

PLEASE READ CAREFULLY
REVIEWER LETTER

DEAR REVIEWER:

February 2006

The Alaska Board of Game will consider the attached supplemental book of regulatory proposals at its **Spring 2006** meeting, to be held **March 10-20**, at the Princess Riverside Lodge in Fairbanks, Alaska. The proposals generally concern changes to the regulations governing hunting and the use of game, deferred proposals from previous board meetings, and predator control implementation plans that were adopted by the Board of Game as emergency regulations on January 25, 2006.

The proposals are presented as brief statements summarizing the intended regulatory changes. In cases where confusion might arise or where the regulation is complex, proposed changes are also indicated in legal format. In this format, bolded and underlined words are **additions** to the regulation text, and capitalized words or letters in square brackets [XXXX] are deletions from the regulation text.

You are encouraged to read all proposals presented in this book. Some regulations have statewide application and some regulations may affect other regions of the state. Also, some proposals recommend changes to multiple areas or regions.

Before taking action on these proposed changes to the regulations, the board would like your written comments and/or oral testimony on any effects the proposed changes would have on your activities.

After reviewing the proposals, please send written comments to:

ATTN: BOG COMMENTS
Alaska Department of Fish and Game
Boards Support Section
P.O. Box 25526
Juneau, AK 99802-5526
Fax: 907-465-6094

Public comment, in combination with Advisory Committee comments and ADF&G staff presentations, provide the Board of Game with useful biological and socioeconomic data to form decisions. Comments may be submitted at any time until the public testimony period for that proposal and/or its subject matter is closed at the meeting and the board begins deliberations. As a practical matter, you are encouraged to mail or fax your written comments to the above Juneau address no later than **5:00 p.m. on February 24, 2006**, to ensure inclusion in the board workbook. All comments received after that time will be presented to board members at the time of the meeting, but may not be printed in the board workbook. Written comments will also be accepted during the board meeting and public testimony during the public testimony portion of the meeting is always appreciated. **Written comments become public documents.**

When providing written comments on the proposals in this proposal book, please consider the following simple tips to help ensure board members and the public more fully understand recommendations to the board:

Timely Submission: Submit written comments by fax or mail at least two weeks prior to the meeting. Comments received at least two weeks prior to the meeting are printed and cross referenced in the board members' workbooks. Written comments received after the two-week period will be included in the workbooks as "late comments" and are not cross referenced. Materials received during the meeting also are not cross referenced. If you provide written comments during a board meeting, submit 20 copies to Board Support Section staff, who will distribute your written comments to board members. If including graphs or charts, please indicate the source.

List the Proposal Number: Written comments should indicate the proposal number(s) to which the comments apply. Written comments should specifically state “support” or “opposition” to the proposal(s). This will help ensure written comments are correctly noted for the board members. If the comments support a modification in the proposal, please indicate “support as amended” and provide a preferred amendment in writing.

Do Not Use Separate Pages When Commenting on Separate Proposals: If making comments on more than one proposal, please do not use separate pieces of paper. Simply begin the next set of written comments by listing the next proposal number.

Provide an Explanation: Please briefly explain why you are in support or opposition of the proposal. Board actions are based on a complete review of the facts involved in each proposal, not a mere calculation of comments for or against a proposal. Advisory committees and other groups also need to explain the rationale behind recommendations. Minority viewpoints from an advisory committee should be noted in advisory committee minutes along with the majority recommendation. The board benefits greatly from understanding the pro and cons of each issue. A brief description consisting of a couple of sentences is sufficient.

Write Clearly: Comments will be photocopied so please use 8 1/2" x 11" paper and leave reasonable margins on all sides, allowing for hole punches. Whether typed or handwritten, use dark ink and write legibly.

Use the Correct Address or Fax Number: Mail written comments to Board of Game Comments, ADF&G, P.O. Box 25526, Juneau, AK 99802-5526; or fax them to 907-465-6094; or deliver them to a Regional Boards Support Office.

Pertinent policies and findings, proposals, written comment deadlines, meeting calendars and notices for the Board of Game meetings are posted on the Board Support website at <http://www.boards.adfg.state.ak.us/>.

A tentative agenda for the March 2006 Board of Game meeting is shown on page v. A roadmap detailing the tentative order in which proposals will be considered will be available in March 2006 at <http://www.boards.adfg.state.ak.us/>.

Updated Status of the Meeting: After the board meeting begins, a recorded telephone message will provide current updates on the board's agenda and schedule. Dial (800) 764-8901 (in Juneau, call 465-8901).

Additional Accommodations: Persons with a disability needing special accommodations in order to comment on the proposed regulations should contact the Boards Support Section at (907) 465-4110 no later than March 3, 2006 to make any necessary arrangements.

Kristy Tibbles, Executive Director
Alaska Board of Game
Alaska Department of Fish and Game
(907) 465-4110

NOTICE OF PROPOSED CHANGES IN THE
REGULATIONS OF THE ALASKA BOARD OF GAME

The Alaska Board of Game proposes to adopt regulation changes in Title 5 of the Alaska Administrative Code, dealing with the use and taking of game. Regulations subject to board action are in 5 AAC 84, 85, 92, and 99. The subject matter areas to be addressed concern Game Management Units 6, 7, 9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, 26(B) and 26(C), and statewide provisions, including the following:

- A. **TRAPPING SEASONS AND BAG LIMITS:** Bag and possession limits and seasons for furbearers including: beaver, fox, wolverine, lynx, pica, marten, wolf, black bear and brown bear in units 12, 19, 20, 21, 24, 25, 26(B) and 26(C), and definition of furbearer.
- B. **HUNTING SEASONS AND BAG LIMITS:** Bag and possession limits and seasons for beaver, black bear, brown bear, deer, wolf, caribou, dall sheep, moose, bison, small game, and fur animals in units 9, 11, 12, 13, 14, 16, 17, 19, 20, 21, 23, 24, 25, 26(B) and 26(C), and reauthorization of antlerless moose hunts in all units statewide.
- C. **LICENSES, HARVEST TICKETS, HARVEST REPORTS, TAGS, FEES, AND PERMITS:** Licenses, harvest tickets, harvest reports, tags, fees and permits in Units 12, 19, 20, 21, 24, 25, 26(B) and 26(C), including, but not limited to community subsistence harvest hunt areas, discretionary and required permit hunt conditions and procedures, permits for hunting black bear with the use of scent lures, hunter education and orientation requirements including Unit 23, harvest moose permits for bear hunters in intensive management areas, taking of game by proxy and reauthorization of brown bear tag fee exemptions in all units statewide.
- D. **HUNTING AND TRAPPING METHODS AND MEANS:** Hunting and trapping methods and means in units 12, 19, 20, 21, 24, 25, 26(B) and 26(C) including, but not limited to use of firearms, prohibiting lead shot for bird hunting including unit 26(A), same day airborne hunting for brown bear, same day airborne taking of black bear including units 6, 7, 9, 11-19, allowing the use of snow machines for trapping, allowing the use of motorized vehicles and the use of bait for taking of wolves including units 14 and 16, and unlawful methods of taking furbearers including unit 22.
- E. **INTENSIVE MANAGEMENT:** Population and harvest objectives, control of predation by wolves and bears, and predation control implementation plans for units 12, 13, 14, 16(A), 16(B), 19, 20, 21, 24, 25, 26(B) and 26(C),
- F. **POSSESSION, TRANSPORTATION, AND USE OF GAME:** Possession, transportation, and the use of game in units 12, 19, 20, 21, 24, 25, 26(B) and 26(C) including, but not limited to the purchase and sale of game, sealing of bear skins and skulls, and salvage of game meat, furs, and hides including unit 23.
- G. **RESTRICTED AREAS AND GAME MANAGEMENT UNITS:** Areas closed to hunting, areas closed to trapping, closures and restrictions in state game refuges, management areas, controlled use areas in Units 12, 19, 20, 21, 23, 24, 25, 26(B) and 26(C), and game management boundaries for Unit 19.

You may comment on the proposed regulations, including the potential costs to private persons of complying with the proposed changes, by submitting written comments to the Alaska Board of Game, Boards Support Section at P.O. Box 25526, Juneau, AK 99802-5526. Comments may also be submitted by fax to (907) 465-6094. Written comments received are public records and are subject to public inspection. Written comments may be submitted to the Board of Game any time before the proposal is taken up by the board in deliberations. As a practical matter, written comments must be received by the Boards Support Section office, at the above address or fax number, by 5:00 p.m. February 24, 2006 to ensure inclusion in the board workbooks.

Oral or written comments may be submitted at a hearing to be held at the board meeting. The public hearing portion for the meeting will begin immediately after staff reports and continue until everyone has been given the opportunity to be heard. The board will take oral testimony only from those who register before the cut-off time announced by the board chair. The length of oral statements may be limited to three to five minutes, or less. Additional public hearings may be held throughout the meeting just before consideration and adoption of proposed changes in the regulations. An agenda will be posted daily during the meeting.

TENTATIVE MEETING SCHEDULE
Princess Riverside Lodge, Fairbanks, AK 99701
March 10 - March 20, 2006
Interior Region Topics

Any changes to meeting locations, dates or times, or rescheduling of topics or subject matter will be announced by news release. Please watch for these announcements in the news media or call (907) 465-4110.

Individuals with disabilities, who may need special accommodations in order to participate in this process, should contact Kristy Tibbles at (907) 465-4110 no later than March 3, 2006 to ensure that any necessary accommodations can be provided.

For a copy of the proposed regulation changes, contact the Boards Support Section at the above address, or visit the website at: <http://www.boards.adfg.state.ak.us>. Please be aware that a supplemental proposal book in addition to the regular proposal book, has been published and posted on the above mentioned website.

Anyone interested in or affected by resident (subsistence and general) hunting or trapping and nonresident hunting or trapping regulations is hereby informed that, by publishing this legal notice the Board of Game may consider any or all of the subject areas covered by this notice. **THE BOARD IS NOT LIMITED BY THE SPECIFIC LANGUAGE OR CONFINES OF THE ACTUAL PROPOSALS THAT HAVE BEEN SUBMITTED BY THE PUBLIC OR STAFF.** Pursuant to AS 44.62.200, the board may review the full range of activities appropriate to any of the subjects listed in this notice. The board may make changes to the resident and nonresident hunting and trapping regulations as may be required to ensure the subsistence priority in AS 16.05.258.

After the public comment period ends, the Alaska Board of Game may adopt these or other provisions dealing with the same subject, without further notice, or reject, supplement, or decide to take no action on them. The language of the final regulations may be different from that of the proposed regulations. **YOU SHOULD COMMENT DURING THE TIME ALLOWED IF YOUR INTEREST COULD BE AFFECTED.**

Statutory Authority: AS 16.05.255 – AS 16.30.030

Statutes Being Implemented, Interpreted, or Made Specific: AS 16.05.255 – AS 16.30.030

Fiscal Information: The proposed regulation changes are not expected to require an increased appropriation.

DATE: February 6, 2006



Kristy Tibbles, Executive Director
Alaska Board of Game

~DRAFT~
**ALASKA BOARD OF GAME
INTERIOR REGION
March 10 – 20, 2006
Princess Riverside Lodge, Fairbanks, Alaska
TENTATIVE AGENDA**

NOTE: This Tentative Agenda is subject to change throughout the course of the meeting.

This Tentative Agenda is provided to give a general idea of the board's anticipated schedule. The board will attempt to hold to this schedule; however, the board is not constrained by this Tentative Agenda. Persons wishing to testify must sign-up by the deadline. Public testimony will continue until those present at the meeting are heard; the board will continue working through its agenda immediately upon conclusion of public testimony. The following time blocks are only an estimate. Updated agendas will be posted in the meeting room, or call 1-800-764-8901 for a recorded message on daily progression through the meeting.

Friday, March 10, 2006 8:30 AM

OPENING BUSINESS

Call to Order; Introductions of Board Members and Staff
Board Member Ethics Disclosures
Purpose of Meeting (overview)

STAFF AND OTHER REPORTS

PUBLIC AND ADVISORY COMMITTEE ORAL TESTIMONY: Oral testimony will begin immediately upon conclusion of staff reports.

Saturday, March 11, 2006, 8:30 AM

Continue PUBLIC AND ADVISORY COMMITTEE ORAL TESTIMONY

DEADLINE FOR SIGN-UP TO TESTIFY will be announced at the meeting.

Public testimony will continue until persons who have signed up before the deadline, and who are present when called by the Chair to testify, are heard.

Sunday, March 12 and Monday, March 13, 2006, 8:30 AM

Continue/Conclude PUBLIC AND ADVISORY COMMITTEE ORAL TESTIMONY
BOARD DELIBERATIONS (Upon conclusion of public testimony.)

Tuesday, March 14, 2006 through Monday, March 20, 2006

BOARD DELIBERATIONS

MISCELLANEOUS BUSINESS, including Petitions, Findings, Resolutions, Letters, Other
ADJOURN

SPECIAL NOTES

A. This agenda is TENTATIVE and subject to change during the meeting. A list of staff reports and a roadmap will be available at the meeting. Scheduled updates will be available on the board's recorded message phone. Phone Number: 1-800-764-8901; in Juneau call 465-8901.

B. Advisory Committee representatives may present their reports either at the beginning or end of the "Oral Public Testimony." The committee representative should notify the board secretary whether they prefer to present their report at the beginning or end of public testimony.

C. The State of Alaska Department of Fish and Game complies with Title II of the Americans with Disabilities Act of 1990 (ADA). Individuals with disabilities who may need auxiliary aids, services, and/or special modifications to participate in this hearing and public meeting should contact 465-4110 no later than February 27, 2006 to make any necessary arrangements.

PROPOSAL 151 - 5 AAC 84.270. Furbearer trapping, 5 AAC 92.990(21). Definitions, 5 AAC 92.080. Unlawful methods of taking game; exceptions and 5 AAC 92.095. Unlawful methods of taking furbearers; exceptions. Amend these regulations as follows:

...not use a trap or a snare to take big game, fur animals, waterfowl, cranes or snipe. However, **you may take black bear in Units 21 and 24 using snares of 3/32 cable or larger or with foot hold snare and traps with a jaw spread of seven and one half inches or larger. Trap sites must be clearly marked with a sign indicating the hunters' license number.** Also you may take grouse, hare, ptarmigan or unclassified game with a snare.

Unit 21 open trapping season March 1 to June 10, three bear limit.

Unit 24 open trapping season March 1 to June 10, three bear limit.

ISSUE: A decline in the Units 21 and 24 moose population by 20 to 30 percent and the local caribou population by nearly 60 percent in the last five years due to predation by black bears and wolves.

WHAT WILL HAPPEN IF NOTHING IS DONE? A continued decline in moose and caribou numbers by unregulated black bear populations until even subsistence user needs cannot be met. When it is all but too late, crisis management will kick in which benefits no one.

WILL THE QUALITY OF THE RESOURCE HARVESTED OR PRODUCTS PRODUCED BE IMPROVED? Yes, in a three year study conducted by the U.S. Fish and Wildlife Service on the Koyukuk and Nowitna National Wildlife Refuges, and other studies in Alaska, it shows that 45 percent of moose calves are taken by bears, especially black bears. We appreciate what the state has done in the McGrath area with black bears to help increase the moose herd. However the people in Units 21 and 24 have demonstrated a willingness to be personally involved in predator management as demonstrated in the increase of wolf harvest over the last three years from an average of 50 to 60 wolves annually in Unit 21D to more than 130 wolves each of the last three years. We can reduce the number of black bears without the expenditure of state funds, all we need are the tools with which to do it.

WHO IS LIKELY TO BENEFIT? All hunters who would like to use other methods and means to harvest black bears. The moose resource. People who depend on moose and caribou for food.

WHO IS LIKELY TO SUFFER? People who fear that any liberalization of regulations will cause an overharvest of black bears.

OTHER SOLUTIONS CONSIDERED? None.

PROPOSED BY: Middle Yukon Advisory Committee (HQ-06S-G-085)

PROPOSAL 152 - 5 AAC 92.069. Units 21(D) and 24, Koyukuk Controlled Use Area, and Unit 23 moose drawing permits for nonresidents. Add the following permitting areas in Unit 21D as follows:

- 1) Kaiyuh Area including the upper Innoko River down the Yukon River to the mouth of 22-mile slough.
- 2) Kaiyuh Area from the mouth of 22-mile slough to Honeymoon.

ISSUE: Excessive hunting pressure upon Unit 21D due to permitting in Unit 24 and Unit 21D in the Koyukuk Control Use Area.

WHAT WILL HAPPEN IF NOTHING IS DONE? Moose will continue to decline in Unit 21D outside the existing permitting area in Unit 21D and subsistence needs will not be met.

WILL THE QUALITY OF THE RESOURCE HARVESTED OR PRODUCTS PRODUCED BE IMPROVED? Yes, by distributing hunting pressure according to resource population a better quality of hunt results and illegal guiding without permits would be regulated.

WHO IS LIKELY TO BENEFIT? Moose population in Unit 21D and hunter success rates in general.

WHO IS LIKELY TO SUFFER? Illegal guiding operations outside the permit area.

OTHER SOLUTIONS CONSIDERED? Adding a check station and making three more permitting areas—rejected because of no funding and it would eliminate existing transports and guides.

PROPOSED BY: Middle Yukon Advisory Committee (HQ-06S-G-082)

PROPOSAL 153 - 5 AAC 92.069. Units 21(D) and 24, Koyukuk Controlled Use Area, and Unit 23 moose drawing permits for nonresidents. Amend the regulation for Unit 21D as follows:

Allocate 50 percent of nonlocal permits to existing guides and transporters.

ISSUE: If permitting is extended (see proposal for Kaiyuh areas one and two) allocation for existing guides and transporters will suffer.

WHAT WILL HAPPEN IF NOTHING IS DONE? Existing guides and transporters will be eliminated.

WILL THE QUALITY OF THE RESOURCE HARVESTED OR PRODUCTS PRODUCED BE IMPROVED? Yes, it maintains existing hunting business.

WHO IS LIKELY TO BENEFIT? Guides and transporters.

WHO IS LIKELY TO SUFFER? Nonlocals that are unguided or use illegal guides.

OTHER SOLUTIONS CONSIDERED? Various other percentages but 50 percent has worked, others have not.

PROPOSED BY: Middle Yukon Advisory Committee (HQ-06S-G-084)

PROPOSAL 154 - 5 AAC 92.080. Unlawful methods of taking game; exceptions. Amend the regulation for Unit 21D as follows:

It is legal to use a moving snowmachine in pursuit and trapping of wolves.

ISSUE: Trapping wolves by means of a moving snowmachine during trapping season.

WHAT WILL HAPPEN IF NOTHING IS DONE? Trappers will be less successful in harvesting wolves as part of the catch.

WILL THE QUALITY OF THE RESOURCE HARVESTED OR PRODUCTS PRODUCED BE IMPROVED? Yes it improves the quality of skins taken during the time when fur is prime.

WHO IS LIKELY TO BENEFIT? Trappers.

WHO IS LIKELY TO SUFFER? Wolves.

OTHER SOLUTIONS CONSIDERED? None.

PROPOSED BY: Middle Yukon Advisory Committee (HQ-06S-G-086)

PROPOSAL 155 - 5 AAC 85.045(19). Hunting seasons and bag limits for moose. Amend the regulation as follows:

Moose season in Unit 21D outside existing permit area August 20 to August 31; September 5 to September 25, one bull only.

ISSUE: Moose hunting season in Unit 21D outside the existing KRCU area where permitting exists and restriction of satisfying subsistence needs.

WHAT WILL HAPPEN IF NOTHING IS DONE? Subsistence users will continue not being satisfied at the expense of nonsubsistence users.

WILL THE QUALITY OF THE RESOURCE HARVESTED OR PRODUCTS PRODUCED BE IMPROVED? Yes, by eliminating the December season and shifting it to August, bulls are in better condition.

WHO IS LIKELY TO BENEFIT? Subsistence users.

WHO IS LIKELY TO SUFFER? Illegal and legal horn hunters in December.

OTHER SOLUTIONS CONSIDERED? Extend the moose season later but quality of meat decreases.

PROPOSED BY: Middle Yukon Advisory Committee (HQ-06S-G-083)

**PROPOSAL 156 - 5 AAC 92.540. Controlled use areas and
5 AAC 92.050. Required permit hunt conditions and procedures.**

Additional hunting regulations are necessary to address the use of heavy off-highway vehicles to protect game habitat and protect moose bull/cow ratios.

We would like the board to consider one or more of the following solutions:

1. Establish a Controlled Use Area within the Mosquito Fork of the Fortymile River upstream from Kechumstuck Creek which is closed to the use of motorized land vehicles greater than 1,500 lbs. for hunting, including the transportation of hunters, their hunting gear, and/or parts of game, except on the Kechumstuk Trail and on that portion of the Mitchell's Ranch Trail east of the Mosquito Fork. (PREFERRED ACTION)

2. Add a hunt condition to the RM865 and RC860 registration permit reading, "Hunter may not use a motorized land vehicle greater than 1,500 lbs. for hunting, including the transportation of hunters, their hunting gear, and/or parts of game within the Mosquito Fork of the Fortymile River drainage upstream from Kechumstuck Creek, except on the Kechumstuk Trail and on that portion of the Mitchell's Ranch Trail east of the Mosquito Fork. (ALTERNATIVE ACTION)

ISSUE: During the 2005 moose season (Sept. 8-17), a staggering amount of fragile wetlands was torn up in Mosquito Flats (on DNR and BLM land) in southern Unit 20E. A single Off Highway Vehicle (OHV), called a SUSV (Small Unit Support Vehicle), is responsible for all of this destruction. The SUSV is a fully tracked, articulated vehicle designed to support infantry platoons and similar sized units during the conduct of operations in arctic and alpine conditions. The SUSV can be used in all types of terrain, such as trackless terrain, rock, boulders, bog, marsh and water.

In recent years many of these vehicles have been surplused by the military. More and more of OHVs of this size are showing up in Unit 20E each year. Until this year, they have primarily stayed on established trails, but in one season, this single OHV caused more destruction of habitat in Mosquito Flats than 50 years of ATV and OHV travel in this area.

The fires of 2004 burned vast areas in Mosquito Flats, revitalizing this habitat for moose. However, the underlying permafrost has begun to melt in much of this area, creating an even more fragile vegetative mat. This area has potential to provide great moose habitat for years to come, but this will not happen if the OHVs destroy the mat before its potential is realized.

In addition to habitat destruction, the amazing capabilities of these vehicles have dramatically improved the effectiveness of the hunters in this area. Smaller OHVs such as Argos and ATVs have limited load carrying capacities and limit abilities to travel in Mosquito Flats. This has resulted in a self limiting situation and kept moose harvest at sustainable levels, but with the ability of these SUSVs to travel anywhere, these vehicles are extremely effective at accessing core moose areas and hauling multiple (three to four or more) moose out in a single trip.

Using this SUSV off road was a violation of both Department of Natural Resources and BLM regulations, because it is a vehicle weighing over 1,500 lbs. While both the DNR and BLM have regulations restricting the off road use of this type/weight of vehicle (weight of greater than 1,500 pounds) on their lands, neither agency has the enforcement capability to enforce these regulations and the state troopers evidently do not have the authority to enforce this regulation on

behalf of either agency and can not enforce these restrictions under enforcement authority associated with current hunting regulations.

WHAT WILL HAPPEN IF NOTHING IS DONE? Left unchecked, we feel extensive destruction of this important game habitat area is inevitable. This is an important wintering and calving area for moose, and without proper management of this habitat, we feel it will have a significant negative impact on the Moose population, not to mention other game populations. This is the only large wetland area in Unit 20E, representing less than five percent of the total land area in Unit 20E. The majority of the other greater than 95 percent of Unit 20E is ridges and dry valleys. There is no good reason to allow this currently pristine wetland area to be torn up when they can hunt all the way around Mosquito Flats without destruction of wetlands.

If more of these vehicles follow the precedent set by the SUSV this past season, we are confident that excessive harvest will occur and will result in a significant decline in the bull/cow ratio to levels below management objectives. This area is a core area from which numerous moose disperse, feeding a large area, clear to the Taylor Highway, with a predictable harvestable surplus of moose.

WILL THE QUALITY OF THE RESOURCE HARVESTED OR PRODUCTS PRODUCED BE IMPROVED? Yes, this proposal will provide for proper conservation of both game habitat and ungulate populations, by protecting habitat from significant degradation and protecting this core moose population, which will allow for an overall more stable and productive moose population.

WHO IS LIKELY TO BENEFIT? All hunters.

WHO IS LIKELY TO SUFFER? People that illegally use OHVs greater than 1,500 lbs to hunt within Mosquito Flats.

OTHER SOLUTIONS CONSIDERED?

PROPOSED BY: Upper Tanana/Fortymile Advisory Committee (HQ-06S-G-095)

PROPOSAL 157 - 5 AAC 92.125. Wolf Predation Control Implementation Plan and 5 AAC 92.115. Control of predation by bears. Amend these regulations as follows:

The Upper Tanana/Fortymile Advisory Committee recommends that additional measures be taken to increase the success of the grizzly bear portion of the predator control program in Unit 20E and Unit 12.

First, the sale of bear hides taken in the bear control area must be legalized. This will provide the needed incentive to get permittees to put in the effort needed to take the number of bears necessary to meet the objectives of the program. There must be an incentive for permittees to kill bears or the objectives will not be met. Hunters lose interest in hunting bears once they have taken one or two bears and realize how expensive it is to have them tanned and/or mounted. The bear then becomes a liability to them because of this expense associated with salvaging the hide. They need to have a monetary value associated with their bear hide, just as a trapper or wolf hunter has with a furbearer or wolf hide. Fortymile bears are relatively small in comparison to coastal grizzlies, even old mature bears. In addition to cost associated with caring for the hide, the expense of going into the field and hunting is significant. In

order to harvest enough bears to turn moose calf survival around these bears are going to need to have a dollar value to the hunter.

To qualify their bear hide for sale hunters would be required to:

1. Seal bear hides within Unit 20E or at the Tok department office, before they may be removed from the unit, unless being transported to the Tok department office.
2. Give GPS coordinates of kill site
3. Sign an affidavit that the bear was harvested legally within Unit 20E

Regulation would require the department to:

1. Seal the bear hide and skull with color coded seals which would indicate hide and/or skull can be sold
2. Sunset regulation to allow for evaluation and each year the regulation must be reinstated if allowed to continue.

Second, help make the bears more accessible to the hunters. The best method for this is to reinstate same-day-airborne hunting. Unit 20E is huge, mostly remote, with much timber and brush for habitat. It is difficult to access by any mode of transportation once off the Steese or Taylor highways. There are few landing strips or other access points within the area. Hunters need every advantage possible to successfully harvest bears in this difficult hunting environment. Same-day-airborne would help accomplish this. One fourth or one half mile distance from the airplane could be stipulated to prevent landing and shooting. The intent is to be able to stalk and take a bear or hunt a bait station the same day as one flies.

Third, retain the baiting season for grizzly bears. While this is likely not adequate on its own, it will be important to retain this tool to allow hunters the means to attract and take bears.

Fourth, baiters need to use meat to attract grizzly bears. Experience from this past season clearly shows that traditional black bear baits are inadequate to attract grizzly bears. Inedible game meat, such as road kills or meat deemed inedible by the department, should be allowed to be used by the baiter. Currently inedible game meat can be used for trapping with a permit from the department, we would like to see this allowed for bear baiting in the control area, for both black and grizzly bears.

Fifth, black bears should be added to the control program as there is concern that black bears could significantly increase as grizzly bears are removed and result in an increase predation on moose calves.

Sixth, nonresidents should be allowed to participate in the program. A guide will still be required.

Finally, we feel the bear control area should be expanded to include all of Unit 20E, excluding the Yukon Charley Preserve, and all of Unit 12 north of the Alaska Highway. We feel this is important to work toward intensive management objectives in these areas.

This AC feels that if adequate incentive and tools are not provided for taking grizzly bears in this plan, that the program should be reduced to a wolf control program only. The primary incentive and tools that are critical to the success of this program include the first three items listed above, including sale of hides, same-day-airborne and baiting.

ISSUE: The current Unit 20E and Unit 12 predator control program needs to be modified. The wolf control portion was successful in removing a substantial portion of the wolf population in the wolf control area and has resulted in an increase in survival of moose. And we feel this year will be even more successful as the permittees have increased time to meet the objectives of 75 percent removal of wolves in the entire area. However, we feel additional area needs to be added to accommodate the needs of the moose populations to make progress toward intensive management objectives.

The grizzly bear portion of the program failed to meet its goals, with only two grizzly bears taken by permittees. While baiting is an improvement in the tools available to increase take of grizzly bears, it does not provide adequate incentive or means of access to result in an adequate increased in grizzly bear harvest to a level that will meet the management objective of the current control program. Additional incentive and means of access are needed for the program to be a success.

WHAT WILL HAPPEN IF NOTHING IS DONE? The goals and objectives of the Unit 20E and Unit 12 Predator Control Program will not be met and progress toward the intensive management objectives for this area will not be met.

WILL THE QUALITY OF THE RESOURCE HARVESTED OR PRODUCTS PRODUCED BE IMPROVED? Yes, although the proposal calls for a temporary reduction in bear numbers, ultimately, when moose numbers rebound, bear harvest can be reduced allowing them to increase to higher numbers than present because of a larger prey base.

WHO IS LIKELY TO BENEFIT? Any person who may choose to sell a bear. Individuals who otherwise would not be able to acquire an Alaskan bear trophy, such as folks who can not afford a guided hunt, handicapped people who are not physically able to hunt for themselves, business owners wanting to promote their products through visual wildlife displays that in turn promote hunting by exposing and equipping thousands of new people to the sport of hunting which in turn pays for wildlife personnel, conservation, habitat and a host of other positive benefits to wildlife.

Ungulates that have predators reduced in their areas.

Hunters hunting these ungulates due to the increased numbers of ungulates available to them. The increased numbers are resulting from increased survival due to decreased predation by bears on these ungulate populations.

WHO IS LIKELY TO SUFFER? People who oppose predator management.

OTHER SOLUTIONS CONSIDERED? None.

PROPOSED BY: Upper Tanana/Fortymile Advisory Committee (HQ-06S-G-096)

PROPOSAL 158 - 5 AAC 92.XXX. Holitna Drainage Big Game Reserve. Create a big game reserve in the entire Holitna River drainage

ISSUE: This proposal was amended by the Board of Game at the January 2006, Statewide meeting and deferred to the Spring 2006 meeting to provide for further public review and comment.

The Holitna River drainage is unique in its significance to the preservation of habitat in the Unit 19A and B area and the board is considering the option of creating a state special area such as a game reserve. It is the intent of this proposal to recognize the importance of game resources in the Holitna River drainage, to manage the resource for the best use and not restrict the harvest of game.

WHAT WILL HAPPEN IF NOTHING IS DONE?

WILL THE QUALITY OF THE RESOURCE HARVESTED OR PRODUCTS PRODUCED BE IMPROVED?

WHO IS LIKELY TO BENEFIT?

WHO IS LIKELY TO SUFFER?

OTHER SOLUTIONS CONSIDERED?

PROPOSED BY: Board of Game (HQ-06S-G-097)

The Board of Game requested the Department of Fish and Game submit this proposal for consideration at the Interior Region meeting.

PROPOSAL 159 - 5 AAC 85.025(a). Hunting seasons and bag limits for caribou and 5 AAC 92.085. Unlawful methods of taking big game; exceptions. Align seasons from August 1-March 15 for resident hunters and Aug. 1-Sept. 30 for nonresidents (except Lime Village Management Area Aug. 10-Sept. 30). Resident bag limits will be reduced to three caribou with only one caribou between Aug. 1-Nov.30. Nonresidents will be allowed to take one caribou. Same-day-airborne hunting will no longer be allowed in Units 9B, 17B, and 17C.

(a) ...

	Resident	
	Open Season	
	(Subsistence and	Nonresident
Units and Bag Limits	General Hunts)	Open Season

...

Unit 9(B)

RESIDENT HUNTERS:	<u>Aug. 1 – Mar. 15</u>
3 [5] caribou; however,	[JULY 1 - APR. 15]
no more than 1 <u>caribou</u>	
[BULL] may be taken from	
<u>Aug. 1</u> [July 1] through Nov. 30	

NONRESIDENT HUNTERS:	
1 caribou	<u>Aug. 1 – Sept. 30</u>
	[AUG. 1 - APR. 15]

...

Remainder of Unit 17(A)

RESIDENT HUNTERS:
3 [5] caribou; however, no more than 1 **caribou** [BULL] may be taken from Aug. 1 through Nov. 30

Aug. 1 – Mar. 15
[AUG. 1-MAR. 31]

NONRESIDENT HUNTERS:

No open season

Unit 17(B), that portion in the Unit 17(B) nonresident closed area

RESIDENT HUNTERS:
3 [5] caribou; however, no more than 1 **caribou** [BULL] may be taken from Aug. 1 through Nov. 30

Aug. 1 – Mar. 15
[AUG. 1 - APR. 15]

NONRESIDENT HUNTERS:

No open season.

Remainder of Unit 17(B), and that portion of Unit 17(C) east of the Wood River and Wood River Lakes

RESIDENT HUNTERS:
3 [5] caribou; however, no more than 1 **caribou** [BULL] may be taken from Aug. 1 through Nov. 30

Aug. 1 – Mar. 15
[AUG. 1 - APR. 15]

NONRESIDENT HUNTERS:
1 caribou

Aug. 1 – Sept. 30
[AUG. 1 - APR. 15]

...
(13)

Unit 18

RESIDENT HUNTERS:
3 [5] caribou; however, no more than 1 **caribou** [BULL] may be taken from Aug. 1 through Nov. 30; the commissioner may close and immediately reopen, by emergency order, a season during which the bag limit is less than **3** [5] caribou

Aug. 1 – Mar. 15
[AUG. 1 - APR. 15]
(Subsistence hunt only)

NONRESIDENT HUNTERS:
1 bull

Sept. 1-Sept. 30

(14)

Unit 19(A), that portion within
the Lime Village Management Area

RESIDENT HUNTERS:

4 caribou; however, cows and calves
may not be taken from Apr. 1 through
Aug. 9

July 1-June 30

NONRESIDENT HUNTERS:

1 caribou

Aug. 10 – Sept. 30
[AUG. 10-MAR. 31]

Units 19(A) and 19(B) within the
Nonresident Closed Area

RESIDENT HUNTERS:

3 [5] caribou; however,
no more than 1 **caribou**
[BULL] may be taken
from Aug. 1 through Nov. 30

Aug. 1 – Mar. 15
[AUG. 1 – APR. 15]

NONRESIDENT HUNTERS:

No open season.

Remainder of Units 19(A) and 19(B)

RESIDENT HUNTERS:

3 [5] caribou; however, no more than
1 **caribou** [BULL] may be taken
from Aug. 1 through Nov. 30

Aug. 1 – Mar. 15
[AUG. 1 – APR. 15]

NONRESIDENT HUNTERS:

1 caribou

Aug. 1 – Sept. 30
[AUG. 1-APR. 15]

...

5 AAC 92.085. Unlawful methods of taking big game; exceptions. The following methods and
means of taking big game are prohibited in addition to the prohibitions in 5 AAC 92.080.

...

(8) a person who has been airborne may not take or assist in taking a big game
animal until after 3:00 a.m. following the day in which the flying occurred; however, this
paragraph does not apply to

(A) taking deer;

(B) repealed 7/1/92;

(C) a person flying on a regularly scheduled commercial airline, including
a commuter airline; or

(D) taking caribou from January 1 through April 15, in [UNITS 9(B), 17(B), THAT PORTION OF 17(C) EAST OF THE NUSHAGAK RIVER, AND] Unit 22 provided the hunter is at least 300 feet from the airplane at the time of taking; or

...

ISSUE: Recent surveys of the Mulchatna caribou herd indicate that the population has continued to decline and is now below management objectives. The summer 2004 post calving photo census estimated a population of approximately 85,000 animals. Fall 2005 composition surveys revealed very low bull:cow ratios and lower calf:cow ratios (18:100) than desired.

While the Mulchatna caribou herd was above objectives (note: the early objectives were for 25,000 caribou and 35 bulls:100 cows) and growing the Board approved liberal bag limits and long seasons to allow hunters the opportunity to take surplus animals. On January 13,1995 Same Day Airborne take of caribou was allowed.

WHAT WILL HAPPEN IF NOTHING IS DONE? It is anticipated that the herd will continue to decline. By applying a more conservative management strategy the Department hopes the decline will not be as great and that hunting opportunity will be maintained as much as possible.

WILL THE QUALITY OF THE RESOURCE HARVESTED OR PRODUCTS PRODUCED BE IMPROVED?

WHO IS LIKELY TO BENEFIT? All hunters should benefit over the long term if these regulatory changes succeed to reduce or stop the decline of this herd.

WHO IS LIKELY TO SUFFER? Resident hunters from south central Alaska will likely feel the effects of the proposed changes through reduced opportunity.

OTHER SOLUTIONS CONSIDERED? More severe cuts to seasons and bag limits were considered however the Department feels these were not necessary now.

PROPOSED BY: The Department of Fish and Game (HQ-06S-G-089)

The Board of Game requested the Department of Fish and Game submit this proposal for consideration at the Interior Region meeting.

PROPOSAL 160 - 5 AAC 92.050. Required permit hunt conditions and procedures. Shorten the appeal period for hunters who have been denied permits.

(a) The following conditions and procedures for permit issuance apply to each permit hunt:

...

(8) a person who has been issued a permit, or that person's proxy under 5 AAC 92.011, shall return the permit harvest report to the department within the time period stated on the permit; in addition to other penalties provided by law for failure to report harvest, and except as provided in this paragraph and (c) of this section, if a permittee or the permittee's proxy fails to provide the required report for a drawing permit, registration permit, Tier I subsistence permit, or Tier II subsistence permit, the permittee will be ineligible to be issued a drawing, registration, Tier I subsistence, or Tier II subsistence permit during the following regulatory year;

notwithstanding the provisions of this paragraph, the department may determine that, for specific hunts, it is administratively impracticable, to apply the penalty for failure to report;

...

(c) A person aggrieved by a decision under (a)(8) of this section will be granted a hearing before the commissioner or the commissioner's designee, if the permittee makes a request for a hearing in writing to the commissioner within **60** [180] days after the conclusion of the permit hunt for which the person failed to provide a report. The commissioner may determine that the penalty provided under (a)(8) of this section will not be applied if the permittee provides the information required on the report and if the commissioner determines that the failure to provide the report was the result of unavoidable circumstance or that, in the case of a subsistence permit, extreme hardship would result to the applicant.

ISSUE: Hunters who fail to report on a permit hunt, and are denied a permit for the following season currently have up to 180 days to appeal that decision.

The department currently notifies hunters at least twice that the permit harvest report is due. Those notifications are accompanied by an explanation of the penalties for non-reporting. Changing the appeal period from 180 to 60 days will provide enough time for a hunter to appeal the decision, and still provide department staff relief from a number of appeals surfacing very late in the season. Most appeals are received shortly after the department sends the two notification letters.

WHAT WILL HAPPEN IF NOTHING IS DONE? Hunters who fail to report will have up to 6 months to challenge the decision. The current 6 month appeal period will sometimes close during the next hunting season or after one of two drawing or Tier II application periods. Some hunters will be placed on the failure to report list, and they may be denied hunting or drawing hunt opportunities, yet they may have not exhausted their administrative appeal period.

WILL THE QUALITY OF THE RESOURCE HARVESTED OR PRODUCTS PRODUCED BE IMPROVED? The quality of harvest data will improve.

WHO IS LIKELY TO BENEFIT? All hunters will benefit from accurate harvest data and those who report on time will benefit from staff resources being focused on hunter management programs rather than dealing with very late appeals.

WHO IS LIKELY TO SUFFER? Hunters who fail to report and wish to appeal will only have 60 days after the close of the reporting and reminder process to file their appeal.

OTHER SOLUTIONS CONSIDERED? Status quo.

PROPOSED BY: Alaska Department of Fish and Game (HQ-06S-G-088)

The following are the changes adopted by the board at the Statewide meeting in January. They are presented here for reconsideration and to allow further comment.

PROPOSAL 161 - 5 AAC 92.011. Taking of game by proxy.

(a) A resident hunter (the proxy) holding a valid resident hunting license may take only moose, caribou, and deer for another resident (the beneficiary) who is blind, physically disabled, or 65

years of age or older, as authorized by AS 16.05.405. **Proxy hunting will be allowed for caribou and deer in areas where the bag limit is greater than one. Proxy hunting will be allowed for moose in cow hunts or any-bull hunts. Proxy hunting will be prohibited in specific hunts if the use of the proxy would allow circumvention of harvest restrictions specified by the Board.**

...

(b) Both the beneficiary and the proxy must possess copies of a completed proxy authorization form issued by the department. The completed authorization must include

- (1) names, addresses, hunting license numbers, and signatures of the proxy and the beneficiary;
- (2) number of the required harvest ticket report or permit harvest report;
- (3) effective dates of the authorization; and
- (4) signature of the issuing agent.

(c) A proxy authorization may not be used to take a species of game for a beneficiary for more than the length of the permit hunt season listed on the proxy authorization or for the maximum length of the species general season listed on the proxy authorization.

(d) A person may not be a proxy for more than one beneficiary at a time; **a person may not be a proxy more than twice per season per species.**

...

(f) A proxy who takes game for a beneficiary shall, as soon as practicable, but not later than 30 days after taking game, personally deliver all parts of the game removed from the field to the beneficiary, [WHO MUST SIGN THE PROXY AUTHORIZATION FORM UPON RECEIPT OF THE GAME].

...

ISSUE: The proxy program was established in statute in 1992, and regulations were adopted by the Board of Game in 1993. The program was established to allow people no longer capable of hunting for food, due to age or injury, to assign their bag limit to another hunter, allowing them to hunt and obtain food for them.

Over the years, the number of proxy authorizations issued has increased dramatically and some publics' feel the program is being abused and no longer meeting the intent of the regulations. In many areas of the state where hunting has been restricted for a variety of reasons, the proxy authorization is being used as a chance at additional opportunity. This may have allowed the restriction on bag limits to be circumvented. Staff workload has increased as the number of proxy hunting applications has grown geometrically.

The end result has been an essentially increasing number of hunters in the field. The actual number of hunters may be static, but many of those hunters now have two bag limits, and more of the total harvest is going to fewer hunters. This has become an allocation issue directly related to fairness and equal opportunity for hunters.

In cases where the Board has restricted seasons and bag limits due to conservation concerns, proxy hunters are circumventing those restrictions. An example of this is the restriction where a hunter can obtain either a moose or caribou permit in the Fortymile area, but not both. With a proxy authorization, one hunter can hunt for both.

This proposal would limit proxy hunting to areas where the Board has fewer conservation concerns. Proxy hunting would be limited to areas where there is already a multiple bag limit for

deer and caribou. Moose is limited to a bag limit of one statewide, so proxy hunting for moose would be allowed only for cow hunts or any-bull hunts.

WHAT WILL HAPPEN IF NOTHING IS DONE? The use of proxies to circumvent bag limit restrictions will continue to grow.

WILL THE QUALITY OF THE RESOURCE HARVESTED OR PRODUCTS PRODUCED BE IMPROVED? N/A

WHO IS LIKELY TO BENEFIT? Hunters in some areas will benefit because they will no longer have to compete for limited big game in areas where bag limits are restricted, yet some hunters have proxies to take multiple bag limits.

WHO IS LIKELY TO SUFFER? Some beneficiaries may have more difficulty obtaining game meat under the new regulation if their proxy was going to hunt in an area no longer open to proxy hunting. The proxy would have to travel to a different area to hunt for the beneficiary.

OTHER SOLUTIONS CONSIDERED? Require trophy destruction of all animals taken while proxy hunting, limit to second degree kindred, or require separation of hunts-not hunting for proxy at same time as self.

PROPOSED BY: Board of Game (HQ-06S-G-087)

Adopted by the Board of Game on January 25, 2006 as emergency regulations.

PROPOSAL 162 - 5 AAC 92.125. Update existing predator control implementation plan for Unit 19(A).

5 AAC 92.125(9) Unit 19(A) Wolf Predation Control Implementation Plan.

(1) Geographical area description. A Unit 19(A) wolf predation control area is established and consists of those portions of the Kuskokwim River drainage within Game Management Unit 19(A) defined in 5 AAC 92.450(19)(A), encompassing approximately 9,969 mi². This predator control program does not apply within National Park Service or National Wildlife Refuge lands unless approved by the federal agencies.

(2) Authorization for the department to conduct a predation control program. Notwithstanding any other provision in this title, the commissioner or the commissioner's designee may conduct a wolf population reduction or wolf population regulation program in the Unit 19(A) wolf predation control area.

(3) Discussion of wildlife population and human use information.

(A) Prey population information.

(i) The moose population size for Unit 19(A) was estimated in March 2004, based upon earlier estimates of density in portions of the Unit. In March 1998, 1.25 moose/mi² ($\pm 14\%$, 80% CI) was estimated in a portion of the Holitna-Hoholitna drainage. In March 2001, 0.7 moose/mi² ($\pm 21\%$, 90% CI) was estimated in a portion of the Aniak drainage. Extrapolation of data from both estimates to all of Unit 19(A) resulted in an estimated total population size of 4300–6900. The population size for Unit 19(A) was revised in February 2005, based upon an estimate of 0.27 moose/mi² ($\pm 16\%$, 90% CI) obtained from a survey in the portion of the unit south of the Kuskokwim River. Extrapolation of this data to all of Unit 19(A) resulted in an estimated total population size of 2350–3250, which is lower than the 2004 estimate and indicates moose numbers

have declined. Using the most recent extrapolation of the population estimates the overall density of the moose population in Unit 19(A) is 0.23 - 0.32 moose/mi². Historically, observations by the public and department composition surveys indicate densities were higher before the first population estimate in 1998

(ii) In November 2001, a survey on the Holitna-Hoholitna Rivers in Unit 19(A) was conducted. A total of 196 moose were classified with an observed bull:cow ratio of 6:100 and an observed calf:cow ratio of 8:100. The low numbers observed could have been influenced by an atypical moose distribution caused by shallow snow and relatively temperate late fall weather.

(iii) In November 2004, a survey was conducted to estimate composition in the Holitna-Hoholitna, Oskawalik, and Stony Rivers portion of Unit 19(A) (4828 mi²). A total of 226 moose were classified and the bull:cow ratio (19:100, ±76%, 90% CI) and calf:cow ratio (32:100, ± 38%, 90% CI) estimates were higher than observed in the November 2001 trend count survey. Some improvement in the ratios is indicated, however, results of the two surveys cannot be directly compared because the 2004 survey covered a much larger geographic area and was done using different methods than the 2001 survey. The estimated percent moose calves in the total population during the November 2004 composition survey was 22% (± 38%, 90% CI).

(iv) In November 2005, composition surveys were conducted in the Holitna-Hoholitna drainage in Units 19(A) and 19(B) and in the Aniak drainage including the Kuskokwim River from Lower Kalskag to Napaimiut in Unit 19(A). A different technique was implemented than what was used for previous composition surveys because of the concern about possible atypical moose distribution when confining the survey area to the river corridor and the concern about wide confidence intervals in the November 2004 survey. A total of 307 moose were observed and the observed bull:cow ratio was 8:100 with most bulls classified as yearlings (12 of 19). The observed calf:cow ratio was 24:100 and the percent calves was 18%. The low bull:cow ratios observed during the past 3 composition surveys indicate that hunting pressure has been high in the Holitna-Hoholitna drainage. In the western portion of Unit 19(A), the Aniak drainage and the Kuskokwim River from Lower Kalskag to Napaimiut was also surveyed. No composition data had been collected previously in this portion of Unit 19(A). A total of 410 moose were counted with an observed bull:cow ratio of 20:100 and an observed calf:cow ratio of 23:100.

(v) Birth rate among radiocollared cows in Unit 19(A) is high. In 2005, of 9 radio-collared cows in the lower Holitna River, 3 had twins, 4 had a single calf and 2 had no calf (78% birth rate). Of 8 radiocollared cows in the Aniak River drainage 2 had twins and 6 had single calves (100% birth rate). Overall, the 2005 birth rate among radio-collared cows in Unit 19(A) was 88%.

(vi) A late winter survey to estimate calf survival conducted in April 2003 in Unit 19(A) resulted in an estimate of 7.6% calves in the moose population in Holitna/Hoholitna drainage (sample size 107 adults and 9 short-yearlings) and 8.9% in the moose population in the Aniak drainage (sample size 61 adults and 6 short-yearlings). The calf:cow ratios in fall and percent of calves found in spring surveys support the conclusion that calf survival in the moose population is very low, and a decline in moose numbers is probably occurring.

(vii) Based on current estimates of recruitment and using a conservative harvest rate for bulls that is based on 4% of the total moose population, the harvestable surplus of moose in Unit 19(A) is 94 – 130 moose.

(viii) The Intensive Management (IM) moose population objective established by the Board of Game (board) for Units 19(A) and (B) is 13,500–16,500

moose. Based on the relative sizes of the two units, the proportional population objective for Unit 19(A) alone is 7,600 – 9,300 moose. The Intensive Management moose harvest objective for Units 19(A) and (B) is 750–950 moose. The proportional harvest objective for Unit 19(A) alone is 423 – 536 moose. Achieving the population and harvest objectives for Unit 19(A) will contribute to achieving the Intensive Management population and harvest objectives established for Units 19(A) and (B).

(ix) Based on data available, habitat is probably not a factor limiting population growth in moose in the central Kuskokwim region. A browse survey in Unit 19(D) (in the upper Kuskokwim River) during spring 2001, found that moose were removing about 16% of current annual growth. These removal rates are near the midpoint of the range observed in areas of low to high moose browse use (9%–42%). A browse survey in autumn 2002 below Lower Kalskag on the Kuskokwim River (Unit 18) found that 78% of shrubs were unbrowsed and none were heavily browsed by moose. There is some indication that cows are in average or good body condition because twinning rates of 32% were observed in spring 2000 on the Holitna and Hoholitna Rivers, although sample sizes were small (less than 10). Of 15 radiocollared cows in Unit 19(A) that had calves in 2005, 5 produced twins for a 33% twinning rate. If observations of browsing upriver and downriver from Unit 19(A), and limited observations of twinning are indicative of the situation in Unit 19(A), habitat enhancement alone is unlikely to cause a significant population increase in moose in the foreseeable future. The highest quality moose habitat in the unit is found in the lower Holitna River floodplain. High quality habitat is present in riparian areas along the Kuskokwim River and adjacent drainages. Other portions of Unit 19(A) have lower quality habitat.

(x) Total estimated mortality is likely high relative to the size of the moose population. Information gained from studies on moose mortality in Unit 19(D)-East and other similar areas of Alaska, and observations by local residents indicate that wolves are currently a major limiting factor for moose in Unit 19(A). Research from Unit 19(D)-East also indicates that black and brown bear predation is likely a factor that contributes to limiting the moose population in Unit 19(A). Of 38 adult moose radio-collared in October 2003, 7 had died by November 2005. Moose mortality from harvest by humans is also high, relative to the population size, and regulatory proposals have been submitted to severely restrict harvest.

(xi) The number of animals that can be removed from the Unit 19(A) 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 harvest objective established for the population in 5AAC 92.108. The moose population in Units 19(A) and 19(B) is well below the IM objective set by the board. The moose population in Unit 19(A) is also well below the objective calculated by the department for the subunit.

(xii) Without an effective wolf predation control program, moose in Unit 19(A) are likely to persist in a Low Density Dynamic Equilibrium state with little expectation of increase. Data from moose mortality and predator/prey studies conducted throughout Alaska and similar areas in Canada suggest that reducing the number of wolves in Unit 19(A) can reasonably be expected to increase the survival of calf as well as older moose, particularly yearlings. Reducing wolf 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.

B. Human use information for prey population.

(i) The Division of Subsistence conducted household surveys on subsistence use of big game in communities in Unit 19(A) between April 2003 and March 2004. Moose was the most widely used and hunted animal in all eight

communities surveyed. Overall, 76% of all households in the Central Kuskokwim area used moose, 57% of all households attempted to harvest moose, and 22% of all households successfully harvested one or more moose. Of the estimated 107 moose harvested by the eight survey communities, 64 (60%) were taken in Unit 19(A), 14 (13%) were taken in Unit 18, and the remainder (27%) were taken in other Unit 19 subunits or in unreported locations. An estimated 426 individuals, or 28% of the area population, spent a total of 4,591 hunter-days in pursuit of moose. To put this number in perspective, it is equivalent to a period of nearly 12.6 years, a clear testament to the importance of moose as a subsistence resource in the Central Kuskokwim region. Of the 426 individuals who went hunting, only 96 (23%) were successful in harvesting a moose. The average number of days spent hunting by successful households per moose harvested (14.7) is higher than any previously reported numbers in the state where similar methods of data collection and analysis were employed. Households were asked to compare their 2003-2004 harvest of moose with their harvest both five years and ten years before, and they overwhelmingly noted harvesting fewer moose in 2003-2004.

(ii) Between June 1982 and June 1983, Division of Subsistence staff conducted extensive research on the resource use patterns and community characteristics of Chuathbaluk and Sleetmute. A comparison of that information with the 2004 data indicates a significant decline in household harvest rates; from an average of 0.55 to 0.2 moose harvested per household in Chuathbaluk and from 0.68 to 0.3 moose harvested per household in Sleetmute.

(iii) Residents of Unit 19(A) have always had a high demand for moose for subsistence needs. Since the 1990's when larger boats became available to residents in the lower Kuskokwim River and income from commercial fishing increased the ability to purchase fuel for long hunting trips, demand for moose in Unit 19(A) has increased. Since 2004 there has been a moratorium on moose hunting in the Kuskokwim River drainage in Unit 18 and this has increased the demand for moose for subsistence purposes in Unit 19(A).

(iv) The amount necessary for subsistence (ANS) established by the board for Unit 19 (including the Lime Village Management Area) is 430-730 moose. Most of the human population in Unit 19 is residents of communities along the Kuskokwim River in Unit 19(A). The ANS for Unit 19 is also based on subsistence need by residents of Unit 18. Unit 19(A) includes the most accessible portion of Unit 19 for the main population base in the region. Subsistence hunters have depended on Unit 19(A) to provide the majority of subsistence harvest in Unit 19 as a whole. Harvest in Unit 19(A) is a critical component of the ANS for Unit 19 and the ability to meet subsistence needs in the region.

(v) According to harvest ticket reports, numbers of hunters and moose harvested declined substantially between the mid 1990s and 2002. Total reported moose harvest in Unit 19(A) declined from the 1994-1995 season (168 moose) to the 2002-2003 season (67 moose). In Unit 19(A), the number of moose reported harvested by local residents and other Alaska residents declined approximately 65% (from 138 moose to 48 moose) between 1994-1995 and 2002-2003. After the RM 640 registration permit hunt for Alaska residents was implemented in fall 2004, harvest reporting greatly improved. In 2004 reports indicate that 107 moose were harvested in Unit 19(A). Preliminary analysis of the fall 2005 hunt indicates that 170 moose were harvested. While it may appear that moose harvest increased significantly after the registration permit hunt was established, the increase is most likely attributable to better reporting rates.

(vi) The average number of nonresident hunters in Unit 19(A) between 1994-95 and 2002-2003 was 52. The peak number of nonresident hunters was 91 in 2000-01. When Unit 19(A) was closed to nonresident hunting in March 2004 several

guides protested vigorously that their agreements with clients could not be met and their businesses would suffer. Since that time demand for nonresident hunting opportunity has not been met.

(vii) Demand for moose harvest in Unit 19(A) is likely to increase in the future. If the moose hunting moratorium in Unit 18 is successful in increasing the moose population in that area it will help relieve some of the demand on Unit 19(A). Still, with more than 20,000 residents in Unit 18 there will be high demand for moose throughout the region, indefinitely into the future. Clearly, demand is not being met now. If the wolf control program is successful it will help to meet the need for moose in the region in the future. Without a wolf predation control program there is a very low probability that the moose population will increase sufficiently to meet subsistence needs or other harvest demands in the future.

C. Predator population information.

(i) The pre-control wolf population in Unit 19(A) was estimated in fall 2004 using an extrapolation technique combined with sealing records and anecdotal observations. The population in the entire 9,969 square mile area was estimated at 180–240 wolves in 24–28 packs or approximately 1.8–2.4 wolves per 100 square miles.

(ii) During the winter of 2004-2005 a total of 70 wolves were reported taken in Unit 19(A). Of those, 43 were taken in the wolf predation control program and 27 were taken by trappers and hunters. Because wolves have a high reproductive capacity, it is likely that at least 125-175 wolves were again present in Unit 19(A) in fall 2005. In areas with limited human developments, habitat is not considered a significant factor in limiting wolf populations and it is presumed that numbers of wolves are limited mainly by prey availability. There is no evidence of disease or any other naturally occurring factors that would cause wolf mortality to be higher than normally expected.

(iii) Moose and wolf population data available in March 2004 suggested the moose-to-wolf ratio was between 18:1 and 38:1. Since that time the moose population estimates have been lowered and increased wolf take in 2004-2005 also may have reduced the wolf population somewhat. There was likely a more significant decrease in the estimated moose population than in the wolf population. Taking these factors into account it is likely that the current moose to wolf ratio in Unit 19(A) is between 13:1 and 26:1. With this moose to wolf ratio it is likely that the moose population in Unit 19(A) will decline further.

(iv) When present, the Mulchatna Caribou Herd provides an alternative source of prey for wolves in Unit 19(A). Because migrations of the herd into portions of 19(A) vary each year, the herd is not consistently available to wolves in the plan area.

(v) Studies in Alaska and elsewhere have repeatedly concluded that large reductions are required to affect 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 likely regulate the wolf population at the control objective. The wolf population control objective for Unit 19(A) is 40-53 wolves. A minimum population of 40 represents a 78 percent reduction from the pre-control minimum estimated wolf population. The minimum wolf population control objective will achieve the desired reduction in wolf predation, and also insure that wolves persist within the plan area.

(vi) Without a wolf predation control program, the wolf population is expected to decline somewhat due to further decline in the moose population and reduced availability of prey. The moose and wolf populations in Unit 19(A) are in a Low Density Dynamic Equilibrium where both predator and prey numbers are likely to stay 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 maintained at 40-53 for several years but once the moose population increases and wolf control efforts are discontinued the wolf population will increase in response to the increased prey base.

D. Human use information for the predator population.

(i) Total reported harvest of wolves in Unit 19(A) by both hunters and trappers between 1998 and 2004 ranged between 21 and 49 wolves. During the winter of 2004-05 a total of 70 wolves were reported taken in Unit 19(A). Of those, 43 were taken in the wolf predation control program and 27 were taken by trappers and hunters. It is likely that a few additional wolves (estimated 5-10) are harvested in the area but are used locally and do not get sealed and reported.

(ii) The human population in Unit 19(A) is 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. The central Kuskokwim region weather is influenced by coastal conditions and often warm spells in the winter will melt snow and make travel and tracking conditions poor. In addition, the low price of wolf pelts and high cost of fuel make it difficult for local residents to harvest a high number of wolves throughout the unit.

(iii) In the first year of the Unit 19(A) wolf predation control program reported wolf harvest by hunters and trappers was 27 wolves, within the range of previous years' harvest. Without a wolf predation control program in place wolf harvest is expected to remain relatively constant.

(4) Predator and prey population levels and population objectives and the basis for those objectives.

(A) The estimated moose population in Unit 19(A) is 2350–3250 moose. The moose population objective for Unit 19(A) is 7,600 – 9,300 moose. This objective is based on the IM objective for Unit 19(A) and (B) established by the board and the proportion of the land area in the combined subunits that is within Unit 19(A). IM objectives were based on historical information about moose numbers, carrying capacity of the habitat, sustainable harvest levels, and human use.

(B) The pre-control estimated wolf population in Unit 19(A) was 180-240 wolves during fall 2004. 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 substantially reduce wolf numbers from pre-control levels in order to relieve predation pressure on moose and allow for improved recruitment to the moose population. This plan also has as a goal to maintain wolves as part of the natural ecosystem within the described geographical area. To achieve the desired reduction in wolf predation, but insure that wolves persist within the plan area, the wolf population in Unit 19(A) will be reduced to no fewer than 40 wolves.

(C) The wolf population control objective for Unit 19(A) is 40-53 wolves. A minimum population of 40 represents a 78 percent reduction from the pre-control minimum estimated wolf population. The minimum wolf population control objective will achieve the desired reduction in wolf predation, and also insure that wolves persist within the plan area.

(5) Justifications for the predator control implementation plan.

(A) The estimated density of the moose population in Unit 19(A) is in the range of 0.23 - 0.32 moose mi² with a population of 2350-3250 moose. The harvestable surplus of moose in Unit 19(A) is 94 – 130 moose and is not sufficient to provide the amount of moose necessary for subsistence purposes or provide for non-subsistence uses. The moose population and harvest objectives for Unit 19(A) are not being met because mortality has exceeded

recruitment into the population causing a decline in moose numbers. Wolf predation is an important cause of moose mortality.

(B) With an estimated pre-control population of 180-240 wolves, approximately 821 – 1,094 adult equivalent moose are likely to be killed by wolves each year. 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 Alaska and Canada where moose are the primary prey of wolves, studies documented kill rates ranging from 4 to 7 moose per wolf per winter.

(C) Reducing wolf numbers through a wolf predation control program, combined with reduction in moose harvest is the approach most likely to succeed in a recovery of the moose population. Wolf harvest through hunting and trapping efforts has not resulted in lowering the wolf population sufficiently to allow the moose population to grow. A regulation change in March 2002 to allow the use of snowmachines to take wolves has not resulted in a measurable increase in wolf harvest. Public information and education programs have been implemented in the central Kuskokwim region to improve understanding of the biological effect of killing cow moose and the potential benefits to the moose population of increasing harvest of wolves and bears. Education should help in the long-term but is not expected to result in a significant increase in the moose population in the short-term. Unit 19(A) was closed to nonresident hunting and a registration permit system for resident hunters was established in 2004. With new moose population data it has become apparent that those regulation changes have not reduced harvest sufficiently. The department has submitted a proposal to the board for consideration at their March 2006 meeting to close all moose hunting in Unit 19(A) above the Oskawalik River and implement a Tier II subsistence permit hunt in Unit 19(A) below the Oskawalik River to more tightly control harvest. The Central Kuskokwim Fish and Game Advisory Committee has submitted proposals designed to increase bear harvest.

(D) Presently known alternatives to predator control for reducing the number of predators are ineffective, impractical, or uneconomical in the Unit 19(A) situation. 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 Unit 19(A). Numbers of hunters and trappers are relatively low and educational programs to stimulate interest and improve skills in taking wolves are in the early stages of development, and so far have been unsuccessful in increasing the harvest of wolves. The inherent wariness of wolves, difficult access, and relatively poor pelt prices 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 is impractical because it is expensive and it is very difficult to find publicly acceptable places for relocated wolves. 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 populations low in rural areas of Interior Alaska. 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 of moose is impractical because of capturing and moving expenses. Any of the alternatives to a wolf predation control program are not likely to be effective in achieving the desired level of predator harvest.

(E) Moose hunting seasons and bag limits have been reduced in Unit 19(A). The nonresident season in Unit 19(A) was closed; and residents hunters in Unit 19(A) are required to have a registration permit. The resident winter moose hunting season in Unit 19(A) was eliminated to reduce overall harvest and eliminate incidental cow harvest to improve the reproductive potential of the population. The overall reported number of moose taken in Unit

19(A) has declined by over 60 percent from 168 in 1994 – 1995 to 67 during 2002 – 2003. While helpful, these measures alone will not likely stop the decline in the moose population and they will not be enough alone to allow the moose population to increase. Further reductions in harvest opportunity will be recommended to the Board of Game in March 2006, now at a level that appears to be insufficient to meet even the amounts necessary for subsistence use.

(F) Without an effective wolf predation control program, the wolf harvest objective cannot be achieved and moose in Unit 19(A) are likely to persist in a Low Density Dynamic Equilibrium state with little expectation of increase. Data from moose mortality and predator/prey studies conducted throughout Alaska and similar areas in Canada suggest that reducing the number of wolves in Unit 19(A) can reasonably be expected to increase the survival of calf as well as older moose. Reducing wolf 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 over large expanses of territory in a vast and remote region like the majority of Unit 19(A). With a reduction in wolf caused mortality and restrictions in harvest, the moose population is expected to grow.

(6) Methods and means.

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

(B) The commissioner may issue public aerial shooting permits or public land and shoot permits as a method of wolf removal pursuant to AS 16.05.783.

(7) Anticipated time frame and schedule for update and reevaluation.

(A) For up to five years beginning on July 1, 2004, the commissioner may reduce the wolf population in Unit 19(A).

(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 and wolf populations, and recommendations for changes, if necessary, to achieve the plan's objectives.

(8) Other specifications the board considers necessary.

(A) The commissioner shall reduce the wolf population in an efficient manner, but as safely and humanely as practical.

(B) The commissioner will suspend wolf control activities

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

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

(iii) No later than April 30 in any regulatory year.

(C) Wolf 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.

(D) The commissioner will annually close wolf hunting and trapping seasons as appropriate to insure that the minimum wolf population objective is met.

ISSUE: On January 17, 2006, in Anchorage, the Superior Court issued an Order on Motions for Summary Judgment in the case of Friends of Animals, et al., 3An-03-13489 CI, holding 5AAC

92.125(1),(5),(6),(7), and (8) (predator control implementation plans for five areas in Alaska) invalid because they were overly broad in geographic scope in two cases, and because all had failed to comply with some of the requirements of 5AAC 92.110(b). This ruling was issued in the middle of the Regulatory Year 2005/2006 predator control season for each area, while control operations were underway.

On Jan. 25, 2006, the Board of Game held an emergency teleconference and adopted updated plans, in compliance with the court order. The Board intends to make these updated plans permanent at the March 2006 meeting in Fairbanks, and is publishing them to allow further public comment at that regularly scheduled meeting.

WHAT WILL HAPPEN IF NOTHING IS DONE? Predator control efforts will cease.

WILL THE QUALITY OF THE RESOURCE HARVESTED OR PRODUCTS PRODUCED BE IMPROVED? If successful, the continuation of predator control efforts will allow prey populations to increase, and provide more animals for future harvest by hunters.

WHO IS LIKELY TO BENEFIT? All hunters who rely on the involved prey populations for meat.

WHO IS LIKELY TO SUFFER? Anyone opposed to intensive control of predator populations.

OTHER SOLUTIONS CONSIDERED? None.

PROPOSED BY: Alaska Dept. of Fish and Game (HQ-06S-G-090)

Adopted by the Board of Game on January 25, 2006 as emergency regulations.

PROPOSAL 163 - 5 AAC 92.125- Update existing predator control implementation plan for Unit 20(E) and Unit 12.

5 AAC 92.125(11). Unit 20(E) and Unit 12 Wolf and Brown Bear Predation Control Implementation Plan.

(1) Geographical area description.

(A) An Upper Yukon/Tanana predation control area (control area) is established and consists of that portion of Unit 12 north of the Alaska Highway and west of the Taylor Highway and 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 approximately 6,600 mi². This predator control program does not apply to any National Park Service or National Wildlife Refuge lands unless approved by the federal agencies.

(B) A brown bear predation control area (focus area) is established within the Upper Yukon/Tanana predation control area in Unit 20(E) that includes the Southfork Fortymile River drainage upstream from and including the Wall Street Creek drainage, encompassing approximately 2,700 mi².

(2) Authorization for the Department to conduct a predation control program. Notwithstanding any other provision in this title, the commissioner or the commissioner's designee may conduct a wolf population reduction or wolf population regulation program in the

entire Upper Yukon/Tanana predation control area in Units 12 and 20(E), and a brown bear population reduction or brown bear population regulation program in the brown bear predation control focus area in Unit 20E.

(3) Wildlife population and human use information.

(A) Prey population information

(i) The moose population size within the control area was estimated to be 2,310-3,370 in 2004, and 2,840-4,290 in 2005, based upon extrapolation from surveys conducted in a 4,630 mi² area of southern Unit 20(E). No trend in population size is apparent from those surveys because confidence intervals around the estimate overlap. Public observations and department surveys indicate moose densities in Units 12 and 20(E) were higher (1.0-1.5 moose/mi²) in the 1960's, but have been lower (less than 1.0 moose/mi²) since the late 1970s.

(ii) Calves and yearling bulls per 100 cows averaged 18 and 9, respectively, during fall 2000-2004. Fall 2005 surveys indicated 23 calves:100 cows and 11 yearling bulls:100 cows..

(iii) Estimated birth rate of moose in the control area is likely 138 calves:100 cows two years of age or older. This is based on research conducted during the 1980s in Unit 20(E), research of other interior Alaska moose populations in similar habitats, and spring twinning rate surveys conducted in southern Unit 20(E) during spring 2004 and 2005.

(iv) Based on current (2004 and 2005) estimates of recruitment and using a 4% harvest rate for bulls, the harvestable surplus of moose within the control area was 93-172.

(v) The Intensive Management (IM) moose population objective established by the Board of Game (board) is 4,000-6,000 moose for Unit 12 and 8,000-10,000 moose for Unit 20(E) within the Fortymile and Ladue River drainages. The entire control area falls within the portions of Units 12 and 20(E) that are identified for IM. Based upon the relative sizes of the areas covered by IM objectives in both units, the proportional population objective for the control area alone is 6,800-8,600 moose. The IM moose harvest objective is 250 – 450 moose annually for Unit 12 and 500 – 1,000 moose annually for Unit 20(E) within the Fortymile and Ladue River drainages. The proportional harvest objective for the control area alone is 425-845 moose. Achieving the population and harvest objectives for the control area will contribute to achieving the IM population and harvest objectives established for Units 12 and 20(E).

(vi) Based on available data, habitat is not a factor limiting moose population growth in the control area. In southern Unit 20(E), high twinning rates of 30% and 24% were observed during spring surveys in 2004 and 2005, respectively. Those twinning rates indicate the habitat is capable of sustaining a higher moose density. In addition, wildfires that result in improved habitat conditions for moose are common in northern Unit 12 and Unit 20(E) and fire suppression efforts are limited over most of this area. Over 1600 square miles of habitat were burned within and surrounding the control area in 2004 alone, which is expected to benefit moose productivity for decades.

(vii) Research conducted during 1981-1988 within the control area 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 control area. In the research study area wolves killed 12 –15 % of neonate moose calves , brown bears killed 52 %, and black bears killed 3%. In addition, wolves and brown bears accounted for 89% 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% of all moose mortality, within the postcalving moose population, was caused by predation, 4.0% and 15.5% 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 not a major limiting factor for the moose population in the control area.

(viii) The number of animals that can be removed from the control area 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 harvest objective for the population. The moose population in Units 12 and 20(E) is well below the IM objective set by the board. The moose population in the control area is also well below the objective calculated by the department for the control area.

(ix) The moose population in Unit 20(E) has been at a low density since the late 1970's. 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 and predator/prey studies conducted throughout Alaska and similar areas in Canada indicate that reducing the number of predators in the Upper Yukon/Tanana control area can reasonably be expected to result in an increase in the survival of moose. Reducing wolf predation on moose, in combination with the current restricted level of moose harvest, can reasonably be expected to initiate an increase of the moose population towards the population objective.

B. Human use information for prey population

(i) 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. These units also provide important hunting opportunities for non-resident hunters and the guiding and transporting industries.

(ii) 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 and moose harvest to meet their needs. 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, which resulted in the creation of this control program.

(iii) During 1995-2004 within the control area, an average of 95 moose were harvested annually by an average of 347 resident hunters, while an average of 13 moose were harvested annually by an average of 42 non-resident hunters.

(iv) Both resident and non-resident hunter numbers have been steadily increasing in Units 12 and 20(E) for the past 20+ years. Average annual numbers of resident moose hunters increased 33% (from 300 to 400 hunters) during 2000-2004 compared to 1995-1999. Average annual numbers of non-resident moose hunters increased 62% (from 32 to 52 hunters) between the same two periods. Hunting pressure by both resident and non-resident moose hunters is expected to remain at current levels or continue increasing. 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 harvest demands in the future.

C. Predator population information

(i) The pre-control wolf population in the control area was estimated in autumn 2004 (pre-harvest) using information from department surveys during late-winter 2004 combined with sealing records and anecdotal observations. The population in the

control area was estimated at 190-250 wolves in 30-32 packs or approximately 28-38 wolves/1000 mi².

(ii) During the winter of 2004-2005 a total of 101 wolves were reported taken in the control area. Of those, 58 were taken by wolf control permittees and 43 were taken by trappers and hunters.

(iii) Following the first year of the control program, the autumn 2005 wolf population (pre-harvest) was estimated to be 147-181, based on information from control permittee reports, department observations, and sealing records. Wolf population levels in remote areas of Alaska such as the Upper Yukon/Tanana predation control area are determined by prey abundance and mortality arising from harvest by humans. Habitat per se is not considered a significant factor in limiting the wolf population because it is not currently limiting moose abundance. There is no evidence of disease among wolves within the control area that has contributed to significant mortality.

(iv) Moose and wolf population data available in fall 2004 indicated the moose-to-wolf ratio was between 11:1 and 15:1. In autumn 2005 the moose to wolf ratio was between 17:1 and 26:1.

(v) Increasing numbers of caribou in the Fortymile herd and the winter migration of the Nelchina Caribou Herd through the control area provides an alternative source of prey for wolves during a portion of the year. However, migrations of these herds into the control area vary each year, so the herds are not consistently available. The presence of caribou in the control area during a portion of the year, primarily during winter months, appears to have allowed the wolf population to increase above long-term average population levels. Early-winter wolf densities within the control area (28-38 wolves/ 1000 mi²) are well above levels found in other areas of Interior Alaska (16-23 wolves/ 1000 mi²) in un-manipulated wolf-bear-moose-caribou systems (including portions of the Fortymile caribou range).

(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% 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% will likely regulate the wolf population at the control objective. The wolf population control objective for the control area is 50-65 wolves. A minimum population of 50 represents a 74% reduction from the pre-control minimum estimated wolf population of 190 wolves. The minimum wolf population control objective will achieve the desired reduction in wolf predation, and also insure that wolves persist within the control area.

(vii) Moose populations in the control area are in a Low Density Dynamic Equilibrium and 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 maintained at reduced levels (50-65) for several years. Once the moose population increases and wolf control efforts are discontinued, the wolf population will increase according to the increased prey base.

(viii) The pre-control brown bear population within the focus area was estimated to be 135 (range 125-145) bears in June 2004. It was based on extrapolation of a density estimate obtained in central Unit 20(E), including the entire 2,700 mi² bear focus 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 carrying capacity for brown bears within the focus area, because the brown bear population is lightly harvested.

(ix) During 1995-2004 the average annual brown bear harvest within the focus area was 5 (range 1-10). During the first year of the control program (January-December 2005), a total of 9 brown bears were taken from the focus area; 2 bears were taken by control program permittees and 7 bears were taken by hunters under state hunting regulations.

(x) Increasing numbers of caribou in the Fortymile herd and the winter migration of the Nelchina herd through the focus area during the past 7 years provides an alternative source of prey for brown bears during a portion of the year. However, migrations of these herds into the brown bear focus area vary each year and primarily occur during the winter when bears are in dens. Therefore, the herds are not consistently available as a source of prey for brown bears in the focus area.

(xi) Based on research data in Alaska and Canada, a 60 percent reduction in the brown bear population within the 2,700 mi² brown bear focus area specified in this program, is expected to result in an increase in moose survival. Restriction on the harvest of cubs and sows with cubs will protect the majority of the reproductive and recruitment components of the brown bear population. This will ensure the brown bear population will remain in the focus area. To achieve the desired reduction in brown bear predation, but insure that brown bears persist within the focus area, the minimum brown bear population objective for the focus area is 54 bears, which represents a 60 percent reduction from the pre-control minimum estimated brown bear population of 135 bears (range 125-145). If brown bear predation control efforts continue and the brown bear population is reduced according to the brown bear population and harvest objectives, the brown bear population will be maintained near the minimum population objective of 54 for several years.

D. Human use information for predator population

(i) Total reported annual harvest of wolves in the control area by both hunters and trappers during 1994-2004 averaged 35 annually (range 15-74). During the winter of 2004-2005 a total of 101 wolves were reported taken in the control area. Of those, 58 were by wolf control permittees and 43 were taken by trappers and hunters under state trapping and hunting regulations.

(ii) Total reported annual harvest of brown bears by hunters in the focus area during 1994- 2004 averaged 5 (range 1-10). During the spring and fall of 2005, a total of 9 bears were reported taken in the focus area. Of those, 2 were taken in the brown bear predation control program and 7 were taken by hunters under state hunting regulations.

(iii) The human population in northern Unit 12 and southern Unit 20(E) is concentrated along the Alaska Highway on the south border of the control area and along the Taylor Highway that bisects the control area. 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/or brown bears throughout the unit.

(iv) Without a wolf predation control program in place, wolf take is expected to decrease to pre-control levels. Also, without an effective brown bear predation control program, the harvest of brown bears is expected to remain low.

(4) Predator and prey population levels and population objectives and the basis for those objectives.

(A) The estimated moose population in the control area during December 2005 was 2840-4290. The moose population objective for the control area is 6,800-8,600. This objective is based on the IM population objectives for Units 12 and 20(E) established by the board and the proportion of the land area in the control area that is within the IM portions of

Units 12 and 20(E). IM objectives were based on historical information about moose numbers, carrying capacity of the habitat, sustainable harvest levels, and human use.

(B) The pre-control estimated wolf population in the control area was 190-250 during early fall 2004 (pre-harvest). 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 approximately 74 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 insure that wolves persist within the control area, the wolf population in the control area will be reduced to no fewer than 50 wolves.

(C) The pre-control estimated brown bear population in the brown bear focus area was 135 (range 125-145) 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 focus area. To achieve the desired reduction in brown bear predation, and also insure that brown bears persist within the focus area, the brown bear population in the focus area will be reduced to no fewer than 54 bears.

(5) Justifications for predator control implementation plan.

(A) The estimated density of moose in the control area in 2005 was 0.41-0.68 moose mi², with a population of 2840-4290 moose. The harvestable surplus of moose in the control area is estimated at 93-172 and is not sufficient to meet the harvest objective. The moose population and harvest objectives for the control 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 control area.

(B) 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 Alaska and Canada where moose are the primary prey of wolves, documented kill rates ranged from 4 to 7 moose per wolf per winter (October 1-April 30). With an estimated pre-control population of 190-250 wolves, at least 760 moose are likely to be killed by wolves each winter within the control area.

(C) Reducing wolf and brown bear numbers through a wolf and brown bear predation control program, combined with maintaining a restrictive moose harvest, is the approach most likely to 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 populations to allow the moose population to grow toward the IM 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 caribou and the potential benefits to the moose and caribou populations of increasing harvest of wolves and bears. Education should help 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 and within all of the control area, was restricted from a 14-day August spike-fork and 15-day September any bull moose season, to a 5-day any bull August and a 10-day any bull September season, to exclude the Labor Day weekend and a portion of September when bull moose are relatively vulnerable to harvest. Also, a registration permit system for Unit 20(E) was established in the same year.

(D) 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 Unit 12 and 20(E). 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, relatively poor wolf pelt prices and 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. 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 of moose is impractical because of capturing and moving expenses. Any of the alternatives to a wolf and/or brown bear predation control program are not likely to be effective in achieving the desired level of predator removal or are not economically feasible.

(E) Without an effective predation control program, the wolf and brown bear reduction objectives cannot be achieved, and 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 and predator/prey studies conducted in Alaska, including research conducted in portions of the control area, and similar areas in Canada indicated that reducing the number of wolves and brown bears in the control area can reasonably be expected to increase the survival of calves as well as older moose. Reducing wolf and brown bears predation on moose, combined with a conservative moose harvest, can reasonably be expected to initiate an increase in the moose population. Aerial wolf predation control and liberalized methods for taking brown bears make it possible to increase take of these predators over large areas of the control area.

(6) Methods and means

(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 for in 5 AAC 92.080.

(B) The commissioner may issue public aerial shooting permits or public land and shoot permits as a method of wolf removal pursuant to AS 16.05.783.

(C) The commissioner may reduce the bear population within the brown bear focus area by means and direction included in the Board of Game Bear Conservation and Management Policy (2004-147-BOG).

(7) Anticipated time frame and schedule for update and reevaluation.

(A) For up to five years beginning on January 1, 2005, the commissioner may reduce the wolf population in the Upper Yukon/Tanana 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, wolf and brown bear populations, and recommendations for changes, if necessary, to achieve the plan's objectives.

(8) Other specifications the Board considers necessary.

(A) The commissioner shall reduce the wolf and brown bear populations in an efficient manner, but as safely and humanely as practical.

(B) The commissioner will suspend wolf control activities

- (i) When wolf inventories and/or accumulated information from permittees indicate the need to avoid reducing wolf numbers below the management objective of 50 wolves specified in this section; or
- (ii) When spring conditions deteriorate to make wolf control activities infeasible; or
- (iii) No later than April 30 during any regulatory year.

(C) The commissioner will suspend brown bear control activities

- (i) When extrapolated population estimates for brown bear and/or accumulated information from permittees indicate the need to avoid reducing brown bear numbers below the management objective of 54 bears specified in this section; or
- (ii) No later than June 30 during any regulatory year.

(D) 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.

(E) The commissioner will annually close wolf hunting and trapping seasons, and brown bear hunting seasons, as appropriate to insure that the minimum wolf and brown bear population objective is met.

ISSUE: On January 17, 2006, in Anchorage, the Superior Court issued an Order on Motions for Summary Judgment in the case of Friends of Animals, et al., 3An-03-13489 CI, holding 5AAC 92.125(1),(5),(6),(7), and (8) (predator control implementation plans for five areas in Alaska) invalid because they were overly broad in geographic scope in two cases, and because all had failed to comply with some of the requirements of 5AAC 92.110(b). This ruling was issued in the middle of the Regulatory Year 2005/2006 predator control season for each area, while control operations were underway.

On Jan. 25, 2006, the Board of Game held an emergency teleconference and adopted updated plans, in compliance with the court order. The Board intends to make these updated plans permanent at the March 2006 meeting in Fairbanks, and is publishing them to allow further public comment at that regularly scheduled meeting.

WHAT WILL HAPPEN IF NOTHING IS DONE? Predator control efforts will cease.

WILL THE QUALITY OF THE RESOURCE HARVESTED OR PRODUCTS PRODUCED BE IMPROVED? If successful, the continuation of predator control efforts will allow prey populations to increase, and provide more animals for future harvest by hunters.

WHO IS LIKELY TO BENEFIT? All hunters who rely on the involved prey populations for meat.

WHO IS LIKELY TO SUFFER? Anyone opposed to intensive control of predator populations.

OTHER SOLUTIONS CONSIDERED? None.

PROPOSED BY: Alaska Dept. of Fish and Game (HQ-06S-G-092)

PROPOSAL 164 - 5 AAC 92.125-Update existing predator control implementation plan for Unit 19(D)-East.

5 AAC 92.125(10) Unit 19(D)-East wolf predation control implementation plan.

(1) Geographical area description. 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 predator control program does not apply within National Park Service or National Wildlife Refuge lands unless approved by the federal agencies.

(2) Authorization for the department to conduct a predation control program. Notwithstanding any other provision in this title, the commissioner or the commissioner's designee may conduct a wolf population reduction or wolf population regulation program in the Unit 19(D)-East wolf predation control area.

(3) Discussion of wildlife population and human use information. In 2001, the Alaska Department of Fish and Game (department) established an Experimental Micro Management Area (EMMA) within the Unit 19(D)-East wolf predation control area to focus predation management and research activities in a relatively small area. The EMMA encompasses lands in an approximately 20-mile radius surrounding McGrath (528 mi²). The Board of Game (board) endorsed the EMMA concept and allowed the department discretion to change the size of the wolf predation control program within the Unit 19(D)-East wolf predation control area to allow for adaptive management. Wolf control began in late winter/early spring 2004. Additionally, a bear live-capture/removal research program was conducted in spring 2003 and 2004 to assess the effect on the moose population of removing three species of predators.

(A) Prey population information.

(i) The moose population in 19(D) East underwent a substantial decline during the early 1990s because of severe winters with deep snow and abundant predators. Although this preceded the use of subunit-wide population estimation surveys, Department trend count data, staff observations, and common agreement among local residents leaves little doubt that the moose population was much higher 20 years ago;

(ii) In 2001 the moose population size in Unit 19(D)-East (8,513 mi²) was estimated at 3,959 moose (0.46 moose/mi²; range 2,460–5,494 moose). This estimate was based on a survey conducted in a 5,204 mi² area and extrapolations were made to the remaining 3,309 mi² portion of 19D-East. In 2004, the moose population size in Unit 19(D)-East was estimated at 4,374 moose (0.5 moose/mi²; range 3,444–5,281 moose). Results of these surveys indicate that moose densities in Unit 19(D)-East show no clear trend because the estimated ranges overlap. Moose densities within the 528 mi² EMMA are approximately 1.0 moose/mi² and are increasing. The 2004 estimate of 0.5 moose/mi² is considered to be within the range of densities associated with Low Density Dynamic Equilibrium (LDDE) moose populations that are predator-limited;

(iii) Parturition rates for radiocollared female moose in Unit 19(D)-East ranged from 73% to 92% and twinning rates ranged from 25% to 44%, during 2001 through 2005; indicating high productivity;

(iv) In 2001, 25 calves:100 cows were observed, which is substantially lower than the 56 calves:100 cows observed in 2004. The increase in calves:100 cows followed bear removal in springs 2003 and 2004. The bull: cow ratios in 2001 and 2004 were high (>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:100 cows was 12:100.

(v) Calf survival was low (less than 30%) during 2001 and 2002 (pre-control) and higher (more than 40%) in 2003 and 2004 (during wolf control). Based on calf mortality studies in 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 61% of the mortality was attributed to deep snow in 2004. Survival of radiocollared yearling females varied from 74% to 94% during 2001–2005. The highest survival occurred in winter 2004–05. 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) The Intensive Management (IM) 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 4% of the 2004 population estimate of 3,444–5,281 moose, the current harvestable surplus is 138–158 bull moose.

(vii) Habitat quality in Unit 19(D)-East is not currently limiting moose population growth. Over 2300 linear miles of riparian habitat exists in Unit 19(D)-East. Moose browse is generally associated with recent disturbance 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, during years with deep snow, forage availability is reduced and moose can starve, particularly calves.

(viii) Browse surveys conducted in Unit 19(D)-East in March 2001 and 2003 indicated low biomass removal rates of 16% and 20%. Twinning rates of radiocollared females were high (24–44%) during 2001 through 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 substantially higher moose population.

(ix) The number of animals 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 5AAC 92.108. The moose population in Unit 19(D)-East is well below the IM objective set by the board.

(x) Without an effective wolf predation control program, moose in Unit 19(D)-East are likely to persist in a Low Density Dynamic Equilibrium (LDDE) state with little expectation of increase. Data from moose mortality and predator/prey studies conducted throughout Alaska and similar areas in Canada indicate that reducing the number of wolves in Unit 19(D)-East can reasonably be expected to increase the survival of calf as well as older moose, particularly yearlings.

(B) Human use information for prey population.

(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 amount necessary for subsistence (ANS) established by the board for Unit 19 is 430-730 moose. The total ANS for Unit 19 is based on average amounts of moose used by residents of communities along the Kuskokwim River in Unit 19, and includes an estimate of subsistence need for moose in Unit 19 by residents of Unit 18. An estimated 130-150 moose are needed for subsistence use by residents of communities in Unit 19(D)-East.

(iii) In recent years, only Alaska residents have been allowed to hunt in Unit 19(D)-East and registration permits are required (RM650). This registration hunt was implemented in 2001 and reporting rates have been high ($\geq 95\%$). The number of permits issued ranged between 237 and 293 and has decreased each year. During 2001–2005, harvest ranged from 60 to 98 moose with a success rate ranging from 35 to 43 percent.

(iv) The nonresident hunting season was closed in 1995. If the season could be opened and the size of the Upper Kuskokwim Controlled Use Area could be reduced, there would be a demand for moose by nonresident hunters also.

(v) Until the IM harvest objective of 400-600 moose has been reached, the demand for more moose will not be met. Based on management experience gained in Unit 19(D)-East, 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 greater sustained increase. However, without a wolf 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.

(C) Predator population information

(i) In February 2001, aerial wolf surveys were conducted within a 5,204 mi^2 portion of Unit 19(D)-East. An extrapolated population estimate of 198 wolves (23.3 wolves/1000 mi^2) for Unit 19(D)-East was calculated from the survey and harvest data. That estimate represents the previous autumn (2000) pre-control wolf population size. The ratio of moose to wolves within Unit 19(D)-East was estimated to be 12:1–28:1.

(ii) In March 2005, aerial wolf surveys were conducted in a 3,210 mi^2 portion of Unit 19(D)-East. An extrapolated population estimate of 103 wolves (12.1 wolves/1000 mi^2) for Unit 19(D)-East was calculated from the survey and harvest data. That estimate represents the previous autumn (2004) wolf population size. The current ratio of moose: 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 4 to 7 moose per wolf per winter. Little alternative prey is available for wolves within Unit 19(D)-East. 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 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) Studies in Alaska and elsewhere have repeatedly concluded that large reductions are required to affect wolf population levels and to reduce predation by wolves on their prey. Research indicates a reduction of about 60-80% 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% will likely regulate the wolf population at the control objective. The minimum wolf population objective for Unit 19(D)-East is 40 wolves. That represents an 80% reduction from the pre-control minimum estimated autumn wolf population of 198 wolves (23.3wolves/1000 mi^2). The minimum wolf population control objective will achieve the desired reduction in wolf predation, and also ensure that wolves persist within the plan area.

(vi) The moose and wolf 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 maintained at 40 for several years but once the moose population increases and wolf control efforts are discontinued the wolf population will increase according to the increased prey base.

(D) Human use information for predator population

(i) During regulatory years 1997–98 through 2004–05, reported harvest of wolves ranged from 14 to 39 wolves annually in Unit 19(D)-East. That 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 by wolf control permittees.

(ii) 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. In addition, the low price of wolf pelts and high cost of fuel make it difficult for local residents to harvest a high number of wolves throughout the unit. Also, pelt quality for most 19D-East wolves is low, which reduces the financial incentive to hunt or trap wolves.

(4) Predator and prey population levels and population objectives and basis for those objectives.

(A) The estimated moose population in Unit 19(D)-East is 3,444–5,281 moose. The moose population objective for Unit 19(D)-East is 6,000-8,000 moose. IM objectives were based on historical information about moose numbers, carrying capacity of the habitat, sustainable harvest levels, and human use.

(B) The pre-control estimated minimum wolf population in Unit 19(D)-East was 198 wolves during autumn 2000. 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 substantially reduce wolf numbers compared to the pre-control level in order to relieve predation pressure on moose and allow for improved recruitment to the moose population. This plan also has as a goal to maintain wolves as part of the natural ecosystem within the described geographical area. To achieve the desired reduction in wolf predation, but ensure that wolves persist within the plan area, the wolf population in Unit 19(D)-East will be reduced to no fewer than 40 wolves.

(C) The minimum wolf population objective for Unit 19(D)-East is 40 wolves, which represents an 80% reduction from the pre-control minimum estimated autumn wolf population of 198 wolves (23.3wolves/1000 mi²). The minimum wolf population control objective will achieve the desired reduction in wolf predation, and also ensure that wolves persist within the plan area.

(5) Justifications for predator control plan.

(A) The estimated size of the moose population in Unit 19(D)-East is 3,444–5,281 moose. The harvestable surplus of moose in Unit 19(D)-East is 138-158 moose which compares favorably with the 130-150 moose needed for local subsistence use. However, local subsistence use is almost entirely restricted to boat-accessible waterways which allow access to only a limited portion of the Unit 19(D) East moose population, hence access to only a limited portion of the harvestable surplus. This is borne out by current harvests of 60-98 moose despite significant increases in hunting effort by local users. The board designation of a harvest objective

of 400-600 should provide for local subsistence use and other uses as well. The moose population and harvest objectives for Unit 19(D)-East have not been met although progress is apparent. The number of moose in the EMMA is increasing, and the decline in the overall moose population in Unit 19(D) East has been stopped. Continued wolf control can be reasonably expected to further reduce mortality on moose and result in positive growth of the moose population toward the population objective.

(B) With an estimated pre-control population of 198 wolves in 2001, at least 672 moose were being killed each winter. At the population level of 103 wolves, at least 412 moose are killed each winter. 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 4 to 7 moose per wolf per winter.

(C) Reducing wolf numbers through a wolf predation control program, combined with reduction in moose harvest and increased bear harvest, is the approach most likely to succeed in a recovery of the moose population. Wolf harvest through hunting and trapping efforts has not resulted in lowering the wolf population sufficiently to allow the moose population to grow. Implementing restrictions on moose hunting and liberalizing wolf and bear trapping and hunting seasons has not resulted in lowering the wolf population sufficiently to allow the moose population to grow. Since 1995, when the board established a wolf predation control area in Unit 19(D)-East, 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 5 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. In 2004-2005, the area that included the EMMA was closed to all moose hunting under the conditions of the registration permit. Also, the fall season was extended by 5 days in the hunt area outside the EMMA in an attempt to accommodate subsistence users need to harvest moose. In addition to restrictions on moose hunting, the board has liberalized some black bear and brown bear regulations in Unit 19(D)-East. 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 2 black bears in addition to the existing 3 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 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 of the fall and spring hunting seasons were extended by a total of 41 days.

(D) 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 not an effective reduction technique in sparsely populated areas such as Unit 19(D)-East. Numbers of hunters and trappers are relatively low and educational programs to stimulate interest and improve skills in taking wolves are in the early stages of development, and so far have been unsuccessful in increasing the harvest of wolves. The inherent wariness of wolves, difficult access, and relatively poor pelt prices 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 is impractical because it is expensive and it is very difficult to find publicly acceptable places for relocated wolves. 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 Unit 19(D) East . 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 of moose is impractical because of capturing and moving expenses. Any of the alternatives to a wolf predation control program are not likely to be effective in achieving the desired level of predator harvest.

(E) Without an effective wolf predation control program, the wolf harvest objective 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. Data from moose mortality and predator/prey studies conducted throughout Alaska and similar areas in Canada indicate that reducing the number of wolves in Unit 19(D)-East can reasonably be expected to increase the survival of calf as well as older moose. Reducing wolf 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 over large expanses of territory in a vast and remote region like the majority of Unit 19(D)-East. With a reduction in wolf-caused mortality and restrictions in harvest, the moose population is expected to grow.

(6) Methods and means

(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 for in 5 AAC 92.080.

(B) The commissioner may issue public aerial shooting permits or public land and shoot permits as a method of wolf removal pursuant to AS 16.05.783.

(7) Anticipated time frame and schedule for update and reevaluation

(A) For up to five years beginning on July 1, 2004, the commissioner may reduce the wolf population in Unit 19(D)-East.

(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 and wolf populations, and recommendations for changes, if necessary, to achieve the plan's objectives.

(8) Other specifications the Board considers necessary.

(A)The commissioner shall reduce the wolf population in an efficient manner, but as safely and humanely as practical.

(B)The commissioner will suspend wolf control activities

(i) When wolf inventories and/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; or

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

(iii) No later than April 30 in any regulatory year.

(C) Wolf 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.

(D) The commissioner will annually close wolf hunting and trapping seasons as appropriate to insure that the minimum wolf population objective is met.

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WHAT WILL HAPPEN IF NOTHING IS DONE? Predator control efforts will cease.

WILL THE QUALITY OF THE RESOURCE HARVESTED OR PRODUCTS PRODUCED BE IMPROVED? If successful, the continuation of predator control efforts will allow prey populations to increase, and provide more animals for future harvest by hunters.

WHO IS LIKELY TO BENEFIT? All hunters who rely on the involved prey populations for meat.

WHO IS LIKELY TO SUFFER? Anyone opposed to intensive control of predator populations.

OTHER SOLUTIONS CONSIDERED? None.

PROPOSED BY: Alaska Dept. of Fish and Game (HQ-06S-G-091)

Adopted by the Board of Game on January 25, 2006 as emergency regulations.

PROPOSAL 165 - 5 AAC 92.125- Update existing predator control implementation plan for Unit 13.

5 AAC 92.125(12). Unit 13 Wolf Predation Control Implementation Plan.

(1) Geographical area description. A Unit 13 wolf predation control area is established and consists of all lands within Units 13(A), 13(B), 13(C), and that portion of Unit 13(E) east of the Alaska Railroad, except federal lands, encompassing approximately 15,413 square miles.

(2) Authorization for the department to conduct a predation control program. Notwithstanding any other provision in this title, the commissioner or the commissioner's designee may conduct a wolf population reduction or wolf population regulation program in the Unit 13 wolf predation control area.

(3) Discussion of wildlife population and human use information.

(A) Prey population information

(i) Based on extrapolation of fall 2005 count area densities, moose population estimates by subunit were: 3060 in Unit 13(A), 3970 in Unit 13(B), 1170 in Unit 13(C), and 3540 in Unit 13(E).

(ii) Historical moose count area data indicate that habitat carrying capacity has not likely ever been reached by this population. This population peaked during the late 1980s in excess of 20,000 moose for all of GMU 13. During that time, fall data

indicated calf:cow ratios unit-wide were at peak levels, suggesting the habitat carrying capacity had not been reached. The subsequent population decline was attributed to seven years of deep snow from 1988 to 1994. An observed twinning rate of 29% in 1992 within eastern 13E, shortly after the population peak, was indicative of a level of nutrition well above what would be expected had carrying capacity been reached.

(iii) The age structure of the population shifted towards older age classes between the mid 1990s and approximately 2003, during which time the calf:cow ratio declined dramatically and remained low. The actual number of calves counted across standard count areas declined 62% from 753 in 1996 to 284 in 2000. Recruitment has slowly improved since 2000. The percentages of calves during the fall 2005 surveys in 13(A), 13(B), 13(C), and 13(E) were 9%, 15%, 13%, and 11% respectively. The percentage of yearling bulls observed during moose counts has also consistently risen across the area since 2001;

(iv) The bull:cow ratio within the Unit 13 moose population has steadily risen over the last 11 years from 16:100 in 1994 to 25:100 in 2005, largely due to changes in harvest regulations. The estimated number of cows in the area is below the management objective. The cow density per square mile observed in trend count areas during fall 2005 surveys in Units 13(A), 13(B), 13(C), and 13(E) were 1.1, 0.8, 0.8, and 0.5 respectively.

(v) Observations during 2004 of radiocollared cow moose in western Unit 13(A) during 2004 indicated 91% parturition among cow moose 3 years of age and up, and 73% parturition among cow moose 2 years of age and up.

(vi) Historically, observed fall calf:cow ratios have been used to indicate initial recruitment within this population considering the majority of calf mortality occurs prior to fall moose counts. Fall calf:cow ratios within this area have steadily risen from 11:100 in 2000 to 18:100 in 2005. The fall 2005 calf:cow ratios observed in 13(A), 13(B), 13(C), and 13(E) were 12:100, 23:100, 18:100, and 16:100 respectively. Estimated annual calf survival between 2001 and 2004 ranged 15% - 31%;

(vii) Harvestable surplus in this area is estimated at 4 to 5 percent of the total moose population based on information from other interior and south-central moose populations. The current harvest rate for subunits 13(A), 13(B), 13(C), and 13(E) is estimated at 3.3 to 3.8 percent of the population.

(viii) The population objectives for Units 13(A), 13(B), 13(C), and 13(E) as established in 5AAC 92.108 are 3500-4200, 5300-6300, 2600-3500, and 5000-6000 respectively. These objectives are below the maximum moose numbers observed in these areas between 1987 and 1989 and are likely attainable given the history of productivity and survival patterns in this area;

(ix) The moose harvest objectives for Units 13(A), 13(B), 13(C), and 13(E) as established in 5AAC 92.108 are 210-420, 310-620, 155-350, and 300-600 respectively. The current harvest objectives are fully attainable given the history of harvest patterns in this area;

(x) The estimated annual mortality of radiocollared cows in western subunit 13(A) ranged from 7 - 11 percent between 2001 and 2004. Natural bull mortality across this area likely ranges from 8 - 20 percent depending on snow depths and predation. The average bull harvest from 2000 to 2004 was 159, 149, 75, and 102 for subunits 13(A), 13(B), 13(C), and 13(E) respectively.

(xi) This moose population is considered to have moderate productivity in relation to surrounding interior and south-central moose populations. The moose habitat in Unit 13 has not changed considerably over the past 40 years. This area is generally considered interior boreal forest, and being south of the Alaska Range, this area regularly receives more annual precipitation and thus less frequent fires than adjacent more

productive interior Units 12 and 20. Twinning rates have consistently been a key indicator of moose habitat quality. Data from radio-collared cow moose in western subunit 13(A) between 1994 and 2004 indicate moderate twinning rates between 9 and 27 percent.

(xii) Concurrent with the initial adoption of the wolf control implementation plan for this area in 2000, increases in wolf hunting and trapping occurred. This increased effort was concentrated in areas of western Unit 13(A) with good winter access. This initial pressure reduced wolf numbers enough to bring about a slight increase in moose numbers in this isolated area. Moose in the remainder of Unit 13, however, continued to decline. The implementation of same day airborne wolf taking under the wolf predation control plan from January 2004 to January 2006 has effectively halted the moose population decline across subunits 13(A), 13(B), and 13(E). This change is evidenced by increased numbers of adult moose in the portion of Unit 13(A) accessible to aircraft landings, and by small increases in calf and yearling numbers across Units 13(A), 13(B), and 13(E).

(B) Human use information for prey population

(i) Historically, subsistence moose harvest in Unit 13 has been largely managed under permit systems, either by registration, drawing, or Tier II. Harvest in this area has been recorded since the mid 1960s. Since 1980, the annual Unit 13 subsistence moose harvest averaged 149, 77, and 99 for the decadal periods 1980-89, 1990-99, and 2000-04. The subsistence harvest accounted for 13, 10, and 17 percent of the total harvest for the same three periods.

(ii) The average annual number of hunters participating in Unit 13 subsistence moose hunts averaged 465, 391, and 556 for the periods 1980-89, 1990-99, and 2000-2004. These are subsistence permit or harvest ticket holders who reported hunting. Many hunters who were unsuccessful in receiving a state subsistence permit likely took part in the general season; thus reported demand for subsistence is likely a minimum estimate.

(iii) Since 1963, the average annual harvest from general moose hunts in Unit 13 has averaged 1501, 919, 804, 797, and 469 for the decade periods 1963-69, 1970-79, 1980-89, 1990-99, and 2000-04. The general harvest accounted for 83 and 100 percent of the total harvest for the same periods. The average annual number of hunters participating in general hunts averaged 3805, 3071, 3325, 4448, and 2977 for the periods 1963-69, 1970-79, 1980-89, 1990-99, and 2000-04. During three years in the mid 1990s, over 5,500 individuals hunted during the general moose hunt in Unit 13. To help reduce harvest pressure in Unit 13, the moose hunting bag limits were changed in 1990 from one moose across subunits 13(A), 13(B), 13(C), and 13(D) to one bull with 36" antlers; spike/fork bulls were also allowed. Between 1990 and 1992, seasons were also shortened considerably; the annual general harvest dropped from 891 in 1989 to 382 in 1990 due to this change. In 1993, a small drawing hunt for cows was implemented in subunit 13(A), though the unit-wide bull bag limit changed to one bull with a spike or fork or 50" antlers or antlers with 3 or more brow tines on one side. The brow tine restriction was increased to 4 or more brow tines in 2001. In 1995, a Tier II hunt was added for any bull unit-wide; 150 permits were available. Since 2002, the nonresident season was closed unit-wide.

(C) Predator population information

(i) It is the intent of this plan to maintain wolves as part of the natural ecosystem within the geographical area described for this plan. However, studies in Alaska and elsewhere have repeatedly concluded that large annual reductions in wolf populations are required to reduce predation by wolves on their prey. To achieve the desired reduction in wolf predation, but insure that wolves persist within the plan area,

population management takes into consideration, the potential for immigration and the availability of alternate prey in the area;

(ii) The fall 2005 population estimate was 260 to 290 wolves, based on wolf and track sightings gathered from staff biologists, hunters, trappers, and pilots, adjusted for documented harvest. Pack observations from wolf control permittees increase the documentation of pack ranges and enhances population estimates.

(iii) The wolf population in Unit 13 peaked at just over 500 wolves during 1999 and 2000. No carrying capacity has been established for wolves in Unit 13, but it is likely above 520 wolves.

(iv) The estimated moose to wolf ratio for Unit 13 ranged from 38.1 to 43.0 in fall 2004, and improved to 51.8 to 58.6 in the fall of 2005.

(v) Alternate prey in this area include large prey items such as caribou and sheep, as well as relatively abundant beaver, and the cyclic populations of small game such as upland birds and hares. Nelchina Herd caribou, which summer entirely in this area, are relatively abundant, and have ranged between 30,000 and 37,000 animals since 2000. Generally, 10 to 50 percent of the Nelchina Caribou Herd winters in central Unit 13. Sheep are only available in western subunit 13(A), small portions of subunit 13(E), and subunit 13(D) which is outside the control area.

(vi) The number of moose killed by wolves in this area is dependent on snow depth and the abundance of alternate prey, particularly caribou. Depending on snow depth, the availability of alternate prey, and average pack size, wolves in Unit 13 likely take between 1000 and 4000 moose per year.

(vii) The mortality of wolves in this area has historically been dominated by human harvest. Since 2000, the annual harvest of wolves in Unit 13 has averaged 203 (44% of the estimated annual population). Additional natural mortality within this population due to intra-specific strife or old age is likely 5 percent or less.

(viii) The spring (late winter) population objective for Unit 13 was set at 150 wolves throughout the 1980s based on prior evidence that when the wolf population had been maintained at this level, the moose population was able to grow, and provide a desired level of harvestable surplus. In the early 1990s, the Department adopted a range of 135 to 165 wolves as the late winter objective. When applied to the wolf habitat within Unit 13, this equates to a density of 3.3 to 4.1 wolves per 1000 km².

(ix) The annual harvest objective for wolves is the difference between the fall population estimate and the desired population objectives. Preliminary fall estimates are developed using the spring estimate and expected reproductive success however, these preliminary fall estimates and the harvest objectives are continually refined throughout the winter. The preliminary unit-wide harvest objective for the 2005-2006 season, calculated as the difference between the fall population estimate and the desired population objective, was set at 80 to 110 wolves.

(D) Human use information for the predator population.

(i) Harvest of wolves with a firearm (excluding same day airborne take) has been highly variable since the early 1970s and has ranged from 0 to 97 wolves, and 0 to 69 percent of the total take in Unit 13. Harvest of wolves with the use of a snare or trap has similarly been highly variable and has ranged from 20 - 166, and 22 - 83 percent of the total take over the same period.

(ii) Given the difficulty in finding wolves, harvest pressure diminishes as the wolf population declines. Hunter harvest of wolves has always been highly opportunistic, and is difficult to predict. Trapper harvest of wolves is limited by the number of trappers willing to spend the time and effort to target this furbearer and by variable winter travel conditions. In addition to open creeks and regular overflow, many

large rivers in the area have stayed open until late-winter, or even year-round, completely eliminating trapping pressure from remote areas of the unit;

(iii) Some hunters and trappers will continue to pursue wolves in Unit 13 regardless of same day airborne wolf control efforts. Considering the majority of wolves taken under wolf control permits are from remote interior portions of the unit, they are geographically separated from most wolf hunters or trappers. If wolf predation control programs are not underway, some of the program participants will simply shift their effort back to ground based harvest, though their efforts will be less effective.

(4) Wolf and prey population levels and population objectives and the basis for those objectives.

(A) The moose population objectives for Units 13(A), 13(B), 13(C), and 13(E) as established in 5AAC 92.108 are 3500-4200, 5300-6300, 2600-3500, and 5000-6000 respectively. These objectives were based on historical information about moose numbers, habitat condition, sustainable harvest levels, and human use. The objective levels are below the maximum moose numbers observed in these areas between 1987 and 1989 and are likely attainable given the history of productivity and survival patterns in this area;

(B) The pre-control estimated wolf population in Unit 13 was over 500 wolves during fall of 2000. 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 substantially reduce wolf numbers compared to the pre-control level in order to relieve predation pressure on moose and allow for improved recruitment to the moose population. This plan also has as a goal to maintain wolves as part of the natural ecosystem within the described geographical area. To achieve the desired reduction in wolf predation, but insure that wolves persist within the plan area, the wolf population in Unit 13 will be reduced to no fewer than 135 wolves.

(C) The spring (late winter) population objective for Unit 13 was set at 150 wolves throughout the 1980s based on prior evidence that when the wolf population had been maintained at this level, the moose population was able to grow, and provide a desired level of harvestable surplus. In the early 1990s, the Department adopted a range of 135 to 165 wolves as the late winter objective. When applied to the wolf habitat within Unit 13, this equates to a density of 3.3 to 4.1 wolves per 1000 km².

(5) Justifications for the predator control implementation plan.

(A) Unit 13 long has been an important hunting area for subsistence by local area residents and much of the state's population in Anchorage, the Matanuska-Susitna valley, and Fairbanks. It is recognized under the state's intensive management law as an area where moose and caribou are to be managed for high levels of human consumptive use.

(B) The management objectives set by the Board of Game for the moose population and human harvest are not being met. Bans on the same day airborne take of wolves in 1987 and again in 1996 allowed the wolf population to increase. Since the early 1990s the moose population has declined after several years of deep snow and from wolf predation from a record high wolf population. As the moose population declined, calf predation by brown bears accentuated the decline. In an effort to re-initiate predation control activity, the Board of Game established a wolf predation control area covering much of Unit 13 under 5 AAC 92.125(5) in 2000. Though the wolf predation control area had been established, no aerial based action was taken by the state until January 2004 when land and shoot wolf control by state permittees was initiated. The most recent moose trend counts have indicated that while the decline has stopped, the population is only beginning to recover. Further control of wolf predation is necessary to increase the moose population to the objective level.

(C) Continuation of wolf predation control will reduce wolf-caused mortality and improve moose survival. Land and shoot wolf take has been implemented in Unit 13 in the past,

and has effectively reduced moose mortality to allow the moose population to increase. The private pilots participating as permittees in this program to date have proven extremely effective in reducing the wolf population when allowed to take wolves on the same day they are airborne

(D) Historical predator/prey management in Unit 13 has shown that when the late-winter (spring) wolf population was maintained at 135 to 165 wolves, annual moose survival was adequate to allow the population to increase.

(E) The unit-wide wolf take is slightly below the harvest objective, in part because take is split between same day airborne take, hunting, and trapping. The level of take is near objective levels in the central portion of the wolf control implementation area. Hunting and trapping harvest outside the implementation area has been lower and more difficult given the lack of access related to open water and the difficulty in taking wolves that have larger home-ranges due to low prey density. The use of same day airborne techniques allows wolf densities to be reduced in the central portion of the wolf control implementation area, the most important winter moose habitat in Unit 13. Hunting and trapping harvest supplement predation control activities by harvesting wolves along the road system. These complementary programs will effectively reduce the unit-wide wolf population to the objective level.

(F) By reducing year-round mortality on all demographic groups of the moose population simultaneously, the reduction of wolf predation will help ensure a consistent age structure in the moose population as it increases.

(G) Multiple measures have already been taken to improve survival of moose in this area, including the liberalization of seasons and bag limits for wolves, brown bears, and black bears over the past decade. The current wolf hunting and trapping seasons are effectively maximized and any further extensions into the summer season would likely fail to increase the take by any significant amount. The current hunting seasons for brown and black bears are year-round with no resident tag requirement.

(H) Presently known alternatives to predator control for reducing the number of predators are ineffective, impractical, or uneconomical. 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 Unit 13. Numbers of hunters and trappers are relatively low and educational programs to stimulate interest and improve skills in taking wolves are in the early stages of development, and so far have been unsuccessful in increasing the harvest of wolves. The inherent wariness of wolves, difficult access, and relatively poor pelt prices 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 is impractical because it is expensive and it is very difficult to find publicly acceptable places for relocated wolves. 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 populations low in rural areas of Interior Alaska. 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 of moose is impractical because of capturing and moving expenses. Any of the alternatives to a wolf predation control program are not likely to be effective in achieving the desired level of predator harvest.

(6) Methods and means.

(A) Hunting and trapping of wolves by the public in Unit 13 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 for in 5 AAC 92.080.

(B) The commissioner may issue public aerial shooting permits or public land and shoot permits as a method of wolf removal pursuant to AS 16.05.783.

(7) Anticipated time frame and schedule for update and reevaluation

(A) For up to five years beginning on July 1, 2005, the commissioner may reduce the wolf population within the Unit 13 predation control implementation plan area.

(B) Annually, at the regularly scheduled spring board meeting, the department shall to the extent practicable, provide to the board a report of program activities conducted during the preceding 12 months, including implementation activities, the status of moose and wolf populations, and recommendations for changes, if necessary, to achieve the plan's objectives.

(8) Other specifications the board considers necessary.

(A) The commissioner shall reduce the wolf population in an efficient manner, but as safely and humanely as practical.

(B) The commissioner will suspend wolf control activities

(i) When wolf inventories and/or accumulated information from permittees indicate the need to avoid reducing wolf numbers below the management objective of 135 wolves specified in this section; or

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

(iii) No later than April 30 in any regulatory year.

(C) Wolf 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.

(D) The commissioner will annually close wolf hunting and trapping seasons as appropriate to insure that the minimum wolf population objective is met.

ISSUE: On January 17, 2006, in Anchorage, the Superior Court issued an Order on Motions for Summary Judgment in the case of Friends of Animals, et al., 3An-03-13489 CI, holding 5AAC 92.125(1),(5),(6),(7), and (8) (predator control implementation plans for five areas in Alaska) invalid because they were overly broad in geographic scope in two cases, and because all had failed to comply with some of the requirements of 5AAC 92.110(b). This ruling was issued in the middle of the Regulatory Year 2005/2006 predator control season for each area, while control operations were underway.

On Jan. 25, 2006, the Board of Game held an emergency teleconference and adopted updated plans, in compliance with the court order. The Board intends to make these updated plans permanent at the March 2006 meeting in Fairbanks, and is publishing them to allow further public comment at that regularly scheduled meeting.

WHAT WILL HAPPEN IF NOTHING IS DONE? Predator control efforts will cease.

WILL THE QUALITY OF THE RESOURCE HARVESTED OR PRODUCTS PRODUCED BE IMPROVED? If successful, the continuation of predator control efforts will allow prey populations to increase, and provide more animals for future harvest by hunters.

WHO IS LIKELY TO BENEFIT? All hunters who rely on the involved prey populations for meat.

WHO IS LIKELY TO SUFFER? Anyone opposed to intensive control of predator populations.

OTHER SOLUTIONS CONSIDERED? None.

Adopted by the Board of Game on January 25, 2006 as emergency regulations.

PROPOSAL 166 - 5 AAC 92.125- Update existing predator control implementation plan for Unit 16(B).

5 AAC 92.125(13). Unit 16(B) Wolf Predation Control Implementation Plan.

(1) Geographical area description. A mainland 16(B) wolf predation control area is established and consists of all non-federal lands within the mainland portion of Game Management Unit 16(B) encompassing approximately 10,393 square miles.

(2) Authorization for the department to conduct a predation control program. Notwithstanding any other provision in this title, the commissioner or the commissioner’s designee may conduct a wolf population reduction or wolf population regulation program in the Unit 16B wolf predation control area.

(3) Discussion of wildlife population and human use information.

(A) Prey population information

(i) The moose population for mainland Unit 16(B) was estimated in fall 2005 to be 3193 – 3951 moose, based on aerial surveys in 2003- 2005 in the unit. This population is composed of subpopulations that reside wholly in the unit; however, a subpopulation from the flanks of Mount Yenlo and in the upper Lake Creek drainage mixes in winter with moose from Unit 16(A) in the Kahiltna River drainage, and a subpopulation from the flanks of Mount Susitna and the drainages of Alexander Creek and lower Yentna River winters with moose from Units 14(A), 14(B), and 16(A) in the lower Yentna and Susitna Rivers;

(ii) Habitat does not appear to be limiting the moose population, or a factor in calf survival, and is not expected to limit the moose population at objective levels. While the majority of the unit is covered with mature forests, moose habitat has changed little since the high moose densities of the early 1980s. Prescribed burning has been the only economically viable option for improving moose habitat and opportunities to conduct controlled burns are limited by climate, access, and privately owned lands with structures dispersed throughout the unit. The minimum moose density objective is 1.0 moose per square mile for mainland Unit 16(B) based on the intensive management objective of 6,500 – 7,500 moose. There are approximately 6,500 square miles of available moose habitat. Presently, mainland 16(B) moose population estimates place the moose density at .55 moose per square mile.

(iii) The age structure of the population is believed to have shifted towards the older age classes in the 1990s as the moose population declined. The number of spike-fork bulls estimated in the mainland 16(B) survey data from 1999 – 2005, which is approximately the same as the number of yearling bulls in the population, showed ratios of 3 to 8 yearling bulls to 100 cows. Assuming these numbers to be half of the year’s cohort, this indicates an approximate recruitment rate of 6 – 16 %. Given estimated moose mortality rates in the mainland 16(B) population, the decline in numbers and/or lack of recovery is expected to continue without active predation control activities.

(iv) The bull to cow moose ratio for mainland Unit 16(B) in fall 2003 – 2005 was estimated to be 23 to 35 bulls per 100 cows. This is similar to average bull to cow ratios of 24 to 44 observed in the unit in the mid – 1990s, thus the herd is presently above the management objective for this parameter.

(v) Limited flights to count newborn calves and natality data from radiocollared moose indicated that 80 percent of adult cows gave birth, with 50 percent of these having twins. Together, these data indicated a birth rate of 122 calves per 100 cows;

(vi) The calf to cow moose ratio during fall moose surveys from 2003 to 2005 ranged between 14 and 23 calves per 100 cows, with estimated over-winter calf mortality of 40 percent, resulting in a recruitment rate of 8 to 14 moose per 100 cows. Information collected from radio-collared moose in December following parturition indicate a calf survival rate of 8 percent and a calf to cow ratio of 10:100 which is lower than the ratio of 14 calves per 100 cows counted during the November survey of the population in the study area. The reason for the difference between natality and recruitment appears to be largely due to predation.

(vii) The current harvestable surplus (for 2006) is estimated to be 140 bulls, well under the minimum of 199-227 harvestable moose needed to meet the amount necessary for subsistence. This number is a reflection of the overall decline of the moose population even though bull to cow ratios have been consistently at or above objective. As a result, the moose herd has provided only limited resident-only harvest for several years.

(viii) The Intensive Management population objective established by the Board of Game for the mainland Unit 16(B) moose population is 6,500 – 7,500, and the Intensive Management harvest objective is 310 – 600.

(ix) The decline in the mainland Unit 16(B) moose population is attributed to poor calf survival, high adult mortality, and the inability of the population to recover from the impacts of recurring deep snow winters; snow depths have exceeded 37 inches in 22 of 35 winters. The mainland Unit 16(B) moose population is considered to be reduced substantially from the early 1980s when estimates ranged from 8500 to 10,000 moose and is currently at about half of the IM population objective.

(x) Without an effective wolf predation control program, moose in Unit 16(B) Mainland are likely to persist at low numbers or continue to decline. Data from moose mortality and predator/prey studies conducted throughout Alaska and similar areas in Canada indicate that reducing the number of wolves in Unit 16(B) Mainland can reasonably be expected to increase survival of calf as well as older moose, particularly yearlings.

(B) Human use information for prey population.

(i) Reported subsistence harvest has varied from 30 to over 120 moose, and some additional subsistence harvest occurs within the general fall hunting season when one is held. During Regulatory Year 2003-2004 Tier II subsistence harvest was 80; in RY 2004 – 2005 it was 79.

(ii) High demand for subsistence moose is demonstrated by the 900 to 1100 applicants who annually apply for the 260 Tier II permits available for mainland Unit 16(B). Additional subsistence demand exists within the unit and is captured by the limited general resident-only hunting opportunity that has occurred in September in recent years.

(iii) All general season and fall Tier II moose bag limits were reduced in 1993 to one bull with a spike or fork or 50" antlers or antlers with 3 or more brow tines on one side. Non resident moose hunting opportunity was first reduced to a portion of Unit 16(B) in 1993 and completely eliminated in 2001. All general season hunting was closed in 2001 and 2002 and only a limited Tier I subsistence (resident only) season was allowed in 2003-2005. The average general season harvest was 388 from 1983 through 1989 and declined to 168 from 1990 – 1999. Recent resident-only seasons in 2003 and 2004 produced 83 and 84 bulls, respectively. In 2005, 53 bulls were reported harvested.

(iv) There is a small, limited demand for moose to provide for rural federal subsistence hunting on federal lands within mainland Unit 16(B). There is some interest in moose for viewing opportunities in portions of the unit where guides and other operations provide services that promote wildlife viewing.

(v) It is unlikely that the demand in mainland Unit 16(B) for moose for subsistence and general hunting opportunity will decline. Given the increasing human population in the nearby Anchorage and Mat-Su Valley areas as well as historic local subsistence use, it is probable that demand will match any increase in harvestable surplus gained through active management of the moose herd.

(C) Predator population information,

(i) The fall 2005 wolf population in mainland Unit 16(B) was estimated to be 85- 114 wolves in 10 to 12 different packs, a density of approximately 0.82 to 1.1 wolves per 100 square miles.

(ii) Habitat carrying capacity for wolves is dependant upon prey availability and competition from other predators such as brown and black bears. Carrying capacity for wolves in Unit 16(B) mainland has not been determined, however harvest from sealing records supplemented by reports from trappers and hunters have indicated that the wolf population had increased. The average annual harvest from sealing records during 1984-88 was 6.6 compared to a single year harvest in 2002-2003 of 60.

(iii) In mainland Unit 16(B) the current wolf to moose ratio is between 28 and 46 moose per wolf. The pre-control (2003) estimated ratio was as low as 17:1. Historically, estimates have ranged as high as 250 moose per wolf in this unit.

(iv) Alternate prey include caribou, sheep, beaver, and hare. For most wolves in mainland Unit 16(B) there are few options for alternate prey. Small populations of caribou and sheep exist in the higher elevations of the western side of the unit. However pack territorial structure probably prohibits most wolves from accessing this resource, thus limiting them to smaller prey such as beaver and hare.

(v) The number of moose that are killed by wolves in any given year in this area is highly dependent on the depth of winter snowfall, competition with other predators and the abundance of alternate prey. In Alaska and areas of Canada where moose are the primary prey of wolves, studies documented kill rates ranging from 4 to 7 moose per wolf per winter. Using this range with our current population estimate of wolves in mainland Unit 16(B) wolves are estimated to be capable of taking between 340 and 798 moose per winter

(vi) Mortality factors affecting wolves in mainland Unit 16(B) include human harvest, other wolves, and disease. Harvest of wolves in the unit has increased from a low of 2 animals in the winter of 1990-1991 to 50 in the winter of 2003-04. Total wolf take for 2004- 2005 was 115 animals with 91 of those taken in the predator control program that was initiated in January of 2005.

(vii) It is the intent of this plan to maintain wolves as part of the natural ecosystem within the geographical area described for this plan. However, studies in Alaska and elsewhere have repeatedly concluded that large, annual reductions in wolf populations are required to reduce wolf population levels and predation on their prey. To achieve the desired reduction in wolf predation, but insure that wolves persist within the plan area, the wolf population objective for Unit 16 B mainland is set at between 22 and 45 wolves.

(viii) Wolf harvest objectives in mainland Unit 16(B) mainland have been set in an attempt to reduce the wolf population to the population objective in mainland Unit 16(B) of between 22 and 45. This would require a reduction in wolves from

hunting, trapping, and the control program of between 40 and 92 animals at the current wolf population level.

(ix) Without a predator control program in the Unit 16(B) mainland area, it can be expected that the wolf population will increase to numbers at or above their historic high levels. Current trends in fuel prices, low fur prices, and low quality of wolf pelts in the unit due to the louse infestation, have resulted in a decrease in the hunting and trapping effort in the area, thus removing the major cause of wolf mortality. If the predator control program continues it is expected that the wolf population will be reduced toward the IM population objective.

(D) Human use information for predator population;

(i) Harvest of wolves with a firearm (excluding same day airborne take) has been highly variable since the early 1980s and has ranged from 0 to 27 wolves. Since 2000 firearms have accounted for an average of 19 wolves annually, or 36 percent of the harvest. Harvest of wolves with the use of a snare or trap has similarly been highly variable and has ranged from 1 to 48. Since 2000, traps and snares have accounted for 23 wolves annually, or 44 percent of the harvest.

(ii) Mainland Unit 16(B) receives less trapping pressure than some other areas of the state. Hunter harvest of wolves has always been opportunistic, and is difficult to predict. Trapper harvest of wolves is limited by the number of trappers willing to spend the time targeting this furbearer amidst variable winter travel conditions. Winters have begun later, and have been highly variable in temperature and snowfall in recent years creating hazardous conditions for winter hunters and trappers. In addition to open creeks and regular overflow, many large rivers in the area have stayed open until late-winter, or even year-round, completely eliminating trapping pressure from remote areas of the unit.

(iii) Most Unit 16(B) trappers will continue to pursue wolves in the unit regardless of same day airborne wolf control efforts. Trappers in the unit pursue many different furbearers and do not consider the control program a detriment to their opportunities. If the wolf control program were to be discontinued trapper harvest would likely increase to some extent. The hunters that take wolves in mainland Unit 16(B) do so opportunistically and would therefore not be seriously affected by the status of the wolf control program.

(4) Predator and prey population levels and population objectives and the basis for those objectives.

(A) The fall 2005 moose population was estimated to be 3193 - 3951 moose, compared to the Intensive Management objective of 6500 - 7500. The IM objective was developed by the Board of Game based on historical moose population size and trends, habitat condition, sustainable harvest levels, and human use.

(B) The pre-control population of wolves in the fall of 2003 was 160 - 220. 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 substantially reduce wolf numbers compared to the pre-control level in order to relieve predation pressure on moose and allow for improved recruitment to the moose population. This plan also has as a goal to maintain wolves as part of the natural ecosystem within the described geographical area. To achieve the desired reduction in wolf predation, but ensure that wolves persist within the plan area, the wolf population in mainland Unit 16(B) will be reduced to no fewer than 22 wolves.

(C) The spring (late winter) wolf population objective for Unit 16(B) was set at 22 - 45 wolves based on prior estimates of the wolf population size in the area when the moose population achieved high densities in the past.

(5) Justifications for predator control implementation plan.

(A) The Board of Game determined the moose population in mainland Unit 16(B) is important for providing high levels of human consumptive use; the board established objectives for population size and annual sustained harvest of moose is consistent with multiple use and principles of sound conservation and management of habitat and all wildlife species in the area; the objectives of the predation control program are to halt the decline of the moose population within the predation control area and to increase the fall (post-hunt) moose population to the Intensive Management objective of 6,500 – 7,500 moose, providing a sustainable annual harvest of 310 – 600 moose.

(B) The population objectives for moose in mainland Unit 16(B) are not being met and this is largely due to high predator numbers and the inability of the moose population to recover given the high predation rates;

(C) A reduction in wolf numbers, in conjunction with a reduction in bear numbers through liberalized bear hunting opportunities, is necessary to enhance survival of mainland Unit 16B moose, to halt the population decline, and to achieve population objectives in the wolf predation control area. During the 1970s and 1980s, same day airborne hunting of wolves by the public, at little or no cost to the department, effectively kept the wolf population at levels well below present levels, and moose populations were increasing or stable; trapper and hunter harvests in the last 10 years has averaged less than 2.5 wolves per trapper and hunter.

(D) Moose population objectives are not being met although trapper and hunter harvests of wolves have increased over the last 10 years for mainland Unit 16(B). Maximum harvest opportunity appears to have been provided although the wolf numbers have been above the population objective since the early 1990s. The current spring population objective in the control area is 22 – 45 wolves in 3 – 5 packs, the fall wolf population estimate is 85 – 114 wolves in 10 – 12 packs;

(E) Previous programs utilizing same-day-airborne hunting of wolves effectively kept the wolf population at levels well below present levels, and moose populations were increasing or stable. Airplane-based control of wolf populations is necessary to reduce numbers over short periods of time and allows for a more timely recovery of the moose population.

(F) Multiple measures have been taken to improve survival of moose within mainland Unit 16(B). General predator hunting and wolf trapping seasons alone have failed to result in sufficient reductions of predators and increased numbers of moose. Liberalization of seasons, bag limits, and other restrictions on harvest for bears and wolves have shown no detectable effect on the moose population in the unit. Currently there is a year-round season for black bear with a three bear limit and no tag required for brown bear with a two bear limit.

(G) Presently known alternatives to predator control for reducing the number of predators are ineffective, impractical, or uneconomical in the Unit 16(B) situation. 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 Unit 16(B). Numbers of hunters and trappers are relatively low and so far have been unsuccessful in increasing the harvest of wolves to the extent of having a positive effect on the moose population. The inherent wariness of wolves, difficult access, and relatively poor pelt prices 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 is impractical because it is expensive and it is very difficult to find publicly acceptable places for relocated wolves. 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 populations low in rural areas of Interior Alaska. Supplemental feeding of wolves and bears as an alternative to predator control has improved moose calf survival in 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. Any of the alternatives to a wolf predation control program are not likely to be effective in achieving the desired level of predator harvest.

(6) Methods and means

(A) Hunting and trapping of wolves by the public in mainland Unit 16(B) during the term of the program will occur as provided in the hunting and trapping regulations set out elsewhere in this title, including use of motorized vehicles as provided for in 5 AAC 92.080.

(B) The commissioner may issue public aerial shooting permits or public land and shoot permits as a method of wolf removal pursuant to AS 16.05.783.

(7) Anticipated time frame and schedule for update and reevaluation.

(A) For up to five years beginning on July 1, 2003, the commissioner may reduce the wolf population in Unit 16(B).

(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 and wolf populations, and recommendations for changes, if necessary, to achieve the plan's objectives.

(8) Other specifications the board considers necessary.

(A) The commissioner shall reduce the wolf population in an efficient manner, but as safely and humanely as practical.

(B) The commissioner will suspend wolf control activities

(i) When wolf inventories and/or accumulated information from permittees indicate the need to avoid reducing wolf numbers below the management objective of 22-45 wolves specified in this section; or

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

(iii) No later than April 30 in any regulatory year.

(C) Wolf 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.

(D) The commissioner will annually close wolf hunting and trapping seasons as appropriate to insure that the minimum wolf population objective is met.

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WHO IS LIKELY TO BENEFIT? All hunters who rely on the involved prey populations for meat.

WHO IS LIKELY TO SUFFER? Anyone opposed to intensive control of predator populations.

OTHER SOLUTIONS CONSIDERED? None.

PROPOSED BY: Alaska Dept. of Fish and Game (HQ-06S-G-094)

PROPOSAL 167 - 5 AAC 92.011. Taking of game by proxy. Amend the regulation as follows:

No more than two proxies in possession of a hunter during the same season for the same species.

ISSUE: Unlimited proxy permits.

WHAT WILL HAPPEN IF NOTHING IS DONE? Some people are hunting too many proxies at once.

WILL THE QUALITY OF THE RESOURCE HARVESTED OR PRODUCTS PRODUCED BE IMPROVED? It will eliminate the potential for abuse of a good program.

WHO IS LIKELY TO BENEFIT? No one is likely to benefit.

WHO IS LIKELY TO SUFFER? No one is likely to suffer.

OTHER SOLUTIONS CONSIDERED? None.

PROPOSED BY: Ray Heuer (HQ-06S-G-098)

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