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# Mongolian Gazelle: Eastern Mongolia

## Migration Description

About 2 million Mongolian gazelles roam the grasslands of Mongolia and adjacent areas in Russia and China. The species' most important stronghold is the steppe habitats east of the Trans-Mongolian Railway. These gazelles are true nomads, rarely settling in one place and showing no fidelity to seasonal ranges or movement corridors. GPS tracking data from the Dornod and Sukhbaatar provinces revealed extremely far-ranging movements and the absence of predictable calving or wintering areas. For example, a single gazelle traveled over 18,000 km in five years, with an annual range of about 19,000 km<sup>2</sup> per year and little overlap in ranges between years. The gazelles' lack of site fidelity is rooted in the unpredictable nature of forage availability and weather across the Mongolian steppe. The locations of rainfall events and vegetation growth that gazelles seek out vary between years, as does the location of severe winter conditions — called Dzud — that gazelles try to avoid with long-distance escape movements. Gazelle movements are somewhat more seasonal in the southern Khenty region of Mongolia. In years when winters are particularly harsh, gazelles in that region tend to move to the southwest towards the fenced Trans-Mongolian Railway where they can navigate shallower snow in typically milder habitat.

## Threats to Migration

The Mongolian gazelle's nomadic and unpredictable movements make conservation challenging, since neither

critical seasonal ranges nor migration routes are repeatedly used between years, and their movements are too far-ranging to be protected within protected areas. Gazelles face numerous conflicts and threats including illegal killing, periodic disease outbreaks and steppe fires. Agriculture also impacts gazelle, which includes competition with livestock and loss of habitat to haymaking. In the past, gazelle populations suffered due to overhunting. But today, habitat fragmentation due to linear infrastructure poses the biggest challenge. These barriers fragment the steppe, preventing gazelles from moving freely to find forage or escape harsh conditions. Barbed-wire fences along the China-Mongolia border and the Trans-Mongolian Railway have been particularly problematic, disrupting gazelle movements and causing entanglements and mass casualties. In Mongolia, the "State Policy on Railway Transportation" was approved in 2010 with a goal of implementing 5,683 km of railways in three stages. With plans to build over 800 km of railway from 2023-2027 that will further bisect the steppe from east to west, the new barriers could severely alter movement and potentially trigger severe population declines. The volume of car traffic has also rapidly increased, along with a growing extractive energy industry and the road construction associated with it. Large-scale commercial hay making as well as fenced agricultural areas further disrupt gazelle movements on the changing steppe landscape.

## Local Population Facts

### Migration

Nomadic



Extra long

150+ km

### Threats



Climate change



Energy dev.



Urban sprawl



Linear barriers



Agriculture



Livestock



Illegal killing



Other

## Species Facts

**Common name:** Mongolian gazelle

**Species name:** *Procapra gutturosa*

**Range:** Asia

**Diet:** Mixed-feeder herbivore

**Global population:** 2.17 million (2019-2020 Ground Census Data combined with census in Russia)

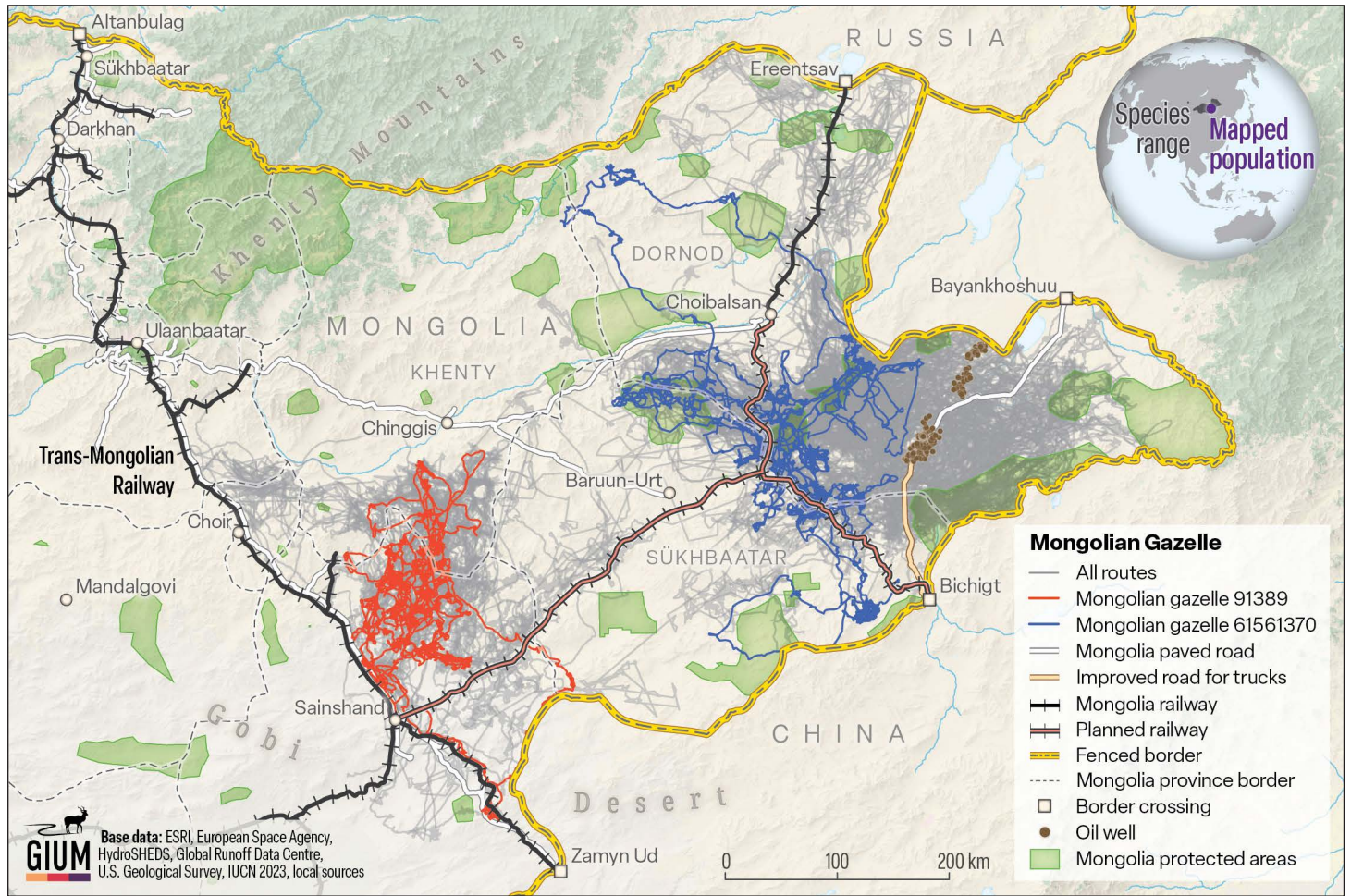
### IUCN Conservation Status

**LC** Least concern

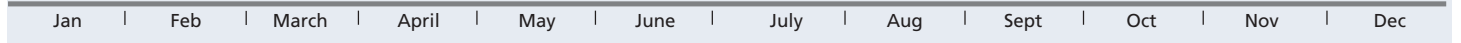
### CMS Status

**Appendix II** Migratory species conserved through agreements

# Mongolian Gazelle Movement



## Nomadic movement year-round



## Study Information

### Sample size

113 individuals

### Relocation frequency

Variable from hourly to 5 days

### Project duration

2007–2023

## Route Summary

The long distance, nomadic movements of Mongolian gazelle do not show a seasonal pattern. Where and when to move as well as when and where to stop are unpredictable, changing year to year depending on environmental conditions. While the annual range is about 19,000 km<sup>2</sup>, the lifetime range of an individual gazelle covers an area of 100,000 km<sup>2</sup>. The cumulative annual distance moved is on average 3,400 km.

## Data Providers

Data is provided by Nandintsetseg Dejid, Kirk Olson, and Thomas Mueller through a long-term collaboration between the Senckenberg Nature Research Society, WCS Mongolia and other organizations. The project was funded through various sources, including the Robert Bosch Foundation and the MORESTEP project of the German Ministry of Research and Education (grant numbers O1LC1820A and O1LC2320A).



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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

Dejid, N., K. Olson, and T. Mueller. 2024. Mongolian Gazelle: Eastern Mongolia. Global Initiative on Ungulate Migration, editors. *Atlas of Ungulate Migration*. Convention on the Conservation of Migratory Species of Wild Animals.