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Wild Reindeer: Setesdal Austhei, Norway

Migration Description

Southern Norway hosts an estimated 25,000 wild mountain reindeer, which represents over 90% of the Eurasian population. Wild reindeer often perform extensive migrations, and historical findings in Norway testify to the long standing existence of mass migrations typically between winter pastures further inland and high-altitude summer pastures in more coastal areas. Today, reindeer migrate towards traditional calving grounds in undisturbed areas as the snow begins to melt in early spring. Reindeer typically spend the summer not far from calving grounds, where they move to higher elevations to access nutritious snow-bed vegetation and escape insect harassment. After the rut, reindeer migrate to their winter ranges, which are characterized by relatively little snow cover and wind-blown ridges. There, access to lichens, their main winter food, sustains them through the long winter months. Reindeer migration routes are strongly shaped by topography, including fjords and steep mountains. Historically, Norwegian wild reindeer formed two to three large, intermingling populations. But infrastructure development in more recent decades has fragmented the population into the current 24 isolated sub-populations. Today, most traditional migration routes are lost, and seasonal ranges tend to overlap. In Setesdal-Austhei, one of the southernmost

sub-populations, most reindeer maintain a traditional migration between non-overlapping seasonal ranges. However, the migration route is threatened, as reindeer navigate a narrow bottleneck between a hydropower reservoir with increasingly unstable ice-cover, a road, and recreational development.

Threats to Migration

Norwegian wild reindeer have been hunted for millennia, with ancient peoples using large-scale systems of pitfall-traps to efficiently kill higher numbers of animals. Today, wild reindeer are highly sensitive to human presence and tend to avoid most infrastructure and anthropogenic sources of disturbance. Many traditional migration routes have been blocked and lost as urban centers and transportation infrastructure expanded following the Industrial Revolution. The massive development of hydropower in Norway since the 1950s directly flooded several reindeer calving areas and migration routes and paved the way for the development of transportation, the tourist industry, and second-home development in mountain areas. A growing recreation-based economy in the mountains and the expansion of popular second-home villages represent a major threat to the remaining migratory reindeer.

Local Population Facts

Migration

Seasonal 

Medium 54.3 km (avg.)

Threats



Climate change



Energy dev.



Urban sprawl



Linear barriers



Agriculture



Livestock



Illegal killing



Other

Species Facts

Common name: Wild reindeer

Species name: *Rangifer tarandus tarandus*

Range: Southern Norway

Diet: Intermediate-feeder herbivore

Global population: 2,890,400 (*Rangifer tarandus* spp. IUCN 2015); ca 30-50,000 for the subspecies *Rangifer tarandus tarandus*.

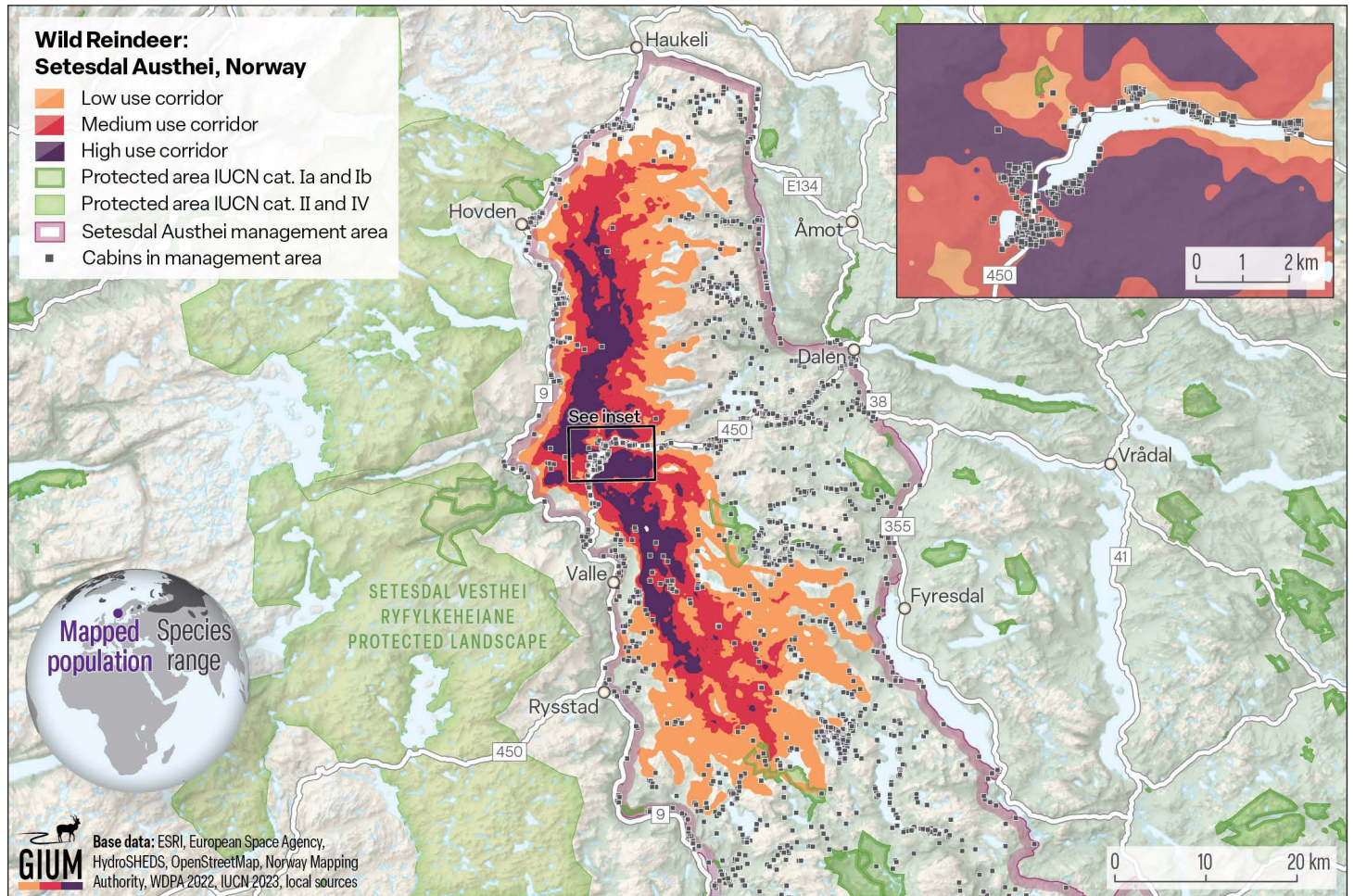
IUCN Conservation Status

VU Vulnerable

CMS Status

Not listed

Wild Reindeer Migration



Study Information

Sample size

21 individuals

Relocation frequency

2 hours

Project duration

15 years, between 2007 and 2022

Data Analysis

Delineation of migration periods

Net squared displacement to delineate migration between winter and summer ranges

Models derived from

Brownian Bridge Movement Model (fixed motion variance, 2000)

Route Summary

Migration start and end date (median)

- Spring: April 8–April 28
- Fall: September 14–September 25

Average number of days migrating

- Spring: 15 days, (± 9 days)
- Fall: 14 days, (± 42 days)

Migration route length

- Min: 20.2 km
- Mean: 54.3 km, (± 11.3 km)
- Max: 82.9 km

Data Providers

Data were collected and provided by the Norwegian Institute for Nature Research, through the efforts of Olav Strand, Roy Andersen, and Christer M. Rolandsen. Text and expertise for this factsheet were provided by Bernardo Brandão Niebuhr, Manuela Panzacchi, Roy Andersen, and Bram van Moorter.

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

Niebuhr, B. B., M. Panzacchi, O. Strand, C. Rolandsen, R. Andersen, and B. van Moorter. 2024. Wild Reindeer: Setesdal Austhei, Norway. Global Initiative on Ungulate Migration, editors. *Atlas of Ungulate Migration*. Convention on the Conservation of Migratory Species of Wild Animals.