



# Red Deer

*Cervus elaphus*

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## Foundations

Kingdom: Animalia  
Phylum: Chordata  
Class: Mammalia  
Order: Artiodactyla  
Family: Cervidae  
Genus: Cervus  
Species: elaphus  
Distribution: Native throughout Europe and Western Asia  
Habitat: Moorland (temperate grassland), Coniferous forests, and Deciduous forests/valleys

## Form and Function

Cursorial mammals, with lengthened limbs and specialized metapodials. Complete fusion of metapodial resulting in what is known as the cannon bone. This cannon bone means that they stand with an unguligrade foot posture and walk or run on their hooves. Muscles are attached proximately to the joint and allow for more range of motion. Speeds can reach up to 35-40 mph. Stags typically weigh 300-500 lbs. Hinds do not typically exceed 300 lbs.

## Behavior

Males in the rut develop a large dark ventral patch of hair, reaching up to 28 inches long. The dark color is a result of the exogenous urine oxidizing to produce a black coloration after it is sprayed on the belly and neck. This leads to the olfactory communication between males to show dominance or age. Their antlers grow with breeding success in the following mating season. The size and color help assert dominance over other stags and relates to fitness with hinds. Calves are known as "hidlers". They remain separate from others for the first 10-12 days and only respond to a series of calls from their mothers. These help the Red deer to avoid predators year-round.

## Activity

Crepuscular mammal that is mainly active during twilight hours of the day. Through endothermy they can be more active at night or during colder periods, allowing them to maintain high levels of activity. Countercurrent heat exchange and vasoconstriction occurs in their veins where cold returning blood runs next to warm arterial blood moving down from the heart. The warm arterial blood is moved to colder venous blood which helps reduce heat loss in colder temperatures. In the heat, vasodilation helps to reduce body temperature.

## Conservation and Management

Populations declined in the latter half of the 18<sup>th</sup> century. In the 19<sup>th</sup> century the population rose due to the interest of trophy hunting. Specific number of population is limited due to vast distribution and other sources of variation. Species listed as 'Least Concern' due to wide distribution and large population.  
Disease: Most effected by bovine tuberculosis, Johne's disease, and avian tuberculosis. Can be affected by chronic wasting disease however the first case was in a farmed environment.  
Threats: Biggest threat is habitat fragmentation and hybridization with Sika deer.

## Diet

Sources of food and nutrients: Calluna (Heather plant), Vaccinium (blueberry), twigs & bark, Rubus (blackberry & raspberry), and Forbs (flowering plant). In a moorland habitat (temperate grassland) and coniferous forest red deer feed on the Vaccinium and Calluna. In deciduous habitats; twigs, bark, and Rubus is consumed. Various seeds and fruits are the only consistent diet throughout seasonal patterns. Being an intermediate feeder, red deer, are ruminant ungulates. In order for the nutrients to be acquired they are fermented in a specialized four compartment stomach before digestion.



## Reproduction

Red deer give birth to one and sometimes two calves each year. Calves weigh approximately thirty-three pounds at birth. The gestation period is anywhere from 240-262 days and calves are weaned off the hind after about eight months old. Calves are precocial at birth (haired, walking, not blind). Stags take interest in hinds as they reach full estrus. The stag will show off for the hind by a numerous actions like roaring or fighting. Red deer are polyandrous and polygynous species. Stags will not typically mate till they are at least six years old. Hinds are ready to reproduce around 16 months old.