Tracking moose numbers and trends

Moose surveys are conducted from the air, over large areas, after a sufficient amount of snow is on the ground, when moose are most visible. Conducting surveys, using the same technique year after year, provides good data about population trends in an area.

ADF&G's survey method is widely used for counting moose in the boreal forest.

Biologists conduct moose surveys to:

- Estimate the moose population over a large area and get moose distribution data.
- Determine the number of bulls compared to cows (the bull to cow ratio plays an important role in herd productivity and hunter satisfaction).
- Determine the calf to cow ratio to estimate productivity and survival.
- Determine the number of cows that are having twins. This is done from aircraft very soon after the majority of cows give birth.
- Record antler size to estimate the age structure of bull moose in the population.

Changes may be observed in the field after cow hunts.

The intent of a cow moose hunt may be to alter a moose population, therefore hunters may observe this while hunting in localized areas. ADF&G conducts scientifically proven surveys over large areas to track population trends over time. There are several explanations for why localized field observations of moose change. These can include:

- Moose change their behavior once they are hunted. They may avoid trails or they may flee after hearing a boat, four-wheeler, or snowmachine.
- There may be fewer moose if that was the goal of the cow harvest. This may be noticed, particularly in high access areas, because hunting pressure cannot be evenly distributed over the entire population.
- Habitat changes over time; old burn areas grow back to forest and lose the quality feed that attract moose. At the same time, more recent fires may provide moose with a new food source in an area that was scarcely used prior to the burn.

It's not just moose

Harvesting females of other wildlife species has occurred for many years in Alaska. When appropriate, wildlife managers allow the harvest of female animals of many species, including: **bison, caribou, sheep, goats, deer, and bear.**

Checks and balances

Cow moose hunts are reviewed annually and must be approved by local fish and game advisory committees and the Board of Game.

For more information contact

Alaska Department of Fish and Game
Division of Wildlife Conservation
1300 College Road
Fairbanks, AK 99701-1599
Phone: 907 459-7206/ 7306

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Cow Moose Hunts

When, Where, & Why

From the
Division of Wildlife Conservation
of the
Alaska Department of Fish & Game

When is it appropriate to harvest cows?

In portions of the state with high moose populations, cow harvest is sustainable and often necessary to protect habitat and population productivity.

In general, cow harvest is permitted to increase harvest opportunity in a population showing signs of nutritional stress and/or to keep a growing population from getting too large.

It is not always wise to harvest cow moose. In areas of the state with low or declining moose populations, killing cow moose can prevent a population from growing or cause further decline.

Cow moose harvest can serve any of the following purposes:

- Stabilize a population and keep it within the capacity of the habitat.
- Help reduce the hunting pressure on adult bulls and maintain bull:cow ratio within management objectives.
- Increase sustainable yield of a population and help to meet Intensive Management harvest objectives.
- Increase public safety, such as reduced risk of moose-vehicle collisions.
- Increase hunting opportunity, with or without decreasing the moose population.

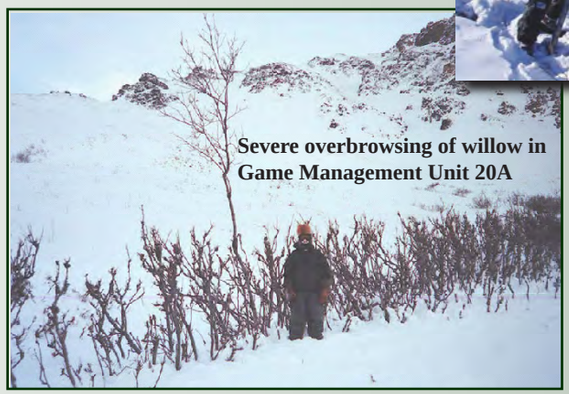
How do we know when a moose population is too large for its range?

There are several factors that indicate a moose population is getting too large for its range and showing signs of nutritional stress. Some of the most obvious indicators are the following:

- Decrease in the proportion of cows having twins. This number, below 15-20%, is perhaps the best indicator of poor nutrition.
- Increase in the age that a cow first gives birth.
- Decrease in calf weights.
- Winter food sources (willows, birch, aspen) show heavy use.

So what's wrong with having too many moose?

A population that is too large for its habitat and showing signs of nutritional stress is more susceptible to disease, parasites, predation and non-predator mortality. Winter compounds this situation because nourishing summer plants die and snow reduces the availability of what food sources remain. Furthermore, as snow depth increases, moose expend more energy finding browse (twigs of willow, birch and poplars). If good browse is not readily available, a severe winter, or a series of hard winters, can help send a herd in poor nutritional condition into a sharp decline. A moose population with access to abundant browse is better able to withstand severe winters because they are in better physical condition and don't have to expend as much energy finding food.



Severe overbrowsing of willow in Game Management Unit 20A

Areas with cow hunts are some of the most intensively researched and managed areas in the state.

Alaska Department of Fish and Game strives to manage for a moderately sized moose population for long- term productivity and sustainability. This means ensuring that moose populations do not grow larger than the habitat can support .

What role does habitat condition play?

Browse (twigs that moose eat) surveys are conducted to assess the extent to which moose are utilizing their habitat. The amount of browse removal allows biologists to determine whether the area can support more moose or if the population is too high. High browse utilization in an area coincides with nutritional stress indicators such as lowered twinning rates and lowered calf weights.

What percentage of cow moose are harvested?

This varies since every moose population is different, but typically it is a small percentage. A few hundred cows may sound like a lot, but the size of the area, population size and herd growth rate must be considered.

Game Management Unit 20A, for example, is a 5,000 square mile area with a current population of 15,000 moose. A harvest of 700 cows is less than 5% of the population and just enough to slowly lower the herd size over several years.

The number of cows harvested during a cow hunt depends on specific management objectives. This number will change as the herd and habitat change, but the harvest **rate** of cows remains relatively low.