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Roe Deer: Bavarian Forest National Park, Germany

Migration Description

Roe deer are widespread and common across Eurasia. They display high behavioral flexibility, often taking advantage of edges along different habitat types, such as the borders of forests. This species can adapt well to human landscape alteration. Roe deer are partially migratory with strong differences in migration propensity between populations, depending on the seasonality and how predictable seasonal conditions are within the population's range. In mountainous landscapes like the Bavarian Forest National Park, migratory roe deer move up and down in elevation to take advantage of habitat diversity and seasonal changes in environmental conditions. Individuals migrated on average 3.9 km (up to 20.9 km) between seasonal ranges in the park, which is characterized by central European sub-mountainous forests. These migrations may be short in distance, but represent a significant displacement in altitude between 650-1450m, and can involve repeated trips between seasonal ranges. Roe deer in Bavarian Forest National Park typically depart summer range and migrate to lower elevations when snow accumulates at the onset of winter, then move back to higher elevation ranges in spring. However, forest communities are changing dynamically inside the park, largely due to past bark beetle outbreaks and windthrows of uprooted trees. The resulting forest


succession provides suitable habitats for this small browser. Hunting to manage populations in the national park is limited to red deer and wild boar. Control measures are allowed only within the designated management zone, which covers 25% of the park and lies along its outer boundaries.

Threats to Migration

Roe deer are generally able to adapt to various forms of human disturbance and can respond well to environmental changes. Studies conducted in the Bavarian Forest National Park show that the main causes of roe deer mortality are related to lynx predation, vehicle collisions and hunting. Baited hunting and intensive supplemental feeding outside of the park alter roe deer movement patterns, as well as landscape fragmentation caused by the development of roads and housing. In this population, the risk of vehicle collisions coincides with key periods during the roe deer life cycle, for example during spring and fall migration, when roe deer move between their winter and summer ranges and cross roads more often. Due to climatic changes, roe deer migrations may become less pronounced if summer habitats remain suitable year-round.

Local Population Facts

Migration

Seasonal 
Short 4.77 km (avg.)

Threats



Species Facts

Common name: Roe deer

Species name: *Capreolus capreolus*

Range: Continental Europe

Diet: Browser and selective feeder of tree shoots, leaves and herbs

Global population: >15 million

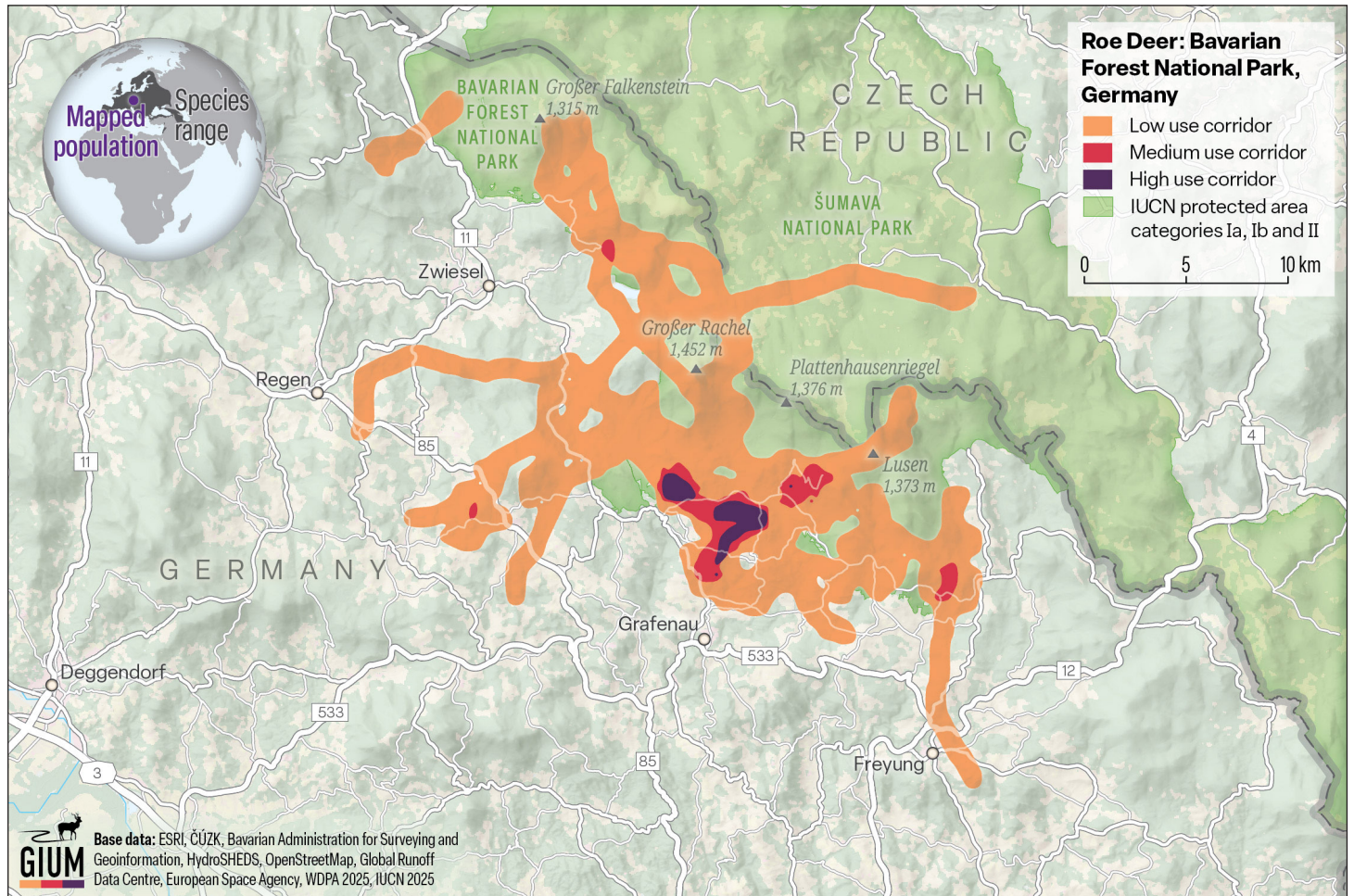
IUCN Conservation Status

LC Least concern

CMS Status

Not listed

Roe Deer Migration



Study Information

Sample size

38 migratory individuals

Relocation frequency

1–4 hours

Project duration

7 years, between 2006–2012

Data Analysis

Delineation of migration periods

Net squared displacement to delineate migration between winter and summer ranges

Models derived from

Line buffer

Route Summary

Migration start and end date (median)

- Spring: April 13–April 23
- Fall: November 16–November 22

Average number of days migrating

- Spring: 8.9 ± 4.0 days
- Fall: 9.6 ± 4.5 days

Migration route length

- Min: 0.31 km
- Mean: 4.77 ± 4.88 km
- Max: 25.4 km

Data Providers

Data for this project were collected through the efforts of Marco Heurich with the University of Inland Norway and the Bavarian Forest National Park.

In partnership with:



The Convention on the Conservation of Migratory Species of Wild Animals (CMS), also known as the Bonn Convention, is an environmental treaty of the United Nations that provides a global platform for the conservation and sustainable use of terrestrial, aquatic and avian migratory animals and their habitats.



The Global Initiative on Ungulate Migration (GIUM) was created in 2020 to work collaboratively to: 1) create a Global Atlas of Ungulate Migration using tracking data and expert knowledge; and 2) stimulate research on drivers, mechanisms, threats and conservation solutions common to ungulate migration worldwide.



View and Download Map Data from the GIUM Migration Atlas

Heurich, M. 2026. Roe deer: Bavarian Forest National Park, Germany. Global Initiative on Ungulate Migration, editors. *Atlas of Ungulate Migration*. Convention on the Conservation of Migratory Species of Wild Animals.