Global Initiative on Ungulate Migration

FACT SHEET

Wildebeest: Mara-Loita, Kenya

Migration Description

The Mara-Loita wildebeest migration was one of the last remaining large terrestrial mammal migrations in Kenya but has sharply declined since 2010. The population consisted of 120,000-150,000 individuals in the 1970s. Around 26,700 animals remained as of 2024 (a 69-75% population decline), according to population estimates by the Kenyan government. Settlement and fence barriers in the Loita Plains and northern Mara Plains have severely restricted the migrating wildebeest (Figure 1). These barriers have compressed the surviving population into a patchwork of conservancies to the north and east of the Masai Mara National Reserve. Some animals still attempt to migrate, although many animals are now resident. The annual migration of Mara-Loita wildebeest is primarily driven by seasonal rainfall patterns and a soil fertility gradient. Between May and December, the population historically shared its dry season refuge along the Mara River with the Serengeti-Mara wildebeest. The Loita population migrated northeast during the wet season to reach the fertile, short-grass Loita Plains. Females took advantage of the rich volcanic grasslands across the Loita Plains during lactation. This population has also shown commuting behavior, moving back and forth from their seasonal ranges (east to west) throughout the year. There is evidence that some wildebeest may migrate south from the Loita area towards the Loliondo Plains, but more research is needed to determine if this is still a viable migration tactic present in the population.

Threats to Migration

Conversion of the Loita Plains savanna to wheat farming began in the 1970s with government support. Across the Mara-Loita landscape, private livestock fencing grew exponentially after 2010, fragmenting the remaining habitat available to wildebeest. These barriers restrict wildebeest's ability to track ephemeral resources, leading to unintended entanglements and death. Land-use change around the edges of the ecosystem and an increase in sheep and goat herding have also reduced and degraded remaining habitat for wildebeest. These barriers significantly impact animal survival, especially in times of drought. Additionally, wildebeest are often killed illegally for meat.

Wildebeest need to drink every 2-3 days, and will die if they are unable to access surface water. The Mara River is the most reliable source of water in the dry season, supporting millions of animals. Intermittent daily drying events have become more frequent over the last decade, and pose a serious threat to the viability of the population if the river stops flowing for more than a few days consecutively. The Mara-Loita landscape represents the northernmost dispersal area of the Serengeti-Mara wildebeest population, where wildebeest from both herds mix together, competing for vegetation in the dry season. There is concern that further loss of habitats in Kenya could lead to dramatic declines to the wildebeest population that resides primarily in Tanzania, especially when resources are scarce.

Local Population Facts

Migration

Seasonal

Medium *30.5 km (avg.)*

Threats

Climate change; Energy dev.; Urban sprawl; Linear barriers; Agriculture; Livestock; Illegal killing; Other

Species Facts

Common name: Western white-bearded (common) wildebeest

Species name: *Connochaetes taurinus*

Range: Sub-Sahara Africa

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

Global population: ~1.5 million

IUCN Conservation Status

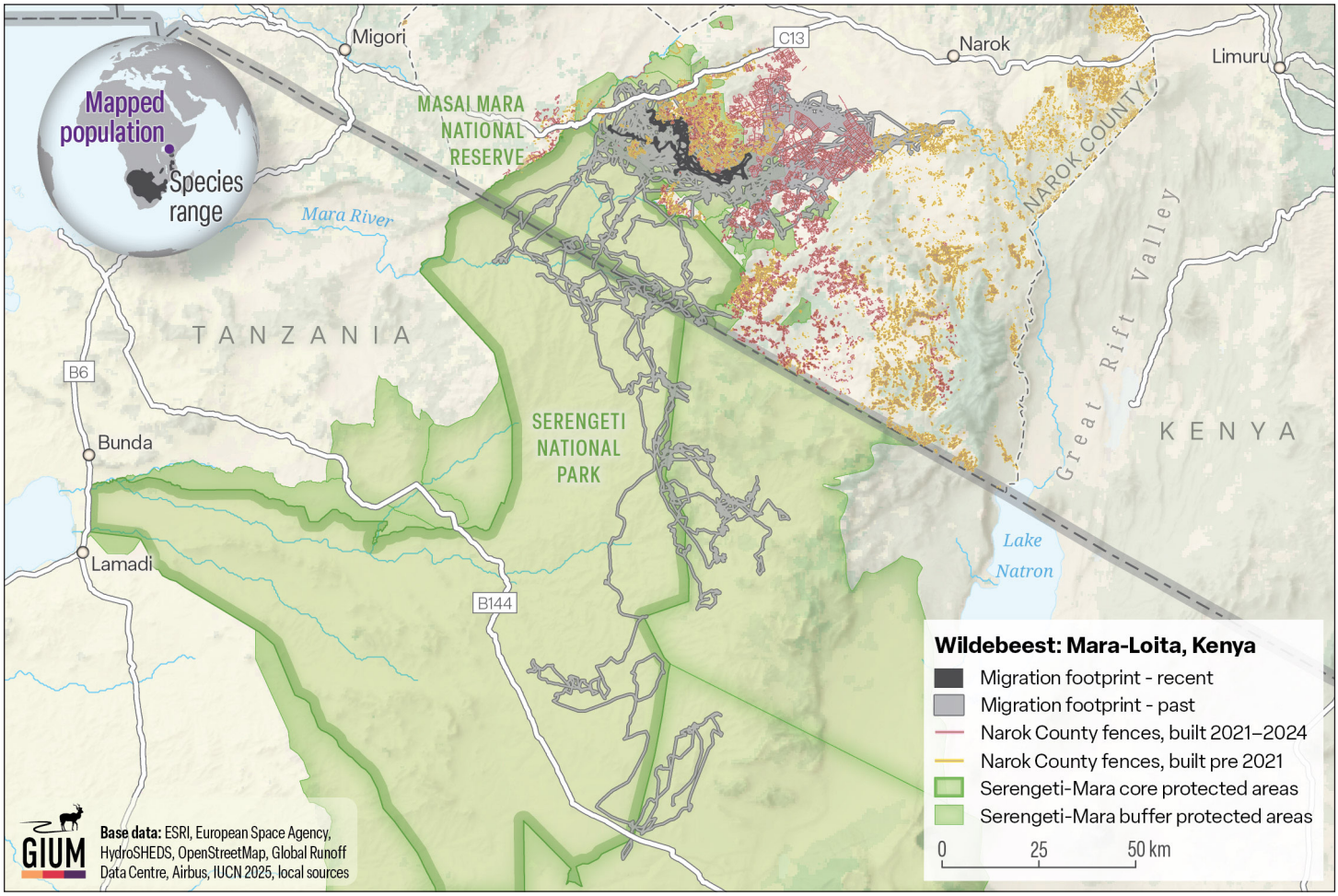
LC Least concern

CMS Status

Not listed

Published: December 04, 2025

Wildebeest Migration



East-to-west movements year-round

March | April | May | June | July | Aug | Sept | Oct | Nov | Dec | Jan | Feb

Study Information

Sample size
22 individuals (out of 33 collared individuals)

Relocation frequency
2010–2013: 3 hours at night, hourly during the day; 2017–2024: hourly

Project duration
2010–2013, 2017–2018, 2019–2020, 2024–ongoing

Data Analysis

Delineation of migration periods
Net squared displacement to delineate migration between dry and wet seasonal ranges

Models derived from
Brownian Bridge Movement Model (344 identified sequences)

Route Summary

The Loita wildebeest migration follows rainfall between the Loita Plains and the Mara, typically staying in the Mara from mid-July to August and returning to the Loita Plains by March. During 2010-2020, wildebeest crossed the Loita Plains multiple times each year, with each crossing lasting about 7±3 days and ranging from 2.6 km to 82.7 km, averaging 30.5 km per trip. Currently, wildebeest migrate northeastward to conservancies such as Mara North, Olare Orok, Lemek, and Naboisho. Their latest movements have been reduced and now range from 5.2 km to 26.7 km, with an average distance of 18.4 km per trip.

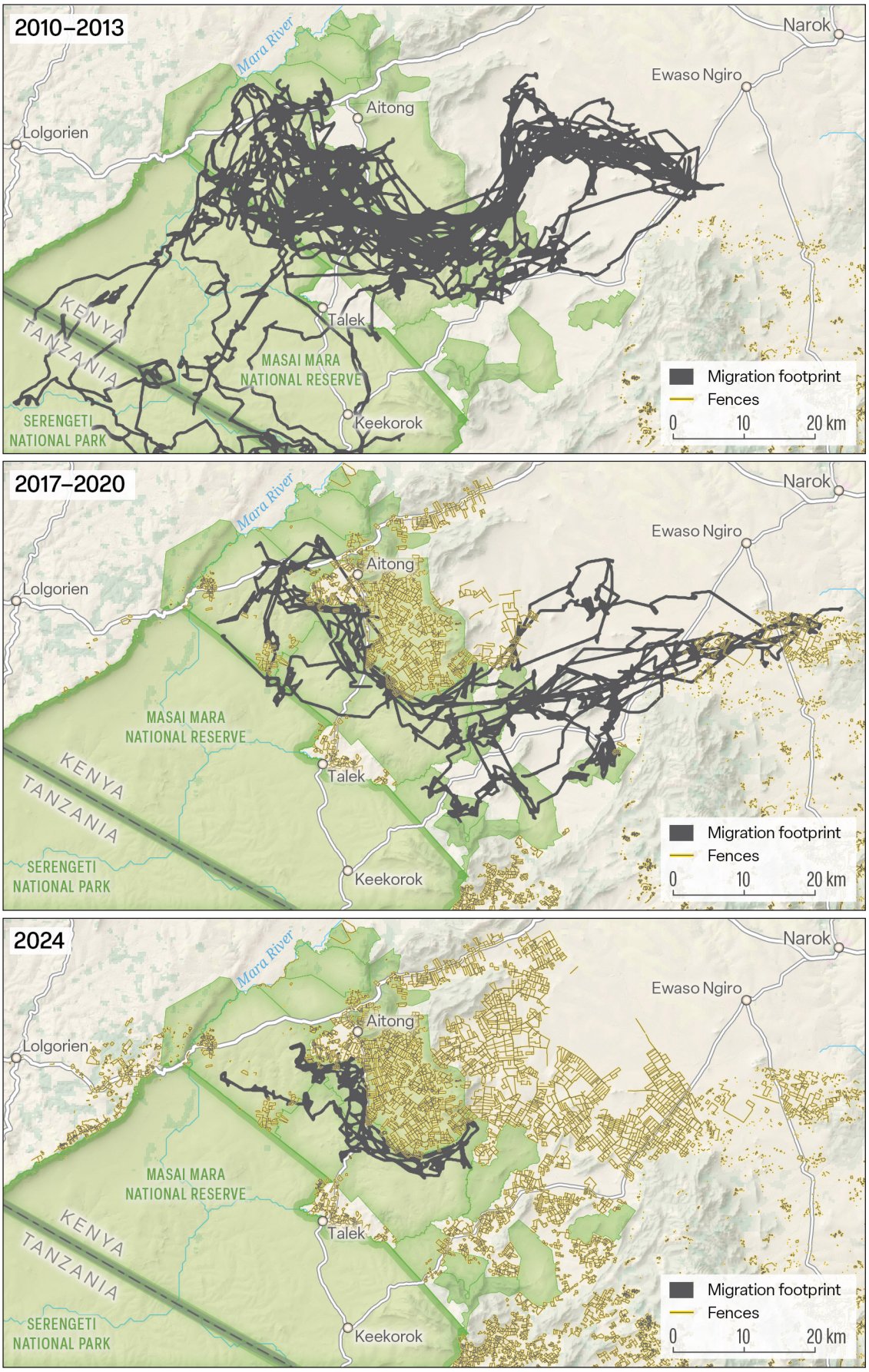
Data Providers

Data were collected by Jared Stabach (Smithsonian National Zoo & Conservation Biology Institute; Colorado State University - Natural Resource Ecology Laboratory), Randall Boone (Colorado State University - Natural Resource Ecology Laboratory), Grant Hopcraft (Serengeti Biodiversity Programme - University of Glasgow), Thomas Morrison (Serengeti Biodiversity Programme - University of Glasgow), Frank van Langewelde (Wageningen University), in partnership with Kenya Wildlife Research & Training Institute, Kenya Wildlife Service, and the African Conservation Centre.

In partnership with:

Smithsonian National Zoological Park Conservation Biology Institute
Colorado State University
University of Glasgow
Wageningen University & Research
Natural Resource Ecology Laboratory
Kenya Wildlife Service
Republic of Kenya
Wildlife Research & Training Institute — Discover Beyond
ACC

Figure 1: Wildebeest movements pre- and post-construction of livestock fencing.



A. The Mara-Loita migration was one of the last large mammal migrations in Kenya. Data collected beginning in 2010 shows the furthest documented extent of the wildebeest's migratory range in this system.

B. In Kenya, the human population has grown exponentially over the last 70 years, leading to land use changes and the proliferation of fences for livestock and agricultural purposes. The human footprint has greatly reduced the extent of the wildebeest's migratory range, restricting migratory pathways and the habitat available for wildebeest.

C. Change was incremental until 2020, when fence and human settlement construction rapidly escalated in areas just outside of the Masai Mara National Reserve and conservancies in this ecosystem. Today, few wildebeest migrate to the east to reach their wet season range on the Loita Plains, with fencing blocking key migratory pathways. Many remaining animals are now resident. We estimate that the total area of the migration footprint has been reduced by nearly 90 percent since 2020.

CMS www.cms.int

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.

GIUM www.cms.int/gium

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

Stabach, J. 2025. Wildebeest: Mara-Loita, Kenya. Global Initiative on Ungulate Migration, editors. *Atlas of Ungulate Migration.* Convention on the Conservation of Migratory Species of Wild Animals.