Moose Resource Report

Wildlife Management Unit 46

Moose Management in Ontario

In Ontario, the moose population and its habitat is managed using an ecological approach. This approach takes into account a wide range of factors related to moose and uses the best available science and information on moose populations and harvest. Ontario's Cervid Ecological Framework and Moose Management Policy give specific direction on how to manage moose across the province. They can be found online at ontario.ca/moose.

As part of managing moose, an objective is set for the number of moose that should be in an area. Ecological, social, cultural and economic factors related to moose are incorporated when making decisions about harvest allocation and what management actions are needed to help achieve that objective.

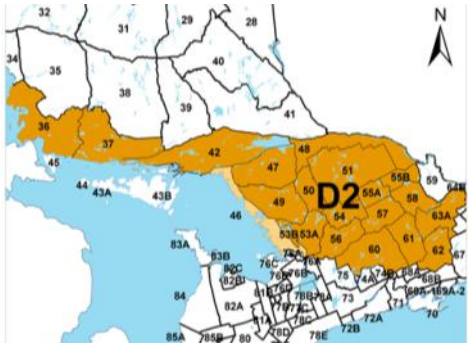
WMU 46 Description

Wildlife Management Unit (WMU) 46 is located along the eastern shore of Georgian Bay. It is 2476 square kilometres in area, 60% crown land, 27% private land and 13% First Nations reserve lands. Protected areas including provincial parks and conservation reserves comprise 847 square kilometres of the crown land area most of which is open to hunting. The network of roads is limited making much of the unit difficult to access for hunting. WMU 46 is part of what is known as Cervid Ecological Zone (CEZ) D_2.

Cervid Ecological Zone D_2

Moose and white-tailed deer and elk live in this zone. For moose, the goal is to maintain a moderate to high density population. The summer and winter habitat of white-tailed deer are both managed to maintain a moderate density population. Elk are found in parts of this zone and management of their habitat is considered at the local level as needed. The ministry's management objective within this CEZ is to have moose, white-tailed deer and elk on the same land base, and to maintain densities which reflect natural ecological conditions.

Map of WMU 46



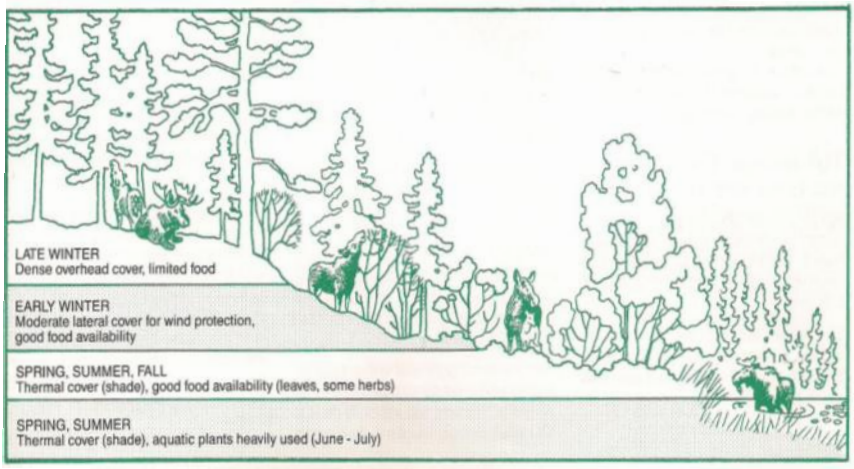
Map of Cervid Ecological Zone D_2

Ontario

Moose Habitat Suitability

Much of the habitat in WMU 46 is characterized by exposed bedrock washed of surface material by the receding glacial melt waters (Noble, 1984). Over time wetlands and vegetation communities developed on organic soil deposits in low depressions and troughs. Forested areas are dominated by stands of hardwood (e.g., hard maple, red oak, yellow birch), conifer (jack, white and red pine, hemlock, white spruce, cedar and balsam fir) and mixed wood (white birch, aspen, poplar, white and black ash, black spruce and tamarack). Moose aquatic feeding areas are abundant in wetland complexes and beaver ponds.

Using a range of landscape habitat analysis models, the ministry has calculated that the overall average carrying capacity, or number of moose that the habitat can support, for WMU 46 is about 37 moose per 100 km^2. This considers growing season browse, aquatic feeding areas, and both early and late winter habitats.



Seasonal movements of moose in Ontario

Growing season browse

Moose aquatic feeding areas are generally found in cool water lakes, along medium-sized and shallow rivers and on shallow basins of cold water lakes.

Moose aquatic feeding area

Early winter habitat is primarily made up of mature or over-mature, open canopy, mixed-wood stands with less than 60 per cent tree cover, as well areas that had been burned or cutover about five to twenty years ago.

Early winter habitat

Late winter habitat consists of denser stands of mature conifer with good overhead cover. Mixed stands made up of less than half mature conifer should also be considered as late winter habitat if pure conifer stands are not available. Upland sites are preferred.

Late winter habitat

Moose Management in WMU 46

Moose management considers the best available knowledge, including scientific, local and Aboriginal traditional knowledge, as well as social, cultural and economic values. It also respects Aboriginal peoples' unique perspectives and practices related to moose management, including the exercise of constitutionally protected Aboriginal and Treaty rights. The ecosystem based management of moose includes the management of populations, harvest and habitat, with consideration of potential stressors, such as climate change, predator-prey interactions and disease.

Population Status and Trends

Managing moose populations requires information on their abundance, distribution, harvest, and recruitment trends. In Ontario, the size of the moose population is estimated on a WMU basis through the use of Moose Aerial Inventories. Inventories use a consistent method across the province for estimating moose populations from an aircraft, and are generally conducted every three to five years.

The most recent survey, completed in 2009, resulted in a total population estimate of 377 ± 83 moose, a density of 15 moose per 100 km^2. This represents a 32% decrease in the population since 2004. In 2009 the population was composed of 30% bulls, 51% cows, and 18% calves with 36 calves per 100 cows.

Calf moose generally experience higher mortality from a variety of sources, including predation and harvest. The minimum desired calf survival each year is at least 30 calves per 100 cows to help ensure the population is maintained. All estimates of calf survival have been above this level (Figure 1).

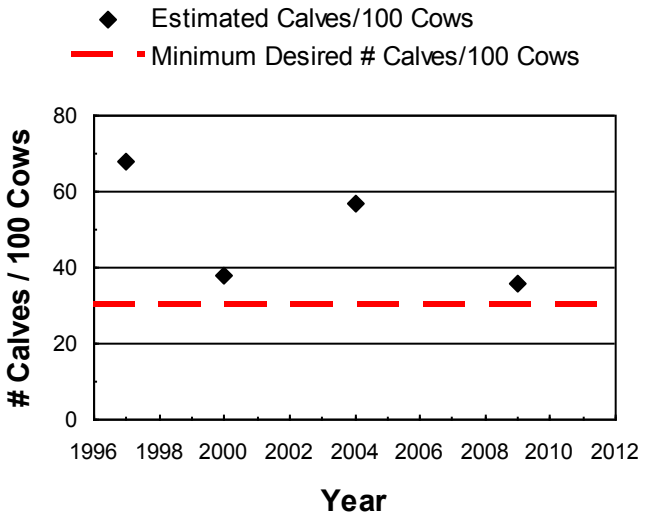


Figure 1: Calf recruitment (# Calves per 100 Cows) trends estimated from moose aerial inventories compared to lowest desired level.

Ecological Population Density

A goal of moose management is to keep the moose density within a range at which they can fulfill their natural role in the ecosystem. The desired ecological population density varies between Cervid Ecological Zones across the province.

Key factors affecting natural moose ecology are habitat suitability, other cervid species, natural predators such as wolves and black bears, and climate change.

Despite productivity estimates for WMU 46 near the upper range for Cervid Ecological Zone D2 (Figure 2), population estimates have always been near or below the lower desired ecological density (20 - 40 moose per 100 km^2).

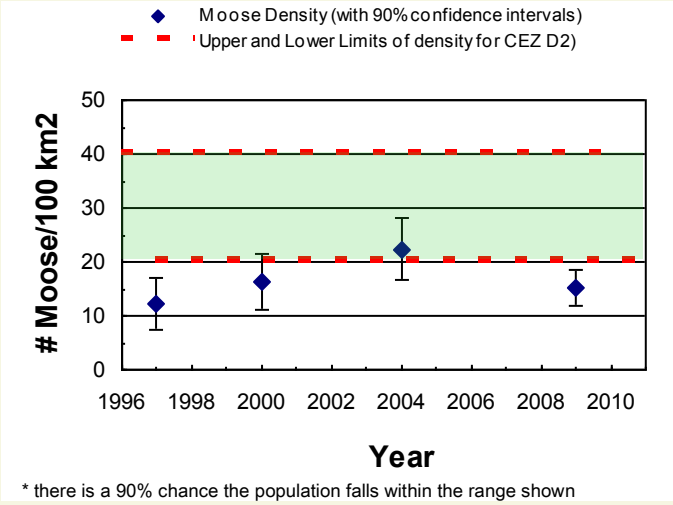


Figure 2: Moose Density (with upper and lower limits of the ecological density for CEZ D2)

Moose Management in WMU 46

Harvest Management

The moose hunting season in WMU 46 begins on the third Monday in October and lasts for six days. This season is for resident hunters only and allows rifles, shotguns, bows and muzzle-loaders to be used. Presently there is no separate archery or muzzle-loader season. There is no allocation to the tourist industry in this WMU.

Harvest Statistics

The estimated number of moose harvested by residents has ranged from a high of 69 to a current low of 30 animals (Figure 3). Over the past five years, annual average harvest by residents has been 38 moose. Calf harvest makes up about 40 percent of the total harvest on average.

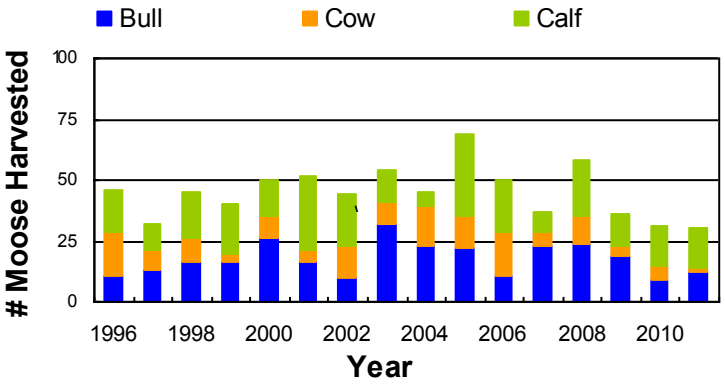


Figure 3: Resident Harvest

In addition to harvest data, information on the past success rates of hunters in filling their moose tags is used when planning the harvest. Tag fill rate for bull hunters has averaged 43% (range, 19 to 74%). Fill rate for cow hunters averaged 55% (range, 25 to 100%) and has remained higher than bull hunter success in most years. However since 2009 very few cow tags have been available.

Adult Validation Tag Quotas

Harvest planning, including adult validation tag quotas, is done annually to reflect the most recent population survey and harvest information. In response to the 32% decline in the WMU 46 moose population estimated in 2009 the planned annual harvest was reduced from 12 to 8 per cent of the population. We look forward to the next moose aerial survey to determine if management actions aimed at reducing harvest have stemmed the decline and set the stage for a period of population growth.

Hunter Interest

As in most of Ontario, the number of hunters interested in hunting moose in this unit greatly exceeds the amount of adult moose available for harvest. During the period from 1996 to 2011 the number of draw applicants per adult validation tag averaged 13, (range, 5 to 27). Since 2009 this average increased to 22 applicants per adult validation tag. In 2012, resident gun tag quotas included 26 bulls and 5 cows (Figure 4).

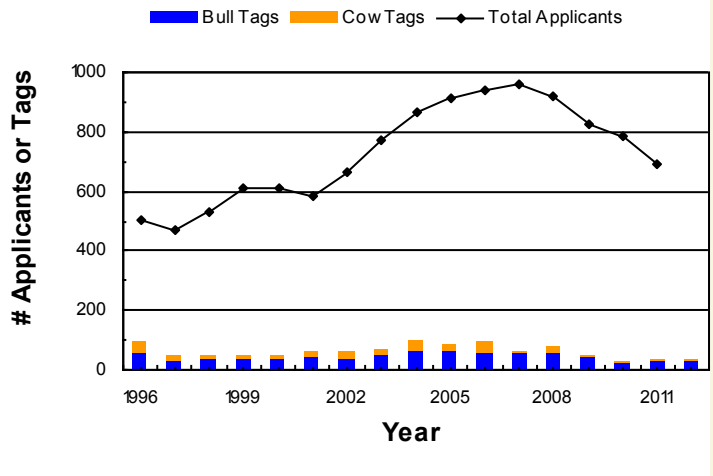


Figure 4: Resident Gun + Archery Tag Supply

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MNR 51953