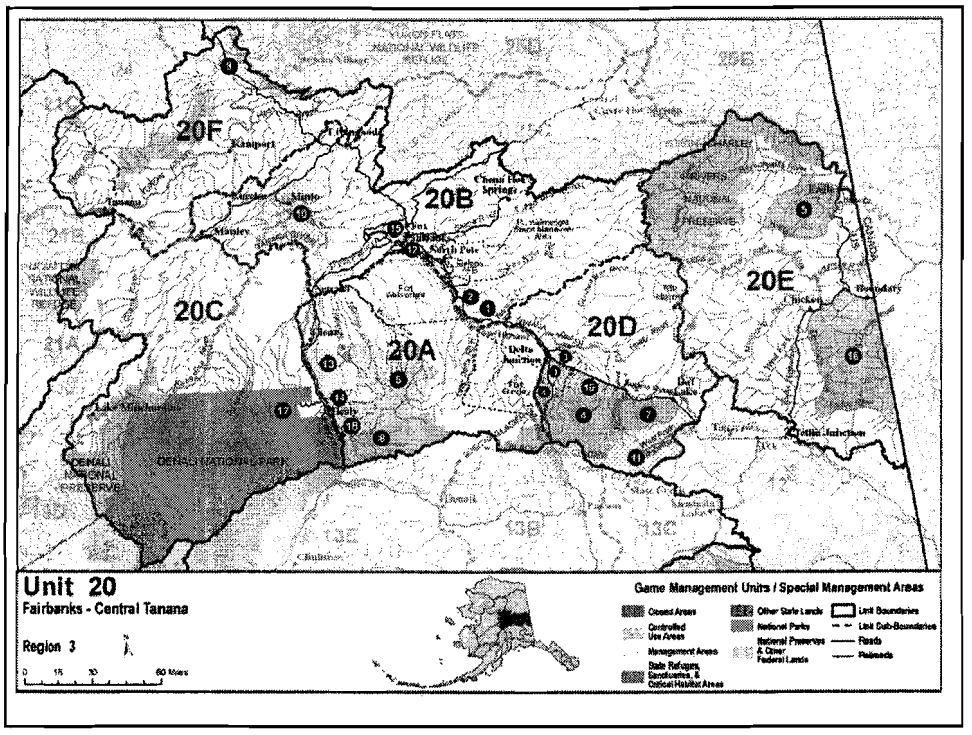
Proposal 234D – GMU 20A Moose

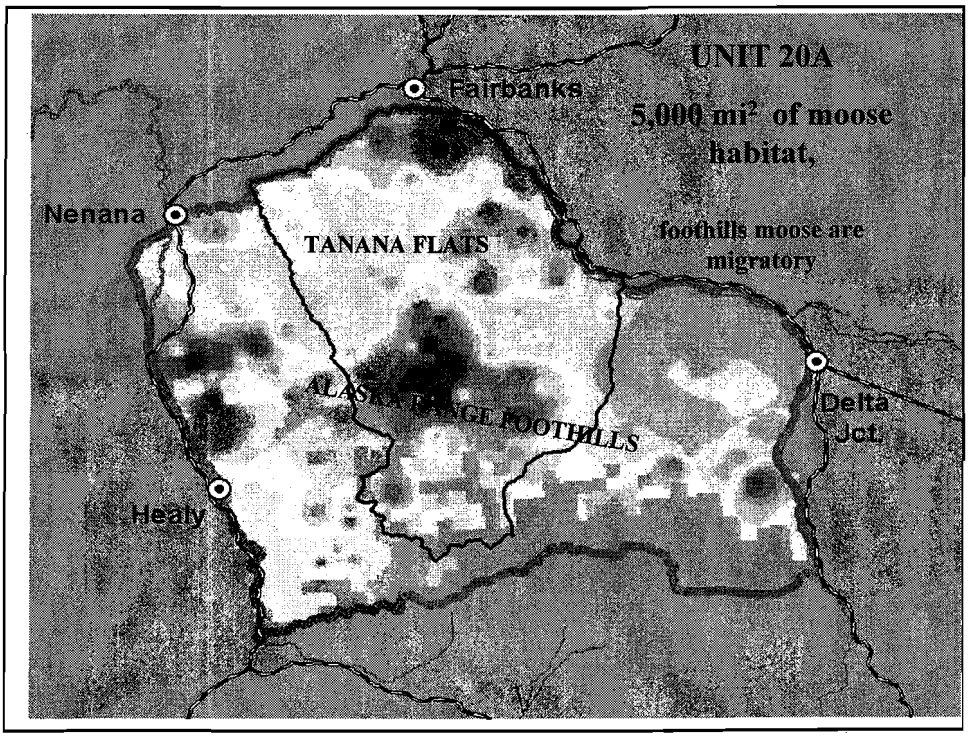
Overview:

- Population trend and nutritional limitation
- Harvest trends
  - –1996-2003: CONSERVATIVE antlerless drawing hunts (population growth phase)
  - –2004-2008: LIBERAL antlerless registration hunts (population reduction phase)
- Proposed changes
  - –2009: MODERATE antlerless drawing/registration hunts (population stability phase)
  - –Hunt design

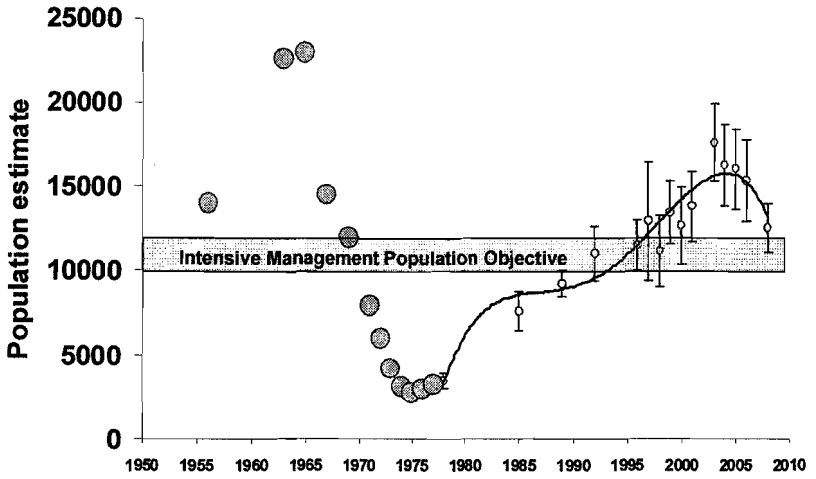
Primary Goals

- Protect the moose population's health and habitat
  - Manage for moderate numbers of moose over the long-term (i.e., dampen population highs and lows)
- Fulfill Intensive Management mandate for elevated yield

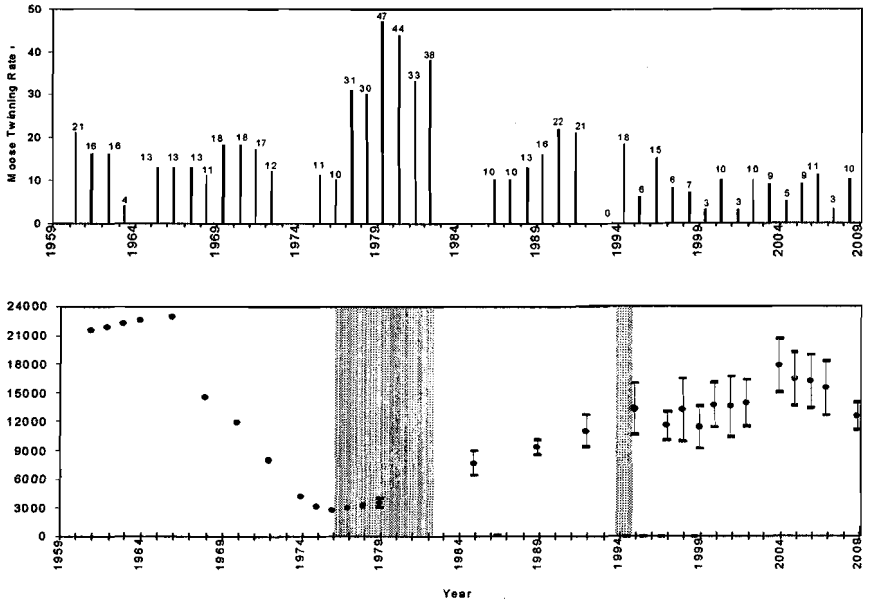

20F
20B
20E
20C
20D
20A
Unit 20
Fairbanks - Central Tanana
Region 3
Game Management Units / Special Management Areas


UNIT 20A
5,000 mi² of moose habitat,
foothills moose are migratory
Fairbanks
Nenana
TANANA FLATS
ALASKA RANGE FOOTHILLS
Delta Jct.
Healy

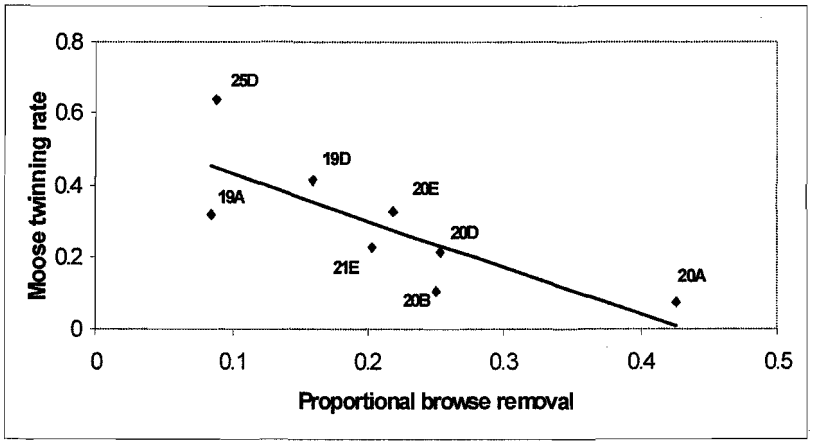
GMU 20A moose population trend, 1956-2008



20A Long-term Moose

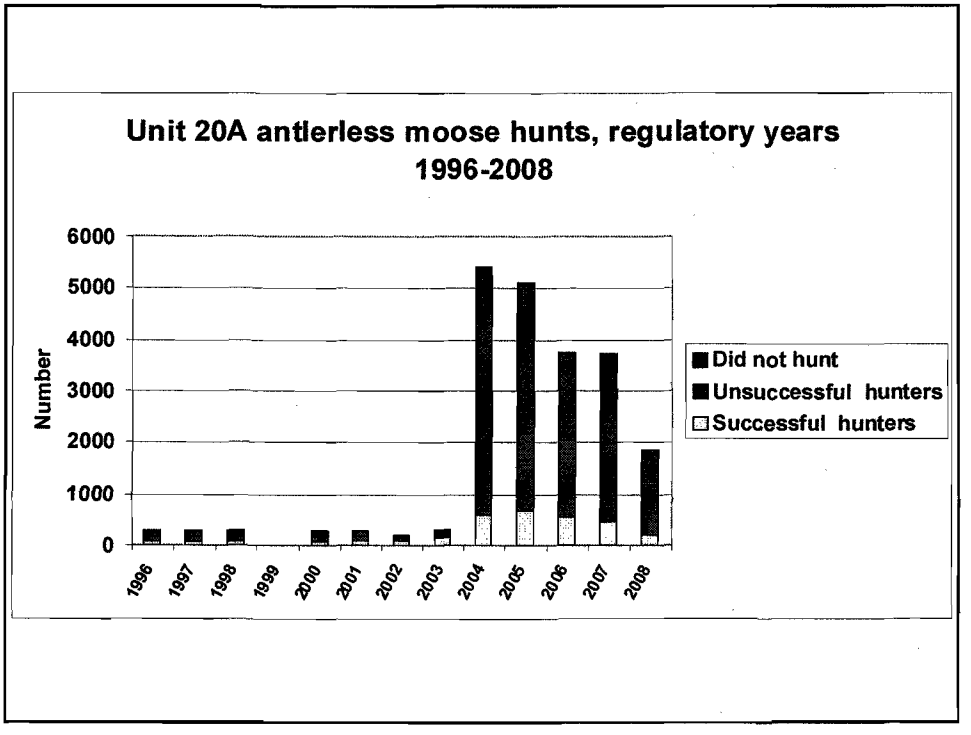


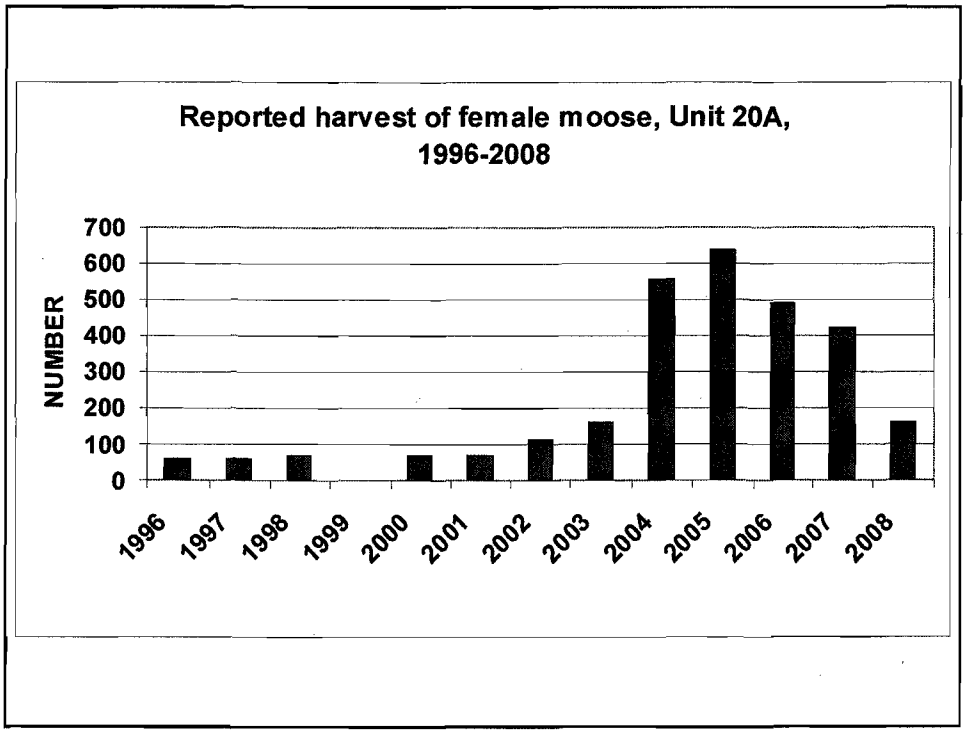
Relationship between moose twinning and browse removal rates

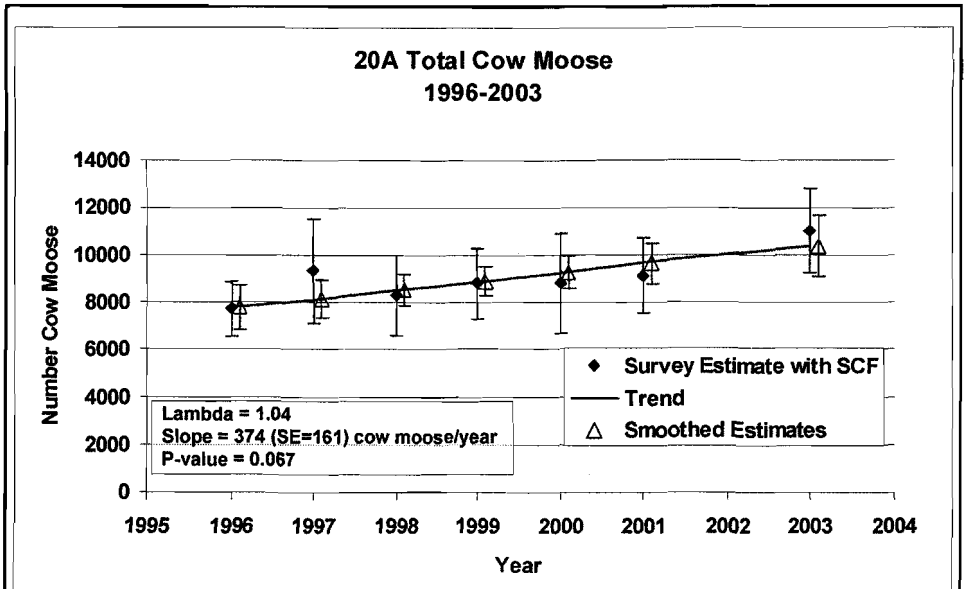


(Example of heavy browsing of willow by moose in GMU 20A)

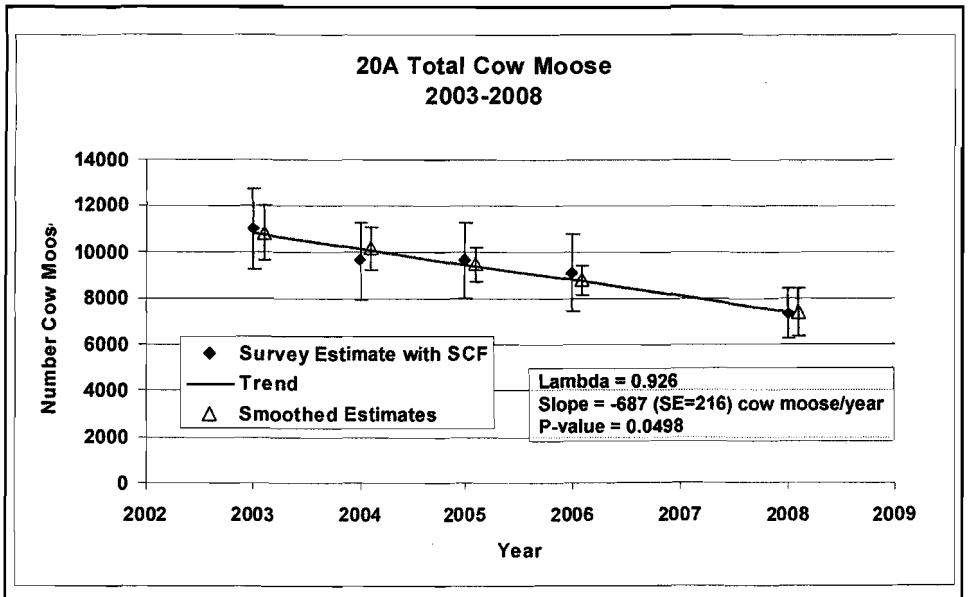
Management Goal: Protect the moose population's health and habitat


Unit 20A antlerless moose hunts, regulatory years 1996-2008
Number
6000
5000
4000
3000
2000
1000
0
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Did not hunt
Unsuccessful hunters
Successful hunters

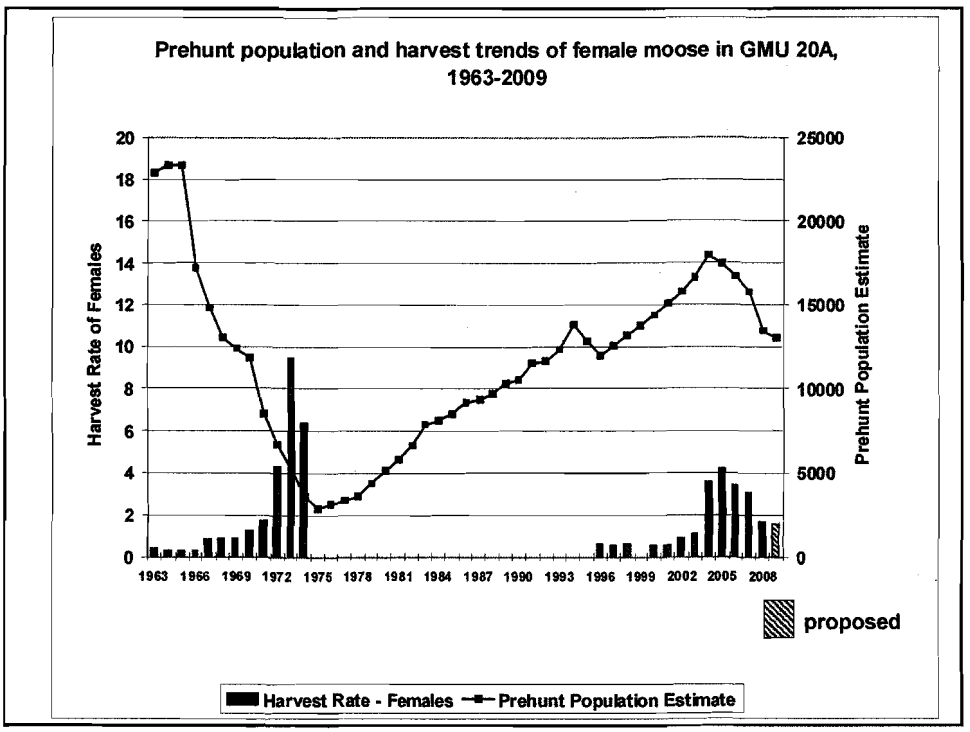

Reported harvest of female moose, Unit 20A, 1996-2008
NUMBER
700
600
500
400
300
200
100
0
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008

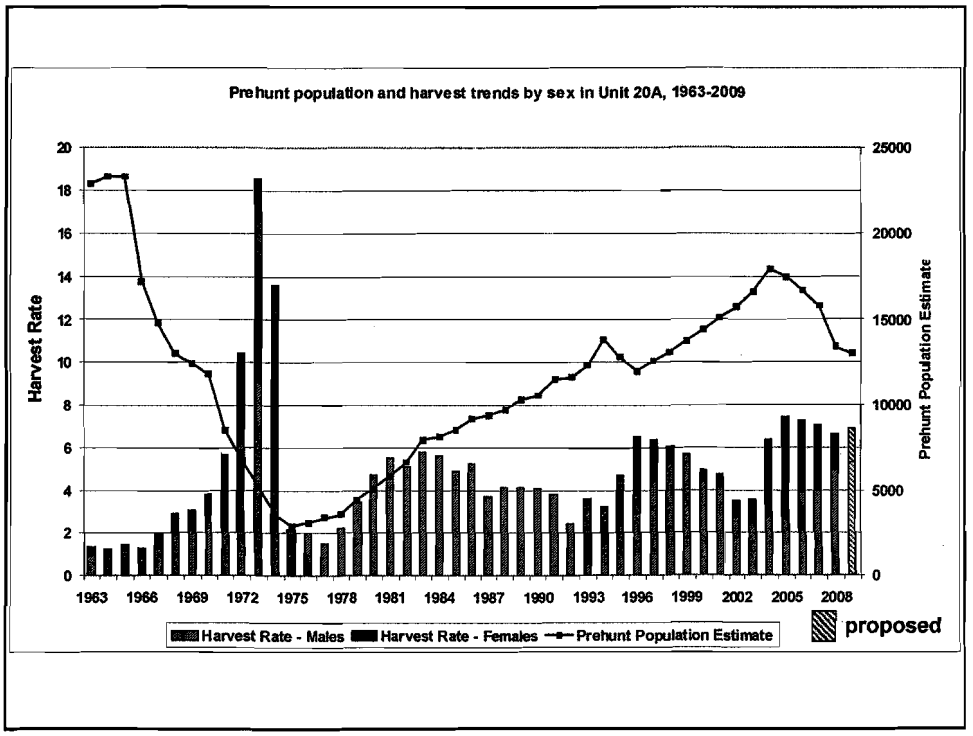


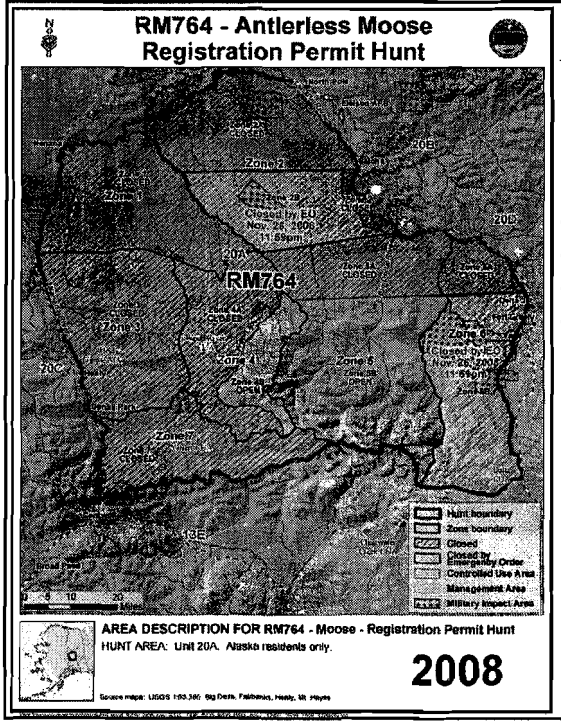
Annual Means 1996-2003:
permits issued = 253; hunted = 147;
reported harvest females = 76 (0-159); harvest rate females = 0.6% (0%-1.1%)



Annual Means 2004-2008:
permits issued = 3970; hunted = 2025;
reported harvest females= 460 (194-634); harvest rate females = 3.2% (1.7%-4.2%)


Prehunt population and harvest trends of female moose in GMU 20A, 1963-2009
Harvest Rate of Females
Prehunt Population Estimate
0
2
4
6
8
10
12
14
16
18
20
0
5000
10000
15000
20000
25000
1963 1966 1969 1972 1975 1978 1981 1984 1987 1990 1993 1996 1999 2002 2005 2008
proposed
Harvest Rate - Females
Prehunt Population Estimate


Prehunt population and harvest trends by sex in Unit 20A, 1963-2009
Harvest Rate
Prehunt Population Estimate
0
2
4
6
8
10
12
14
16
18
20
0
5000
10000
15000
20000
25000
1963 1966 1969 1972 1975 1978 1981 1984 1987 1990 1993 1996 1999 2002 2005 2008
proposed
Harvest Rate - Males
Harvest Rate - Females
Prehunt Population Estimate

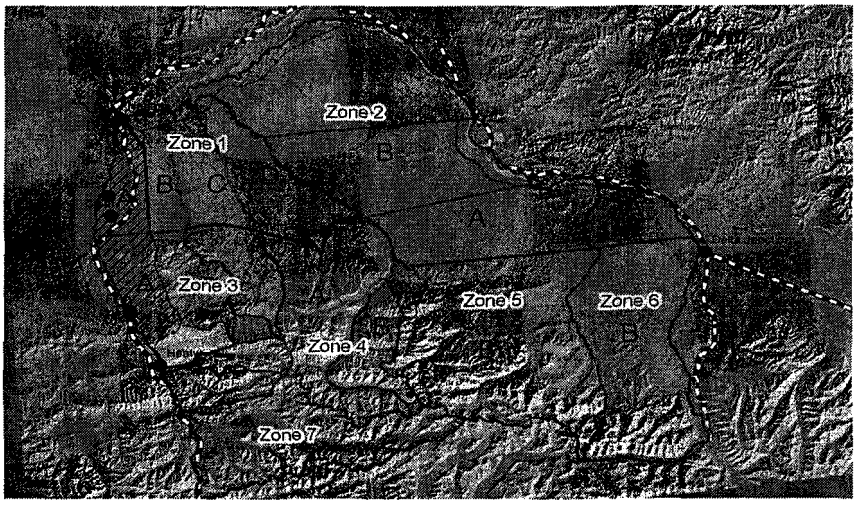


Reported Antlerless Harvest 2008

Zone 1 (900 mi/2)	=	7 (RM768)
Zone 2 (1150 mi/2)	=	37
Zone 3 (840 mi/2)	=	0
Zone 4 (630 mi/2)	=	9
Zone 5 (1140 mi/2)	=	123
Zone 6 (700 mi/2)	=	18
Zone 7 (390 mi/2)	=	0

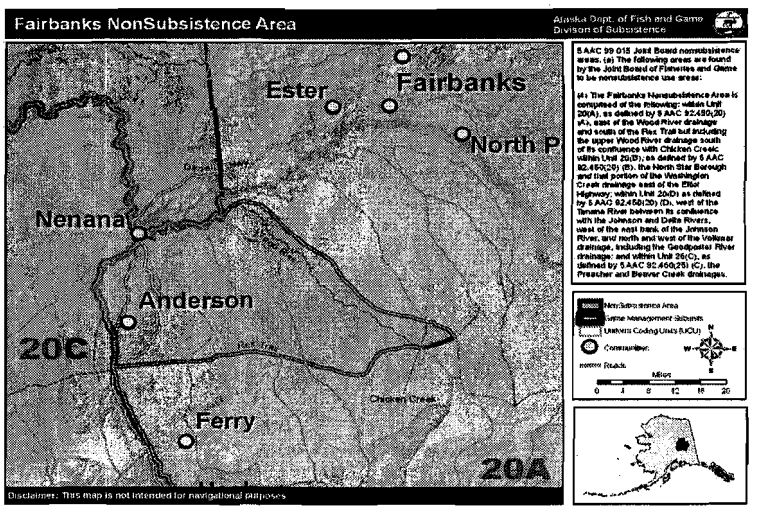
Total = 194

Preliminary Unit 20A Antlerless Moose Permit Hunt Areas and Recommended Harvest, 2009



Harvest = 175 antlerless moose; harvest rate = 1.3% prehunt moose population;
Cows harvested/100 mi^2 = 3.1; cows available/100 mi^2 = 128; ratio = 1:42

Approximate Boundary of Unit 20A Antlerless Registration Hunt RM768



Proposal 234D – GMU 20A Moose

EFFECT OF THE PROPOSAL:

- **Reauthorize antlerless hunt**
  - **Change registration hunt RM764 (Aug 25-February 28) to:**
    - **<u>Fall Drawing</u> (Aug 25-October 31; up to 500 permits)**
    - **<u>Winter Registration</u> (Jan 10-Feb 28)**
  - **Recipients of Unit 20A antlerless drawing permits may not take an antlered bull moose in Unit 20A (same as in 2002 and 2003)**

DEPARTMENT RECOMMENDATION: <u>Staff proposal</u>

Supported conditionally by majority of the 4 affected AC's

RC 137

Proposal 234B – GMU 20B Moose

EFFECT OF THE PROPOSAL:

- Reauthorize antlerless hunt
  - –Increase number of antlerless permits in remainder of Unit 20B from 300 to 900; add 100 antlerless permits in Middle Fork of the Chena River drainage.
  - –Expand antlerless season length in remainder of Unit 20B and the Middle Fork of the Chena River drainage from September 1 – 30 to August 15-November 15.
  - –Bag limit change in Fairbanks Management Area (FMA) from "may not take a calf or a cow accompanied by a calf" to "antlerless" moose.
  - –No Change for the Minto Flats Management Area (MFMA)

DEPARTMENT RECOMMENDATION: Staff proposal

Supported by the Fairbanks AC

Proposal 234B – GMU 20B Moose

RATIONALE:

- Stabilize population
  - –Population increasing
    - 10,000-14,000 in 2001
    - 15,000-20,000 in 2008
  - –Increase antlerless harvest from 1.1% to 1.5%-1.6%
    - Nutritional and habitat concerns
    - IM harvest mandate for elevated yield
- Fall drawing permit hunts
  - –3 hunt periods in 16 hunt areas
    - Distribute hunters and harvest more uniformly across unit
    - Numbers of hunters in any one place and time reduced

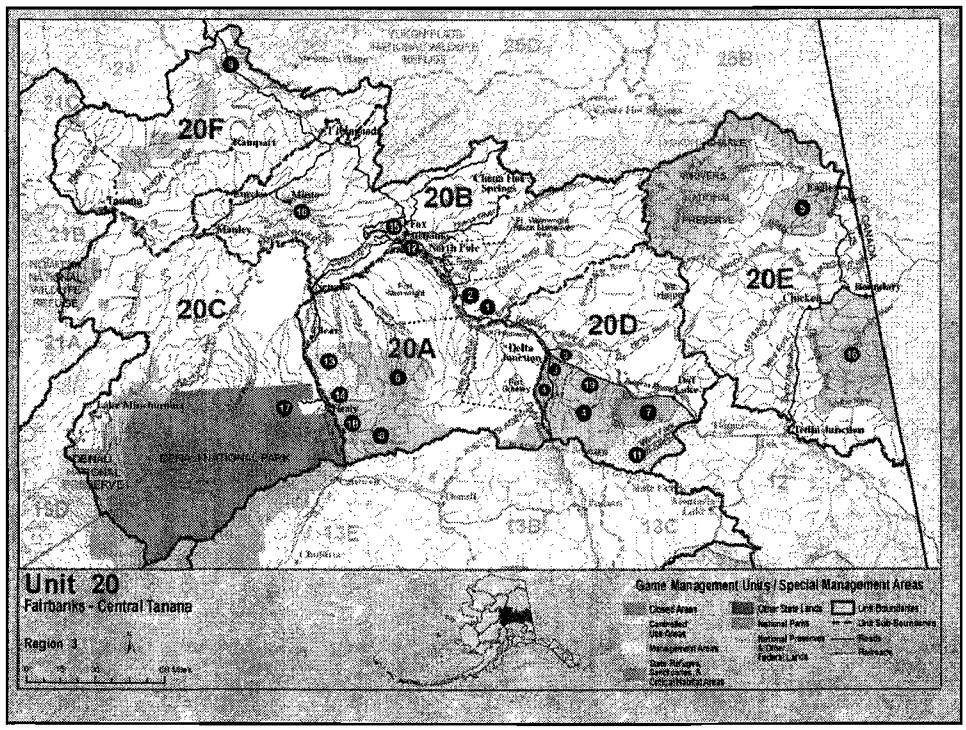
Proposal 234B – GMU 20B Moose

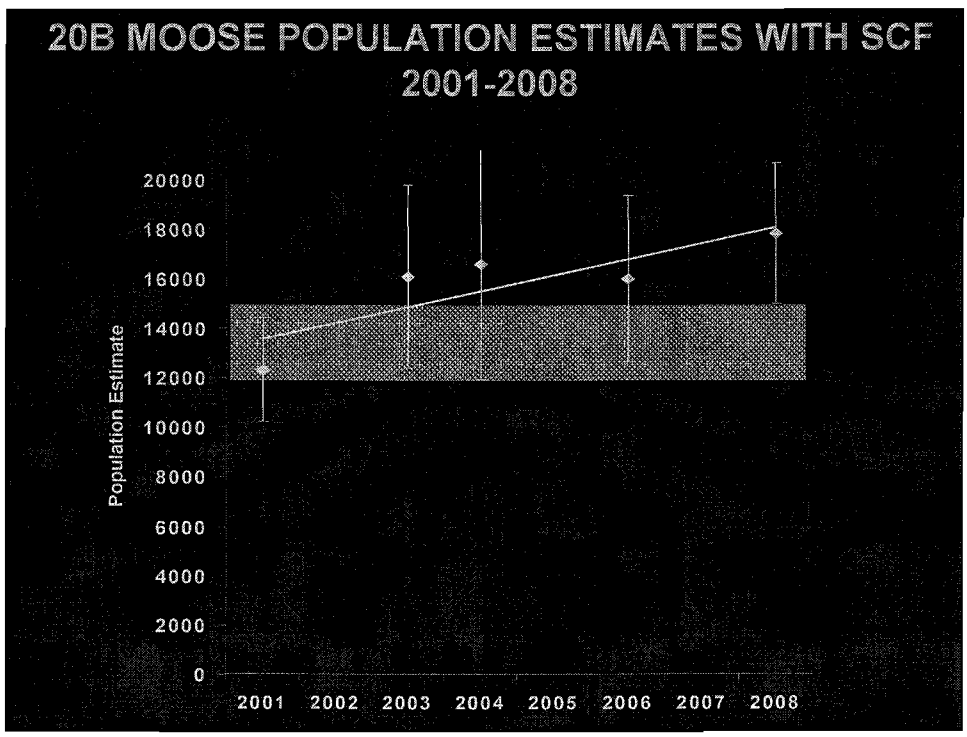
Overview:

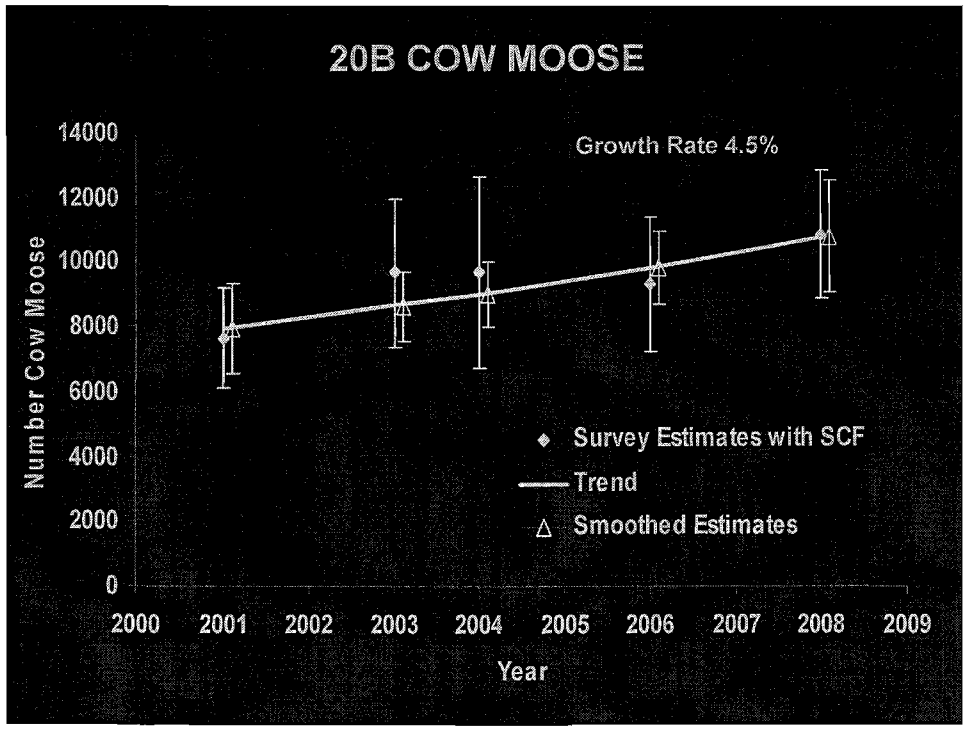
- Population trend
- Harvest trends
  - –2001-2005: LIMITED antlerless drawing hunts
  - –2006-2008: CONSERVATIVE antlerless drawing hunts (failed to stop population growth)
- Proposed changes
  - –2009: MODERATE antlerless drawing hunts (another step toward population stability)
  - –Hunt strategy

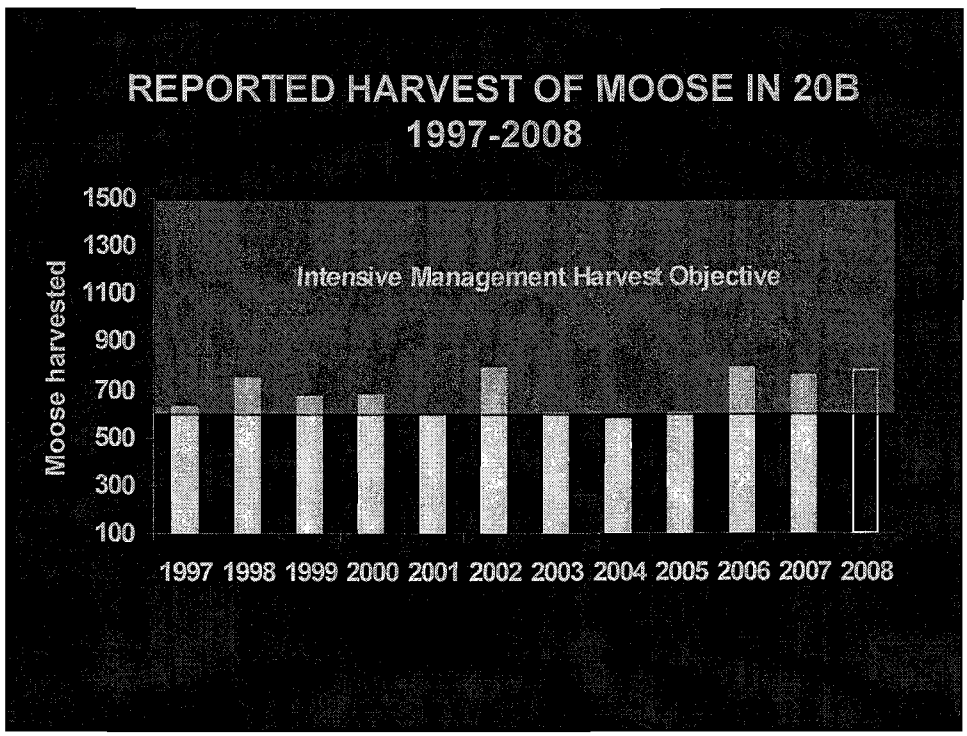
Primary Goals

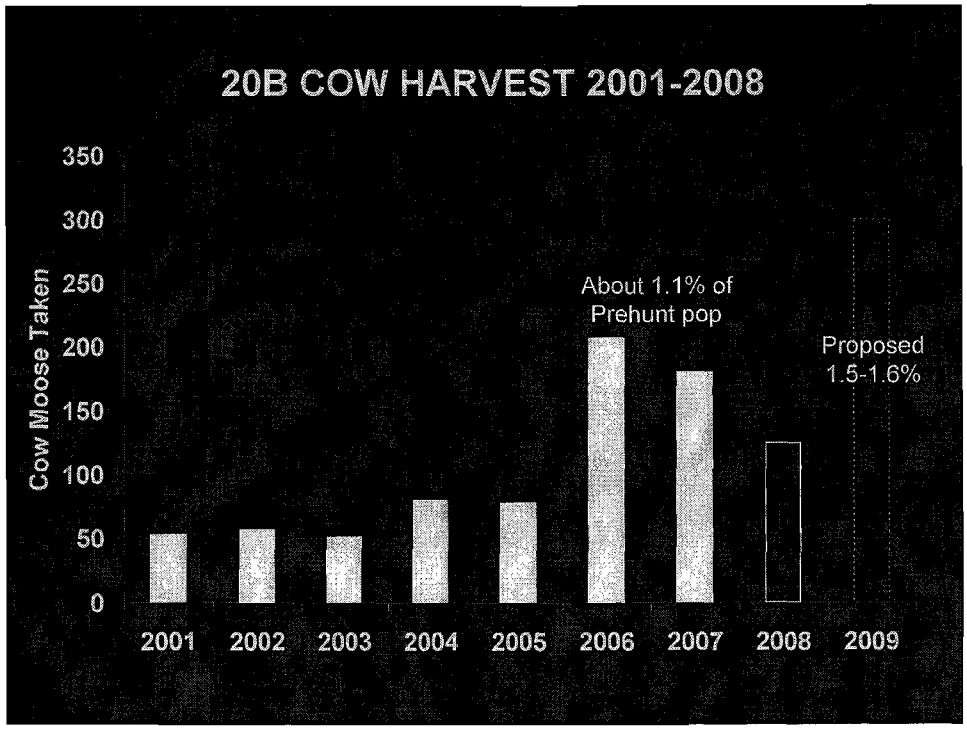
- Protect the moose population's health and habitat
  - Manage for moderate numbers of moose over the long-term (i.e., dampen population highs and lows)
- Fulfill Intensive Management mandate for elevated yield

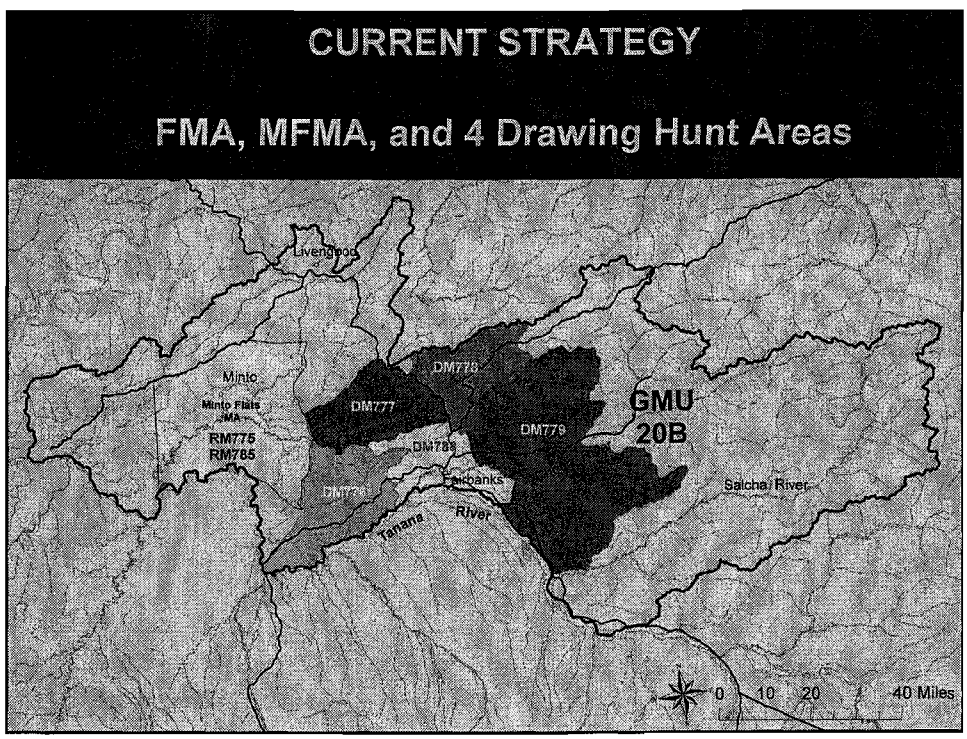

20F
20B
20C
20A
20D
20E
Unit 20
Fairbanks - Central Tanana
Region 3
Game Management Units / Special Management Areas


20B MOOSE POPULATION ESTIMATES WITH SCF
2001-2008
Population Estimate
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
2001
2002
2003
2004
2005
2006
2007
2008


20B COW MOOSE
Growth Rate 4.5%
Number Cow Moose
14000
12000
10000
8000
6000
4000
2000
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
Year
Survey Estimates with SCF
Trend
Smoothed Estimates

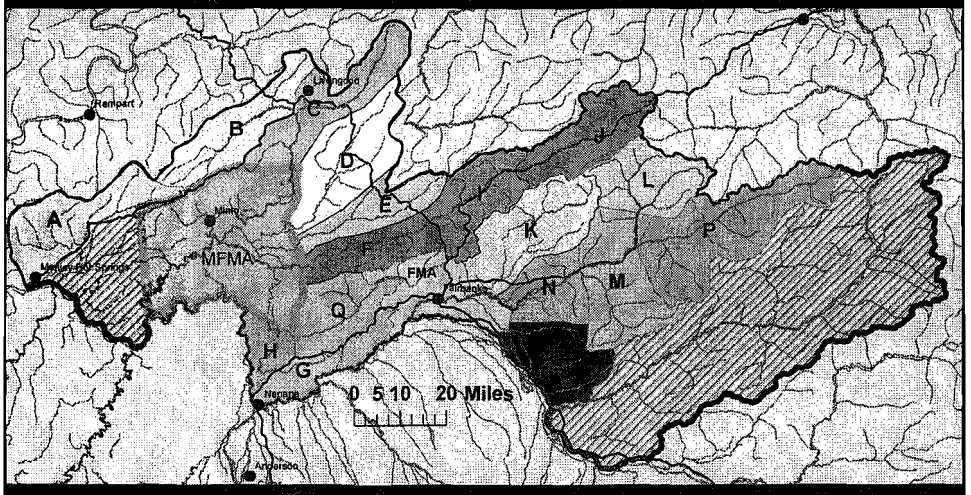

REPORTED HARVEST OF MOOSE IN 20B
1997-2008
Moose harvested
1500
1300
1100
900
700
500
300
100
Intensive Management Harvest Objective
1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008


20B COW HARVEST 2001-2008
Cow Moose Taken
350
300
250
200
150
100
50
0
About 1.1% of Prehunt pop
Proposed 1.5-1.6%
2001
2002
2003
2004
2005
2006
2007
2008
2009


CURRENT STRATEGY
FMA, MFMA, and 4 Drawing Hunt Areas
Livengood
Minto
Minto Flats MA
RM775
RM785
DM777
DM778
DM779
DM785
GMU 20B
Nenana River
Tanana River
Salcha River
0 10 20 40 Miles

PROPOSED STRATEGY

FMA, MFMA, and 16 Small Drawing Hunt Areas



Proposal 234B – GMU 20B Moose

EFFECT OF THE PROPOSAL:

- Reauthorize antlerless hunt
  - –Increase number of antlerless permits in remainder of Unit 20B from 300 to 900; add 100 antlerless permits in Middle Fork of the Chena River drainage.
  - –Expand antlerless season length in remainder of Unit 20B and the Middle Fork of the Chena River drainage from September 1 – 30 to August 15-November 15.
  - –Bag limit change in Fairbanks Management Area (FMA) from "may not take a calf or a cow accompanied by a calf" to "antlerless" moose.
  - –No Change for the Minto Flats Management Area (MFMA)

DEPARTMENT RECOMMENDATION: Staff proposal

Supported by the Fairbanks AC

THE END

PROPOSAL 234D-Unit 20A- 5AAC 85.045(a)(18). HUNTING SEASONS AND BAG LIMITS FOR MOOSE.

5 AAC 85.045. Hunting seasons and bag limits for moose. (a) ...

Units and Bag Limits	Resident Open Season (Subsistence and General Hunts)	Nonresident Open Season
...		
(18)		
Unit 20(A), the Ferry Trail Management Area, Wood River Controlled Use Area, and the Yanert Controlled Use Area		
RESIDENT HUNTERS:		
1 bull with spike-fork antlers or 50-inch antlers or antlers with 4 or more brow tines on one side; or	Sept. 1 - Sept. 25 (General hunt only)	
1 antlerless moose by drawing permit only (up to 500 permits may be issued); a person may not take a calf or a cow accompanied by a calf; a recipient of a drawing permit is prohibited from taking a bull moose in Unit 20A;or	**Aug. 25 - Oct. 31 (General hunt only)**	
1 antlerless moose by registration permit only; a person may	**Jan. 10-Feb. 28 (General hunt only)**	

not take a calf or a cow accompanied by a calf; or	
[1 ANTLERLESS MOOSE BY REGISTRATION PERMIT ONLY; A PERSON MAY NOT TAKE A CALF OR A COW ACCOMPANIED BY A CALF; OR]	[AUG. 25 – FEB. 28] [(GENERAL HUNT ONLY)]
1 bull by drawing permit only; up to 1000 permits may be issued; or	Sept. 1 - Sept. 25 (General hunt only)
1 bull by drawing permit only; by muzzleloader only; up to 75 permits may be issued	Nov. 1 - Nov. 30 (General hunt only)
NONRESIDENT HUNTERS:	
1 bull with 50-inch antlers or antlers with 4 or more brow tines on one side; or	Sept. 1 - Sept. 25
1 bull with 50-inch antlers or antlers with 4 or more brow tines on one side by drawing permit only; by muzzleloader only; up to 75 permits may be issued	Nov. 1 - Nov. 30
Remainder of Unit 20(A)	
RESIDENT HUNTERS:	

1 bull with spike-fork antlers or 50-inch antlers or antlers with 3 or more brow tines on one side; or	Sept. 1 - Sept. 25
1 antlerless moose by drawing permit only (up to 500 permits may be issued); a person may not take a calf or a cow accompanied by a calf; a recipient of a drawing permit is prohibited from taking a bull moose in Unit 20A;or	**Aug. 25 - Oct. 31 (General hunt only)**
1 antlerless moose by registration permit only; a person may not take a calf or a cow accompanied by a calf; or	Aug. 25-Feb. 28 (General hunt only)
1 bull by drawing permit only; up to 1000 permits may be issued	Sept. 1 - Sept. 25
NONRESIDENT HUNTERS: 1 bull with 50-inch antlers or antlers with 4 or more brow tines on one side	Sept. 1 - Sept. 25

Background and Current Cooperative Efforts between ADF&G and FWS for habitat enhancement and predator management on national refuges to assure natural diversity of fish and wildlife
March 7, 2009

At the January 25, 2008, Board of Game meeting in Anchorage, Chair Judkins requested information on federal laws governing predator control on federal lands in Alaska.

FWS Assistant Regional Director Larry Bell responded to Chair Judkins in a February 25, 2008, letter, explaining differences in federal laws for FWS, BLM and NPS. Regarding FWS, he stated: "there is nothing in ANILCA, or other applicable federal laws, regulations and policies, nor in the refuge comprehensive conservation plans, which specifically precludes predator control on national wildlife refuges in Alaska." The letter further explains the FWS general prerequisites before taking action on predator control efforts, which usually require NEPA processes.

The Department engaged in discussions with the FWS and met August 11, 2008, to discuss Department predator and prey management on national wildlife refuges and specifically seeking assistance from FWS in recovery of the Southern Alaska Peninsula caribou population "for conservation concerns." As a result of agreements at that meeting to cooperatively address serious conservation concerns, Wildlife Director Larsen sent a September 5, 2008, letter requesting FWS conduct Biological Monitoring and Inventory Analyses so that determinations could be made to assist in the department's predator management efforts.

Regional Director Geoff Haskett responded in a letter to Commissioner Denby Lloyd on October 17, 2008, suggesting the next step is for Department and FWS biologists to meet, share, and review current and historical data sets towards determining management actions to restore natural diversity on the Alaska Peninsula and Izembek refuges. Haskett urged the meeting be held soon in light of the caribou conservation concerns, and he also directed the Regional Chief of Refuges Todd Logan to complete a Biological Monitoring and Inventory Analyses for the refuges as soon as possible. He concluded with an assurance of FWS' cooperation in this issue of mutual concern. Area staff met with FWS refuge staff in early February 2009 to begin discussing options and processes.

Through this effort, the Department learned that whenever attempting to manage wildlife, both prey and predators, for sustainability, there are steps we can take cooperatively with the FWS to achieve a normal range of predator and prey numbers for sustainability—that is to restore natural diversity to address conservation concerns on refuges. Those steps are: first, request a Biological Monitoring and Inventory Analyses; second, share and analyze data and management tools; and, third, cooperatively make determinations of goals, management actions, and timelines.

Under the Master Memorandum of Understanding between the Department and FWS, the Department agrees "to manage fish and wildlife populations in their natural species diversity on Service lands" and the FWS agrees "to manage fish and wildlife habitat on Service lands so as to assure conservation of fish and wildlife populations and their habitats in their natural diversity."

In the Alaska National Interest Lands Conservation Act of 1980 (ANILCA), a major purpose of each new and expanded refuge is the conservation of fish and wildlife populations and habitats "in their natural diversity." On December 1, 1980, Senator Stevens entered valid ANILCA legislative history the day before Congress adopted ANILCA to define "natural diversity," as follows:

> The phrase "in their natural diversity" was included in each subsection of those two sections [purposes of each refuge in ANILCA sections 302 and 303] to emphasize the importance of maintaining the flora and fauna within each refuge in a healthy condition. The term is not intended to, in any way, restrict the authority of the Fish and Wildlife Service to manipulate habitat for the benefit of fish or wildlife populations within a refuge or for the benefit or the use of such populations by man as part of the balanced management program mandated by the Alaska National Interest Lands Conservation Act and other applicable law. The term also is not intended to preclude predator control on refuge lands in appropriate instances."

The Department intends to approach the FWS to request preparation of a Biological Monitoring and Inventory Analyses in order to pursue habitat enhancement on the Kenai refuge and steps to improve predator management to address conservation concerns for the Northern Alaska Peninsula caribou population.

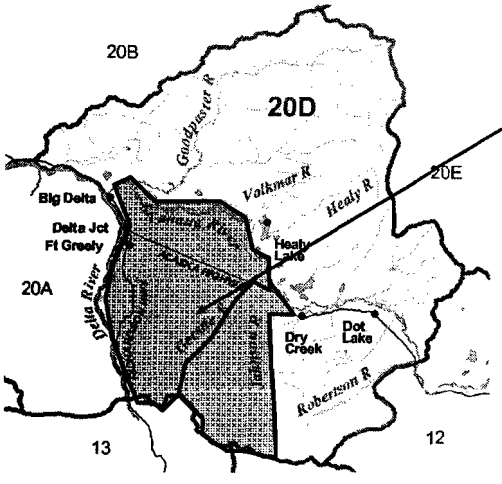
RC 140

Proposal 234C
Reauthorize antlerless moose hunt in Unit 20D

- Supported by Delta AC
- Department recommends ADOPT
- RC120

Unit 20D Female Moose Hunts

Game Managment Unit
20D

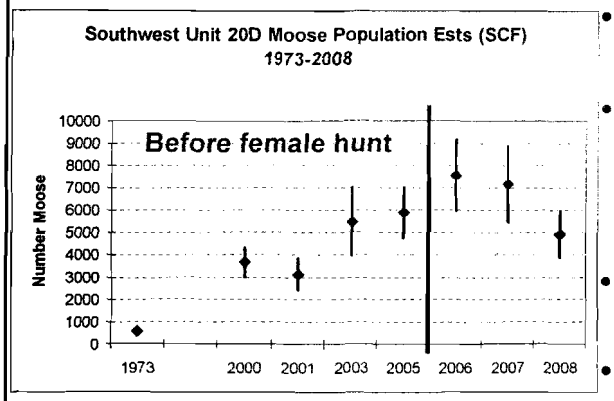


- Female hunting has been in southwest Unit 20D

Unit 21D Female Moose Hunt

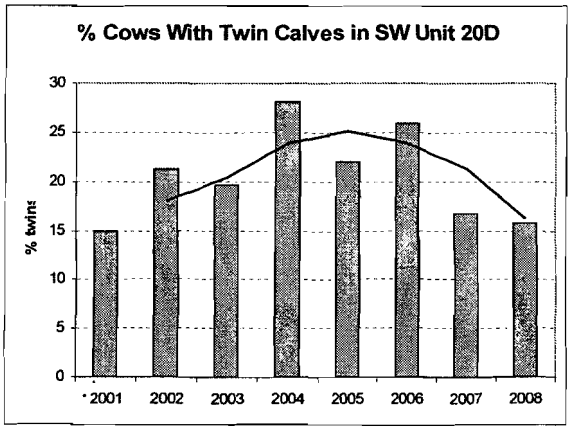
- High density moose population
- Concerns
  - Declining twinning rates
  - Relatively high browse removal
- Reduce and stabilize population

SW 20D Population Size



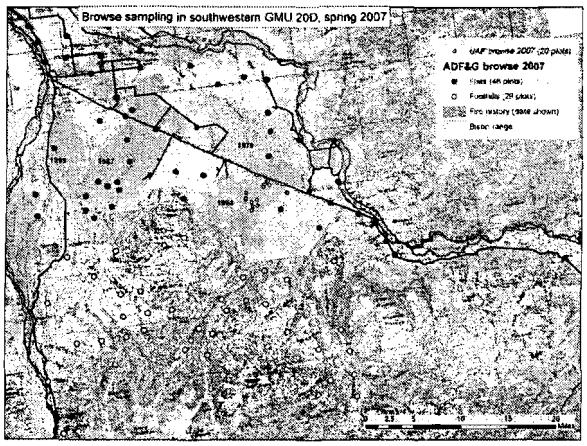
- 1973 est ~600
  - 0.5 moose/mi^2
- Peaked in 2006 at 7,111 (5,430-8,792) moose
  - 5.6 moose/mi^2
- Female hunting started in 2006
- Reduced to 4,919 (3,859-5,977) by 2008
  - 3.9 moose/mi^2

SW Unit 20D Twinning Surveys



- Twinning surveys produce strong correlation between habitat condition and moose productivity
- Twinning surveys begun in 2001 when density was reaching high levels
- 2 yr average = 16%
- SW20D is on the lower range among statewide twinning rates

SW20D Browse Removal

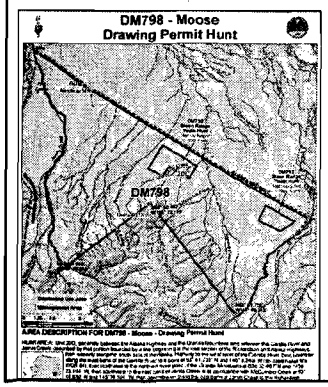


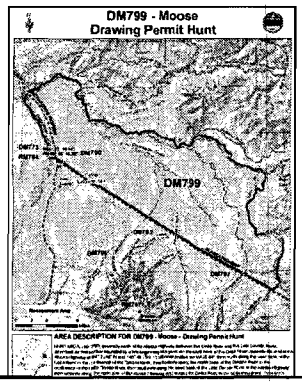
Extensive browse survey in spring 2007

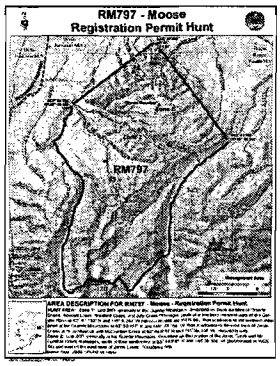
- 2006 – 2007 overwinter browse removal was high in SW 20D
  - 22.3 % in flats
  - 30.4 % in foothills
  - 37.3% in recent burn
- Brooming index was high
  - 62% in flats
  - 75% in foothills
  - 87% in recent burn

2008 Female Hunt Results

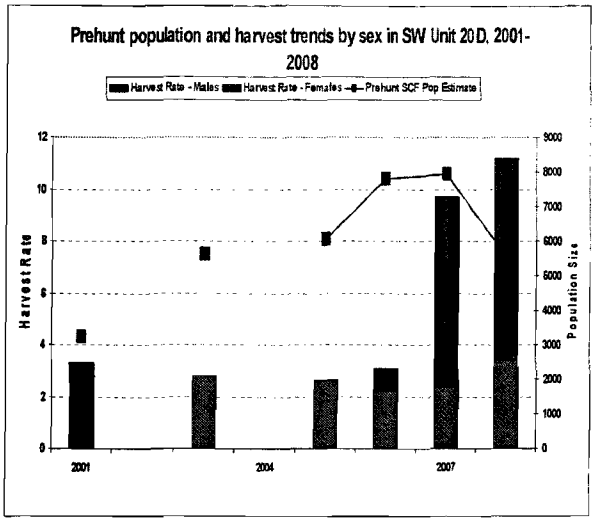
- 590 drawing permits & 725 registration permits
- Registration permit hunt added in Granite Mnts
- Harvest = 370







SW20D Moose Harvest



- 20D harvest rate ~3% of population resulted in population growth
- 20D harvest rate 9-11% in 2007 & 2008 resulted in population decline
- Harvest rate for stability in SW20D population is still being calculated

SW20D Female Moose Hunt Fall 2009

- At a meeting of the Delta AC & ADFG on Feb. 5, Delta AC voted to manage for a stable moose population in SW20D by continuing to hunt antlerless moose in fall 2009
- Without some antlerless hunting, the population would start increasing in size again
- Manage for a stable population by maintaining a female harvest
- 2009 harvest goal is 100 (200 permits issued)
- Registration hunt will be changed to drawing

RC 141

Proposal #233
Spring 2009
Region 3
5 AAC 92.015.
Brown bear tag fee exemptions

Department Recommendation

ADOPT

#233

Reauthorize

- Resident Tag Fee Exemptions for general season
  - Units 19A, 19D, 20D, 20E (outside Yukon–Charley), 21B, 21D, 21E, 25C, and 25D
- Subsistence Registration Permit Tag Fee Exemptions
  - Units 19A and 19B (downstream of and including the Aniak River drainage),
  - 21D, and 24.

Reauthorize

General Season Resident Tag Fee Exemptions

– Units 19A, 19D, 20D, 20E (outside Yukon–Charley), 21B, 21D, 21E, 25C, and 25D

Unit	Year of Exemption	Reason	Average Pre-Exempt Harvest	Average Post Exempt Harvest
19A	2006	Moose calf survival, consistent with Plan	8	9
19D	1998	moose calf survival	2	5.5
20D	1995/2003	moose/caribou calf survival	8	11
20E	2002	reduce predation on moose calves	15	16
21B	2004 & 2006	increase opportunity	0.4	0.3
21D	2004	increase opportunity	5.6	6
21E	2006	moose calf survival	5.2	3.5
25C	2006	40mile caribou calf survival	4	6.5
25D	1998	harvest reporting/ moose calf survival	2.1	3.3

Reauthorize Subsistence Registration Permit Tag Fee Exemptions

- Units 19A and 19B (downstream of and including the Aniak River drainage),
- 21D, and 24.

Subsistence Tag Fee Exemptions

- Units 19A and 19B (downstream of and including the Aniak River drainage),
- 21D, and 24

- subsistence use of brown bears for food
- Allows traditional treatment of bear skulls that is inconsistent with sealing requirements.
- 33 permits issued in RY06–RY07. 1 bear harvested.
- Harvest rates are within sustained yield limits.

Proposal #233
Spring 2009
Region 3
5 AAC 92.015.
Brown bear tag fee exemptions

Department Recommendation

ADOPT

RC 142

Proposed language for amendment of proposal 171

Amend proposal 171 to allow taking of black bears with foot-snares within the Game Management Unit 16 bear predation control area under a discretionary predator control permit with the following provisions:

1) Participating permittees must be residents 16 years of age or older.
2) Season length would be from April 15 to August 15.
3) Helicopters may be used for access only to bear baiting camps and foot-snaring camps During April 15 to August 15 provided the helicopter pilot obtains a permit and attends an orientation given by Department personnel in the Palmer office. Permits for use of helicopters will be discretionary. Helicopters may be used only for transport of people, gear, bear hides, bear skulls, and bear meat to and from bear baiting and bear foot-snaring camps. No more than 10 helicopter pilot permits will be issued.
4) Up to 10 brown bears may be taken (in aggregate for all permittees) with foot-snares incidentally to the foot-snaring of black bears. Hides and skulls of brown bears will become property of the Department. Department staff will release incidentally caught brown bears if possible.
5) Participants must complete a training program in the field, administered by Department staff or a Department approved contractor.
6) Foot-snares may be placed on the ground or in buckets and must be checked every 24 hours.
7) Participants must report all animals taken in foot snares to Department staff within 48 hours.

Submitted by ADF+G

RC 143

Unit 19D-East Predation Control Implementation Plan and Activities
Division of Wildlife Conservation Report to the Alaska Board of Game
March 2009

Background

The Unit 19D-East wolf predation control implementation plan was first adopted by the Board of Game in fall 1995. In January 2000, the Board made a finding of emergency regarding the Unit 19D-East situation and extended the Commissioner's authority to reduce wolves during 2000–2005. In March 2001, the Department established the Experimental Micro Management Area (EMMA) to focus predator control and associated management efforts in a relatively small area and to conduct research on the efficacy of the program. The concept of the EMMA was a change from previous approaches dealing with predator management because it focused predator management around a village to provide more moose for subsistence needs. In March 2003 the Board re-evaluated the Unit 19D-East wolf predation control program and issued comprehensive new board findings. The Board endorsed the EMMA concept and allowed the department discretion to change the size of the control area to provide for adaptive management. Thus, the 19D-East wolf predation control implementation plan involves both research and management components.

The wolf predation control program began in regulatory year (RY) 2003 (regulatory year begins on July 1 and ends June 30, e.g., RY03 = July 1, 2003–June 30, 2004). In January 2006, the Board adopted a revised implementation plan in the form of an emergency regulation. The emergency regulation clarified and updated key components of the implementation plan that included: wildlife population and human use information, predator and prey population levels and objectives, plan justifications, methods and means, time frame for updates and evaluations, and miscellaneous specifications.

In May 2006, the Board further modified the emergency regulation, added black and brown bear predation control within the EMMA, deleted the link between the hunting closure in the EMMA and intensive removal of predators, and adopted a final predator control implementation plan. The plan was approved for 5 years, beginning on July 1, 2004. The following prey and predator population levels and population objectives for Unit 19D-East are included in the final regulation.

- 2004 moose population: 3,444–5,281 (0.5 moose/mi^2)
- Moose population objective: 6,000–8,000
- Moose harvest objective: 400–600
- Fall 2000 pre-control wolf population estimate: 198
- Wolf population control objective:
    - As low as possible in EMMA
    - No less than 40 in 19D-East
- Pre-control black bear population estimate:
    - 1,700 in 19D-East
    - 130 in EMMA
- Black bear population control objective:

  - As low as possible in EMMA
  - Maintain as a viable part of natural ecosystem in 19D-East
- Pre-control brown bear population estimate:
  - 128 in 19D-East
  - 9 in EMMA
- Brown bear population control objective:
  - As low as possible in EMMA
  - Maintain as a viable part of natural ecosystem in 19D-East

Plan Implementation Activities

EXPERIMENTAL MICRO MANAGEMENT AREA (EMMA)

The EMMA was established in 2001 and is within a 20 mile radius of McGrath (528 mi^2). This area encompasses the highest density of moose in 19D-East and was established as a treatment area where predator population manipulations and other management actions could be tested. Beginning in 2004, moose hunting was closed within the EMMA.

NON-LETHAL REMOVAL OF BEARS

We conducted a non-lethal bear removal project in May 2003 and 2004. During 2003, 81 black bears (all older than 1-year old) and 9 brown bears (including 2 cubs-of-the-year) were captured and moved from the EMMA and surrounding area. In 2004, we captured and moved 34 black bears and 1 brown bear (all older than 1-year old) from the EMMA.

WOLF CONTROL

The Board authorized the commissioner to issue public aerial shooting or land and shoot permits as the method of lethal wolf removal pursuant to AS 16.05.783. We exercised discretion to adjust the size of the area where wolf predation control activities would occur within the Unit 19D-East Wolf Predation Control Area. The wolf control zone established when control efforts began in RY03 initially encompassed 1728 mi^2, surrounding and including the EMMA. Within 2 weeks, we expanded to 3,210 mi^2 to allow permittees to take wolves that used the EMMA but were frequently located outside its boarders. In RY06, we expanded the wolf control zone to 6,245 mi^2 to provide local residents with more moose available for harvest by hunters displaced from the EMMA, which was closed to moose hunting. The expanded area includes all of Unit 19D-East, west of a north-south line near Telida (153° 20' 0.00" west longitude).

In RY07, the control program began on November 1, 2007 and continued through April 30, 2008. Wolf control pilots took 29 wolves, and we estimated that 46–74 wolves needed to be taken to reach the control objective of leaving no fewer than 40 wolves in Unit 19D-East post treatment as specified in the May 2006 plan.

In RY08 as of February 17, 2009, we received 37 applications and issued 7 pilot and 7 gunner permits. To date, these permittees have taken 10 wolves from Unit 19D East (Table 1). We estimate that 35–59 wolves need to be taken to reach the control objective.

Table 1. Wolf control dates, control permits issued and wolves killed.

		Permits issued		Wolves killed		
Year	Authorized dates	Pilot	Gunner	F	M	Total
RY03	Dec. 2003–Apr. 30, 2004	28[a]		7	10	17[b]
RY04	Nov. 17, 2004–Apr. 30, 2005	6	11	7	7	14[c]
RY05	Dec. 3, 2005–Apr. 30, 2006[d]	3	3	3	1	4
RY06	Nov. 1, 2006–Apr. 30, 2007	5	3	2	0	2
RY07	Nov. 1, 2007–Apr. 30, 2008	9	15	13	16	29

[a]Record of number of pilots vs. gunners was lost, some permittees had multiple permits.
[b]Three additional wolves were taken illegally outside the control zone.
[c]Two wolves remained in the EMMA.
[d]The wolf control program was closed January 18–27, 2006 due to a court injunction.

BLACK BEAR AND BROWN BEAR CONTROL

The board approved black bear and brown bear control within the EMMA beginning in RY06. We began issuing control permits on September 1, 2006 and continued until June 30 of each regulatory year. Requirements and restrictions for the take of black and brown bears included in the Alaska Hunting Regulations apply to the permittees, except that permittees do not have an individual kill limit and they may set out 10 additional bait stations for black bears, may bait brown bears, and may take brown bears same-day-airborne at bait stations if the bait stations are registered with the McGrath office. In addition, hunting regulations allow permittees to bait black bears, take black bears same-day-airborne at bait stations and sell the raw hide and skull of both black and brown bears if they obtain a department sale tag and permit.

In RY07, we issued 5 black bear control permits and 1 black bear control baiting permit. We also issued 4 brown bear control permits and 1 brown bear control baiting permit. No black or brown bears were reported taken. Tags and permits were issued to hunters to allow sale of hides and skulls when requested.

In RY08, as of February 17, 2009, we have issued 7 black bear control permits and 9 black bear control baiting permits. Also, we have issued 7 grizzly bear control permits and 11 grizzly bear control baiting. Generally, the same individuals holding black bear permits held grizzly bear permits and monitored the same bait stations. Three grizzly bears and no black bears were taken using bear control permits.

Status of Prey and Predator Populations

RESEARCH COMPONENT

Prey–predator research in Unit 19D-East included the following objectives and results during March 2001–January 2008.

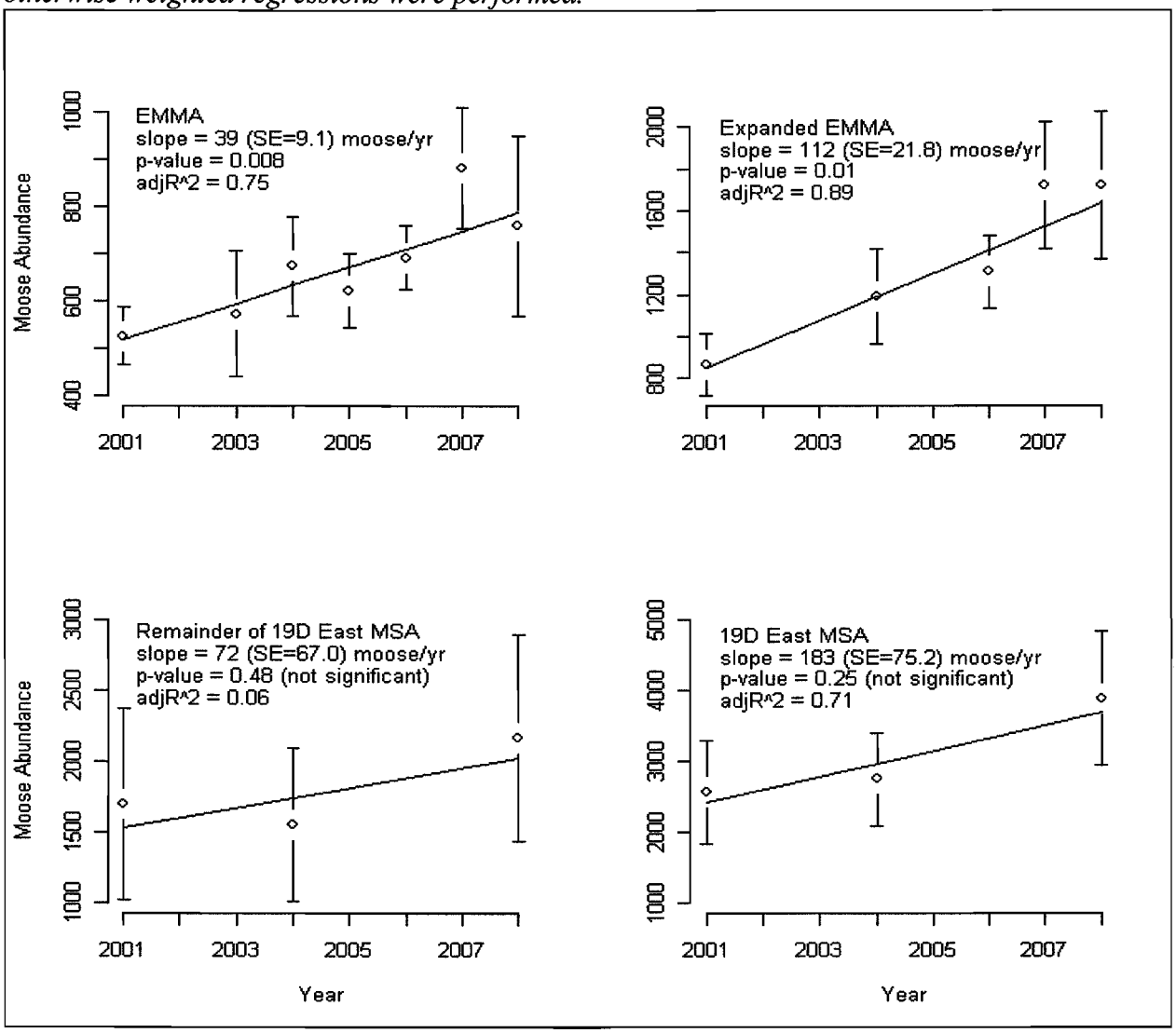
Objective 1a: Estimate moose numbers and population composition in Unit 19D-East.

Since 2001 we have conducted 3 surveys to estimate moose numbers in the entire 19D East Moose Survey Area (MSA) which comprises approximately 5,313mi^2 of Unit 19D East. We have also conducted surveys within the portions of the 19D East MSA

comprised of the EMMA (528mi^2) and expanded EMMA (1,118mi^2) on a more frequent basis. In addition, we have calculated the estimated moose population within the portion of the 19D East MSA excluding the EMMA and expanded EMMA (the remainder of the 19D East, 4,195mi^2) in 2001, 2004, and 2008. Population estimates as well as trend lines for these four areas are shown in Fig. 1.

Estimates taken from trend lines presented in Fig. 1 indicate that the estimated population within the EMMA has increased by several hundred moose since intensive surveys began in the area (517 in 2001 to 787 in 2008) and that a larger increase from 854 moose in 2001 to 1636 moose in 2008 occurred in the expanded EMMA. The significant slope of trend lines for both the EMMA and expanded EMMA indicate that these population increases are significant. In the remainder of the 19D East MSA we observed an increase in point estimates from 1,696 in 2001 to 2,171 in 2008. However, the 90% CIs for these point estimates overlap substantially, providing virtually no evidence of a population change. The non-significant slope obtained through trend analysis verifies this conclusion. We also calculated population estimates for the entire 5,313 mi^2 19D East MSA. In the 19D East MSA, we observed an increase in point estimates from 2,564 in 2001 to 2,744 moose in 2004 to 3,889 moose in 2008. Although the slope of the trend line is substantial (183 moose/year) and the adjusted R^2 was similar to that for the EMMA, we are unable to conclude that there has been a statistically significant population change in the entire 19D East MSA at the 90% confidence level. The p-value of 0.25 indicates the slope is significantly different than zero at only the 75% confidence level.

Fig. 1. Survey estimates and their 90% confidence limits are presented along with the trend line for each of four survey areas of interest: the EMMA, expanded EMMA, remainder of the 19D East MSA, and the 19D East MSA. Linear mixed effects models were used for areas having more than 5 years of data (EMMA and the expanded EMMA), otherwise weighted regressions were performed.



Objective 1b: Determine primary causes of mortality of moose calves.

In May 2001 we captured and radiocollared 67 newborn moose calves in Unit 19D-East, 51 of those were captured within or near the EMMA. We monitored those calves through their first year of life and investigated causes of mortality. The overall survival rate for our collared sample of calves was 26% (17 of 66 lived). We attributed 18 deaths (37%) to black bears, 17 deaths (35%) to brown bears, 12 deaths (24%) to wolves, 1 (2%) death to drowning, and 1 death (2%) to an unknown cause. The survival rate for only those calves captured within or near the EMMA was 33% (17 of 51 lived). Within the EMMA we

attributed 18 deaths (53%) to black bears, 5 deaths (15%) to brown bears, 9 deaths (26%) to wolves, 1 (3%) nonpredation cause, and 1 death (3%) to an unknown cause.

In May 2002 we captured and radiocollared 81 newborn moose calves, and visually monitored an additional 4 calves, within and near the EMMA. Survival for those calves through their first year of life was 27% (22 of 85 lived). We attributed 21 deaths (33%) to black bears, 12 deaths (19%) to brown bears, 28 deaths (44%) to wolves, and 2 deaths (3%) to nonpredation cause.

In May 2003 we captured and radiocollared 53 newborn moose calves within or near the EMMA. Survival for those calves through their first year of life was 52% (26 of 53 lived, 2 calves were censored from the study in mid-summer). We attributed 8 deaths (32%) to black bears, 4 deaths (16%) to brown bears, 9 deaths (36%) to wolves, 3 deaths (12%) to nonpredation causes, and 1 death (4%) to an unknown cause.

In May 2004 we captured and radiocollared 52 newborn moose calves within or near the EMMA. Survival for those calves through their first year of life was 40% (21 of 52 lived). We attributed 3 deaths (10%) to black bears, 8 deaths (26%) to wolves, 19 deaths (61%) to nonpredation causes, and 1 death (3%) to illegal take.

In May 2005 we captured and radiocollared 50 newborn moose calves within or near the EMMA. Survival for those calves through their first year of life was 42% (21 of 50 lived). We attributed 12 deaths (41%) to black bears, 3 deaths to brown bears (10%), 3 deaths (10%) to wolves, 10 deaths (34%) to nonpredation causes, and 1 (3%) death to unknown cause.

In May 2006 we captured and radiocollared 51 newborn moose calves within or near the EMMA. Survival for those calves through their first year of life was 63% (32 of 51 lived). We attributed 6 deaths (32%) to black bears, 3 deaths to brown bears (16%), 3 deaths (16%) to wolves, 6 deaths (32%) to nonpredation causes, and 1 (5%) death to unknown cause.

In May 2007 we captured and radiocollared 51 newborn moose calves within or near the EMMA. Survival for those calves through their first year of life was 35% (18 of 51 lived). We attributed 7 deaths (21%) to black bears, 14 deaths to brown bears (42%), 6 deaths (18%) to wolves, 4 deaths (12%) to nonpredation causes, and 2 (6%) deaths to unknown causes.

No newborns were captured during 2008.

The highest annual survival of calves was experienced by those cohorts that were born following removal of predators from the EMMA. Calves from these cohorts (2003-2007) experienced considerably less early summer mortality than those from 2001 and 2002. This ultimately translated into 16% higher survival to 1 year of life following predator removal than prior to removal (30% and 46% average annual survival pre vs. post predator removal, respectively).

Objective 1c: Determine condition, movements, and mortality rates of yearling and adult moose.

In March 2001 we captured 25 adult and 15 short-yearling moose within the study area. In March 2002 we captured 15 adult and 15 short-yearling moose, and in March to May 2003–2008, we captured 15 short-yearling moose each year. During processing, moose had a blood sample taken, a tooth pulled (adults only), morphometric measurements obtained, rump fat determined via ultrasound (adults only in 2001 and 2002), weight taken (yearlings only, during 2008 no weights were not taken), and a radio collar affixed. These collared individuals were then monitored to determine reproductive indices and condition indices (Table 4), movements, and mortality rates.

Table 4. Reproduction and condition indices for moose in Unit 19D-East, 2001–2006.

Year	Observed rate of parturition for radiocollared cows > 2 yrs-of-age (number cows monitored)	Observed rate of parturition for radio-collared cows 3 yrs-of-age (number of cows monitored)	Observed rate of twinning for radiocollared cows > 2 yrs-of-age (n)	Observed rate of twinning for uncollared cows (n)	Average maximum adult rumpfat depth in cm (n)	Median maximum adult rumpfat depth in cm (n)
2001	73%[a] (22)	100% (3)	25% (16)	--	0.71 (25)	0.55 (25)
2002	88%[b] (25)	0% (1)	59% (22)	39% (46)	1.51 (15)	1.58 (15)
2003	84%[c] (31)	56% (9)	24% (25)	36% (39)	--	--
2004	80%[d] (40)	70% (10)	32% (31)	39% (31)	--	--
2005	92%[e] (51)	100% (11)	44% (45)	50% (40)	--	--
2006	97%[f] (62)	100% (13)	40% (60)	35% (29)	--	--
2007	95%[g] (59)	71% (7)	52% (56)	50% (30)	--	--
2008	88%[h] (59)	63% (8)	55% (51)	--	--	--

[a] Includes one fetal calf found during necropsy of cow in late May, and two births observed during June.
[b] Includes three births observed during June.
[c] Includes one cow considered to have given birth because placenta was observed but no calf was seen, and one birth observed during July.
[d] Includes two births observed during July.
[e] Includes five births observed during June.
[f] Includes one birth observed during June.
[h] Cows monitored on a weekly basis in 2008, birth dates not estimated.

Monthly locations of study animals indicated that moose within the EMMA are relatively nonmigratory, and no discernable large-scale movement pattern was evident. However, some moose that reside in the Pitka Flats (east of the EMMA) during calving season are apparently migratory, spending spring and summer in the Pitka Flats and then moving to the Farewell Burn/Alaska Range foothills in fall and winter.

Yearling natural survival rates (legal hunter take is not included) varied from 74% to 96% annually during 2001–2008. The highest annual survival was experienced by the 2004 and 2005 cohorts which coincides with both department removal of bears from the EMMA and public wolf control efforts. We attributed the largest proportion of radio-

collared yearling mortalities to wolves, with black bears and non-predation mortality accounting for some deaths. Hunters also legally harvested 4 male yearlings, 2 during 2002 and 2 during 2003.

Adult annual survival rates varied from 86% to 100% during 2001–2008. Wolves and nonpredation causes accounted for most mortality during these time periods, with illegal take and brown bears also accounting for some mortality.

Objective 1d: Determine twinning rates and age at first reproduction of moose in Unit 19D-East.

Twinning rates for radiocollared and uncollared females are listed under Objective 1c (Table 4).

We have observed three parturient radiocollared 2-year-old moose, one each during spring 2005, 2006, and 2007. Rates of parturition are listed for radiocollared 3-year-old moose in Table 4.

Objective 1e: Obtain data snow depth and density within the EMMA.

Preliminary data is summarized in Table 5.

Table 5. Monthly snow depth and average daily temperature for the McGrath Alaska airport, winter 2000–2001 through winter 2004–2005.

Depth of snow in inches on last day of month / average daily temperature (°F)[a]							
Winter	October	November	December	January	February	March	April
2000–01	11 / 23.3	19 / 12.6	17 / 4.0	17 / 10.1	29 / 11.8	29 / 11.1	14 / 31.2
2001–02	7 / 21.8	8 / -4.0	10 / -12.9	32 / 4.5	22 / 5.8	21 / 14.1	5 / 25.5
2002–03	3 / 32.1	3 / 20	8 / 5.0	10 / -5.2	19 / 15.8	14 / 12.2	0 / 32.3
2003–04	0 / 32.7	12 / 13.9	16 / -9.3	18 / -14.1	21 / 6.4	20 / 8.2	0 / 35.7
2004–05	3 / 33.0	18 / 15.0	31 / -1.2	41 / -7.6	41 / -0.4	42 / 16.0	14 / 26.2
2005-06	1 / 28.6	11 / -6.3	14 / 5.2	16 / -22.3	22 / 10.9	20 / 6.5	11 / 26.1
2006-07	0 / 35.0	3 / 1.2	12 / -5.2	18 / -5.7	17 / -1.4	16 / -3.7	0 / 38.8
2007-08	5 / 25.3	12 / 14.9	21 / -0.8	32 / -4.7	24 / -4.6	24 / 14.0	12 / 25.5

[a] Data obtained from the National Oceanic and Atmospheric Administration (NOAA).

Objective 2: Characterize winter moose browse in Unit 19D-East.

Browse surveys were conducted in March 2003 via helicopter and snowmobile throughout the EMMA. A total of 39 locations and 236 plants were sampled within the area. Browse biomass removal in the EMMA was 20%, which falls between the range seen in areas of high moose browse use and low moose browse use. Birch, poplar, and willow species were all present in the survey area, although willow species tend to be the most preferred winter browse species in the EMMA. This is similar to most areas in Interior Alaska.

Objective 3a: Estimate wolf numbers in Unit 19D-East and identify wolf packs that hunt moose within the EMMA.

We conducted a reconnaissance style wolf survey within the Unit 19D-East moose survey area (MSA) during February 21–February 24, 2001. During that survey, 103 wolves were estimated to occur in the 19D-East MSA, 47 of which were believed to be permanent residents in the survey area. The remainder were considered to be wolves that likely did not reside within the survey area at all times. In addition, using data collected during the 2001 survey we retrospectively estimated 48 occupied the 3,210 mi^2 control area that was implemented in 2004.

During March 17–19, 2005, we conducted another reconnaissance style wolf survey in Unit 19D-East, focusing primarily on the wolf control zone within Unit 19D-East (a 3,210 mi^2 area encompassing the EMMA). During that survey, we estimated 82 wolves occurred within Unit 19D-East, with 9 of those wolves occurring within the wolf control zone and an additional 6 wolves that likely reside periodically in the control zone.

During March 14–17, 2006, we conducted a reconnaissance style wolf survey in Unit 19D-East, focusing primarily on the wolf control zone within Unit19D-East. During that survey, we estimated 53–65 wolves occurred within the portion of Unit 19D-East we surveyed (an area slightly larger than the 19D-East MSA), with 13 of those wolves occurring within the wolf control zone and an additional 2 wolves that likely reside periodically in the control zone.

No wolf surveys were conducted during 2007 or 2008.

Objective 3b: Determine reproductive rates and condition of wolves in Unit 19D and compare rates with other wolf populations in Alaska.

We purchased 25 hunter- and trapper-killed wolf carcasses for necropsy between June 2001 and July 2003. Necropsies were performed in spring 2002 and 2003. Data collected from carcasses and reproductive tracts indicate wolves from Unit 19D have normal condition parameters.

Objective 4: Document the distribution of black bear and brown bears numbers within and adjacent to the EMMA and characterize bear predation on moose calves.

In a collaborative project with Pennsylvania State University, we captured and radiocollared 20 black bears during May and June 2002 within the study area. Preliminary analysis of data obtained by monitoring these bears indicates that most black bears use riparian areas within the central portion of the study area in spring and summer and move to higher elevations in fall. Most of these bears also denned in back spruce forests near the areas where they spent time in the fall.

During May 2003, we captured and moved 81 black bears (all older than 1 year old) and 9 brown bears (including 2 cubs-of-the-year) from the EMMA and surrounding area. During May 2004 we captured and moved 34 black bears and 1 brown bear (all older than 1-year old) from the EMMA. Bears were captured using both helicopter darting and ground based snaring, and translocated using fixed-winged aircraft to areas at least 150 miles from McGrath. Of the bears captured in May 2004, 7 were black bears that had been captured and removed during 2003 and had returned to the area, indicating a low

rate of return in the first year. Of the 7 recaptured bears, 6 were adult males and 1 was an adult female.

Base upon bears that were captured and moved during 2003 and 2004 and bears that were known to inhabit the EMMA during that time that were not captured, we estimated that there were approximately 95 black bears/1000km^2 (130 black bears) in the EMMA prior to reduction efforts beginning in 2003. During May 2007, we conducted an aerial black bear survey and estimated 72 independent black bears (60 – 91 95%CI) in the EMMA. These results indicate that the black bear population is still lower than pre-removal levels, however, it is rebounding relatively quickly.

We plotted locations of the 115 black and 10 brown bears captured during 2003 and 2004. These locations likely reflect the distribution and relative abundance of bears within the EMMA during the time of moose calving, since we searched all portions of the EMMA for bears during these years. Plotting these locations indicated that both black bears and brown bears (brown bears at a much lower relative density) are dispersed throughout the entire EMMA, however, they seem to concentrated along the main riparian corridors of the Kuskokwim and Takotna rivers. This is similar to distribution of radiocollared black bears in 2002, as mentioned above.

MANAGEMENT COMPONENT

Moose Population Size.

In fall 2001, we estimated 3,959 moose in Unit 19D-East (0.46 moose/mi^2), based on extrapolation of a survey conducted in a 5,204 mi^2 portion of the unit. Using similar techniques in 2004, we estimated 4,374 moose in Unit 19D-East (0.5 moose/mi^2).

We estimate the current (2008) population of moose in Unit 19D-East at approximately 5,481 moose or 0.61 moose/mi^2. Because we have not surveyed the entire area of Unit 19D-East, this estimate, similar to previous population estimates for all of Unit 19D-East is based upon the addition of two estimates: 1) the population estimate (1,636 moose) within the expanded EMMA (a 1,118 mi^2 area near McGrath where predation control efforts were focused and moose densities are higher at 1.5 moose/mi^2 – an area that is not comparable to the remainder of 19D-East for these reasons), and 2) an extrapolated population estimate (3,845 moose) for the 7,395 mi^2 of the remainder of Unit 19D-East based upon a density of 0.52 moose/mi^2 in this area. A density of 0.52 moose/mi^2 is assumed in the remainder of 19D-East, because 4,195 mi^2 of this 7,395 mi^2 area was surveyed during 2008 and we believe habitat and moose numbers are similar throughout the entire area.

The 2008 Unit 19D East moose population estimate of 5,481 moose is below our intensive management objective of 6,000–8,000.

Moose Harvest. The RY01–RY08 average reported harvest of moose in Unit 19D-East under the registration permit system currently in place is 79 per year (range 60–103; Table 6). This harvest is well below our objective of 400–600 moose annually.

Table 6. Unit 19D-East moose registration permit hunt (RM650) results, 2001–2007.

Regulatory year	Successful	Unsuccessful	Did not hunt	Total permits issued
2001–2002	73	137	83	293
2002–2003	98	127	50	275
2003–2004	75	115	66	256
2004–2005	60	109	73	242
2005–2006	71	115	51	237
2006–2007	62	112	74	248
2007–2008	86	99	68	253
2008–2009	103	114	74	291

Wolf Population Size. The wolf population density was moderate, with an autumn 2000 pre-control population estimate of 198 wolves (23.3 wolves/1000 mi^2). We estimated the 2004 autumn wolf population was 103 wolves based on the spring 2005 wolf survey, RY04 wolf harvest, and estimated number of pups. No surveys were completed during winter 2006–2007 because of unsuitable survey conditions. However, we estimated the autumn 2006 population at 85–110 wolves using our PredPrey model. A survey planned for March 2007 was not completed due to poor survey conditions. We estimated the 2007 autumn wolf population was 86–114 wolves and the 2008 autumn wolf population was 87 wolves based on previous population estimates, previous harvest, productivity, survival and immigration.

Wolf Harvest. The effort by trappers in Unit 19D to harvest wolves has been high. Harvest was 15–44 during RY97–RY07 (Table 7). The majority of the Unit 19D harvest has been in Unit 19D-East and has been variable within the EMMA. Pelt quality of most 19D-East wolves is low, which reduces the financial returns from the sale of hides. In RY04, one wolf from Unit 19D was confirmed as having lice. The desires of local trappers to help reduce predation on moose and a private wolf harvest incentive program have helped to maintain a relatively high level of trapping effort.

Black and Brown Bear Population Size. In 2005, we estimated the pre-control black bear population at 1,700 in Unit 19D-East by using data from the bear removal program as well as extrapolating bear estimate data from areas with similar habitat. We estimated the brown bear pre-control population at 128 in Unit 19D-East by extrapolating brown bear data from bear removal in the EMMA, as well as extrapolating bear estimate data from areas with similar habitat.

During May 2007, we conducted an aerial black bear survey and estimated 72 independent black bears (60 – 91 95%CI) in the EMMA.

Table 7. Reported wolf harvest in 19D, 19D-East, and EMMA; RY97–RY05. Includes wolves taken in wolf control program beginning in RY03.

Regulatory year	Wolf harvest			% 19D-East harvest in EMMA
	19D	19D-East	EMMA	
1997–1998	30	29	22	76%
1998–1999	21	14	3	21%
1999–2000	40	34	12	35%
2000–2001	37	36	17	47%
2001–2002	30	24	7	29%
2002–2003	44	39	22	56%
2003–2004	35[a]	27	7	26%
2004–2005	32[b]	29	15	52%
2005–2006	15[c]	15	7	47%
2006–2007	24[d]	19	5	21%
2007–2008	38[e]	38	5	13%

[a] 17 of these wolves were taken in the wolf control program.
[b] 14 of these wolves were taken in the wolf control program.
[c] 4 of these wolves were taken in the wolf control program
[d] 2 of these wolves were taken in the wolf control program.
[e] 29 of these wolves were taken in the wolf control program.

Black and Brown Bear Harvest. During RY01–RY08, 46 black bears were reported taken by the public in Unit 19D (average = 6/year). 46 of these bears were taken in Unit 19D East. As of RY03, all black bears taken in Unit 19D East were required to be sealed and since then, 38 black bears were reported harvested in the unit, (average = 6/year; Table 8). No fall baiting permits have been issued under hunting regulations since they became available in RY01. In RY03–RY05, registration hunt permits were available for hunters to take 2 additional black bears per year in 19D-East. However, no permits were issued. In RY06, the black bear bag limit was changed from 3 to 5 under general hunting regulations. The maximum number any hunter harvested since RY01 was 2 black bears per year.

During RY01–RY08, 45 brown bears (average = 6/year) were harvested in Unit 19D, 23 of which were killed in 19D-East (average = 3/year). Harvest averaged 2/year prior to implementation of the brown bear resident tag fee exemption in 1998.

Table 8. Reported Black and Brown Bear harvest in Unit 19D East RY01–RY07. Sealing required for all black and brown bears in Unit 19D East throughout this period.

Regulatory Year	Black bear Hunting	Control	Brown Bear Hunting	Control
2001–02	2		4	
2002–03	6		0	
2003–04	8		1	
2004–05	3		4	
2005–06	8		2	
2006–07	1	0	4	0
2007–08	16	0	3	0
2008–09[a]	2	0	2	3

[a] preliminary data

Recommendations to Achieve Plan Objectives

We recommend reauthorizing wolf and bear control for an additional 5 years beginning on July 1, 2009. We also recommend establishing an Upper Kuskokwim Villages Moose Management Area (MMA) within the Unit 19(D) East Predation Control Area. The MMA would encompass approximately 1,118 mi^2, surrounding the village of McGrath, and adjacent to Takotna and Medfra. The purpose of the MMA would be to designate an area where moose numbers are closely monitored and objectives for number of moose and moose harvest can be applied; the department requests the discretion to adjust the size and shape of the MMA; The bear predation control area is contained within the MMA.

We also recommend the following additional methods for taking black and brown bears within the bear control area because current control methods are not effective:

1) legal animal is any black bear, including sows and cubs,
2) no bag limit,
3) same-day-airborne taking of black bears if the permitee is at least 300 feet from the aircraft,
4) sale of unmounted, tanned black bear hides if the sale tag remains attached, and
5) use of foot snares.

5AAC 92.125. Predation Control Areas Implementation Plans. Reauthorize the Unit 19(D)-East predation control area as follows:

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...

(f) **Unit 19(D)-East predation control area:** Notwithstanding any other provision in this title, and based on the following information contained in this section the commissioner or the commissioner's designee may conduct a wolf population reduction or wolf population regulation program in Unit 19(D) East and a black bear and brown bear population reduction or black bear and brown bear population regulation program in the Unit 19(D) East Black Bear and Brown Bear Predation Control Area:

(1) the following predation control areas are established in Unit 19(D) East:

(A) a Unit 19(D) East Wolf Predation Control Area is established and consists of those portions of the Kuskokwim River drainage within Unit 19(D) upstream from the Selatna River drainage and the Black River drainage, encompassing approximately 8,513 square miles; this **predation** [PREDATOR] control program does not apply within National Park Service or National Wildlife Refuge lands unless approved by the federal agencies

(B) a Unit 19(D) East Black Bear and Brown Bear Predation Control Area encompassing 528 square miles is established and consists of those portions of the Kuskokwim River drainage within the area starting northwest of McGrath at 63° 04.00' N. lat., 155 ° 50.00' W. long., then east to 63° 04.00' N. lat., 154° 50.00' W. long., then south to 62° 54.00' N. lat., 154° 50.00' W. long., then west to 62° 54.00' N. lat., 155° 25.00' W. long., then south to 62° 50.00' N. lat., 155° 25.00' W. long., then west to 62° 50.00' N. lat., 155° 30.00' W. long., then south to 62° 48.00' N. lat., 155° 30.00' W. long., then west to 62° 48.00' N. lat., 155° 35.00' W. long., then south to 62° 42.00' N. lat., 155° 35.00' W. long., then west to 62° 42.00' N. lat., 155° 55.00' W. long., then north to 62° 50.00' N. lat., 155° 55.00' W. long., then east to 62° 50.00' N. lat., 155° 50.00' W. long., then north to the point of beginning at 63° 04.00'N. lat., 155° 50.00' W. long., encompassing approximately 528 square miles;

(2) the discussion of wildlife population and human use information is as follows:

(A) a wolf control focus area is established within the Unit 19(D) East predation control area encompassing approximately 4,600 square miles surrounding the villages of McGrath, Takotna, Medfra and Nikolai; the purpose of the focus area is to concentrate wolf control actions around villages, rather than over the entire game management unit; the department will have the discretion to adjust the size and shape of the focus area where wolf predation control activities occur within the Unit 19(D) East Predation Control Area; the focus area includes the bear control area;

(B) an Upper Kuskokwim Villages Moose Management Area (MMA) is established within the Unit 19(D) East predation control area encompassing approximately 1,118 square miles surrounding the village of McGrath, and adjacent to Takotna and Medfra; the purpose of the MMA is to designate an area where moose numbers are closely monitored and objectives for number of moose and moose harvest can be applied; the department will have the discretion to adjust the size and shape of the MMA; the MMA includes the bear control area and is within the wolf control focus area;

[(A) IN 2001, THE DEPARTMENT ESTABLISHED AN EXPERIMENTAL MICRO MANAGEMENT AREA (EMMA) ENCOMPASSING A 528 SQUARE MILE BLOCK OF LANDS GENERALLY WITHIN 20 MILES OF MCGRATH WITHIN THE UNIT 19(D) EAST WOLF PREDATION CONTROL AREA; THE PURPOSE OF THE EMMA WAS TO CONDUCT AN EXPERIMENT THAT FOCUSED PREDATION MANAGEMENT AND RESEARCH ACTIVITIES IN A RELATIVELY SMALL AREA NEAR MCGRATH AND TO INCREASE OPPORTUNITIES FOR SUBSISTENCE HARVEST OF MOOSE IN THE VICINITY OF THE COMMUNITY; THE CONCEPT OF THE EMMA INVOLVES AN APPROACH TO PREDATOR MANAGEMENT THAT DIFFERS FROM OTHER PREDATOR MANAGEMENT PROGRAMS IN THAT IT IS FOCUSED ON REDUCING PREDATION AND INCREASING THE HARVESTABLE SURPLUS OF MOOSE IN A SMALL AREA AROUND A VILLAGE, RATHER THAN OVER A LARGER AREA SUCH AS AN ENTIRE GAME MANAGEMENT UNIT; IN FINDINGS ISSUED IN MARCH 2003, THE BOARD RECOGNIZED THE EMMA CONCEPT AND THE DEPARTMENT HAS EXERCISED DISCRETION TO ADJUST THE SIZE OF THE AREA WHERE WOLF PREDATION CONTROL ACTIVITIES WOULD OCCUR WITHIN THE UNIT 19(D) EAST WOLF PREDATION CONTROL AREA; WOLF CONTROL BEGAN IN LATE WINTER TO EARLY SPRING 2004 AND THROUGH APRIL 2006 WAS CONFINED TO A 3,210 SQUARE MILE PORTION OF UNIT 19(D) EAST AROUND MCGRATH LABELED AS THE EMMA WOLF CONTROL ZONE; IN ADDITION, A PROGRAM TO LIVE-CAPTURE AND REMOVE BLACK BEARS AND BROWN BEARS FROM THE EMMA WAS CONDUCTED IN SPRING 2003 AND SPRING 2004 TO EVALUATE THE BENEFITS TO THE MOOSE POPULATION OF REDUCING BEAR PREDATION WHEN MOOSE CALVES ARE BORN IN THE SPRING AND TO OBTAIN THE MANAGEMENT BENEFIT OF INCREASED CALF SURVIVAL; THE BOUNDARIES OF THE EMMA ARE THE SAME AS THE BOUNDARIES IDENTIFIED FOR THE UNIT 19(D) EAST BLACK BEAR AND BROWN BEAR PREDATION CONTROL AREA; IN THESE REGULATIONS, THE TERM EMMA IS USED TO DESCRIBE BOTH THE EXPERIMENTAL RESEARCH AREA, THE BEAR PREDATION CONTROL AREA, AND IS ALSO AN AREA THAT WAS CLOSED TO ALL MOOSE HUNTING BEGINNING IN FALL 2004;]

(C)wolf control began in December 2003 and has been confined to a focus area that ranged in size from 1,728 square miles to 6,245 square miles surrounding villages in Unit 19(D) East; a program to live-capture and remove black bears and brown bears from the bear control area area was conducted in spring 2003 and spring 2004 to evaluate the benefits to the moose population of reducing bear predation when moose calves are born in the spring and to obtain the management benefit of increased calf survival; lethal bear control began in the bear control area during fall 2006;

(D)[C]prey population information is as follows:

(i) the moose population in Unit 19(D) East underwent a substantial decline during the early 1990s because of severe winters with deep snow and predation on moose; although unit-wide population estimation surveys were not initiated until 1996, department trend count data, staff observations, and observations among local residents all indicate that the moose population was much higher in the mid 1980s;

(ii) in 2001, the moose population size in Unit 19(D) East was estimated at 3,959 moose (0.46 moose per square mile[; RANGE 2,460 - 5,494 MOOSE]); this estimate was based on a survey conducted in a 5,204 square mile area and extrapolations were made to the remaining 3,309 square mile portion of Unit 19(D) East; using similar techniques in 2004, the moose population size in Unit 19(D) East was estimated at 4,374 moose (0.5 moose per square mile[; RANGE 3,444 - 5,281 MOOSE]); **similar techniques were also used in 2008 to estimate approximately 5,481 moose (0.61 moose per square mile) in Unit 19(D) East;** [NO CLEAR TREND IN THE MOOSE DENSITIES IN UNIT 19(D) EAST IS SHOWN BY THESE SURVEYS BECAUSE THE RANGE OF THE POPULATION ESTIMATES IN THE TWO SURVEYS OVERLAP]; the **2008** [2004] estimate of **0.61** [0.5] moose per square mile within Unit 19(D) East is considered to be within the [MID] range of densities associated with low density dynamic equilibrium moose populations that are predator-limited; **surveys conducted each fall during 2001, 2004, and 2006-2008 indicate moose numbers in the 1,118 square mile MMA increased from 868 (0.8 moose per square mile) to 1,718 (1.5 moose per square mile); current density in the MMA is above the range reported for low density dynamic equilibrium;** [IN 2004, MOOSE DENSITIES WITHIN THE 528 SQUARE MILE EMMA WERE NEAR THE UPPER END OF THE LOW DENSITY DYNAMIC EQUILIBRIUM RANGE AT APPROXIMATELY 1.0 MOOSE PER SQUARE MILE AND INCREASING;]

(iii) parturition rates for radio collared female moose in Unit 19(D) East ranged from 73 percent to 97 [92] percent and twinning rates ranged from 25 percent to 59 percent, during 2001 through **2008** [2005], indicating high productivity;

(iv) in 2001, during an early winter survey within the 5,204 square mile moose survey area, 25 calves per 100 cows were observed; in the early winter survey conducted in 2004 within the same area, **54** [56] calves per 100 cows were **estimated** [OBSERVED], which is substantially more calves than were **estimated** [OBSERVED] during the 2001 survey; the increase in calves per 100 cows followed bear removal in springs 2003 and 2004 and initiation of wolf control in winter 2003 - 2004; the bull-to-cow ratios in 2001 **(34:100)** and 2004 **(31:100)** were high [(EQUAL TO OR GREATER THAN 30)], indicating adequate number of bulls were available for breeding; in 2001, the ratio of yearling bulls to 100 cows was 7:100; in 2004, yearling bulls per 100 cows was 12:100; **in 2008, during an early winter survey within the 5,313 square mile moose survey area, 41 calves per 100 cows, 55 bulls per 100 cows, and 17 yearling bulls per 100 cows were observed. Each of these parameters is higher than observed during 2001;**

(v) annual calf survival among radio collared moose was low (approximately 30 percent) during 2001 and 2002 (pre-control) and higher (equal to or greater than 40 percent) in 2003 and 2004 when department bear removal and public wolf control was occurring; based on calf mortality studies in Unit 19(D) East during both pre-control and control years, the major predators on moose calves were black bears, grizzly bears, and wolves; predation was the major cause of mortality in 2001, 2002, and 2003; but in 2004, 61 percent of the mortality was attributed to severe winter weather; annual survival of radio collared yearlings [FEMALES] varied from 74 percent to **96** [94] percent during 2001 – **2007** [2005]; the highest survival occurred in **2005** [2004]; annual survival of radio collared adult females varied from 86 percent to 100 percent during 2001 - **2007** [2005];

the highest survival for adult females also occurred during 2004; the largest proportion of yearling and adult mortalities was attributed to wolves; other causes of mortality among yearlings and adults included non-predation natural mortality, legal and illegal take by humans, and grizzly bear predation;

(vi) habitat quality in Unit 19(D) East is not currently limiting moose population growth; over 2,300 linear miles of riparian habitat exists in Unit 19(D) East; moose browse is generally associated with recent disturbances, such as wildfires and flooding of riparian habitats; wildfires are common and fire suppression efforts are limited in Unit 19(D) East; spring flooding conditions along the Kuskokwim River produce substantial ice-scouring that helps rejuvenate willow stands that have grown out of the reach of moose; however, large ice scouring events along the Kuskokwim River have not occurred regularly during the last 20 years; during years with deep snow, forage availability is reduced and moose can starve, particularly calves; deep snow years can reduce calf survival on a temporary basis, but are not frequent and are not likely to limit growth of the moose population over time, particularly if predator numbers are limited; deep snow combined with long periods of extreme cold (7-10 days) can affect adult moose because of reduction in forage availability and increase in energy deficit;

(vii) browse surveys conducted at randomly selected sites in Unit 19(D) East in March 2001 and 2003 showed low levels of browse use by moose as indicated by low current annual growth biomass removal rates of 18 percent and 12 percent; known high use wintering sites sampled within the **MMA** [EMMA] during 2003 had 24 percent removal of current annual growth; twinning rates of radio collared females were high (24 - 59 percent) during 2001 - **2008** [2005], also indicating that moose were in good nutritional condition and habitat quality was high; all indications are that habitat in this area will support a higher moose population;

(viii) the intensive management objectives for moose, established by the board for Unit 19(D) East are a population of 6,000 - 8,000 moose and a harvest of 400 - 600 moose; based on current recruitment and a conservative harvest rate of four percent of the **2008** [2004] population estimate of **5481** [3,444 - 5,281] moose **in Unit 19(D) East**, the current harvestable surplus is **219** [138 – 158] bull moose; **the objectives within the MMA are 2500 moose and a harvest of 100; based on current recruitment and a conservative rate of four percent of the 2008 estimate of 1,718 moose in the MMA, the current harvestable surplus is 69 bull moose;**

(ix) the number of moose that can be removed from the Unit 19(D) East moose population on an annual basis without preventing growth of the population or altering the composition of the population in a biologically unacceptable manner is less than the intensive management harvest objective established for the population in 5 AAC 92.108; the moose population in Unit 19(D) East is well below the intensive management objective set by the board

(x) without an effective wolf, black bear, or brown bear predation control program, moose in Unit 19(D) East are likely to persist in a low density dynamic equilibrium state with little expectation of increase; results from moose mortality studies, and predator and prey studies, conducted throughout Alaska and similar areas in Canada indicate that

reducing the number of wolves in Unit 19(D) East, in combination with a reduction in the number of black bear and brown bear can reasonably be expected to increase the survival of calf as well as older moose, particularly yearlings; black and brown bear predation control [ACTIVITIES WITHIN THE EMMA] and wolf control [WITHIN THE UNIT 19(D) EAST WOLF PREDATION CONTROL AREA] can reasonably be expected to increase moose densities [IN THE EMMA AND SURROUNDING AREA] and increase the number of moose that can be harvested in Unit 19(D) East

(E) [C]the human use information for the prey population is as follows;

(i) the board identified moose in Unit 19(D) East as important for providing high levels of harvest for human consumptive use in accordance with AS 16.05.255 (e) – (g);

(ii) the board's determination of the amount of the harvestable portion of the moose population that is reasonably necessary for subsistence uses under AS 16.05.258 (b), commonly referred to as the amounts necessary for subsistence, for Unit 19 outside of the Lime Village Management Area is 400 - 700 moose; although there is no formal finding for the portion of the Unit 19 amounts necessary for subsistence that applies specifically to Unit 19(D) or for the Unit 19(D) East predation control area, the board is on record as having recognized that 130 - 150 moose is the amount needed for only local subsistence use (permanent residents of Unit 19(D) East);

(iii) only Alaska residents have been allowed to hunt in the Unit 19(D) East predation control area since 1995, and registration permits (RM650) have been required since 2001; the reporting rates for RM650 have been high (equal to or greater than 95 percent); the number of permits issued ranged between 237 and 293 [AND HAS DECREASED EACH YEAR]; during 2001 – **2008, harvest was 60 - 103 moose with 25 – 36 percent of permittees taking moose** [2005, HARVEST RANGED FROM 60 - 98 MOOSE WITH A SUCCESS RATE RANGING FROM 35 - 43 PERCENT; MOOSE HUNTING WAS CLOSED IN THE EMMA IN FALL 2004 AFTER WOLF CONTROL WAS INITIATED IN WINTER 2003 – 2004];

(iv) the nonresident hunting season in the Unit 19(D) East predation control area was closed in 1995; because there is no nonresident season, the demand for nonresident moose hunting opportunity is not being met; before these restrictions there was demand for moose by nonresident hunters in Unit 19(D) East and that demand would return if nonresident moose hunting opportunity was restored;

(v) until the intensive management harvest objective of 400 - 600 moose has been reached, the demand for more moose will not be met; as the moose population increases and more harvest can be allowed, a greater portion of the unmet demand for moose in Unit 19(D) East can be satisfied; based on management experience gained in **Unit 19D east** [THE EMMA] and other areas of Alaska, an increase in the moose population is expected if the wolf population is reduced substantially; a reduction in the number of wolves combined with a reduction in the number of bears in the area would result in a higher rate of increase in the number of moose available for harvest; although the most pronounced effect is expected to be within the **MMA** [EMMA], it is reasonable to expect some lesser degree of increase in the moose population in the area immediately

surrounding the **MMA** [EMMA] because of a reduction in wolf predation; without a wolf and bear predation control program there is a very low probability that the moose population will increase sufficiently to meet local subsistence needs or other harvest demands in the future;

(F) [D] the predator population information is as follows:

(i) in February 2001, an aerial wolf survey was conducted within a 5,204 square mile portion of Unit 19(D) East; an extrapolated population estimate of 198 wolves (23.3 wolves per 1,000 square miles) for Unit 19(D) East was calculated from the survey and harvest data; that estimate represents the previous fall (2000) pre-control wolf minimum population size; the ratio of moose to wolves within Unit 19(D) East was estimated to be **20:1** [12:1 – 28:1];

(ii) in March 2006, an aerial wolf survey was conducted in all of Unit 19(D) East (8,513 square miles); an extrapolated population estimate of 91 wolves (10.7 wolves per 1,000 square miles) for Unit 19(D) East was calculated from the survey and harvest data; that estimate represents the previous fall (2005) wolf population size;

[(ii) IN MARCH 2005, AN AERIAL WOLF SURVEY WAS CONDUCTED IN A 3,210 SQUARE MILE PORTION OF UNIT 19(D) EAST; AN EXTRAPOLATED POPULATION ESTIMATE OF 103 WOLVES (12.1 WOLVES PER 1,000 SQUARE MILES) FOR UNIT 19(D) EAST WAS CALCULATED FROM THE SURVEY AND HARVEST DATA; THAT ESTIMATE REPRESENTS THE PREVIOUS FALL (2004) WOLF POPULATION SIZE; THE CURRENT RATIO OF MOOSE TO WOLVES WITHIN UNIT 19(D) EAST IS ESTIMATED TO BE 33:1 – 51:1;]

(iii) kill rates by wolves are affected by availability of moose, snow depth, number of alternate prey, size of wolf packs, and other local factors; in areas of Alaska and Canada where moose are the primary prey of wolves, studies documented kill rates ranging from four to seven moose per wolf per winter; little alternative prey is available for wolves within the Unit 19(D) East predation control area; some small caribou herds exist in the area, but not at a level sufficient to sustain a wolf population;

(iv) harvest by humans is the predominant source of mortality for wolves; natural mortality factors include intraspecific strife, accidents, starvation, and disease; necropsies performed on wolves in spring 2002 and 2003 and data collected from wolf carcasses indicated wolves from Unit 19(D) East had normal body condition parameters; there is no evidence that natural mortality factors significantly limit wolf population growth;

(v) populations of black bears and brown bears initially were estimated for the Unit 19(D) East predation control area based on extrapolation of density estimates obtained from research studies conducted in similar habitats in Units 20(A), 13, 15, and 25(D); these estimates were refined after a bear removal project in 2003 and 2004 demonstrated that the initial extrapolated estimates were conservative; [ONGOING RESEARCH IN 2006 - 2007 IS EXPECTED TO RESULT IN MORE PRECISE BEAR POPULATION ESTIMATES;]

(vi) **based upon the nonlethal** [AFTER THE] bear removal program conducted in spring 2003 and 2004, the extrapolated estimate of the black bear population within Unit 19(D) East before the bear removal program was approximately 1,700 bears; within the **bear control area** [EMMA], the **minimum** black bear population was estimated to be approximately 130 bears before the bear removal program; because the black bear population was very lightly harvested before bear control efforts, these estimates likely reflect the upper limit of black bears that can be supported within the **bear control area** [EMMA] and Unit 19(D) East;

(vii) **based upon the nonlethal** [AFTER THE] bear removal program conducted in spring 2003 and 2004, the extrapolated estimate of the brown bear population within Unit 19(D) East before the bear removal program was approximately 128 bears; the brown bear population within the **bear control area** [EMMA] before the bear removal program was estimated to be nine bears; because the brown bear population was very lightly harvested before bear control efforts, these estimates likely reflect the upper limit of brown bears within the **bear control area** [EMMA] and Unit 19(D) East;

(G) [(E)] the human use information for the predator population is as follows:

(i) during 1997 - 2002, the reported harvest of wolves by hunters and trappers in Unit 19(D) East was 14 - 39 wolves annually; during 2003 – 2007, the reported take of wolves by hunters, trappers, and wolf control permitees was 15 – 38;

[(i) DURING 1997 - 2004, THE REPORTED HARVEST OF WOLVES IN UNIT 19(D) EAST RANGED FROM 14 - 39 WOLVES ANNUALLY; THIS NUMBER INCLUDES TAKE FROM HUNTERS, TRAPPERS, AND WOLF CONTROL PERMITTEES; IN 2003 AND 2004, 14 OF 30 WOLVES AND 17 OF 30 WOLVES, RESPECTIVELY, WERE TAKEN IN UNIT 19(D) EAST BY WOLF CONTROL PROGRAM PERMITTEES; THE TAKE BY WOLF CONTROL PERMITTEES WAS CONFINED TO A 3,210 SQUARE MILES WOLF CONTROL ZONE SURROUNDING THE EMMA;]

(ii) black bears harvested in the Unit 19(D) East predator control area were required to be sealed from 2001 - 2008; during this period, the average annual black bear harvest by hunters within Unit 19(D) East was 6 black bears per year, including 1 – 7 bears taken from within the bear control area; no black bears have been taken by bear control permittees;

[(ii) BLACK BEARS HARVESTED IN THE UNIT 19(D) EAST PREDATOR CONTROL AREA WERE REQUIRED TO BE SEALED FROM 2001 - 2006; DURING 2001 - 2004, THE AVERAGE ANNUAL BLACK BEAR HARVEST WITHIN THE EMMA WAS TWO BEARS (RANGE 1 - 4);]

(iii) during 1995 - 2007, 3 brown bears were reported harvested by hunters within the bear control area; 3 additional brown bears were taken by bear control permittees in 2008;

[(iii) DURING 1995 - 2004, ONE BROWN BEAR WAS REPORTED HARVESTED WITHIN THE EMMA;]

(3) predator and prey population levels and population objectives and the basis for those objectives is as follows:

(A) the most recent estimate (fall **2008** [2004]) for the moose population in the Unit 19(D) East predation control area is **5,481** [3,444 – 5,281] moose; the intensive management population objective for Unit 19(D) East is 6,000 – 8,000 moose; intensive management objectives were based on historical information about moose numbers, habitat limitations, sustainable harvest levels, and human use;

(B) the pre-control estimated minimum wolf population in Unit 19(D) East was 198 wolves in fall 2000; the primary objective of the Unit 19(D) East wolf predation control plan is to reduce wolf numbers and wolf predation on moose within the 4,600 square mile wolf control focus area to the lowest level possible; this plan also has a goal to maintain wolves as part of the ecosystem within Unit 19(D) East; the minimum wolf population objective for Unit 19(D) East is 40 wolves, which represents a 60 - 80 percent reduction from the pre-control minimum estimated fall wolf population of 198 wolves (23 wolves per 1,000 square miles); the minimum wolf population control objective will achieve the desired reduction in wolf predation, and also ensure that wolves persist within the plan area, even if control efforts are expanded beyond the wolf control focus area to other portions of the Unit 19(D) East predation control area;

[(B) THE PRE-CONTROL ESTIMATED MINIMUM WOLF POPULATION IN UNIT 19(D) EAST WAS 198 WOLVES IN FALL 2000; AN ESTIMATED 103 WOLVES WERE PRESENT IN UNIT 19(D) EAST IN FALL 2004 AFTER WOLF CONTROL HAD BEEN INITIATED IN WINTER 2003 - 2004; THE PRIMARY OBJECTIVE OF THE UNIT 19(D) EAST WOLF PREDATION CONTROL PLAN IS TO REDUCE WOLF NUMBERS AND WOLF PREDATION ON MOOSE WITHIN THE 528 SQUARE MILE EMMA TO THE LOWEST LEVEL POSSIBLE; TO ACCOMPLISH THIS, WOLF CONTROL HAS BEEN CONDUCTED WITHIN THE LARGER EMMA WOLF CONTROL ZONE (3,210 SQUARE MILES) BECAUSE WOLF PACK TERRITORIES OVERLAP BOUNDARIES OF THE RELATIVELY SMALL GEOGRAPHICAL SIZE OF THE EMMA; WHILE WOLF CONTROL EFFORTS HAVE BEEN FOCUSED ON REDUCING THE NUMBER OF WOLVES WITHIN THE EMMA TO THE LOWEST LEVEL POSSIBLE, THROUGH APRIL 2006 WOLF CONTROL HAS NOT BEEN CONDUCTED OUTSIDE THE EMMA WOLF CONTROL ZONE; WOLF POPULATION REDUCTION IN THE EMMA WOLF CONTROL ZONE WILL PRIMARILY BENEFIT THE MOOSE POPULATION WITHIN THE EMMA, BUT WILL ALSO PROVIDE SOME BENEFIT TO MOOSE IN THE EMMA CONTROL ZONE AS WELL; THIS PLAN ALSO HAS A GOAL TO MAINTAIN WOLVES AS PART OF THE NATURAL ECOSYSTEM WITHIN UNIT 19(D) EAST; THE MINIMUM WOLF POPULATION OBJECTIVE FOR UNIT 19(D) EAST IS 40 WOLVES, WHICH REPRESENTS A 60 - 80 PERCENT REDUCTION FROM THE PRE-CONTROL MINIMUM ESTIMATED FALL WOLF POPULATION OF 198 WOLVES (23 WOLVES PER 1,000 SQUARE MILES); THE MINIMUM WOLF POPULATION CONTROL OBJECTIVE WILL ACHIEVE THE DESIRED REDUCTION IN WOLF PREDATION, AND ALSO ENSURE THAT WOLVES PERSIST WITHIN THE PLAN AREA, EVEN IF CONTROL EFFORTS

ARE EXPANDED BEYOND THE EMMA WOLF CONTROL ZONE TO ALL OF THE UNIT 19(D) EAST PREDATION CONTROL AREA;]

(C) the moose and predator populations in Unit 19(D) East are in a low density dynamic equilibrium state where both predator and prey numbers are likely to fluctuate at low levels indefinitely; if wolf predation control efforts continue and the wolf population is reduced according to the wolf population and harvest objectives, the wolf population will be reduced by up to 80 percent, but also maintained at no less than 40 wolves for several years; after the moose population increases, and wolf control efforts are discontinued, the wolf population will increase according to the increased prey base unless limited at some intermediate level through trapping and hunting;

(D)studies in Alaska and elsewhere have repeatedly concluded that large reductions in wolf numbers are required to affect their population size and to reduce predation by wolves on their prey; consistent with scientific studies and department experience the objective of this plan is to temporarily reduce wolf numbers substantially compared to the pre-control level in order to relieve predation pressure on moose and allow for improved recruitment to the moose population; research indicates a reduction of about 60 - 80 percent of the pre-control wolf population may be necessary to achieve prey population objectives; once the wolf population has been reduced to the population control objective, annual reductions of less than 60 percent will likely regulate the wolf population at the control objective;

(E) after the **nonlethal** bear removal program conducted in spring 2003 and 2004, the extrapolated estimate of the black bear population before removal within Unit 19(D) East was approximately 1,700 bears; within the **bear control area** [EMMA], the **minimum** black bear population was estimated to be approximately 130 bears before the bear removal program; the objective for the black bear predation control program is to reduce black bear numbers and black bear predation on moose to the lowest level possible within the **bear control area** [EMMA]; this plan includes a goal to maintain black bears as part of the natural ecosystem within the Unit 19(D) East predation control area; because the **bear control area** [EMMA] is a relatively small geographic area, removing black bears from within it will have only a minor effect on the black bear population in Unit 19(D) East overall, but should significantly contribute to moose calf survival in the **bear control area** [EMMA];

(F) after the **nonlethal** bear removal program conducted in spring 2003 and 2004, the extrapolated estimate of the brown bear population within Unit 19(D) East was approximately 128 bears before the bear removal program; the pre-control brown bear population within the **bear control area** [EMMA] was estimated to be nine bears before the bear removal program; the objective for the brown bear predation control program is to reduce brown bear numbers and brown bear predation on moose to the lowest level possible within the **bear control area** [EMMA]; this plan includes a goal to maintain brown bears as part of the natural ecosystem within the Unit 19(D) East predation control area; because the **bear control area** [EMMA] is such a small geographic area, removing brown bears from within it will have only a minor effect on the brown bear population in Unit 19(D) East, but should contribute to moose calf and adult survival in the **bear control area** [EMMA];

(4) justifications for the predator control implementation plan are as follows:

(A) the estimated size of the moose population in the Unit 19(D) East predation control area is **5,481** [3,444 - 5,281] moose; the harvestable surplus of moose is **219** [138 – 158] moose which **exceeds** [COMPARES FAVORABLY WITH] the 130 - 150 moose needed for local subsistence use; [HOWEVER, SINCE WOLF PREDATION CONTROL ACTIVITIES WERE INITIATED, THE EMMA HAS BEEN CLOSED TO ALL MOOSE HUNTING;] local subsistence **fall hunting** [USE] is almost entirely restricted to boat-accessible waterways, and this provides only limited opportunity to harvest moose in Unit 19(D) East; the limited opportunity to harvest moose in Unit 19(D) East is demonstrated by the current harvest level of 60 - **103** [98] moose [THAT OCCURS DESPITE SIGNIFICANT INCREASES IN HUNTING EFFORT BY LOCAL USERS; WHILE THE MOOSE HUNTING CLOSURE WITHIN THE EMMA IS IN PLACE, WOLF CONTROL ACTIVITIES OUTSIDE OF THE EMMA SHOULD HELP TO PROVIDE ADDITIONAL MOOSE FOR SUBSISTENCE HARVEST; EXPANSION OF THE WOLF CONTROL PROGRAM BEYOND THE EMMA WOLF CONTROL ZONE WOULD HELP TO PROVIDE ADDITIONAL HARVEST OF MOOSE; THE INTENSIVE MANAGEMENT HARVEST OBJECTIVE OF 400 - 600 MOOSE WOULD PROVIDE FOR LOCAL SUBSISTENCE USE AND OTHER USES AS WELL;] the intensive management harvest objective of 400 - 600 moose would provide for local subsistence use and other uses as well; the intensive management population and harvest objectives for Unit 19(D) East have not been met although progress toward the objective has been made since the control program was initiated; the number of moose in the **MMA** [EMMA] is increasing [, AND THE DECLINE IN THE OVERALL MOOSE POPULATION IN UNIT 19(D) EAST HAS BEEN STOPPED]; continued wolf control in the **wolf control focus area** [EMMA WOLF PREDATION CONTROL ZONE AND POTENTIALLY THE REMAINDER OF UNIT 19(D) EAST], combined with black and brown bear predation control within the **bear predation control area** [EMMA], can be reasonably expected to further reduce mortality on moose and result in positive growth of the moose population toward the intensive management population objective for Unit 19(D) East and enable increased moose harvest;

(B) since 1995, when the board established the Unit 19(D) East Wolf Predation Control Area, several restrictions for moose hunting have taken place in the form of closures, season reductions, and registration hunts; beginning in 1995 - 1996, the nonresident moose season was closed in Unit 19(D) East; in 2000 - 2001, the fall season was reduced by five days and the winter season was reduced by 15 days; in 2001 - 2002, a registration permit hunt was implemented and the Upper Kuskokwim Controlled Use Area, which prohibits use of aircraft for moose hunting, was expanded to include all lands within the registration permit hunt area; in 2002 - 2003, the winter season was closed; **an area approximating the bear control area was closed to all moose hunting during fall seasons 2004 - 2007**; [SINCE THE FALL 2004 SEASON, THE AREA WITHIN THE EMMA HAS BEEN CLOSED TO ALL MOOSE HUNTING UNDER THE CONDITIONS OF THE REGISTRATION PERMIT]; in addition, the fall season was extended by five days in the hunt area outside the **bear control area** [EMMA] in an attempt to accommodate subsistence users' need to harvest moose; **in fall 2008 the bear control area was reopened under the Unit 19D East registration permit hunt in fall 2008 to bull harvest only, in response to increasing moose numbers in that area;** in addition to restrictions on moose hunting, the board has liberalized some black bear and brown bear regulations in Unit 19(D) East; in 1998, the $25 resident tag fee for brown bears was waived; in 2001, black bear baiting regulations were liberalized to include a fall season in addition to the spring season; in 2002, a black bear registration permit hunt was implemented to allow the take of two black bears in addition to the existing three black bear bag limit; in 2004, the brown bear season was extended for both the fall and spring season by a total of 51 days; in 2006, the bag

limit for black bears was raised to five per year and the bag limit for brown bears was raised to two bears per year; the board also authorized the sale of black bear hides and skulls from bears taken in active predation control areas; in addition to liberalizing bear regulations, wolf hunting and trapping regulations have been liberalized; beginning in 2000, the trapping season was extended by 31 days; in 2002 - 2003, the board authorized the use of snowmachines to take wolves in Unit 19; in 2004, both the fall and spring hunting seasons were extended by a total of 41 days;

(C) kill rates by wolves are affected by availability of moose, snow depth, number of alternate prey, size of wolf packs, and other local factors; in areas of Alaska and Canada where moose are the primary prey of wolves, studies documented kill rates ranging from four to seven moose per wolf per winter;

(D) reducing predator numbers through a wolf, black bear, and brown bear predation control program, combined with temporary reduction in moose harvest is the approach most likely to succeed in increasing the moose population; before the start of the wolf predation control program, implementing restrictions on moose hunting and liberalizing bear hunting and wolf trapping and hunting seasons did not result in reducing predation on moose sufficiently to allow the moose population to grow; [THE WOLF PREDATION CONTROL PROGRAM CONDUCTED SINCE THE WINTER OF 2003 - 2004 HAS INCREASED HARVEST OF WOLVES;]

(E) presently known alternatives to predator control for reducing the number of predators are ineffective, impractical, or uneconomical in the Unit 19(D) East situation; hunting and trapping conducted under authority of ordinary hunting and trapping seasons and bag limits is frequently not an effective reduction technique in sparsely populated areas such as Unit 19(D) East; the human population in Unit 19(D) East is small and concentrated along the Kuskokwim River corridor; there are large portions of the unit that are remote from communities in the region and access is difficult; many of the trappers from this area use snowmachines and a few use airplanes; in both instances, poor snow conditions can present difficulty in accessing areas and tracking wolves and locating bears; in addition, the low price of wolf pelts, high cost of caring for bear hides, and high cost of fuel make it difficult for local residents to harvest a high number of wolves or bears throughout the unit; numbers of hunters and trappers willing and able to focus their efforts on predators are relatively limited; educational programs to stimulate interest and improve skills in taking wolves and bears are expected to have limited results; educational programs so far have been unsuccessful in increasing the harvest of wolves or bears to a level high enough to significantly reduce predation; the inherent wariness of wolves and bears, difficult access, and relatively poor wolf pelt prices and the expense of preparing bear hides as trophies also explain low harvest rates; application of the most common sterilization techniques, surgery, implants, or inoculation are not effective reduction techniques because they require immobilization of individual predators, which is extremely expensive in remote areas; relocation of wolves and bears is impractical because it is expensive and it is very difficult to find publicly acceptable places for relocated wolves and bears; habitat manipulation is ineffective because it may improve the birth rate of moose in certain circumstances, but it is poor survival, not poor birth rate that keeps moose population low in the Unit 19(D) East predation control area; supplemental feeding of wolves and bears as an alternative to predator control has improved moose calf survival in two experiments; however, large numbers of moose carcasses are not available for this kind of effort and transporting them to remote areas of Alaska is not practical;

stocking moose is impractical because of capturing and moving expenses; any of the alternatives to a wolf or bear predation control program are not likely to be effective in achieving the desired level of predator harvest;

(F) without an effective predation control program, the wolf, black bear, and brown bear population reduction objectives cannot be achieved and moose in Unit 19(D) East are likely to persist in a low density dynamic equilibrium state with little expectation of increase; results from moose mortality studies, and predator and prey studies, conducted throughout Alaska, including portions of the control area, and similar areas in Canada indicate that reducing the number of wolves and bears in the Unit 19(D) East predation control area can reasonably be expected to increase the survival of calf as well as older moose; reducing wolf and bear predation on moose, in combination with reducing harvest, particularly of cows, can reasonably be expected to initiate an increase of the moose population towards the population objective; aerial wolf predation control makes it possible to increase the take of wolves in the **wolf control focus area** [EMMA, THE EMMA WOLF CONTROL ZONE, AND IN THE REMAINDER OF THE UNIT 19(D) EAST WOLF CONTROL AREA]; the black and brown bear predation control program within the **bear control area** [EMMA] will help increase survival of adult and calf moose and contribute to the growth of the moose population in Unit 19(D) East; with a reduction in moose mortality from wolf, black bear and brown bear predation, and restrictions in harvest, the moose population is expected to grow;

(5) the permissible methods and means used to take predators are as follows:

(A) hunting and trapping of wolves by the public in Unit 19(D) East during the term of the program may occur as provided in the hunting and trapping regulations set out elsewhere in this title, including use of motorized vehicles as provided in 5 AAC 92.080;

(B) **notwithstanding any other provisions in this title,** the commissioner may issue public aerial shooting permits or public land and shoot permits within Unit 19(D) East as a method of wolf removal under AS 16.05.783 ;

(C) **notwithstanding any other provisions in this title,** the commissioner may reduce the black bear population within the Unit 19(D) East Black Bear and Brown Bear Predation Control Area by means and direction included in the Board of Game Bear Conservation and Management Policy (2006-164-BOG), dated May 14, 2006, and incorporated by reference**,**[;] **including the following methods and means under a department developed control permit:**

(i) legal animal is any black bear, including sows and cubs;

(ii) no bag limit;

(iii) same-day-airborne taking of black bears if the permitee is at least 300 feet from the aircraft;

(iv) sale of unmounted, tanned black bear hides if the sale tag remains attached;

(v) use of foot snares;

(D) **notwithstanding any other provisions in this title,** the commissioner may reduce the brown bear population within the Unit 19(D) East Black Bear and Brown Bear Predation Control Area by means and direction included in the Board of Game Bear Conservation and Management Policy (2006-164-BOG), dated May 14, 2006, and incorporated by reference**,**[;] **including the following methods and means under a department developed control permit:**

(i) legal animal is any brown bear, including sows and cubs;

(ii) no bag limit;

(iii) same-day-airborne taking of brown bears if the permitee is at least 300 feet from the aircraft;

(iv) sale of unmounted, tanned brown bear hides if the sale tag remains attached;

(v) use of foot snares;

(6) the anticipated time frame and schedule for update and reevaluation are as follows:

(A) for up to five years beginning on July 1, **2009** [2004], the commissioner may reduce the wolf population in the Unit 19(D) East Wolf Predation Control Area and the black bear and brown bear populations in the Unit 19(D) East Black Bear and Brown Bear Predation Control Area;

(B) annually, the department shall provide to the board at the board's spring meeting, a report of program activities conducted during the preceding 12 months, including implementation activities, the status of moose, wolf, black bear, and brown bear populations, and recommendations for changes, if necessary, to achieve the objectives of the plan;

(7) other specifications that the board considers necessary:

(A) the commissioner shall suspend wolf control activities

(i) when wolf inventories or accumulated information from permittees indicate the need to avoid reducing wolf numbers below the minimum management objective of 40 wolves specified in this section;

(ii) when spring conditions deteriorate to make wolf control operations infeasible; or

(iii) no later than April 30 in any regulatory year;

(B) the commissioner shall suspend black bear control activities no later than June 30 during any regulatory year;

(C) the commissioner shall suspend brown bear control activities no later than June 30 during any regulatory year;

(D) wolf, black bear, and brown bear control activities will be terminated

(i) when prey population management objectives are attained; or

(ii) upon expiration of the period during which the commissioner is authorized to reduce wolf numbers in the Unit 19(D) East Wolf Predation Control Area and to reduce black bear and brown bear numbers in the Unit 19(D) East Black Bear and Brown Bear Predation Control Area;

(E) the commissioner will annually close wolf hunting and trapping seasons, as appropriate to ensure that the minimum wolf population objectives are met; the commissioner will annually close black bear hunting seasons, and brown bear hunting seasons, if biological information collected by the department indicates there is reason for concern about conservation of black and brown bear populations in Unit 19(D) East.

RC 145

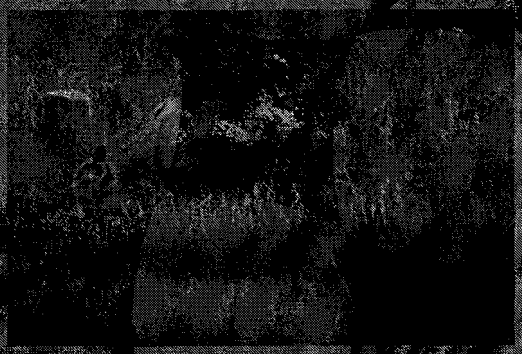
Proposal 236

Effect of the proposal:

Reauthorize the Predation Control Implementation Plan for Unit 19D East

Department Recommendation:

- Amend and Adopt



Current vs Proposed comparison:

Current regulation:

- A Predation Control Implementation plan exists for Units 19D East and expires in June 2009

Proposed regulation:

- Would re-authorize the Unit 19D East Predation Control Implementation plan
- The 5 year renewal would establish review to coincide with BOG cycle
- Amend to allow new bear control methods
- Amend to establish the Upper Kuskokwim Villages Moose Management Area (MMA)

Recommendations for 2009

- Establish Upper Kuskokwim Villages MMA
- Improve bear control effectiveness, additional methods
- Focus wolf control in a smaller area.

Public Processes and Highlights

- Updates/reauthorizations of this plan occurred in Jan 2000, Mar 2001, Mar 2003, Jan 2006, and May 2006.
- Bear removal in 2003 – 2004
- Bears were added to the predation control implementation plan in 2006
- Aerial wolf control 2003 – present
- Current Predator Control Implementation plan expires June 30, 2009

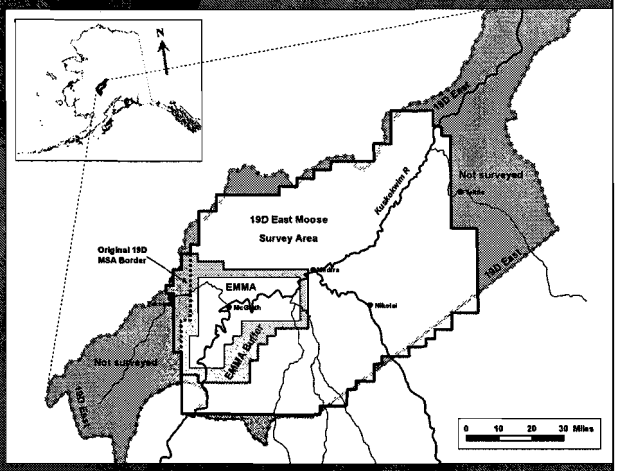
Areas and orientation

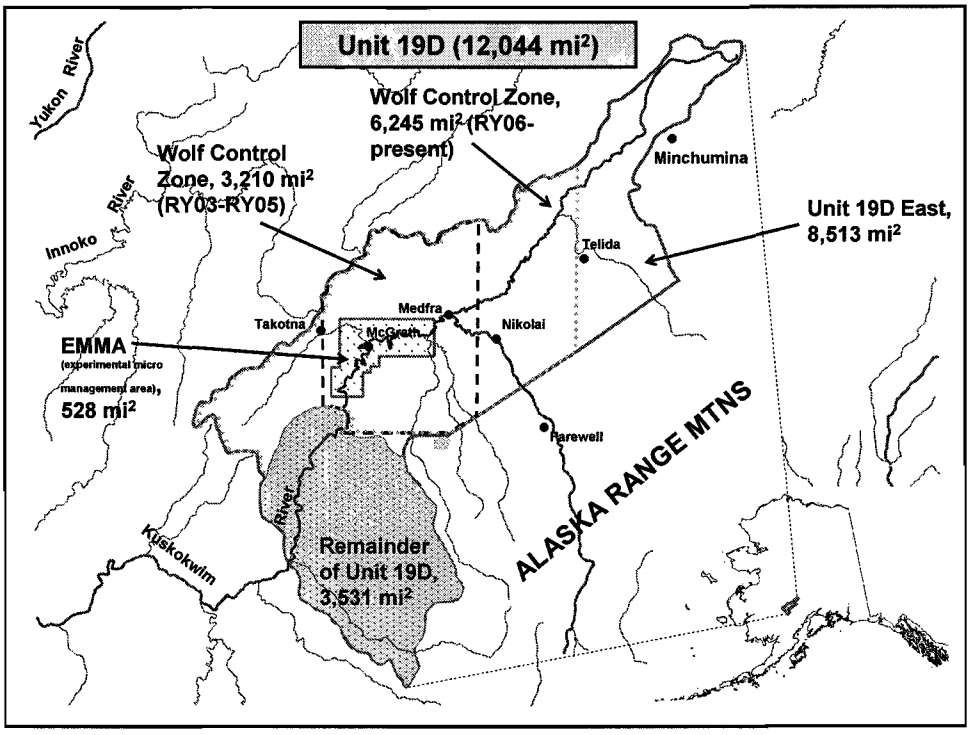
2001 and 2004 MSA
(5,204 mi^2)

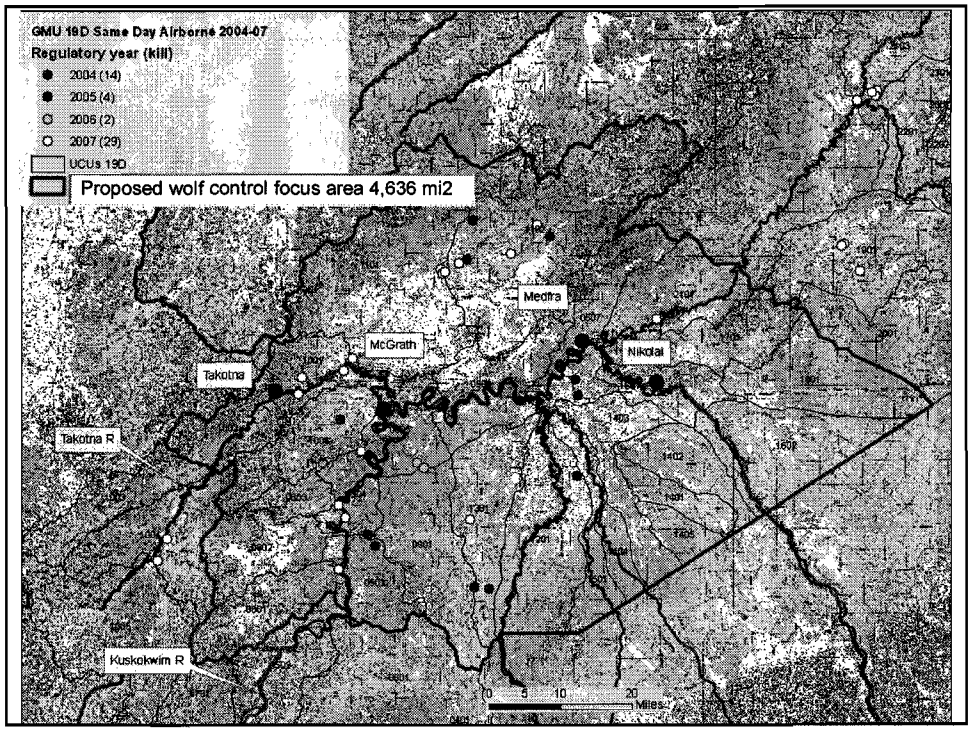
2008 MSA
(5,313 mi^2)

EMMA =
Bear control area
(528 mi^2)

EMMA Buffer =
Expanded EMMA =
Upper Kuskokwim
Villages MMA
(1,118 mi^2)




Unit 19D (12,044 mi²)
Yukon River
Wolf Control Zone, 6,245 mi² (RY06-present)
Wolf Control Zone, 3,210 mi² (RY03-RY05)
Minchumina
Unit 19D East, 8,513 mi²
Innoko River
Telida
Medfra
Takotna
McGrath
Nikolai
EMMA
(experimental micro management area),
528 mi²
Farewell
ALASKA RANGE MTNS
Kuskokwim River
Remainder of Unit 19D, 3,531 mi²


GMU 19D Same Day Airborne 2004-07
Regulatory year (kill)
2004 (14)
2005 (4)
2006 (2)
2007 (29)
UCUs 19D
Proposed wolf control focus area 4,636 mi2
Medfra
McGrath
Nikolai
Takotna
Takotna R
Kuskokwim R
0 5 10 20
Miles

Moose population estimates (moose/ mi^2)

Year	Expanded EMMA	MSA outside expanded EMMA	MSA
2001	868 (0.8)	1696 (0.4)	2564 (0.5)
2002			
2003			
2004	1192 (1.1)	1552 (0.4)	2744 (0.5)
2005			
2006	1308 (1.2)		
2007	1720 (1.5)		
2008	1718 (1.5)	2171 (0.5)	3889 (0.7)

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2007			
2008			3889 (0.7)

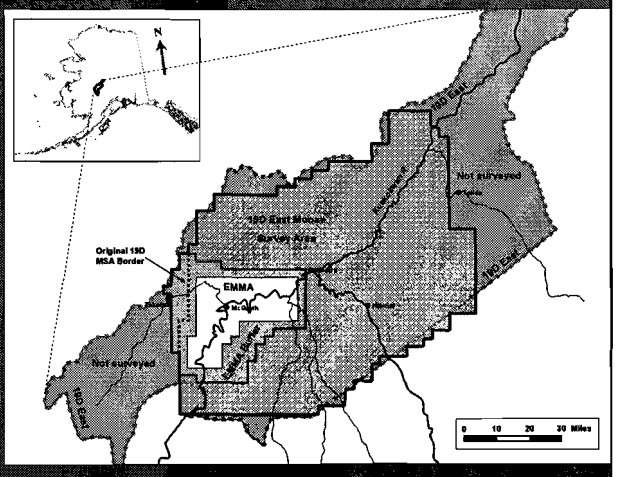
Areas and orientation

2001 and 2004 MSA (5,204 mi²)

2008 MSA (5,313 mi²)

EMMA = Bear control area (528 mi²)

EMMA Buffer = Expanded EMMA = Upper Kuskokwim Villages MMA (1,118 mi²)



Moose population estimates (moose/ mi²)

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2007	1720 (1.5)		
2008	1718 (1.5)	2171 (0.5)	3889 (0.7)

19D East
COMPARISION OF POPULATION ESTIMATE AND IM POPULATION OBJECTIVE

YEAR	Population Objective 6000-8000 Population Estimate for 19D East (8513 mi²)
2001	3959
2004	4374
2008	5481

Unit 19D East Harvest:

Year	Harvest
2000	71
2001	73
2002	98
2003	75
2004	60
2005	71
2006	62
2007	86
2008	103

Amount Necessary for Subsistence and Harvestable Surplus

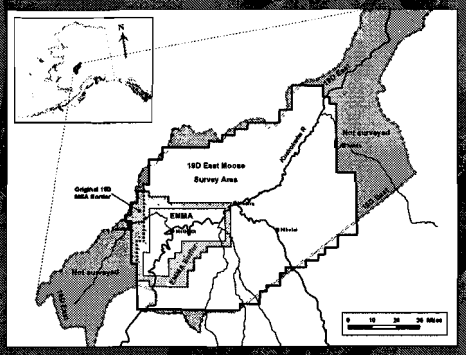
- ANS entire Unit 19 430 – 740
- Amount needed locally 130 – 150
- Current harvestable surplus in 19D East 219

UNIT19D East COMPARISION OF HARVEST AND IM HARVEST OBJECTIVES

YEAR	Reported Harvest for 19D East
	Harvest Objective 400 - 600
2007-08	103

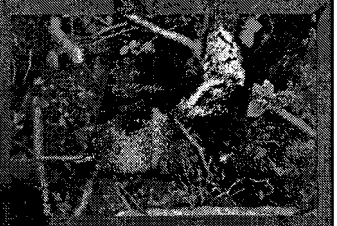
Number of moose and harvest objective for Upper Kuskokwim Villages MMA (Expanded EMMA)

- **Moose objective: a minimum of 2500**
  - Current: 1718 (±352)
- **Harvest objective: a minimum of 100**
  - Current: ~75



Research Summary

- **Bear removal improved calf survival**
- **Wolf removal improved yearling and adult cow survival**
- **Predation mortality is largely additive**
- **Weather can limit gains**



Moose habitat

- **Twinning rates**
- **Browse surveys**
- **Snow depth measures**

Observed twinning rate of radiocollared cows >2 in Unit 19D East

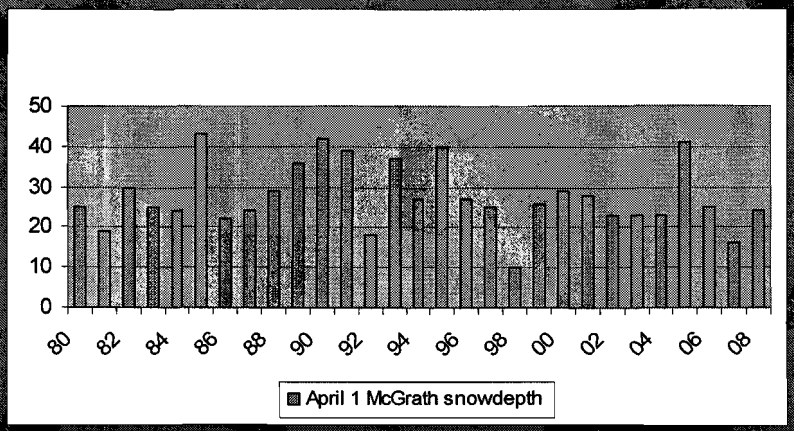
Year	Twinning rate
2002	59%
2003	24%
2004	32%
2005	44%
2006	40%
2007	52%
2008	55%

Habitat

- Current habitat could support higher densities
- Low browse utilization
- Natural fires and ice scouring
- Habitat enhancement alone is unlikely to increase moose numbers

April 1 Snow Depth McGrath

(inches of snow)



Black Bear Population Size

Location	Area (mi^2)	Population estimate	Population Density (bears/1000mi^2)
19D East	8513	1700	200
EMMA (removal)	528	130	246
EMMA Spring 2007 survey	528	72	14

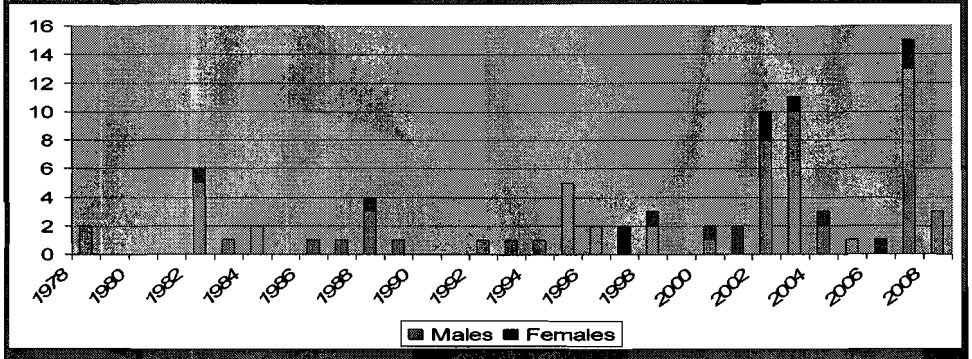
Grizzly Bear Population Size

Location	Area (mi^2)	Population estimate	Population Density (bears/1000mi^2)
19D East	8,513	128	15
EMMA 03-04 (removal)	528	9	17

Black Bear Regulations

- 1999 – 2000 and earlier: No sealing requirement; Baiting permitted by registration permit 15 Apr – 30 Jun; 3 bear bag limit; no closed season; meat must be salvaged 1 Jan – 31 May; meat or hide must be salvaged 1 Jun – 31 Dec
- 2000 – 2001: Hides of black bears taken 1 Jan – 31 May in Unit 19D must be sealed before being removed from Unit 19. Either the hide or meat must be salvaged year round.
- 2001 – 2002: Black bears taken in Unit 19D – east must be sealed and the hide and skull must be salvaged. Additional baiting period 1 Sep – 30 Sep
- 2002 – 2003: In 19D – east bears must be sealed in Unit 19. In the remainder of 19D, black bears must be sealed if removed from 19D and if taken 1 Jan – 31 May. RL338 established allowing 2 additional bears to be taken by registration permit
- 2004 – 2005: RL338 available in McGrath or by mail beginning Jul 1
- 2005 – 2006: 19D – east, all black bears must be sealed (removed in-unit sealing requirement)
- Spring 2006: Sale of bear hides and skulls taken from active predator control areas permitted
- March 2006 BOG action: eliminated RL338 and raised the bag limit to 5 bears

Unit 19D Black Bear harvest



	Average Bears/Year	Range
2001 - 2008	6.0	0-15

Black Bear Control Take

5 Permittees in 2007

7 permittees in 2008

No bears taken

Unit 19D Grizzly regulations

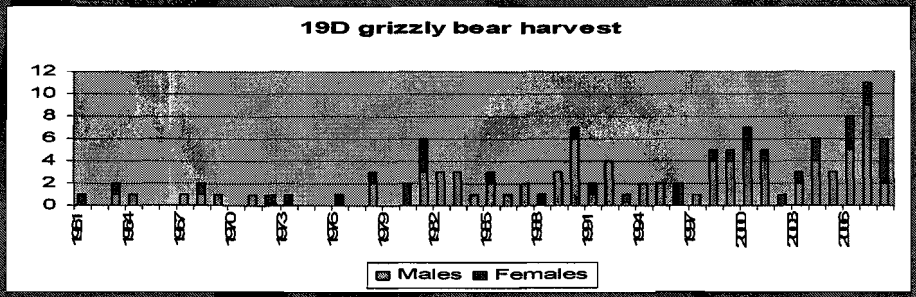
1997 – 1998 and earlier : Resident and Nonresident season: 1 Sep – 31 May; Bag limit: 1 bear every 4 years; $25 metal locking tag required; sealing required

1998 – 1999: $25 metal locking tag requirement waived; Bag Limit: 1 bear every regulatory year; in-unit sealing required

2004 – 2005: in-unit sealing requirement waived and season extended from 1 Sep – 31 May to 10 Aug – 30 Jun

March 2006 BOG changes: Increase bag limit to 2 grizzly bears/yr in 19D

Grizzly Bear harvest



Ave Bears/ Year since 1998	Harvest Range
5.5	1 - 11

Grizzly Bear control

Permits available since RY07.

3 bears taken in spring 2008.

4 Permittees in 2007
7 permittees in 2008

Bear control program

1) allow the take of any bear
2) allow sale of unmounted, tanned hides
3) SDA allowed if 300' from plane
4) allow the use of foot snares
5) bear sealing required - salvage hides and skulls
6) bear control in the Bear Control Area

No bag limit, SDA at bait stations, grizzly bears over bait, sale of untanned hides already allowed by permit.

Wolf population estimates within Unit 19D East

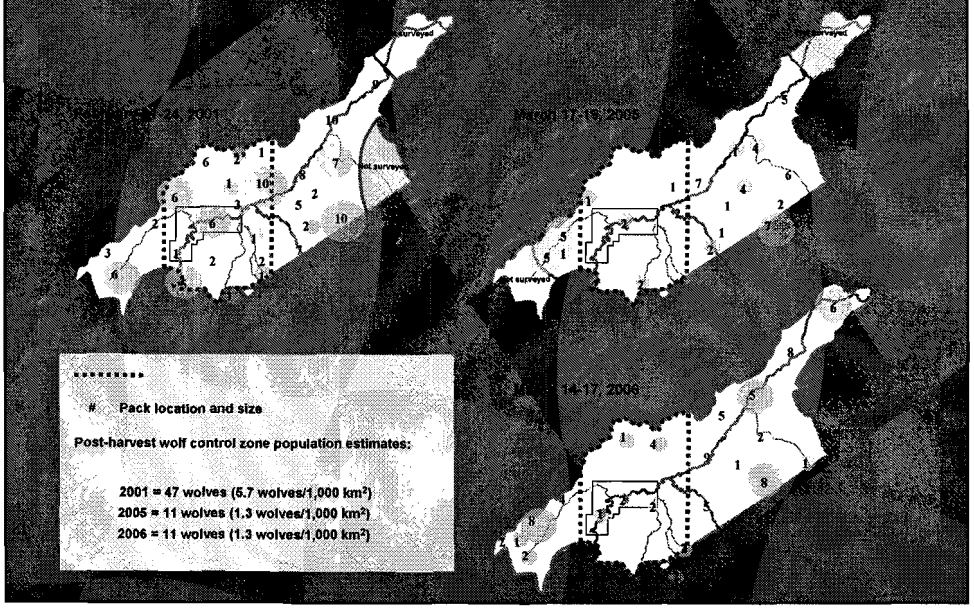
Year	19D East WCA (post take)	19D East MSA (post take)	19D East (fall estimate)
2001	49	75	198
2005	11	33	103
2006	11	40	91

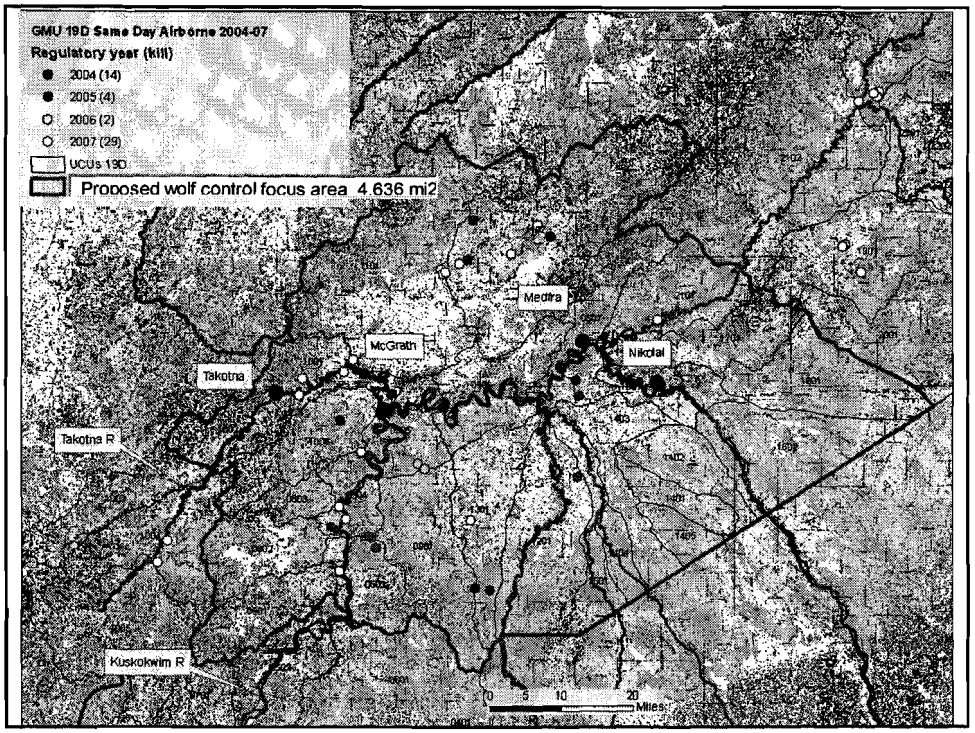
19D East Wolf Harvest and SDA wolf take

Year	Hunting and Trapping Harvest	Wolf Control Take	Total
2001 – 02	24	-	24
2002 – 03	39	-	39
2003 – 04	10	17	27
2004 – 05	15	14	29
2005 – 06	11	4*	15*
2006 – 07	19	2	21
2007 - 08	9	29	38
2008 – 09 Preliminary 2-24-09	4	14	pending

*Take includes one unrecoverable wolf.

Wolf Pack size and distribution




GMU 19D Same Day Airborne 2004-07
Regulatory year (kill)
2004 (14)
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2006 (2)
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UCUs 19D
Proposed wolf control focus area 4,636 mi2
McGrath
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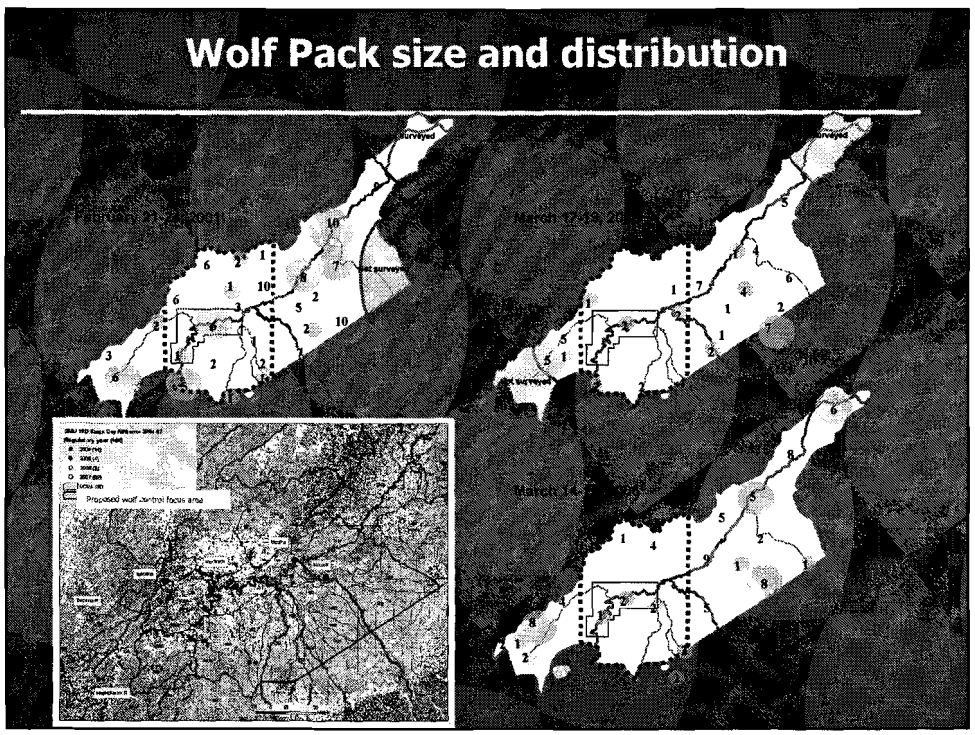
Nikolai
Takotna
Takotna R
Kuskokwim R
0 5 10 20
Miles


Wolf Pack size and distribution
Surveyed
March 14

Summary

- Moose population growth is focused near McGrath
- Continuing wolf control allows for continued progress toward IM population and harvest objectives
- Bear reductions would allow faster moose recovery
- Smaller wolf control focus area focuses wolf reduction while assuring that 40 wolves remain in Unit 19D East

Proposal 236

- Effect of the proposal:
  - Reauthorize the Predator Control Implementation Plan for Unit 19D East
- Department recommendation:
  - Amend and Adopt

RC146

Harlequin Duck, Western Population

(Histrionicus histrionicus)

Population Size and Trends: There is no reliable index of population size or trend for Harlequin Ducks in western North America. Numbers of breeding birds have been estimated in some small portions of their range over the short term. Single or short-term winter indices are available for a few areas. Winter survey efforts have been most consistent in Prince William Sound, Alaska (since 1989), southern British Columbia; and Puget Sound, Washington.

1. Establish a comprehensive survey program to annually estimate the number of Harlequin Ducks on all major wintering areas in the west, in conjunction with surveys to estimate age ratios
2. Establish monitoring surveys in selected key breeding areas to detect changes in bird densities at local or regional scales.

Population Definition/Delineation: Preliminary studies suggest some genetic differences between Eastern and Western populations and among breeding areas in western North America. Also, direct measures of movement (banding, telemetry) indicate low degrees of exchange at all stages of the annual cycle.

1. More completely describe the degree of genetic similarity/difference between breeding birds from Rocky Mountain/Pacific Northwest component and the Alaska/Bering Sea component.
2. Investigate genetic relationships of breeding birds in northeastern Russia to those in North America.
3. Expand marking studies (banding, satellite and VHF radios) to strengthen knowledge of connections between breeding birds and their molting and wintering grounds across the geographic range.

Population Dynamics: There has been substantial progress on describing basic parameters of population dynamics in western North America. Focused work on the British Columbia Coast and in Alaska (related to the *Exxon Valdez* Oil Spill) has accumulated information on productivity, survival rates of young and adults, and age structure of the population. In other parts of the range, similar information has not been gathered.

1. Expand studies of productivity factors in representative ecological regions across the breeding range (e.g. Rocky Mountain, interior subarctic, Pacific Coast, Bering Sea river basins).
2. Expand studies of seasonal and annual survival rates of juveniles, subadults and adults.
3. Expand studies of sex ratios and age ratios (productivity indices) for major wintering areas.
4. Expand studies of immigration, emigration, and dispersal rates among wintering areas.
5. Increase development of population models that integrate productivity, survival, and harvest components to assess the importance of factors affecting population growth.

SUBMITTED BY NANCY HILLSTRAND

Red-breasted Merganser

(Mergus serrator)

Population Size and Trends: Size and trends of populations in North America are not reliably known because aerial surveys do not differentiate between Red-breasted and Common Mergansers, and because large portions of their range are not surveyed. Also, this is a late-breeding species, which implies that most of the regular waterfowl surveys occur too early to provide adequate estimates of population size. For example, in the St. Lawrence estuary, they initiate their nests well after the Common Eiders have hatched. The North American population probably numbers about 300,000 to 400,000.

1. Obtain more reliable estimates of population size in major wintering areas.
2. Determine optimal time for surveys of breeding birds.
3. Obtain more reliable estimates of population size in important breeding areas.
4. Evaluate the potential of surveys at key molting sites as a tool to monitor trends.

Population Definition/Delineation: Little is known about the various populations, but initial genetic data suggest little if any population differentiation across North American breeding areas. Red-breasted Mergansers breed and winter along the Atlantic, Pacific and Arctic coastlines as well as inland. It is not known whether there are subpopulations. It is possible that some of the birds wintering in Greenland breed in Canada, as do Harlequin Ducks and King Eiders.

1. Determine relationships between breeding and wintering areas.
2. Continue analysis on whether there are morphometric and genetic differences between east and west coast birds, between birds breeding in the north versus the south and between Canadian and Greenland birds.
3. Determine whether birds breeding in salt waters differ from those breeding on fresh waters.

Population Dynamics: Little is known about the dynamics of Red-breasted Merganser populations. Only one study has been done on reproductive success in North America, in Lake Michigan. Reproductive success in salt waters and in the north is unknown.

1. Measure reproductive success in different settings, especially in salt and brackish waters.
2. Determine survival rates of males, females and young in different breeding areas.
3. Obtain better estimates of age and sex ratios in various staging and wintering areas.
4. Determine survival rates of sub-adults.

Population Ecology: Only a few studies have been done on the breeding and wintering ecology of the species. Brood amalgamation is frequent in this species. The causes and function of this behavior are unknown, but it likely affects survival of young. There is a need for a few comprehensive breeding biology studies in North America. Winter diet is not well known for most wintering areas.

Common Merganser

(Mergus merganser)

Population Size and Trends: Size and trends of populations in North America are not reliably known because most aerial surveys do not differentiate between Red-breasted and Common Mergansers, and because large portions of their range are not surveyed. However, the Eastern Breeding Waterfowl Survey (CWS in Ontario, Québec and the Atlantic Provinces) gives a good breeding population estimate for the area, with 87,400 pairs in 2003, and the 1990-2003 trend shows stable population. Aerial surveys and Christmas Bird Counts suggest the species may exceed one million birds in North America. Continentally, trends for combined merganser species are clearly positive.

1. Obtain more reliable estimates of population size.
2. Determine breeding densities on major rivers.

Population Definition/Delineation: Initial genetic data suggests that population delineation exists across North America. Substantial genetic differences are present between samples from Alaska/British Columbia and more southerly areas of North America (Pacific Northwest US and the Atlantic provinces of Canada). Additional genetic analyses are examining linkages between these breeding and various wintering locations across North America. Broad scale patterns in movements are based on fairly small samples of banded birds. No data are available on the location of major staging areas and on the number of birds using these areas.

1. Continue to determine location of major breeding, molting, and wintering areas and continue to determine linkages among specific breeding, molting, staging and wintering areas.
2. Continue to examine possible morphometric and genetic differences between birds of different breeding and wintering areas.
3. Refine biological and/or genetic relationships between eastern and western wintering populations with additional breeding samples from the interior boreal forest of Canada (coastal areas of Canada and the United States are fairly well represented by current collections)
4. Investigate associations between eastern Russia and North American populations.
5. Determine major migration routes and staging areas.

Population Dynamics: Little is known about the factors contributing to population regulation of Common Mergansers in North America.

1. Measure reproductive success in major breeding areas, especially on major river systems.
2. Determine survival rates of males, females and young.
3. Quantify the impact of brood amalgamation on duckling survival.
4. Obtain better estimates of age and sex ratios.
5. Determine reproductive success in nest boxes and assess their potential to counteract reduction in nest sites due to logging.

Hooded Merganser

(Lophodytes cucullatus)

Population Size and Trends: There are no reliable data on population size or trend of Hooded Mergansers. In Eastern Canada, good size and trend data come from the Eastern Breeding Waterfowl Survey (CWS in Ontario, Québec and the Atlantic Provinces): breeding population estimate was of 75,700 pairs in 2003 and the 1990-2003 trend shows a statistically significant increase of 4.3% per year. The species prefers wooded habitats where detection is difficult from fixed-wing aircraft, but reasonable from helicopter. Data from most traditional breeding pair and winter waterfowl surveys combine all merganser species, confounding interpretation of species-specific population estimates and trends. A rough estimate is 400,000-600,000 birds in the eastern part of the continent and less than 100,000 in the west, with a increasing trends in population size. Audubon Christmas Bird Count data also indicate increasing populations.

1. Obtain reliable estimates of population size and density in major breeding areas, particularly in western North America.
2. Monitor trends in this species from breeding and wintering surveys.

Population Definition/Delineation: Although the breeding distribution of Hooded Mergansers is disjunct, with eastern and western segments, these two geographical areas are connected by juvenile dispersal and some adult emigration based on banding and genetic analysis conducted by the U.S. Geological Survey, Alaska Science Center. Band recovery data suggest that juvenile birds may migrate long distances following fledging. Birds banded in the Atlantic, Mississippi, and Pacific Flyways winter in their respective and adjacent flyways.

1. Determine location of important breeding, molting and wintering areas.

Population Dynamics: There are no data on population dynamics parameters of Hooded Mergansers nesting in natural cavities. Limited data from nest box studies in the mid-western U.S. and Ontario are insufficient to describe productivity and survival patterns for the species. Sources of natural mortality are poorly known.

1. Estimate reproductive parameters in major breeding areas, especially from natural cavities.
2. Determine survival rates of males, females, and young across the breeding range.
3. Obtain better estimates of age and sex ratios.
4. Evaluate the use of nest boxes as a potential means to establish new populations or to bolster numbers in areas where logging has reduced availability of suitable nesting trees.

Population Ecology: Relatively few studies have been done on the breeding and wintering ecology of Hooded Mergansers. Logging removes natural cavities and affects breeding success. Competition may occur with other cavity-nesting species. The effects of trophic relationships and competition in northern habitats are unknown. In southern breeding areas, annual changes in floodplain habitats may affect use and productivity by Hooded Mergansers.

1. Characterize breeding areas and nest site availability across the range.

Bufflehead

(Bucephala albeola)

Population Size and Trends: An estimated one million birds are present in the traditional Waterfowl Breeding Population and Habitat Survey area ("mid-continent" strata). Additionally, British Columbia may have about 160,000 breeding birds and about 50,000 birds occur in the eastern survey areas not covered by the WBPHS. Considering additional unsurveyed areas, the continental population probably numbers about 1.4 million birds. The majority of Bufflehead breed in western North America, with highest densities in northern Alberta. Long-term surveys indicate that Bufflehead are increasing in most areas, with the possible exception of the U.S. prairies. Wintering populations are not consistently or adequately surveyed.

1. Improve estimates of abundance in the eastern survey areas of the U.S. and Canada.
2. Improve estimates of abundance in British Columbia.

Population Definition/Delineation: Limited band recovery data indicate that birds breeding west of the Rockies migrate to Pacific wintering areas, whereas most birds breeding further east migrate to eastern or southern wintering areas. There is some evidence that molting areas for males and females are different. The identification of molt sites is a potentially important concern at the population level should habitat degradation or disturbance lead to reduced use or abandonment of these sites. Bufflehead are too small to enable tracking with implantable satellite radios currently available, thus other methods of determining linkages may warrant investigation.

1. Determine if any exchange occurs between birds wintering on Atlantic and Pacific Coasts.
2. Determine linkages among breeding, wintering, and molting sites throughout range.
3. Summarize band recovery data for North America.

Population Dynamics: Little is known about reproductive and survival rates for local breeding populations although some research has been done in British Columbia. Recruitment rates are essentially unknown; one reason is because juvenile or sub-adult plumages are quite variable making it difficult to determine known age classes for both sexes.

1. Quantify reproductive and survival rates for local populations.

Population Ecology: In addition to an assessment of recruitment rates in winter, information on individual movements across seasons and across years would be useful to understand habitat use patterns and population requirements. For management purposes, information on sex and age differences in distribution patterns is needed.

1. Determine important factors (weather, predators, food, etc.) affecting survival and reproductive success (fitness) of the species throughout its range during the breeding period.
2. Determine important factors (weather, predators, food, etc.) affecting survival and reproductive success (fitness) of the species throughout its range during the molting period.

Surf Scoter

(Melanitta perspicillata)

Population Size and Trends: The continental population seems to number in the hundreds of thousands for this species, but there is little quantitative information available to assess population size and trends. Numbers of Surf Scoters breeding in western Canada and perhaps Alaska appear to be declining. Similarly, the population wintering in the Atlantic Flyway appears to be declining. Eastern and western populations likely can be monitored separately as they appear to have distinct wintering areas that are subject to different harvest pressures.

1. Inventory and monitor numbers of breeding Surf Scoters in the western and eastern populations.
2. Inventory and monitor numbers of wintering Surf Scoters on the east and west coasts.
3. Develop or refine techniques to estimate detection rates during aerial surveys.

Population Definition and Delineation: Surf Scoters breed throughout the boreal forest, but appear to have higher densities in western Canada, Alaska, Ontario and Québec. Based on available evidence from telemetry and banding studies, it is likely that the population can be divided into eastern and western subpopulations with very low rates of dispersal between them. Information on molt areas, migration corridors and winter areas associated with breeding populations is increasing but is still incomplete for both the eastern and western populations.

1. Determine relative densities of Surf Scoters throughout their breeding range.
2. Describe the linkages, including migration corridors, between specific breeding areas, molt and winter areas using satellite telemetry, with emphasis on birds wintering in the Atlantic.
3. Determine seasonal movements of non-breeding Surf Scoters originating from specific breeding areas.
4. Conduct genetic analyses to better discriminate Surf Scoter populations or management units throughout the continent.

Population Dynamics: There are few data on the population dynamics of this species.

1. Determine factors affecting the reproductive success of birds from breeding areas throughout its range (e.g., food, predators, weather, etc.).
2. Determine variation in survival rates for birds from specific wintering areas.
3. Determine the age (eg., juvenile male to adult male) and sex ratios for specific wintering areas.
4. Examine continental scale annual variation in recruitment based on age ratios on wintering areas.
5. Develop a demographic model for the species.

Black Scoter

(Melanitta nigra)

Population Size and Trends: Recent satellite telemetry studies suggest that the western and eastern breeding and wintering populations are allopatric and should be surveyed independently. On the west coast, a survey to provide relatively precise estimates of the Pacific breeding population was developed from 2004 to 2006. The visibility-corrected estimate of Pacific breeding population from 2004 to 2005 was 108,100 Black Scoter (SE = 13,300). Total population, including non-breeding birds, may approach 200,000. Compared to similar surveys flown 15 to 7 years ago, the population has declined with an average annual change at -3.1%. The less intensive Waterfowl Breeding Population and Habitat Survey suggests a decline of about 50% over much of the same area from 1956 to 2006.

In eastern North America, the total population probably numbers 200-300,000 birds, but there is little reliable information available to assess trends. Surveys of molting birds along the western James Bay coast of Ontario indicate that about 140,000 Black Scoters molt there, nearly all males. Migration counts at Avalon, NJ and Point LePreau, NB from 1995 to 2004 produced average (probably minimum) counts of 142,000 and 127,000, respectively.

1. Continue the breeding survey of Pacific Black Scoters.
2. Determine breeding distribution and develop surveys to provide reliable population estimates in eastern North America.
3. Develop or refine techniques to estimate detection rates during aerial surveys.
4. Develop protocol for identifying scoters to species during aerial breeding surveys.

Population Definition and Delineation: There appear to be two geographic populations of Black Scoters that are separated by their breeding and wintering distribution; satellite telemetry of birds on both coasts has not revealed any interchange between Atlantic and Pacific Black Scoter populations, although the sample size from the east coast is particularly small. The breeding range for Black Scoters wintering on the Atlantic coast extends farther west into the boreal forest than previously believed. Genetics and stable isotope analyses may provide further insights into population definition.

1. Determine the breeding and molting areas of ducks associated with various wintering areas range-wide, with emphasis on the eastern population
2. Determine the migration corridors used between breeding, molting and wintering areas.
3. Determine seasonal movements of non-breeding Black Scoters.
4. Collect tissue samples necessary for genetic analyses for Black Scoters.
5. Collect tissue and food samples necessary for stable isotope analyses to help determine seasonal habitat use at a broad geographic scale.

Population Dynamics: There are few data available on population dynamics for this species. Only one breeding population, on the Yukon-Kuskokwim Delta, Alaska, has been studied from

White-winged Scoter

(Melanitta fusca deglandi)

Population Size and Trends: There is little quantitative information available to assess population size and trends. Numbers of White-winged Scoters breeding in western Canada and Alaska appear to be declining, as suggested by declines in total scoter numbers where White-winged Scoters predominate. Similarly, populations wintering in the Atlantic Flyway seem to be declining. Trends for birds wintering in the Pacific Flyway are uncertain over the entire range, but localized surveys (Puget Sound, San Francisco Bay) suggest significant declines.

1. Develop population estimates and monitoring surveys for the eastern and western wintering populations.
2. Develop standardized surveys to estimate numbers and trends of breeding White-winged Scoters in eastern and western North America.
3. Develop protocol for identifying scoters to species during aerial surveys on breeding grounds.

Population Definition and Delineation: White-winged Scoters breed throughout the boreal forest, but appear to have larger nesting populations in western Canada, Alaska and Québec. Small and declining breeding populations occur in the mid-continent prairie region.

1. Determine linkages among populations at specific breeding, molting, staging and wintering areas.
2. Determine migration corridors and timing of migration between breeding, molting and wintering areas.
3. Determine seasonal movements of non-breeding White-winged Scoters affiliated with various breeding areas.
4. Assess the presence of subpopulations, as well as geographic variation in demography, migratory patterns and winter site fidelity, through a combination of surveys, intensive studies of breeding biology from several areas, isotopic and genetic analyses, long-term banding and satellite telemetry.

Population Dynamics: There are few data on demographic rates for this species, and those available come from small populations at the southern edge of their breeding range in the mid-continent prairies. Studies are currently underway in boreal breeding areas.

1. Estimate seasonal and annual survival rates of birds from different populations, or subpopulations, should they exist.
2. Determine recruitment rates from across the breeding range.
3. Determine the age structure of populations at various breeding and wintering sites.
4. Develop a demographic model for the species.

Barrow's Goldeneye, Western Population

(Bucephala islandica)

Population Size and Trends: Population size and trends are uncertain at best. The western population has been crudely estimated at 200,000-250,000 birds. Long-term surveys have been conducted in selected breeding areas of the B.C. interior but this information has yet to be extrapolated into a breeding population estimate. The situation is similar for wintering populations, where only a handful of (inconsistent) surveys have been conducted at wintering sites (eg., Baynes Sound and Stanley Park in BC, Prince William Sound and southeast Alaska). The assessment of trends in the BC breeding population is confounded by the fact that Riske Creek (one of the key survey areas supporting a relatively high density of birds) has been subjected to a variety of population manipulations (e.g., numbers of breeding birds have been either artificially increased by deploying nest boxes 4-5 different times over the last 25 years or decreased by a collection program (e.g., 100 females were shot in one year for research purposes)). Audubon Christmas Bird Count data suggest stable or increasing numbers along the coast in winter, but this survey is not rigorous enough to detect relatively small changes, especially for sub-populations.

1. Develop standardized surveys to estimate abundance levels and population trends across the breeding range.
2. Develop standardized surveys to estimate abundance levels and population trends across the wintering range.

Population Definition/Delineation: Breeding and wintering ranges of western Barrow's Goldeneyes are fairly well described, although its breeding range and relative densities in Alaska are less well known. However, the linkages between these (i.e., the breeding origin of birds from specific winter sites and vice versa) are poorly known. This hampers conservation efforts, as there is no measure of appropriate management units, nor any way to consider geographic limits to cross-seasonal effects. Molting adult males are suspected to concentrate in large groups after they leave the breeding grounds. One of the best known molt sites, Old Crow Flats in the Yukon, supports thousands of males in late summer. A recent satellite telemetry project in south-central B.C. indicates that most males migrate north to molt. Preliminary analyses of these data indicate that: 1) most males disperse over a large geographic area, from northern Alberta and central Northwest Territories, 2) some lakes consistently support a large number of marked birds across years (e.g., 3-5 tagged birds per year molted on Cardinal Lake in northern Alberta in 2006 and 2007), and 3) birds with transmitters that lasted > 2 years (n=2) show the same migration patterns and use the same molt/winter sites across years. Preliminary surveys suggest that females molt in small groups away from breeding areas but the geographic extent of this molt is unknown. The identification of molt sites is a potentially important concern at the population level should habitat degradation or disturbance lead to reduced use or abandonment of these sites. Currently, the best way to determine the linkage between breeding/wintering grounds and key molting sites is through the use of satellite telemetry.

Barrow's Goldeneye, Eastern Population

(Bucephala islandica)

Population Size and Trends: The eastern population of Barrow's Goldeneye was listed in Canada as a species of Special Concern in 2000 and as state-threatened in Maine in 2007. Information on population size suggests only about 2,000 adult breeding females in the population. It is imperative to closely monitor that population as it could easily be up listed to Threatened in Canada. Wintering Barrow's Goldeneye are monitored roughly every three years by helicopter in Quebec and most important wintering areas in New Brunswick.

1. Develop standardized census methodologies for monitoring wintering populations and refine existing techniques.
2. Develop standardized census methodologies for monitoring breeding populations.
3. Develop annual measures of productivity on important wintering areas (i.e. age ratios).

Population Definition/Delineation: The winter range of the eastern population is fairly well known. However, links to breeding areas have only been established for the birds wintering in the St. Lawrence estuary. Whether birds wintering in Québec, along the Gulf of St. Lawrence, the Maritimes and the eastern U.S. breed in the same area is unknown. Preliminary genetic studies are not conclusive and more detailed studies are needed. The general breeding area has been identified, but the exact boundaries, especially in the north, have yet to be determined.

1. Characterize the genetic and morphologic structure of the three major populations of Barrow's Goldeneye.
2. Determine the northern boundary of the Québec/Labrador breeding area.
3. Determine affiliations among breeding, molting, and wintering areas for birds wintering along the Gulf of St. Lawrence (Québec), in the Maritimes and the U.S.

Population Dynamics: Little is known of the dynamics of the eastern population of Barrow's Goldeneye. The breeding area was just discovered in 1998 and to date there has been only one preliminary study on nest box use.

1. Determine the reproductive success of the population, both hatching and fledging success.
2. Determine the survival rate of various age-sex cohorts of the population.
3. Conduct regular winter surveys to provide information on age and sex ratios in the population.

Population Ecology: Little is known of the ecology of the eastern population of Barrow's Goldeneye. Studies are limited. Recent work indicates that natural nest sites are located in large decaying snags, for which availability is probably greatly affected by substantial logging pressure in breeding habitats. The feeding ecology of pairs and broods has not been documented on the breeding areas. Growth rates of ducklings and the factors affecting them are unknown. Although some molting sites of males are known, the location of female molting sites is still unknown.

Common Goldeneye

(Bucephala clangula)

Population Size and Trends: The Waterfowl Breeding Population and Habitat Survey indicates stable populations throughout surveyed areas of North America. However, goldeneye are not differentiated to species during this survey, which may compound interpretation of trends, particularly in western North America where Common and Barrow's breeding ranges overlap. In Eastern Canada, quite good size and trend data come from the Eastern Breeding Waterfowl Survey (CWS in Ontario, Québec and the Atlantic Provinces): breeding population estimate was of 112,900 pairs in 2003 and the 1990-2003 trend shows a statistically significant increase of 3.0% per year. Audubon Christmas Bird Count data suggest stable to increasing Common Goldeneye populations on wintering areas. The population has been crudely estimated at 1.25 million birds based on partial counts during the breeding season.

1. Improve population monitoring techniques (geographic coverage, survey timing, estimate detection rates), particularly in its western range, as needed to manage this species more effectively.
2. Determine species composition in breeding and wintering areas where Barrow's and Common Goldeneyes overlap in western North America.

Population Definition and Delineation: Common Goldeneye breed across forested areas of Alaska, across the wooded parts of northern Canada to the Maritime Provinces, and south to northern Washington, northern North Dakota, northern New York state and Maine. Goldeneye winter from the southern limits of its breeding range to the Gulf States. Banding data show a general pattern of eastern breeding birds wintering on the Atlantic coast or Great Lakes, and western breeding birds wintering on the Pacific coast or western states, with an overlap area in the western Rocky mountain provinces.

1. Better survey techniques on breeding and wintering areas would help to understand the possible factors impacting this species on the breeding grounds of western North America.
2. Radio telemetry should be considered to delineate more accurately the breeding and molting areas and links to wintering areas.
3. Comprehensive genetic analyses should be completed to examine relationships among North American populations.

Population Dynamics: Most studies of breeding biology have focused on populations nesting in nest boxes. There is insufficient information to build population models.

1. Breeding biology studies of birds using natural cavities for nesting are needed.
2. Estimate survival rates for all age and sex classes throughout range.

Population Ecology: Increased acidification of wetlands has been considered a favorable factor to the survival of broods, due to a decrease of fish as a competitor for invertebrate foods. On eastern wintering areas, especially Chesapeake Bay, there is some concern that hunting guides are putting greater pressure on sea ducks.

King Eider

(Somateria spectabilis)

Population Size and Trends: Aerial surveys that provide indices of breeding population size are currently operational in northern Alaska. Similar surveys in western and central arctic Canada are in development through a cooperative effort by the Sea Duck Joint Venture and Arctic Goose Joint Venture. The aerial surveys indicate King Eiders have declined in number since the early 1990's in parts of western arctic Canada, but remained stable in central arctic Canada and northern Alaska. Counts at Point Barrow, Alaska during spring migration indicate that overall, the western arctic population has been stable since the mid 1990's. There is no up-to-date information on the population status of King Eiders nesting in eastern arctic Canada. However, surveys of King Eiders molting off central west Greenland suggest present numbers are only half of what they were in the 1950's. Roughly 400,000 King Eiders nest in western arctic Canada and northern Alaska. An additional 100,000 or more of the eiders that winter in the Bering Sea and North Pacific nest in Russia. There is no reliable estimate of the number of King Eiders nesting in eastern arctic Canada.

1. Continue breeding population surveys timed specifically for eiders on the Alaska arctic coastal plain, as a means of monitoring population trends in Alaska.
2. Continue to develop waterfowl breeding population surveys for western and central arctic Canada in cooperation with Arctic Goose Joint Venture, as a means of monitoring population trends of King Eiders in Canada.
3. Repeat eider count at Point Barrow during spring migration every 5-10 years.
4. Determine whether the migratory pathway of eiders past Point Barrow varies among years, to assess whether the spring migration counts are a valid means of measuring population size and trends.
5. Survey molting or wintering birds in western and southern Greenland. Although interpretation of surveys would be confounded because it is unknown whether birds come from Canada or Greenland, these surveys may be the most efficient means of monitoring population trends of Atlantic King Eiders.

Population Definition/Delineation: Satellite telemetry, banding and stable isotope studies in Alaska and Canada indicate that over much of the breeding range there are two distinct populations of King Eiders wintering in two geographically distinct areas. However, in at least one location in central arctic Canada (i.e. Queen Maud Migratory Bird Sanctuary), the breeding range of eiders that winter west of the continent overlaps with that of eiders wintering to the east. Not only is there overlap, but also some females within the area of overlap switch wintering areas among years (stable isotope analysis indicated about 20% of the females likely switched wintering areas between two years). Furthermore, a recent genetics study indicates that there is no genetic distinction between King Eiders wintering in the Atlantic versus those wintering in the Bering Sea and North Pacific. Although not genetically distinct, it may still be best to manage King Eiders in arctic Canada as two populations. To do that, more information is needed on location and extent of overlap of the two breeding ranges in arctic Canada.

Spectacled Eider

(Somateria fischeri)

Population Size and Trends: All Spectacled Eider breeding populations were listed as threatened on May 10, 1993 because of documented population declines. The Yukon-Kuskokwim Delta population declined by >90% between the 1970s and early 1990s. Anecdotal information indicated that populations in the other two primary breeding areas, the Russian and Alaskan Arctic Coastal Plains, also declined, along with the much smaller breeding population on St. Lawrence Island in the Bering Sea. Annual aerial surveys for breeding population trend have been developed for the two North American breeding subpopulations. A ground-based nest survey is used in conjunction with aerial survey indices to provide an annual estimate of the Yukon-Kuskokwim Delta population; recent estimates are about 9,400 breeding birds with a slightly increasing population trend. A fixed-wing survey is flown annually to estimate numbers on Alaska's Arctic Coastal Plain; an estimated 13,000 birds breed there with a stable population trend. A single aerial survey, conducted over a 4-year period, provided a population index for the Arctic Russia breeding population. Winter surveys of the only known wintering area of this species (presumed to represent the world population) provided a total species estimate of about 363,000 in 1996-1997.

1. Continue the *Yukon-Kuskokwim Delta Nest Plot Survey* and *Aerial Breeding Pair Survey* used together to provide a nest population estimate.
2. Repeat the survey of the wintering area (last conducted in 1998).
3. Continue the *Arctic Coastal Plain Survey*.
4. Conduct periodic breeding pair surveys of Russia breeding habitats.

Population Definition/Delineation: Genetic analysis indicates the presence of 3 distinct breeding subpopulations: Yukon-Kuskokwim Delta, Alaska Arctic coastal plain, and Russia.

1. Determine whether Ledyard Bay is a staging and molting area for North Slope or Arctic Russia breeding populations.

Population Dynamics: Current survival data are derived from site-specific studies of the Yukon-Kuskokwim Delta breeding population and may not be representative of the entire region. Similar information is not available for the North Slope of Alaska or Russia.

1. Capture and mark adult female Spectacled Eiders nesting on Kigigak Island, Yukon Delta NWR to estimate annual survival.
2. Evaluate the feasibility and efficacy of predator (fox, gull) control on the Yukon Kuskokwim Delta where gulls may be affecting Spectacled Eiders.
3. Monitor productivity and recruitment of Spectacled Eiders on Kigigak Island, Yukon Delta NWR.
4. Estimate annual survival of Spectacled Eiders on the North Slope.

Common Eider, Pacific Race

(Somateria mollissima v-nigra)

Population Size and Trends: Surveys that provide abundance indices of breeding populations are currently operational or in development in parts of their range, including the western Canadian arctic, Alaska arctic coastal plain, and Yukon-Kuskokwim Delta (YKD). The Pacific race is roughly estimated to number 170,000 birds. Surveys of migrating birds at Point Barrow, Alaska during spring suggest significant declines from 1976 to 1996, but possible increases since then; current estimates remain well below those obtained in the mid_1970s. Surveys in northwest Alaska, Aleutian Islands, and northwest Canada are still too recent to detect trends.

1. Continue and further develop surveys for YKD, Alaska arctic coastal plain, and western Canadian arctic.
2. Repeat spring migration counts at Point Barrow every 5-10 years.
3. Develop long-term monitoring plan for western arctic Canada, northwest Alaska and Aleutian Islands.
4. Conduct exploratory breeding surveys of St. Lawrence Island, St. Matthew Island, and Nunivak Island.
5. Conduct periodic breeding pair survey of Russia breeding habitats.

Population Definition/Delineation: Satellite telemetry studies of Pacific Common Eider suggest geographic structuring within the population. Specifically, those breeding in the western Canadian Arctic and Alaska arctic coastal plain seem similar in regard to wintering areas (i.e., eastern Russia). Common Eiders marked on the YKD exhibited different migratory patterns and used different wintering areas. Initial satellite telemetry results support the assumption that the Aleutian birds are resident; however, further study is needed to ascertain whether the Aleutians, which represent an immense area, contain subpopulations of Common Eiders. Preliminary satellite telemetry data for eiders breeding on the Seward Peninsula, Alaska, suggest wintering areas in both eastern Russia and western coastal Alaska.

1. Identify links among breeding, molting, wintering, and staging areas of Common Eiders breeding on the Seward Peninsula.
2. Identify links among breeding, molting, wintering, and staging areas of Common Eiders breeding in the Aleutian Islands.

Population Dynamics: Detailed studies on breeding biology and estimates of vital rates exist only for a few local breeding areas, most notably YKD, Alaska north coast, and central arctic Canada. A generic population model has been developed for YKD Pacific Common Eiders, but some key population model parameters are missing or lack estimates of variation.

1. Determine reproductive success for this race in all major nesting areas.
2. Determine age-specific survival rates throughout range.

Steller's Eider

(Polysticta stelleri)

Population Size and Trends: In Russia, the Steller's Eider is considered rare and recorded in the Red Book, although an extensive survey of the Russian Far East indicated over 100,000 birds in the Pacific population. A smaller Atlantic population from western Siberia numbers 30-50,000. The Alaska breeding population is listed as a threatened species in 1997 under authority of the Endangered Species Act based on a substantial decrease in the species range and vulnerability of the remaining Alaska breeding population to extirpation. Steller's Eiders have essentially disappeared as a breeding species from the Yukon-Kuskokwim Delta where they were once numerous. The breeding population on the Arctic Coastal Plain is highly variable, with highest densities around the Barrow area. Although several hundred probably occur there in most years, there is little reliable quantitative information available to assess trends. A spring aerial survey provides an annual index to population size of birds migrating northward in coastal habitats in southwest Alaska.

1. Continue intensive aerial surveys near Barrow.
2. Continue standardized ground-based breeding pair surveys at Barrow.
3. Continue spring Pacific population aerial survey.
4. Explore possibility of counting birds in the ice leads of the Chukchi Sea in spring before they arrive on the North Slope.
5. Develop visibility correction factor for aerial surveys of Steller's Eiders on the breeding grounds.

Population Definition/Delineation: There are two geographical populations of Steller's Eiders with separate breeding and winter distributions. The Atlantic population nests in western Siberia and winters in the Barents and Baltic Seas. Most of the Pacific breeding population inhabits the maritime tundra of northeast Siberia, and a smaller population breeds at low densities across the Arctic Coastal Plain of Alaska. The Pacific population winters primarily in Alaska in the Bering Sea, although specific wintering areas of the threatened Alaska breeding population are less certain. Genetic analyses of the disparate breeding populations in Russia and North America have not been conducted. A captive flock of Steller's Eiders has been established at the Alaska Sea Life Center (ASLC).

1. Maintain captive flocks, develop techniques for artificial propagation, and investigate development of a second captive flock.
2. Develop a plan for re-introduction, including fully establishing a known-geographic origin flock of Steller's Eiders At ASLC.
3. Opportunistically collect eggs on the Yukon-Kuskokwim Delta and North Slope to establish a flock of known-geographic origin Steller's Eiders at ASLC.
4. Conduct satellite telemetry study to link breeding, molting, wintering and staging areas.

Long-tailed Duck

(Clangula hyemalis)

Population Size and Trends: The North American population may number between one and two million birds, but survey coverage is incomplete and there is little information to reliably quantify population size and trends. The North American Breeding Populations Survey indicates substantial declines from the 1950's to early 1990's, but stable population over the past 15 years. This survey does not cover the majority of Long-tailed Duck breeding range in Canada and Alaska. Through a cooperative effort by SDJV and AGJV, aerial surveys are being developed to obtain indices of breeding population size in western and central arctic Canada.

1. Continue to develop waterfowl breeding population surveys for arctic Canada in cooperation with Arctic Goose Joint Venture, as a means of monitoring population trends of Long-tailed Ducks in Canada.
2. Initiate and expand winter sea duck surveys into areas of known concentrations to sample a greater proportion of the population (e.g., Chesapeake Bay, Nantucket Island Shoals, Great Lakes, Gulf of St. Lawrence, and Pacific Coast).

Population Definition and Delineation: Satellite telemetry studies suggest considerable interchange among breeding, molting, and wintering populations throughout North America, although sample sizes are small.

1. Compare genetic material of Long-tailed Ducks that winter on the Atlantic and Pacific Coasts, and on the Great Lakes, to determine whether there is more than one distinct population in North America.
2. Determine affiliations between breeding, molting and wintering areas (satellite telemetry, banding, stable isotopes).
3. Determine migration corridors between breeding and wintering areas (satellite telemetry).

Population Dynamics: There are few data on population dynamics for this species. The most important limiting factors are unknown.

1. Estimate survival rates of birds from various breeding areas.
2. Collect productivity data for breeding areas.
3. Determine the age structure of birds from various breeding areas.
4. Once necessary demographic parameters have been estimated, develop a demographic model for the species.

Proposal 198 suggested substitute:

RC 147

Unit 16 B black bear bait guide permit.

1. Allow outfitted bait hunting by amending 5aac 92.044 for 16 B only
   (5 aac 92.044 A person may not give or receive remuneration for the use of a bait station, including barter or exchange of goods; however, this paragraph does not apply to a licensed guide-outfitter. [WHO PERSONALLY ACCOMPANIES A CLIENT AT THE BAIT STATION SITE])

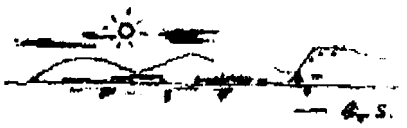
2. Allow big game guides licensed under Title 8 to register up to 10 bait stations per year and maintain stations registered by employees. All other standard bear bait permit conditions will apply.

3. Allow residents and non-residents to hunt guide's baits under general hunting regulations with guide-client contract.

Justification: There is a large harvestable surplus of black bears in unit 16B. This could be a valuable regulation to assess a new Baited Black Bear Guiding system that may allow for additional take and economic development through conventional hunting practices (not predator management) without biological risk.

Submitted by: Aaron Bloomquist

RC 148



NULATO TRIBAL COUNCIL
P.O. Box 65049 • Nulato, Alaska 99765
PHONE 907-898-2339 • FAX 907-898-2207
nulatotribe@nulatotribe.org

TO: Kristy Tibbles

FROM: Nulato Tribal Council Nicky Stickman, 1st Chief

DATE: March 6, 2009

SUBJECT: Subsistence Moose Hunt

Each year, there are a number of families in Nulato who are unable to harvest a moose. For some, the cost of fuel prohibits them from hunting.

There are a number of families who did not harvest a moose during the Fall Hunt of 2008. The Nulato Tribal Council respectfully requests a special dispensation to harvest a couple moose to distribute to those families in need.

Thank you.

RC 149

Alaska Department of Fish and Game
Attn: Kristy Tibbles

Kristy,

I recently spoke with Jim Marcotte regarding requesting an extension of the Nunivak Island spring musk ox hunting season. I would like to formally request that the board agree to review this petition under 5 AAC 96.625 due to the unexpected poor weather that has occurred on Nunivak Island and in Bethel during the normal hunting season.

Several hunters were unable to travel to Mekoryuk during the normal season and after discussing with my transporter, Abe David, he is trying to cram in several hunters during the last few days of the season. He has also mentioned that the weather this season has been very poor and is planning on contacting fish and game for an extension on the season as well. A few of the hunters who are affected currently were those that were notified of winning a permit to hunt musk ox through the alternates list, including myself. I had a very difficult time working with transporters to squeeze me in and during my time slot; the weather did not allow me to fly from Bethel to Mekoryuk. During my second attempt to head to Mekoryuk, the weather in Bethel held up the flights. I am now not able to try again until after the 22nd of March. Having spent over three thousand dollars at this point, and not even getting to the hunting location, I would like to make every effort possible to complete this hunt.

Due to unforeseen weather related issues that has created a situation where a biologically allowable resource harvest would be precluded by a delayed regulatory action and such delay would be significantly burdensome because the resource will be unavailable to me in the future, I would appreciate that the board approve of the extension of this hunt as they did in the past under emergency order number **05-03-06**. http://www.wildlife.alaska.gov/regulations/eo/2006/05-03-06.pdf

If there is any other information you need from me, or if there is another person I should speak with about this, please pass their name and contact information along to me. I appreciate your time to read this letter and hopefully work with me on passing this petition.

Jerry Pollen
Fairbanks, Alaska
907-322-8368

Sherry, 150

I hope you don't pass proposals 190, 170, 239, 168, 189, 166, and 171, 235, and 236. These are inhumane.

Please

Thank you,
Azabel

021

Resources

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RC 151

Proposal 247: Lower Kusko moose hunt,

If adopted, implement hunt conditions to avoid potential overharvest.

1) September 1-10. Tier 1 registration for bulls only.
2) Permits available only within hunt area August 1-25.
3) Salvage requirements to include stomach fat, head, meat on the bone, & trophy destruction if horns leave hunt area.
4) No aircraft use other than public managed airport.
5) 48-72 hour hunt/harvest reporting
6) Include state/federal hunt through single registration permit.
7) Clarify in boundary description that hunt area includes all of the Johnson River drainage.

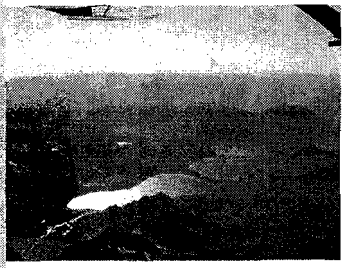
Submitted by Greg Roczicka for YK Delta Regional Subsistence Council.

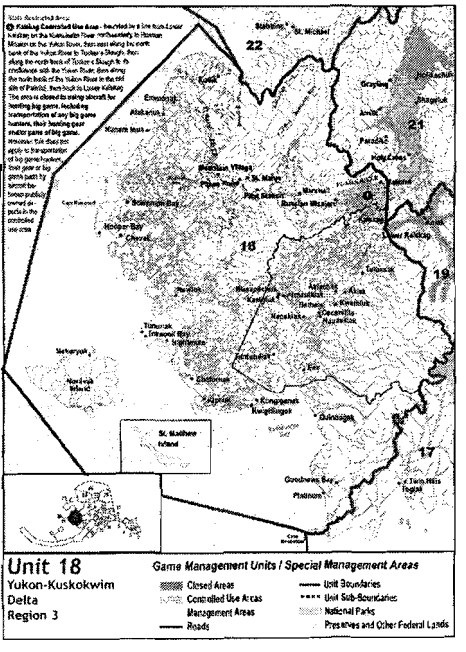
RC152

Proposal 247

- Establishes a moose season of Sept. 1—Sept. 10 within the Kuskokwim Closed Area in Unit 18
- Bag limit: One antlered bull
- ADFG RECOMMENDATION: Amend & Adopt

Unit 18 Yukon-Kuskokwim Delta

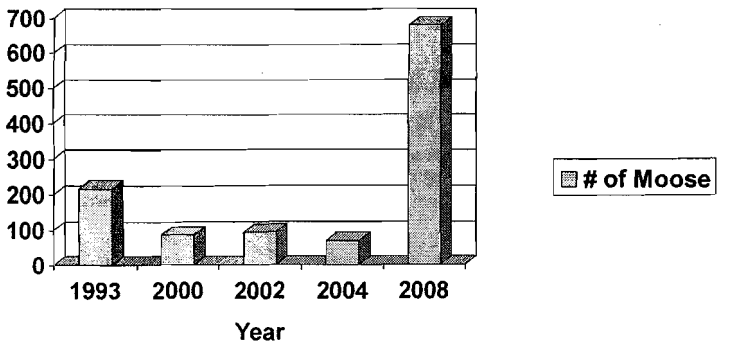




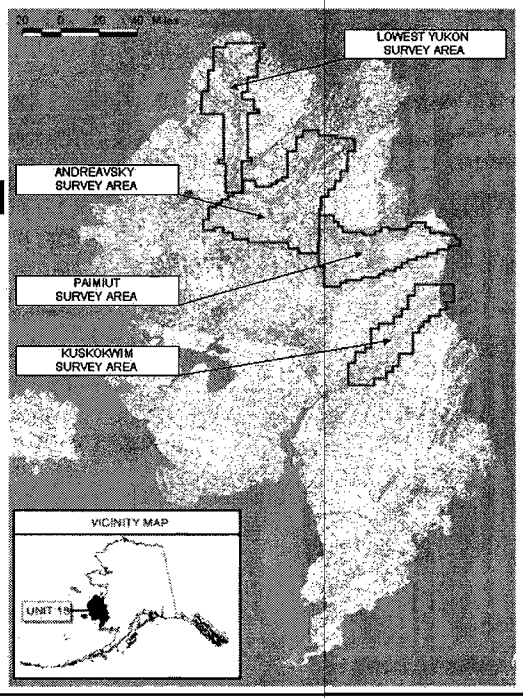
Background

- The area currently known as the Kuskokwim Closed Area was closed to all moose hunting at the fall 2003 BOG meeting
- The Lower Kuskokwim AC and other local groups asked for a 5-year hunting season closure to allow the population to grow
- Recommended amendment: Establish as a registration hunt

Moose Population – Lower Kuskokwim Count Census Area



Unit 18 Moose Census Areas



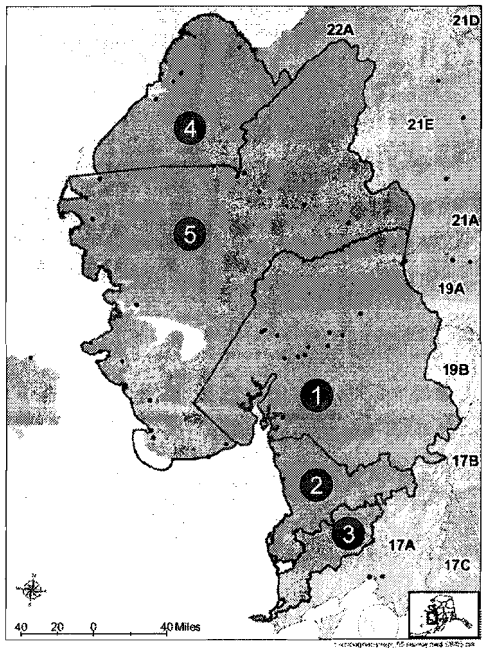
Questions??

Proposal 228

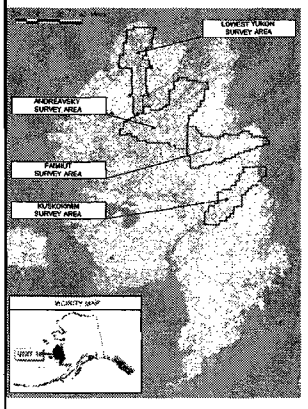
- Re-authorizes the winter calf hunt for the lowest portion of the Yukon River drainage in Unit 18
- The winter hunt is for one antlered bull or one calf, December 20—January 20
- Department Recommendation: ADOPT

Unit 18 Moose Hunt Areas

1. Kuskokwim Closed Area
2. South of Eek River drainage
3. Goodnews River drainage
4. Yukon Delta
5. Remainder of Unit 18



Lowest Yukon Moose Count Area



Year	Population Size	Density moose/mi^2
1988	0	0
1992	28	0.006
1994	65	0.01
2002	674	0.59
2005	1341	1.10
2008	3320	2.80

Questions??

Proposal 227

- This proposal re-authorizes the brown bear tag fee exemption for subsistence hunts in Units 18, 22, 23 and 26A, and general hunts in Units 22 and 23
- Department Recommendation: ADOPT

Background

- During the past 5 years, the reported subsistence harvest for each Unit has not exceeded 5 bears annually, and normally has ranged from 1-3 bears
- General hunt harvests in Units 22 and 23 have increased during the past 10 years; however, increased liberalization of bag limits and season length also occurred
- Effect of tag fee exemption on the general hunt harvest difficult to measure, but is believed to be small

RC 153

GRANT HILDEBRAND

MARCH 9

2009

Proposal 84

Years Until All Applicants Receive Permit

Success Rate = 70%

		Permits			
		1000	2000	4000	5000
	10000	15	8	4	3
	20000	29	15	8	6
	30000	43	22	11	9
Applicants	40000	58	29	15	12
	50000	72	36	18	15

Proposal 84

- Many individuals are not content with the Tier II structure that existed prior to this BOG meeting.
- Many individuals are not content with the Tier II scoring process.
- Many individuals are not content with the Tier II salvage requirements.
- Many individuals would be supportive of changes provided they have an opportunity to hunt a Nelchina caribou, even if this opportunity is not every year.

Proposal 84

- A registration permit hunt would be unmanageable. It very likely would last only a few days.
- We want to provide a quality hunt opportunity.
- This is an experiment...

Proposal 84

- Each head of household may apply for a permit each year.
- A household will consist of the head of household and all household members linked to a specific physical address.
- The bag limit will be one Nelchina caribou per household every four years.
- Thus, a household cannot apply for a Nelchina caribou permit for three years following receipt of a Nelchina caribou permit.

Proposal 84

- As with community harvest program participants, if a household receives a permit for caribou in GMU 13, no one in the household can hunt moose or caribou in any other unit that same year.
- Any member of the household may hunt moose in GMU 13 in any year, including a year in which the household receives a GMU 13 caribou permit.

Proposal 84

- Antler destruction must occur at the kill site and the antlers must be left at the kill site.
- This same restriction also applies to the community harvest permit program.

Proposal 84

- Permits will be allocated randomly.
- A preference point system will be incorporated. Thus, a household's odds relative to the applicant pool will increase each year the household does not receive a permit.
- After receiving a permit, the household will "return to zero". The preference points will then accrue in a X2 manner (i.e. 1,2,4,8,16, 32...) once the household applies again when eligible.

Proposal 84

- There will not be a guarantee of one permit every four years.
- Harvestable surplus, number of applicants, and preference points will dictate permit allocation each year.

Proposal 84

- This is an experiment....depending on the results, the Board may consider additional restrictions or liberalize some of the current restrictions in the future.

Proposal 247A **RC 154**

5 AAC 85.045(12). Hunting seasons and bag limits for moose

Units and Bag Limits	Resident Open Season (Subsistence and General Hunts)	Nonresident Open Season
(16)		
Unit 18, that portion easterly of a line from the mouth of the Ishkowik River to the closest point of Dall Lake then to the easternmost point of Takslesluk Lake then along the Kuskokwim River drainage boundary to the Unit 18 border and north of and including the Eek River drainage, **1 antlered bull by registration permit only**	**Sept. 1 – Sept. 10** [NO OPEN SEASON.]	No open season.

RC 155

PROPOSAL 241A - 5 AAC 92.050. Required permit hunting conditions and procedures. Establish a bonus point system for some drawing hunts.

(4) permit issuance:

(A) the department shall issue registration permits in the order applications are received and drawing permits on a lottery basis**: the department may issue drawing permits on a bonus point system as follows:**

1. **An applicant for a bonus drawing hunt must have a current license to apply for the hunt and complete the appropriate drawing application. Since the application period will be Nov. - Dec. the dept will implement a requirement to purchase the next year's license.**
2. **An applicant must use consistent hunter identification each year when applying for a hunt. This permanent customer ID will be provided by the department the first time the applicant applies.**
3. **Applications and accompanying fees, that include nonresidents, shall only be made online.**
4. **The applicant will accumulate 1 point for the first year that he/she is unsuccessful in obtaining a permit for that species when included in the draw; after the first year of inclusion in the bonus point pool, points will be doubled each year thereafter (year 1 = 1 point, year 2 = 2 points, year 3 = 4 points, year 4 = 8 points, etc.)**
5. ~~5.~~ **An applicant may choose to not apply for a species-specific bonus point system for two consecutive years and not lose her/his bonus points. All bonus points will be lost if the applicant fails to apply for each species-specific bonus point system after a two-year grace period.**
6. **An applicant may submit an application and accompanying fee and choose to not hunt for a species-specific bonus point system for a given year. The application and fee shall allow the applicant to accrue points for that year without being part of the draw.**
7. **Once an applicant receives a permit to hunt a species that he/she has been applying for under a bonus point system, his/her total points return to zero and they must start over to accumulate new points.**
8. **Drawings under the bonus point system:**

(A) Available permits for the specific hunt will be allocated on a 50%/50% basis..

1) **50% shall be available for everyone who applies for the hunt**
2) **50% shall be allocated to those who choose to participate in the species-specific bonus point system.**
3) **For each year an applicant may apply for either drawing pool, or both.**
4) **Points accrue for each bonus point species and cannot be interchanged between species.**
5) **If the applicant has bonus points for a species, those available points are added to each hunt the applicant chooses.**

B. Party hunt applications under the bonus point system shall only be allowed for Dall sheep

1) **For party hunts, the average (.5 rounded up), of all points among applicants shall be used as the number of bonus points in the pool.**

C. Points are accumulated by the individual and can not be transferred.

D. The department will apply the bonus point system to the following hunts:

(i) **All bison drawing permits.**

(ii) **All Dall sheep drawing permits.**

Proposal 84B **RC156**

5 AAC 85.025. Hunting seasons and bag limits for caribou. (a) ...

Units and Bag Limits	Resident Open Season (Subsistence and General Hunts)	Nonresident Open Season
(8)		
Unit 13		
1 caribou per harvest report per regulatory year by community harvest permit only; up to 300 caribou may be taken; or	Aug. 10 - Sept. 20 Oct. 21 - Mar. 31 (Subsistence hunt only)	No open season.
1 bull every four regulatory years by Tier I subsistence permit only		

5 AAC 85.045. Hunting seasons and bag limits for moose. (a) ...

Units and Bag Limits	**Resident Open Season (Subsistence and General Hunts)**	**Nonresident Open Season**
(11)		
(9)		
Unit 11		
1 bull per harvest report by community harvest permit only; however, no more than 100 bulls that do not meet antler restrictions for other resident hunts in the same area may be taken in the	**Aug. 10 - Sept. 20 (Subsistence hunt only)**	**No open season.**

entire community harvest area; or		
1 bull with spike-fork antlers or 50-inch antlers or antlers with 3 or more brow tines on one side	Aug. 20 - Sept. 20	Aug. 20 - Sept. 20
...		
Unit 12, **that portion in the Gulkana, Cantwell, Chistochina, Gakona, Mentasta, Tazlina, Chitina, and Kluti Kaah Community Harvest Area**		
1 bull per harvest report by community harvest permit only; however, no more than 100 bulls that do not meet antler restrictions for other resident hunts in the same area may be taken in the entire community harvest area; or	**Aug. 10 - Sept. 20 (Subsistence hunt only)**	**No open season.**
...		
Unit 13		
RESIDENT HUNTERS: 1 bull **per harvest report** by **community harvest permit only; however, no more than 100 bulls that do not meet antler restrictions for other resident hunts in the same area may**	**Aug. 10 - Sept. 20** [AUG. 15 - AUG. 31] (Subsistence hunt only)	

be taken in the entire community harvest area [TIER II SUBSISTENCE HUNTING PERMIT; UP TO 150 PERMITS BE ISSUED; MAY BE ISSUED;] or	
1 bull with spike-fork antlers or 50-inch antlers or antlers with 4 or more brow tines on one side; or	Sept. 1 - Sept. 20 **(Subsistence hunt only)**
1 bull, by drawing permit only, up to 1000 permits may be issued	**Sept 1 – Sept 20 (General hunt only)**

NONRESIDENT HUNTERS:

1 bull with 50-inch antlers or antlers with 4 or more brow tines on one side by drawing permit only; up to 150 permits may be issued	**Sept 1 – Sept 20**

...

5 AAC 92.050. Required permit hunt conditions and procedures. (a) The following conditions and procedures for permit issuance apply to each permit hunt:

(4) permit issuance:

...

(I) no more than one Unit 13 Tier I subsistence permit for caribou may be issued per household every four years and a head of household, and any member of the household, obtaining a Unit 13 Tier I subsistence permit for caribou are prohibited from hunting caribou or moose anywhere else in the state during that regulatory year.

5 AAC 92.071. Tier I subsistence permits. (a) If the Board has directed that a hunt be administered under a Tier I subsistence permit, permits will be distributed in the same manner as other registration permits, under the same conditions applicable under 5 AAC 92.050 and .052, with the following additional conditions:

(b) Unit 13 Tier I subsistence caribou permits will be distributed on a random basis following application. Permits shall be distributed to heads of households. The number of permits distributed shall be based on the harvestable surplus and other allocations, if any, applicable to the Nelchina caribou herd. Heads of households who obtain a permit, and any members of their households, are ineligible to apply for another permit during the next three regulatory years. Heads of households shall receive preference points for each year in which they register, but do not receive a permit, that double as each year passes without a permit, with one point awarded for the first year. Upon receiving a permit, or if a head of household fails to register during a regulatory year, the head of household's score becomes zero, with the process starting over if the head of household registers in succeeding years.
(c) In this section, "head of household" means a single person within the household who applies for a Tier I subsistence permit on behalf of the entire household in a particular regulatory year.

5 AAC 92.072. COMMUNITY SUBSISTENCE HARVEST HUNT AREA AND PERMIT CONDITIONS. (a) The commissioner or the commissioner's designee may, under this section and 5 AAC 92.052, issue community - based subsistence harvest permit and harvest reports for big game species where the board has established a community harvest hunt area under (b) of this section and 5 AAC 92.074.

(b) The board will consider proposals to establish community harvest hunt areas during regularly scheduled meetings to consider seasons and bag limits for affected species in a hunt area. Information considered by the board in evaluating the proposed action will include:

(1) a geographic description of the hunt area;

(2) the sustainable harvest and current subsistence regulations and findings for the big game population to be harvested;

(3) a custom of community - based harvest and sharing of the wildlife resources harvested in the hunt area; and

(4) other characteristics of harvest practices in the hunt area, including characteristics of the customary and traditional pattern of use found under 5 AAC 99.010(b).

(c) Where the board has established a community harvest hunt area for a big game population, residents may elect to participate in a community harvest permit hunt in accordance with the following conditions: .

(1) a hunt administrator representing a group of residents may apply to the department for a community harvest permit by identifying the community harvest hunt area and the species to be hunted, and by requesting community harvest reports sufficient to supply the estimated number of individuals who will subscribe to the community harvest permit; the hunt administrator:

(A) must record and maintain a record of the names of residents subscribing to the community harvest permit and the residents hunting license number, permanent hunting identification card number **or customer service ID**, or birth date for residents under the age of 16;

(B) must issue harvest reports to hunters who have subscribed to the community harvest permit, but may not issue more individual harvest reports than the sum of the individual bag limits of the number of the residents who have subscribed to the permit;

(C) must request additional harvest reports for a community harvest permit from the department during a hunting season if the number of people subscribing to the hunt exceeds the original estimate.

(D) must collect validated harvest reports from hunters following the take of individual game animals, record harvest information for individual animals taken, and collect biological samples or other information as required by the department for management;

(E) must provide the department with harvest information, including federal subsistence harvest information, within a specified period of time when requested, and a final report of all game taken under the community harvest permit within 15 days of the close of the hunting season **or as directed in the permit**; and

[(F) MUST, IF THE COMMUNITY HARVEST HUNT AREA IS UNDER A TIER II PERMIT REQUIREMENT FOR THE SPECIES TO BE HUNTED, HAVE RECEIVED A TIER II PERMIT FOR THAT AREA, SPECIES, AND REGULATORY YEAR;]

(F) must make efforts to ensure that the applicable customary and traditional use pattern described by the Board of Game, if any, is observed by subscribers including, but not limited to, meat sharing. The applicable Board of Game finding will be identified on the permit. This does not authorize the administrator to deny subscription to any community resident.

(2) a resident who elects to subscribe to a community harvest permit:

(A) may not hold a harvest ticket or other state hunt permit for the same species where the bag limit is the same or for fewer animals during the same regulatory year, however a person may hold harvest tickets or permits for same - species hunts in areas with a larger bag limit following the close of the season for the community harvest permit;

(B) may not subscribe to more than one community harvest permit for a species during a regulatory year;

(C) must have in possession when hunting and taking game a community harvest report issued by the hunt administrator for each animal taken;

(D) must validate a community harvest report immediately upon taking an animal; and

(E) must report harvest and surrender validated harvest reports to the hunt administrator within 5 days, or sooner if required by the department, of taking an animal and transporting it to the place of final processing for preparation for human use and provide the hunt administrator with information and biological samples required under terms of the permit.

(F) must, if the community harvest hunt area is under a Tier II permit requirement for the species to be hunted, have received a Tier II permit for that area, species, and regulatory year;

(d) Seasons for community harvest permits will be the same as those established for other subsistence harvests for that species in the geographic area included in a community harvest hunt area, **unless separate community harvest hunt seasons are established.** The total bag limit for a community harvest permit will be equal to the sum of the individual bag limits established for other subsistence harvests for that species in the hunt area. Seasons and bag limits may vary within a hunt area according to established subsistence regulations for different game management units or other geographic delineations in a hunt area.

(e) Establishment of a community harvest hunt area will not constrain nonsubscribing residents from participating in subsistence harvest activities for a species in that hunt area using individual harvest tickets or other state permits authorized by regulation, nor will it require any

resident eligible to hunt under existing subsistence regulations to subscribe to a community harvest permit.

(f) The department may disapprove an application for a community subsistence harvest permit from a hunt administrator who has previously failed to comply with requirements in (c)(1) of this subsection.

(g) a person may not give or receive a fee for the taking of game or receipt of meat pursuant to a community subsistence harvest permit. This does not preclude reimbursement for actual expenses incurred during hunting under the permit.

5 AAC 92.074. COMMUNITY HARVEST HUNT AREAS. (a) The commissioner may issue community subsistence harvest permits for designated big game species in the area specified in this section:

(d) **Gulkana, Cantwell, Chistochina, Gakona, Mentasta, Tazlina, Chitina, and Kluti Kaah** [NELCHINA] Community Harvest Area for moose and caribou: Includes all of that area draining into the headwaters of the Copper River south of Suslota Creek and the area drained by all tributaries into the east bank of the Copper River between the confluence of Suslota Creek with the Slana River and Miles Glacier; and all drainages into the east bank of the Robertson River, the west bank of the Little Tok River, and the south bank of the Tanana River between the Robertson River and the Little Tok River, and that area westerly of the east bank of the Copper River and drained by all tributaries into the west bank of the Copper River from Miles Glacier and including the Slana River drainages north of Suslota Creek; the drainages into the Delta River upstream from Falls Creek and Black Rapids Glacier; the drainages into the Nenana River upstream from the southeast corner of Denali National Park at Windy; the drainages into the Susitna River upstream from its junction with the Chulitna River; the drainages into the east bank of the Chulitna River upstream to its confluence with Tokositna River; the drainages of the Chulitna River (south of Denali National Park) upstream from its confluence with the Tokositna River; the drainages into the north bank of the Tokositna River upstream to the base of the Tokositna Glacier; the drainages into the Tokositna Glacier; the drainages into the east bank of the Susitna River between its confluences with the Talkeetna and Chulitna Rivers; ; the drainages into the north and east bank of the Talkeetna River, including the Talkeetna River, to its confluence with Clear Creek, the eastside drainages of a line going up the south bank of Clear Creek to the first unnamed creek on the south, then up that unnamed creek to lake 4408, along the northeast shore of lake 4408, then southeast in a straight line to the northernmost fork of the Chickaloon River; the drainages into the east bank of the Chickaloon River below the line from lake 4408; and the drainages of the Matanuska River above its confluence with the Chickaloon River;

5 AAC 92.220. Salvage of game meat, furs, and hides. (a) Subject to additional requirements in 5 AAC 84 - 5 AAC 85, a person taking game shall salvage the following parts for human use:

...

(e) Antlers or horns may not be transported from the kill site until all edible meat salvaged in accordance with (d) of this section has been transported to the departure point

from the field; however, antlers or horns may be transported simultaneously with final load of edible meat salvaged.

(f) Antlers or horns may not be transported from the field unless accompanied by all edible meat or unless possession of the meat has been transferred in accordance with 5 AAC 92.135. **However, antlers taken under a subsistence caribou permit in Unit 13 must be removed from the skull plate or the skull plate cut in half and left at the kill site.**

5 AAC 99.025. Customary and traditional uses of game populations.
The Board of Game has examined whether the game populations in the units set out in the following table, excluding those units or portions of those units within nonsubsistence areas established by the Joint Board of Fisheries and Game (5 AAC 99.015), are customarily and traditionally taken or used for subsistence and make the following findings:

SPECIES & UNIT	FINDING	AMOUNT REASONABLY NECESSARY FOR SUBSISTENCE USES
(4) Caribou		
Unit 11 (Mentasta herd)	positive	
Units 12 and 13 (Nelchina herd)	positive	**600-1000** [100% ALLOWABLE HARVEST]
(8) Moose		
Unit 13	positive	600

(b)(1) "amount reasonably necessary for subsistence uses" includes the total amount of animals from a population that must be available for subsistence hunting in order to provide a reasonable opportunity for subsistence uses, under state and federal subsistence hunting regulations, where both exist.

(2) "reasonable opportunity" is defined in AS 16.05.258(f) and, in assessing whether a reasonable opportunity for subsistence uses exists the Board of Game will, as it deems appropriate, attempt to integrate opportunities offered under state and federal regulations, where both exists.

5 AAC 92.990. Definitions. (a) In addition to the definitions in AS 16.05.940, in 5 AAC 84 - 5 AAC 92, unless the context requires otherwise.

(x) "fee" as it applies to "community harvest permit" is defined as payment, wages, gifts, or other remuneration for services provided while engaged in hunting under a community harvest permit; fee does not include reimbursement for actual expenses

incurred during the hunting activity within the scope of the community harvest permit, nor (non-cash) exchange of subsistence harvested resources.

RC 157

Anchorage Advisory Committee
March 6, 2009

Big Game Commercial Services Board
P.O. Box 110806
Juneau, AK 99811-0806

RE: Industry practices and enabling legislation

Members of the Big Game Commercial Services Board;

As you know, Alaska residents make up nearly 70% of the big game transporter's client base. Non-Alaskans make up nearly 100% of a hunting guide's client base.

In October 1988, the state Supreme Court issued a decision that the statute and related regulations establishing exclusive use guide areas were unconstitutional. Justice Rabinowitz, in writing for the unanimous court, stated in the court's opinion:

> *Nothing in this opinion is intended to suggest that leases and exclusive concessions on state lands are unconstitutional. The statutes and regulations of the Department of Natural Resources authorize leases and concession contracts of limited duration, subject to competitive bidding procedures and valuable consideration.*

The term "valuable consideration" can be as ambiguous as it can be subjective. In the case of a state contract with a private individual connected to the use of public resources'; 'valuable consideration' ultimately is defined as consistent with public interest and public trust doctrine.

Integrating a format in the prospectus development process to represent or quantify or define 'valuable consideration' has been the focus of the recent work of the BGCSB state lands subcommittee; including, significant inter-agency participation.

The BGCSB represents a diversity of interests. That includes the traditional and historical and cultural diversity represented by a third generation Alaskan pilot guide who lives year round in the bush and hires one or two assistant guides to support him. Then, there is the non Alaskan 'guide' who simply functions as an 'outfitter' and may 'own' multiple federal exclusive hunt guiding concessions; sub contracts the flying and the guiding and has not personally guided a client in 10 years and then there is the guide who operates

completely independent and performs all aspects of 'guiding' himself.

Included in the diversity represented by the BGCSB are transporters. Transporters are licensed by the BGCSB yet presently are categorically excluded from competing in this proposed concessions program.

Transporters services are at least as necessary and appropriate to residents as 'guide' and 'outfitter' services are to non-residents.

Alaskans might favor a prospective opportunity to go hunting in concessions areas where no guiding or outfitting or other transporter service providers are competing.

From the information currently available, the two year deliberative process of developing this administrative program materializes as if 'diversity' has escaped "valuable consideration".

All guides, regardless of residency or their individual and current implemented business model are essentially equally qualified applicants. There is nothing subjective about the initial qualifying element of the process; *except transporters, also licensed and regulated by the BGCSB, are not considered qualified applicants.*

The amount of money any otherwise qualified applicant bids is not a subjective element of the bid process.

The ground between a basic qualified bidder and the amount of money offered is 'the valuable consideration' zone and where diversity is most vulnerable. That vulnerability issue appears to have been resolved by simply not considering diversity as a 'valuable consideration'.

Diversity is more likely to manifest as a handicap for some and an advantage for others under the current proposed scheme. DNR must take steps to assign categorical classes of qualified bidders.

This indeterminate program policy may ultimately deal with <u>businesses</u> that provide goods *and/or* services to big game hunters in the state. Diversity, particularly the traditional and historical 'hunting guide' representation, must be unequivocally preserved if this program is implemented.

DNR reported to our Committee on March 3, 2009 that the state is currently projecting the concessions program to be fully implemented by July 2010 and admitted that July 2010 is optimistic.

APHA publicly announced at this same meeting, and apparently at a previous BGCSB meeting, that it is APHA's intent to litigate this program *because* APHA is of the 'opinion' that these concessions should become transferable as if they were owned.

Justice Rabinowitz, in writing for the unanimous court, *also* stated in the court's 1988 Owsichek opinion:

> *Rather, as discussed above, they are granted essentially on the basis of seniority, with no rental or usage fee, for an unlimited duration, and are administered in such a way that* ***guides*** *may transfer them for a profit as if they owned them. In these respects the exclusive guide areas resemble the types of royal grants the common use clause expressly intended to prohibit. Leases and concession contracts do not share these characteristics.*

The intrinsic value of our resources to residents, the rate and the percentages of harvest that non-Alaskans are taking our public resources chart a course that is likely to reach a point where non-Alaskans are limited to 10% of the harvest opportunity.

A realistic awareness that this proposed program may not see the light of day or get bogged down in litigation coupled with the knowledge of the condition of the professional guiding industry today requires the BGCSB to remain proactive. Focused on the more salient tasks defined by the enabling legislation that established this Board. The fundamental issues surrounding established industry practices has more negative consequences should this Board not be committed to use the tools available now and affirm the best practices protocols of this Board are functioning as required.

The Anchorage Advisory Committee request the Board consider supporting and acting on the following requests.

- Protect the commercial services diversity by recommending to DNR that there be three non-exclusive categories of qualified competitive bidders in the state concessions proposed program. (1)Outfitters (2)Guides (3)Transporters
- Recommend DNR disqualify any bidder who has two or more federal concessions contracts

- Collect licensing fees that cover the actual costs of operating the BGCSB
- Recommend DNR collect concessions fees that cover the actual costs of the concessions program
- Provide financial compensation to the state for the commercial harvest of Alaska's big game resources.
- Require licensed guides to physically guide at least one of every three 'contracted' hunts in order to maintain a guide license
- Limit licensed guides to not more than two assistant guides
- Initiate and sponsor an interagency cooperative working group to independently analyze the entire body of regulation under the Boards authority and to make recommendations on revisions that improve on the best practices intent of licensing and regulating and enforcing regulations

Finally, on February 3, 2009 the Anchorage A/C voted unanimously to move by written request a petition to the Board of Game requesting support for amending AC 16.05.407 "Non residents hunting big game must be accompanied" for consideration and public deliberation at the upcoming meeting of the Board of Game meeting February 27- March 9, 2009. The Anchorage Advisory Committee request this Board provide support for amending AC 16.05.407 as outlined in our (attached) letter.

Submitted on behalf of the Anchorage AC
By Mike McCrary

Attachment (a): Feb. XX Letter to BOG
Attachment (b): A/G opinion non residents must be guided
CC:
DNR Commissioner Tom Irwin
DF&G Commissioner Denby Lloyd
DCCED Commissioner Emil Notti
All Alaska A/C's
BOG
SFW-Alaska
APHA
AOC

RC 158

Findings for the Alaska Board of Game
2009-XXX-BOG

Unit 19D-East Intensive Management Supplemental Findings
March 9, 2009

The Board of Game finds as follows, based on information provided by Department staff and residents and users of moose in Unit 19D-East. These findings are supplemental to the findings set forth in 5AAC 92.108, in the Unit 19-East predation control implementation plan in 5 AAC 92.125 and in Board of Game Findings 2006-164-BOG, 2006-169-BOG, and 2008-174-BOG.

1. The moose population size, currently estimated to be 5481 moose, is less than the population objective of 6,000-8,000 moose. The population objective has not been achieved for at least the last 8 years.

2. The Unit 19D-East moose harvestable surplus, as described in 5 AAC 92.106(3)(A), currently estimated at 219 bulls, is less than the harvest objective of 400-600 moose. The harvest objective has not been achieved for at least the last 8 years.

3. The Unit 19D-East moose population is, thus, depleted and reduced in productivity, which has already resulted in a significant reduction in the allowable human harvest of the population.

4. Enhancement of abundance or productivity is feasibly achievable utilizing the recognized and prudent active management technique of predator control.

5. The Board has repeatedly, since 1995, been required to significantly reduce the taking of moose in Unit 19D-East by restricting harvest, seasons and bag limits as compared to the level and timing of hunting opportunity that was allowed when the population was not depleted and reduced in productivity.

6. The population and harvest objectives have not been achieved, at least in part, because wolf, black bear, and brown bear predation have been important causes of mortality in the population, to the extent that the population is unlikely to recover, and objectives are unlikely to be achieved, in the foreseeable future unless predator control is conducted.

7. Reducing predation can reasonably be expected to aid in achievement of the population and harvest objectives.

Vote:_____
March 9, 2009
Anchorage, Alaska

_____
Cliff Judkins, Chairman
Alaska Board of Game

ALASKA BOARD OF GAME
2009-179-BOG
A RESOLUTION OF THE ALASKA BOARD OF GAME IN SUPPORT OF INCREASING NON-RESIDENT HUNTING LICENSE AND TAG FEES

WHEREAS, the Board of Game and the Alaska Department of Fish and Game (ADF&G) view hunting as a respected, traditional outdoor activity that remains a substantial and integral part of Alaska's heritage, culture, and environment; and

WHEREAS, ADF&G's Division of Wildlife Conservation (the "Division") proposes to protect and expand hunting opportunity in Alaska by maintaining existing programs and developing new initiatives specifically designed to benefit hunters; and

WHEREAS, the Division needs additional revenues to maintain adequate levels of core wildlife management services; and

WHEREAS, the Division proposes raising non-resident hunting license and tag fees to generate $3.5 million annually in order to maintain and expand hunting opportunity in the State of Alaska; and

WHEREAS, license fees have not been raised since 1993 and loss of purchasing power of license and tag revenues over this time due to inflation alone is over $3.45 million; and

WHEREAS, Alaska charges non-residents fees that are lower than those paid by non-residents in nine other western states to hunt all species; and

WHEREAS, the Division of Wildlife Conservation would like to implement a bonus point system for hunters interested in improving their chances of being drawn for bison and Dall sheep permits; and

WHEREAS, the Division proposes to spend any new revenues generated by this increase to maintain and increase hunting opportunity in the State of Alaska; and

WHEREAS, the Division will increase hunting opportunity through hunt management recommendations based on adequate monitoring, intensive management activities where authorized, habitat management, and expanded public services; and

WHEREAS, without new revenues, the Division will be forced to reduce its monitoring of wildlife populations, which will result in more conservative management and put hunting opportunity in jeopardy statewide; and

NOW, THEREFORE BE IT RESOLVED that the Alaska Board of Game supports an increase in non-resident hunting license and tag fees and pledges to work with the Division to craft an acceptable license fee

proposal for consideration by the Alaska Legislature this session which assures that revenue generated by this user fee provides maximum benefit to the users; and

BE IT FURTHER RESOLVED that the Alaska Board of Game supports charging resident and non-resident hunters a fee to cover costs associated with a bonus point system. The fee should by $15.00 per hunter per species.

PASSED AND ADOPTED by the Alaska Board of Game on this 9h day of March 2009.

_____

Cliff Judkins, Chair

RC 160

Findings for the Alaska Board of Game
2009-XXX-BOG

Unit 19A Intensive Management Supplemental Findings
March 9, 2009

The Board of Game finds as follows, based on information provided by Department staff and residents and users of moose in Unit 19A. These findings are supplemental to the findings set forth in 5AAC 92.108, in the Unit 19A predation control implementation plan in 5 AAC 92.125, and in Board of Game Findings 2004-150-BOG and 2006-168-BOG.

1. The moose population size, currently estimated to be 3,200-5,275 moose, is less than the population objective of 7,600-9,300 moose (derived from the combined Units 19A and 19B objective based on proportionate area). The population objective has not been achieved for at least the last 8 years.

2. The Unit 19A moose harvestable surplus, as described in 5 AAC 92.106(3)(A), there is no harvestable surplus in eastern Unit 19A (upstream from and excluding the George River drainage), excluding the Lime Village Management Area. In western Unit 19A (downstream from and including the George River drainage), the harvestable surplus is 60 bulls. This is less than the harvest objective of 400-550 moose (also based on proportionate area). The harvest objective has not been achieved for at least the last 8 years.

3. The Unit 19A moose population is, thus, depleted and reduced in productivity, which has already resulted in a significant reduction in the allowable human harvest of the population.

4. Enhancement of abundance or productivity is feasibly achievable utilizing the recognized and prudent active management technique of predator control.

5. The Board has repeatedly, since 2002, been required to significantly reduce the taking of moose in Unit 19A by restricting harvest, seasons and bag limits as compared to the level and timing of hunting opportunity that was allowed when the population was not depleted and reduced in productivity.

6. The population and harvest objectives have not been achieved, at least in part, because wolf predation has been an important cause of mortality in the population, to the extent that the population is unlikely to recover, and objectives are unlikely to be achieved, in the foreseeable future unless predator control is conducted.

7. Reducing predation can reasonably be expected to aid in achievement of the population and harvest objectives.

Vote:_____
March 9, 2009
Anchorage, Alaska

_____
Cliff Judkins, Chairman
Alaska Board of Game

RC161

Findings for the Alaska Board of Game
2009-XXX-BOG

Units 12, 20B, 20D, 20E, and 25C Intensive Management Supplemental Findings
March 09, 2009

The Board of Game finds as follows, based on information provided by department staff and residents and users of moose in Unit 12 north of the Alaska Highway and 20E; and caribou in Unit 12 north of the Alaska Highway, Unit 20D within the Goodpaster drainage upstream from and including the South Fork Goodpaster River drainage and within the Healy River, Billy and Sand Creek drainages, Unit 20B within the Salcha River drainage upstream from and including the Goose Creek drainage and within the Middle Fork of the Chena River drainage, all of Unit 20E, and Unit 25C within the Birch Creek drainage upstream from the Steese Highway bridge and within the area draining into the south and west bank of the Yukon River upstream from the community of Circle. These findings are supplemental to the findings set forth in 5AAC 92.108, in the Upper Yukon/Tanana predation control implementation plan in 5AAC 92.125 and in Board of Game Findings 2006-164-BOG, 2006-165-BOG, and 2008-177-BOG

1. The Fortymile Caribou Herd population size, currently estimated to be near 40,000 caribou, is less than the population objective of 50,000-100,000 caribou. The population objective has not been achieved since at least 1976.

2. The Fortymile Caribou Herd harvestable surplus, as described in 5AAC 92.106(3)(A), currently estimated at 850 caribou, is less than the harvest objective of 1,000–15,000 caribou. The harvest objective has not been achieved since at least 1976.

3. The 2007 moose population size in Unit 12 north of the Alaska Highway and Unit 20E, was estimated to be 4,000–6,100 moose, and is less than the population objective of 8,744–11,116 moose (derived from the combined Units 12 and 20E objectives based on proportionate area). The population objective has not been achieved since at least 1986.

4. The harvestable surplus of moose in Unit 12 north of the Alaska Highway and Unit 20E, as described in 5AAC 92.106(3)(A), currently estimated at 160–244 bulls, is less than the harvest objective of 547–1,084 moose (derived from the combined Units 12 and 20E objectives based on proportionate area). The harvest objective has not been achieved since at least 1986.

5. The Fortymile Caribou Herd in Unit 12 north of the Alaska Highway, Unit 20D within the Goodpaster drainage upstream from and including the South Fork Goodpaster River drainage and within the Healy River, Billy and Sand Creek drainages, Unit 20B within the Salcha River drainage upstream from and including the Goose Creek drainage and within the Middle Fork of the Chena River drainage, all of Unit 20E, and Unit 25C within the Birch Creek drainage upstream from the Steese Highway bridge and within the area draining into the south and west bank of the Yukon River upstream from the community of Circle is, thus, depleted and reduced in productivity, which has already resulted in a significant reduction in the allowable human harvest of the population.

6. The moose population in Unit 12 north of the Alaska Highway and Unit 20E is, thus, depleted and reduced in productivity, which has already resulted in a significant reduction in the allowable human harvest of the population.

7. Enhancement of abundance or productivity of both moose and caribou in these areas is feasibly achievable utilizing the recognized and prudent active management technique of predator control.

8. The Board has repeatedly, since 1976, been required to significantly reduce the taking of Fortymile caribou in Unit 12 north of the Alaska Highway, Unit 20D within the Goodpaster drainage upstream from and including the South Fork Goodpaster River drainage and within the Healy River, Billy and Sand Creek drainages, Unit 20B within the Salcha River drainage upstream from and including the Goose Creek drainage and within the Middle Fork of the Chena River drainage, all of Unit 20E, and Unit 25C within the Birch Creek drainage upstream from the Steese Highway bridge and within the area draining into the south and west bank of the Yukon River upstream from the community of Circle by restricting harvest, seasons, and bag limits as compared to the level and timing of hunting opportunity that was previously allowed when the population was not depleted and reduced in productivity.

9. The Board has, since 2000, been required to limit the taking of moose in Unit 12 north of the Alaska Highway, and Unit 20E by restricting harvest, seasons, and bag limits as compared to the level and timing of hunting opportunity that was allowed when the population was not depleted and reduced in productivity.

10. The population and harvest objectives for both moose and caribou in this area have not been achieved, at least in part, because wolf and brown bear predation have been important causes of mortality in the populations, to the extent that the populations are unlikely to recover, and objectives are unlikely to be achieved, in the foreseeable future unless predator control is conducted.

11. Reducing predation can reasonably be expected to aid in achievement of the caribou and moose population and harvest objectives.

Vote:
March 9, 2009
Anchorage Alaska

_____
Cliff Judkins, Chairman
Alaska Board of Game

RC162

Whereas fishing, hunting and trapping are important cultural traditions among all Alaskans, and

Whereas protein gathered through the harvest of fish and wildlife populations are vital to the health and welfare of many Alaskans, and

Whereas the opportunity to participate in the tradition of fishing, hunting and trapping is important to many Alaskans and the opportunity to pass those traditions down to succeeding generations is just as important, and

Whereas since Statehood, many lands and waters that were once open to fishing, hunting and trapping are now closed due to statutory or regulatory provisions, and

Whereas remaining areas are constantly subjected to proposals to further restrict or close fishing, hunting or trapping;

Therefore be it resolved that the Alaska Board of Game supports the model legislation passed by several state legislatures across the nation providing for no net loss to these important activities; and

Be it further resolved that the Alaska Board of Game respectfully requests the Alaska Legislature pass such legislation at its earliest convenience.

RC 143

March 6, 2009

The Honorable Sarah Palin
Governor, State of Alaska
PO Box 110001
Juneau, AK 99811-0001

Dear Governor Palin:

The Alaska Board of Game (Board) has supported the wood bison restoration project for many years. We are very pleased with the progress the Alaska Department of Fish and Game (ADF&G) has made in recent years. The success in importing wood bison stock from Elk Island National Park in Canada last summer was a major milestone in the project. Now the state is poised to make this long-standing wildlife conservation initiative a reality and wood bison could be roaming the wilds of Alaska within the next few years.

The Board would like to note that wood bison restoration has the potential to significantly enhance the wildlife resources of our state and provide an additional opportunity for people to harvest game to meet the needs of their families. This is particularly true in areas such as the Yukon Flats where the moose population is very low and local residents have a difficult time harvesting the game they need. We look forward to the day when wood bison can provide an additional source of food and other economic benefits for Alaskans and visitors to our state

The Board is aware of the concerns that have recently been raised by Doyon, Ltd. about the possible restrictions on oil and gas development due to wood bison being on the list of endangered species. We have also received the paper prepared by the ADF&G and Department of Law (DOL) which reviews the concerns raised by Doyon and the state's efforts to establish a special rule for wood bison under the Endangered Species Act (ESA). It seems clear that designating wood bison in Alaska as a "nonessential experimental population" under section 10(j) of the ESA will greatly reduce the regulatory requirements that normally apply to endangered species and provide a mechanism to allow harvest in the future once the herds of wood bison have grown sufficiently. We encourage you to support the ADF&G and DOL effort to prepare this special rule and not foreclose any options for wood bison restoration prematurely. In particular, we would like to see the door kept open to consider restoring wood bison on Minto Flats. That site is primarily composed of state lands within the Minto Flats State Game Refuge and, as such, future harvest regulations would be established by the Board of Game. This would make it easier for the state to develop wood bison management plans and design a harvest management program, and help pave the way for harvest management plans at the other two sites where federal lands and the Federal Subsistence Management Program could be involved.

As we understand the situation, the ADF&G will not release wood bison into the wild until the ESA special rule is in place and has been determined to provide the necessary protections to allow other natural resources to be developed without significant impediments. If the special rule provides sufficient protection for other land uses and resource development, the ADF&G

should proceed with wood bison restoration at all three sites under consideration. This would be consistent with the goals developed during the planning and public involvement process that has been underway for many years.

For the reasons outlined above, the Board is opposed to Senate Concurrent Resolution No. 2. The resolution does not take into account the state's efforts to develop a special rule under the ESA and the relief from regulatory requirements the rule can provide. We appreciate the concerns of Doyon, your office and the legislature about possible restrictions on resource development due to the ESA, but it would be premature to conclude that wood bison restoration is not compatible with other land uses and resource development.

Finally, the Board of Game would like to go on record as supporting funding for a "wood bison stocking and release program" which is included in the FY 2010 budget proposal. We appreciate the administration's support for the wood bison project and acknowledge the importance of balancing this wildlife conservation project with other natural resource development.

Thank you very much for consideration of the Board's recommendations on this matter.

Sincerely,

Cliff Judkins, Chairman
Alaska Board of Game

Cc: Senator Gene Therriault
Senator Lesil McGuire, Co-Chair, Senate Resource Committee
Senator Bill Wielechowski, Co-Chair, Senate Resource Committee