

Moose

Alces americanus

Class: Mammalia
Order: Artiodactyla

Conservation Status

Heritage Agency

G Rank: G5 USFWS/NOAA: BLM: AA:
S Rank: S5 SOA: USFS: IUCN: Least Concern

Final Rank		
Conservation category: IX. Blue		
IX = low status and low biological vulnerability and action need		
<u>Category</u>	<u>Range</u>	<u>Score</u>
Status:	-20 to 20	-16
Biological:	-50 to 50	-34
Action:	-40 to 40	-32
Higher numerical scores denote greater concern		

Status - variables measure the trend in a taxon’s population status or distribution. Higher status scores denote taxa with known declining trends. Status scores range from -20 (increasing) to 20 (decreasing).

	Score
<i>Population Trend (-10 to 10)</i>	-6
Populations naturally fluctuate over time, populations are currently in healthy conditions and in some areas expanding (MacDonald and Cook 2009). See ADFG moose management report for trends in each game management unit (ADFG 2008e).	
<i>Distribution Trend (-10 to 10)</i>	-10
Moose began moving into southeast Alaska from British Columbia around the turn of the twentieth century, with many populations establishing in the early to mid 1900s. Moose continue to expand their range in southeast, including expanding into the central Alexander Archipelago. Moose have also expanded in the Bering River area and Cape Yakataga. Moose increased on the Alaska Peninsula in the 1950s and 1960s and have expanded in the Bristol bay area and Togaik and Kulukak river drainages. Moose are thought to have begun migrating to the Y-K Delta during the late 1940s. On the Seward Peninsula, moose had expanded by the late 1960s and in northwestern Alaska had expanded their range to the Chukchi Sea coast by the mid to late 1940s. Moose had also expanded in northern Alaska around 1940 (see references in MacDonald and Cook 2009).	
Status Total:	-16

Biological - variables measure aspects of a taxon’s distribution, abundance and life history. Higher biological scores suggest greater vulnerability to extirpation. Biological scores range from -50 (least vulnerable) to 50 (most vulnerable).

	Score
<i>Population Size (-10 to 10)</i>	-10
In the early 1990s the population was estimated between 144,000-166,000 moose (Franzmann 2000). Another estimate is 175,000-200,000 moose (ADFG 2011).	
<i>Range Size (-10 to 10)</i>	-10
Moose occur across most of Alaska except for some areas in southeast and west of Port Moller in southwestern Alaska (MacDonald and Cook 2009). > 400,000 square kilometers.	
<i>Population Concentration (-10 to 10)</i>	-10
Moose are the least gregarious of the North American cervids and primarily aggregate during the rutting season in small groups (Peek et al. 1974).	

Reproductive Potential

Age of First Reproduction (-5 to 5) -3

Females generally breed at 28 months, although some females breed earlier at 16 months (Crouse and Crouse 2008).

Number of Young (-5 to 5) 3

Females give birth to 1-2 calves per year (NatureServe 2007b).

Ecological Specialization

Dietary (-5 to 5) 1

During the winter feed on willow, aspen, and birch twigs (Crouse and Crouse 2008). In Denali National Park and Preserve, feltleaf willow, diamondleaf willow, littletree willow, and grayleaf willow predominated moose diets in the winters (Risenhoover 1989). In a burned area on the Kenai Peninsula, scouler willow, Kenai birch, and aspen were browsed in proportion to availability in the winter, while black cottonwood was avoided (Weixelman et al. 1998). During the summer feed on leaves of birch, willow, and aspen, vegetation in shallow ponds, and forbs (Crouse and Crouse 2008).

Habitat (-5 to 5) -5

Associated with a wide variety of forest, shrub (particularly willow), and wetland habitats at various elevations. In Alaska, move between mountains and adjoining lowlands seasonally (ADFG 1973, Franzmann 1981, Peterson 1955). Upland willow or birch dominated communities are important in the summer and autumn, lowland bog communities are important for calving and feeding, riparian willow communities are an important year-round habitat at the edges of their range and for wintering throughout their range, and seral burns are important wintering habitat once the browse has grown above the snow (LeResche et al. 1974).

Biological Total: -34

Action - variables measure current state of knowledge or extent of conservation efforts directed toward a given taxon. Higher action scores denote greater information needs due of lack of knowledge or conservation action. Action scores range from -40 (lower needs) to 40 (greater needs). **Score**

Management Needs (-10 to 10) -10

Open to sport hunting following regulations. USFWS also allows additional federal subsistence hunting opportunities on federally owned lands in some regions to qualified rural residents (USFWS 2010b). Intensive management occurs in some game units. Habitat enhancement, such as browse crushing and controlled burns, are used in areas to increase food availability and predator control is used to reduce wolves and bears (ADFG 2011).

Monitoring Needs (-10 to 10) -2

Monitored in many areas throughout the state by several agencies, typically via aerial surveys. Population composition, calving rate, calf survival, habitat, average harvest, etc., also monitored in many areas (ADFG 2008e, ADFG 2011).

Research Needs (-10 to 10) -10

Limiting factors include winter weather, food availability, predation (i.e., bears, wolves), parasites, and disease (Van Ballenberghe and Ballard 1998). Deep snowfall winters reduce browse availability and increase energetic costs of obtaining browse (Boertje et al. 2000). Wolf control programs have shown that wolves strongly impact moose populations and wolf control coincided with increased moose populations (Boertje et al. 1996). A plausible limiting factor scenario is that moose densities decrease when adverse weather occurs, and then browse limitation and predation exacerbate the decline to low levels (Boertje et al. 2000).

Survey Needs (-10 to 10) -10

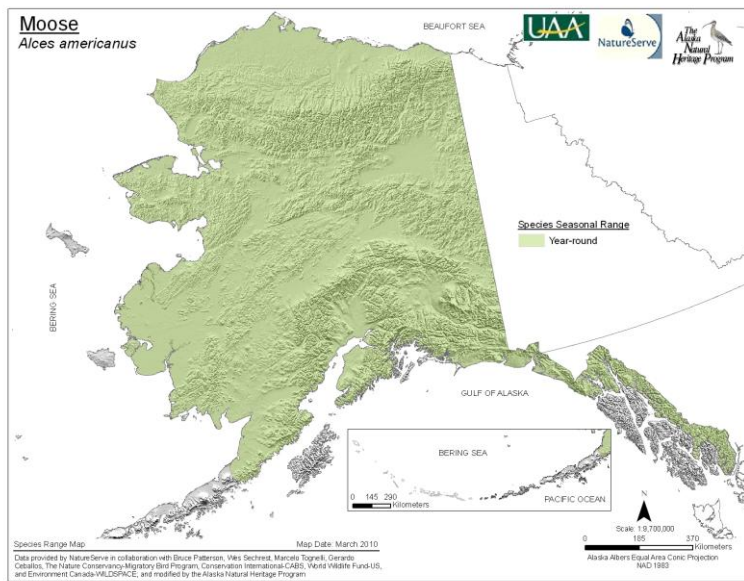
Habitat associations studied in many areas (i.e., LeResche et al. 1974, Hundertmark et al. 1990, Collins and Helm 1997, MacCracken et al. 1997, etc.). Radio collared and surveyed in many areas throughout the state. Broad distribution in each region of Alaska described in MacDonald and Cook (2009) and distribution in each game management unit described in ADFG moose management report (2008e).

Action Total: -32

Supplemental Information - variables do not receive numerical scores. Instead, they that are used to sort taxa to answer specific biological or managerial questions.

Harvest:	Substantial, regulations
Seasonal Occurrence:	Year-round
Taxonomic Significance:	Monotypic species
% Global Range in Alaska:	>10%
% Global Population in Alaska:	<25%
Peripheral:	No

Range Map



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For details on the development of the ASRS and criteria, please see: Gotthardt, T. A., K. M. Walton, and T. L. Fields. 2012. Setting Conservation Priorities for Alaska's Wildlife Action Plan. Alaska Natural Heritage Program, University of Alaska Anchorage, AK.