



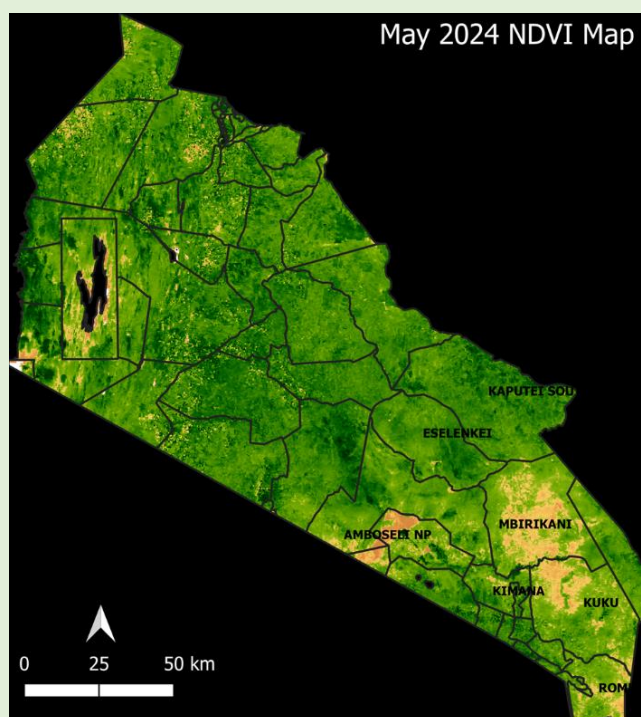
# AMBOSELI ECOSYSTEM OUTLOOK

## El Niño rains boost pasture recovery

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### Preamble

The Amboseli Conservation Program (ACP) continued to monitor the conditions of the rangelands, livestock and wildlife in the aftermath of the 2022-2023 drought and through the El Niño rains extending from October through May 2024. The following report gives a summary of the trends and an outlook assessment for the coming dry season.



**Figure 1: An NDVI satellite image for May 2024 shows the El Niño rains to have produced exceptionally good pastures across southern rangelands from the South Rift to Tsavo West. The driest area straddles Mbirikani and Kuku, the wettest Selengei. The pasture crop at the start of the June-October dry season should be sufficient to carry livestock and wildlife through to the long rains in good condition.**

### Long-term pasture levels

The pasture abundance has risen to levels only exceeded three times since the 1970s. The exceptional growth of pasture is due to the El Niño rains which began late October and continued through May, and to the low grazing pressure following the large loss of livestock in the 2022-2023 drought.

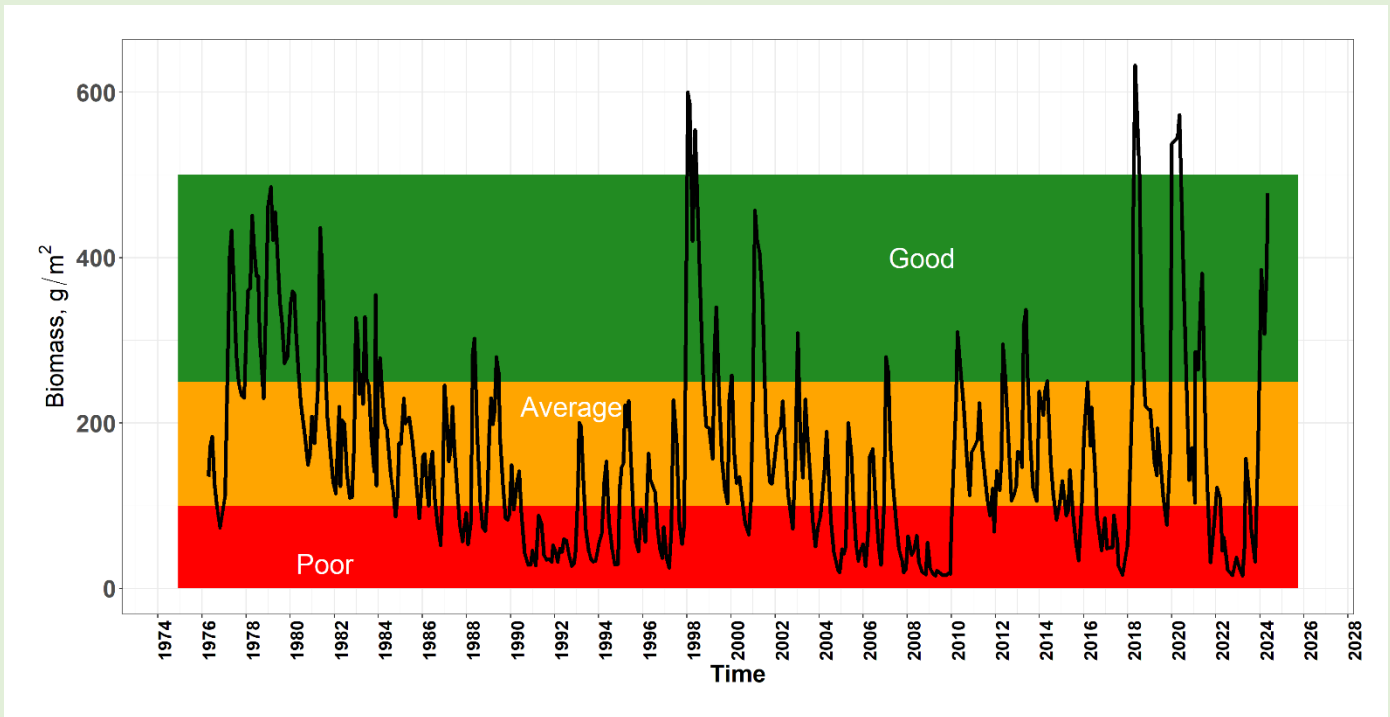


Figure 2: ACP's long-term pasture barometer shows production bouncing back to exceptionally high levels during the El Niño rains. The rich crop of pasture and low grazing pressure following the loss of livestock during the 2022-2023 drought provides sufficient fodder for herds to thrive and continue recovering through to the short rains in October-November.

### Grazing pressure gauge

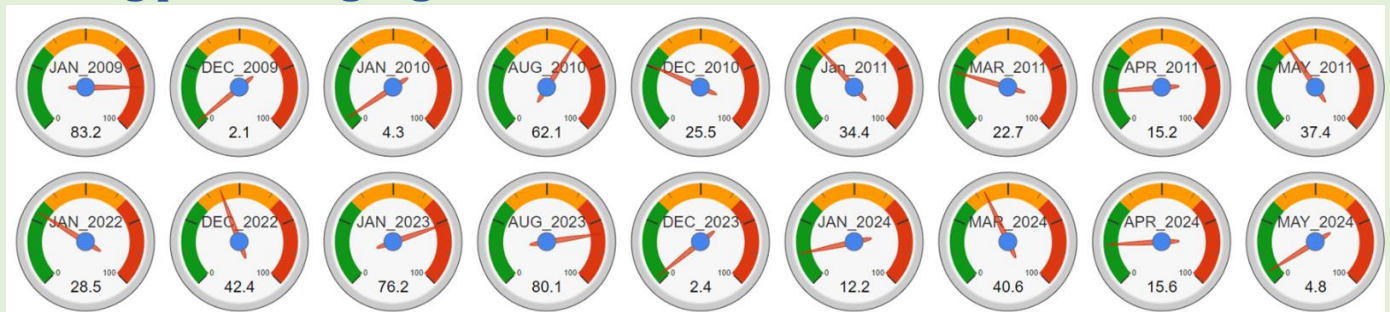
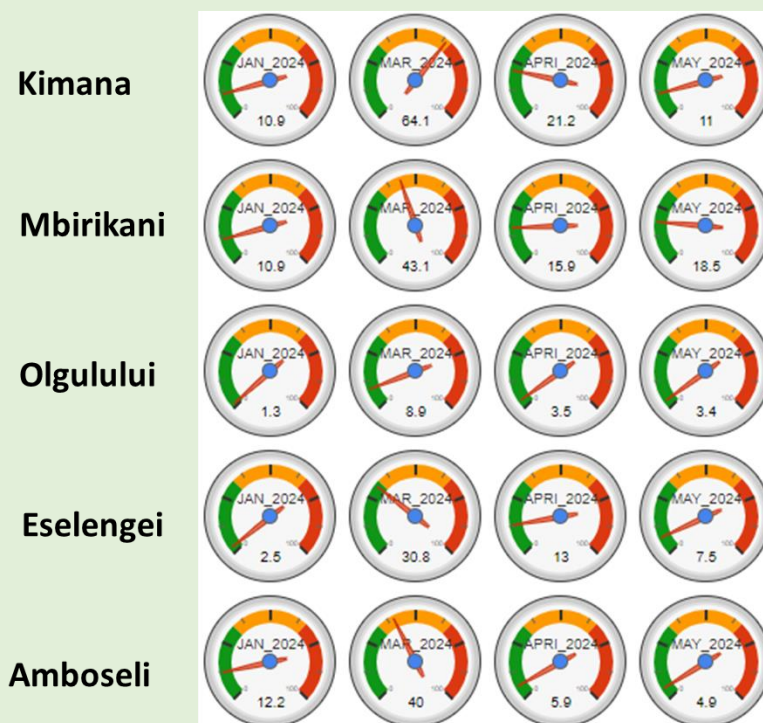


Figure 3: Recovery from the 2022-2023 drought took far longer than after the 2009 drought due to continued heavy grazing. The heavy El Niño rains have, however, produced sufficient forage to boost pasture production and lower grazing pressure at the start of the dry season to levels not seen in over a decade.



**Figure 4: The recovery of pasture production and low grazing pressure has been experienced across all group ranches in Amboseli during 2024. The most heavily grazed group ranch is Kimana due to subdivision and permanent settlement. Ogulului has seen continually low pressure on pastures due to grazing rotation.**

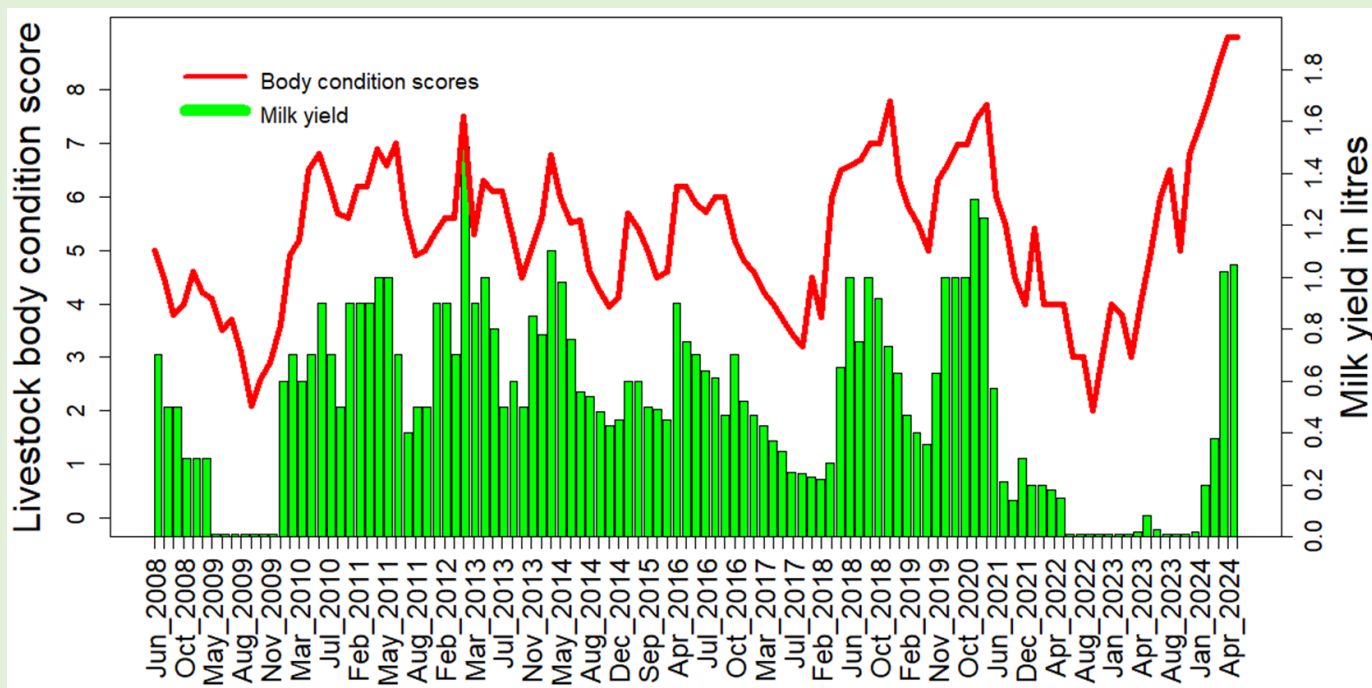


**The regrowth of pasture across the Amboseli region has been exceptionally good due to the heavy El Niño rains and low grazing pressure after the loss of livestock in the 2022-2023 drought.**



## Milk yields, body condition scores and market prices

Milk yields in the aftermath of the 2022-2023 drought fell to near zero and took over twice as long to recover as the 2009 drought. The long recovery was due to the poor condition of cattle, a slow recovery of body condition, and a nearly-year long delay in pregnancy. Body condition during the heavy El Nino rains rose to the highest levels recorded since ACP began monitoring body condition in 2008.



**Figure 5: Cattle body condition rebounded with the rains in April and May after a slow recovery from the 2022-2023 drought. Milk yields have recovered fully as a result, after suffering twice the length of the near-zero levels seen in the 2009 drought.**

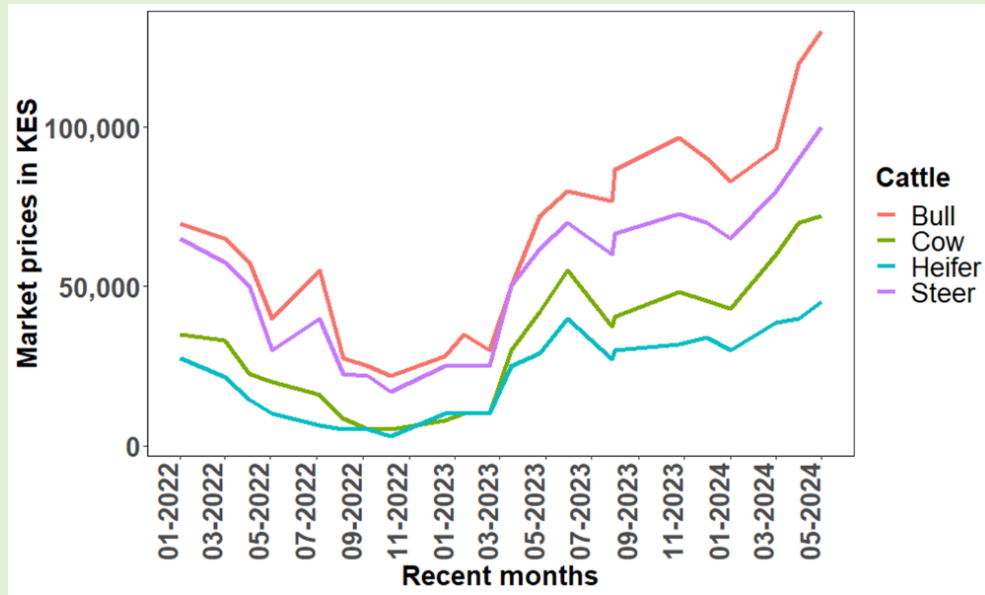


Figure 6: Livestock market prices have also bounced back and reached the highest level in years due to the shortage of livestock induced by pastoralists focusing on rebuilding herds depleted by drought.

### Wildlife body condition score

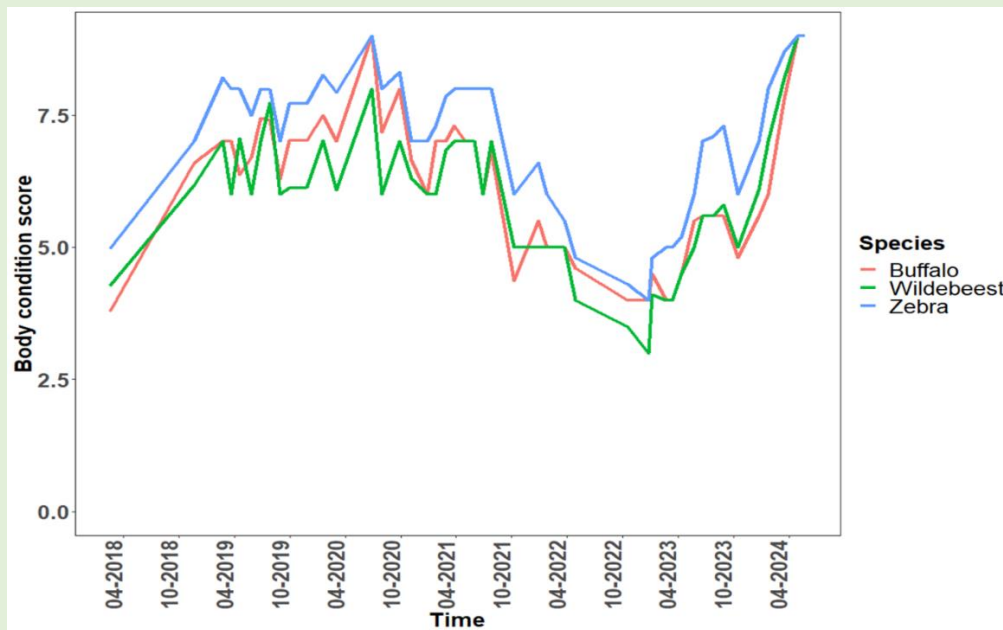


Figure 7: The body condition of buffaloes, wildebeest and zebras has recovered to pre-drought levels. Wildebeest suffered the worst body condition and highest mortality during the 2022-2023 drought, zebra the least due to its wider ranging and an ability to get by on courser forage.



**The present crop of calves marks the start of cattle recovery after a 40 percent loss of cattle in the 2022-2023 drought.**

## **The outlook after the long rains**

The exceptionally heavy and prolonged El Niño rains were fortuitous and timely in boosting the slow post-drought recovery of pastures, the body condition of wildlife and livestock, and milk production. The outlook through the coming dry season is favorable for further recovery due to the low grazing pressure on the pastures. The boost to livestock and wildlife recovery should be taken as an opportunity to avoid the recurrent droughts, heavy wildlife and livestock mortalities, and huge economic losses incurred due to prolonged loss of milk yields and suppressed market prices for livestock sales.

The long-term ACP monitoring shows the causes of the growing intensity and frequency of droughts to be persistence grazing pressure due to permanent settlement and lack of pasture rotation (Western et al., 2015; Western & Mose, 2021). Lessons learned from the 2022-2023 drought indicate that most herders see the prevention of future livestock and economic losses to be better grazing management though pasture rotation, grass banking, supplementary feeding of animals at homesteads, and early warning systems allowing herders to sell livestock at favorable prices before drought losses (Kimiti et al., 2023).

The biggest threat to the future of the Amboseli pastoral lands and wildlife is subdivision leading to the loss of the open rangelands and the inability of herds to follow seasonal pastures. The Amboseli Ecosystem Management Plan 2020-2030 (AEMP), as well as subdivision plans for Ololarashi-Ogulului and Mbirikani, fully recognize the threat of unregulated subdivision and the need to sustain the open rangelands for livestock and wildlife alike.

The Rangelands Division of the Amboseli Ecosystem Trust (AET) provides a means and opportunity to incorporate the lessons learned from recurrent droughts into the land use plans, rotational pasture plans, and better livestock production and marketing management systems.

ACP will work closely with AET and partners to provide the information and devise strategies to sustain the open rangelands through AEMP.

## References

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- Western, D., Mose, V. N., Worden, J., & Maitumo, D. (2015). Predicting extreme droughts in savannah Africa: A comparison of proxy and direct measures in detecting biomass fluctuations, trends and their causes. *PLoS ONE*, *10*(8). <https://doi.org/10.1371/journal.pone.0136516>