Who's Eating Alaska's Moose?

An Investigation of Hunter Residency and Moose Harvest Rates in Wolf Control Areas

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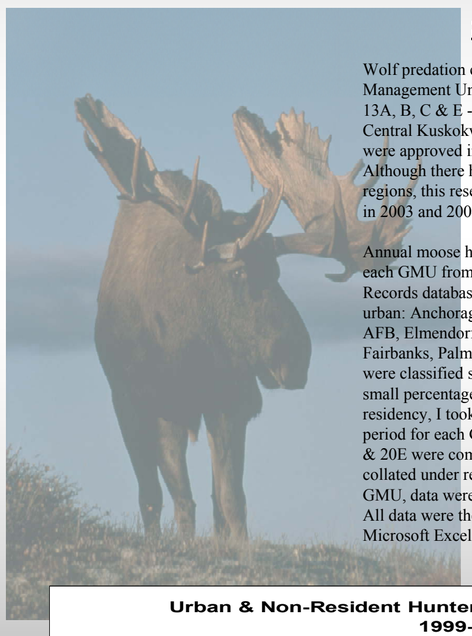
Introduction

The state of Alaska is currently implementing wolf predation control programs on over 50,000 square miles of interior and southcentral Alaska. These programs are designed to reduce wolf numbers by up to 80% in an effort to increase moose populations for hunters. To date, private hunters using aircraft have killed 564 wolves (ADN, 2006). This is in addition to the 1,500-1,700 killed each year through legal hunting and trapping (VanBallenberghe 2004).

These programs are opposed by a majority of Alaskan citizens, as evidenced by two ballot measures banning the use of aircraft to kill wolves (AK Elections, 1996, 2000). A third measure banning the method is expected to appear on the 2008 primary ballot (AFW, 2006). In a letter to former Governor Frank Murkowski, over 100 scientists objected to these programs on the grounds they fail to meet standards proposed by the National Research Council in a report entitled, "Wolves, Bears and Their Prey in Alaska (Klein, et al, 2005).

This study looks at the role that moose harvests play in the predator control controversy. Proponents of aerial wolf killing programs claim predator control is largely for the benefit of rural residents (ADFG, 2004). Opponents insist the programs benefit urban and non-resident sporthunters (DOW, 2006). Further, the state is currently using moose harvest objectives as benchmarks for justifying wolf control in several of the GMUs studied here.

I propose to determine 1) are urban and non-resident hunters harvesting more moose in areas where state-sponsored wolf control is occurring, 2) have moose harvests increased or decreased during the past 15 years, and what factors may have influenced the results, and 3) should harvest objectives be used to justify predation control programs?



Study Area & Methods

Wolf predation control programs are occurring in five Game Management Units (GMU); namely, GMU 12/20E - Tok area, GMU 13A, B, C & E - Glennallen, GMU 16B - Cook Inlet, GMU 19A – Central Kuskokwim and GMU 19D - McGrath. GMUs 19D and 13 were approved in 2003. All others were approved in 2004. Although there have been recent expansions in some of these regions, this research focuses on the original perimeters established in 2003 and 2004.

Annual moose harvest records and residency data were queried for each GMU from the Alaska Department of Fish and Game Harvest Records database (ADFG, 2006). I classified the following areas as urban: Anchorage, Eagle River, Chugiak, Peters Creek, Eielson AFB, Elmendorf, Ft. Richardson, Ft. Wainwright, Girdwood, Fairbanks, Palmer, Wasilla, Juneau, and North Pole. Non-residents were classified separately. All others were considered rural. A small percentage was unknown and not included. For hunter residency, I took the average annual percentage over a six-year period for each GMU. (Figure 1.) GMUs 13A, B, C, E and GMU 12 & 20E were combined on an annual basis, as these areas are also collated under regulation. To measure historic moose harvests by GMU, data were queried for the period 1990 to 2005 (Figures 2-4). All data were then compiled and plotted on bar and line graphs using Microsoft Excel.

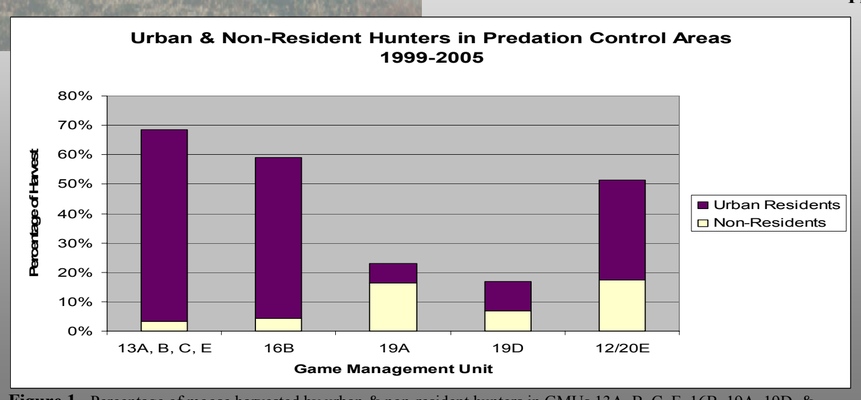


Figure 1. Percentage of moose harvested by urban & non-resident hunters in GMUs 13A, B, C, E, 16B, 19A, 19D, & 12/20E for the period 1999-2005.

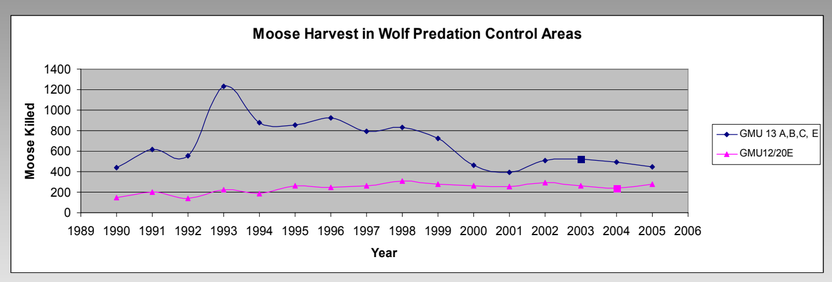


Figure 2. Annual moose harvests in GMUs 13 & 12/20E from 1990-2005. Large squares on each line represent start of wolf control.

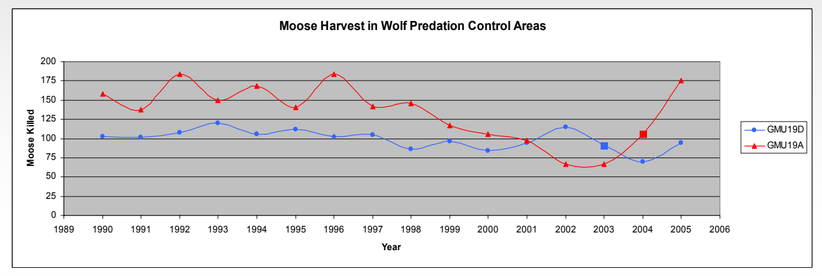


Figure 3. Annual moose harvests in GMUs 19D & A from 1990-2005. Large squares on each line represent start of wolf control

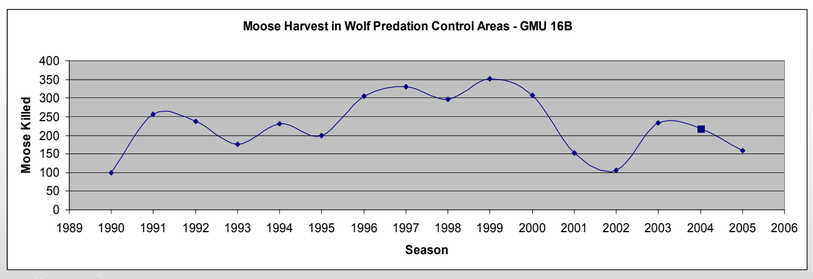


Figure 4. Annual moose harvests in GMU 16B from 1990-2005. Large square on line represents start of wolf control.

Results

GMUs 13 and 16B reflected the highest average percentage of urban & non-resident successful hunters with 68% and 59% respectively. GMU 12/20E was at 51%. GMUs 19A and D are rural regions, and experienced the lowest percentages at 23% and 17% respectively. (Figure 1.)

Following a sharp increase in 1993, moose harvests in GMU 13 have declined by nearly one-third to just over 400 since the early nineties. GMU 12/20E shows a relatively stable harvest record, with very slight decreases until more recently. (Figure 2.)

GMU 19D harvests have steadily decreased over 12 years, and then show more notable decreases and increases beginning in 2002. Moose harvests in GMU 19A appear to follow cycles of highs and lows throughout the mid-nineties, and then drop considerably after 1996. Harvests continue to decline until 2003 when they sharply increase. (Figure 3.)

Harvests in GMU 16B appear to steadily increase until 1999, when they experience a sharp drop-off by 2002 to 1990 levels. After a brief increase, harvests declined again after 2003. (Figure 4.)

Discussion

Based on harvest records over the past 6 years, the majority of successful hunters in 3 of the 5 wolf control areas are urban and non-resident. A contributing factor to this for GMUs 13 and 12/20E could be their close proximity to the road system and heavily populated areas of Anchorage, Fairbanks or Mat-Su Valley. However, nearly the same high percentages were found in GMU 16B, which is only accessible by air. As expected, rural regions of GMU 19A and 19D experienced fewer urban and non-resident successful hunters. At current competition levels in at least 3 of the 5 areas of wolf control, it should not be assumed that any increase in prey population would necessarily benefit rural residents. Perhaps a rural preference for subsistence during periods of low prey availability would be helpful in resolving this issue for residents more dependent upon wild game. Both urban and rural residents need to recognize, however, that Alaska's northern ecosystems cannot provide a constant supply of ungulates (NRC, 1997).

In GMUs 13 and 16B, harvest numbers have declined since implementation of wolf control. GMU 19A shows a sharp increase, while 12/20E shows a slight increase. GMU 19D declined and then increased after wolf control. The National Research Council, however, suggests that wolf predation control programs must be conducted intensively for at least four years before any results are calculated. (NRC, 1997).

In some GMUs the number of hunters in the field may have impacted harvest success. An abrupt spike in GMU 13 1993 harvests coincided with an equally sharp increase of hunters in the field that same year. In GMU 16B, hunter and harvest numbers peaked in 1999, afterwhich both hunter numbers and success decreased until 2002. In GMU 19A, a more accurate harvest reporting mechanism was put into place (CKMMPC 2004) which likely tripled hunters and doubled harvests in 2005.

Harvest reports have confounding variables such as number and proficiency of hunters in the field, weather conditions and reporting mechanisms. These variables make it difficult to determine if harvests are indicators of increased game populations, or if wolf control has impacted hunter success. Additionally, harvest objectives are calculated by first setting population objectives. Current population objectives are based on historic highs which are likely unattainable (VanBallenberghe 2004). Therefore, I conclude that harvest objectives should not be used as a basis for conducting predator control.

Alaska is one of the few remaining places in America where intact ecosystems boasting healthy and natural populations of wildlife can be found. It would be prudent for policy makers to understand the limitations of using unsustainable and unattainable harvest and population objectives as justification for conducting extreme measures such as aerial wolf control to inflate ungulate populations.

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