



# Biodiversity surveys in Kenya

# Savannas and carbon projects

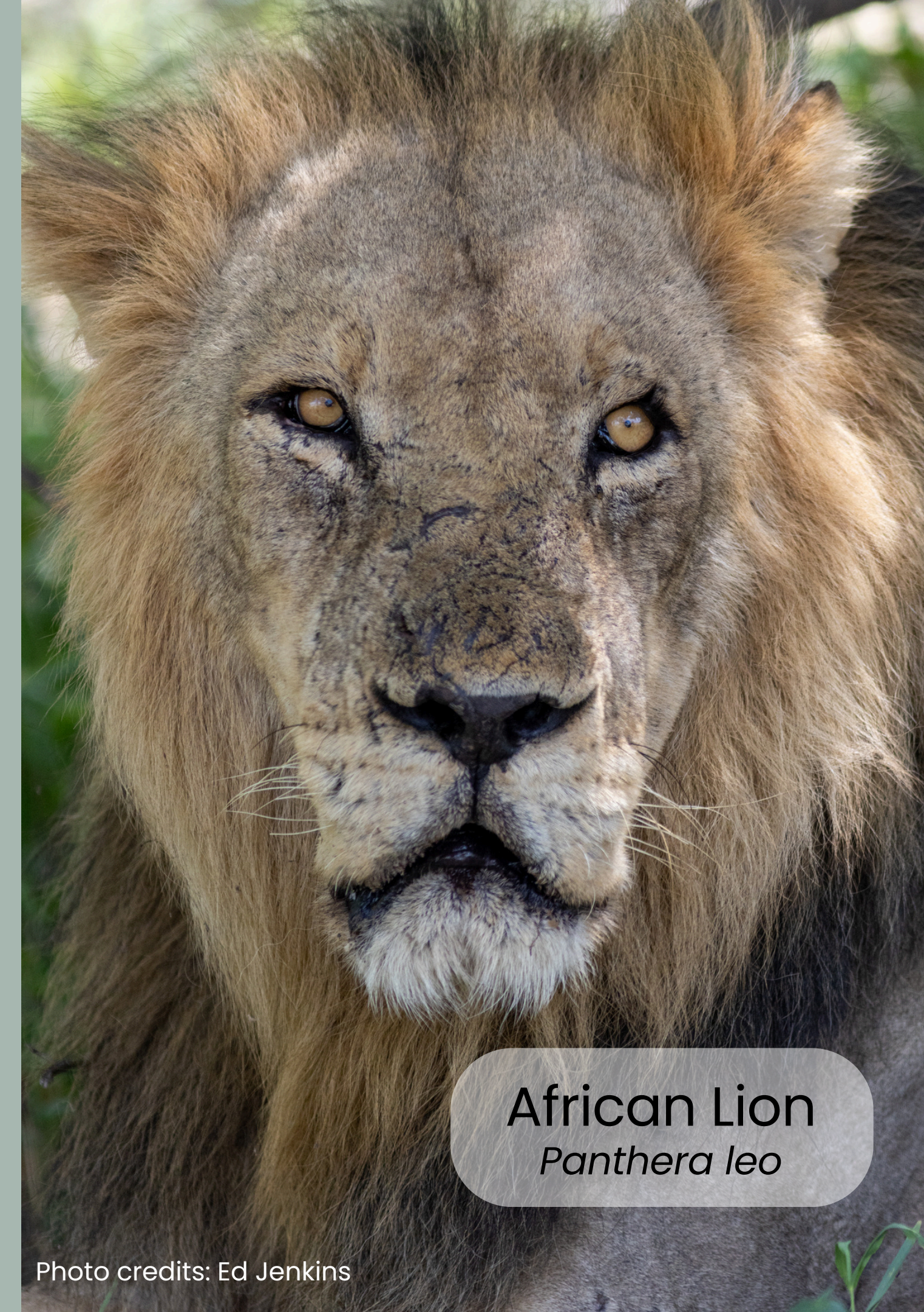
- Savannas are important for protecting biodiversity and storing carbon
  - Increased grassland and savanna conservation is critical to protecting many imperiled species
- Carbon projects set a baseline, and measure change from there
  - Biodiversity Research Institute is working to develop a consistent way to monitor changes in biodiversity across different project areas



# Project overview

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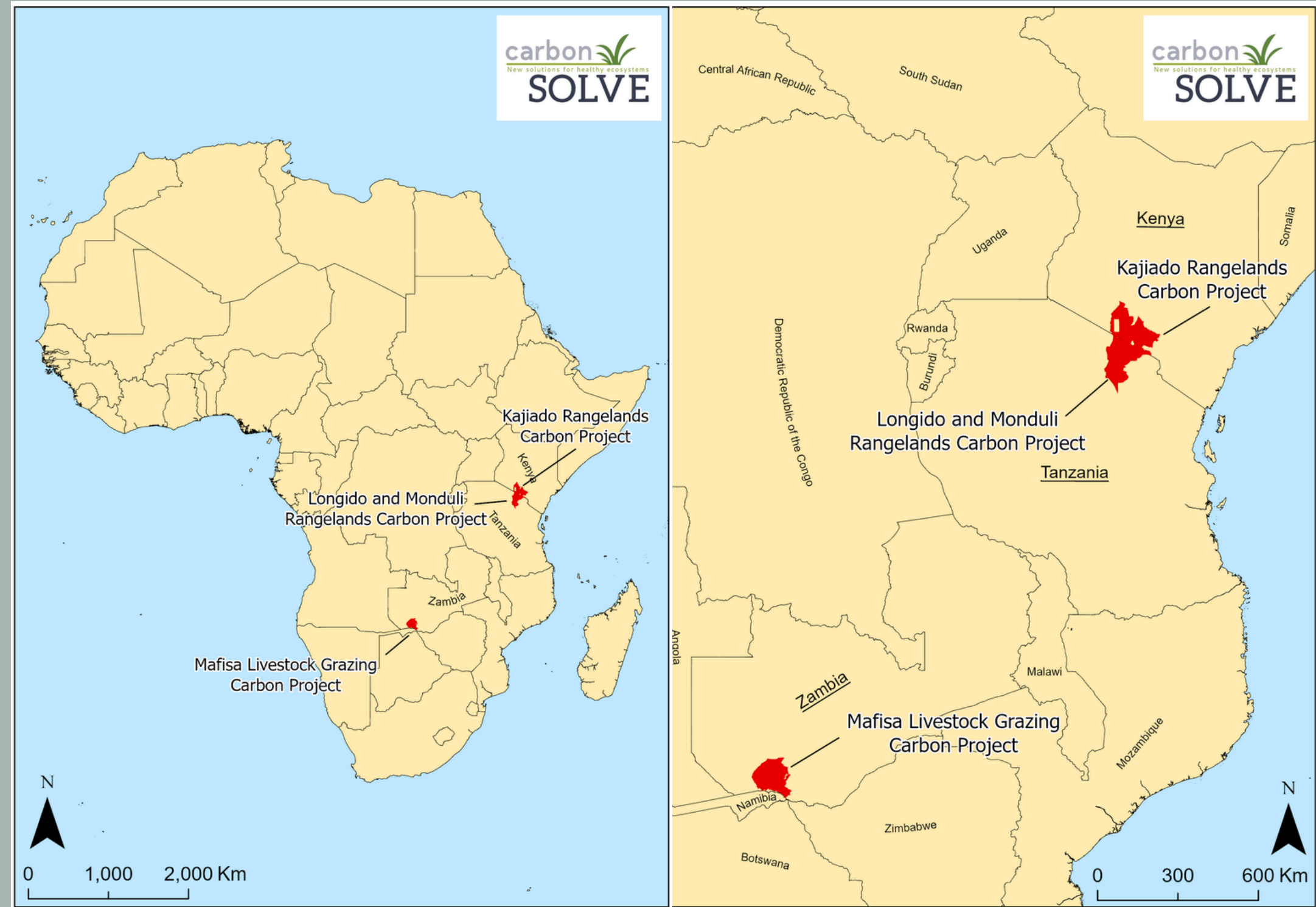
- The Kajiado Rangelands Carbon Project (KRCP) is a soil carbon project in southern Kenya, specifically the greater Amboseli and Western Kajiado ecosystems
- The project is working directly with local pastoral communities to develop rotational grazing plans and monitor livestock movements and vegetative response



African Lion  
*Panthera leo*

# Project area

- Biodiversity surveys were conducted at 286 sampling sites across seven Maasai communities to set the baseline
- Surveys were done in April – May 2023 and 2024 – Data here is from the 2023 survey
  - Further surveys are planned to take place every 3–5 years



# Project team

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- Staff from CarbonSolve and Biodiversity Research Institute include:
  - Ed Jenkins, Chris Persico, Dustin Meattey, Julia Gulka, Kevin Regan, Mark Burton, Becca Stanley, Deb Perkins, Tim Tear, David Evers
- Staff from Soils for the Future Africa include:
  - Wilson Kasaine (also BRI), Steiner Sempete, Isaya Parkorei, Joshua Kasaine, Amos Lemayian, Jack Ole Sisi, Kimirei Joseph, Jackson Suyianka, and others
- Independent experts include:
  - Lankas Daniel, Nyange Mwadime, Denis Parmeres

# Vegetation surveys

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- 155 species and 143 genera of plants were identified across 57 sites
- 36 grass species identified
  - 18 annuals
  - 15 perennials



Maasai Giraffe  
*Giraffa tippelskirchi*

# Invertebrates

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Photo credits: Ed Jenkins

- 454 pitfall traps across 37 sites
- Four 25 meter transects swept at 59 soil sampling sites

## Dung beetles:

- 1,830 individual dung beetles and 10,647 trap hours

# African birds

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A Chinspot Batis (Batis molitor) perched on a branch. The bird has a black head with a white stripe through the eye, a white breast with a brown spot, and black wings with white spots.

Chinspot Batis  
*Batis molitor*

- 202 bird species from 61 families were detected during point count surveys
- 147 species from 51 families were detected from acoustic recordings
- Ploceidae, Columbidae and Sturnidae were the most numerous across sites

A Beautiful Sunbird (Cinnyris pulchellus) perched on a branch. The bird has iridescent green and blue upperparts, a black breast, and a red belly.

Beautiful Sunbird  
*Cinnyris pulchellus*



# Bird species richness

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- Using point count data, species richness (number of species) ranged from 7–30, with an average of 19.34 per site.
- 16 families had more than 100 individuals detected across all survey sites



Superb Starling  
*Lamprotornis superbus*

Capped Wheatear  
*Oenanthe pileata*



Eastern Chanting-Goshawk  
*Melierax poliopterus*



Tawny Eagle  
*Aquila rapax*

# Raptors

- 250 species of 25 species of raptor were detected
- Most numerous species:
  - Eastern Chanting-Goshawk
  - Pygmy Falcon
  - Tawny Eagle

# Mammals

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- A total of 12,267 individuals of 21 mammal species were observed during transect surveys including 4 domesticated species and 17 wild species
- Maasai Giraffe, Gerenuk, and Unstriped Ground Squirrel were found in six of the seven communities



**Gerenuk**  
*Litocranius walleri*

**African Savanna Elephant**  
*Loxodonta africana*

# Conclusions

- Moving forward, these surveys will be repeated over time as grazing practices are implemented for the next 40 years
- Understanding the relationship between herbivores and vegetation in savannas and grasslands will help to achieve sustainable outcomes



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