



# Elk

## North Carolina Wildlife Profiles



### Elk

#### (*Cervus elaphus manitobensis*)

The elk is one of the largest species in the deer family, Cervidae, and in North Carolina, is the largest mammal, surpassing even the black bear. Prior to European settlement, more than 10 million elk lived in nearly all of the United States and parts of Canada with the Eastern elk inhabiting the eastern United States. Today, two subspecies of elk, the Merriam's and the Eastern, are now extinct. About 1 million elk live Ontario west in Canada and in the western United States, as well as Wisconsin, Michigan, Minnesota, Missouri, Pennsylvania, Arkansas, Kentucky, Tennessee, Virginia and North Carolina.

#### Description

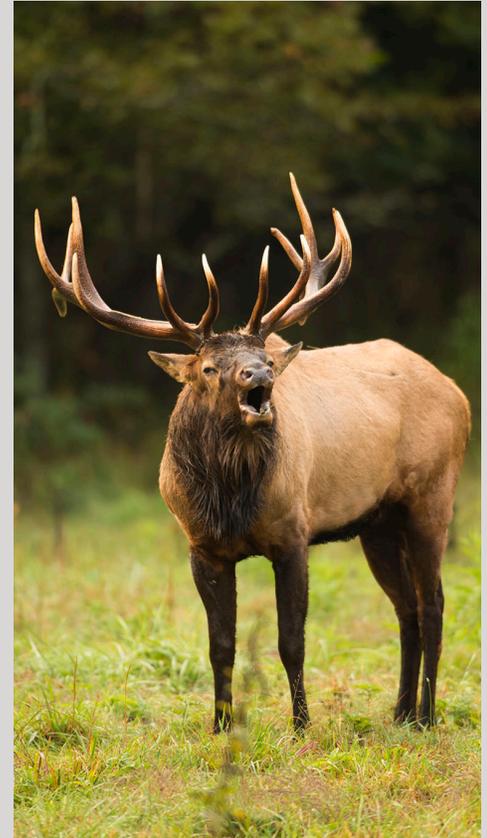
Elk are sometimes mistaken for white-tailed deer, although they are much larger than deer. A male elk, called a bull, weighs around 700 pounds, and measures about 5 feet high from the shoulder while a buck measures about 3 feet from the shoulder. An elk's coat is thick and typically copper brown to light tan or beige. The neck and legs are often darker than the body. Like most other cervids, only males have antlers, which they grow and shed every year. New antlers, which begin developing in the early spring, are covered in a fuzzy skin, called velvet, and hardened by late summer, at which time the velvet peels away. Bulls shed their antlers in winter. A set of antlers on a mature bull can weigh up to 40 pounds and reach a width of 5 feet. Antler size depends on the age of the bull, its nutrition and its genetics. Female elk, called cows, look similar in coloration to the males, and are smaller, weighing around 500 pounds and standing approximately 4 ½ feet from the shoulder.

#### History and Status

The eastern elk once roamed the entire eastern United States, including parts of North Carolina. After the arrival of European settlers, unregulated hunting and loss of habitat led to rapid population declines through the 1700s. By 1800, the eastern elk was extirpated from North Carolina, and by the mid-1800s, the species had almost disappeared throughout its range entirely. The last known wild eastern elk was killed in Pennsylvania in 1877.

In 2001 and 2002, the National Park Service (NPS) reintroduced the Manitoban subspecies of elk (*Cervus elaphus manitobensis*) into the Cataloochee area of the Great Smoky Mountain National Park in North Carolina, as part of an experimental project to determine if elk could survive and reproduce in the area. Some elk ventured outside the park's boundaries and established ranges in these new areas. During the initial phase of the reintroduction, the NPS was responsible for managing elk on and off NPS property. Beginning in 2008 when the reintroduction was officially deemed a success, responsibility for elk management outside of park boundaries was transferred to the N.C. Wildlife Resources Commission (NCWRC). Current population

The species of elk found in North Carolina is the Manitoban subspecies. The Eastern Elk is extinct.



Bull elk bugling (Photo: Melissa McGaw/NCWRC)

#### Range and Distribution

Four sub-species of elk are found in North America: Rocky Mountain; Roosevelt's; Tule and Manitoban. The Manitoban sub-species is found in North Carolina's Great Smoky Mountains and surrounding areas.

#### Range Map



estimation of elk in North Carolina is around 200 elk residing on Pisgah National Forest, William H. Silver Game Land, private land, and the Great Smoky Mountain National Park. For more information visit [ncwildlife.org/elk](http://ncwildlife.org/elk).

### Habitats & Habits

North American elk live in a variety of habitats, such as deciduous and coniferous forests, swamps, clearcuts, meadows and secluded valleys. In North Carolina, elk are found in the southern Appalachian Mountains and in nearby areas where they have expanded their range. They feed primarily on grasses, but will also browse on shrubs, small branches, leaves and acorns. They will even eat bark, if no other food is available or is sparse. They typically feed at dusk and dawn, preferring to spend the day in a secluded area, digesting and chewing their cud. On average, a single elk can eat up to 20 pounds of vegetation a day.

During the rut (mating season), which occurs in late September through early October, bull elk advertise their fitness to nearby females and challenge other bulls to mating rights with a loud, “bugling” call that can be heard for miles. The bigger the bull, the louder the call. Bulls will engage in “sparring” matches with one another, competing for the right to mate. Elk are not monogamous, so a bull will attempt to mate with as many cows as he can during the “rut.” Bulls will aggressively guard their “harem” from other bulls until the breeding season is over.

After breeding, females will carry one, rarely two, calves between 240 and 262 days, before giving birth in an isolated area, away from the remainder of the herd. The female will keep her calf hidden until it is old enough to escape from predators, around 2 weeks of age. At 6 months old, an elk calf can be larger than than an adult white-tailed deer. Calves remain with their mothers until they are about 1 year old.

### Human/NCWRC Interactions

With a population of elk established in the Southern Appalachian mountains and surrounding areas, people now have a chance to view these majestic animals without having to travel outside of the state.

The NCWRC is currently conducting research, in conjunction with the University of Tennessee, to estimate elk population abundance, survival, recruitment and growth in North Carolina. This 5-year project employs spatially explicit capture-mark-recapture methods based on fecal DNA to estimate elk vital rates and determines if current immigration, survival and recruitment rates are sufficient to allow for sustainable hunting in North Carolina.

Importantly, the NCWRC has been conducting habitat enhancement on state-owned game lands to benefit elk, as well as other species that rely on early successional plant communities. By cooperating with partners, the NCWRC has acquired the William H. Silver Game Land in Haywood County, where it has implemented multiple habitat improvement projects that provide high-quality forage and cover to meet the needs of lactating elk cows and recently born calves. These projects include daylighting existing non-paved roads, creating linear wildlife openings, developing elk meadows, managing vegetation and conducting prescribed burns.

#### References

Jones, D. 1999. *North American Wildlife* (Whitecap Books., 1999)  
Elk Facts. RMEF Elk Network. [Elknetwork.com](http://Elknetwork.com)  
Elk Biology. [NPS.gov](http://NPS.gov)  
Elk. [Animals.net](http://Animals.net)

### Wild Facts

#### Classification

Class: Mammalia  
Order: Artiodactyla

#### Average Size

Length: Males, about 8 feet; females, about 6 ½ feet from nose to tail  
Height: Males, about 5 feet from shoulders; females, about 4 ½ feet from shoulders  
Weight: Males, about 700 pounds; females about 500 pounds

#### Food

Vegetation, such as leaves, grasses, shrubs, small branches, acorns, even tree bark

#### Breeding/Young

Male elk, called bulls, will mate with several female elk. Female elk, called cows, may mate with one or more males. Mating occurs in fall, and females breed every year. After a gestation period of between 240 and 262 days, females give birth to one calf; on rare occasion, two calves. The young will generally stay with its mother for one year. At this point, young males will often disperse and young females may stay with the herd.

#### Life Expectancy

Typically, 10 to 13 years in the wild; 20-plus years in captivity



NCWRC staff collaring an elk (Photo: NCWRC)