Findings for the Alaska Board of Game
2006-167-BOG

Unit 16 Intensive Management Supplemental Findings
May 14, 2006

The Board of Game finds as follows, based on information provided by Department staff, Alaska residents and users of moose in Unit 16B. These findings are supplemental to the findings set forth in 5AAC 92.108 and in the Unit 16 predation control implementation plan in 5 AAC 92.125.

1. The moose population size, currently estimated to be 3193-3951 moose, is less than the population objective of 6,500-7,500 moose. The population objective has not been achieved for at least the last 9 years.

2. The Unit 16B moose harvestable surplus, as described in 5 AAC 92.106(3)(A), currently estimated at 140 bulls, is less than the harvest objective of 310-600 moose. The harvest objective has not been achieved for at least the last 6 years.

3. The Unit 16B moose population is, thus, depleted and reduced in productivity, which has resulted in a significant reduction in the allowable human harvest of the population.

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

5. The Board has repeatedly, since 1990, been required to significantly reduce the taking of moose in Unit 16B by restricting harvest, seasons and bag limits as compared to the level and timing of hunting opportunity that was allowed when the population was not depleted and reduced in productivity.

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

7. Reducing predation can reasonably be expected to achieve the population and harvest objectives.

Vote: 6-0-1
May 14, 2006
Anchorage, Alaska

Mike Fleagle, Chairman
Alaska Board of Game

Findings for the Alaska Board of Game
2006-165-BOG

Unit 12 and 20E Intensive Management Supplemental Findings
May 14, 2006

The Board of Game finds as follows, based on information provided by department staff and residents and users of moose in Units 12 and 20E. These findings are supplemental to the findings set forth in 5AAC 92.108, in the Units 12 and 20E predation control implementation plan in 5 AAC 92.125 and in Board of Game Findings 2006-164-BOG.

1. The Fortymile Caribou Herd population size, currently estimated to be 40,000-42,000 caribou, is less than the population objective of 50,000-100,000 caribou The population objective has not been achieved for at least the last 30 years.

2. The Fortymile Caribou Herd harvestable surplus, as described in 5 AAC 92.106(3)(A), currently estimated at 840-880 bulls, is less than the harvest objective of 1,000-15,000 caribou. The harvest objective has not been achieved for at least the last 30 years.

3. The moose population size in Unit 12 north of the Alaska Highway and Unit 20E, currently estimated to be 4,300-5,200 moose, is less than the population objective of 8,744-11,116 moose (derived from the combined Units 12 and 20E objectives based on proportionate area). The population objective has not been achieved for at least the last 20 years.

4. The harvestable surplus of moose in Unit 12 north of the Alaska Highway and Unit 20E, as described in 5 AAC 92.106(3)(A), currently estimated at 135-201 bulls, is less than the harvest objective of 547-1,084 moose (derived from the combined Units 12 and 20E objectives based on proportionate area). The harvest objective has not been achieved for at least the last 20 years.

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

6. Enhancement of abundance or productivity of both moose and caribou in this area is feasibly achievable utilizing the recognized and prudent active management technique of predator control.

7. The Board has repeatedly, since 1976, been required to significantly reduce the taking of Fortymile caribou by restricting harvest, seasons and bag limits as compared to the level and timing of hunting opportunity that was previously allowed when the population was not depleted and reduced in productivity.

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

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

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

11. A person who has been airborne may on the same day take a brown bear with the use of bait or scent lure as authorized under a permit provided by the Department, providing the permitee is at least 300 feet from the airplane at the time of taking.

Vote: 6-0-1
May 14, 2006
Anchorage, Alaska

Mike Fleagle, Chairman
Alaska Board of Game

Findings of the Alaska Board of Game
2006-164-BOG

BOARD OF GAME BEAR CONSERVATION AND MANAGEMENT POLICY
MAY 14, 2006

GENERAL BEAR MANAGEMENT

Purposes of Policy

1. To assure all management actions provide for the conservation of Alaska's bear species, their habitat and food sources, and are consistent with the Alaska Constitution, and applicable statutes.

2. To encourage review and comment and interagency coordination for bear management activities.

Goals

1. To ensure the long-term conservation of bears throughout their historic range in Alaska.

2. To increase public awareness and understanding of the uses, conservation, and management of bears and their habitat in Alaska.

Background

Brown/grizzly bears (*Ursus arctos)* are large omnivores found throughout most of Alaska. Although they are considered the same species, brown and grizzly bears occupy different habitats and have somewhat different lifestyles and body configurations. Grizzlies are typically found in interior and northern areas. They are generally smaller than brown bears and more predatory. Brown bears live in coastal areas of southern Alaska where they have access to productive salmon streams.

Brown/grizzly bears are found throughout their historic range in Alaska, and unlike populations in the contiguous 48 states, they are not considered a threatened or endangered species. Estimating precise population numbers is difficult because of the bears' secretive habits and often densely vegetated habitat, but in most places in the state, populations are considered stable or increasing. Throughout most coastal habitats where salmon are abundant, bear densities typically exceed 175 bears/1,000 km2 (450 bears/1,000 mi2). A population in Katmai National Park on the Alaska Peninsula was measured at 550 bears/1,000 km2 (1,420 bears/1,000 mi2). In most interior and northern coastal areas, densities do not exceed 40 bears/1,000 km2 (100 bears/1,000 mi2).

Densities as low as 7 bears/1,000 km2 (20 bears/1,000 mi2) have been measured in the eastern Brooks Range. Extrapolations from existing density estimates yielded an estimate

of 31,700 brown bears in 1993. All indications are that the population has increased in the past decade.

American black bears (*Ursus americanus)* are generally found in forested habitats throughout the state. Black bears also occupy their historic range in Alaska, often overlapping distribution with brown/grizzly bears. Because they live in forested habitats it is very difficult to estimate population size or density. Where estimates have been conducted in interior Alaska, densities ranged from 67 bears/1,000 km2 (175 bears/1,000 mi2) on the Yukon Flats to 289 bears/1,000 km2 (750 bears/1,000 mi2) on the Kenai Peninsula. In coastal forest habitats of Southeast Alaska's Alexander Archipelago black bear densities are considered high. A 2000 estimate for Kuiu Island was 1,560 black bears/1,000 km2 (4,000 black bears/1,000 mi2). A statewide black bear population estimate is not available because, unlike the many brown/grizzly bear and wolf estimates that are available across the state, very few black bear population estimates have been conducted.

Brown/grizzly bears have relatively low reproductive rates and require abundant resources. Black bears exhibit higher reproductive rates than brown/grizzly bears; however, rates are still lower than for other big game animals with the exception of brown/grizzly bears. Population stability can be threatened by human-caused mortality and from fragmentation or destruction of habitat. This combination is present to a sufficient extent on the Kenai Peninsula that brown/grizzly bears there have been designated by the State as a "population of special concern". To address situations where bear populations have declined because of human activities, the Department has implemented remedial management actions. In the Kenai situation, a conservation strategy has been developed through a public stakeholder process.

In most areas of the state black bear populations are healthy and can sustain current or increased harvest levels. However, in some areas such as Unit 20B and 20D in the interior, the Kenai Peninsula, and Southeast Alaska, hunter demand for black bears is high, harvest is high, and these populations require closer monitoring. Bears are intelligent animals that learn to adapt to new situations. This ability, coupled with their enduring drive to rebuild fat reserves prior to denning, makes bears experts in finding ways to get a meal. Garbage is often a source of food from people. If this happens, bears learn to exploit human-related food resources and lose their natural tendencies to avoid people. Frequently, such bears become classified as "nuisance" bears and often are killed in defense of live or property (DLP).

Respected by most, and feared by many, bears can pose a threat in certain situations. Statewide, there are an average of about six encounters a year in which a human is injured. About half of those involve hunters in search of other quarry. About every two or three years, one of the attacks results in a human fatality.

Whenever bears and people interact with each other there are potential benefits and dangers. Displacing bears from feeding sites has serious consequences for them. Human behavior around bears not only impacts their own personal safety and viewing experience,

it also impacts the health and safety of the bears and the people who come to the area later. When bears and people meet, it is important that bears never get food from them and that people are trained how to react to bear encounters. Comprehensive education is recognized as a vital component in all aspects of any bear viewing program.

Public interest in bears has increased dramatically in Alaska during the past decade. Some of this interest is incidental to other pursuits such as sport fishing, hiking, flight seeing, eco-tours, or marine water cruises but some of it is specifically targeted at bear viewing. Bear viewing is a rapidly growing industry in selected areas of the state. The interest exceeds the opportunities provided now by such established and controlled sites as McNeil River, Pack Creek, Anan Creek, Wolverine Creek and Brooks Camp. As a result, private entrepreneur businesses are providing viewing opportunities in some high-density bear areas. Many of these sites and programs involve highly habituated bears that most frequently result in mutually exclusive conflicts with other uses of bears. Habituation of bears should be discouraged and maximum public benefits pursued by providing management programs designed to provide for public viewing opportunities in areas where other uses are already excluded or to carefully integrate uses on a time and area basis.

Alaska is world-renowned as a brown/grizzly bear hunting area. Alaska is the only place in the United States where they are hunted in large numbers, and the vast majority of record book bears come from the state. An average of about 1,500 brown/grizzly bears are harvested each year. The trend has been increasing. Many of the hunters are nonresidents and their economic impact is significant to Alaska. Hunters have traditionally been the strongest advocates for bears and their habitat, providing consistent financial and political support for research and management programs.

Because bears can be both prey and predator, their relationship with people is complex. In areas where a population of large ungulates has been reduced to low levels, bears may have a significant influence on the decline of species such as moose, caribou and deer. This is especially true when bears are found in combination with thriving wolf populations. Alaskan studies of bear interactions with moose, for instance, indicate that bears may contribute significantly to calf mortality. Coupled with wolf predation, the combined mortality rates can far exceed human induced mortality and contribute to major moose population declines, depressed populations and delayed recoveries. The role of bears in these situations greatly exacerbates the debate over predator control and complicates evaluation of potential and initiated management actions.

Guiding Principles

1. Manage bear populations to allow a wide range of human uses, while providing for long-term bear population sustainability.
2. Establish minimum population goals that ensure the long-term viability of bears recognizing the reproductive capacity of each bear species.
3. Manage bears at the scale of subunits or units to achieve appropriate overall predator-prey relationships rather than pursue single species management.
4. Protect the genetic diversity of bears.
5. Continue and, if appropriate, accelerate research for the management of bears.

6. Consider short-term and long-term effects of habitat loss and fragmentation on bear populations.
7. Provide for consumptive and non-consumptive uses of bears in management plans and encourage economic benefit to the state and its citizens while maintaining sustainable bear populations.
8. Do not allow identified prey populations to decline to a point where predation keeps them at low levels.
9. Avoid, where possible, activities that encourage the habituation of bears and manage bear viewing opportunities that are not mutually exclusive of other uses.
10. Encourage wildlife viewing of bears and other species in their natural settings as part of a broader outdoor experience.
11. Implement this policy in such a manner that the Department and the Board can respond promptly to unforeseen situations.
12. Pursue informational and educational efforts to help the public understand more about bears and their management.
13. Work with enforcement agencies to identify priorities and to assist with and encourage adequate enforcement activities.
14. Review and recommend revision to this policy as needed.

Conservation and Management

A. Management Strategies

The Department will manage both bear species differently according to their population and human use characteristics in different parts of the state. In some areas, such as the Kodiak Archipelago, portions of Southeast Alaska and the Alaska Peninsula, bears are managed for trophy-hunting and viewing opportunities. In many other areas of the state, bear populations are largely unaffected by human harvest. Bears are an important big game species sought by resident and nonresident hunters and are managed for a variety of objectives.

Generally, bear hunting will be conducted on a sustained yield basis, except in areas where a bear predation control program is authorized. Harvests will not be allowed to threaten the long-term population survival of bears. In most areas of the state, sustained brown/grizzly bear harvests will generally be 4-8 percent of the estimated total population and up to 12 percent for black bears. Some bear populations may be able to sustain a harvest above these guidelines and these will be evaluated for more liberal harvest programs. Lacking precise population data, managers will continue applying indirect parameter to assess the status of bear populations.

All brown/grizzly bears harvested under the general hunting regulations must be inspected and sealed by a Department representative. Black bears must be sealed in some units but not all. Non-resident hunters of brown/grizzly bears must be accompanied in the field by a registered big game guide or a resident relative. For both species, sows accompanied by cubs, and the cubs, are protected, but cubs are defined as bears in their first year of life for

black bears and for the first two years of life for brown/grizzly bears. The Department will continue to maintain these strategies and regulations for most of the state, unless it is necessary to consider methods to increase bear harvests as part of a bear predator control program.

The effect of management actions on the economic contribution of bears to Alaska's users of bears should be considered. Maintaining a regulatory structure that assures reasonable standards of data integrity with responsible management strategies and population sustainability will help avoid threats of international sanctions. Large areas of the state have subsistence brown/grizzly bear hunts with liberal seasons and bag limits, mandatory meat salvage, and relaxed sealing requirements. The Department will continue to accommodate subsistence needs and will consider the impacts on subsistence activities.

Bear viewing and bear/human interactions are also important aspects of bear management in Alaska. Increasing interest in watching bears at concentrated feeding areas such as salmon streams and sedge flats is challenging managers to find appropriate levels and types of human and bear interactions without jeopardizing human safety or bears or other legitimate uses of bears. Bear hunting and viewing are compatible in many situations. However, there are areas where the two uses are potentially mutually exclusive. Land and wildlife managers are faced with tough decisions that could either minimize those conflicts or promote single use regulations at the expense of other uses. For instance, federal withdrawals totaling over 40 million acres are managed to protect large segments of Alaska's big game resources habitat and major portions of these areas provide park-like observation opportunities. Logically these areas could first be utilized for habituated wildlife viewing opportunities before traditional uses of bears and other wildlife are unnecessarily impacted in other areas. Bear management programs on state and private lands should be designed to achieve maximum benefits to Alaskans. Specifically, state management programs should avoid habituating bears wherever possible. Conflicts between user groups can frequently be reduced if viewing programs adopt "best viewing practices."

In areas where bear management plans have been developed, the Department will adhere to the recommendations included in those plans as long as they are consistent with the newest policies and regulations adopted by the Board.

Nothing in this policy affects the authority under state or federal laws for an individual to protect human life or property from bears (5 AAC 92.410). All reasonable steps must be taken to protect life and property by non-lethal means before a bear is killed.

B. Research Strategies

Developing and implementing precise, cost-effective methods for determining bear populations will continue to be a research priority for the Department. Work to date suggests that no single population estimation method will work across the state given the vast areas, varied topography, differing vegetation communities and great differences in bear density. Some methods work well in one area but not in another. Aerial stream

surveys, line-transect surveys, capture-mark-recapture, intensive aerial surveys, and DNA analysis are some of the tools that can be utilized to provide population estimates.

Predator-prey relationships between bears and large ungulates have not been thoroughly examined in most of the state. Bears use a wide variety of foods seasonally including vegetation, fish, mammals, birds, and carrion and they are exceptionally adaptable in their ability to capitalize on available food resources. Consequently, the impact of ungulate prey abundance on bears is difficult to ascertain. Similarly, the impact of bears on prey populations is multifaceted and can be further compounded by the presence of other predators such as wolves.

Where appropriate, the Department will cooperate in research efforts with other agencies. Research findings will be reported in a timely fashion and presented in a form that is easily understood by the public.

C. Information and Education Strategies

Public education is critical in any bear management program. Perhaps as much as any species in Alaska, bears elicit a wide variety of emotions, have myriad uses, and directly impact peoples' lives both in the field and near settlements. Clear, objective information is necessary for citizens and managers alike to make wise decisions when dealing with bears. As the agency primarily responsible for bear management, the Department must take a lead role in producing and disseminating this information.

Bear information will be developed for a wide range of audiences and be delivered in a variety of media. A principal focus of bear education will be to promote a better understanding of life history, behavior, and habitat associations. Specific messages will include discussions of bear/human interactions, bear hunting, bear viewing, and bear predation on moose, caribou, and sheep. To assure consistent and accurate presentation of bear information, the Department will continue to work with the Alaska Interagency Bear Safety Education Committee.

The Department will strive to include the public in all bear management decisions. The primary method of public involvement will be through existing local Fish and Game Advisory Committee and Board processes. Citizen-driven bear management plans will be sponsored and supported by the Department. To date, such plans have been developed for Game Management Unit 4, the Kenai Peninsula, and the Kodiak Archipelago. The Department is committed to implementing as many of the recommendations from bear management plans as possible.

Because of the economic importance of guiding and other commercial enterprises associated with the varied uses of bear, it is recommended that extra efforts are made to notify all concerned parties that area specific predator control activities are being considered.

BEAR PREDATION MANAGEMENT

Purpose of Policy

1. To guide the Board of Game (Board) and the Alaska Department of Fish and Game (Department) in implementing any bear predation management actions pursuant to AS 16.05.255(e) and 5 AAC 92.106, when the Board determines ungulate populations important for human consumption are being kept at low levels because of bear predation.

Goals

1. To provide guidelines for developing, implementing, and evaluating bear management actions designed to reduce bear specific predation in precise areas for specific time periods required by predator control implementation plans.

Background

In areas where the Board has authorized for intensive management (IM) activities, set IM population and harvest objectives and those objectives are not being met and bear predation has been found to be a major factor in the decline in prey populations or in keeping prey populations from recovering, the Board can authorize bears to be included in predator control planning. Whenever bears are considered and authorized for predator control activities, the implementation control plan must specify whether one or both bear species are to be considered in the control plan.

Based on careful consideration of scientific information and public comment, the Department and the Board believe that in some limited circumstances it may be beneficial and appropriate to control predation by bears to achieve population and human use objectives.

Guiding Principles

1. Where bear reductions are authorized, the first step should be to reduce bear numbers through general hunting provisions such as liberalized seasons, bag limits, hunting methods and means and tag waviers.
2. Where predation regulates prey populations, identify to the extent possible, the relative contribution by each primary predator species so that management response can be focused and effective.
3. Implement measures to reduce black and/or brown bear numbers to allow prey species to increase population management objectives in areas managed for high consumptive use where predation by bears itself or in combination with other predators is keeping prey at low levels.
4. Manage bears at the appropriate scale that may vary from an entire Game Management Unit to a specifically defined area (e.g. key calving sites).
5. If liberalization of general hunting provisions does not adequately reduce the target bear population, an additional control program may be authorized. This program should be conducted for the minimum time necessary to achieve the stated

management objectives and may utilize methods and means not approved for general hunting.

6. Consider the management goals and objectives of state, federal, and private land owners and work cooperatively with them to design, implement, and evaluate bear control activities.
7. Encourage federal and private land owners, where possible, to work cooperatively in any management and/or species control programs.
8. If reduction in bear numbers fail to result in reasonable increases in availability of prey populations for human use, management practices intended to reduce bear populations should be reconsidered.

Management Strategies

In areas where bears have been identified as an important component in reducing and/or holding prey populations well below objectives, higher harvest levels than those listed under general management strategies will be allowed. In these areas, specific harvest reporting conditions will be imposed which may include additional requirements for permits, sealing, and/or reporting. In addition, the Department will closely monitor the effects of higher harvest on the bear and prey populations.

Research Strategies

In areas where bear predation control programs are considered, the Department may conduct research to quantify the contributions of each bear species and of wolves to the causes of decline in the ungulate population important for human use. Alternatively, the Department may use standard survey and inventory data and interpretation of other research results to guide the decision-making process. Monitoring activities designed to determine the effects of high levels of bear harvest on recovery of depressed ungulate populations would help focus management efforts in the most cost-effective manner.

Information and Education Strategies

In any situation where the Board or Department believes bear predation control may become necessary, the public will be informed as soon as possible. Detailed information on the specific location, the predator, prey and habitat concerns, and the proposed management action and its anticipated costs and duration will be widely disseminated. Public meetings may be held in the affected area and in major Alaska communities, in addition to regularly scheduled Board and Advisory Committee meetings. Once implemented, the Department will provide the Board and the public with an annual report and evaluation of the management action.

Board Consideration

The Board may consider bear control on a bear species when:

1. Bear predation has been determined to be an important factor in the decline of a prey population or is preventing recovery of a low density prey population.

2. Bear predation is an important factor preventing attainment of approved prey population of human-use objectives.
3. Efforts to control bear predation can be reasonably expected to achieve improvement in sustainable human use of ungulates.

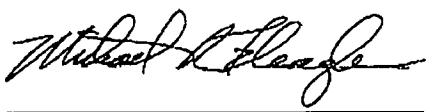
If the Department or the Board determines that one or more of these conditions exist in a given IM area, at the Board's direction, an implementation plan will be prepared for public review.

It is the intent of the Board of Game that bear control programs authorized under this policy shall be directed at only specified target areas and is not intended for implementation under general hunting regulations.

Under methods and means the Board may selectively consider:

- Relocation
- Sterilization
- Use of communications equipment between hunters or trappers
- Sale of hides and skulls as incentive
- Use of bears for handicraft items for sale
- Trapping
- Bear baiting
- Changing the definition of a legal bear
- Same day airborne taking, except aerial shooting
- Diversionary feeding

Vote: 7/0
May 14, 2006
Anchorage, Alaska



Mike Fleagle, Chair
Alaska Board of Game

2006-161-BOG

Finding of Emergency

The Alaska Board of Game (board) finds that an emergency exists and that the attached regulations are necessary for the immediate preservation of public peace, health, safety or general welfare. The facts constituting the emergency include the following:

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 5 AAC 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 5 AAC 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. As of the date of the order, a total of 157 permittees had been authorized to take wolves with the use of aircraft, in some fashion, under the five programs, and 24 wolves had already been taken during the current winter. The Alaska Department of Fish and Game staff had set the following area-specific goals for the taking of wolves during the 2005/2006 regulatory year, to be comprised of animals harvested by hunters and trappers as well as wolves to be taken under the predator control programs.

Wolf control permit area within:	Combined harvest and wolf control permit take
Unit 19(D) East	8-12 wolves
Unit 13	80-110 wolves
Unit 16(B) mainland	40-92 wolves
Unit 19(A)	85-135 wolves
Unit 12 & 20(E)	97-131 wolves

Each predator control program was initially set for a five-year term, which may be increased or decreased as the situations warrant and goals are met. The programs have been underway in each area for the following time spans:

Predation Control Implementation Plan	Period
Unit 19(D) East	December 2003-present
Unit 13	January 2004-present
Unit 16(B) mainland	December 2004-present
Unit 19(A)	December 2004-present
Unit 12 & 20(E)	January 2005-present

The programs were adopted pursuant to the statutory mandates of AS 16.05.255(e)-(g), and (j) to establish management goals that will achieve a high level of human harvest for identified populations that are important for high levels of human consumptive use, and to adopt regulations that provide for intensive management, including predator control, of those populations whenever they are depleted or reduced in productivity, or in situations where the Board has had to act to significantly reduce the harvest of those populations.

In each case, the subject moose populations were depleted or reduced in productivity and in each case the Board had acted to significantly reduce the taking of the subject moose populations. The Board's previous findings on point, for each area, are hereby incorporated by reference. (95-86-BOG, 96-101-BOG, 2001-135-BOG, 2003-140-BOG, 7/15/03 letter from Fleagle to Duffy, 92-62-BOG, 92-63-BOG, 95-84-BOG, 2003-141-BOG, 2003-143-BOG, 2003-144-BOG, 2004-150-BOG, 2004-148-BOG, 2004-147-BOG, and 2004-152-BOG)

In each case, the Board's actions to significantly reduce the taking of the subject moose populations had substantially reduced opportunities for subsistence hunting, in situations where subsistence harvests had already declined due to the moose population declines. In most cases, the Board had completely eliminated all forms of hunting other than subsistence hunting, due to the shortages of available moose, while increasing wolf seasons and bag limits. The Board has heard a great deal of testimony during previous meetings, and information on point was presented during the current

meeting, to the effect that rural residents in and near the areas covered by the control programs were suffering nutritionally, economically, culturally and even, in some cases, psychologically due to their inabilities to obtain traditional and necessary food supplies for themselves and their families by harvesting moose. The Board is informed that all of the covered areas are important sources of wild food for local residents because, in each case, unemployment is high and per capita income tends to be very low.

One program, that in Unit 19(D)-East, was designed as an experiment to see if a high level of intensive management within a relatively small area of important moose habitat, which was also heavily used by local residents, could result in moose population and human use benefits in the larger area frequented by the subject moose population. As a result, the Department has expended approximately $1,700,000 in public funds in conducting this experiment. Lesser, but still substantial amounts have been expended for implementation of the other, more recent programs. The experiment in Unit 19(D)-East is likely to fail unless carried out for at least the term originally planned, as are the other programs. A 1997 National Academy of Sciences report titled "Wolves, Bears and their Prey in Alaska" concluded that "wolf control has resulted in prey increases only when wolves were seriously reduced over a large area for at least four years."

Of the many factors that can impact the survival and productivity of moose populations, these programs are designed to reduce one specific influence—predation.

Each of the predator control programs is designed as a multi-year effort to reduce predator-caused mortality of moose. Inherent in the design and required for success is a continued reduction in predator numbers over several years to reduce the adverse impact of predation on moose survival. This allows an increased number of calves and yearlings from several year classes to be incorporated into the moose population and enhances the survival of already-productive adult cows. In the areas where predator control has already been underway for two or more years, the Department has informed the Board that some early signs of improvement in moose population characteristics have occurred; however, it is not expected that the full beneficial effects of the programs will be evident immediately. Increased calf and yearling survival is an investment that will pay dividends throughout the lives of cows that are recruited into the population as a result. If predator reductions are not conducted in a continuous manner over several years and followed by a period of relatively stable, but low, predator numbers, the expected benefits to moose populations will be greatly reduced and much of the effort will have been in vain. Any interruption to predator reduction efforts is expected to significantly reduce or eliminate the likelihood that these programs will be successful, management objectives will be reached, and more moose will be available for human consumption in the covered areas at any time in the foreseeable future. Thus, a halt to the programs would be likely to cause further nutritional, cultural, economic, and psychological harm to Alaskans. Also, the state risks losing both its monetary investments and the scientific and program values it has already obtained, and will continue to obtain, through implementation of the predator control programs.

The period beginning in February and extending through March and into April represents the most important time of year for wolf control efforts. Due to weather, light and snow conditions, pilots are able to spot wolves and land their aircraft more easily and greater effort can be put forth than at any other time. The bulk of wolves harvested during control efforts have been and are expected to be harvested primarily during this time period. Unless control efforts can be conducted throughout February, March and April of this year, the desired level of wolf removal will not be achieved and the goals of calf and adult moose protection will have been substantially or completely thwarted. The result of losing these months is likely to be a significant loss of potential benefits from the programs, as described above.

The attached emergency regulations are essentially updates to the plans that have been in existence since the inception of the respective predator control programs but were declared to be invalid by the court for lack of required detail and, in two cases overly-broad geographic scope. They are, in essence and in all important respects, the same plans that have been subjected to repeated Board meetings and volumes of public comment and testimony. The changes add the details the court found to be lacking, and narrow the geographic scope, as ordered. The formats have also been changed to present more uniform regulations. There is likely to be little that additional public comment could add to the debate at this point, but there will be an opportunity to submit additional public comment in the near future, as the Board intends to schedule a time, during a

regular meeting, to address making these emergency regulations permanent as quickly as possible.

There is insufficient time to follow the normal regulatory process for permanent regulations in the time between issuance of the court's summary judgment order and the time period most critical to successful predator control efforts. For all the reasons given above, the Board finds it necessary to adopt emergency regulations to immediately repeal the regulations the court has declared to be invalid, correct the errors and omissions in the predator control implementation plans identified by the court, and then readopt those plans. Preventing any significant delay in, or halt of, these predator control programs is necessary for the immediate preservation of public peace, health, safety, and general welfare.

ORDER CERTIFYING ADOPTION

I certify that the Board of Game, under the authority of AS 16.05.255 and AS 16.05.258, adopted at its Jan. 25, 2006, meeting the attached 77 pages of regulation changes as emergency regulations to take effect immediately upon filing by the lieutenant governor as provided in AS 44.62.180(3).

This action is not expected to require an increased appropriation.

DATE: 1/26/06
Juneau, Alaska

McKie Campbell, Commissioner
Alaska Department of Fish and Game

FILING CERTIFICATION

I, Loren Leman, Lieutenant Governor for the State of Alaska, certify that on _____, 2006, _____, at _____ .m., I filed the attached regulations according to the provisions of AS 44.62.040 – 44.62.120.

_____
Loren Leman, Lieutenant Governor

Effective: _____.

Register: _____.

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

Authorizing Wolf and Bear Predation Control in Portions of the Upper Yukon/Tanana Predation Control Area
November 5, 2004

Purpose and Need

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

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

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

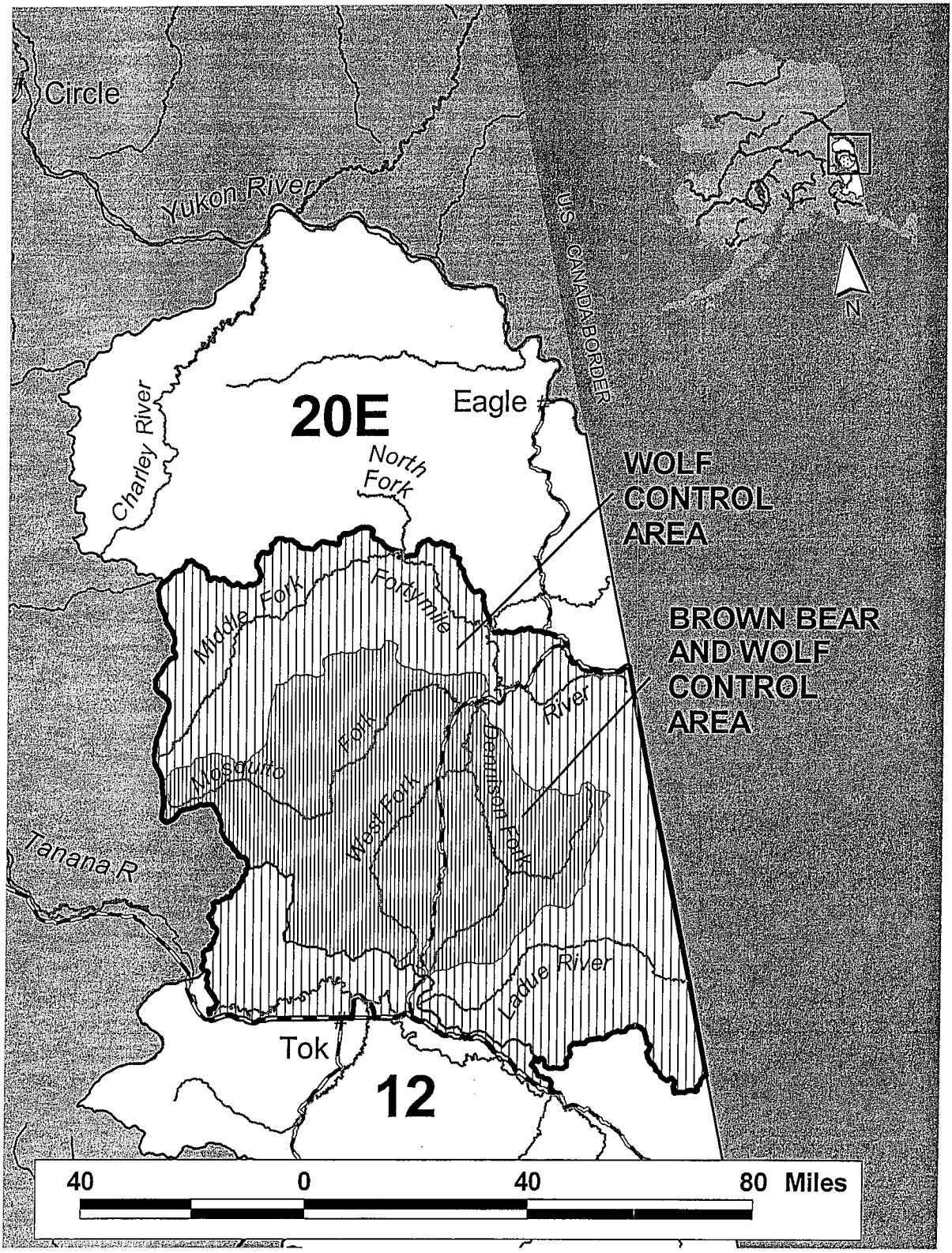
The Upper Yukon/Tanana Wolf and Brown Bear Predation Control Area includes both Units 12 (approximately 10,000 mi^2) and 20(E) (approximately 10,680 mi^2). The Board has identified moose populations in Unit 12 and that portion of Unit 20(E) drained by the Fortymile and Ladue Rivers (approximately 6,700 mi^2) as important for providing high levels of harvest for human consumptive use in accordance with the Intensive Management statute and regulations (AS 16.05.255(e)–(g), 5 AAC 92.106, and 5 AAC 92.108).

This authorization for predation control includes only southern Unit 20(E) and a small adjacent portion of northwestern Unit 12. Specifically, wolf predation control is authorized in the portion of Unit 12 north of the Alaska Highway and west of the Taylor Highway and for that portion of Unit 20(E) within all drainages of the South Fork Fortymile River, the North Fork Fortymile River downstream of its confluence with the Middle Fork Fortymile River, the Middle Fork Fortymile River and Ladue River, encompassing a total of approximately 6600 mi^2. Brown bear predation control is authorized in a smaller focus area within the larger area authorized for wolf control. Specifically, bear predation control is authorized in the portion of Unit 20(E) within the Fortymile River drainage upstream from and including the Wall Street Creek drainage, encompassing a total of approximately 2700 mi^2 (Figure 1).

Background

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

Figure 1. Authorized bear and wolf predation control area.



For more than 20 years, local communities have expressed concern about chronically low moose density due to predation and have proposed various predator control programs to increase moose numbers. Most recently at the February-March 2004 Board of Game Meeting, the Upper Tanana/Fortymile Fish and Game Advisory Committee and the public provided testimony explaining the problem and made proposals to correct the situation. The Board of Game subsequently requested the Department to prepare a draft wolf and brown bear predation control implementation plan for the November 2004 Board meeting in Juneau.

Status of the Moose Population

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

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

Trends in Moose Harvest

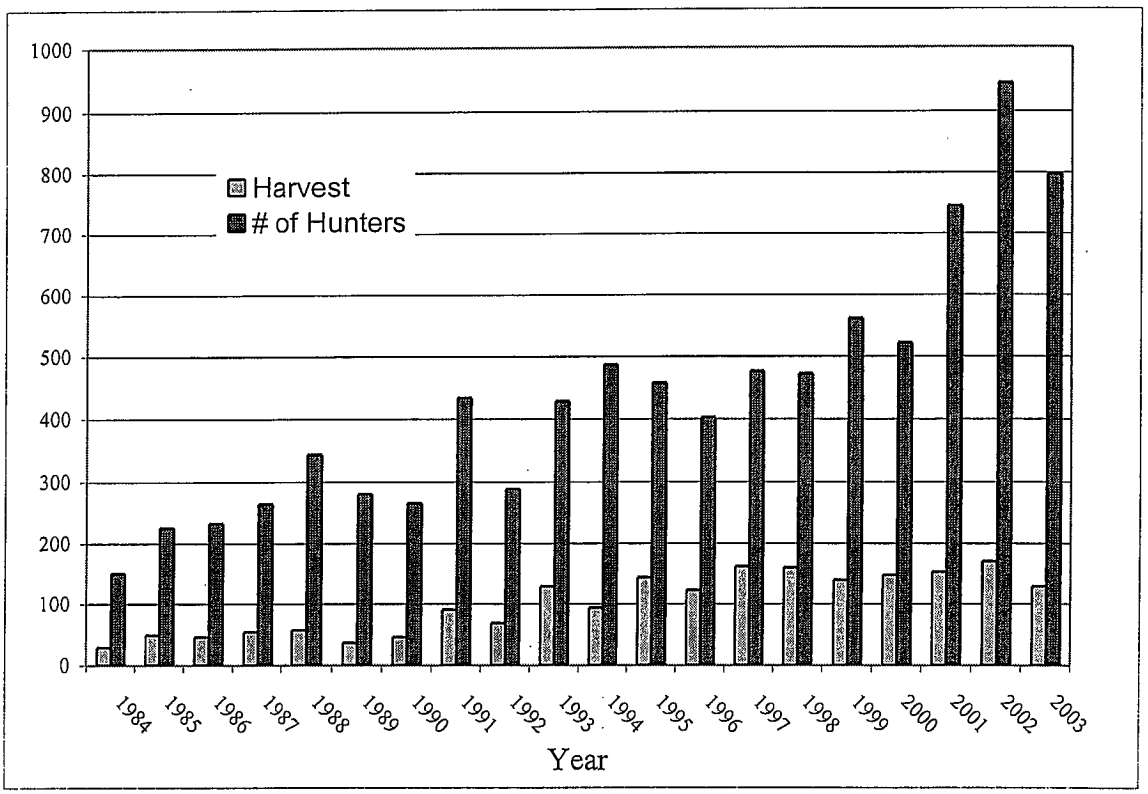
High moose densities in Unit 20(E) supported a long hunting season and a bag limit of one moose of either sex during the 1960s. As declines began in the early 1970s, hunting for cows was closed. The season was shortened in 1973 and closed during 1977 – 1981. A ten-day bulls-only season was held during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

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

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

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

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



Status of the wolf population

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

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

Status of the brown bear population

The brown bear population size estimate for Unit 20(E) was 475 – 550 in 2002. This was based on extrapolation of a density estimate obtained in central Unit 20(E) during 1986 and on

intensive research studies conducted in similar habitats with similar bear food resources during 1981 – 1998 in Unit 20(A), 100 miles to the west.

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

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

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

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

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

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

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

approximately 54. Because experience has shown that wolf packs preying upon moose in a focus area will include adjacent areas in their home ranges, reduction of the wolf population to no less than 50 wolves in the focus area and additional adjacent portions of 20(E) (approximately 6000 mi^2) and northwestern Unit 12 (approximately 600 mi^2) will also be necessary to make progress toward achieving Intensive Management objectives.

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

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

The Board Establishes and Recommends the Following:

1. The first priority for wolf and brown bear predation control in the Upper Yukon/Tanana Predation Control Area is to conduct control activities where the likelihood of success in increasing moose numbers by reducing predators is high and significant benefits to harvest can be derived. Those areas are the southern portion of Unit 20(E) and a small adjacent area in northwestern Unit 12.

2. Permits shall be issued to members of the public qualified to operate within the constraints of the program, and able to accomplish the objectives of the program as designated by the Department.

3. Methods and means to take wolves may include land and shoot or shooting from aircraft as designated by the Department and in accordance with 5 AAC 92.039. At no time shall the wolf population in this area be reduced to fewer than 50 wolves. After periodic evaluation of the efficacy of the program, the Board of Game may modify in board findings the size or location of the area.

4. The Department will apply the following conditions to brown bear control permits in addition to any other conditions considered necessary:
    a. Cubs or females with cubs may not be taken. For purposes of this program "cub" is defined according to 5 AAC 92.990 (a)(12).
    b. A valid Alaska State resident hunting license is required.
    c. Permits are valid from the date of issuance through June 30 or until the control program is closed by emergency order.
    d. Bears may be taken with the use of bait or scent lures subject to the following restrictions:
        i. For purposes of this control program "bait" means any material, including scent lures, that is placed to attract an animal by its sense of smell or taste. Bait does not include those parts of legally taken animals that are not required to be salvaged as edible meat if the parts are not moved from the kill site.

ii. Only biodegradable materials may be used for bait; only the bones, viscera or skin of legally acquired fish and game may be used for bait.
iii. A person may not use bait or scent lures within one-quarter mile of a publicly maintained road or trail.
iv. A person may not use bait or scent lures within one mile of a house or other permanent dwelling, or within one mile of a developed campground or developed recreational facility.
v. A person using bait or scent lures shall clearly identify the site with signs at all access points reading "brown bear control bait station" that also displays the person's control program permit number.
vi. A person using bait shall remove bait, litter and equipment from the bait station site as required by the control permit.

5. At no time shall the number of brown bears in the control area be reduced by more than 60% of the extrapolated precontrol estimate of 135 present during June (leaving approximately 54). Estimates are based on extrapolations from past research in Unit 20(E) and in similar habitats with similar bear food resources in Unit 20(A). After periodic evaluation of the efficacy of the program, the Board of Game may modify in board findings the size or location of the area.

6. Pending legislative approval, the Department should establish a financial incentive program for permittees who take brown bears. The program should give permittees the option to surrender fleshed and salted hides to the Department for sale at its annual hide auction, and then be reimbursed for the sale price of the hide, minus handling charges incurred by the Department.

7. The wolf and brown bear predation control program should be re-evaluated after a 5-year period or when the moose population is estimated to reach the Intensive Management population objectives, whichever occurs first. Interim, annual reports will be presented to the Board of Game at spring meetings.

Vote: 6 - 1
November 5, 2004
Juneau, Alaska

Mike Fleagle, Chair
Alaska Board of Game

Findings of the Alaska Board of Game
2004-148-BOG

Authorizing Predator Control in the Western Cook Inlet Area in Unit 16B with Airborne or Same Day Airborne Shooting
March 10, 2004

Purpose

This action of the Board of Game is to authorize a predator control program that involves airborne or same-day airborne shooting of wolves in the Game Management Unit 16B (mainland) portion of Western Cook Inlet, in accordance with AS 16.05.783.

These findings are based on the best information available, and include data gathered from Departmental oral reports and presentations at Board of Game meetings.

Identified big game prey population and wolf predation control area

The Board of Game identified moose in GMU 16B as important for providing high levels of harvest for human consumptive use in accordance with AS 16.05.255 (e)-(g). The Board established Intensive Management Objectives for a harvest of 310 – 600 moose and for a population of 6,500 – 7,500 in accordance with 5 AAC 92.106 and 5 AAC 92.108. The Board established a Wolf Predation Control Implementation Plan for Unit 16B in accordance with 5 AAC 92.110 and 5 AAC 92.125.

Failure to meet moose harvest objective

It is clear the current level of moose harvest in Unit 16B is not meeting the Intensive Management Harvest Objective of 310 - 600 moose. This conclusion is based on harvest data from the mid-1980s and from 1998 through 2003.

From 1983 through 1988, an average of 1,315 hunters reported harvesting 485 moose annually, with 1984 showing a high harvest of 581. More recent years show a dramatic downturn as follows:

Year	General Season and Subsistence Hunters	Harvest
1998	1,037	290
1999	1,024	271
2000	1,050	242
2001	400*	122
2002	400*	69

*general hunting seasons were closed; 400 subsistence permits were issued each year.

Amount necessary for subsistence

There must be a minimum of 199 – 227 moose available for harvest in order to meet the amount necessary for subsistence. The Department estimates that there will be 214 moose available for harvest during the 2004 – 2005 hunting season.

Status of Moose Population

The estimated moose population for Unit 16B during fall 2001 was 3,423 – 4,321, compared to 3,387 moose after the fall 2003 surveys.

Since 1996, most of the Unit 16B composition surveys have shown less than 20 calves per 100 cows annually. The minimum fall calf to cow ratio should be 20 – 30 calves per 100 cows; thus, this is a very low ratio if the intent is to maintain the population or provide for population growth.

Bull:cow ratios in the area have generally been above the management objective of 20 bulls per 100 cows.

The minimum moose density objective is 1.0 moose per square mile for Unit 16B based on the intensive management objective of 6,500 – 7,500 moose. Presently, population estimates place the moose density at .52 moose per square mile.

Status of wolf population

Predation by wolves was not considered an important factor until the mid-1990s. During March 1993, an aerial survey was conducted to estimate wolf numbers in Unit 16. The minimum population was estimated to be 48 – 62 wolves, which was assumed to be an increase from the previous five to ten years. A second aerial survey in 1999 revealed a minimum of 119 wolves in 13 packs in Unit 16B alone. The moose to wolf ratio had declined from 160 – 250:1 in 1993 to nearly 40:1 by 1999.

The wolf population in mainland Unit 16B for fall 2002 was estimated to be 140 – 200 wolves, based on aerial surveys, incidental pilot observations, sealing records, and interviews with knowledgeable trappers; harvest by hunters and trappers has increased annually from 15 in 1997 – 1998 to a record 48 in 2001 – 2002. Available moose and wolf population estimates suggested the fall 2001 moose-to-wolf ratio could be as low as 17:1. At that ratio, the combination of wolves, a relatively high bear density, and frequent deep snow winters were expected to continue to depress moose numbers.

In 2003, the spring wolf population estimate for 16B was 88 – 137 wolves in 16 packs. The spring population in 2004 is likely to be higher, as prior year trends suggest. The population objective for wolves in Unit 16B is 22 – 45 wolves in 3 – 5 packs in the spring.

Even though wolf harvests have been at record levels, averaging 45 wolves over the past three years, high productivity has resulted in an increasing wolf population.

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Status of black bear population

The black bear population in Unit 16B was previously estimated at 1,300 to 1,600 bears but recent line transect surveys provided an estimate of 2,100 black bears.

The intent of the Board of Game in 1999 and 2001 was to reduce the black bear numbers to aid in the moose population recovery. The human use objective is a three-year average harvest of more than 225 bears with more than 30 percent being females. During the last ten years, harvests ranged from 62 – 158 bears, and harvests from 2000 through 2002 averaged 118 bears. These numbers are well below the harvest objectives. Two of the last three years were below the 30 percent female objective.

Based on a population estimate of 2,100 black bears, the goal of the harvest objective for Unit 16B is to reduce the population by maintaining a three-year average harvest of more than 225 bears, of which more than 30 percent are females.

Status of brown bear population

The brown population estimate for Unit 16B is 530 – 1,050 bears. The goal of the brown bear harvest objective is to reduce the population by maintaining a minimum three-year average harvest of 28 females over two years old. The last three years have averaged 26 legal females. During the last ten years, the total brown bear harvest of males and females ranged from 34 – 80.

The goal of recent Board actions has been to reduce brown bear population in order to enhance moose population recovery.

Predation is an important cause for failure to achieve harvest and population objectives

In 2002 and 2003, the Department indicated that, in the absence of high predator mortality, the current habitat is adequate to allow for moose population recruitment and growth to exceed the minimum population objective level. While rejuvenating some areas of winter range could increase moose productivity, the primary cause of low moose populations appears to be predators.

Although weather has been a contributing factor in moose population fluctuation in Unit 16B, the drastic and continued decline in moose numbers appears to be attributed mainly to high predator mortality. Because the reported human harvest in this subunit is well below acceptable levels, the main mortality factor appears to be predation. Management studies completed in adjacent units suggest that this mortality factor can be attributed to high numbers of wolves, brown bears, and black bears.

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Previous actions of the Board of Game

In 2003, the Board actions included:

- adopting the Wolf Predation Control Implementation Plan for Unit 16B
- liberalizing the wolf bag limit from 5 to 10
- providing more liberal methods and means, including using snowmachines, for harvesting wolves
- extending the brown bear season
- eliminating the brown bear tag fee
- adjusting the brown bear bag limit to one ever year and not counting it against the one bear every four year bag limit in other units
- adjusting the black bear baiting boundaries

Reducing predation provides reasonable expectation of achieving harvest and population objectives

Despite Board actions via standard hunting and trapping regulations to liberalize wolf and bear hunting in Unit 16B, those predator populations remain high. Meanwhile, the moose population remains below population objective levels, despite Board actions that have curtailed human harvest.

It is clear, based on information provided by the Department, that reducing predators will help the moose population to recover so that human harvest objectives for moose can be achieved.

While it is Board policy to manage wolf populations and predation to the extent possible through routine hunting and trapping, other methods not generally approved for hunting and trapping may be implemented. One such method is the use of aircraft.

Because predator populations in Unit 16B have not responded to the liberalizations noted in the paragraph above, and given recent experience in Game Management Units 13 and 19D East, it is clear to the Board that wolf numbers can be reduced by implementing a control program using aircraft. It is reasonable to expect that the moose population can be restored to desired population and harvest objectives by implementing an aerial program to reduce wolf predation. Removing wolves can reasonably be expected to increase the survival of calf moose as well as older moose, thus accelerating the ability to accomplish management objectives.

The Board establishes the following:

1. The removal of wolves will occur in Game Management Unit 16B, and will not exceed the limits set forth in 5 AAC 92.125 (6); wolves should not be reduced to less than 20 wolves.
2. Methods and means to take wolves will be designated by the Department in accordance with 5 AAC 92.039; these may include public aerial shooting or public land and shoot activities.
3. Permits shall be issued to members of the public qualified to operate within the constraints of the program, and able to accomplish the objectives of the program,

as designated by the Department. Multiple permits sufficient to accomplish the objectives in an efficient and effective manner should be issued.

4. The GMU 16B wolf control program shall continue through June 30, 2009, or until such time as moose population and harvest objectives are reached and have stabilized. The Board may also reauthorize the wolf control program.

The Board of Game hereby authorizes a Predator Control Program using aircraft for the Wolf Predation Control Implementation Plan for Unit 16B in accordance with 5 AAC 92.125(6).

Vote: 6/1
Date: March 10, 2004
Meeting Location: Fairbanks, Alaska

Mike Fleagle
Chair, Alaska Board of Game

Findings of the Alaska Board of Game
2004-147-BOG

BOARD OF GAME BEAR CONSERVATION AND MANAGEMENT POLICY
MARCH 8, 2004

GENERAL BEAR MANAGEMENT

Purposes of Policy

1. To assure all management actions provide for the conservation of Alaska's bear species, their habitat and food sources, and are consistent with the Alaska Constitution, and applicable statutes.

2. To encourage review and comment and interagency coordination for bear management activities.

Goals

1. To ensure the long-term conservation of bears throughout their historic range in Alaska.

2. To increase public awareness and understanding of the uses, conservation, and management of bears and their habitat in Alaska.

Background

Brown/grizzly bears (*Ursus arctos)* are large omnivores found throughout most of Alaska. Although they are considered the same species, brown and grizzly bears occupy different habitats and have somewhat different lifestyles and body configurations. Grizzlies are typically found in interior and northern areas. They are generally smaller than brown bears and more predatory. Brown bears live in coastal areas of southern Alaska where they have access to productive salmon streams.

Brown/grizzly bears are found throughout their historic range in Alaska, and unlike populations in the contiguous 48 states, they are not considered a threatened or endangered species. Estimating precise population numbers is difficult because of the bears' secretive habits and often densely vegetated habitat, but in most places in the state, populations are considered stable or increasing. Throughout most coastal habitats where salmon are abundant, bear densities typically exceed 175 bears/1,000 km2 (450 bears/1,000 mi2). A population in Katmai National Park on the Alaska Peninsula was measured at 550 bears/1,000 km2 (1,420 bears/1,000 mi2). In most interior and northern coastal areas, densities do not exceed 40 bears/1,000 km2 (100 bears/1,000 mi2).

Densities as low as 7 bears/1,000 km2 (20 bears/1,000 mi2) have been measured in the eastern Brooks Range. Extrapolations from existing density estimates yielded an estimate

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of 31,700 brown bears in 1993. All indications are that the population has increased in the past decade.

American black bears (*Ursus americanus)* are generally found in forested habitats throughout the state. Black bears also occupy their historic range in Alaska, often overlapping distribution with brown/grizzly bears. Because they live in forested habitats it is very difficult to estimate population size or density. Where estimates have been conducted in interior Alaska, densities ranged from 67 bears/1,000 km2 (175 bears/1,000 mi2) on the Yukon Flats to 289 bears/1,000 km2 (750 bears/1,000 mi2) on the Kenai Peninsula. In coastal forest habitats of Southeast Alaska's Alexander Archipelago black bear densities are considered high. A 2000 estimate for Kuiu Island was 1,560 black bears/1,000 km2 (4,000 black bears/1,000 mi2). A statewide black bear population estimate is not available because, unlike the many brown/grizzly bear and wolf estimates that are available across the state, very few black bear population estimates have been conducted.

Brown/grizzly bears have relatively low reproductive rates and require abundant resources. Black bears exhibit higher reproductive rates than brown/grizzly bears; however, rates are still lower than for other big game animals with the exception of brown/grizzly bears. Population stability can be threatened by human-caused mortality and from fragmentation or destruction of habitat. This combination is present to a sufficient extent on the Kenai Peninsula that brown/grizzly bears there have been designated by the State as a "population of special concern". To address situations where bear populations have declined because of human activities, the Department has implemented remedial management actions. In the Kenai situation, a conservation strategy has been developed through a public stakeholder process.

In most areas of the state black bear populations are healthy and can sustain current or increased harvest levels. However, in some areas such as Unit 20B and 20D in the interior, the Kenai Peninsula, and Southeast Alaska, hunter demand for black bears is high, harvest is high, and these populations require closer monitoring. Bears are intelligent animals that learn to adapt to new situations. This ability, coupled with their enduring drive to rebuild fat reserves prior to denning, makes bears experts in finding ways to get a meal. Garbage is often a source of food from people. If this happens, bears learn to exploit human-related food resources and lose their natural tendencies to avoid people. Frequently, such bears become classified as "nuisance" bears and often are killed in defense of live or property (DLP).

Respected by most, and feared by many, bears can pose a threat in certain situations. Statewide, there are an average of about six encounters a year in which a human is injured. About half of those involve hunters in search of other quarry. About every two or three years, one of the attacks results in a human fatality.

Whenever bears and people interact with each other there are potential benefits and dangers. Displacing bears from feeding sites has serious consequences for them. Human behavior around bears not only impacts their own personal safety and viewing experience,

it also impacts the health and safety of the bears and the people who come to the area later. When bears and people meet, it is important that bears never get food from them and that people are trained how to react to bear encounters. Comprehensive education is recognized as a vital component in all aspects of any bear viewing program.

Public interest in bears has increased dramatically in Alaska during the past decade. Some of this interest is incidental to other pursuits such as sport fishing, hiking, flight seeing, eco-tours, or marine water cruises but some of it is specifically targeted at bear viewing. Bear viewing is a rapidly growing industry in selected areas of the state. The interest exceeds the opportunities provided now by such established and controlled sites as McNeil River, Pack Creek, Anan Creek, Wolverine Creek and Brooks Camp. As a result, private entrepreneur businesses are providing viewing opportunities in some high-density bear areas. Many of these sites and programs involve highly habituated bears that most frequently result in mutually exclusive conflicts with other uses of bears. Habituation of bears should be discouraged and maximum public benefits pursued by providing management programs designed to provide for public viewing opportunities in areas where other uses are already excluded or to carefully integrate uses on a time and area basis.

Alaska is world-renowned as a brown/grizzly bear hunting area. Alaska is the only place in the United States where they are hunted in large numbers, and the vast majority of record book bears come from the state. An average of about 1,500 brown/grizzly bears are harvested each year. The trend has been increasing. Many of the hunters are nonresidents and their economic impact is significant to Alaska. Hunters have traditionally been the strongest advocates for bears and their habitat, providing consistent financial and political support for research and management programs.

Because bears can be both prey and predator, their relationship with people is complex. In areas where a population of large ungulates has been reduced to low levels, bears may have a significant influence on the decline of species such as moose, caribou and deer. This is especially true when bears are found in combination with thriving wolf populations. Alaskan studies of bear interactions with moose, for instance, indicate that bears may contribute significantly to calf mortality. Coupled with wolf predation, the combined mortality rates can far exceed human induced mortality and contribute to major moose population declines, depressed populations and delayed recoveries. The role of bears in these situations greatly exacerbates the debate over predator control and complicates evaluation of potential and initiated management actions.

Guiding Principles

1. Manage bear populations to allow a wide range of human uses, while providing for long-term bear population sustainability.
2. Establish minimum population goals that ensure the long-term viability of bears recognizing the reproductive capacity of each bear species.
3. Manage bears at the scale of subunits or units to achieve appropriate overall predator-prey relationships rather than pursue single species management.
4. Protect the genetic diversity of bears.
5. Continue and, if appropriate, accelerate research for the management of bears.

6. Consider short-term and long-term effects of habitat loss and fragmentation on bear populations.
7. Provide for consumptive and non-consumptive uses of bears in management plans and encourage economic benefit to the state and its citizens while maintaining sustainable bear populations.
8. Do not allow identified prey populations to decline to a point where predation keeps them at low levels.
9. Avoid, where possible, activities that encourage the habituation of bears and manage bear viewing opportunities that are not mutually exclusive of other uses.
10. Encourage wildlife viewing of bears and other species in their natural settings as part of a broader outdoor experience.
11. Implement this policy in such a manner that the Department and the Board can respond promptly to unforeseen situations.
12. Pursue informational and educational efforts to help the public understand more about bears and their management.
13. Work with enforcement agencies to identify priorities and to assist with and encourage adequate enforcement activities.
14. Review and recommend revision to this policy as needed.

Conservation and Management

A. Management Strategies

The Department will manage both bear species differently according to their population and human use characteristics in different parts of the state. In some areas, such as the Kodiak Archipelago, portions of Southeast Alaska and the Alaska Peninsula, bears are managed for trophy-hunting and viewing opportunities. In many other areas of the state, bear populations are largely unaffected by human harvest. Bears are an important big game species sought by resident and nonresident hunters and are managed for a variety of objectives.

Generally, bear hunting will be conducted on a sustained yield basis, except in areas where a bear predation control program is authorized. Harvests will not be allowed to threaten the long-term population survival of bears. In most areas of the state, sustained brown/grizzly bear harvests will generally be 4-8 percent of the estimated total population and up to 12 percent for black bears. Some bear populations may be able to sustain a harvest above these guidelines and these will be evaluated for more liberal harvest programs. Lacking precise population data, managers will continue applying indirect parameter to assess the status of bear populations.

All brown/grizzly bears harvested under the general hunting regulations must be inspected and sealed by a Department representative. Black bears must be sealed in some units but not all. Non-resident hunters of brown/grizzly bears must be accompanied in the field by a registered big game guide or a resident relative. For both species, sows accompanied by cubs, and the cubs, are protected, but cubs are defined as bears in their first year of life for

black bears and for the first two years of life for brown/grizzly bears. The Department will continue to maintain these strategies and regulations for most of the state, unless it is necessary to consider methods to increase bear harvests as part of a bear predator control program.

The effect of management actions on the economic contribution of bears to Alaska's users of bears should be considered. Maintaining a regulatory structure that assures reasonable standards of data integrity with responsible management strategies and population sustainability will help avoid threats of international sanctions. Large areas of the state have subsistence brown/grizzly bear hunts with liberal seasons and bag limits, mandatory meat salvage, and relaxed sealing requirements. The Department will continue to accommodate subsistence needs and will consider the impacts on subsistence activities.

Bear viewing and bear/human interactions are also important aspects of bear management in Alaska. Increasing interest in watching bears at concentrated feeding areas such as salmon streams and sedge flats is challenging managers to find appropriate levels and types of human and bear interactions without jeopardizing human safety or bears or other legitimate uses of bears. Bear hunting and viewing are compatible in many situations. However, there are areas where the two uses are potentially mutually exclusive. Land and wildlife managers are faced with tough decisions that could either minimize those conflicts or promote single use regulations at the expense of other uses. For instance, federal withdrawals totaling over 40 million acres are managed to protect large segments of Alaska's big game resources habitat and major portions of these areas provide park-like observation opportunities. Logically these areas could first be utilized for habituated wildlife viewing opportunities before traditional uses of bears and other wildlife are unnecessarily impacted in other areas. Bear management programs on state and private lands should be designed to achieve maximum benefits to Alaskans. Specifically, state management programs should avoid habituating bears wherever possible. Conflicts between user groups can frequently be reduced if viewing programs adopt "best viewing practices."

In areas where bear management plans have been developed, the Department will adhere to the recommendations included in those plans as long as they are consistent with the newest policies and regulations adopted by the Board.

Nothing in this policy affects the authority under state or federal laws for an individual to protect human life or property from bears (5 AAC 92.410). All reasonable steps must be taken to protect life and property by non-lethal means before a bear is killed.

B. Research Strategies

Developing and implementing precise, cost-effective methods for determining bear populations will continue to be a research priority for the Department. Work to date suggests that no single population estimation method will work across the state given the vast areas, varied topography, differing vegetation communities and great differences in bear density. Some methods work well in one area but not in another. Aerial stream

surveys, line-transect surveys, capture-mark-recapture, intensive aerial surveys, and DNA analysis are some of the tools that can be utilized to provide population estimates.

Predator-prey relationships between bears and large ungulates have not been thoroughly examined in most of the state. Bears use a wide variety of foods seasonally including vegetation, fish, mammals, birds, and carrion and they are exceptionally adaptable in their ability to capitalize on available food resources. Consequently, the impact of ungulate prey abundance on bears is difficult to ascertain. Similarly, the impact of bears on prey populations is multifaceted and can be further compounded by the presence of other predators such as wolves.

Where appropriate, the Department will cooperate in research efforts with other agencies. Research findings will be reported in a timely fashion and presented in a form that is easily understood by the public.

C. Information and Education Strategies

Public education is critical in any bear management program. Perhaps as much as any species in Alaska, bears elicit a wide variety of emotions, have myriad uses, and directly impact peoples' lives both in the field and near settlements. Clear, objective information is necessary for citizens and managers alike to make wise decisions when dealing with bears. As the agency primarily responsible for bear management, the Department must take a lead role in producing and disseminating this information.

Bear information will be developed for a wide range of audiences and be delivered in a variety of media. A principal focus of bear education will be to promote a better understanding of life history, behavior, and habitat associations. Specific messages will include discussions of bear/human interactions, bear hunting, bear viewing, and bear predation on moose, caribou, and sheep. To assure consistent and accurate presentation of bear information, the Department will continue to work with the Alaska Interagency Bear Safety Education Committee.

The Department will strive to include the public in all bear management decisions. The primary method of public involvement will be through existing local Fish and Game Advisory Committee and Board processes. Citizen-driven bear management plans will be sponsored and supported by the Department. To date, such plans have been developed for Game Management Unit 4, the Kenai Peninsula, and the Kodiak Archipelago. The Department is committed to implementing as many of the recommendations from bear management plans as possible.

Because of the economic importance of guiding and other commercial enterprises associated with the varied uses of bear, it is recommended that extra efforts are made to notify all concerned parties that area specific predator control activities are being considered.

BEAR PREDATION MANAGEMENT

Purpose of Policy

1. To guide the Board of Game (Board) and the Alaska Department of Fish and Game (Department) in implementing any bear predation management actions pursuant to AS 16.05.255(e) and 5 AAC 92.106, when the Board determines ungulate populations important for human consumption are being kept at low levels because of bear predation.

Goals

1. To provide guidelines for developing, implementing, and evaluating bear management actions designed to reduce bear specific predation in precise areas for specific time periods required by predator control implementation plans.

Background

In areas where the Board has authorized for intensive management (IM) activities, set IM population and harvest objectives and those objectives are not being met and bear predation has been found to be a major factor in the decline in prey populations or in keeping prey populations from recovering, the Board can authorize bears to be included in predator control planning. Whenever bears are considered and authorized for predator control activities, the implementation control plan must specify whether one or both bear species are to be considered in the control plan.

Based on careful consideration of scientific information and public comment, the Department and the Board believe that in some limited circumstances it may be beneficial and appropriate to control predation by bears to achieve population and human use objectives.

Guiding Principles

1. Where bear reductions are authorized, the first step should be to reduce bear numbers through general hunting provisions such as liberalized seasons, bag limits, hunting methods and means and tag waviers.
2. Where predation regulates prey populations, identify to the extent possible, the relative contribution by each primary predator species so that management response can be focused and effective.
3. Implement measures to reduce black and/or brown bear numbers to allow prey species to increase population management objectives in areas managed for high consumptive use where predation by bears itself or in combination with other predators is keeping prey at low levels.
4. Manage bears at the appropriate scale that may vary from an entire Game Management Unit to a specifically defined area (e.g. key calving sites).
5. If liberalization of general hunting provisions does not adequately reduce the target bear population, an additional control program may be authorized. This program should be conducted for the minimum time necessary to achieve the stated

management objectives and may utilize methods and means not approved for general hunting.

6. Consider the management goals and objectives of state, federal, and private land owners and work cooperatively with them to design, implement, and evaluate bear control activities.
7. Encourage federal and private land owners, where possible, to work cooperatively in any management and/or species control programs.
8. If reduction in bear numbers fail to result in reasonable increases in availability of prey populations for human use, management practices intended to reduce bear populations should be reconsidered.

Management Strategies

In areas where bears have been identified as an important component in reducing and/or holding prey populations well below objectives, higher harvest levels than those listed under general management strategies will be allowed. In these areas, specific harvest reporting conditions will be imposed which may include additional requirements for permits, sealing, and/or reporting. In addition, the Department will closely monitor the effects of higher harvest on the bear and prey populations.

Research Strategies

In areas where bear predation control programs are considered, the Department may conduct research to quantify the contributions of each bear species and of wolves to the causes of decline in the ungulate population important for human use. Alternatively, the Department may use standard survey and inventory data and interpretation of other research results to guide the decision-making process. Monitoring activities designed to determine the effects of high levels of bear harvest on recovery of depressed ungulate populations would help focus management efforts in the most cost-effective manner.

Information and Education Strategies

In any situation where the Board or Department believes bear predation control may become necessary, the public will be informed as soon as possible. Detailed information on the specific location, the predator, prey and habitat concerns, and the proposed management action and its anticipated costs and duration will be widely disseminated. Public meetings may be held in the affected area and in major Alaska communities, in addition to regularly scheduled Board and Advisory Committee meetings. Once implemented, the Department will provide the Board and the public with an annual report and evaluation of the management action.

Board Consideration

The Board may consider bear control on a bear species when:

1. Bear predation has been determined to be an important factor in the decline of a prey population or is preventing recovery of a low density prey population.

2. Bear predation is an important factor preventing attainment of approved prey population of human-use objectives.
3. Efforts to control bear predation can be reasonably expected to achieve improvement in sustainable human use of ungulates.

If the Department or the Board determines that one or more of these conditions exist in a given IM area, at the Board's direction, an implementation plan will be prepared for public review that includes:

- A statement of the proposed action, including potential methods and means.
- Justification for the proposed action, including previous measures taken that failed to achieve bear and prey objectives and other alternatives considered.
- Geographical description of the area.
- Population and human use objectives.
- Relevant information about wildlife populations and human use, including bear and prey populations status and trend, harvest information, habitat, and estimates of the effects of all predators on prey populations.
- Estimate of the time and funding necessary to meet population and human use objectives.
- Schedule for update and reevaluation of the program.

If a bear control program is authorized by the Board, a specific predator control implementation plan will be prepared that includes:

- Justification
- Geographic area description
- Wildlife population and human-use information
- Bear and Prey population level and population objectives and the basis for those objectives
- Methods and means
- Anticipated time frame not to exceed five years unless the plan is re-adopted, and a schedule for update and reevaluation
- Other specifications or limitations the Board considers necessary.

Bear control will be implemented using the most humane, selective, acceptable and effective methods available. If methods that do not require killing bears are found to achieve the desired results in a reasonable time and with reasonable financial resources, they will be considered first. At no time will poisons be used for bear control.

It is the intent of the Board of Game that bear control programs authorized under this policy shall be directed at only specified target areas and is not intended for implementation under general hunting regulations.

Under methods and means the Board may selectively consider:

- Relocation
- Sterilization
- Use of communications equipment between hunters or trappers

- Sale of hides and skulls as incentive
- Use of bears for handicraft items for sale
- Trapping
- Bear baiting
- Changing the definition of a legal bear
- Same day airborne taking, except aerial shooting
- Diversionary feeding

Vote: 7/0
March 8, 2004
Fairbanks, Alaska

Mike Fleagle, Chair
Alaska Board of Game

No. 92-65-BOG

FINDINGS OF THE BOARD OF GAME

IMPLEMENTATION OF WOLF POPULATION REDUCTION IN THE UPPER TANANA/FORTYMILE CONTROL AREA OF GAME MANAGEMENT UNITS 12, 20B, 20D AND 20E

During the publicly convened Board of Game meeting on November 9 - 19, the board heard public testimony, staff reports and advisory committee reports and discussed the management of caribou, moose, wolves and other species in the Upper Tanana/Fortymile area of Units 12 and 20. Included in the board's discussion were re-evaluations of biological and human use information presented to the board over the past decade, and review and consideration of the Strategic Wolf Management Plan for Alaska and associated Area-Specific Wolf Management Plans and Implementation Plans under development since November, 1989. Based on all the testimony and reports, and after due consideration of public review and comment the board finds that:

1. The Fortymile caribou herd (FCH) is a biological resource of significant value to the residents of Alaska and other citizens of the United States and Canada. Excessive harvest by past generations, combined with natural environmental factors, reduced the FCH to approximately 6,000 caribou in the mid-1970's. While the herd has increased under conservative harvest management to healthy status with a herd size of approximately 22,000, the FCH remains well below its maximum estimated historic level of more than 500,000 animals.

2. The current size of the FCH adversely affects the biological diversity and abundance of interrelated components of the ecosystem within the potential range of the FCH to the detriment of wildlife species and people. The current herd size is not sufficient to assure the ability of the population to increase naturally during periods of favorable environmental conditions at rates necessary to provide for the best interests of the people of Alaska, Canada and the United States.

3. The current herd size which is less than 4% of its historic high and the current low growth rate of the FCH are not sufficient to meet reasonable demands for consumptive and nonconsumptive use. At the greatly reduced herd size the FCH inhabits less than 20% of its former range, which once spanned from Fairbanks, Alaska to Whitehorse, Yukon. People who depend on the FCH for nutritional needs have had limited opportunity to harvest caribou for food. People who wish to view the wildlife spectacle of massive Fortymile caribou migrations are unable to do so because of the small size of

the herd. The local economy suffers from the lack of cash that would be brought into the communities by people coming to view or hunt the FCH.

4. The goal of restoring the FCH to its historic range in portions of Units 12, 20B, 20D, 20E and 25C in Alaska and the adjacent Yukon Territory of Canada through management of harvest and predation is widely supported by the people of Alaska and Yukon. It is in the best interest of the FCH, its ecosystem and the public to restore this herd to abundance. The management objective to increase the FCH to 60,000 caribou by the year 2000 is reasonable and attainable through sound wildlife management and is within the carrying capacity of the habitat.

5. The harvest objectives of allowing a maximum annual harvest of 3% of the herd (including no more than 1.5% of the females in the herd) during periods of population growth in excess of 10% per year, with lower allowable harvests during periods of stability or decline, insure that human harvest of the FCH will have no measurable effect on its rate of recovery. The harvest objectives provide a reasonable balance between the needs of Alaskans for continued consumptive use of the FCH and the desires of others to suspend all human harvest during the period of herd recovery. Further restrictions on harvest are not biologically needed and would create additional hardship for local residents and other Alaskans.

6. The potential growth of the FCH is limited by wolf predation. Unless the level of wolf predation on the FCH is reduced, desired growth rates of the FCH for the benefit of the ecosystem and humans cannot be assured.

7. The Upper Tanana/Fortymile (UTFM) moose populations within portions of Units 12, 20D and 20E are valued biological resources. These moose populations are currently below the size necessary to provide for the best interest of the public.

8. The current size and productivity of the UTFM moose populations are significantly below the nutrient/climate limit and below the optimal population size necessary to meet reasonable demands for consumptive and nonconsumptive use. Alaska residents who depend on moose in this area for nutritional needs have limited opportunity to obtain moose. People who wish to observe moose in their natural habitat are unable to do so because of the low density of the population. The local economy suffers from the lack of cash that would be brought into the communities by people coming to view or hunt moose.

9. The management goals of increasing the UTFM moose populations and its use by people through management of harvest, habitat and predation are strongly supported by local residents who are dependent upon the UTFM moose populations for nutritional needs.

The population objective of 9,000 to 10,000 moose and the annual harvest objective of 300 to 650 moose are reasonable and attainable through sound wildlife management, and are within the capability of the habitat and are consistent with sustained yield management.

10. The size and productivity of the UTFM moose populations are limited by wolf predation. Although bear predation also occurs, and was formerly a greater source of mortality, management actions taken to liberalize bear harvest over the past decade have reduced the level of bear predation on moose. Unless the level of wolf predation on UTFM moose is reduced, desired growth of the populations for the benefit of the ecosystem and people is not expected.

11. Recent wildfires in the range of the UTFM moose populations have created large expanses of high quality habitat which are currently under-utilized. The vegetation essential for maximum productivity of moose populations changes due to succession. Unless management actions are taken to stimulate moose population increases, the potential value of the habitat due to recent fires will be lost through seral succession.

12. The Upper Tanana/Fortymile (UTFM) wolf population is a biological resource valued by the public. The healthy status of the UTFM wolf population is not threatened by the proposed reduction to 40-75 wolves in the Upper Tanana/Fortymile Wolf Predation Control Area for the 5-year period, 1993-1998. Extensive evidence from this area and across Alaska and in the Yukon conclusively demonstrates that wolf populations are capable of withstanding the projected level and duration of wolf reduction. Wolf numbers can be expected to recover to a level equal to the pre-control level within a relatively short period of time when the control program is terminated. In the long term, a larger wolf population is anticipated and can be supported by a the increased prey populations. The projected increase in wolf numbers following recovery of the Fortymile caribou herd and UTFM moose populations will enhance the value of the wolf population to all people with an interest in these wolves. The long-term gains in wolf and prey abundance outweigh any short-term effects of a temporary reduction of wolf numbers.

13. In particular, the Board of Game finds that the proposed reduction of wolf numbers in the Upper Tanana/Fortymile Wolf Predation Control Area will have no adverse effect on the reasonable opportunity for subsistence use of wolves in any portion of Units 12 or 20. Current subsistence wolf harvest is limited in this area and no changes in seasons or bag limits which would reduce the reasonable opportunity to take wolves for subsistence uses are expected to result from the proposed temporary wolf reduction. Further, local residents participating in a survey of opinions through a department questionnaire regarding wildlife management in this area strongly supported reduction of wolf

numbers to stimulate moose and caribou population increases, even if that meant the opportunity to hunt or trap wolves would be temporarily reduced.

14. The department will not remove wolves or wolf packs that are known to spend the majority of their time within the boundaries of Yukon-Charley Rivers National Preserve, even when those wolves are located outside the Preserve. The department will not remove any wolf or wolves located within 10 miles of the Preserve unless there is knowledge that the majority of that animal's range is outside of the Preserve. To the greatest extent possible, this strategy will attain the program objectives while avoiding any impact on the healthy (as required by federal law) status of the wolf population in the Preserve. Any incidental effect on the wolf population in the Preserve will be minimal and short term. In the long term, the wolf population within the Preserve will benefit from the increased natural abundance of caribou migrating to and through the Preserve as a result of control actions outside the Preserve. Any burden on the national interest in wolves in the Preserve is minimal in relation to the immeasurable local and national benefits that will result from restoration of the FCH to its former abundance.

15. No alternative to a wolf population reduction program will allow the Fortymile Caribou Herd and UTFM moose populations to increase to desired objectives. Harvest by hunting and trapping will not reduce the wolf population. Wolf harvests by hunting and trapping over the past 10 years have averaged less than 15% of the population. This harvest is below the maximum sustainable level for a wolf population with the prey base that exists in the area. The vegetation and terrain prevent "land and shoot" taking from being an effective method of taking wolves. An experimental program of diversionary feeding of predators in the range of the adjacent Macomb caribou herd failed to increase caribou calf survival. Diversionary feeding to benefit moose is too costly to apply over the UTFM Wolf Predation Control Area. Aerial shooting of wolves by department personnel is the most effective, efficient, humane and selective method available to accomplish the program objectives.

16. The department has developed this implementation plan based on sound principles of wildlife management, consistent with the constitutional and statutory mandates for sustained yield management. This plan is consistent with the Strategic Wolf Management Plan for Alaska adopted by the board on October 30, 1991 and the Area-Specific Wolf Management Plan for Southcentral and Interior Alaska adopted by the board on November 16, 1992. This plan will maximize the likelihood of success in reaching the program objectives and will provide the department with invaluable knowledge of the biology and ecology of wolves that cannot be obtained in any other way. The data gathered from this program

will become an important part of the expanding knowledge base used by wildlife managers to provide benefits to the resource and people.

17. All oral testimony, written comments, staff reports, and previous board findings were considered and incorporated by reference.

Adopted November 18, 1992

Richard Burley, Chair
Alaska Board of Game