

**Findings of the Alaska Board of Game
2004-152-BOG**

**Authorizing Wolf and Bear Predation Control in Portions
of the Upper Yukon/Tanana Predation Control Area**

November 5, 2004

Purpose and Need

This action of the Board of Game is to authorize a wolf and brown bear predation control program in the northwest Unit 12 and southern Unit 20(E) portions of the Upper Yukon/Tanana Wolf and Brown Bear Predation Control Area (5 AAC 92.125 (X)) in accordance with AS 16.05.783 (Same day airborne hunting), 5 AAC 92.039 (Permit for taking wolves using aircraft), 5 AAC 92.110 (Control of predation by wolves), and 5 AAC 92.115 (Control of predation by bears). This authorization does not currently include all of the Upper Yukon/Tanana Wolf and Brown Bear Predation Control Area.

It is very unlikely that the Intensive Management population and harvest objectives for moose will be achieved in the foreseeable future unless wolf and bear predation on moose is reduced through a predation control program.

Identified Big Game Prey Population and Wolf and Bear Predation Control Area

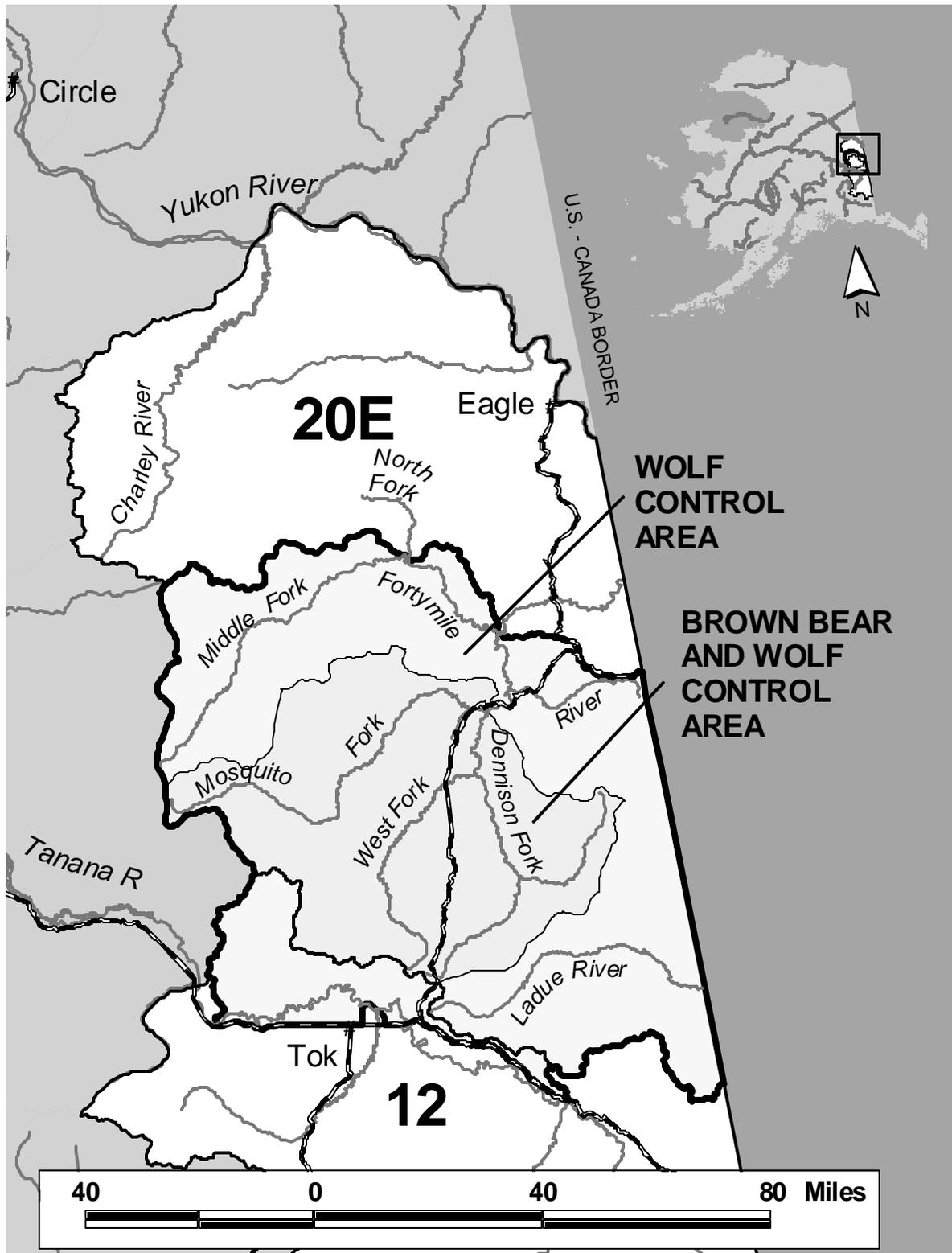
The Upper Yukon/Tanana Wolf and Brown Bear Predation Control Area includes both Units 12 (approximately 10,000 mi²) and 20(E) (approximately 10,680 mi²). The Board has identified moose populations in Unit 12 and that portion of Unit 20(E) drained by the Fortymile and Ladue Rivers (approximately 6,700 mi²) as important for providing high levels of harvest for human consumptive use in accordance with the Intensive Management statute and regulations (AS 16.05.255(e)–(g), 5 AAC 92.106, and 5 AAC 92.108).

This authorization for predation control includes only southern Unit 20(E) and a small adjacent portion of northwestern Unit 12. Specifically, wolf predation control is authorized in the portion of Unit 12 north of the Alaska Highway and west of the Taylor Highway and for that portion of Unit 20(E) within all drainages of the South Fork Fortymile River, the North Fork Fortymile River downstream of its confluence with the Middle Fork Fortymile River, the Middle Fork Fortymile River and Ladue River, encompassing a total of approximately 6600 mi². Brown bear predation control is authorized in a smaller focus area within the larger area authorized for wolf control. Specifically, bear predation control is authorized in the portion of Unit 20(E) within the Fortymile River drainage upstream from and including the Wall Street Creek drainage, encompassing a total of approximately 2700 mi² (Figure 1).

Background

Unit 20(E) encompasses several drainages of the upper Yukon River and includes the communities of Chicken, Boundary, Eagle, Eagle Village and other smaller settlements. Moose in the unit are an important subsistence resource for these communities, for the adjacent communities of Tanacross, Tok, Tetlin, and Northway, and for other residents of Interior and Southcentral Alaska. This unit also provides important hunting opportunities for non-resident hunters and the guiding and transporting industries.

Figure 1. Authorized bear and wolf predation control area.



For more than 20 years, local communities have expressed concern about chronically low moose density due to predation and have proposed various predator control programs to increase moose numbers. Most recently at the February-March 2004 Board of Game 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. The Board of Game subsequently requested the Department to prepare a draft wolf and brown bear predation control implementation plan for the November 2004 Board meeting in Juneau.

Status of the Moose Population

Available evidence suggests the moose population in Unit 20(E) was much higher in the 1960's, but since the late 1970's, it has been at low density. During 1981 – 2003, the department conducted ten moose density estimation surveys, which confirmed chronically low numbers. The 2003 population estimate for the entire unit was 4,000 – 4,800, or 0.5 – 0.6 moose per square mile of suitable moose habitat (8,000 square miles), with a calf:cow ratio of 13:100. The unit-wide population estimate is well below the Intensive Management objective of 8,000 – 10,000, which applies only to the Fortymile and Ladue River drainages.

Habitat quality and availability are likely not important factors limiting the moose population. In the 1960s, Unit 20(E) likely supported a higher density than currently; however, no reliable population estimates were obtained. In southern Unit 20(E), high twinning rates of 52% for adult cows observed during a 1984 research project and 31% observed during spring 2004 surveys indicate habitat in this area is capable of sustaining a higher density. By comparison in Unit 20(A), where habitat is an important limiting factor, twinning rates since 1996 averaged 8%. These rates are some of the lowest documented in North America. In addition, wildfires that usually result in improved habitat conditions are common in Unit 20(E) and fire suppression efforts are limited. Over 1600 square miles of habitat were burned in 2004 alone, which may benefit future moose productivity and recruitment. All indications are that moose habitat is capable of sustaining at least 1.0 – 1.5 moose per square mile in much of the unit.

Trends in Moose Harvest

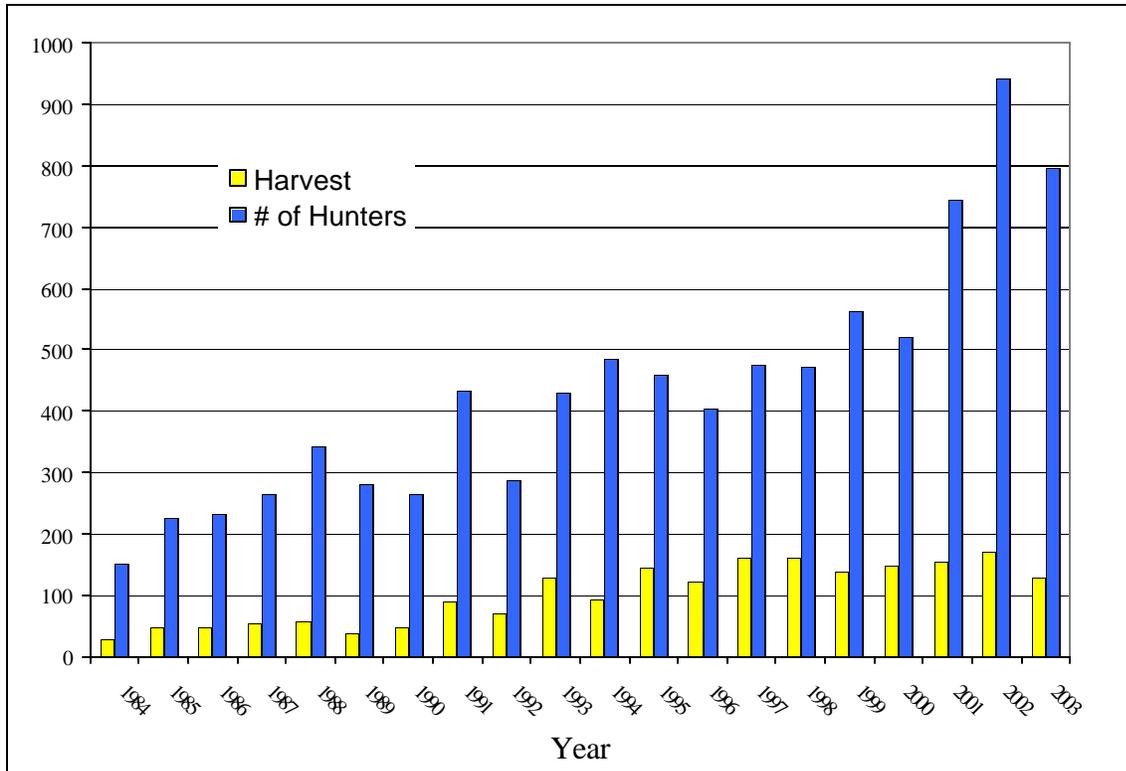
High moose densities in Unit 20(E) supported a long hunting season and a bag limit of one moose of either sex during the 1960s. As declines began in the early 1970s, hunting for cows was closed. The season was shortened in 1973 and closed during 1977 – 1981. A ten-day bulls-only season was held during 1982 – 1990, and lengthened to 15 days, including antler restrictions during 1991 – 2004, with up to an additional 30 days in limited portions of the unit.

Reported moose harvest in Unit 20(E) ranged from means of 120 in the mid-1960s, to 93 in the early 1970s, and to 148 during 1999 – 2003. In the mid 1960s, hunter numbers were relatively low and the moose population was likely higher than today. After the 1960s, hunter numbers increased and the moose declined to a lower density. This required more restrictive hunting regulations to stabilize harvest within sustainable levels. Unit-wide harvest is well below the Intensive Management harvest objective of 500 – 1,000, which applies only to the Fortymile and Ladue River drainages.

The increasing number of hunters is apparent during the past 20 years (Figure 1). Hunting pressure is expected to remain at current levels or continue increasing in the future, while the

moose population will likely remain at a low level. If this occurs, even more restrictive regulations will likely be required, including the possibility of allocation through Tier I or Tier II permits.

Figure 2. Unit 20(E) reported moose harvest and number of hunters, 1984 – 2003.



Status of the wolf population

Since 1980, the early-winter wolf population in Unit 20(E) has been estimated using extrapolation of density estimates derived from data collected during intensive winter aerial surveys, information from interviews with local trappers and trapping records. The early-winter wolf population size estimate for 2002 – 2003 was 245 – 260 wolves. Hunting and trapping harvest over the past 5 years averaged 36 wolves annually in Unit 20(E) and has not exceeded sustainable levels.

Increasing numbers of caribou in the Fortymile herd and the winter migration of the Nelchina herd through the unit during the past 5 years appear to have allowed the wolf population to increase. Wolf densities in the northern and western parts of the unit are expected to further increase as packs sterilized under the Fortymile non-lethal wolf control program are replaced by unsterilized packs.

Status of the brown bear population

The brown bear population size estimate for Unit 20(E) was 475 – 550 in 2002. This was based on extrapolation of a density estimate obtained in central Unit 20(E) 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.

Brown bear hunting seasons are longer and less restrictive than during the 1970s when the bear population was lightly harvested. Harvest varied from a mean of 3 during 1966 – 1981, to 19 during 1982 – 1988, and to 14 during 1989 – 2002. Mean proportion of males in the harvest 1989 – 2002 was 56%. Despite liberal regulations, harvest appears to have had little effect on bear population size.

The Objectives For The Big Game Prey Population or Harvest Established By The Board Of Game Have Not Been Achieved

The current estimate of the moose population size and harvest is well below Intensive Management objectives established in 5 AAC 92.108. These objectives only apply to the Fortymile and Ladue River drainages within Unit 20(E). The population objective is 8,000 – 10,000, while the most recent population estimate for the entire unit is 4,000 – 4,800. The harvest objective is 500 – 1,000, and the reported harvest for the entire unit averaged 148 during 1999 – 2003.

Predation is an Important Cause for the Failure to Achieve the Population and Harvest Objectives Established by the Board of Game

The moose population in Unit 20(E) has been at low density since the late 1970's. The chronically low moose population will likely remain in Low Density Dynamic Equilibrium indefinitely unless predation is reduced. Research conducted during the 1980s in central Unit 20(E) and recent surveys indicate brown bear predation on calves and wolf predation on all sex and age classes throughout the year are important limiting factors. In the research study area, where wolves had been reduced during a predator control program prior to the study, wolves killed 12 – 15 percent of moose calves that were born. Brown bears killed 52 percent and black bears killed 3 percent. Most brown bear predation occurred during the six weeks following calving, while wolf predation on all sex and age classes occurred throughout the year. Mean early winter ratios of 22 calves:100 cows, observed during aerial surveys in 1981–1988, suggest brown bear predation was important. There has been little change in this pattern since 1988, suggesting that brown bear predation remains a major factor in maintaining early winter ratios of 10 – 27 calves:100 cows during 1997 – 2003.

Reduction of Predation Provides a Reasonable Expectation of Achieving the Population and Harvest Objectives

In the areas authorized for predation control, the Mosquito Flats and associated drainages upstream from the village of Chicken, include parts of Unit 20(E) heavily used by moose for calving and wintering. Intensive research conducted in this area during 1981–1988 identified brown bear predation as a major factor in maintaining low moose calf survival during spring, and wolf predation as most responsible for moose mortality during summer, fall and winter. Survey data collected after the research was completed suggests this pattern has not changed. In accordance with the Upper Yukon/Tanana Predator Control Implementation Plan, a 60% reduction of the bear population in a 2700-square mile focus area should increase moose calf survival. This reduction would entail the removal of approximately 81 bears, leaving

approximately 54. Because experience has shown that wolf packs preying upon moose in a focus area will include adjacent areas in their home ranges, reduction of the wolf population to no less than 50 wolves in the focus area and additional adjacent portions of 20(E) (approximately 6000 mi²) and northwestern Unit 12 (approximately 600 mi²) will also be necessary to make progress toward achieving Intensive Management objectives.

The bear focus area is 31% of the land area within Unit 20(E), and 50% of moose harvest in the unit comes from it. The focus area includes the Taylor Highway, 3 major trails, and 5 less-heavily used trails that provide access in the Intensive Management portions of Unit 20(E). This access will improve the likelihood of successful reduction of bear and wolf predation and will also provide opportunity to harvest moose once numbers increase.

Liberal seasons and bag limits for brown bears and wolves in Unit 20(E) have not resulted in harvest levels high enough to reduce predation and improve moose survival. Additional management actions are required.

The Board Establishes and Recommends the Following:

1. The first priority for wolf and brown bear predation control in the Upper Yukon/Tanana Predation Control Area is to conduct control activities where the likelihood of success in increasing moose numbers by reducing predators is high and significant benefits to harvest can be derived. Those areas are the southern portion of Unit 20(E) and a small adjacent area in northwestern Unit 12.
2. Permits shall be issued to members of the public qualified to operate within the constraints of the program, and able to accomplish the objectives of the program as designated by the Department.
3. Methods and means to take wolves may include land and shoot or shooting from aircraft as designated by the Department and in accordance with 5 AAC 92.039. At no time shall the wolf population in this area be reduced to fewer than 50 wolves. After periodic evaluation of the efficacy of the program, the Board of Game may modify in board findings the size or location of the area.
4. The Department will apply the following conditions to brown bear control permits in addition to any other conditions considered necessary:
 - a. Cubs or females with cubs may not be taken. For purposes of this program “cub” is defined according to 5 AAC 92.990 (a)(12).
 - b. A valid Alaska State resident hunting license is required.
 - c. Permits are valid from the date of issuance through June 30 or until the control program is closed by emergency order.
 - d. Bears may be taken with the use of bait or scent lures subject to the following restrictions:
 - i. For purposes of this control program “bait” means any material, including scent lures, that is placed to attract an animal by its sense of smell or taste. Bait does not include those parts of legally taken animals that are not required to be salvaged as edible meat if the parts are not moved from the kill site.

