REPUBLIC OF KENYA

WILDLIFE RESEARCH & TRAINING INSTITUTE

Discover Beyond

Research Newsletter

JANUARY TO MARCH 2026

ISSUE 3

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The Institute is a state Corporation established under Section 50 of the Wildlife Conservation and Management Act No. 47 of 2013 (WCMA 2013). Headquarters are based in Naivasha, Kenya, with field centres and sub-centres located in key wildlife conservation areas across the country established to address specific agro-climatic research thematic areas as outlined below:

Southern Savannah Landscape Centre:
Based in Tsavo East National Park, with 4 sub-

centres in Maasai Mara, Tsavo West, Nairobi and Amboseli

Northern Savannah Landscape:

Located in Meru National Park, with sub- centre in Marsabit

Coastal and Marine Ecosystem Centre:
Located in Malindi with a subcenter in

Shimba Hills National Reserve;

Montane/Forest Ecosystem Centre:
Based in Mweiga (Nyeri), with sub-centres in

Kitale and Kakamega

Inland Waters and Wetlands Centre:
Located in Naivasha, with sub-centres in
Kisumu and Lake Nakuru National Park.

Director/CEO's Note

This issue highlights key milestones, scientific achievements, and conservation progress by our research teams, working with communities, government agencies, and international partners across Kenya.

It gives me great pleasure to present Volume 1, Issue 3 of the Research Newsletter (January-March 2026 Edition) of the Institute. This edition reflects our continued commitment to advancing wildlife science, ecosystem restoration, and evidence-based conservation in Kenya and beyond.

The period under review has been marked by significant scientific achievements and impactful field initiatives. Our researchers continue to generate knowledge that directly informs conservation management, policy development, and sustainable use of natural resources. Featured in this edition are important studies on lion movement patterns under rainfall variability, biodiversity monitoring in Kakamega Forest, elephant visitation dynamics at Kitum Cave, bat-borne disease surveillance in Mount Elgon, and community perspectives on carnivore coexistence in Loita. These studies demonstrate the breadth and relevance of our research mandate.

We are equally proud of our applied restoration work, including the bamboo-based rehabilitation of degraded riverbanks in the Lower Nzoia Basin. This initiative illustrates how science can be translated into practical solutions that strengthen climate resilience, restore ecosystems, and improve livelihoods. Likewise, encouraging progress in the recovery of the roan antelope population in Ruma National Park reaffirms the importance of sustained research-led management interventions.

As environmental challenges grow increasingly complex, stronger partnerships remain essential. We therefore call upon government agencies, academic institutions, development partners, private sector actors, and local communities to continue working with us in co-creating solutions for biodiversity conservation and national development.

We also remain committed to nurturing young scientists and innovators whose ideas will shape the future of conservation. Through mentorship, training, and collaboration, we are investing in the next generation of research leadership.

I thank all our researchers, partners, and stakeholders for their dedication and support. Together, through continued collaboration, innovation, and science-based policy, we can secure a sustainable future for Kenya's wildlife and ecosystems.

Dr. Patrick Omondi, OGW

Deputy Director's, Research Note

> This edition showcases impactful research, innovation, and partnerships advancing wildlife conservation, evidence-based policy, and sustainable ecosystem management across Kenya's diverse landscapes.

This issue– Issue 3 (January -March 2026 Edition)–marks another important step in sharing the work of the Institute. It reflects our continued commitment to advancing wildlife science, ecosystem restoration, and evidence-based conservation in Kenya and beyond

Research remains the cornerstone of effective conservation. In the face of accelerating biodiversity loss, climate variability, emerging zoonotic diseases, and increasing pressure on ecosystems, the role of evidence-based science is more critical than ever. The institute continues to generate high-quality research that informs national policy, guides management decisions, and provides practical solutions across Kenya's diverse landscapes–from protected areas to community-managed ecosystems.

This issue highlights ongoing and recent work by our scientists and partners, including field-based research, ecosystem restoration initiatives, invasive species management, and community-driven conservation approaches. It also reflects our growing contribution to national priorities such as climate change adaptation, biodiversity conservation, and sustainable livelihoods.

The newsletter remains an important platform for knowledge sharing–bringing together insights from researchers, technical teams, students, and collaborators. Through this platform, we aim to bridge the gap between science, policy, and practice, while amplifying innovations and lessons emerging from the field.

We continue to recognize that impactful conservation is anchored in strong partnerships. Collaboration with government institutions, academia, local communities, development partners, and the private sector remains central to achieving our mandate. We appreciate the continued support and engagement of our partners in advancing research and conservation outcomes.

Equally important is our commitment to building the next generation of conservation scientists. Through training, mentorship, and capacity development, the Institute is investing in young professionals who will drive future research and innovation in the wildlife sector.

I commend all staff and contributors who made this issue possible and extend my sincere appreciation to our partners for their unwavering support. I invite you to engage with the articles presented in this issue and to continue working with us as we advance a culture of research excellence, innovation, and knowledge sharing.

Together, we can secure a sustainable future for wildlife and people.

Dr. David Ndeereh

Enhancing Riverbank Restoration Using Bamboo in the Lower Nzoia River Basin

The Institute, in collaboration with local communities and partners, recently implemented a large-scale bamboo restoration initiative in the Lower Nzoia River Basin, Budalangi. Conducted between 24th and 31st March 2026, the activity focused on rehabilitating degraded riverbanks while strengthening climate resilience and community livelihoods.

The campaign was led by Wildlife Conservation Secretary John Chumo and The Institute Director Patrick Omondi, underscoring strong institutional commitment to nature-based solutions. A total of 12,000 bamboo seedlings were procured through BUKAWRUA, with an additional 450 seedlings donated by the organization to support the launch activities—reflecting strong community participation and ownership.

Planting activities were undertaken across key sites including Sigiri, Budiera, Siginga, and the Siaya side of the Nzoia River—areas highly susceptible to flooding and erosion. Overall, 12,450 bamboo seedlings were planted and distributed, including 7,000 during a well-attended launch event that brought together government officials, conservation practitioners, and 10 local schools. A further 1,796 seedlings were distributed to schools to promote environmental stewardship among young learners.

Speaking during the launch, John Chumo emphasized bamboo's dual ecological and economic value, noting its role in controlling floods and soil erosion while offering income opportunities through its value chain. Patrick Omondi highlighted bamboo's suitability for flood-prone landscapes, citing its extensive root system that stabilizes riverbanks and prevents soil loss during heavy rains.

Community engagement was central to the initiative, with groups such as Kasigar CBO actively involved in site preparation and planting. To ensure sustainability, three local community members have been engaged for a three-month period to oversee maintenance, including watering, protection, and monitoring of seedling survival.

Looking ahead, the project has an ambitious plan to restore 200 kilometers along the Nzoia River, positioning bamboo as a cornerstone species for large-scale ecosystem rehabilitation in flood-prone landscapes.

This initiative demonstrates the effectiveness of integrating scientific research, policy leadership, and community action in addressing complex environmental challenges. It further reinforces bamboo as a viable, scalable solution for ecosystem restoration, climate adaptation, and livelihood enhancement in vulnerable landscapes.

By Jared Lumbasi, Geoffrey Bundotich & Dr. Judith Nyunja

Bats of Mount Elgon: Unlocking the Secrets of Kitum Cave and Emerging Diseases

Deep within the majestic slopes of Mount Elgon, straddling the Kenya-Uganda border, lies one of Africa's most intriguing natural landmarks—Kitum Cave. Carved by geological forces and frequented by elephants, buffaloes, and generations of curious visitors, the cave is famous not only for its beauty and mystery, but also for its connection to some of the world's most dangerous emerging diseases.

For decades, Kitum Cave has drawn the attention of scientists after it was linked to rare human cases of Marburg Virus Disease (MVD)—a severe hemorrhagic fever closely related to Ebola. The first documented case in Kenya occurred in 1980 when a European traveler visited the cave and later fell ill. In 1987, a young Danish boy who had also toured the cave developed symptoms shortly after returning home. These tragic events raised urgent questions: Where does the virus come from, and why does it appear so unpredictably?

Today, the answer may lie overhead—in the dark ceilings of the cave where thousands of Egyptian rousette bats roost.

Egyptian rousette bats are common inhabitants of Kitum Cave and other caves across Mount Elgon. While bats play vital ecological roles such as seed dispersal and pollination, some species can also carry viruses without becoming sick themselves. In 2007, scientists detected Marburg virus genetic material in one of these bats from Kitum Cave, strengthening evidence that they may act as natural reservoirs.

But many mysteries remain. Why do outbreaks disappear for years and then re-emerge? Are tourists and local communities at risk? Could other viruses also be circulating unnoticed?

To answer these questions, the Institute, together with partners, is launching a one-year intensive surveillance project at Mount Elgon:

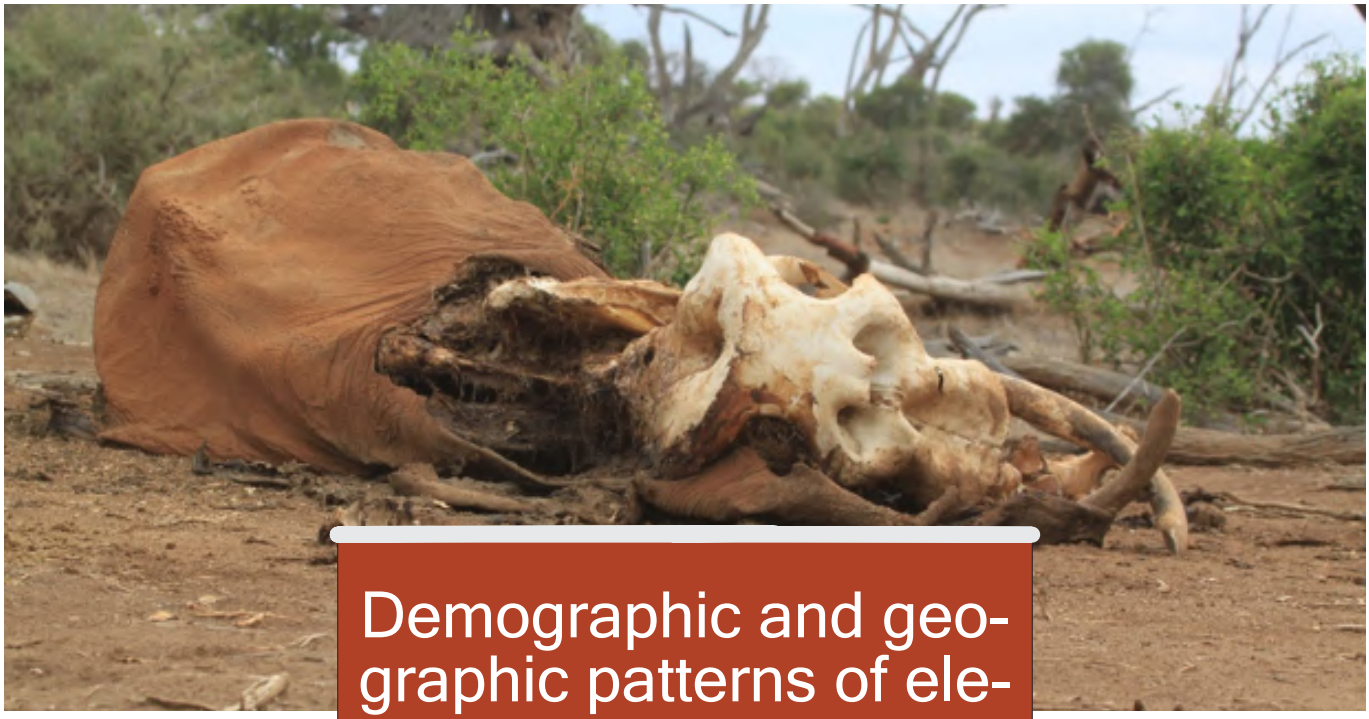
- Bi-weekly monitoring using plastic sheets placed beneath bat roosts to safely collect urine samples.
- Airborne microbe sampling inside cave chambers using specialized air samplers.
- Monthly bat health checks, including nasal, cloacal, and blood sampling.
- Advanced laboratory testing using PCR diagnostics and genomic sequencing.

Scientists will test for Marburg virus, Ebola virus, rabies-related lyssaviruses, Nipah virus, Hendra virus, and selected coronaviruses.This pioneering project aims to better understand disease risk for tourists, park staff, researchers, and nearby communities who interact with cave environments. By detecting pathogens early and understanding how they circulate in wildlife populations, Kenya can strengthen preparedness against future outbreaks.

Leading Kenya's contribution is Dr. Francis Gakuya of the institute, whose team will provide technical expertise during wildlife sampling and disease surveillance. Their work reflects the Institute's growing leadership in the One Health approach—recognizing that the health of people, animals, and ecosystems is deeply interconnected.

Mount Elgon reminds us that caves are more than geological wonders—they are living ecosystems holding clues to global health security. Through research, vigilance, and collaboration, the Institute is helping transform mystery into knowledge and risk into preparedness.

By G. Anyona



Demographic and geographic patterns of elephant mortality in Tsavo East, Kenya

Mortality and reproductive rate are the two primary parameters used to predict the stability of populations over time and to model their risk of extinction. Although natural mortality rates may fluctuate, certain mass mortality events–occurring several standard deviations outside typical variation–can dramatically disrupt population stability. These events can be rapid and may alter population demography in ways that hinder recovery. In elephants, mass mortality events are rare but typically fall into three categories: (1) human hunting, (2) disease, or (3) severe environmental stress. Some previous population and extinction risk models have excluded these events due to insufficient understanding of their frequency, causes, and both short- and long-term effects. Importantly, these three causes often act in concert; for example, environmental stress can exacerbate disease or lead to increased poaching by compelling elephants to raid crops and humans to seek alternative protein sources. This complexity presents a challenge for modeling elephant population dynamics. Improved understanding of mass mortality events, their drivers, and their demographic consequences is thus critical for more realistic modeling and effective conservation.

Drought is among the most common environmental stressors affecting animals and plants. Prolonged deficits in precipitation cause moisture shortages, resulting in loss of biomass, crop failure, and hardship for both wildlife and humans. In recent years, droughts associated with climate change have become more frequent and severe in Kenya, with 28 major droughts recorded over the past century and three in the past decade alone. The increasing frequency and severity of droughts has resulted in notable impacts on agricultural production and natural ecosystems. According to Oxfam (2006), drought conditions are becoming the norm in Kenya's arid and semi-arid lands (ASALs), making non-drought years the exception. Predicting biodiversity responses to drought is now critical for conservation, helping scientists and decision-makers anticipate risks, attribute ecological changes to climate drivers, and design proactive measures for mitigating impacts, especially in endangered populations inhabiting vulnerable, arid systems.

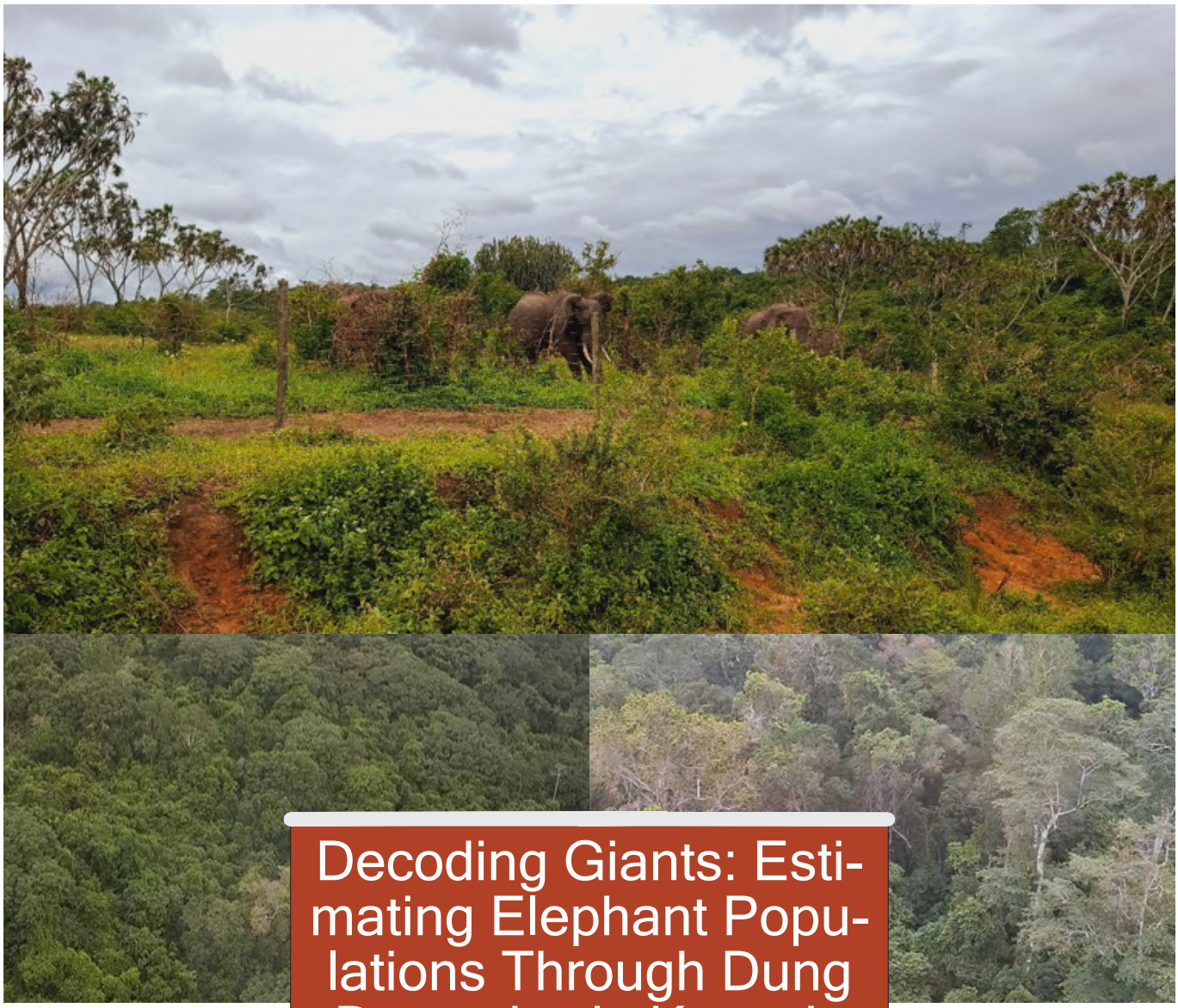
Spatial analyses, overlays, and summary mapping were conducted in QGIS and R. We created density heatmaps of carcass locations using both hotspot (XYZ) methods in QGIS and raster focal/blur/grid statistics in R. All GIS outputs were exported as georeferenced raster or vector files (GeoTIFF, Shapefile, or GeoPackage formats as appropriate).Statistical analysis was carried out entirely in R 4.3.3, with a fully reproducible pipeline. We assembled all demographic, spatial, and ecological data into a master tidy dataset.

Most deaths are natural, but males outside the park are often poached. Male deaths inside the park that are intentional killings are often injured outside the park, then return to the park to die in its boundaries. Female natural deaths inside the park outnumber male deaths anywhere, and outnumber female deaths outside the park. The long dry season generally has the most deaths. The short rainy season, when it has lower than normal moisture, also has more deaths. Months of the greatest deaths are generally August, November and December.

This study identified causes of this discordance and identified areas where security and water availability limit forage resource utilization. Understanding the relationship between past elephant mortality patterns and climatic and vegetation variable and long term climatic trends will lead to development of early warning systems for drought mitigation. The impact of drought related elephant mortality on different and elephant age groups and sexes can have important outcomes for elephant population growth and recovery from droughts. When drought mortality targets females in age group with a high reproductive potential, drought can dramatically reduce population re-

silience to droughts. Yet previous studies on drought have shown variable and inconsistent mortality effects on different elephant age groups and sexes. The driver for this variation is less understood.

By David Kimtai & Lilian Apollo



Decoding Giants: Estimating Elephant Populations Through Dung Dynamics in Kenya's Forest Ecosystem

Estimating elephant populations in dense forest ecosystems presents unique challenges, where direct sightings are often difficult. One reliable method involves analysing elephant dung. Accurate population estimates depend on three key parameters: dung density, dung production (defecation rate), and site-specific dung decay rates. Together, these variables provide a robust framework for understanding elephant abundance.

Dung decay monitoring entails tracking the gradual decomposition of dung piles over time. This process is influenced by environmental factors such as rainfall, temperature, humidity, vegetation cover, soil type, and sunlight exposure, as well as biological agents including insects, fungi, and microorganisms. Each dung pile decomposes at a rate determined by its immediate surroundings.

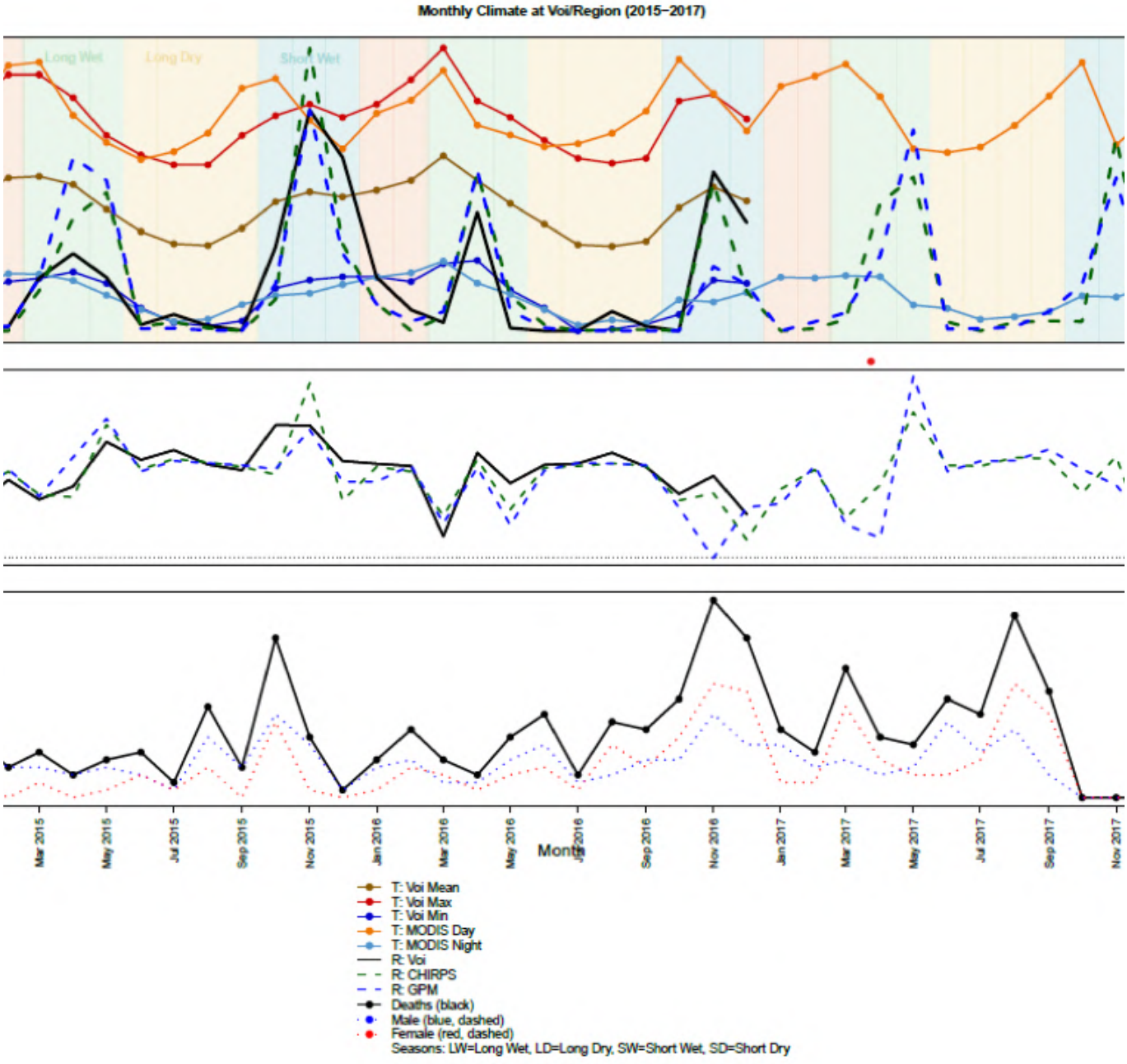
In the Mau Forest Complex, six monitoring sites were established, where 285 dung piles were observed from deposition to complete decay. The average decay time was 54.54 days (SE = 0.13). The fastest decay occurred in the northern region of Chepsirr (46.06 days), while the slowest was recorded in the southern area of Olkurto (69.88 days).

In Shimba Hills Forest, 118 dung piles were monitored, yielding a faster average decay time of 45.38 days. The

highest decay rate was observed in the western region of Kidongo (40.64 days), while the slowest occurred in Bahakhanda in the north (54.56 days).

Conversely, the Mwaluganje Elephant Sanctuary, part of the broader Shimba Hills ecosystem, recorded the slowest decay rate at 81.72 days. This is largely due to its drier climate, reduced forest cover, and dominant savanna vegetation, which expose dung to direct sunlight, slowing decomposition. Thus, dung decay rates in Mwaluganje were analysed separately from those of the Shimba Hills Forest.

The next phase of the study will focus on estimating dung production rates and dung density using line transect methods, ensuring consistency with the 2021 survey framework.



Graph of climate variables and mortality between sexes in Tsavo

By Stephen Ndambuki

Understanding Long-Term Avian Habitat Dynamics in Kakamega Tropical Rainforest.

Birds are among the most reliable bioindicators of ecosystem health because they respond quickly to environmental change. Shifts in bird species diversity, abundance, breeding success, feeding behaviour, or movement patterns often signal changes in habitat quality long before these changes become obvious to people. For this reason, bird monitoring is widely used to assess the condition of forests, wetlands, and agricultural landscapes.

Kenya's Kakamega Forest, the country's only tropical equatorial rainforest, provides an ideal natural laboratory for such studies. The forest contains a rich mosaic of habitats, including wetlands, primary and secondary forest, disturbed and undisturbed woodland, glades, and community farmland along the forest edge. Understanding how birds use these habitats can help guide conservation and restoration efforts.

Kakamega Forest marks the easternmost extension of the great Guineo-Congolian rainforest belt and covers approximately 24,819 hectares. It is recognized as an Important Bird Area (IBA) and supports remarkable biodiversity, including more than 450 bird species, 350 plant species, and 487 butterfly species, among many others.

Establishing Permanent Bird Monitoring Transects

To better understand long-term changes in bird communities and habitat use, researchers have established a network of permanent monitoring transects across different habitat types in Kakamega Forest. These transects will provide standardized ecological data over time, allowing scientists to track trends in biodiversity and habitat condition.

Using ArcMap 10.8, researchers created square sampling grids measuring 3 km × 3 km across the forest landscape. Random points were generated within the grids, and random compass bearings were used to determine the direction of each 1-kilometre transect. Along every transect, four bird counting stations were positioned 300 metres apart, beginning 10 metres from the transect start point.

Bird surveys are conducted in the early morning (6:30 a.m. – 10:00 a.m.), when birds are most active and easiest to detect. Researchers use the Timed Species Count Method, waiting three minutes after arrival at each point before beginning observations. Each count lasts 10 minutes, during which all bird species seen or heard are recorded.

At the same time, researchers collect information on surrounding vegetation and habitat features to determine which environments are most important to specific bird species. Data will be analysed using SPSS software to reveal patterns of habitat use, species richness, and long-term ecological change.

As climate change, land-use pressure, and habitat fragmentation continue to threaten biodiversity, long-term monitoring in Kakamega Forest is essential. By listening to the birds, scientists are gaining valuable insight into the health of one of Kenya's most treasured ecosystems.

By Emily Atai eaywa@wrti.go,ke

Long-Term Assessment of Biodiversity Dynamics in Kakamega Tropical Rainforest

Understanding how forests respond to habitat disturbance, climate change, and landscape transformation is essential for effective conservation and ecological restoration. Forest ecosystems are dynamic, constantly changing in response to natural processes and human pressures. Long-term monitoring provides scientists with the evidence needed to detect these changes and guide management decisions.

One of the most effective approaches is the use of permanent vegetation inventory plots–a method originally developed by foresters to estimate long-term tree growth and timber yield. Today, this approach has been widely adopted by forest ecologists to study biodiversity, forest regeneration, carbon storage, and ecosystem dynamics over time (Hubbell & Foster, 1992; Hitimana et al., 2019). International research networks such as the Forest Global Earth Observatory (ForestGEO) and ForestPlots.net now use permanent plots as living observatories for forest monitoring across the world (Davies et al., 2021; ForestPlots.net et al., 2021).

Kenya's Kakamega Forest is a globally significant ecosystem. Covering approximately 24,819 hectares, it marks the easternmost extension of the great Guineo-Congolian tropical rainforest belt. This unique forest is the last remnant of Kenya's tropical rainforest heritage and supports extraordinary biodiversity.

Kakamega is recognized as an Important Bird Area (IBA) and hosts more than 350 plant species, alongside numerous mammals, reptiles, insects, and amphibians. Its ecological richness makes it one of the most valuable conservation landscapes in East Africa.

To better understand long-term ecological trends in Kakamega Forest, researchers have established a network of permanent biodiversity monitoring plots and transects. These sites provide baseline data that can be revisited over many years to evaluate forest health, species composition, regeneration patterns, and the effectiveness of conservation policies.

Using the Fishnet Tool in ArcMap 10.8, square sampling grids measuring 3 km × 3 km were created across the forest landscape. Random points were generated within each grid. At every selected point, a random compass bearing was assigned to define the direction of a 1-kilometre transect.

Along each transect, four permanent vegetation plots were established on alternating sides at intervals of 300 metres, beginning 5 metres from the transect start point. Within these plots, researchers collect data on trees, shrubs, regeneration, habitat structure, and other biodiversity indicators.

Collected data will be analysed using RStudio to identify ecological trends, changes in species diversity, and habitat dynamics over time. This information will help conservation managers understand how the forest is responding to pressures such as habitat fragmentation, invasive species, and climate variability.

Long-term biodiversity monitoring is more than a scientific exercise–it is an investment in the future of Kenya's only tropical rainforest. By establishing permanent plots today, researchers are creating a foundation for evidence-based conservation that will benefit wildlife, local communities, and future generations.

by Emily Atai Away eaywa@wrti.go,ke

Rainfall Variability Shapes Lion Movement Across Kenya's Protected Areas

Climate variability plays a key role in shaping wildlife dynamics in savannah ecosystems. In recent years, Kenya has experienced increasing climate variability characterised by extreme weather patterns, resulting in loss of suitable habitats and intensified human-wildlife conflicts. These impacts vary across ecosystems, underscoring the need to better understand how wildlife responds to changing environmental conditions. Changes in rainfall influence herbivore distribution and availability, which in turn affect the movement and space use of large carnivores such as lions.

Using satellite and GPS-GSM data from 10 lions collared in Meru, Nairobi, and Lake Nakuru National Parks, researchers from the Institute and Leiden university, Netherlands assessed how rainfall influences lion home range and movement. Across all parks, lions moved longer distances with increasing rainfall, with male lions consistently covering larger distances than females.

Site-specific differences were observed. Lions in Lake Nakuru expanded their home ranges more strongly with increasing rainfall compared to Nairobi, while lions in Nairobi covered greater distances despite having smaller home ranges. In Meru, lions occupied larger home ranges overall, but rainfall did not significantly influence their movement relative to the other sites.

These findings highlight the importance of site-specific conservation approaches. As rainfall patterns become increasingly unpredictable, management strategies must account for local ecological dynamics to ensure the continued viability of lion populations across Kenya's diverse landscapes.

By Dr. Monica Chege

Assessment of Temporal Patterns and Ecological Drivers of Elephant Visitations to Kitum Cave in Mt. Elgon National Park

Cave geophagy by African elephants (Loxodonta africana) have so far only been recorded within Mt. Elgon Forest in Kenya. Limited scientific data exist on the temporal patterns and ecological factors influencing it. This study aims to assess the cathemeral, monthly and seasonal patterns of elephant visits to Kitum cave plus their relationships with environmental variables.

The study objectives are to:

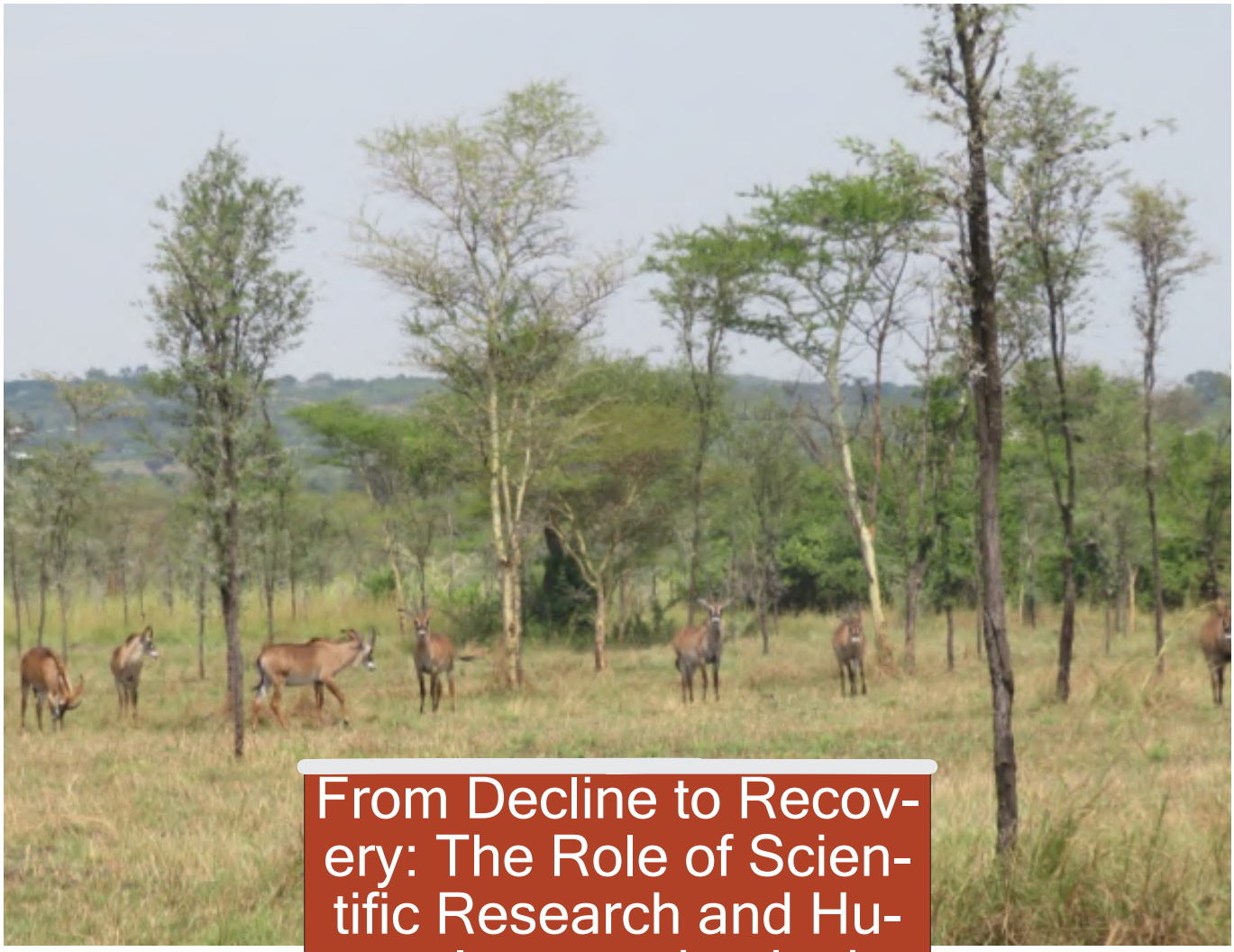
(1) determine the cathemeral, monthly, seasonal variations, trends or fluctuations of elephant cave visits,

(2) assess relationships between cave-visiting behavior, elephant groupings i.e. numbers, age class, gender, and environmental variables namely precipitation, temperature, forage quality, water availability

(3) Apply the resultant data to forecasting elephant behavior around caves, identifying time-specific wildlife threats or refugia, informing target ecotourism designs, improve engagement with human cave users and departmental resource allocations.

Motion-sensitive camera traps have been installed along the cave access routes incl. interiors to record elephant activities, their groupings and weather conditions. Field data collection will run for 12 consecutive months so as to capture wet and dry events. The technical project implementation team comprise the Institute scientists. Expected outcomes include identification of peak visitation periods, understanding of elephant groupings and other environmental visitation drivers, plus generation of baseline data for conservation planning. The results will benefit wildlife managers in scheduling of antipoaching, ecotourism and community activity around the caves..

By George Anyona,gouma@wrti.go.ke



From Decline to Recovery: The Role of Scientific Research and Human Intervention in the Recovery of Roan Antelope Populations in Ruma national park.

Classified as species of least concern by the International Union for Conservation of Natre (IUCN), the roan antelopes are recognized as nationally endangered due to their rapid decline throughout much of their range. Historically the roan antelope inhabited areas of southern Kenya, north of Mt Elgon and the Cherangani Hills, around Thika / Kitui and in areas east of the Chyulu Hills. Currently, the roan population has undergone local extinction in all former ranges except at the Lambwe Valley in Ruma National Park. Over the past four decades, the population has declined drastically from approximately 200 individuals in the 1970s to 16 individuals in 2023 (figure 1). Research findings by the Institute indicate that this decline has been driven by multiple interacting factors, including habitat loss, poaching, predation, disease, population isolation, climate change, and the increased frequency of wildfires.

Ecological experts from the Institute, through a multi-stakeholder consultative process, recommended the implementation of experimental, habitat-based management interventions aimed at reversing the decline of the Roan Antelope within Ruma National Park.These interventions included the strategic use of cattle for tick load reduction, prescribed burning to improve habitat quality, tsetse fly control, grass mowing to enhance forage availability, and targeted veterinary care. Each intervention has been systematically monitored and evaluated to quantify its effectiveness in contributing to population recovery.

Since 2022, these integrated management efforts have yielded measurable positive outcomes, with the roan antelope population increasing to 28 individuals. This recovery is further supported by a calf recruitment rate of approximately 100% and the absence of recorded adult mortality during the monitoring period.

By Vasco Ndumpa

Human-Carnivore Coexistence in Loita: Community Perspectives on Cheetahs and African Wild Dogs

The vast rangelands of Loita, Narok County, are more than pastoral landscapes–they are an important wildlife corridor linking the Maasai Mara ecosystem with northern Tanzania. These community-managed lands support iconic species such as the cheetah (Acinonyx jubatus) and the endangered African wild dog (Lycaon pictus), both of which increasingly depend on human-dominated landscapes for survival.

A recent study by researchers from the Institute explored how local communities perceive these carnivores, the challenges of coexistence, and the future of wildlife in Loita.

The survey, involving 162 respondents, found remarkably high ecological awareness. Every respondent correctly identified the cheetah, while 98% recognized the African wild dog. Community members reported seeing cheetahs more frequently, with nearly half observing them weekly. Wild dogs, however, were seen less often, suggesting they may use Loita mainly as a movement corridor rather than a permanent range.

Respondents identified rocky outcrops and dense thickets as preferred habitats for both species–landscape features that provide cover for hunting, resting, and denning.

Livestock predation remains a major concern in Loita, with 96% of respondents reporting losses. Interestingly, the spotted hyena was identified as the leading cause of attacks, while cheetahs and wild dogs were linked to a smaller share of incidents, mostly involving goats and sheep.

Despite these economic losses, attitudes toward conservation were surprisingly positive. 73% supported cheetah protection, while 65% supported African wild dog conservation. The strongest reason given was the belief that wildlife can generate benefits through tourism and local livelihoods.

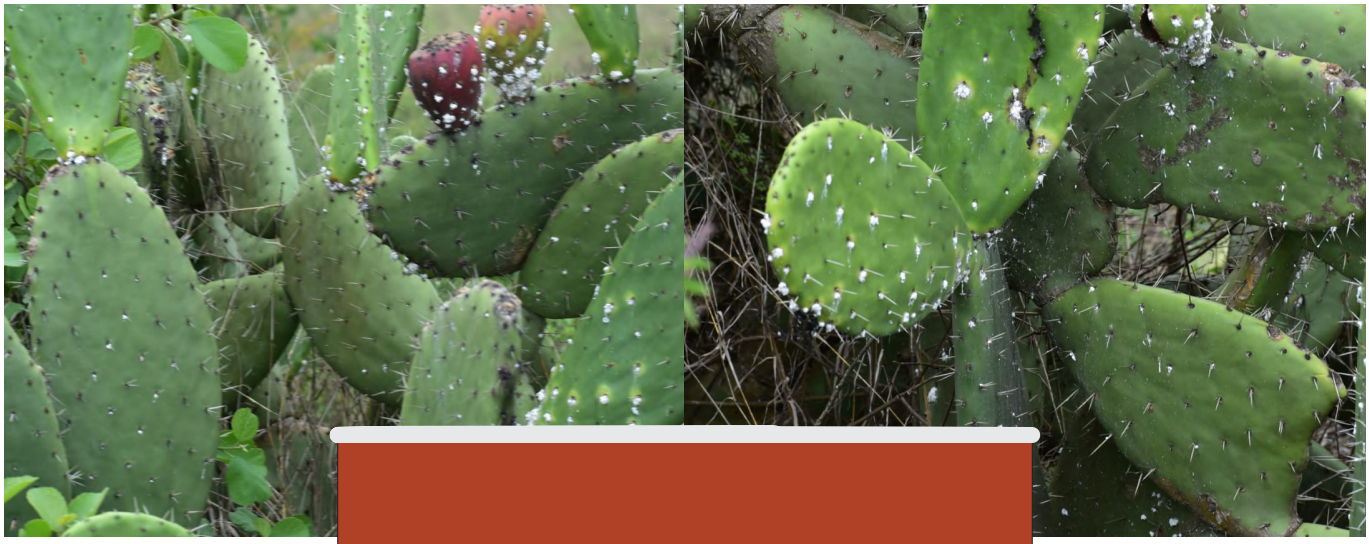
While conflict with predators is important, the greatest concern raised by the community was the loss of grazing land. More than 90% of respondents cited fencing, land subdivision, and expanding settlements as serious threats to both wildlife and pastoral livelihoods.

As communal lands become fragmented, movement routes for carnivores and herbivores shrink, increasing competition for resources and the likelihood of conflict.

The Loita study highlights a powerful lesson: coexistence is possible when communities see value in conservation. However, maintaining this balance will require forward-looking solutions such as wildlife corridors, community conservancies, predator-proof livestock enclosures, and benefit-sharing through tourism.

For Kenya's threatened carnivores, the future may depend not only on protected areas, but also on landscapes like Loita–where people and wildlife continue to share space.

By B. Kuloba and J. Lumbasi



Restoring Nairobi National Park: Control of Invasive Plant Species

Nairobi National Park, the world's only national park within a capital city, is a vital refuge for Kenya's wildlife and a flagship conservation area. However, like many protected ecosystems, the park faces growing pressure from invasive plant species that threaten habitat quality and biodiversity.

Invasive plants spread rapidly, outcompete native vegetation, reduce forage for herbivores, and alter ecological processes essential for wildlife survival. Recognizing this challenge, the Institute conducted a detailed survey and mapping exercise in March 2026 to identify invasive species hotspots across the park and recommend practical control measures.

The survey proposed spatially targeted and integrated management approaches, combining mechanical, biological, and habitat restoration strategies. As an immediate response, a focused intervention was launched in Block 1 of the park.

The control operation focused on four problematic invasive plant species known for their aggressive spread and ecological impacts:

Ocimum suave; Solanum incanum; Lippia japonica; Parthenium hysterophorus

These species suppress native grasses and herbs, degrade grazing areas, and reduce habitat suitability for wildlife.

In addition, there is an ongoing biological control programme targeting Opuntia species (prickly pear cactus) in Nairobi National Park. This initiative uses fungal-based control methods to suppress the spread of Opuntia, which forms dense thickets that obstruct wildlife movement, displace native vegetation, and reduce grazing access. The use of fungi offers a sustainable and environmentally friendly management option for long-term control.

Approximately 82 acres in Block 1 were successfully cleared through manual removal methods. The exercise was undertaken by a team of casual workers under the coordination of the the Institute research team, with support from Nairobi National Park management.

The activity was guided by five key objectives:

- Reduce the prevalence and spread of invasive plant species.
- Restore native vegetation and improve habitat quality for wildlife.
- Enhance forage availability for grazing herbivores.
- Strengthen ecological balance and ecosystem resilience.
- Improve visitor experience through healthier landscapes and better wildlife visibility.

The immediate outcomes have been highly encouraging. Cleared areas have shown a noticeable increase in wildlife activity, with several species returning to graze and move through the restored habitat. This early response demonstrates how quickly ecosystems can recover when invasive species pressure is reduced.

In addition, improved vegetation structure and open landscapes have enhanced wildlife visibility, contributing to a better visitor experience and reinforcing the importance of active habitat management.

The success of the Block 1 intervention highlights the effectiveness of coordinated, science-based invasive species management. The combination of manual removal and biological control methods such as fungal management of Opuntia demonstrates the value of integrated restoration approaches.

However, continued monitoring and follow-up interventions will be necessary to prevent reinvasion and sustain ecological gains. Expanding similar restoration efforts to other affected sections of Nairobi National Park could significantly strengthen biodiversity conservation, improve wildlife habitat, and secure the long-term health of this globally unique protected area.

By Jackson Kingoo

A publication of the Wildlife Research and Training Institute

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