CMS GIUM

Global Initiative on Ungulate Migration

**FACT SHEET**

African Elephants © Jim Zuckerman

# Elephant: Hwange National Park, Zimbabwe

## Migration Description

More than 40,000 elephants roam Hwange National Park in the dry season, where they access artificial waterholes to survive seasonal drought. Elephants visit the waterholes every other day throughout the dry season but vanish when the rains arrive between October and December. Tracking with GPS collars revealed that elephant families move throughout the national park during the wet season as they become less dependent on the waterholes, likely reducing competition for food. An estimated 20 percent of animals leave the unfenced park and migrate west into Botswana for the wet season, sometimes moving almost 300 kilometers in a few weeks. Other elephants migrate southwest to Nxai Pan National Park, showing connectivity between the protected areas, though these corridors may be tenuous for these large mammals due to encounters with human development. When the wet season ends, elephants slowly migrate back to Hwange National Park where the waterholes sustain them as the landscape dries up. Elephants in this population may have originally moved to the Gwayi River east of Hwange National Park, but development of artificial waterholes since the park's creation in 1928 allowed them to avoid human populations between the park and the river.

## Threats to Migration

Since elephants making this migration are clearly driven by seasonal changes in water availability, climate change and increasingly severe droughts pose serious threats to their persistence in the region. Although a management practice like water pumping can buffer some of these effects, its sustainability is questionable in terms of aquifer resources and long-term financial viability. Human development may also impact elephant migrations. Though this migration takes place within the boundary of the Kavango-Zambezi Transfrontier Conservation Area (KAZA-TFCA) spanning over 500,000 square kilometers across five countries, KAZA-TFCA aims at protecting a working socio-ecological system where some human activities and infrastructure development are permitted. New or renovated fences and roads could create barriers for elephant movements. Also, there are potential changes in land use in the elephants' wet season range, which falls mostly on private lands for elephants migrating out of Hwange National Park. New development in these lands might affect habitat, forcing elephants to find a new wet season range or perhaps to remain within protected areas at the furthest extent of their migrations in Hwange National Park or Nxai Pan National Park.

## Local Population Facts

### Migration

Seasonal

Long — *130.5 km (avg.)*

### Threats

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

## Species Facts

**Common name:** African elephant

**Species name:** *Loxodonta africana*

**Range:** Africa

**Diet:** Mixed-feeder herbivore

**Global population:** 352,000 (2016 Great Census)

### IUCN Conservation Status

**EN** Endangered

### CMS Status

**Appendix II** Migratory species conserved through agreements

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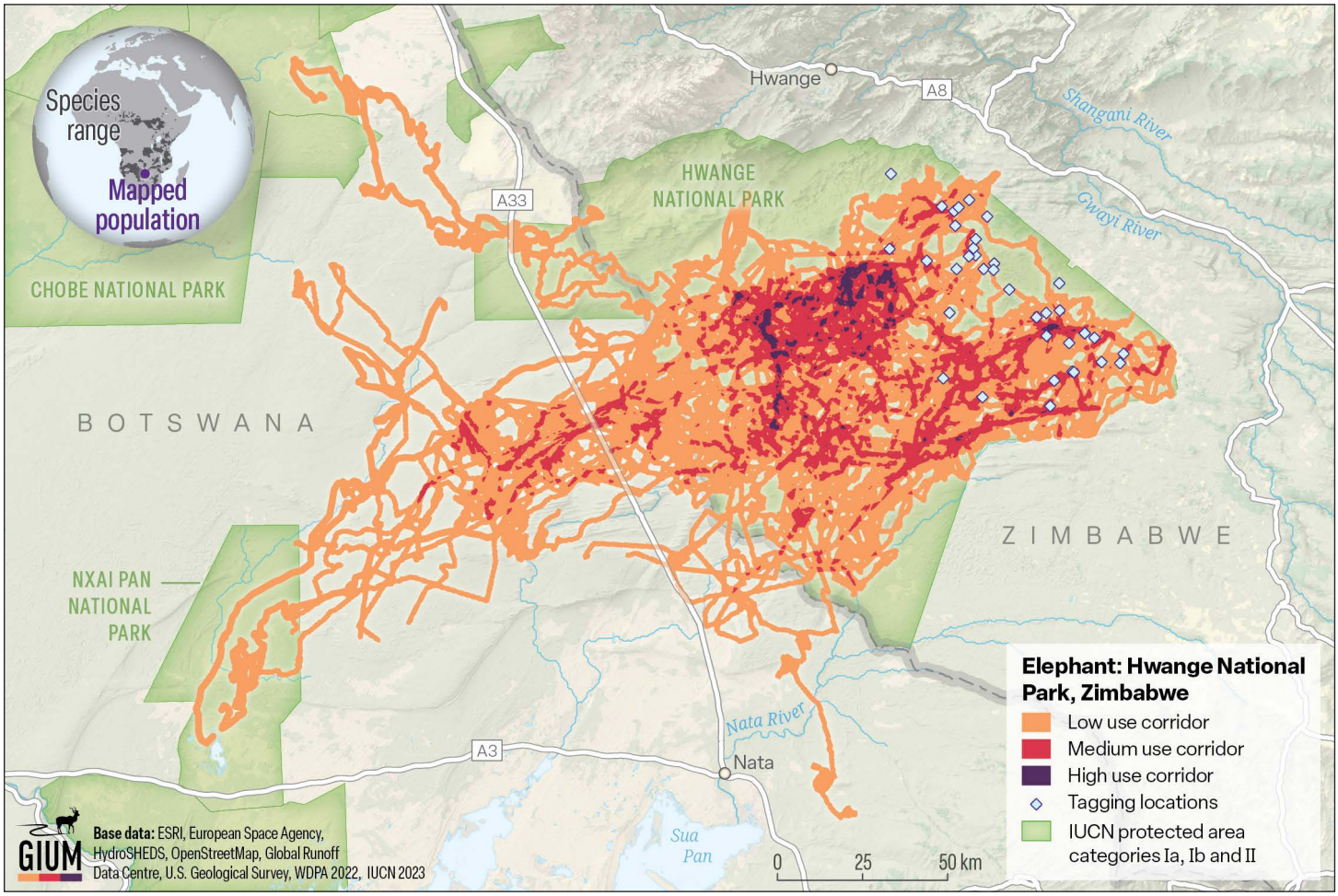
# African Elephant Migration





## Study Information

**Sample size**
30 individuals

**Relocation frequency**
From hourly to daily

**Project duration**
12 years between 2009–2021

## Data Analysis

**Delineation of migration periods**
Net squared displacement to delineate migration between dry and rainy season ranges

**Models derived from**
Line buffer, 2km width

## Route Summary

**Migration start and end date (median)**

- Dry to wet season transition: November 16–November 25
- Wet to dry season transition: December 08–December 18

**Average number of days migrating**

- Dry to wet season transition: 24 days
- Wet to dry season transition: 23 days

**Migration route length**

- Min: 15.3 km
- Mean: 130.5 km
- Max: 304.5 km

## Data Providers

Data were collected in the context of the 'Hwange Long-Term Socio-Ecological Research' program, a long-term collaboration between the French Centre National de la Recherche Scientifique (CNRS), and the Zimbabwe Parks and Wildlife Management Authority.

## In partnership with:

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**

Chamaille-Jammes, S. and N. Ngwenya. 2024. African Elephant: Hwange National Park, Zimbabwe. Global Initiative on Ungulate Migration, editors. *Atlas of Ungulate Migration*. Convention on the Conservation of Migratory Species of Wild Animals.