



Red Deer

Cervus elaphus

Charlie Morrow. Mammalogy 2022



Conservation and Management

Red deer populations have not always been what they are today and people have played a large role in the population dynamics. By the 19th century, populations had been reduced to a few isolated locations, with estimates of only a few hundred remaining from overhunting and habitat degradation. Strict conservation efforts and regulations allowed for the population to restabilize. However other factors have contributed to population declines like diseases such as tuberculosis as well as habitat fragmentation and hybridization with Sika deer.



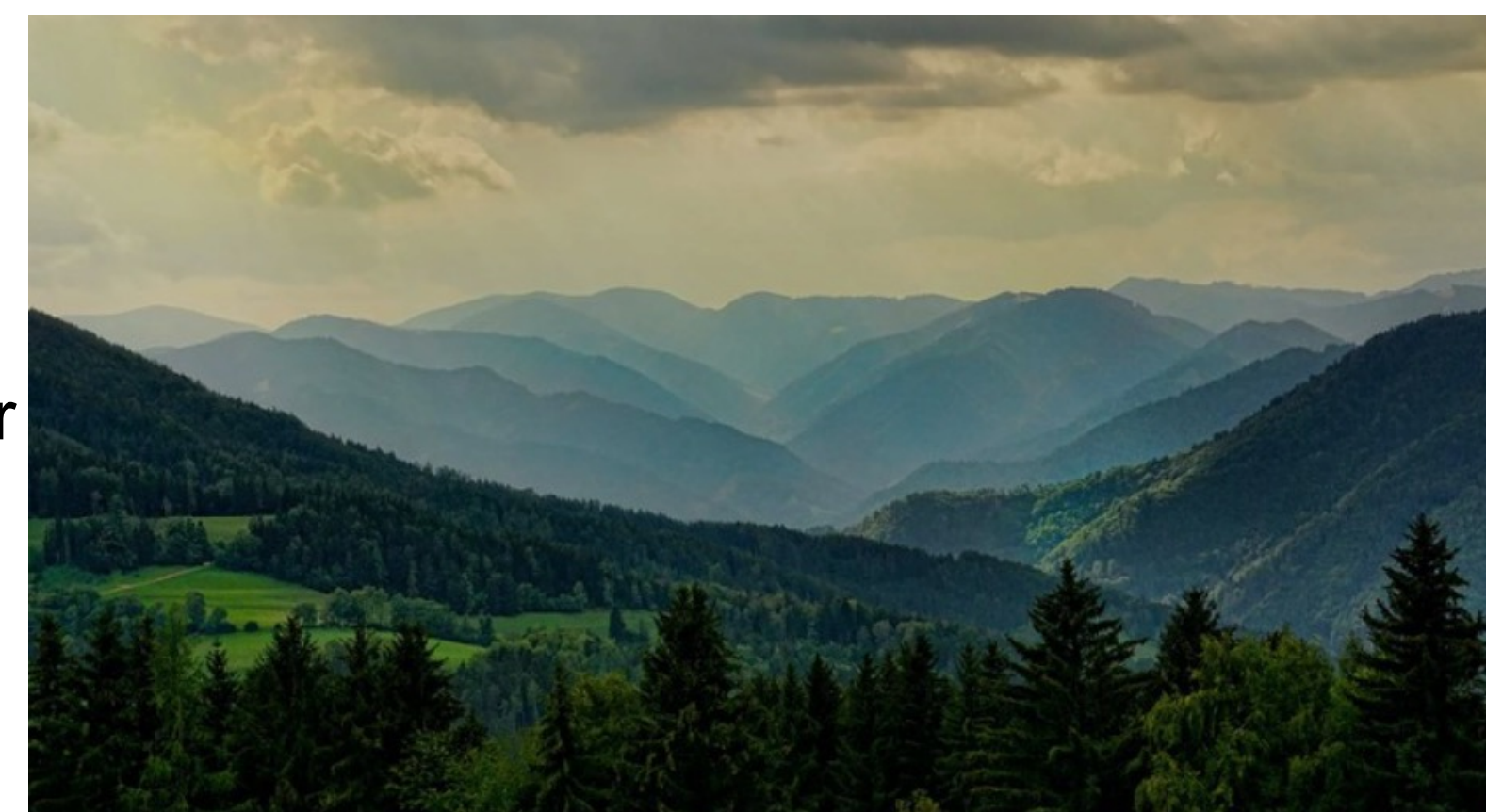
Form and function

Red deer are cursorial mammals meaning that they have adapted long limbs in order to run fast. Running at speeds of up to 40 miles per hour. They also have a large number of type 2 muscle fibers or fast-twitch muscle fibers. Allowing deer to have short bursts of maximum power; however, it does not last very long. Body size in red deer is negatively correlated with climatic conditions, with larger red deer found in the northern regions and smaller red deer found in the southern regions. Stags typically weigh 300-500 lbs, while hinds usually do not exceed 300 lbs.



Behavior

Cervus elaphus are social animals that live in groups. The group dynamic of red deer are groups consisting of a mature hind, her mature daughters, and their dependent offspring both male and female. Cervus elaphus group size is variable between populations mostly based on location and available resources. Generally, those living in more open areas have a larger group size compared to populations in forests. Stags are polygamous and during winter months females require higher sources of nutrients because of pregnancy. Males are warier than females and tend to remain in remote areas only occasionally coming in the open to feed. Large groups of red deer are usually hinds, whereas stags are often found in solitary or in small groups



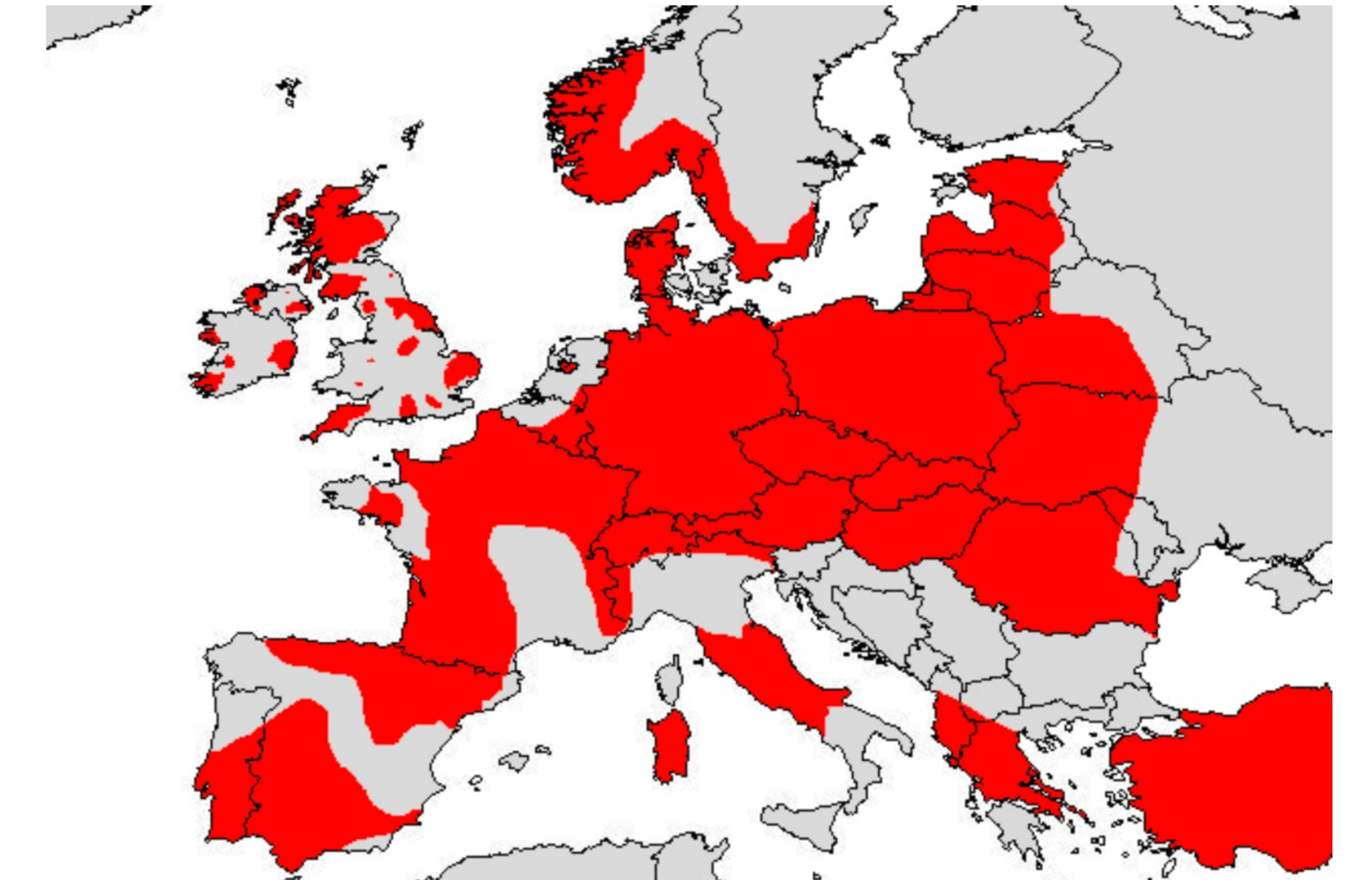
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During the rut stags return to localized areas they have in previous years. Stags will gather harems and roar at both other competing stags and the hinds they are gathering. During this time stags regain their voice, neck girth increases, and concentrations of testicular testosterone are 1,000 times the resting level. Also, their urine develops a rutting odor. Hinds have the ability to discriminate the stag's roar from the harem-holder or lead stag and those of competing stags. This is used for individual recognition and female mate choice. How much a stag roars and the loudness of the roar are important for hinds choosing a mate. Hinds become more familiar with the sound of the stag they hear most.



Diet

Their diet mainly consists of shrubs, tree shoots, grasses, and in autumn fruit and seeds. Red deer are ruminant ungulates, and their stomachs have four specialized chambers for digestion. Browsing consists of up to 72% of their winter diet and up to 75% of their summer diet. They can switch to a grazing diet as the seasons change and the browsing diet becomes unavailable. This is due to the fact that high-fiber foods are more difficult to digest for red deer, so they prefer low-fiber foods when present.



Range/ Habitat

Red deer are native to most of Europe, western Asia, and parts of northern Africa. They have been introduced in places like New Zealand, Australia and South America for hunting or deer farming. Cervus elaphus today has a total of 16 subspecies that originated from a past ancestor in the Cervida family. Habitats of red deer are open deciduous woodland, mixed deciduous-coniferous, coniferous woodland and open mountainous areas.

