

The Board of Game accepted this proposal to the agenda for the Spring 2010 meeting through an agenda change request.

PROPOSAL 132- 5 AAC 92.125. Predation Control Areas Implementation Plans.

Establish a predator control area for Unit 10, Unimak Island.

5 AAC 92.125 is amended by adding a subsection to read:

Unit 10 Predation Control Area. Notwithstanding any other provisions in this title, and based on the following information contained in this section, the commissioner or the commissioner's designee may conduct a wolf population reduction or wolf population regulation on Unimak Island in Unit 10:

(1) The Unimak Wolf Management Area is established to reverse the population decline and facilitate population growth of the Unimak caribou herd (UCH) on Unimak Island in Unit 10; the UCH has been identified as an important resource for subsistence and other uses; the Unimak Wolf Management Area includes all of Unimak Island, encompassing approximately 1,571 square miles (4,069 square kilometers); the wolf reduction area is approximately 900 square miles (2330 square kilometers) and includes 57 percent of the lands within the management area;

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

(A) the UCH population information is as follows:

(i) the UCH has occupied Unimak Island through most of recorded history and was estimated at 5,000 caribou in 1975; the UCH population size was estimated to include 1,200 caribou in 2002 before entering a population decline; the most recent estimate of herd size was 300 caribou based on surveys conducted in October 2009;

(ii) Factors contributing to the initial decline in UCH population size are not known, however low caribou calf survival has been identified as the primary cause of the decline since 2005;

(iii) calf:cow ratios in October averaged 5.5 calves:100 cows during the period of 2005 to 2009 (range 3 to 7);

(iv) bull:cow ratios declined from 45 to 5 bulls:100 cows during the period of 2005 to 2009; a total of 13 bulls were counted during the October 2009 survey; this decreased bull:cow ratio is attributed to the lack of calf recruitment and cannot be explained by caribou harvests;

(v) pregnancy rates of cows that were 24 months of age or older decreased from 85% in 2008 (n=113) to 68% in 2009 (n=40); the decreased pregnancy rate is attributed to the inability of some reproductive females to find mates for breeding, because of the low bull:cow ratio;

(vi) adult female caribou in the UCH have excellent body condition based on a study conducted in 2009; nutrition and range conditions are not limiting reproduction or caribou survival;

(vii) harvestable surplus is estimated to be 0 caribou based on chronic poor calf recruitment and low bull:cow ratio;

(viii) state and federal caribou hunts were closed in 2009 due to the continued population decline and low calf recruitment; the closure remains in place as of 2010;

(B) the predator population and human use information is as follows

(i) wolves are a major predator of caribou on Unimak Island;

(ii) research into the causes of caribou calf mortality indicates that wolf predation is a major cause of caribou calf deaths during the first 2 weeks of life and continue to be a major predator throughout the year; wolf predation was the primary cause of calf deaths in the adjacent Southern Alaska Peninsula (SAP) caribou herd in Unit 9D; the removal of 20 adult wolves from the caribou calving grounds in Unit 9D during two years of a wolf predation management program increased caribou calf survival from 1 percent to 71 percent;

(iii) wolf density on the Alaska Peninsula is estimated at 7 wolves per 1,000 square kilometers; wolf densities in the Unimak Wolf Management Area were thought to be similar to study areas on the Alaska Peninsula based on observations made by biologists during caribou surveys; anecdotal evidence obtained from pilots, hunters, and local residents indicates that wolves are abundant throughout the area;

(iv) no wolf surveys have been conducted in the Unimak Wolf Management Area; wolves are frequently observed within the UCH calving ground; the Unimak Wolf Management Area was thought to include 20 to 30 wolves and in 3 to 5 packs based on habitat type and prey base;

(v) an average of 2 wolves (range of 0 to 4 wolves) have been harvested annually in the Unimak Wolf Management Area;

(vi) brown bears are considered to be an important predator of caribou on the Alaska Peninsula and on Unimak Island; while brown bears have been known to kill adult caribou opportunistically, brown bears are regarded as an effective predator of calves during the first 10 days of life;

(vii) research into the causes of caribou calf mortality indicates that brown bear predation was a less important cause of caribou calf mortality than wolf predation in the Northern Alaska Peninsula (NAP) caribou herd in Units 9C & 9E and the SAP caribou herd in Unit 9D, which are adjacent herds with similar ecosystems;

(viii) brown bears are considered abundant on Unimak Island; the brown bear density is 100 bears per 1,000 square kilometers in the Unimak Wolf Management Area;

(ix) brown bear harvests in the Unimak Wolf Management Area have averaged 10 bears annually from 2000 to 2008;

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

(A) management population objectives for the UCH is to maintain a population of 1,000 caribou with a bull:cow ratio of at least 35 bulls:100 cows; the amount necessary for subsistence is 100 - 150 caribou annually and includes caribou harvested from the SAP caribou herd in Unit 9D; the caribou harvest objective required to meet the amount necessary for subsistence has not been met for 18 years;

(i) management objectives were established based on historical information regarding population numbers, habitat limitations, human use, and sustainable harvests;

(ii) the estimated UCH population in October 2009 was 300 caribou, including 13 bulls;

(iii) hunting seasons for the UCH were closed in March 2009;

(B) wolf population objectives for Unimak Island are to maintain a population capable of sustaining a harvest of at least 2 wolves per year; these objectives are currently being met and will continue to be met under this plan;

(C) brown bear population objectives for Unit 10 are to maintain a high population density and sex and age structure that can sustain a harvest composed of at least 60% males; the brown bear population objective for Unit 10 is currently being met;

(4) justification, objectives, and thresholds for the predator management implementation plan are as follows:

(A) justification for the Unimak Wolf Management Area is based on the herd's intrinsic value as a critical component of the Unimak Island ecosystem, the determination that the UCH is a population that is customarily and traditionally taken for subsistence uses; and the value of the herd for other consumptive uses; while this population has not been identified as important for high levels of human use, it is, nevertheless important locally and as the only naturally-occurring insular caribou herd in the state; the Board established objectives for population size and composition in Unit 10 consistent with multiple use and principles of sound conservation and management of habitat and all wildlife species in the area;

(B) the objectives of the program are to halt the decline of the UCH and to achieve a sex and age structure that will sustain the population; the goal of this program is to reduce the number of wolves in a specified wolf reduction area that demonstrates a history of repeated use by caribou; the wolf reduction area includes all lands on Unimak Island that are west of the 164 degree West line of longitude; the wolf reduction area includes 900 square miles and includes approximately 57% of the lands within the Unimak Wolf Management Area.

(C) The commissioner may initiate the reduction of wolf numbers in the Unimak Wolf Management Area according to the following thresholds:

(i) the caribou population is below management objectives established by the Board;

(ii) nutrition is not considered to be the primary factor limiting caribou population growth;

(iii) calf recruitment is an important factor limiting population growth and calf survival during the first four weeks of life is less than 50%;

(D) the commissioner may continue to reduce wolf numbers in the Unimak Wolf Management area until the following thresholds can be met without the benefit of wolf reduction:

(i) the bull:cow ratio can be sustained within management objectives and the fall calf:cow ratio can be sustained above 25 calves:100 cows; or

(ii) the population can grow at a sustained rate of 5% annually; or

(iii) harvest objectives can be met;

(E) the commissioner will suspend the wolf reduction program if the following conditions are observed pending further review by the Board to determine if the program can be modified to achieve the objectives of this program before reinstating the program; hunting and trapping by the public specified in other sections of this title may continue and are not subject to this clause;

(i) caribou nutritional indices such as pregnancy rates, calf and adult body mass, or other condition indices exhibit a declining trend from current values and the bull:cow ratio is greater than 20 bulls:100 cows; or

(ii) fall caribou calf:cow ratios remain below 20 calves:100 cows following three consecutive years of wolf removal from the Unimak Wolf Management Area; or

(iii) the bull:cow ratio remains below the caribou population objectives and does not increase following three consecutive years of wolf removal from the Unimak Wolf Management Area;

(F) the predation management objective for the Unimak Wolf Management Area is to reduce wolf numbers in the wolf reduction area on Unimak Island in Unit 10, but maintain a population on the island capable of sustaining a harvest of at least 2 wolves per year; wolves will not be removed from 43% of the lands within the UCH Wolf Management Area that are outside the boundaries of the wolf reduction area; because wolves will not be removed from all lands within the UCH Wolf Management Area, logistic limitations prohibit public access to the majority of lands within the management area, and wolf harvest by the public is low, only a portion of the wolf population on Unimak Island will be affected by the management activities authorized by this plan;

(G) human intervention to reduce wolf predation is necessary to stop the caribou population decline and likely extirpation and to promote population recovery;

(H) the reduction of wolf numbers in the prescribed wolf reduction area is expected to increase caribou calf survival and recruitment and increase the caribou bull:cow ratio to management objectives;

(I) reduction of predation on caribou by brown bears would not be feasible because the density of brown bears is high on Unimak Island, most of the bears present are probably not significant predators on caribou, it is difficult to identify predatory brown bears, limitations imposed by logistics, and competing management priorities;

(5) the authorized methods and means used to take wolves are as follows:

(A) hunting and trapping of wolves by the public in Unimak Wolf Management Area during the term of the management program may occur as provided in the hunting and trapping regulations set out elsewhere in this title;

(B) the commissioner may issue public aerial shooting permits, public land and shoot permits, allow agents of the State to conduct aerial shooting, or allow Department employees to conduct aerial shooting as a method of wolf removal under AS 16.05.783, including the use of any type of aircraft;

(C) the commissioner may authorize the use of Department employees or state owned, privately-owned, or charter equipment, including helicopters, as a method of wolf removal under AS 16.05.783;

(D) the commissioner may authorize the Department employees to euthanize wolf pups located in a den in accordance with the Department's Wolf Pup Protocol and using the Guidelines for Euthanasia of Nondomestic Animals approved by the American Association of Zoo Veterinarians if the wolf pups are orphaned during the wolf removal activities;

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

- (A) for up to 10 years beginning April 1, 2010, the commissioner may reduce the wolf populations in the Unimak Wolf Management Area;
 - (B) annually the Department shall, to the extent practicable, provide to the Board a report of program activities conducted during the preceding 12 months, including implementation activities, the status of caribou and wolf populations, and recommendations for changes, if necessary to achieve the objectives of the plan;
- (7) other specifications that the Board considers necessary:
- (A) the commissioner shall suspend wolf reduction activities
 - (i) when prey population management objectives are obtained;
 - (ii) predation management objectives are met; or
 - (iii) upon expiration of the period during which the commissioner is authorized to reduce wolf numbers in the Unimak Wolf Management Area;
 - (B) the commissioner shall annually close wolf hunting and trapping seasons as appropriate to ensure that the wolf population objectives for Unimak Island continue to be met.

ISSUE: The Unimak Caribou Herd (UCH) in Game Management Unit (Unit)10 has declined from a peak population of 1,200 caribou in 2002. During the fall of 2009, the population size was estimated to be 300 caribou. Initially the cause of the population decline was not investigated, but later studies identified poor calf survival as the primary cause of the continued decline and explain the deterioration of key population parameters. Human harvest was not a factor in the decline, and nutrition was not a significant factor based on observed pregnancy rates and body condition indices. The primary factor limiting population growth and harvest opportunity is the poor calf recruitment that occurred over the past 5 years (7, 6, 6, and 3 calves: 100 cows in the fall of 2005, 2007, 2008, and 2009 respectively). Calf recruitment has been insufficient to offset adult mortality, resulting in a decreased population size and a decrease in the bull:cow ratio. The pregnancy rate of adult female caribou was 17% lower in 2009 than 2008, presumably because some reproductive females were unable to find mates during the breeding season. By October 2009, the bull:cow ratio had fallen to 5 bulls:100 cow, the lowest ever recorded for a caribou herd in Alaska.

The low bull:cow ratio, low pregnancy, and low calf survival require immediate mitigation to ensure conservation and sustainability of the UCH. In very similar circumstances, focused wolf reduction resulted in an immediate increase in the bull:cow ratio, calf survival and recruitment, and population size of the adjacent Southern Alaska Peninsula (SAP) caribou herd. Department staff believes that a similar wolf reduction program on Unimak will also be successful.

The Department of Fish and Game (department) recommends the following management objectives for the Unimak caribou herd:

1. Maintain a population size of 1,000 animals.
2. Maintain a minimum fall bull:cow ratio of at least 35 bulls:100 cows.

The Board of Game (Board) has set the amount necessary for subsistence (ANS) harvest at 100-150 caribou from the UCH and SAP caribou herds combined. The ANS objective for caribou harvest has not been met during the last 18 years. Hunting opportunity will be reinstated when the population can sustain a limited harvest based on fall sex and age composition surveys.

Unlike the SAP where predator management programs have been conducted entirely on state-owned lands, land ownership on Unimak is federal wilderness land, except for small areas of private land around villages. As such, the Department is working cooperatively with the U.S. Fish and Wildlife

Service to obtain support to conduct management activities on these lands. The Department considers this an emergency management condition and it is unclear whether the normal federal permitting process can accommodate this need. As a result, the Department may ask for clarification of intent on the regulation 5 AAC 92.110(j) and 5 AAC 92.115(h) to understand what was intended when immediate management actions are required to preserve a wildlife population on federal lands.

WHAT WILL HAPPEN IF NOTHING IS DONE? If the population continues to decline, population recovery will be prolonged, caribou may cease to occupy Unimak Island for many years, and future opportunity for caribou hunters in Unit 10 will be compromised for an indefinite period of time. At the current population size and structure, the sustainability of the herd is more at risk to unusual weather or other catastrophic events.

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

WHO IS LIKELY TO BENEFIT? Local resident, non-local resident, federally-qualified rural resident, and nonresident hunters will benefit as the herd recovers. People who enjoy seeing and hunting wolves, wolverines, and caribou on Unimak Island will also benefit. The diversity of fauna and ecosystem function on Unimak Island will be preserved

WHO IS LIKELY TO SUFFER? People who do not believe that wolves should be killed for any reason and people who do not believe that wolves should be killed to protect caribou herds or caribou hunting.

OTHER SOLUTIONS CONSIDERED? The Department of Fish and Game could take no action to stabilize the UCH, but caribou may disappear from the island and caribou harvest opportunity on Unimak will certainly be compromised for many years.

PROPOSED BY: The Alaska Department of Fish and Game

LOG NUMBER: ACR-10S-G-002
