



Stories of Success

*Alaska's intensive
management programs
incorporate science and
action to benefit Alaskans.*



Alaska Department of Fish & Game
Division of Wildlife Conservation





Intensive management programs have helped stabilize and build moose numbers in several areas in Alaska.



Hunting is Important to Alaskans

Most will agree that few places maintain a stronger connection to hunting, gathering and eating well from the land than Alaska. Our 365 million acres of land mass, three million lakes, 3,000 rivers and 6,640 miles of coastline brim with natural bounty. In addition to our fish stocks – salmon enter our streams in great numbers each summer and the sea bottom from Ketchikan to Kotzebue and beyond yields a bouillabaisse of halibut, cod, mollusk and crab – caribou here outnumber people, traveling across the tundra by the hundreds of thousands; Dall sheep and mountain goat peer from the high crags; and moose, deer, bison and bear roam the forests and river bars in between. Furbearers from weasels to wolverines provide income for the hearty and resourceful while wildfowl cackle, cluck and quack, growing fat on berries and the various plants that make the Far North so extraordinarily verdant from May to September.

The traditions of hunting and gathering live large across Alaska. Sustaining our wildlife resources and the



ways of life they support are at the heart of the Division of Wildlife Conservation's work. Our mission is to conserve and enhance Alaska's wildlife and habitats and to provide for a broad range of public uses and benefits.

Guiding the division's mission are policies outlined in the Alaska State Constitution. Primary among these is the mandate under Article VIII, section 4, that Alaska's wildlife, along with all other renewable resources, "shall be utilized, developed, and maintained on the sustained yield principle, subject to preferences among beneficial uses."

Sustained yield is defined in Alaska Statute 16.05.255(k) as "the achievement and maintenance in perpetuity of the ability to support a high level of human harvest of game, subject to preferences among beneficial uses, on an annual or periodic basis." It is through the sustained-yield principle that the Division of Wildlife Conservation, with direction from the Alaska Board of Game and its public processes, manages our wildlife.

Sustaining our wildlife resources and the longstanding ways of life they support are at the heart of the Division of Wildlife Conservation's work.



Law Mandates Intensive Management

ADF&G staff received the 2012 Ernest Thompson Seaton Award for developing a standardized protocol for conducting intensive management.

Harvesting wild game is extremely important to many Alaska families. Participating in the hunt and sharing the bounty of economical, wild-grown meat are long-standing traditions. The Alaska Legislature recognized the importance of wild game meat to Alaskans when it passed the Intensive Management Law in 1994. This law requires the Alaska Board of Game to identify moose, caribou, and deer populations that are especially important food sources for Alaskans, and to ensure that these populations remain large enough to allow for adequate and sustained harvest.

If the selected moose, caribou, or deer populations drop below what the Alaska Board of Game determines is needed for continued harvests by people, the board directs the department to undertake intensive management of that population. Intensive management is a process that starts with investigating the causes of low moose, caribou or deer numbers, and then involves steps to increase those numbers where possible. This

can include restricting hunting seasons and bag limits, evaluating and improving habitat, liberalizing harvest of predators and predator control.

To ensure scientific credibility and public transparency, the department in 2009 set to work on a protocol to describe the principles of intensive management and guide development, implementation and assessment of the various programs in the state. The development of the protocol received national honors when the department was awarded the 2012 Ernest Thompson Seaton Award. Presented by the Association of Fish and Wildlife Agencies, the award recognizes determined and progressive promotion of sound resource management.

Alaska wildlife managers face a complex web of social, cultural and biological challenges. Many Alaskans are supportive of state efforts to intensively manage predators and prey. Others, whose values and experiences differ, question predator reduction methods, especially aerial control. Still others question whether humans should be intervening at all in what they refer to as a natural system of predators and prey. Hunters generally support increased harvest opportunities, but hold varied opinions regarding the desired level of increased harvest and the specific strategies to provide increased harvest opportunity (e.g., which means of access and whether they support harvest of adult female and young moose).

Ultimately, wildlife management decisions are products of intense research, public opinion and the law. The board's goal is to work in the best interests of all Alaskans by managing wildlife responsibly, basing decisions on science, while following a transparent process guided by law and public input.



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The Southern Alaska Peninsula caribou herd was in serious trouble in 2007. Selective removal of wolves from calving grounds provided immediate and dramatic results, allowing populations to grow and hunting seasons to reopen within a few short years.



Southern Alaska Peninsula Caribou

Few examples more keenly illustrate the effectiveness of Alaska's intensive management programs than an effort to improve caribou numbers by selectively removing wolves from portions of the Southern Alaska Peninsula caribou herd's calving grounds. The herd was struggling, but the program's results were dramatic and immediate: calf survival increased markedly, caribou numbers grew and hunting seasons were re-opened after years of protective closure.

Historically, the Southern Alaska Peninsula herd's population size has traced an undulating range of peaks and valleys. This is typical of caribou herds which may grow or decline rapidly in response to forage quality and availability, weather and predation among other factors. In 2002, the herd's population reached 4,200 before plummeting to some 600 animals by 2007.



Division of Wildlife Conservation biologists studying the herd determined that the caribou were reproducing normally and pregnancy rates were moderately strong, yet young animals were all but absent in post-calving aggregations in July. Something was stifling herd growth and accelerating its decline by killing caribou calves at an alarming rate. Sufficient forage was available and was not a limiting factor for the herd. Disease also was ruled out. At that point, biologists' attention shifted to wolves, the region's most efficient wild predators.

Opportunists by nature and necessity, wolves had set up den sites in the midst of the Southern Alaska Peninsula caribou herd's calving grounds. Immediate access to easily-caught newborn calves kept the wild canines well fed in late spring and early summer. Unfortunately, with caribou numbers low, the results of such focused predation were particularly

Caribou calves were experiencing high levels of predation prior to three years of wolf removal from the calving grounds.



Southern Alaska Peninsula Caribou

A focused effort to cull a few wolves in denning areas produced an immediate response, reversing the rapid decline of the Southern Alaska Peninsula caribou.

devastating. Calf survival to the age of one month was estimated to be less than one percent in 2007, a period when no calves were observed during a post-calving count despite 85 percent of the herd's estimated total population being located.

The conclusion was obvious. Unless predation was sharply curtailed on the calving grounds, the Southern Alaska Peninsula herd's future as a source of meat for local communities appeared bleak.

In response to the 2007 survey results, the Alaska Board of Game approved an intensive management plan for the herd in 2008, focusing on wolves. Soon thereafter, the Division of Wildlife Conservation launched a program to reduce wolf numbers on the calving grounds.

At the time, some 60 to 80 wolves were estimated to occupy the region of concern, labeled the Southern Alaska Peninsula Predation Management

Area. Twenty-eight wolves were culled from the area during the caribou calving season in 2008, eight in 2009 and two more in 2010.

By the time the intensive management treatment was complete, caribou calf survival had increased significantly. Comparing pre-intensive management program statistics with post-program results, biologists determined wolf predation had accounted for some 95 percent of Southern Alaska Peninsula caribou calf deaths prior to wolf removals. Ultimately, the short-term, tightly focused predator suppression effort was a win-win. It reversed the rapid decline of Southern Alaska Peninsula caribou and re-established regional hunting opportunities benefitting Alaskans in communities such as Nelson Lagoon, Sand Point, King Cove, Cold Bay and False Pass.

At no time was wolf population sustainability threatened by the removals and wolves from adjacent areas were able to move into the control area, which now supports more prey animals. Wolves remain in the region at levels that continue to support hunting, trapping and viewing opportunities.



Alaska enjoys sustainable populations of both predators and prey. The department's goal is to maintain those populations in perpetuity.



Game Management Unit 13 Moose

Unit 13 moose harvest opportunities have been expanded due to intensive management, and overall Unit 13 moose harvest has doubled between 2001 and 2010.

Situated between the cities of Anchorage and Fairbanks, Game Management Unit 13 covers 23,367 square miles, encompassing the Copper River basin and the world-renowned Denali Highway. The region is widely known as home to the Nelchina caribou herd, though for hunters seeking winter meat in quantity, area moose are also considered primary game. The unit's expansive folds of taiga, tundra, mountains and rolling hills provide the ingredients needed to yield and sustain healthy moose populations.

Historically, moose likely peaked in Game Management Unit 13 in the 1960s, though numbers swelled again during the late 1980s at more than 20,000 animals. Soon afterward, however, numbers began to collapse when the area was battered by a series of seven deep-snow winters. Moose declines were further accelerated by increased predation to about 12,000 in 2001 even as biologists determined the unit's overall range was capable of supporting many more moose. Wolves totaled in excess of 500 animals and predation was

preventing declining moose numbers from stabilizing and rebounding. Depending upon several factors – including winter snow depths, the availability of alternate prey and average pack size – wolves in Unit 13 were killing between 1,000 and 4,000 mostly young moose each year. In comparison, the unit’s human hunters in 2001 harvested only 468 adult moose.

Studies in Alaska and elsewhere have consistently found that a significant initial reduction followed by smaller annual reductions are needed to decrease and maintain wolf populations at lower levels to ease predation and allow ungulates such as moose to stabilize and build. To accomplish this, a predator control program was developed to substantially reduce wolf numbers. At the same time, because wild predators are considered important parts of the natural system – a philosophy at the core of the state’s overall intensive management protocol – the plan included safeguards to ensure that at least 135 wolves remained in Unit 13.

A predator control area was established and, from 2000-2003, hunters and trappers harvested an average of 220 wolves per year. Aerial control of wolves by public permit holders began in 2004. After several years of wolf removal efforts in the 15,413 square mile control area, the 2012 unit-wide estimate of approximately 17,000 moose proved a vast improvement over the 2001 low. The increase also achieved – for the first time in decades – the state’s unit-wide moose population objective of 17,000-24,000. Moose harvest doubled between 2001 and 2010. Even so, intensive management in Unit 13 remains a work in progress. As moose numbers and harvests are realized, predator control efforts will be managed accordingly. Biologists will monitor the condition of moose habitat as well as hunter effectiveness in accessing the moose for harvest. Meanwhile, results of predator population control as a management tool in Unit 13 further demonstrate the tool’s effectiveness.



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Forty-mile Caribou Herd



The rack of a Forty-mile bull caribou bears testimony to a successful hunt. In its heyday, the Forty-mile caribou herd's range once encompassed 85,000 square miles; today the herd occupies about 25 percent of that area.

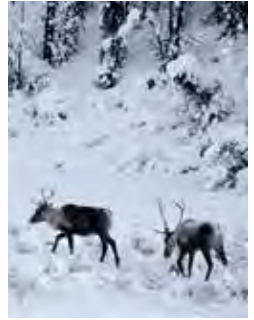
Among the spruce-studded valleys and bare hilltops northeast of Tok, the Forty-mile caribou herd was once a formidable presence. Numbering as high as 260,000 in the 1920s, the animals moved across the country in a broad, living wave. In subsequent decades the herd has cyclically withered and swelled, ranging from a rock-bottom low of 6,000 animals in the early 1970s to 38,000 in 2007. In its heyday, the herd's range encompassed 85,000 square miles from Whitehorse, Yukon, to the White Mountains north of Fairbanks. Until recently it occupied about 25 percent of that area and only a small number of Forty-mile caribou moved into the Yukon Territory each year. Even as the herd weathered precipitous declines and modest recoveries, its importance to Alaskans living along the Interior highway system in the communities of Tok, Delta and Fairbanks, among others, remained strong. To reach the herd's harvest objective, however, intensive management was recommended. Detailed caribou calf mortality

studies from May 1994 through April 2003 revealed that wolves accounted for an average of 47 percent of total calf mortality. Further, from May 1991 through April 2005, wolves accounted for 80 percent of the total adult caribou mortality.

A period of recovery began in the mid-1990s after the start of a privately-funded program to encourage wolf trapping (1995-1996) and a department research project that evaluated the effectiveness of translocating wolves from existing packs while sterilizing the remaining adult breeding pair (1997-2003). A lethal control program was authorized by the Board of Game in 2004 to reduce the region's wolf population – the estimated minimum pre-control number was 350 animals – to a range that would enable the caribou herd to grow toward management objectives while ensuring that wolf populations continued to be managed on a sustained yield basis. The Forty-mile caribou herd has since increased two to four percent annually, growing to 44,000 in 2006, and to 52,000 by 2010. The harvest objective, broad in its range of 1,000 to 15,000 caribou, was met in 2011 with hunters taking 1,046 animals.

In the winter of 2013-2014, however, most of the herd migrated into the Yukon, occupying a major portion of its historic range and thereby fulfilling one of the major goals of the population recovery program. Reduced predation, relatively mild winters and careful harvest management have allowed the herd to increase and begin occupying more of its former range while providing increased harvest opportunity for hunters.

The future for the herd and for Alaskans who depend upon it appears bright. For now, the Forty-mile intensive management program will continue with an eye on preventing the herd from exceeding the capacity of its habitat and maintaining harvest within established objectives.



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This clearing in a 25-year-old birch and aspen stand has sprouted back in one growing season. Mechanical clearing is one option for creating quality moose habitat.



Habitat Enhancement

Intensive management includes efforts to improve habitat for ungulates. For moose, it involves stimulation of shrub or young tree growth to increase food availability on winter range. This may be accomplished by mechanical disturbance (e.g., logging trees or crushing shrubs), prescribed fire (burns set by humans under specific conditions) or allowing wildland fires to burn when possible. Though large wildland fires that helped provide good moose habitat in great swaths of Alaska in times past would be suppressed today, smaller scale habitat improvements have occurred in the past few years. Recently, the Alaska Legislature appropriated funds to support moose habitat enhancement on the Kenai Peninsula and in the Matanuska-Susitna Borough.

To begin to make a difference on the Kenai, the department partnered with the Kenai Natives Association to harvest 85 acres of timber north of



Sterling. A local contractor clear-cut mature aspen and spruce, thereby allowing hardwood species to re-establish the site. Mature birch trees were left on site as seed trees and 1,000 birch seedlings were planted.

It will take collaboration among agencies and landowners to make a difference. This success on a few acres demonstrates that partnerships with large, private landowners can work, and suggests that local enterprises can benefit from this work. By treating vegetation to enhance forage quality and quantity, moose populations may increase over time to again support hunting and viewing opportunities. The department is looking into funding to develop a strategy for implementing the above-mentioned techniques on a larger scale.



A yearling moose eats a sapling in a 25-year-old forest that was mechanically cleared to improve moose habitat.

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A Message from the Director

At statehood, the framers of our state constitution mandated that wildlife resources be managed for their sustained yield and benefits. At the same time, the Alaska Department of Fish and Game was established to fulfill that vision and mandate.

Over the years, the department has developed and employed an active management approach that is constructed on the premise that wildlife and their habitats are to be managed for the benefit of Alaskans. We recognize that humans are an integral part of the ecosystem and actively manage wildlife and their habitats to ensure the needs of Alaskans are met.

The use of intensive management to increase harvestable surpluses of moose, caribou and deer in Alaska is an example of how we actively manage wildlife. This booklet provides information on how this active management program is being successfully employed in Alaska.

We remain committed to ensuring that our wildlife resources are sustainably managed for the benefit of all Alaskans.

Doug Vincent-Lang, Director
Division of Wildlife Conservation
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