# KEY BIODIVERSITY AREAS (KBAS) Status ends

























# **Publications available at Nature** Kenya

### Reports





.te

### **Books**



### Checklists





# Key Biodiversity Areas (KBAs) Status and Trends



#### **Compiled by:**

Paul Gacheru, Joshua Sese, James Mutunga, Timothy Mwinami, Benard Ngoru, James Mwang'ombe, Ronald Mulwa, Linus Kariuki, Harron Wanjohi

> **Edited by:** Fleur Ng'weno and Paul Matiku

> > Layout by:

Mshenga Mwacharo

#### **Collaborating Organisations:**

Nature Kenya, Kenya Forest Service (KFS), Kenya Wildlife Service (KWS), National Museums of Kenya (NMK), Wildlife Research & Training Institute (WRTI), National Environment Management Authority (NEMA), Royal Society for the Protection of Birds (RSPB) and BirdLife International





### Cover Photo: Southern Ground Hornbill (Bucorvus leadbeateri)

This enormous black bird with gorgeous bright red wattles around the eyes and throat, blue eyes, and powerful beak is an easily recognizable ground loving hornbill seen in the southern rangelands of Kenya and south to Namibia and eastern South Africa. The bird is globally threatened, listed as Vulnerable in the IUCN Red List. It is threatened by habitat loss due to cutting of old trees with nesting cavities, land fragmentation for settlement and agriculture, trade for traditional rituals, poisoning and pesticides use.

Southern Ground Hornbills live in groups of 2-9 members, within which there is a dominant breeding pair, assisted by immature and adult helpers, mostly male, to defend a territory and provision the nest. This is cooperative breeding. They are omnivores, and can be easily spotted in the bushy savanna and grassland of national parks, foraging for amphibians, insects, small reptiles and mammals, fruits and seeds.

The Southern Ground Hornbill may call at dawn in low grunting notes that resemble the deep reverberant voice of a distant lion. In some African traditions, the bird is viewed as a herald of rains that should not be killed. However, the beliefs have slowly been fading away making the species more vulnerable.



A Southern Ground Hornbill with a lizard prey. **Photo by Peter Usher** 

### Copyright

© Nature Kenya - the East Africa Natural History Society, 2023

ISBN 9966-761-52-7

**Recommended Citation:** Gacheru<sup>1</sup>, P., Mutunga<sup>1</sup>, J., Mwinami<sup>2</sup>, T., F., Matiku,<sup>1</sup> P., Mulwa<sup>2</sup>, R., Ngoru<sup>5</sup>, B., Kariuki<sup>3</sup>, L., R., Wanjohi<sup>4</sup>, H., Mwang'ombe<sup>6</sup>, J., (2023). Kenya's Key Biodiversity Areas: Status and Trends 2022. Nature Kenya, Nairobi.

**Institutional Affiliation:** Nature Kenya<sup>1</sup>, National Museums of Kenya<sup>2</sup>, Kenya Wildlife Service<sup>3</sup>, National Environment Management Authority<sup>4</sup>, Wildlife Research and Training Institute<sup>5</sup>, Kenya Forest Service<sup>6</sup>

Cover Photo: ©Steve Garvie

Published by Nature Kenya - the East Africa Natural History Society P.O. Box 44486 GPO, Nairobi 00100, Kenya Phone (+254) (0) 20 3537568 or (+254) (0) 751624312, 771343138 Fax (+254) (0) 20 3741049 E-mail: office@naturekenya.org Website: www.naturekenya.org

### ACKNOWLEDGEMENTS

We appreciate the continued collaboration and contributions from Kenya Forest Service, Kenya Wildlife Service, National Environment Management Authority, National Museums of Kenya, Wildlife Research and Training Institute, and Community site support groups for sharing data and recommendations used towards the production of this report. We recognize the role that the Key Biodiversity Areas - National Liason Committee (KBA-NLC) plays in bringing together like-minded stakeholders to safeguard Kenya's biodiversity. Production of this edition was supported by funding from Global Environment Facility – The Restoration Initiative (GEF-TRI), the People Partnership with Nature Program, Darwin Initiative, World Land Trust and Nature and Biodiversity Conservation Union.

### Disclaimer

The views and opinion in this report are not necessarily those of the donors who have financially supported its production.



LAND TRUST

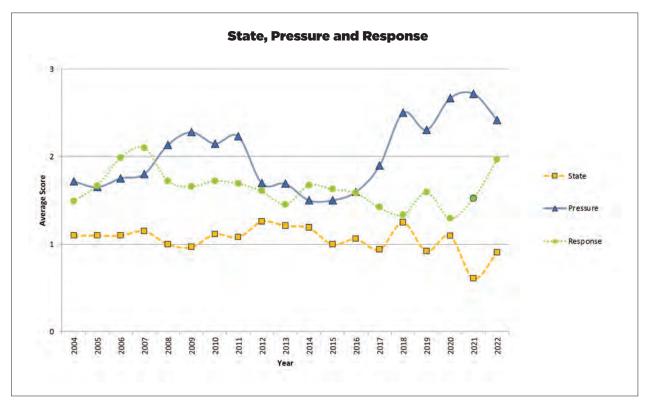
### **EXECUTIVE SUMMARY**

#### State, Pressure and Response Summary

Key Biodiversity Areas (KBAs) are areas globally recognized as sites that make a substantial contribution to the continued existence of global biodiversity. These areas are appropriately identified using a Global Standard adopted in 2016 during the IUCN Congress. Kenya has 68 KBAs which include Legacy Key Biodiversity Areas and new sites mainly identified on the basis of birds. Every year, assessments are carried out to determine the condition of Kenya's KBAs, the threats facing them and any responses to safeguard them.

In Kenya, KBAs are evaluated following the site IBA Basic Monitoring Protocol which are globally designed monitoring criteria that measures of STATE, PRESSURE, and RESPONSE of each of the sites assessed. The STATE score (ranging between 0: Very unfavorable to 3: Favorable) measure the condition of the KBA based on trigger species (a species by which at least one KBA criterion and associated threshold is met) and habitat condition (Quality and Quantity). PRESSURE score (ranging from 0: Low to 3: Very high) measures the status and intensity of threats faced or experiences in the KBA, affecting the habitat and trigger species. The RESPONSE score (ranging from 0: Negligible to 3: High) evaluates the conservation actions being implemented in the KBA and supporting overall conservation of KBAs in Kenya.

In 2022, 56 out of 68 KBA sites were assessed following the monitoring protocol. Overall, since 2004, the STATE of the KBAs has remained STABLE, PRESSURE has continued to MOUNT and RESPONSE has been on a DECLINE. However, between the years 2021 and 2022, there was an improvement in the STATE and RESPONSE score and a reduction in PRESSURE score recorded in KBAs (see Figure 1).





### **Summary of Recommendations**

- 1. Promote forest and landscape restoration in line with the UN Decade of Ecosystem Restoration 2021-2030
- 2. Promote recognition of biodiversity conservation, water catchment and carbon capture as land uses (and therefore not idle land)
- 3. Mainstream biodiversity into other sectors of the Kenyan economy
- 4. Enhance the capacity in skills of county officials on environmental matters including policy formulation
- 5. Undertake economic valuation for natural capital accounting in Kenya for government decision making on resource allocation

- 6. Enhance ecosystem connectivity through effective management
- 7. Encourage national payment for ecosystem services schemes as incentives for local communities living within and adjacent to areas of conservation importance
- 8. Promote green value chains in production
- Recognize grasslands and seasonal wetlands as equally important as tree cover for wildlife and ecosystem services such as water catchment and disaster moderation
- 10. Promote environmental and biodiversity safeguards in policy process and infrastructural development projects.



A team from Nature Kenya and the National Museums of Kenya conducting biodiversity monitoring in Yala Swamp. PHOTO BY M. OWILI

### **KBA STATE: Status of Habitats** and Species

The STATE scores range between 0: Very unfavorable to 3: Favorable; measuring the condition of the KBA based on trigger species and habitat condition (Quality and Quantity). Overall, since 2004, the STATE of KBAs in Kenya has remained STABLE with scores falling between 'UNFAVOURABLE' and 'NEAR FAVOURABLE' based on the condition of the habitats and the species. Comparing STATE score between 2021 and 2022 an IMPROVEMENT of score from 0.64 to 0.98 was registered.

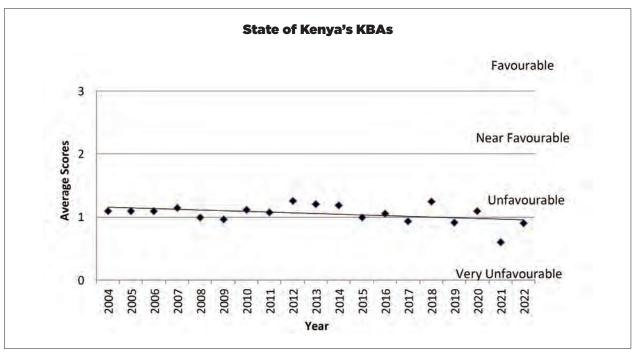
In2022 only four (4) KBAs had a 'FAVOURABLE' STATE score: Koguta Swamp, Lake Bogoria National Reserve, Lake Elmenteita, and Ol Donyo Sabache. Four (4) KBAs had a 'NEAR FAVOURABLE' state score. Thirty-two (32) were 'UNFAVOURABLE' while fifteen (15) KBAs scored a 'VERY UNFAVOURABLE' state score compared to twenty (20) in 2021. The sites scoring Very Unfavourable include Busia grasslands, Chyulu Hills forests, Kianyaga valleys, Kikuyu Escarpment forests, Kianyaga valleys, Kikuyu Escarpment forests, Kinangop grasslands, Lake Baringo, Lake Magadi, Mau Narok - Molo grasslands, Mida Creek, Whale Island and the Malindi - Watamu coast, Mrima Hill Forest, Mukurweini valleys, North Nandi forest, Sio Port swamp, Tana River Delta, and Tsavo East National Park. The changes in the STATE of the KBAs was attributed, but not limited, to:

- Extreme weather events prolonged drought was experienced in Kenya
- 2. Infrastructural development projects roads and powerlines tranversing through sensitive ecostysems and buildings encroaching on natural habitats
- 3. Natural events affecting water levels in the Rift Valley Lake system
- 4. Increased human disturbance resulting to pollution and habitat degradation.

### **Pressure: Threats to KBAs**

PRESSURE scores ranging from 0: Low to 3: Very high; measures the status, volume and intensity of threats faced or experienced in the KBA, affecting the habitat and trigger species. Overall, since 2004, PRESSURE has continued to MOUNT in KBAs with a steady increase documented from 2015.

Fortunately, between the years 2021 and 2022, there was a slight reduction in PRESSURE score recorded in KBAs from 2.75 to 2.57. In 2022, thirty-three (33) KBAs had the average

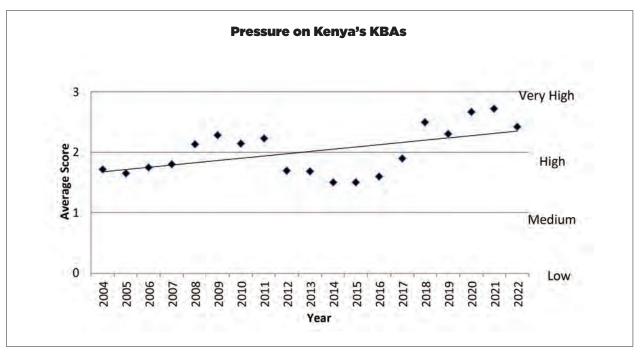


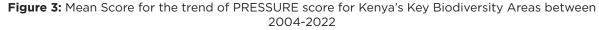


PRESSURE score 'VERY HIGH' while twentytwo (22) recorded a score of 'HIGH'. Kisite Island (KE014) recorded a 'MEDIUM' pressure score. The threats documented included:

- Climate change, which brought about extreme weather conditions such as prolonged drought causing drying up of wetlands that act as breeding and resting grounds for waterfowl, and increased wildfire risk documented in Taita Hills Forests and Aberdare Mountains. The extreme drought force communities to look for pasture and water for their livestock in these critical habitats. Human wildlife conflict has led to wildlife poisoning, greatly affecting sites such as Kwenia (KE062), Maasai Mara (KE050), and Amboseli (KE042), among others.
- 2. Proposed and ongoing infrastructure development, for example, last mile domestic power line connection causing bird electrocution, especially in wildlife rich areas like Maasai Mara; and planned road expansion and construction with projected impacts to sites like Aberdare Mountains, Lake Elmenteita and Lake Nakuru.
- 3. Land use change, subdivision and sale within KBAs and areas adjacent to KBAs documented in Dakatcha Woodland, Yala Swamp wetland, Amboseli landscape, Kinangop highland grasslands.

- 4. Illegal human activities such as charcoal production, illegal logging, use of snares and poaching. These were recorded in Arabuko-Sokoke Forest, Dakatcha Woodland, Muumoni Forest, Tana River Delta.
- 5. Insecurity in areas like Boni and Dodori National Reserves and parts of Baringo and Laikipia, led to heavy security personnel military presence, leading to inability to monitor habitat and species. Associated impacts include increase habitat and species disturbance as result of activities like establishing camps, feeding militia groups, bombing sites, etc.
- 6. Prospective and ongoing mineral mining (titanium, limestone, iron ore) with impacts to sites like Arabuko-Sokoke Forest, Tsavo East and other sensitive areas such as Chasimba limestone cliffs and caves.
- 7. Proliferation of invasive plant species across the landscapes like *Prosopis juliflora* (Tana River Delta, Samburu, Lake Baringo. Lake Bogoria), *Parthenium hysterophorus* (Nairobi National Park), *Lantana camara* (Mt Kenya forest, Mutitu forest), *Cestrum aurantiacum* (Cherangani forest, Nandi forest, Mt. Elgon).
- Habitat fragmentation and blockage of wildlife corridors as a result of human settlement and development - Nairobi National Park, Maasai Mara, Amboseli. Tsavo East & West, Dakatcha Woodland.





### **Response: Conservation Actions in KBAs**

The RESPONSE score ranging from 0: Negligible to 3: High; evaluates the conservation actions being implemented in a KBA and supporting overall conservation of KBAs in Kenya. Overall, from 2004, the RESPONSE score recorded in KBAs has been on a DECLINE. In comparison, between the years 2021 and 2022, there was an improvement in the RESPONSE score from 1.41 to 1.89.

In 2022, nineteen (19) KBAs recorded a 'HIGH' response score, fifteen (15) KBAs had a 'MEDIUM' score, and nineteen (19) had a 'LOW' score. Among sites that recorded a High score were Aberdare Mountains, Arabuko-Sokoke Forest, Cherangani Hills, Dzombo Hill, Kirisia Forest, Kwenia, Lake Bogoria, Maasai Mara, Nairobi National Park, Nandi forests, Tana River Delta, and Tsavo East and West National Parks.

The positive change can be attributed to the concerted efforts of county and national governments; national agencies like Kenya Forest Service and Kenya Wildlife Service; nongovernmental and civil society organizations; and community groups such as Site Support Groups. Some of the responses documented include:

#### **Government responses**

1. Increased Government-Stakeholder engagement and participation in enabling policy formulation processes at national and global level

- 2. Renewed commitment in government to implement national legislation that supports conservation of nature and biodiversity, i.e. staff recruitment drive by Kenya Forestry Research Institute and Kenya Forest Service
- 3. Review and development of site management plans like Greater Mara Ecosystem Management Plan, and various Participatory Forest Management Plans in sites like Taita Hills Forests, Tana River Delta
- 4. Development of Species Conservation Action Plans such as the Roan Antelope Conservation Action Plan in Ruma National Park KBA
- 5. Inclusion and recognition of biodiversity in the formulation of policy frameworks to safeguard critical sites – CBD Global Biodiversity Framework and County Policy processes, i.e. climate change, forests, etc.
- 6. Forest and landscape restoration National Programme for Accelerated Forestry and Rangelands Restoration (Planting 15 billion trees by 2032 government initiative) – Site based restoration, etc.

#### **Community responses**

- 1. Active participation in county level policy formulation processes like County Integrated Development Plans
- 2. Participation in conservation awareness

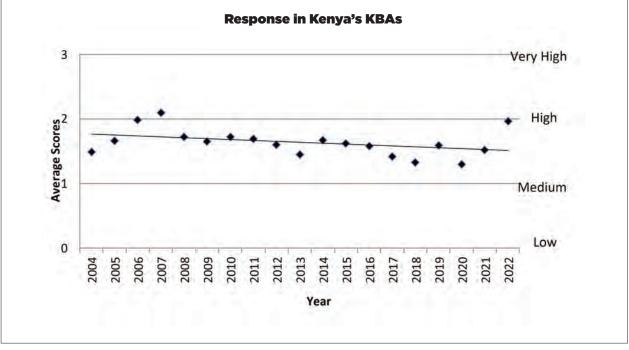


Figure 7: Mean Score for Trend of RESPONSE recorded in Kenya's Key Biodiversity Areas between 2004-2021

events reaching masses during days of global importance like World Environment Day, International Vulture Awareness Day, International Day of Forests, International Day for the Conservation of Mangrove Ecosystems.

### Civil society responses

- Capacity building of community groups

   CFAs, Site Support Groups, WRUAs
   empowering community response to support sustainable management of the land
- 2. Support in securing land for wildlife through establishment of community conservation areas (such as in Maasai Mara), and new nature reserves such as in Dakatcha Woodland, Taita Hills forests
- 3. Promoting Nature Based Enterprises as alternative community livelihood activities, including Beekeeping, butterfly rearing, ecotourism, etc.
- 4. Participating and providing conservation science informed comments in review of environmental and social impact assessments of proposed development projects
- 5. Supporting and participating in national processes such as the review of the National Biodiversity Strategy and Action Plan 2020 2030.

### Civil Society Organization actions to address threats to KBAs

Nature continues to face numerous threats that are linked to the triple planetary crisis of Climate Change, biodiversity loss and pollution. While governments and private sector players have a responsibility to address the threats, this has never been made priority in their programs. Civil Society Organizations continue to play a pivotal role in catalyzing actions towards sustainability to safeguard humanity and nature. Priority actions target Key Biodiversity Areas, due to their critical roles in supporting and safeguarding world biodiversity in different ecosystems.

Kenya is party to the Convention on Biological Diversity (CBD), which recognizes the role of different sectors to biodiversity conservation and calls for integration of biodiversity considerations into different projects. Although all sectors enjoy ecosystem services, some sector programs have negative impacts on species, habitats and communities. These sectors: energy, water, agriculture and livestock, transport and infrastructure, mining, urban development, tourism, land and land use, forestry, industrial development and climate change are identified as the main focus subjects for biodiversity mainstreaming according to Goal 2 of CBD.

Nature Kenya, both independently and in partnerships with stakeholders, has taken various policy engagement approaches towards safeguarding biodiversity:

- 1. Support to enable poor and vulnerable people start nature based enterprises for adaptation and resilience.
- 2. Sensitize communities and local conservation groups on conservation and protection of the environment.
- Study and evaluate courses of action dictated by policies, legislations, development plans and budget proposals in specific subject areas to ensure that they protect local communities, safeguard biodiversity and avoid violation of rights.
- 4. Influencing developers and governments to bring about change in behavior, policy or systems, relying on research, accurate and well communicated data, and evidence to help stakeholders and decision makers understand issues and perspectives.
- 5. Active participation in invited spaces within formal government processes and other spaces created by stakeholders.
- 6. Exchange of information and ideas among stakeholders with common interests.

These actions are essential to achieving the goals and targets in the Kunming-Montreal Global Biodiversity Framework.

### 2022 Nature Kenya's Policy engagements included:

# Promote and support effective conservation partnerships locally, nationally and internationally.

- Participation the 1. in aovernment delegation at the Convention on Biological Diversity (CBD) negotiations during CBD conference of the Parties (CoP 15) in Montreal Canada; participation in the Convention on Migratory Species multistakeholder Energy taskforce; contribution to Kenya's National Report to the African-Eurasian Migratory Water bird Agreement (AEWA); and inter-ministerial strategic dialogue on infrastructure development and environment, among others.
- 2. Review delivery of outcomes and Kenya's implementation of the United Nations

Convention to Combat Desertification (UNCCD), the UN Oceans Conference, the XV World Forestry Congress, RAMCEA (Ramsar Centre of Eastern Africa), the 1st African Protected Areas Congress, AEWA and Ramsar.

#### Catalyze and influence policies, legislations and institutional frameworks for ecosystem resilience.

- 1. Influencing national and global policy among them National Tax Policy, Ministry of Energy white paper and National Blue Economy strategy.
- 2. Participating at high level national and county fora (International days, policy dialogues, development planning, tree planting, and national reporting).
- 3. Providing conservation-oriented comments to the government by reviews of EIAs, ESIAs and SEAs of proposed projects, among them plans on energy infrastructure, asbestos disposal, elephant translocation from United Kingdom and a proposed open cast mine site at Chasimba limestone cliff and caves.
- 4. Submitting 86 letter of comments to influence development policies at national and county levels, including requesting rejection of the proposed Yala Swamp land allocation to a private developer, joined by international partners.
- 5. Yala Delta Land Use Plan approved by Busia and Siaya County governments.
- 6. Yala Indigenous and Community Conservation Area (ICCA) Committee registered as a Community Wildlife Association.
- 7. Sustainable Forest Management Rules developed by government with Nature Kenya support.

# Empowering Site Support Groups (SSG) network and their on-ground work as KBA caretaker networks.

 Community Conservation groups made 97 submissions to influence County and national policies, including budget making processes. Key among them were engagements petitioning the National Assembly on the Forest Conservation and Management (Amendment), Bill 2021 by SSGs and CFAs (40% of submissions); and in influencing county planning (County Integrated Development Plans 2023-2027) and budgeting (43% of the engagements). 2. There was active championing of nature values during international days by SSGs to win government and communities support for nature. In 2022, World Wetlands Day, World Wildlife Day, International Day of Forests, World Water Day, World Environment Day, World Drought and Desertification Day, World Clean-up Day, and Migratory Bird Day were marked.

### Kisite-Mpunguti, Kenya's only Blue Park

The Kisite-Mpunguti Marine Park and Reserve is a pristine marine habitat found in Kwale County on Kenya's South Coast. Kisite Island KBA, a coral outcrop less than one hectare in size, lies about 11 kms off the Kenyan Coast at Shimoni and 8 kms north of the Tanzanian border. Its flat top is a nesting ground for significant numbers of Roseate Terns and other terns. The tiny islet is surrounded by living coral gardens rich in marine life.

The Marine Park that surrounds Kisite and neighbouring islands is Kenya's largest marine protected area, under the Kenya Wildlife Service. It is characterized by clear turquoise waters and ecosystems such as seagrass meadows and coral reefs, serving as a haven for a wide range of ecologically and economically important species. The Marine Protected Area is home to resident, foraging and resting populations of dolphins, regarded as flagship species playing a crucial role as indicators of the overall health of the ecosystem. It is a critical habitat for globally threatened species including dugongs, sea turtles, and whale sharks.

Kisite-Mpunguti Marine Park & Reserve was honored with a gold level Blue Park Award in 2021 for achieving the highest sciencebased standards for marine life protection and management. The site is the only marine protected area (MPA) in Kenya's history to receive the prestigious Blue Park award conferred by the Marine Conservation Institute. Since inception of the award in 2017, there has been a growing network of Blue Parks around the world designed to protect and regenerate our ocean biodiversity. In 2021, Kisite-Mpunguti and three other MPAs worldwide received the award, growing the network of Blue Parks to 21. In 2022 three more sites received the award, increasing the number to 24.

The Marine Conservation Institute created the Blue Park Awards to promote the establishment of exceptional MPAs that effectively preserve marine wildlife, protect vital habitats, enhance resilience, and safeguard the breathtaking beauty of our oceans for future generations. This initiative seeks to build a network of MPAs that collectively support marine life and ecosystems on a global scale.

Receiving the award, the park warden, Paul Wambi, expressed his appreciation to the dedicated staff, the local community, and partners who all contributed to making Kisite-Mpunguti a beacon of hope for marine conservation. The award would serve as a motivation for the team to work harder to ensure a sustainable Kisite-Mpunguti MPA, benefiting both nature and humanity.

#### Community-led, evidence-based advocacy to address threats to biodiversity in Kitui County KBAs

Mumoni and Mutitu Forest Reserves, in Kitui County, are species-rich dryland hilltop ecosystems. The Hinde's Babbler (*Turdoides hindei*), a Kenyan endemic bird species, occurs in both hill forests, which are home to other species of conservation concern including the Crowned Eagle, Endangered Martial Eagle, and inter-African and Palearctic migrants. Both hill forests are listed as Important Bird Areas (IBA) and thus KBAs, and are surrounded by a growing rural agrarian human population.

A rapid survey of Hinde's Babbler was conducted in Mumoni and Mutitu Hill forests during dry and wet seasons in 2022 with support from the African Bird Club. The survey recorded the numbers of the globally threatened bird, and mapped its habitat patches in both sites. Although conducted in less than a quarter of the KBAs' total area, the surveys recorded a total of 65 Hinde's Babblers. Ten members of the Site Support Groups (local community-based organizations) were engaged. Their involvement aimed at promoting citizen science, integrating use of traditional knowledge in the surveys and boosting their understanding of scientific methods of monitoring ecosystems.

The major threat to the species is the steady decline in suitable habitat patches for breeding and cover and the fast-changing land use patterns in range regions. Hinde's Babblers are highly selective in habitat occupancy, preferring shaded areas with dense thickets along streams and river valleys – dense thickets cooled by shading, and litter cover in which they forage for insects. Unregulated cut and burn, agricultural practices near forests, and clear cutting of dense riparian thickets along river valleys to grow irrigated crops are the threats observed both within the forests and in the adjacent private land. Continuous monitoring to cover the entire forests was identified as a future opportunity to enrich the survey findings. The two Site Support Groups were sensitized to upscale advocacy to win community and local government support for nature. The communities have since participated in different initiatives such as going out in the field, actively searching, watching, and recording birds in their local names, while Nature Kenya experts assist in translation and submission of data to BirdLasser and e-Bird mobile-based citizen science Apps.

The communities utilized the results of the survey to contribute to the County Integrated Development Plan (CIDP) formulation process. The County Government, in the draft five year 2023-2027 plan, has recognized the IBAs/ KBAs and commits to enhance expansion of drought tolerant trees, hillslope rehabilitation, promote IBA/KBA tourism, and legislation and protection for these ecosystems. The groups also utilize important international days to carry out market barazas and school outreaches to sensitize and educate the public on environmental conservation. Nature Kenya continues to support capacity building for local communities on biodiversity conservation. More surveys are required to provide more information on Hinde's Babbler distribution patterns over time.

### Media coverage of KBAs

The role played by the media in promoting and communicating efforts related to curbing the triple planetary crisis of climate change, biodiversity loss, and pollution threatening the well-being and survival of millions around the world is indispensable. It is crucial in raising awareness about existing and emerging environmental challenges. In 2022, newspaper articles in the Standard media, Daily Nation and The Star were reviewed. Out of the 68 Key Biodiversity Areas (KBAs) in Kenya, 32 featured either once or several times. Habitat degradation and loss are some of the serious threats to conservation and root causes of biodiversity loss. The media also featured responses: In December 2022, the National Tree Growing and Restoration Campaign was launched with the aim of inspiring the nation to achieve a 30% tree cover by 2032. This initiative is spearheaded by the national government through the Ministry of Environment, Climate Change and Forestry. Agroforestry, a versatile solution in controlling soil erosion and enhancing soil texture was continuously recommended, especially to communities living adjacent to protected areas.

Climate change effects affected wildlife broadly; the worsening drought in arid and semi-arid areas (Maasai Mara, Laikipia and Northern Kenya) reportedly killed thousands of wild animals, the most affected ones being the grazers. It led to led to drying up of water sources, further aggravating humanwildlife conflicts with communities invading the protected KBAs in search of water while wild animals left the parks for homesteads in search of food. The challenge was highlighted in KBAs in Kwale County, Tsavo East and West, among others.

Despite harsh threats from climate change several interventions are being taken globally to counter them. Some countries are seeking for convergence of Blue and Green energy to reduce dependency on nuclear energy. Other states are shifting from nuclear energy (Germany and Japan) to renewable energy. The African states are advocating for intensive tree planting. In Kenya, a number of conservation organization are making efforts to curb climate change through tree planting.

Intensive development projects, especially energy infrastructure, were highlighted as major threats to natural resources and wildlife in Lake Naivasha, Soysambu Sanctuary next to Lake Elmenteita and Nakuru National Park.

Efforts on conservation were noted to be on the rise despite the heavy threats to natural resources. Along the coastline, the initiative of replanting mangroves is ongoing, through different conservation groups and government institutions. Initiatives highlighted throughout the year were on nature-based livelihood improvement for the communities adjacent to different KBAs, especially those with mangrove forests. KBAs such as Arabuko-Sokoke Forest were on the limelight for being home to countless globally threatened, endemic and very unique species. The KBA was mentioned to have a plant, the Turituri tree, offering hope for development into a birth control medicine without having side effects.

Community members in Yala Swamp Complex KBA were in the front line, marching in solidarity to oppose a 66 year lease of more than 6,700 acres of land in the swamp, given to a private investor, Lake Agro Limited, by the National Land Commission. Lake Agro Limited intend to utilize the land for sugarcane farming. However, the crop is incompatible with other land uses, and part of the leased land is a designated an Indigenous and Community Conservation Area.



Pupils from Budala Primary School in Budalangi engaged in a bird watching activity organized by the Bunyala Yala Site Support Group. PHOTO BY E. ONYANGO

### **OVERALL RECOMMENDATIONS**

- 1. Promote forest and landscape restoration in line with the UN Decade of Ecosystem Restoration 2021-2030
- 2. Promote recognition of biodiversity conservation, water catchment and carbon capture as land uses (and therefore not idle land)
- 3. Mainstream biodiversity into other sectors of the Kenyan economy
- 4. Enhance the capacity in skills of county officials on environmental matters including policy formulation
- 5. Undertake economic valuation for natural capital accounting in Kenya for government decision making on resource allocation
- 6. Enhance ecosystem connectivity through effective management
- 7. Encourage national payment for ecosystem services schemes as incentives for local communities living within and adjacent to areas of conservation importance
- 8. Promote green values chains in production
- Recognize grasslands and seasonal wetlands as equally important as tree cover for wildlife and ecosystem services such as water catchment and disaster moderation
- 10. Promote environmental and biodiversity safeguards in policy process and infrastructural development projects.

### Recommendations for Government and Non-Governmental Organizations

### **County Governments**

- 1. Integrate nature and environment conservation actions into County Integrated Development Plans.
- 2. Formulate and operationalize County policies and legislation for sustainable land conservation and management, i.e. County Climate Change Bill, County Forest Conservation and Management Bill, etc.
- 3. Promote integration of climate change mitigation and adaptation best practices into agricultural policy and practice.

### Kenya Forest Service

- Extend the real-time surveillance using ArcGIS survey 123 (An ArcGIS mobile data collection tool used for digital field data collection and reporting) across all forest ecosystems.
- 2. Consider extending forest protection to community and private forests.
- 3. Ensure integration of indigenous tree species diversity in the National Programme for Accelerated Forestry and Rangelands Restoration (15 billion tree growing campaign).
- 4. Take advantage of the National Programme for Accelerated Forestry and Rangelands Restoration to enhance forest connectivity.
- 5. Enhance capacity in biodiversity monitoring among the field staff.

### National Museums of Kenya

- Continue conducting research on different flora and fauna species and avail population status data for identification of new KBAs as well as sharing key findings with lead agencies (e.g. KFS and KWS) for informed management decisions.
- 2. Continue offering technical training on identification and monitoring techniques for different KBA trigger species to community Site Support Groups
- 3. Continue coordinating water-fowl counts in collaboration with other stakeholders
- 4. Step up efforts to conserve Kaya forests in collaboration with other stakeholders
- 5. Closely engage communities around KBA sites in natural products development.

#### Kenya Wildlife Service

- 1. Enhance ecosystem connectivity to allow species' population interaction and genetic flow for healthy wildlife.
- 2. Ensure wildlife in and outside protected area network of Parks and Reserves are maintained as last frontier for wildlife species conservation.
- 3. Ensure indigenous and local communities living adjacent to the protected area

network and in the wildlife dispersal areas benefit from their co-existence with the wildlife and that the benefits are equitably shared.

- 4. Ensure Parks and Reserves are secure and biodiversity utilization is sustainable and regulated.
- 5. Ensure infrastructural development in KBAs, especially energy infrastructure, is well planned and sited to mitigate against negative impacts to migratory species of animals and migratory flyways for birds, and routes for other animals are respected.

### Wildlife Research and Training Institute

- 1. Develop a national wildlife data and information management system to guide policy and management decisions for the Wildlife sector.
- Coordinate wildlife research and act as repository of scientific evidence-based knowledge products to support sound conservation of wildlife species and their ecosystems.

- 3. Lobby and advocate for more resources and efforts in controlling and managing invasive and alien species.
- 4. Support with evidence the implementation of the conservancy concept where landowners derive optimal benefits from wildlife conservation enterprises.

### National Environment Management Authority

- 1. Capacity building to promote conservation and sustainable use of biodiversity
- 2. Coordinate/facilitate a national comprehensive inventory of biodiversity. The last one was done in 1992.

### Nature Kenya

- Enhance capacity of local communities in lobby and advocacy skills to advocate for sustainable development
- Support in profiling, identification and listing of new Key Biodiversity Areas in Kenya
- 3. Promote mainstreaming biodiversity into sectors of the economy
- 4. Encourage citizen science approach in biodiversity conservation.



A community anti-wildlife poisoning and vulture conservation awareness meeting in session at Samai village in Amboseli. PHOTO BY E. KULOLA

### **Data Contributors**

Abby Lelei Alex Wang'ombe Ali K. Gona Alice Bett Amos Wainaina Benard Ngoru Benson Mwenda

Boniface Migwi

Caroline Mwebia Charity Wanderi

Charles Kariuki Charles Kiptesot Charles Thoya

Cyrus N. Stephen

David Marenya David Musya David Nduhiu

Ednah N. Kulola Edward Karanja Edwin O. Misachi Edwin Utumbi Elizabeth Ngovi Emily Mateche Emmanuel Osanya Eric Abungu Francis Kagema Francis Kiura

Francis Maitha

Fredrick Lala Fridah Kalekye Gilbay Obunga Grace Wacu

Habib Namayi

Hezbone Okoth Humphrey Monari Joseph Mukeka Jacquiline Benard James Mukira

James Mutunga Jane Ndinji K/W/S Mt. Kenya, Mt Kebio SSG Gede Ruins WRTI Lake Ol' Bolossat SSG WRTI Mt. Kenya, Chehe Forest CFA Mt Kenya, Kathendeini Forest CFA KWS Mt. Kenya, Gathiuru Forest CFA Mukurweini SSG Cheranganyi Hills SSG Arabuko-Sokoke Forest Adjacent Dwellers Association (ASFADA) Mukurwe-ini **Environmental Volunteers** (MEVO) Yala SSG Mumoni Hills SSG Mt Kenya, Ragati Forest CFA Nature Kenya KWS KES Nature Kenya Mutitu Hills SSG Nature Kenva BECEP **KES** Nature Kenya Mt Kenya, Njukini Forest CFA Dakatcha Woodland Conservation Group (DWCG) WRTI Nature Kenya Nature Kenya Kijabe Environment Volunteers Organisation (KENVO) Busia Environmental **Conservation Education** Program (BECEP) Dunga Swamp SSG KFS WRTI WRTI Mt. Kenya, Nanyuki Forest CFA Nature Kenya Mt. Kenya, Kangaita Forest CFA

Japhet Amani Jared Lumbasi Jeniffer Adero Jeremy Mwenda John Raila Johnah K. Lelei Joseph Mwangi Joshua Sese Kazungu Thuva Lucy Muita Lucv Ngari Mariam B. Hatu Mark Owili Martin Kiama Martin Mwandabwa Mary Kariuki Maryrasa Ngendo Milka Musyoki Nafasi Mfahaya Nelson Ole S. Osman K. Duba Patrick Kurere Patrick Muriuki Paul Gacheru Paul Kulalya Paul Omondi Peter K. Mwangi Peter Kibobi Peter Njeru Peter O. Ouda Peter Wanyiri Robert Mwanza Ronald Mulwa Ruwa K. Masha Sadam Mohamed Samson Kimutai Samuel Guchu Sheila Ochieng Simon Peter Gitahi Stephen Kamau Timothy Mwinami Vasco Nyaga Wanyoike Wamiti Wilson Thige

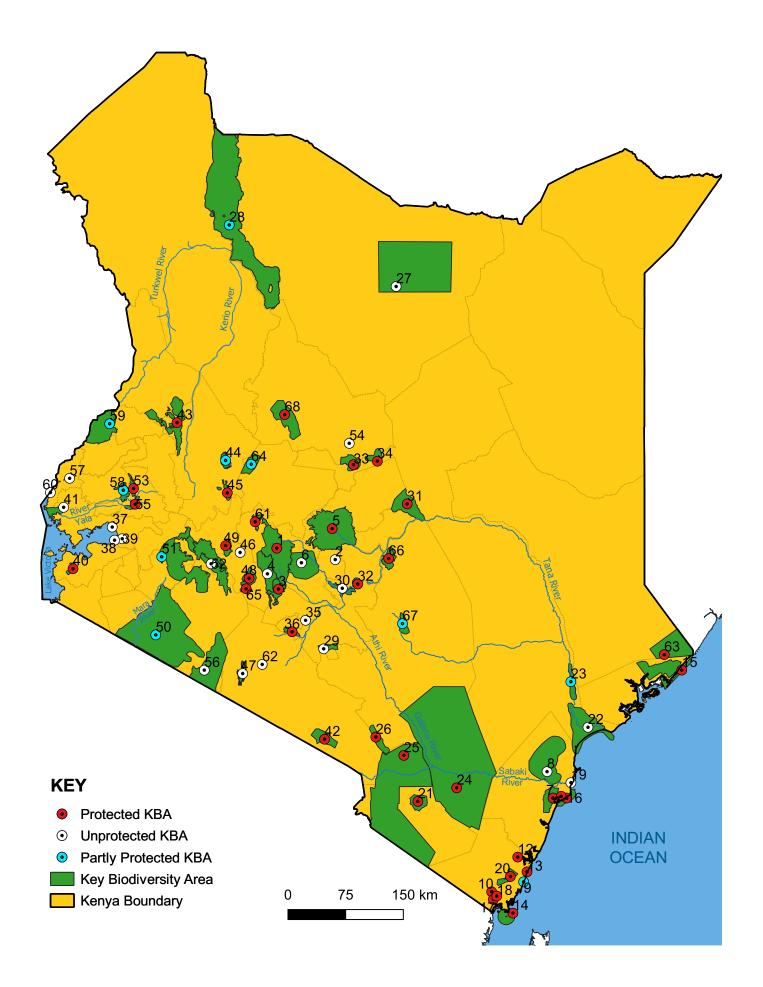
Sabaki River Mouth SSG WRTI Nature Kenva Mt. Kenya, Ngare Ndare Forest CFA Dunga Swamp SSG Murguiywet CBO Sabaki River Mouth SSG Nature Kenya DWCG KWS Friends of Kinangop Plateau (FoKP) Tana Delta Conservation Network (TDCN) Ruma SSG Nature Kenva KFS Lake Naivasha **Biodiversity Conservation** Group (LANABICO) Mt. Kenya, Murinduko Hill Forest CFA Nature Kenya KFS Maasai Mara Wildlife Ambassadors Self Help Group (MMWASHG) KWS Friends of Nature Bogoria Mt. Kenya, Castle Forest Block CFA Nature Kenya Mutitu Hills SSG KWS KFS Nature Kenya Nature Kenya KWS Lake Elmenteita CBO (LECBO) Mumoni Hills SSG NMK KFS Mida SSG South Nandi SSG NMK **KWS** Mt. Kenya, NaroMoru Forest CFA Mt. Kenya, Kabaru Forest CFA NMK WRTI NMK Mt. Kenya, Hombe Forest

CFA

### Summary of 2022 Kenya KBA Score on Status, Pressure, Response and Overall Change Description

KBA Code	Site Name	State 2022	Pressure 2022	Response 2022	Change
<e001< td=""><td>Aberdare Mountains</td><td>1</td><td>3</td><td>3</td><td>No change</td></e001<>	Aberdare Mountains	1	3	3	No change
KE002	Kianyaga Valleys	0	2	1	small deterioration
KE003	Kikuyu Escarpment Forest	0	2	2	small deterioration
<e004< td=""><td>Kinangop Grasslands</td><td>0</td><td>3</td><td>1</td><td>No change</td></e004<>	Kinangop Grasslands	0	3	1	No change
KE005	Mount Kenya	1	2	2	No change
KE006	Mukurweini Valleys	0	3	1	small deterioration
KE007	Arabuko-Sokoke Forest	1	3	3	Small Improvement
KE008	Dakatcha Woodland	1	2	2	Small Improvement
KE009	Diani Forest	-	-	-	
KE010	Dzombo Hill Forest	1	2	3	No change
KE011	Gede Ruins National Monument	1	3	1	Small Improvement
KE012	Kaya Gandini	-	-	-	
KE013	Kaya Waa	-	-	-	
KE014	Kisite island	1	1	3	Small Improvement
KE015	Kiunga Marine National Reserve	-	-	-	
KE016	Mida Creek, Whale Island and the	0	3	3	No change
	Malindi - Watamu coast	0	5	5	No change
KE017	Marenji Forest	2	2	2	Small Improvement
<e018< td=""><td>Mrima Hill Forest</td><td>0</td><td>2</td><td>1</td><td>No change</td></e018<>	Mrima Hill Forest	0	2	1	No change
<e019< td=""><td>Sabaki River Mouth</td><td>1</td><td>3</td><td>1</td><td>No change</td></e019<>	Sabaki River Mouth	1	3	1	No change
<e020< td=""><td>Shimba Hills</td><td>2</td><td>3</td><td>2</td><td>Small Improvement</td></e020<>	Shimba Hills	2	3	2	Small Improvement
KE021	Taita Hills Forests	2	2	2	Small Improvement
KE022	Tana River Delta	0	3	3	Small Improvement
KE023	Lower Tana River Forests	1	2	2	Small Improvement
KE024	Tsavo East National Park	0	3	3	Small Improvement
KE025	Tsavo West National Park	1	3	3	Small Improvement
KE026	Chyulu Hills forests	0	3	2	Small Improvement
KE027	Dida Galgalu Desert	-	-	-	
KE028	Lake Turkana	1	3	1	No change
KE029	Machakos Valleys	_	-	_	
KE030	Masinga Reservoir	1	3	1	No change
KE031	Meru National Park	1	2	1	Small Improvement
KE032	Mwea National Reserve	-	-	_	
	Samburu & Buffalo Springs National				
KE033	Reserves	-	-	-	
KE034	Shaba National Reserve	1	3	1	Small deterioration
KE035	Dandora ponds	2	2	1	No change
KE036	Nairobi National Park	1	3	3	No change
KE030	Dunga Swamp	1	3	1	No change
KE038	Koguta Swamp	3	3	1	No change
KE039	Kusa Swamp	-	-	-	No change
KE040	Ruma National Park	-	-	-	
KE040	Yala Swamp complex	- 1	- 3	- 1	Nie eben ei
KE041 KE042		1		3	No change
	Amboseli National Park		3		Small Improvement
KE043	Cherangani Hills	1	2	3	Small Improvement
KE044	Lake Baringo	0	3	2	Small Improvement
KE045	Lake Bogoria National Reserve	3	2	3	Small Improvement
KE046	Lake Elmenteita	3	2	3	Small Improvement
KE047	Lake Magadi	0	3	1	No change
KE048	Lake Naivasha	1	2	2	Small Improvement
KE049	Lake Nakuru National Park	1	3	2	Small Improvement
KE050	Masai Mara	1	2	3	Small Improvement
KE051	Mau Forest Complex	1	2	2	Small Improvement
KE052	Mau Narok - Molo grasslands	0	2	0	No change
KE053	North Nandi Forest	0	2	2	No change
KE054	Ol Donyo Sabache	3	3	3	No change
KE055	South Nandi Forest	1	2	3	Small Improvement
KE056	South Nguruman	1	3	1	No change
KE057	Busia Grasslands	0	3	0	No change
KE058	Kakamega Forest	1	2	2	Small Improvement
KE059	Mount Elgon	-	-	-	
KE060	Sio Port Swamp	0	3	1	Small Improvement
KE061	Lake Ol' Bolossat	1	3	2	No change
KE062	Kwenia	1	3	3	Small Improvement
KE063	Boni and Dodori National Reserves	3	3	0	Small deterioration
KE064	Ol Ari Nyiro	-	-	-	
KE065	Hell's Gate National Park	1	3	3	Small Improvement
KE065	Mumoni Hill Forest Reserve	1	3	1	small deterioration
KE067	Mutitu Forest Reserve	1	3	1	No change
NLUU/	matita i oreșt Neșelve	1	2	3	New KBA

### **KENYA'S KEY BIODIVERSITY AREAS**





Volunteers participating in the waterbird counts at Lake Elmenteita. PHOTO BY JOHN MWACHARO



