

Mulchatna Caribou Intensive Management Frequently Asked Questions (FAQs)

December 2023

What is intensive management?

Intensive management activities can include habitat enhancement and reducing predator populations aimed at increasing the populations of select game species important to hunters. It is regulated under Alaska's Intensive Management Statute (AS 16.05.255 (e) – (g) and (j)). Standard wildlife management includes adjusting hunting seasons (the opening and closing of hunts) and setting bag limits to maintain populations for sustainable harvest. Intensive management may be implemented to increase the abundance of specific populations, often following a decline, that are not meeting the people's needs.

What is the role of the Alaska Board of Game in intensive management?

The Board of Game's main role is to conserve and develop Alaska's wildlife resources. This includes establishing open and closed seasons, areas for taking game, setting bag limits, and regulating methods and means. The board is also involved with setting policy and direction for the management of the state's wildlife resources. The board is charged with making allocative decisions, and the Alaska Department of Fish and Game is responsible for management based on those decisions. All department activities are guided by its Intensive Management Protocol.

Alaska's Intensive Management Law directs the board to set objectives of harvest and population size for Sitka black-tailed deer, caribou, and moose based on historical information and environmental factors. Determinations are made for deer and moose at the game management unit or subunit level, whereas for caribou those determinations are done at the herd level. If a population or harvest is below its respective objectives, the board must consider establishing an intensive management program to increase productivity or survival of the population prior to reducing harvest, unless such a program is not feasible or is incompatible with other purposes (e.g., land ownership, subsistence activities, etc.).

Why is Intensive management being done with the Mulchatna caribou herd?

At its peak in 1997 the Mulchatna caribou herd (MCH) reached 200,000 animals and provided as many as 4,770 caribou for the subsistence needs of more than 48 local communities, as well as hunting opportunities for all Alaskans and nonresidents.

In the late 1990s and early 2000s, the herd began to decline and by 2009 was down to about 30,000 animals. By 2019 it dropped to about 12,000 animals (about 94% decline from the peak). The population remains at this lower level today, and hunting is closed for all users.

The public requested the Board of Game and the Division of Wildlife Conservation (DWC) work to rebuild the herd and restore this food source. This includes the Alaska Federation of Natives, Orutsararmiut Native Council (the tribal organization for Bethel), Nushagak River communities, the Nushagak Advisory Committee, and the Bristol Bay Resource Advisory Council.

Intensive management is a tool the department can use immediately to try to support herd growth and recovery. Given the Mulchatna caribou's range and population history, the board and managers would strive to keep the herd between 30,000 and 80,000 animals, which is the intensive management population objective for the herd.

Why use intensive management?

In January 2022 the Alaska Board of Game directed the department to implement a revised Intensive Management Program to attempt to increase the abundance of the Mulchatna caribou herd, which has been closed to hunting since fall 2021, by reducing bear and wolf predation. The Alaska Board of Game and Division of Wildlife Conservation were concerned that without a management intervention this recent decline to low animal numbers where the subsistence needs of resident Alaskans are not being met may continue or persist for a long period. The Amounts Necessary for Subsistence (ANS) for this herd is 2100-2400 and has not been met since 2005.

Where is agency intensive management happening within the Mulchatna caribou range?

DWC employees located and removed predators (bears and wolves) within the 1,200 square mile area defined as the 2023 calving grounds of the western subgroup, which has shifted over recent years. Predator reduction activities were conducted on state land only. Permission to conduct predator reduction activities on national wildlife refuges, where the western subgroup winters, was requested by the DWC and by local residents but it was not granted by the U.S. Fish and Wildlife Service.

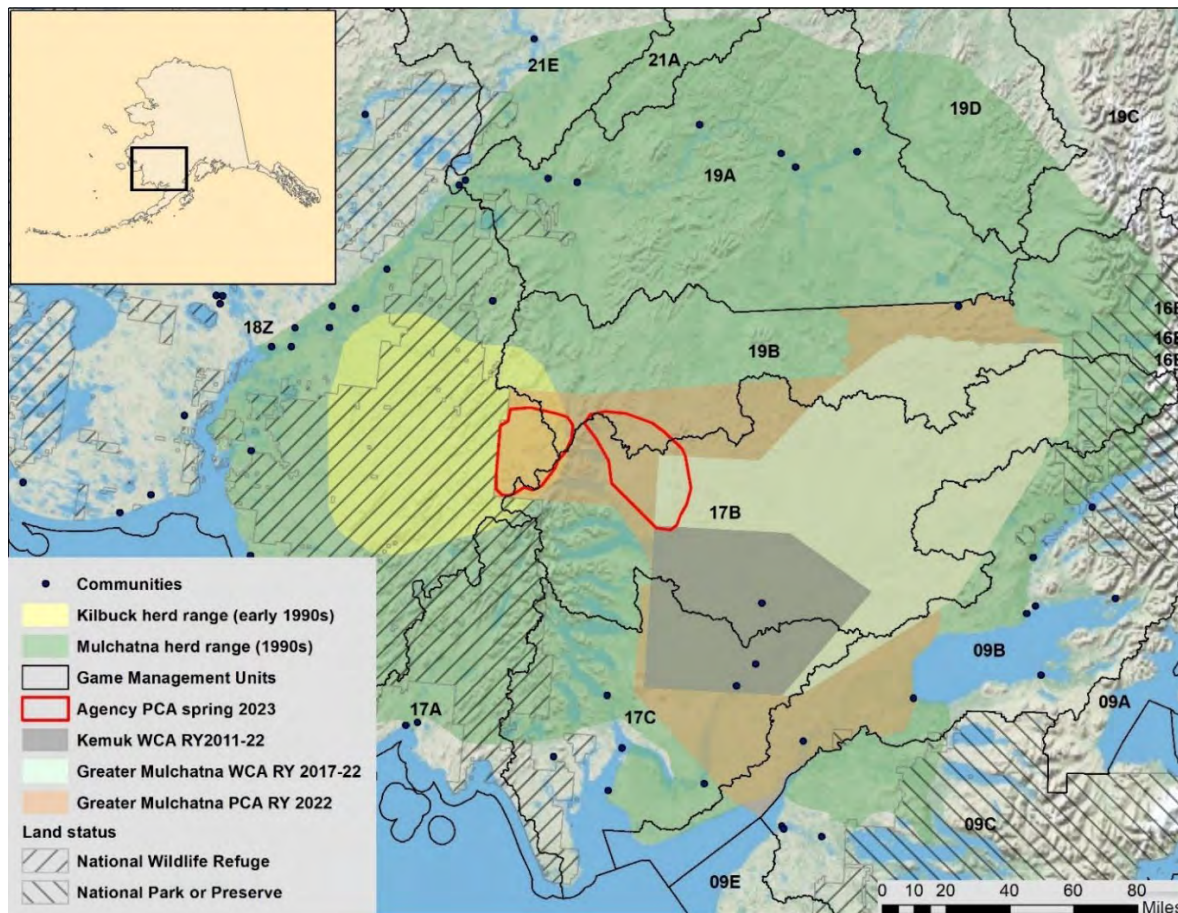


Figure 1. Community locations, periods of activity for areas of wolf control (WCA) or wolf and bear control (PCA), caribou herd ranges, and federal conservation areas relevant to Intensive Management of the Mulchatna caribou herd. Regulatory year (RY) 2022 is 1 July 2022 to 30 June 2023.

Why kill bears and wolves?

Bears and wolves have been identified as significant calf predators; low numbers of calves surviving to breeding age is likely a factor limiting the ability of the herd to increase. Research presented to the Board of Game in January 2022 indicated that various predators, especially bears, were responsible for 89% of newborn calf deaths from birth to two weeks between 2011 and 2021. Since the rapid decline, the herd has largely split into western and eastern subgroups. With a relatively recent shift in the calving ground of the western subgroup to a more mountainous region, bear predation increased substantially beginning in 2017.

Wolf removal by the public using aerial methods was adopted by the Board of Game in 2011 in Units 9B, 17B & 17C. In 2012 the Board of Game expanded the area to include 19A and 19B. Because the location of calving grounds has shifted over time, in 2017 the department chose to expand the focus area into portions of Units 9B and 19B (eastern calving area). The efforts, however, have been largely ineffective due to low participation and infrequent winters with good snow tracking conditions.

With the further caribou decline from about 27,000 in 2017 to about 12,000 by 2019, the Board of Game expanded the control area in 2022 to include Units 17A and 18 (western calving area) and authorized DWC staff to remove bears and wolves from the calving grounds.

What happened to the meat and hides?

All bears and wolves located in this search were killed as quickly and humanely as possible. Hides and skulls were salvaged when it was safe to do so (considering weather, terrain, etc.). Meat from black bears and some brown bears was transported to local villages and provided for subsistence uses. Skulls are being used for educational purposes, and hides are to be auctioned with proceeds going into the Fish and Game Fund.

Is habitat the real problem?

The high numbers of caribou in the 1990s likely decreased forage lichens in portions of the range and increased competition for food triggered the initial large decline of the herd. After more than a decade and a half of lower caribou numbers, the habitat may have recovered adequately to allow the much smaller herd to grow modestly again and use areas across the broad range of the once larger herd.

Unfortunately, there isn't a mechanism to enhance lichen range for caribou as we can do for moose browse in certain situations (i.e., prescribed burn, browse crushing), and predation on calves remains significant. Lichen on caribou winter range takes longer to recover from heavy use than vascular plants on caribou summer range.

Is malnutrition limiting the herd's growth?

Birth rates, especially in younger females, suggest relatively good nutrition. Survey and inventory efforts from 2012-2019 have shown that an average of about 25% of the 2-year-olds monitored gave birth, and about 85% of the 3-year-olds gave birth. This indicates that the Mulchatna caribou herd has a high reproductive potential. However, DWC has mixed indicators of nutrition. Preliminary results from 2020 from a new research project indicated that adult cow body fat levels were indicative of at least moderate summer nutritional limitation.

When caribou are nutritionally limited, calf productivity is lower (first reproduction happens at an older age and the overall reproduction is at a reduced rate) and mortality is thought to be higher (smaller or weaker calves are more susceptible to predation or starvation in severe weather). Mulchatna caribou reproduction is relatively good, with many young females (some age 2- and most age 3-years-old) giving birth since about 2009, when the herd had declined to about 30,000 animals.

Is disease a problem?

Diseases such as brucellosis can limit a population. Brucellosis has recently been documented in the MCH. There were no observations of impaired animals observed at the caribou population peak or during the initial decline. Brucellosis can lower caribou population size by lowering calf production, thus depressing the recovery of a herd, especially in the short-term (over a few years). The biggest impacts from disease are typically when the disease first spreads in a herd.

In herds where brucellosis has been present for a long time, disease outbreaks are typically periodic. Otherwise, the disease is present in the herd at low levels (enzootic). Brucellosis is not likely the factor limiting population growth presently as evidenced by the current high estimated parturition (birth) rates of 2- and 3-year-olds and lack of observed retained placentas or stillbirths. Future work includes assessing how brucellosis may impact herd health and its resilience.

Will increasing caribou densities slow the recovery of the caribou's range?

It is unlikely soon because densities of caribou are currently so low that even a small uptick in the numbers of caribou is unlikely to impact forage plants and lichen. Caribou have been at a relatively low abundance (85–95% below the mid-1990s peak) for about 15 years. Compared to other fluctuations in caribou populations in Alaska, it is unusual that the herd has not started to slowly increase by this period after the peak.

Will this hurt populations of bears and wolves in Alaska?

In western Alaska, bear and wolf populations exist at natural densities based on habitat and relatively low harvest. The removal of wolves and bears in the western spring calving agency control area is occurring in a relatively small area surrounded by intact habitat in state and federal lands where control activities are not occurring. This removal area is more than 140 linear miles from popular bear viewing areas, and there is no evidence that bears at these sites are from the coastal portions of the region. Due to the remote nature of the area, bears are not widely hunted in the control area, and reported harvest for all predators is low in and around the control area. Based on observations from other predator control programs in remote areas of Alaska, we anticipate that predator numbers will return to pre-treatment abundance within a few years after control is suspended.

Has predator control for caribou worked elsewhere in Alaska in other situations?

In 2007, surveys indicated 99% of the Southern Alaska Peninsula (SAP) caribou herd calves died before reaching one month of age, which biologists attributed primarily to wolf predation (despite abundant brown bears). From 2002 to 2007, estimates of calf recruitment were chronically low, and the population size declined rapidly bottoming out at approximately 657–750 caribou in 2007, despite relatively good calf production. In 2008, the removal of 28 wolves from two packs during calving in the spring immediately improved calf survival. Calf survival increased from less than 1% in 2007 to 64% in 2008. Ten more wolves were removed over the next two years, after which the program was

deactivated. The size of the Southern Alaska Peninsula herd, the calf-to-cow ratio, and the bull-to-cow ratio increased rapidly after predator control and continued to increase substantially over the following years. Population estimates in 2016 were above 2,000 and growing. The board initiated a conservative Tier II hunt for resident hunters only in RY2013. In 2016, the hunt was made a general harvest ticket hunt with a one caribou bag limit. 2016 was the first hunt allowing nonresident harvest since 1999.

How will you know the Mulchatna intensive management effort is helping?

The Division of Wildlife Conservation assessed calf abundance relative to previous years during fall surveys. The calf-to-cow ratio in the western subgroup calving area, where predator removal occurred, was higher than in any year since data collection began in 1999 and consistent with the intensive management effort being helpful. The long-term average calf:cow ratio since 1999 is 23:100. The observed fall 2023 calf:cow ratio of 44:100 in the western subgroup was also higher than in the eastern subgroup. DWC will continue to monitor other factors including disease and nutrition.

Criteria for evaluating progress toward IM objectives:

- Fall calf-to-cow ratios (indication of calf abundance relative to cows)
- Fall bull-to-cow ratio (indication of males available to harvest)
- Caribou abundance (indication of herd population trend)

Criteria for success with this program:

- Fall bull-to-cow ratio can be maintained at a minimum of 35 bulls:100 cows.
- Fall calf-to-cow ratio can be sustained above 30 calves:100 cows.
- The population can grow at a sustained rate of 5% annually.
- Caribou harvest objectives are met

(Criteria are from “Annual Report on Intensive Management for Caribou with Predation Control in Units 9B, 17B&C, and 19A&B Alaska Department of Fish & Game, Division of Wildlife Conservation,” Feb. 2020 Page 4)

Is the goal of maintaining a population of 30,000–80,000 caribou achievable?

Although the Mulchatna caribou herd is below the lower end of the population objective it is reasonable to believe that across the entire historic range a population of 30,000 plus is achievable because caribou would generally occur at lower density than at the peak in the 1990s.

Learn more:

[Alaska Board of Game](#)

[Intensive Management Protocol](#)

[Mulchatna Intensive Management Section](#)

Specific reports:

[Annual Report to the Alaska Board of Game on Intensive Management for Mulchatna Caribou February 2023](#)

[Annual Report to the Alaska Board of Game on Intensive Management for Mulchatna Caribou February 2022](#)

[Caribou Management Report and Plan, Game Management Units 9B, 9C, 17A, 17B, 17C, 18, 19A, 19B: Mulchatna Caribou Herd](#)