



Wildebeest Migration © Daniel Rosengren

Wildebeest: Serengeti-Mara, Tanzania & Kenya

Migration Description

The migratory Serengeti-Mara wildebeest population is the largest of four populations of wildebeest within the Greater Serengeti-Mara Ecosystem, totaling approximately 1,300,000 animals. The three other populations either do not migrate or have ceased migrating. Seasonal rainfall drives the wildebeest migration. In the peak of the rainy season, lactating females take advantage of the rich but brief grazing conditions on the southern short-grass plains to give birth to a single calf. With the onset of the dry season in May, they are forced to move westwards. The wildebeest first retreat to the Western Corridor in June and July to graze on sodium-rich grasses, then migrate further north once seasonal rivers run dry and forage is exhausted.

The Mara River near the border with Tanzania forms the populations' core dry-season refuge. With sufficient water for more than one million animals, this is the only permanently flowing river in the ecosystem. The rains generally return by November, and the wildebeest once again migrate south to the plains. Although the conservation and management practices differ across national jurisdictions, the animals move freely between the protected areas.

Threats to Migration

Lack of access to water in the Mara River during the dry season poses the most significant threat to the Serengeti-Mara wildebeest migration. Wildebeest require water at least once every four days, and the Mara River serves as their primary water source from August to October. If the Mara River were to cease flowing for ten days, the wildebeest population would likely decrease by at least 100,000 animals. Beyond that threshold, 500,000 animals could easily die. In the last seven years, discharge meters have recorded the first instances of no-flow in the Mara River, and these occurrences have become more frequent and longer in duration.

Historically, illegal killing was a major threat to wildebeest. However, recent efforts focusing on snare-removal and community engagement have successfully reduced poaching. The expansion of agriculture inside some of the multiple-use areas is further constraining the migration and displacing wildebeest from traditionally used areas. Substantial infrastructure development geared towards mass tourism — even within the protected areas — is also exacerbating these pressures. Because most wildebeest mortality is due to starvation, pushing animals off prime grazing zones will severely reduce calf and adult survival.

Local Population Facts

Migration



Threats



Species Facts

Common name: Western white-bearded wildebeest

Species name: *Connochaetes taurinus mearnsi*

Range: Sub-Saharan Africa

Diet: Predominantly C4 grass with occasional supplementary consumption of C3 forbs

Global population: 2-2.5 million

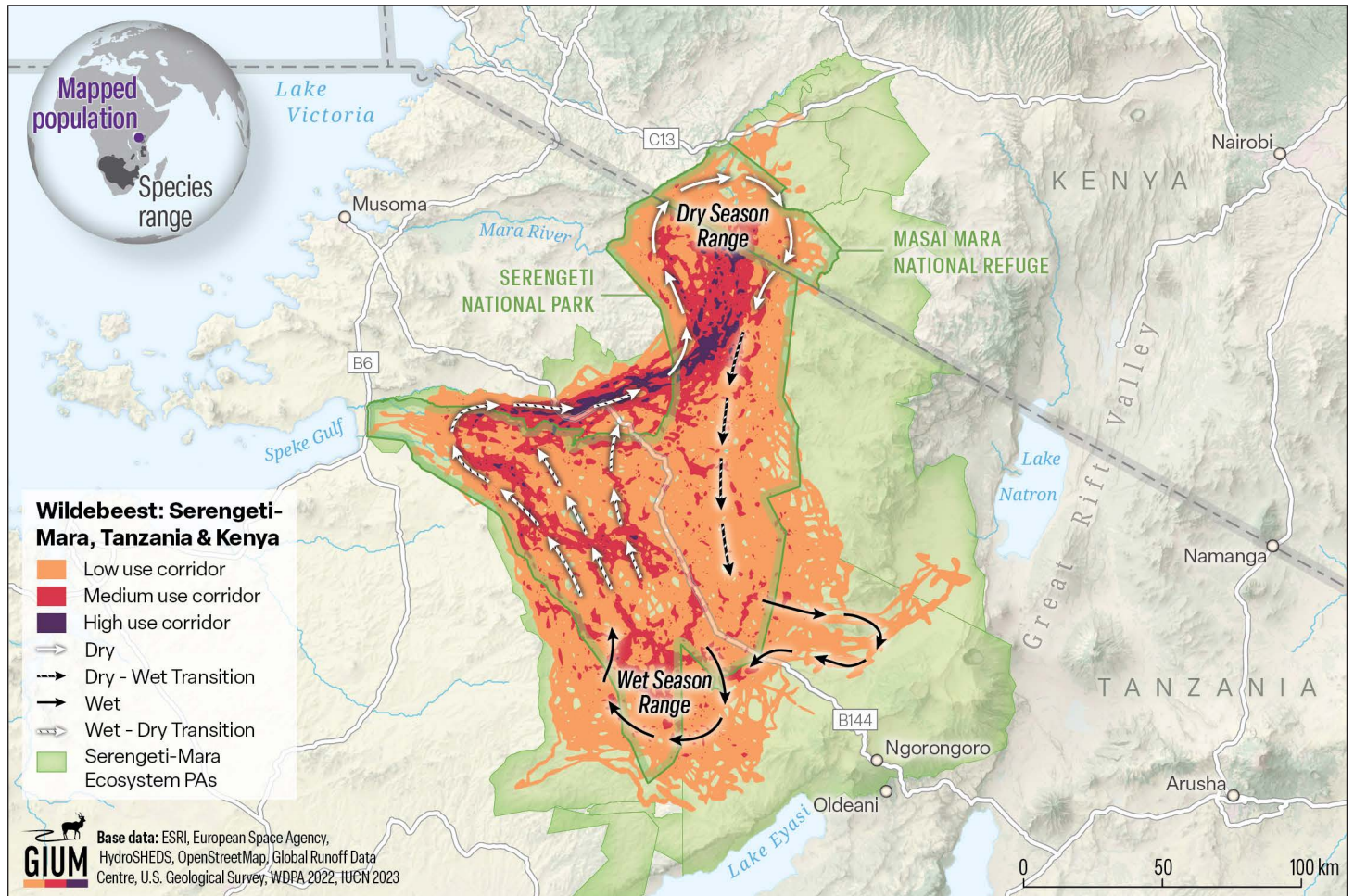
IUCN Conservation Status

LC Least concern

CMS Status

Not listed

Wildebeest Migration



Study Information

Sample size

62 individuals

Relocation frequency

Minimum 2 and maximum 12 GPS fixes/ day

Project duration

19 years between 1999 and 2022

Data Analysis

Delineation of migration periods

Net squared displacement to delineate migration between dry and rainy season ranges

Models derived from

Brownian Bridge Movement Model (344 identified sequences)

Route Summary

Migration start and end date (median)

- Wet to dry season transition: May 6–June 29
- Dry to wet season transition: October 10–November 2

Average number of days migrating

- Wet to dry season transition: 38 days
- Dry to wet season transition: 41 days

Migration route length

- Min: 44.3 km
- Mean: 131.9 km
- Max: 224.7 km

Data Providers

Data for this project was collected through the efforts of Grant Hopcraft (Serengeti Biodiversity Programme – University of Glasgow), Jared Stabach (Smithsonian Conservation Biology Institute), as well as the Tanzania Wildlife Research Institute, the Kenya Department of Resource Surveys and Remote Sensing, Tanzania National Parks and Kenya Wildlife Services.

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

Hopcraft, G. and J. Stabach. 2024. Wildebeest: Serengeti-Mara, Tanzania & Kenya. Global Initiative on Ungulate Migration, editors. *Atlas of Ungulate Migration*. Convention on the Conservation of Migratory Species of Wild Animals.