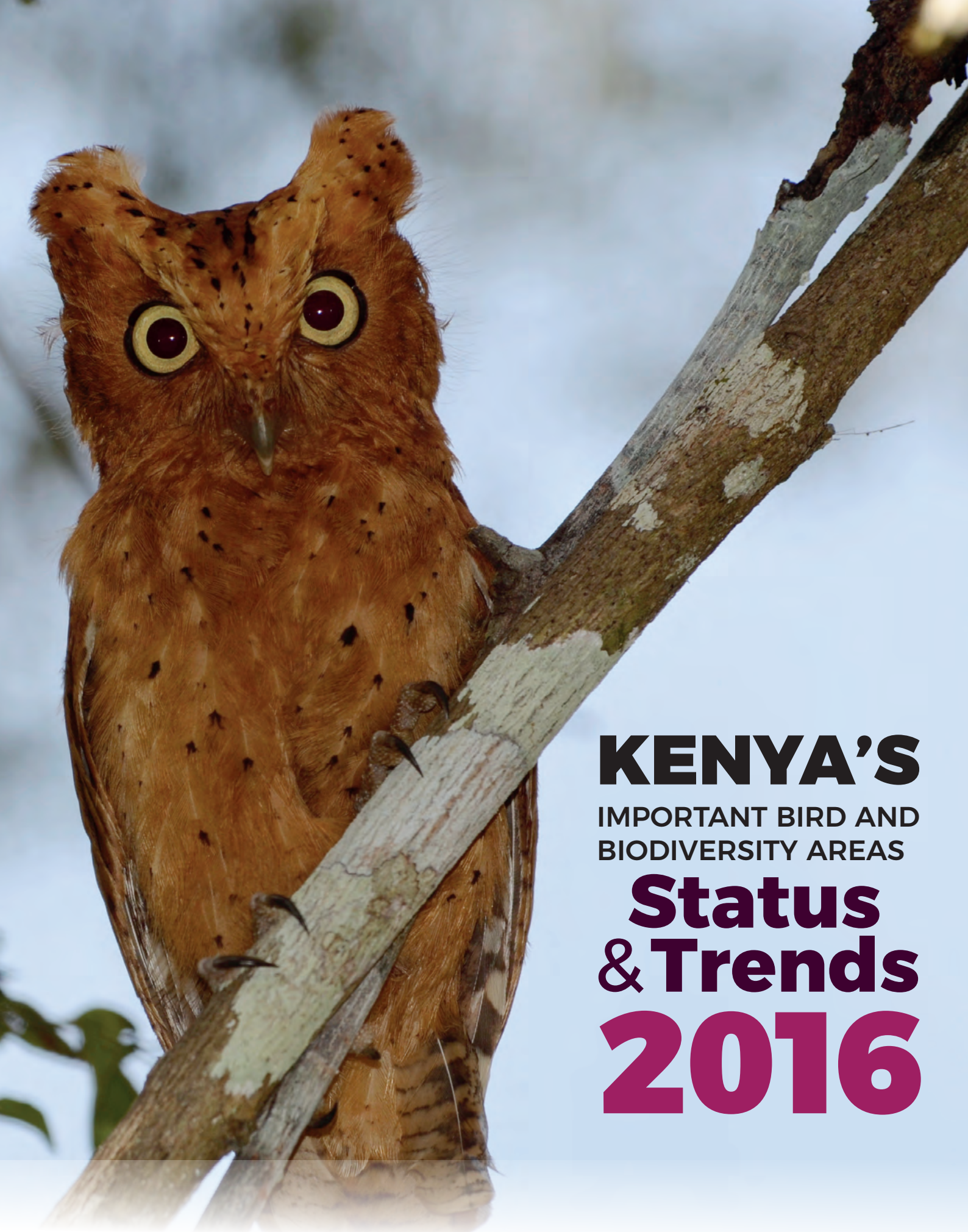

# KENYA'S

## IMPORTANT BIRD AND BIODIVERSITY AREAS

# Status & Trends 2016

rspb giving nature a home
BirdLife INTERNATIONAL
KENYA WILDLIFE SERVICE
NATIONAL MUSEUMS OF KENYA WHERE HERITAGE LIVES ON
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Dansk Ornitologisk Forening
NABU German Society for Nature Conservation
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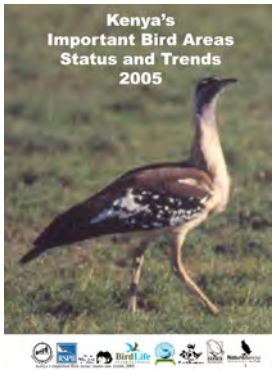











## Books


## Checklists


## Brochures

# Kenya's
## Important Bird and Biodiversity Areas
# Status and Trends
# 2016


**Compiled by:**
Fred Barasa, Timothy Mwinami, Paul Gacheru, Paul Mungai, Harron Wanjohi, Ronald Mulwa and James Mwang'ombe

**Edited by:**
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Mshenga Mwacharo

**Collaborating Organisations:**
Nature Kenya, Kenya Wildlife Service (KWS), Kenya Forest Service (KFS), National Environment Management Authority (NEMA), the Royal Society for Protection of Birds (RSPB) and BirdLife International

## Cover photo: **: Sokoke Scops Owl** *(Otus ireneae)*

Photo by **JOHN MWACHARO**

The Sokoke Scops Owl, *Otus ireneae*, first became known to science in the 1960s in the Arabuko-Sokoke forest in Kenya. This owl is classified as Endangered in the IUCN conservation status categorisation. It's a tiny owl, only about 15 cm long. It occurs in three different colour morphs: dark brown, grey-brown or rufous plumage, and heavily barred, streaked and spotted.

This owl is nocturnal and is sometime active around dusk and dawn. The large, yellow eyes provide excellent eyesight for hunting at night. Its diet consists of insects, such as beetles and crickets. During the day it roosts in thickets. There is little known about the breeding behaviour, but it is thought that it may nest in natural cavities in large or old trees. It occurs in Arabuko-Sokoke Forest IBA and Dakatcha Woodland IBA in Kilifi County.

The Sokoke Scops Owl habitat is under threat mainly from illegal tree harvesting, charcoal production and land use change to agriculture. This is causing increased habitat fragmentation which may have negative impact on the survival of the species. The Sokoke Scops Owl is also found, in small numbers, in the East Usambara Mountains of north-east Tanzania.

# Copyright



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# CONTENTS



# ACRONYMS

| | |
|---|---|
| **BI** | Birdlife International |
| **CEPF** | Critical Ecosystem Partnership Fund |
| **CFA** | Community Forest Association |
| **DABICO** | Dawida Biodiversity Conservation Organisation |
| **DWCG** | Dakatcha Woodland Conservation Group |
| **EIA** | Environmental Impact Assessment |
| **FMA** | Forest Management Associations |
| **FoKP** | Friends of Kinangop Plateau |
| **FoMM** | Friends of Maasai Mara |
| **FoNB** | Friends of Nature Bogoria |
| **GEF** | Global Environmental Facility |
| **IBAs** | Important Bird and Biodiversity Areas |
| **IUCN** | International Union for Conservation of Nature and Natural Resources |
| **KBA** | Key Biodiversity Area |
| **KENVO** | Kijabe Environmental Volunteers |
| **KFS** | Kenya Forest Service |
| **KWS** | Kenya Wildlife Service |
| **LAPSSET** | Lamu Port –South Sudan-Ethiopia Transport Corridor |
| **LNRA** | Lake Naivasha Riparian Association |
| **MEVO** | Mukurweini Environmental Volunteers |
| **NEMA** | National Environment Management Authority |
| **NK** | Nature Kenya |
| **NMK** | National Museums of Kenya |
| **PFMP** | Participatory Forest Management Plans |
| **RSPB** | Royal Society for the Protection of Birds (UK) |
| **SEA** | Strategic Environmental Assessment |
| **SGR** | Standard Gauge Railway |
| **SSG** | Site Support Group |
| **WCS** | Wildlife Conservation Society |
| **WWF** | World Wide Fund for Nature |

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This work could not have been possible without the collaborative contributions from National Museums of Kenya, Kenya Wildlife Service, Kenya Forest Service, National Environment Management Authority and Nature Kenya Site Support Groups. We are grateful to all individuals who contributed data for this publication. Funding for the production of this report was made available by Royal Society for Protection of Birds, Dansk Ornitologisk Forening, Fondation Segre, BAND Foundation, Nature and Biodiversity Conservation Union (NABU), MacArthur Foundation, Critical Ecosystem Partnership Fund and BothEnds.

**Disclaimer**

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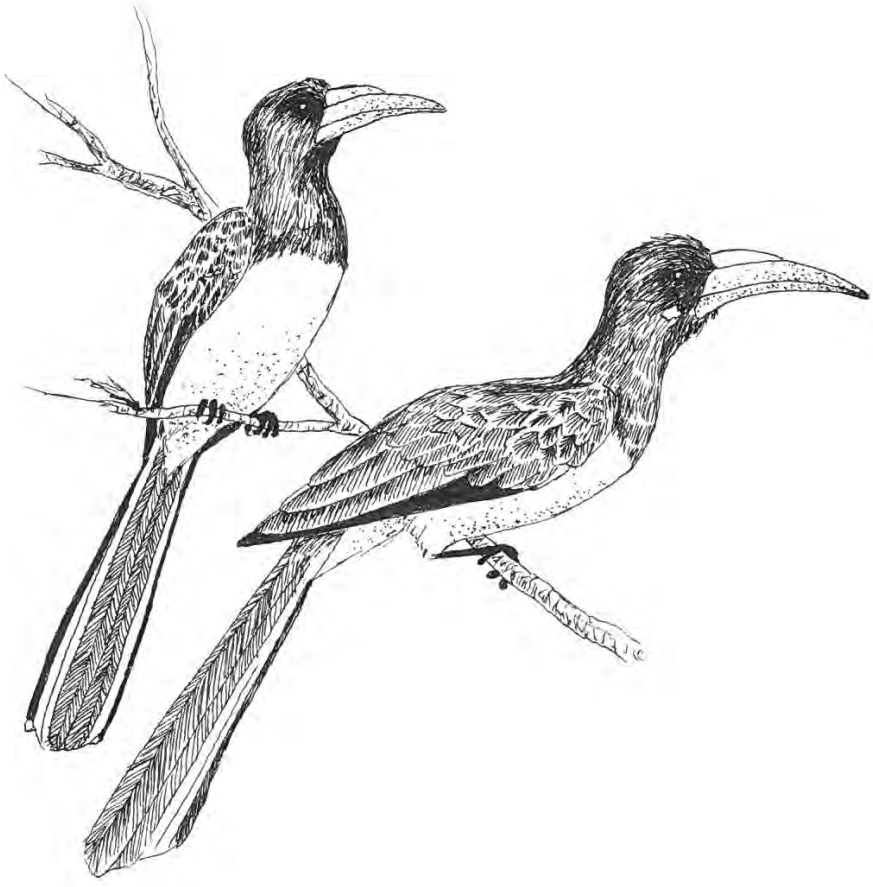


**Hemprich's Hornbills**
BY E. SELEMPO

# EXECUTIVE SUMMARY

The 2016 report is a summary of the state, pressure and response at Kenya's 67 Important Bird and Biodiversity Areas (IBAs). Information was gathered for 44 representative sites using basic monitoring forms and secondary data (newspaper cuttings and other articles) and analysed for this report. For the 23 sites where data was not received, the previous year's data has been used.

The report also describes two new IBAs, Mumoni and Mutitu Hill Forests, the 66th and 67th sites respectively that were added to the list in 2016.

The monitoring results enables stakeholders to track the state, threats and conservation actions happening at the various sites and act on them (Figure 1).

**State, Pressure and Response Summary**

The mean status score of the Kenyan IBAs increased from 1.00 to 1.06. This can be attributed to the two new IBAs that were added to the list, plus the continued patrols and surveillance especially in the protected areas, which led to safer habitats for birds and other biodiversity.

Wildlife poaching, upcoming developments like the Standard Gauge Railway (SGR) passing across Nairobi National Park, land subdivisions and cultivation in some of the IBAs, encroachment, illegal logging, charcoal production and pole cutting were among the major threats that led to an increase in the threat score as compared to the previous year.

The responses declined slightly from 1.63 to 1.58. This can be attributed to expired or non-implemented management plans and complete lack of conservation activities at some of the sites.

**State, Pressure and Response**

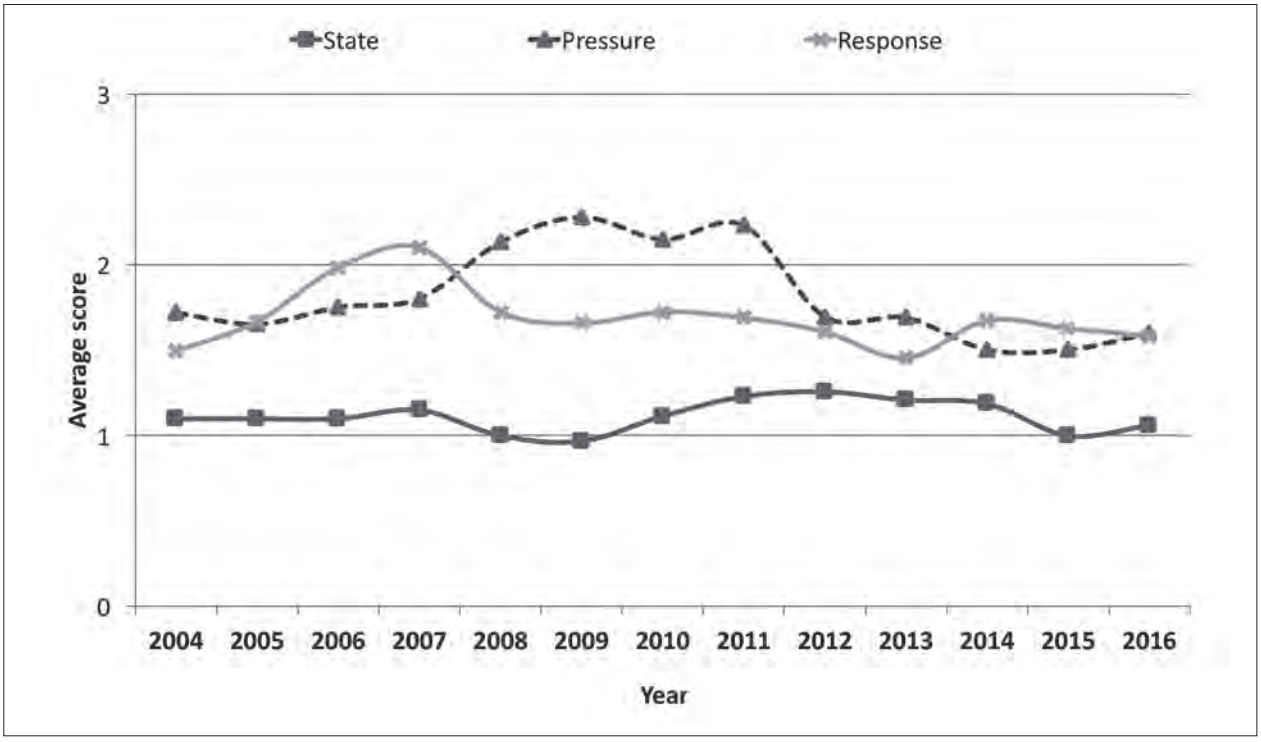
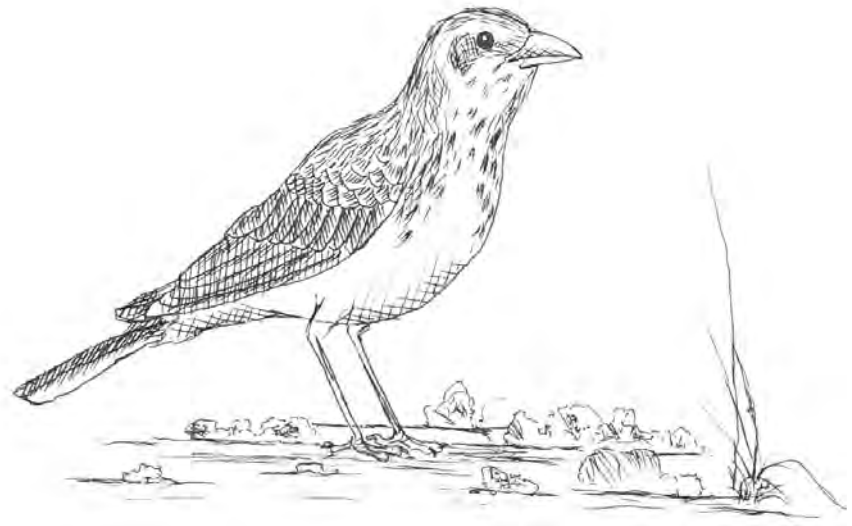



**Figure 1:** The average trends in State, Pressure, and Response in Kenya's Important Bird Areas, 2004-2016

## Summary of Recommendations

1. National and county governments and government agencies to make sure that there is NO mining or oil or gas extraction in protected areas or cultural sites.
2. National and county governments to always include environmental considerations in any projects, programmes or policies.
3. National and county governments to adhere to the principle in the Constitution of Public Participation.
4. National and county governments to promote the use of wildlife corridors and dispersal areas outside protected areas, with benefits for neighbouring communities
5. Promote the mechanism of Payment for Ecosystem Services to enable habitat restoration to maintain the flow of ecosystem services that support the Kenyan economy – such as water from forests for irrigation and power generation.
6. Require energy companies to follow global best practices to avoid deaths of birds and other wildlife when setting up energy infrastructure such as wind turbines and power lines.
7. Promote the use of biogas from agricultural waste and subsidised liquified petroleum gas (LPG) for institutions and households to reduce dependence on wood fuel.
8. Encourage County government to have county spatial plans informed by science
9. Formulate County legislation consultatively for nature conservation.
10. Encourage County governments to constitute County Environment Committees (CECs) and have them gazetted. The CECs are critical in identifying and prioritizing environmental issues for action in the counties.
11. Undertake studies of illegal trade in birds, and wild bird meat, eggs and body parts, and take action to stop this destructive trade
12. Use biodiversity research findings to inform sustainable development



**William's Lark**
BY E. SELEMPO

# INTRODUCTION

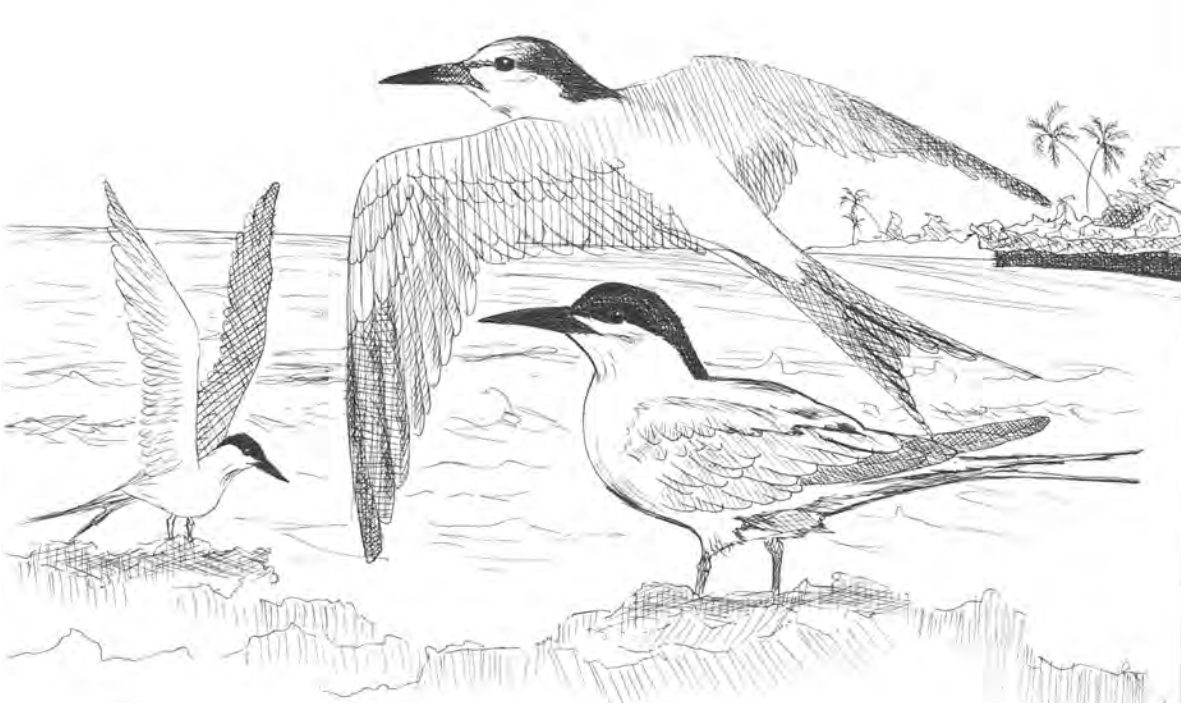
**Important Bird Areas (IBAs)**
Important Bird and Biodiversity Areas (IBAs) are sites of international significance for the conservation of birds and other biodiversity and have been recognised world-wide as practical tools for conservation and sustainable use of the natural environment.

Important Bird Areas and Key Biodiversity Areas are identified using a set of internationally agreed criteria, based on the presence of species and their population sizes at the sites. To date, over 10,000 sites have been identified worldwide. In Kenya, 67 sites have been identified, covering 6,637,073 ha of forests, wetlands, semi-arid and arid areas and moist grasslands. Kenya hosts 42 bird species that are globally threatened.

The programme for monitoring the IBA sites seeks to assess changes to bird populations and their habitats, track threats and highlight appropriate conservation actions that are implemented. On a yearly basis, basic monitoring forms are distributed to monitors (site managers and other trained professionals and volunteers who are conversant with the IBA sites). Alternatively, monitoring forms can be downloaded from the Nature Kenya website. The monitors assess their respective sites and submit the monitoring forms to the Kenya Wildlife Service, Kenya Forest Service, National Museums of Kenya and Nature Kenya for data entry, filing and analysis. Additional data is also gathered from newspaper articles. Monitoring of IBAs has been ongoing since 2004 and the results published annually as the IBAs Status and Trends report.

Monitoring is modelled to track the "Pressure" or "Threats" to an IBA, the "Status" or "Condition" of sites, and "Responses" or "Interventions" to address threats within an IBA, by measuring a set of parameters as indicators. State is scored from 0 (very unfavourable condition) to 3 (very favourable). Pressure ranges from 0 (low) to 3 (very high) while Response ranges from 0 (negligible) to 3 (high).

The trend scores are calculated by comparing status scores between years and are presented using graphs. The 2016 report is based on 62 basic monitoring forms, retrieved from 44 out of the 67 IBA sites. In the 23 sites where no data was received, the 2015 data has been extrapolated.



**Common Terns**
BY E. SELEMPO

# KEY RESULTS

## Status of Habitats and Species

The status of the Kenyan IBAs scored a mean of 1.06 during the reporting period (Figure 2). This is slightly better than the previous year, though generally it remained unfavourable. Sites that showed favourable conditions are Kikuyu Escarpment, Mumoni and Mutitu Hill Forests. In Yala swamp, 775ha were mapped as community conserved areas, while 300ha that had been degraded have been restored by the Yala Ecosystem Site Support Group.

Kaya Waa habitat seems to be the most adversely affected, based on the level of challenges facing the site as indicated under the threats section.

## Pressure: Threats to IBAs

There was an increase in the pressure mean score during 2016 (Figure 3). Rapid infrastructure development in Kenya aimed to spur economic growth has been ongoing at the expense of the environment. For example, Phase 2a of the Standard Gauge Railway construction is planned to traverse the Nairobi National Park, which is a unique habitat for critically endangered species like the Black Rhino and White-backed Vulture, and the Vulnerable Lion. From an economic point of view, the Nairobi National Park received over 120,000 visitors annually. However, from a national perspective, the railway project will benefit the entire country. This example illustrates the continued pressure mounted on critical biodiversity conservation areas.

Yala Swamp was faced with further expansion of irrigated land in 2016. There was a request by the National Land Commission to annex over 2000ha for irrigated agriculture. This action was not tenable, given that based on hydrological surveys, the proposed area is difficult to drain. This shows that investors and politicians do not take scientific recommendations into consideration. Fortunately, following objections by Nature Kenya and others, the request was rejected by the National Land Commission.

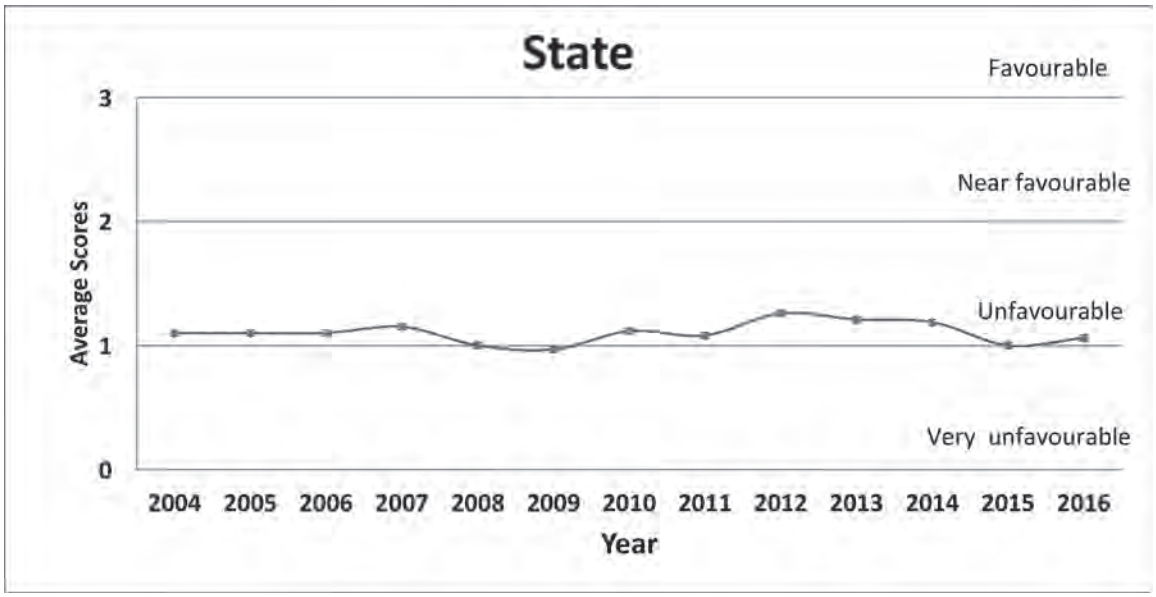



**Figure 2:** The Average Status of the Kenya IBAs, 2004 to 2016

The Kaya Waa Forest, though gazetted as a National Monument under the National Museums of Kenya (NMK), most of it is privately owned and it faces many threats, which include quarrying of coral building blocks, intense pole cutting, logging for building and land grabbing of part of the site. Due to insecurity in some parts of the country, some key sites go unmonitored. For instance, the political unrest in Somalia and the insurgent militia groups said to inhabit the Boni Forest Reserve gazetted in 2016, make it difficult if not impossible to monitor this site. Meanwhile the militia groups rely on poaching for food, and the fighting destroys natural habitats.

Illegal trade of birds for meat, eggs and sometimes witchcraft has been recorded to be on the rise. Trade in endangered Grey Crowned Cranes meat and eggs, mainly for subsistence, has been recorded in Lake Ol' Bolossat IBA and thus has affected population recruitment. Other species affected are owls, whose eggs have been noted to be sold online mainly for traditional medicine. The magnitude of illegal trade in birds goes undocumented and unregulated.

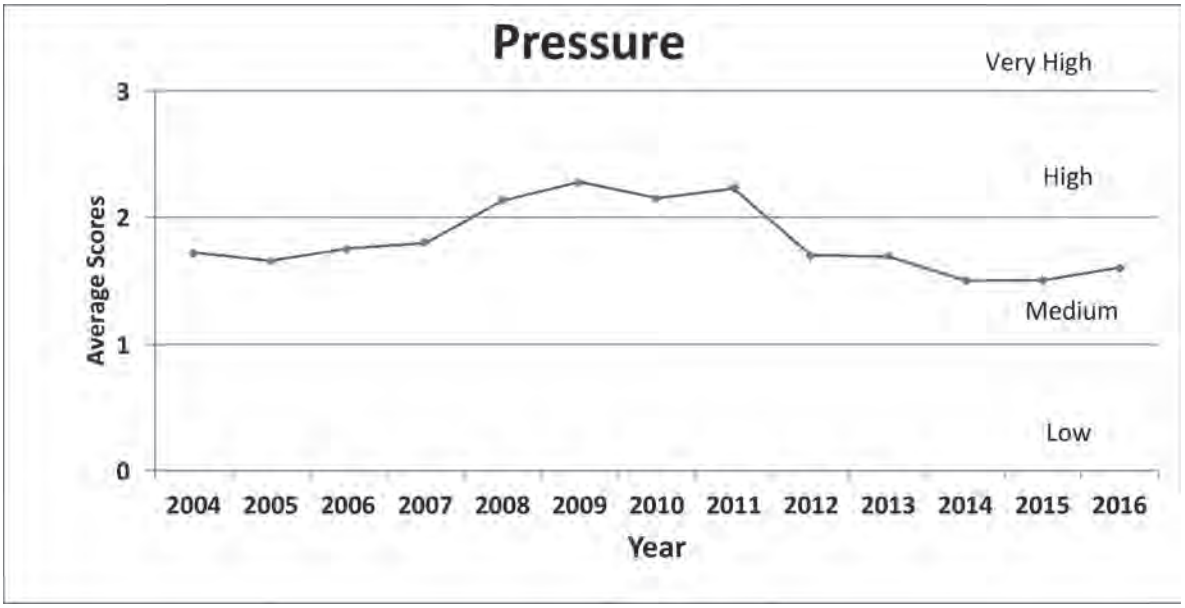



**Figure 3:** The Average Pressure on the Kenya IBAs, 2004-2016

**Response: Conservation Action at IBAs**

There was a decrease in the mean response score in 2016 (Figure 4). This mostly arose from sites where there was lack of implementation of conservation activities due to various factors, e.g. failing to implement a strategic plan because of lack of funds or failing to review actions plans after they had expired, among other reasons.

Some Counties have been in the forefront of putting in place proper conservation legal frameworks through the formulation of policies and legislation. In Kilifi County, the Kilifi County Forest Bill 2016, Kilifi County Forest Policy and the Kilifi County Wood fuel Regulations were developed with input from stakeholders. If approved and implemented, these will provide a good base for nature conservation.

Following the deaths of vulture by poisoning in Masai Mara IBA, stakeholders joined hands to tackle this challenge. They trained 35 participants from community conservancies and Masai Mara National Reserve on how to respond to poisoning incidents to control further loss of wildlife, report to relevant authorities and to decontaminate the poisoning scene. This event raised awareness on the catastrophic nature of wildlife poisoning.

Habitat connectivity is critical to maintain flows of nutrients, ecosystem services and genetic diversity. Mapping of wildlife corridors and dispersal areas to guide planning while taking into consideration conservation needs has been ongoing in Kenya. This work will present a way forward for wildlife conservation; for example, Arabuko-Sokoke Forest can be connected to the Tsavo ecosystem, allowing elephants to move between them, promoting genetic mixing and spurring ecotourism enterprises for the local community living adjacent to these conservation areas.

In Yala Swamp, although the basic monitoring seem not to have captured a wide range of responses including: Development of a Land Use Plan guided by Strategic Environment Assessment, Ecosystem Service Assessment for Yala, restoration of degraded areas by the local community, mapping of Community Conservation Areas, planting of native vegetation along Yala River and local community livelihoods initiatives including fish farming and papyrus products and marketing. These initiatives are at their early stages and so pressure remains high and the condition of Yala swamp remains unfavorable.

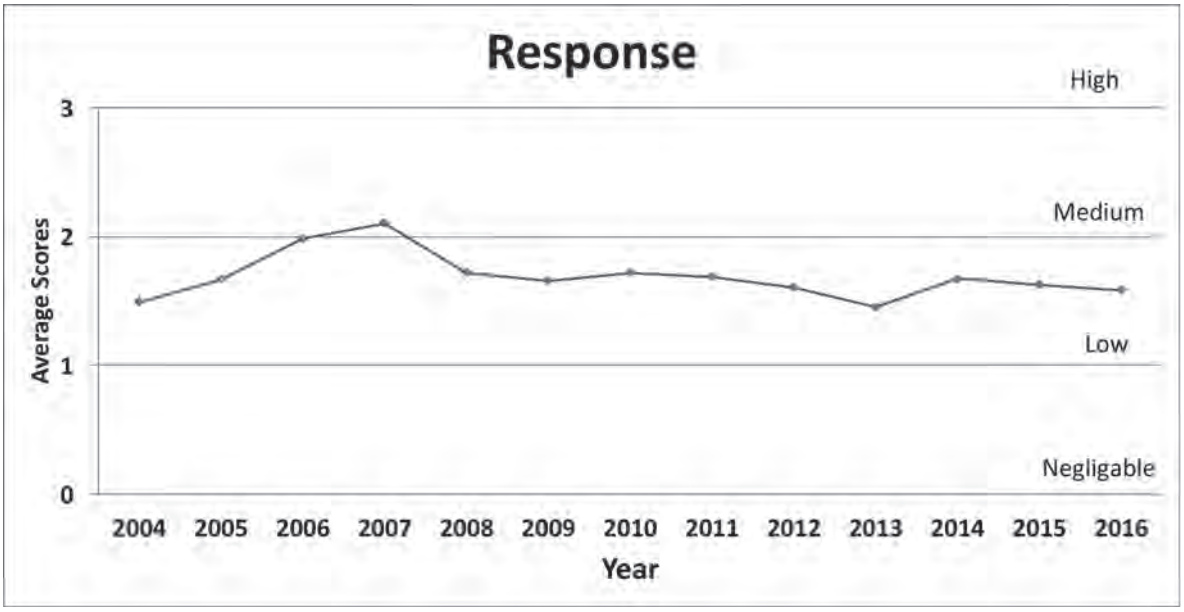



**Figure 4:** The Average Response Scores for Kenyan IBAs, 2004-2016

## Global partnership to move IBAs to KBAs

During the IUCN world congress held in 2016, global conservation organisations – Birdlife International, IUCN (International Union for the Conservation of Nature), Critical Ecosystem Partnership Fund (CEPF), Global Environmental Facility (GEF), Royal Society for the Protection of Birds (RSPB), Wildlife Conservation Society (WCS), World Wide Fund for Nature (WWF) and Amphibian Survival Alliance – agreed to a new partnership for recognising areas of biodiversity conservation importance under the Key Biodiversity Areas (KBA) protocol.

This will involve applying the KBA standard to expand the network of biodiversity-rich areas. Following the KBA standard, all IBAs are KBAs but of different Biological Importance or Biological Priority, which are categorised as BP1, BP2, BP3 and BP4. Additional biodiversity information needs to be generated through field surveys on different taxa to aid in prioritising and improving the profile of IBAs. Data from these sites will guide decision making on areas that require safeguarding.

## Response to Wildlife Poisoning

Poisoning has been identified as one of the leading killers of a wide range of wildlife species across Africa. In Kenya poisoning is most often associated with livestock herders lacing carcasses with pesticides or other poisons to control lions, hyenas, leopards and other predators (See Ogada, D. L. 2014. The power of poison: pesticide poisoning of Africa's wildlife. Annals of the New York Academy of Sciences 1322: 1-20). This has resulted in tremendous impacts on unintended victims like vultures and other scavengers. Kenya Wildlife Service together with other conservation stakeholders is spearheading development of a national wildlife poisoning incident response protocol. This is aimed to offer guidance to various players in the sector to recognise poisoning incidents, management of the scene to avoid further wildlife deaths and actions to be taken for decontamination. Initial trainings have been held in the Masai Mara. Wildlife poisoning is a crime in Kenya and is punishable by law.

## IBA Media Coverage

Media coverage plays a vital role in providing data that contributes to the Status and Trends report. This year, a total of 342 reports touching on the status, pressure and responses in IBAs were covered by the mainstream media.

Human-wildlife conflict arising from Hippos, Crocodiles, Leopards, Elephants, Baboons and Hyenas was the most frequently reported threat by the media. These were in connection with crop destruction by the mentioned animals or through killing of livestock that also led to poisoning. Logging and its effects is another threat which has been featured frequently in the media. Poaching was reported in 15 incidences where Elephants, Black Rhino and Giraffes were reported to have been poached.

Issues of development conflicting with conservation and environmental health were also reported. The country is setting up development projects at the expense of the natural environment, as indicated by the coal-fired plant project at the coast, wind power locations and the Standard Gauge Railway (SGR) passing through Nairobi National Park and beyond to Naivasha.

A total of 87 articles were also recorded by the media in 2016 in relation to conservation interventions undertaken at various sites in the country. An example is the Walk to save the Elephants that has been well covered, over six times. Various advocacy actions were also highlighted – an example was the Tana River Delta Land Use Plan.

## Payment for Ecosystem Services updates

The Mt. Kenya ecosystem provides fundamental ecosystem services, which include water, climate regulation, and cultural and recreational services. The ecosystem is Kenya's largest 'water tower' feeding two major river basins, Ewaso Nyiro North and Tana river basins. Mt Kenya's ecosystem water service, valued at USD 20.4 million/year, provides an opportunity where forest adjacent community groups (water sellers) can be engaged in watershed protection and rehabilitation with financial support from downstream water users (the buyers). Recognizing the need to target the local market, Nature Kenya is building the capacity of Community Forest Associations (CFAs) whose membership is comprised of forest adjacent communities and is legally recognized under Kenyan law. By recognizing Payment for Ecosystem Services as a form of resource mobilization, CFAs are taking conservation actions for watershed rehabilitation in partnership with the local or national private sector.

This is a model for sustainable business operation in Kenya. It enables companies to demonstrate commitment to environmental management, to build strong relationships with stakeholders who are the water producers, and to help towards replenishing the raw materials. Sustaining water flows is equal to business sustainability.

## Livelihood Linkages to Conservation

The conservation agenda has existed for many years now, though approaches used to reach targets have varied over time. One approach is linking biodiversity conservation to community livelihoods.

This approach is based on the premise that biodiversity conservation and sustainable natural resource use are directly linked to people's rights to secure their livelihoods and live in dignity. By introducing Nature Based Enterprises such as beekeeping, butterfly rearing, chicken rearing and fish farming, local communities living adjacent to IBAs can start to appreciate benefits that emanate from the environment. These enterprises aid to reduce over-extraction of resources from the environment by providing alternative livelihood activities. With these interventions, critical ecosystem services are maintained for the well-being of the community.

**Lesser Flamingos**
BY E. SELEMPO

**Population Trends of Lesser Flamingo (*Phoeniconaias minor*) and Greater Flamingo (*Phoenicopterus roseus*) on Kenya's Rift Valley lakes**

Alkaline Rift Valley lakes in Kenya, especially lakes Nakuru and Bogoria, are known to host populations of flamingos, among other avian species, both local and migratory. The alkaline concentration of the lakes provides suitable conditions for the growth of blue-green algae, which is the main dietary item for the flamingos – especially the Lesser Flamingo. From 2011 to 2015, there has been a considerable rise in water levels within these lakes, which has had an impact on flamingo numbers. The increase in water levels has been observed to dilute the alkalinity of the lake waters, and consequently their ability to support blue-green algae and Lesser Flamingos.

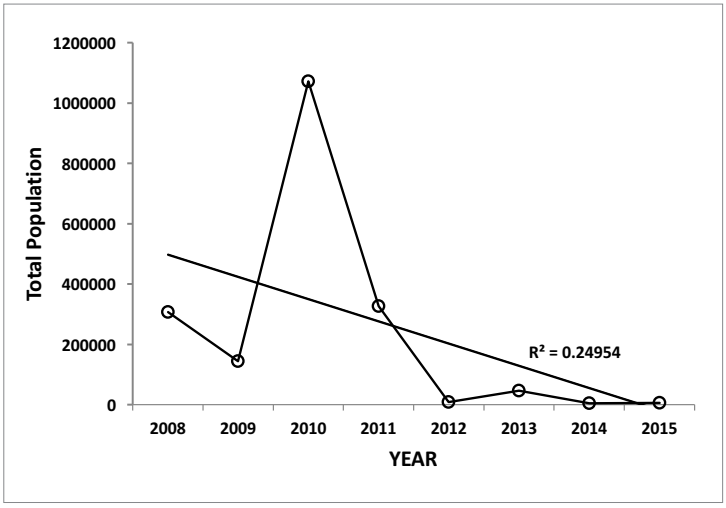



**Figure 5:** Lesser Flamingos on lake Nakuru and Bogoria combined, 2008-2015. The circles indicate actual numbers counted. Although numbers for 2012, 2014 and 2015 appear close to zero, they were actually thousands. The straight line is the overall population trend. Note that flamingo numbers started falling steeply when lake waters rose between 2011 and 2015, rendering the lakes less alkaline.

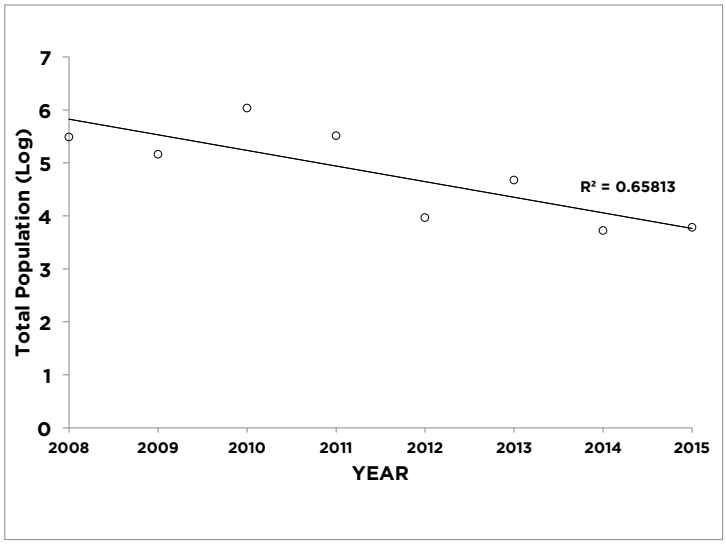



**Figure 6:** Combined population trend of Greater Flamingo at Lakes Nakuru and Bogoria from annual waterfowl counts during the period 2008-2015.

Collaboratively, National Museums of Kenya, Kenya Wildlife Service, Nature Kenya, Site Support Groups and volunteers have been involved in annual waterfowl counts. These counts have generated important data on the population trends of both the Lesser and Greater flamingos.

Between 2008 and 2015, in lakes Nakuru and Bogoria, Lesser Flamingo numbers were observed to be in a decline (Figure 5) while the population of Greater Flamingo has remained stable (Figure 6). Greater Flamingos feed on a wider variety of food items, both zooplankton and phytoplankton. They are therefore not as dependent on blue-green algae as Lesser Flamingos.

The population of Lesser Flamingo has varied greatly within the lakes over the years. In 2010 more than one million Lesser Flamingos were recorded in total in the waterbird counts, and in 2014 only 5,000 were recorded.

Flamingos are known to have a long life span. Some of the Lesser Flamingos ringed by Leslie Brown and East Africa Natural History Society volunteers at Lake Magadi in 1962 died at Lake Bogoria in 2002 and 2003 – when they were 40 years old. Another flamingo ringed at Magadi in 1962 was found dead at Bogoria in February 2013 – at an amazing 50 years old!

From this summary, further research needs to be carried out to assess the breeding success of Greater Flamingo that aid to maintain stable populations within these lakes; habitat conditions suitable for sustaining Lesser Flamingos; and the migratory patterns of these flamingos within the Rift Valley lakes. Inclusion of all East African alkaline lakes, coastal estuaries and salt pans in the annual waterfowl counts would provide additional data on the population of these species.

## Description of Mumoni Hills Forest, Kenya's 66th Important Bird Area

**Administrative Region:** Kitui County, Kenya
**Central Coordinates:** 0°31'30.89'S
37°59'07.16 E
**Area:** 11,031 ha
**Altitude:** 600-1,800m

### Site Description

Mumoni Forest is situated in Mumoni sub-County in Kitui County (Fig 7). It emerges as 'inselbergs' from arid scrubland vegetation on plains at 600m, rising to about 1,800m above sea level.

The climate is arid and semi-arid with erratic and unreliable rainfall at the base, to moderately moist at the top. Mean annual rainfall ranges from as low as 500mm in the lowlands to over 1,050mm in the hilltop. The site experiences two rainy seasons, long rains between March to June and short rains between October and December. Temperature and evaporation rates are generally high with February and September being the hottest months of the year. Minimum mean annual temperatures vary between 14° C to 22° C while maximum mean annual temperatures vary between 26° C to 34°.

### Habitats

The vegetation is characterised by scrublands and wooded bushland on the lowlands, while the hilltop is upland dry forest ecosystems dominated by *Drypetes, Combretum*, *Vepris* and *Croton* species. There are perennial springs that sustain the dryland human and animal life. Rock outcrops form a small percentage of the habitat.

### Land Use

Gazetted government dryland indigenous forests with some small pockets of exotic plantations.

### Birds

These hills are clearly important sites for raptors, (including Afrotropical and Palaearctic migrants). The IBA hosts the following species, among others: Hinde's Babbler and Martial Eagle (Vulnerable), Southern Banded Snake Eagle, Pallid Harrier and Crowned Eagle (Near Threatened). The sites also host 15 species of the Somali-Masai Biome, four species of Afrotropical Highland biome and two species characteristic of the East African Coast. More than 200 bird species have been recorded at the site, with a higher diversity in the lowlands.

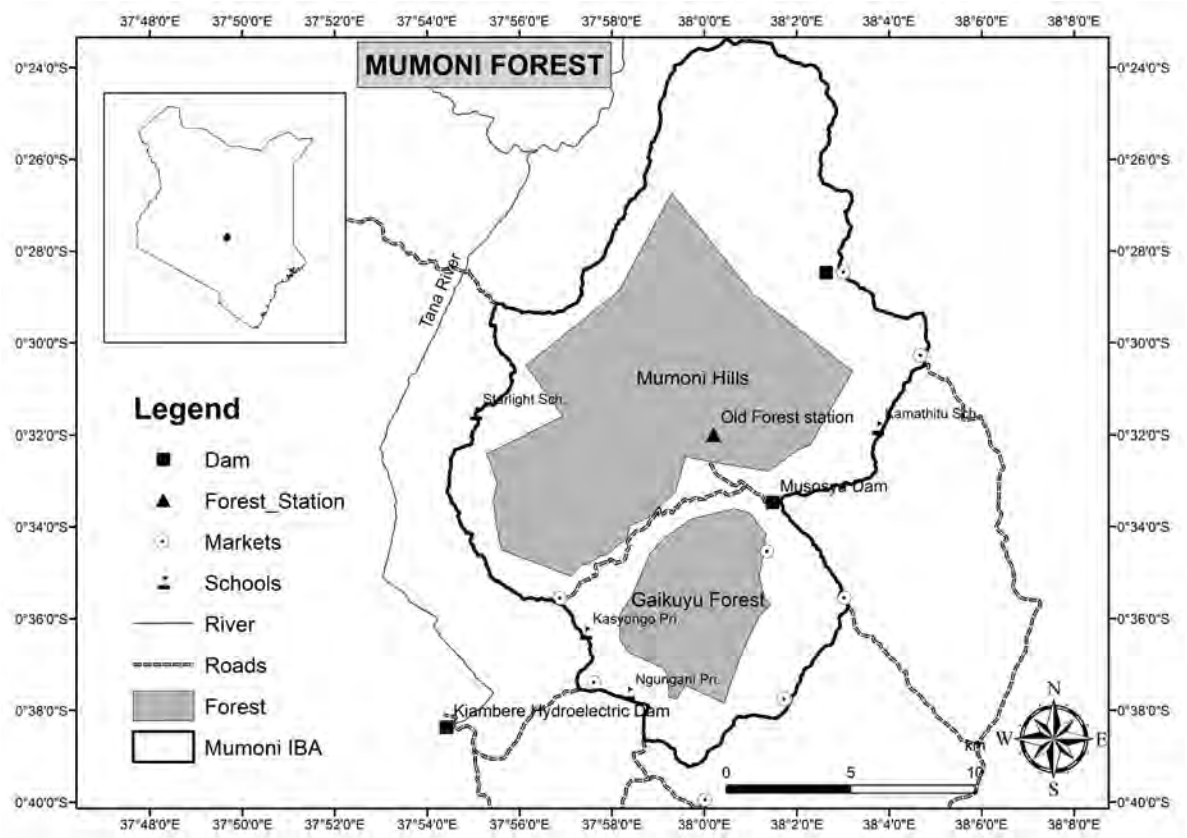



**Figure 7:** Map illustrating the position of Mumoni Hills forest IBA in Kenya and boundary extent.

**Other Biodiversity**

Detailed surveys in 2006 by the National Museums of Kenya recorded 375 plant species, 32 of which are dryland endemics restricted to the East African floral region. Mumoni forest is also home to 24 mammals species – these include 17 larger species such as duikers, hyena, Sykes/Blue monkeys, baboons, galagos and hyraxes, among others. The smaller mammal groups include various species of rodents and bats. Other wildlife recorded included 17 species of reptiles and amphibians (2 snakes, 7 lizards, 1 tortoise, 7 amphibians). Of interest is the Pancake tortoise (*Malacochersus tornieri*) which is listed in Appendix II of CITES, and the Taita toad (*Bufo taitanus*) which was previously only known from the Taita Hills. Among the invertebrates documented at this site are 52 butterfly and 10 land snail species.

**Conservation Issues**

- Illegal harvesting of timber
- Charcoal burning
- Over-harvesting of medicinal plants. Some of the much-sought species for medicine include Warburgia ugandensis and Pittosporum viridiflorum
- Cattle grazing
- Fires
- Encroachment
- Legal logging of mature exotic trees which form important water catchment on the hill top

## Description of Mutitu Hills Forest, Kenya's 67th Important Bird Area

**Administrative Region:** Kitui County, Kenya

**Central Coordinates:** : 1°15'25.59' S 38°09'30.00 E

**Area:** 1,958.7 ha

**Altitude:** 800-1,580m

**Site Description**

Mutitu Forest Forest is situated in Kitui County, Mutitu Sub-County (Fig 8). It emerges as 'inselbergs' from arid scrubland vegetation on 600m plains, rising to about 1,580m above sea level.

The climate is arid and semi-arid with erratic and unreliable rainfall at the base, to moderately moist at the top. Mean annual rainfall ranges from as low as 500mm in the lowlands to over 1,050mm in the hilltop. The site experiences two rainy seasons, long rains between March to June and short rains between October and December. Temperature and evaporation

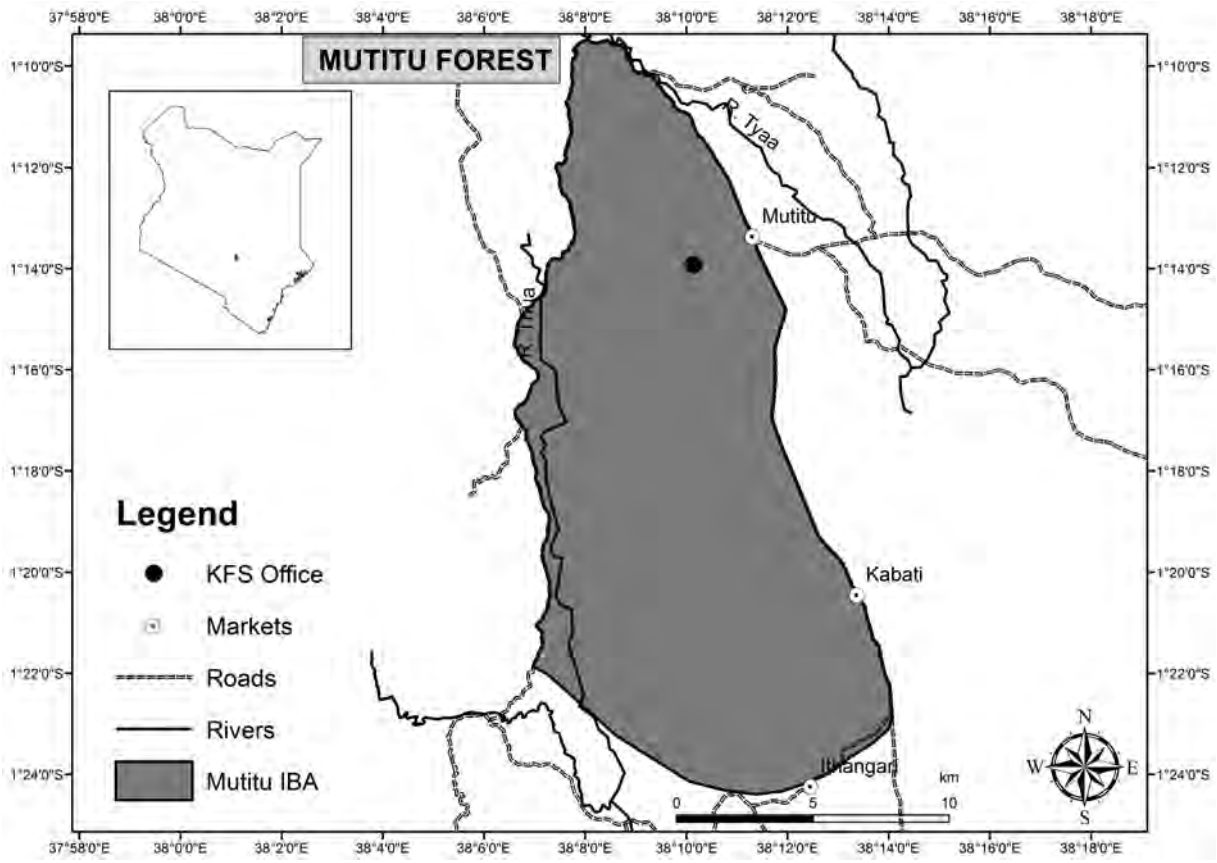



**Figure 8:** Map illustrating the position of Mutitu hills forest IBA in Kenya and boundary extent.

rates are generally high with February and September being the hottest months of the year. Minimum mean annual temperatures vary between 14° C to 22° C while maximum mean annual temperatures vary between 26° C to 34° C.

**Habitats**
The vegetation is characterised by scrublands and wooded bushland on the lowlands, while the hilltop is upland dry forest ecosystems dominated by *Drypetes, Combretum*, *Vepris* and *Croton* species. There are perennial springs that sustain the dryland human and animal life.

**Land Use**
The major part of the IBA comprises of gazetted dryland indigenous forest with small pockets of exotic plantations.

**Birds**
These hills are clearly important sites for raptors, (including Afrotropical and Palaearctic migrants). The IBA hosts the following species which are of conservation concern: Hinde's Babbler and Martial Eagle (Vulnerable), and Pallid Harrier (Near Threatened). More than 200 bird species have been recorded at the site.

**Other Biodiversity**
Detailed surveys in 2006 by the National Museums of Kenya recorded 230 plant species, 25 of which are dryland endemics restricted to the East African floral region. Mutitu forest is also home to 21 mammal species, 8 species of reptiles and amphibians, 5 species of butterfly and 7 species of land snails.

**Conservation Issues**
- Illegal harvesting of timber,
- Over-harvesting of medicinal plants
- Charcoal burning
- Fires
- Encroachment
- Pole cutting

**References**
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**Hinde's Babblers**
BY E. SELEMPO

# OVERALL RECOMMENDATIONS

1. National and county governments and government agencies to make sure that there is NO mining or oil or gas extraction in protected areas or cultural sites.
2. National and county governments to always include environmental considerations in any projects, programmes or policies.
3. National and county governments to adhere to the principle of Public Participation enshrined in the Constitution.
4. National and county governments to promote the use of wildlife corridors and dispersal areas outside protected areas, with benefits for neighbouring communities
5. Promote the mechanism of Payment for Ecosystem Services to enable habitat restoration to maintain the flow of ecosystem services that support the Kenyan economy – such as water from forests for irrigation and power generation.
6. Require energy companies to follow global best practices to avoid deaths of birds and other wildlife when setting up energy infrastructure such as wind turbines and power lines.
7. Undertake studies of illegal trade in birds, and wild bird meat, eggs and body parts, and take action to stop this destructive trade
8. Use biodiversity research findings to inform sustainable development

## Recommendations for County Governments

1. Encourage County government to have county spatial plans informed by science
2. Formulate County legislation consultatively for nature conservation.
3. Encourage County governments to constitute County Environment Committees (CECs) and have them gazetted. The CECs are critical in identifying and prioritizing environmental issues for action in the counties.
4. Promote the use of biogas from agricultural waste and subsidised LPG cooking gas for institutions and households.
5. Enforce regulations to control the charcoal trade and save our forests
6. Put in place a benefits-sharing system to provide incentives to Community Forest Associations (CFAs) to take part in forest management in areas where there is no PELIS (crop cultivation while protecting seedlings) or other similar livelihood generation opportunity and yet community participation is crucial for conservation.

## Recommendations for Government and Non-Governmental Organizations

**Kenya Forest Service**

1. Improve monitoring and control of illegal logging in all National Forests.
2. Enforce regulations regarding charcoal production and transport to stop charcoal making in indigenous forests.
3. Develop legislative instruments to guide mainstreaming of Payment for Ecosystem Services.
4. KFS to set up a system of supporting CFAs to implement actions approved in the Participatory Forest Management Plans (PFMPs) through the Forest Management Associations (FMAs).

**Kenya Wildlife Service**

1. Continue training of KWS staff on IBA monitoring
2. Mainstream compensation for ecosystem services to KWS
3. Undertake studies of illegal trade in birds, and wild bird meat, eggs and body parts, and take action to stop this destructive trade

**National Museums of Kenya**

1. Undertake surveys of different taxa in IBAs and potential Key Biodiversity Areas.
2. Undertake surveys of seldom-visited IBAs where security allows
3. Continue providing site-based biodiversity information such as species checklists for priority setting
4. Continue disseminating research results and information for public education and awareness
5. Avail research outputs for application by policy makers and policy implementers
6. Strengthen management and conservation of IBA sites under NMK, such as Kaya forests

**National Environment Management Authority**

1. Work with the Council of Governors towards having all counties gazette their County Environment Committees, which are key in County environmental management.

2. Require comprehensive public and stakeholder participation in all Environmental Impact Assessments and Strategic Environmental Assessments.
3. Undertake research on ways on how development and conservation can co-exist

**Nature Kenya**

1. Promote the use of payment for ecosystem services
2. Promote the integration of ecosystem-based adaptation into local community livelihoods to enhance resilience to Climate Change
3. Facilitate surveys of seldom-visited IBAs where security allows

**Grey-crested Helmet-shrike**
BY E. SELEMPO

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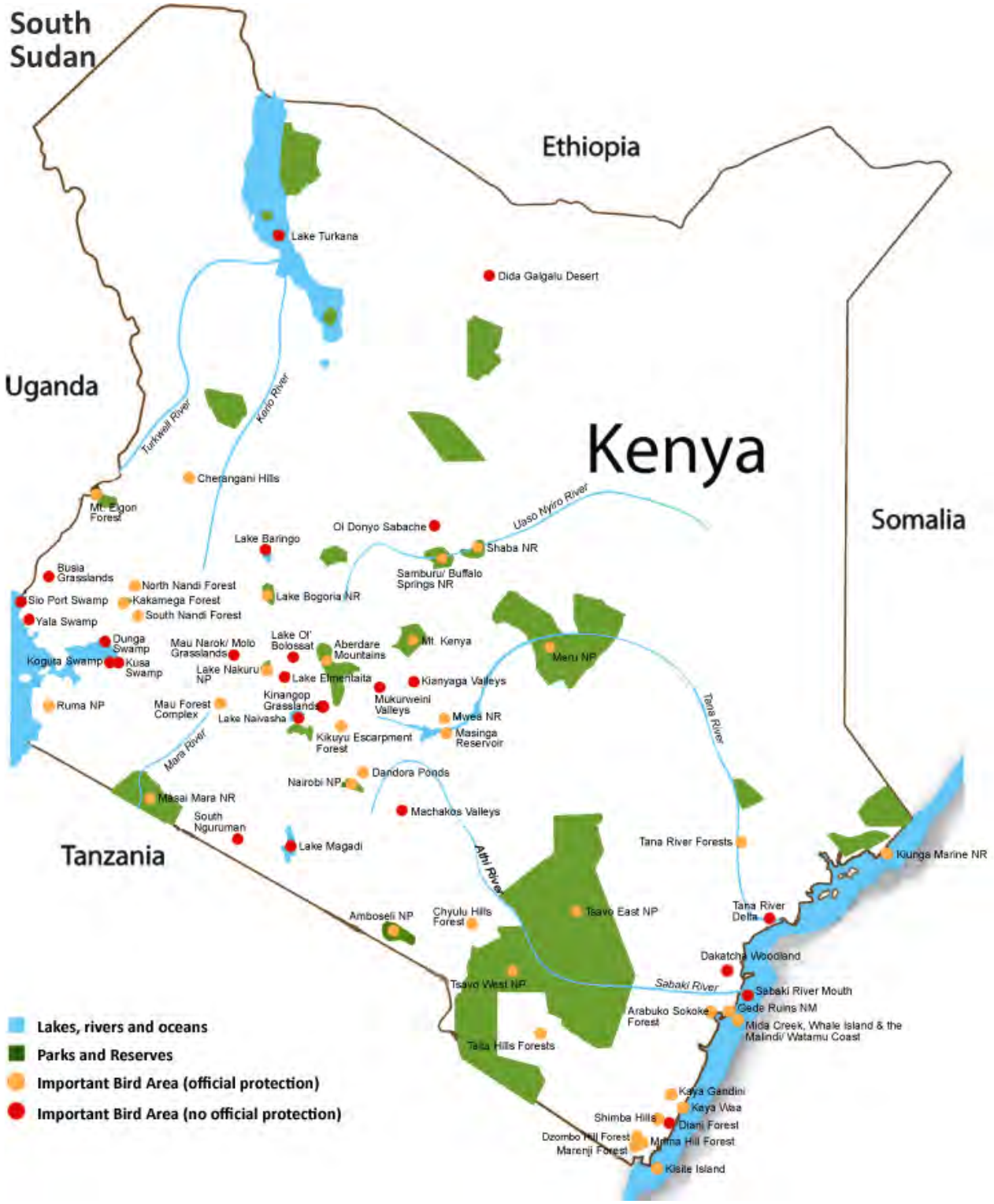
## Appendix 1: Pressure, Status and Response Scores at Kenya IBAs Monitored in 2016

| Site Number | Site name | Pressure | State | Response |
|---|---|---|---|---|
| KE001 | Aberdare Mountains | 1 | 2 | 3 |
| KE003 | Kikuyu Escarpment forests | 1 | 3 | 2 |
| KE004 | Kinangop grasslands | 2 | 1 | 1 |
| KE005 | Mount Kenya | 1 | 2 | 2 |
| KE006 | Mukurweini valleys | 2 | 0 | 1 |
| KE007 | Arabuko-Sokoke Forest | 2 | 1 | 3 |
| KE008 | Dakatcha Woodland | 3 | 0 | 1 |
| KE009 | Diani Forest | 3 | 0 | 0 |
| KE011 | Gede Ruins National Monument | 2 | 0 | 2 |
| KE012 | Kaya Gandini | 2 | 0 | 3 |
| KE013 | Kaya Waa | 2 | 0 | 2 |
| KE016 | Mida Creek, Whale Island and Malindi-Watamu Coast | 2 | 1 | 2 |
| KE018 | Mrima Hill Forest | 1 | 0 | 3 |
| KE019 | Sabaki River Mouth | 2 | 1 | 0 |
| KE021 | Taita Hills Forests | 1 | 2 | 2 |
| KE022 | Tana River Delta | 0 | 1 | 1 |
| KE023 | Lower Tana River Forests | 1 | 1 | 0 |
| KE024 | Tsavo East National Park | 2 | 2 | 3 |
| KE025 | Tsavo West National Park | 1 | 2 | 3 |
| KE026 | Chyulu Hills forests | 1 | 2 | 2 |
| KE028 | Lake Turkana | 1 | 1 | 0 |
| KE031 | Meru National Park | 0 | 1 | 3 |
| KE032 | Mwea National Reserve | 2 | 2 | 3 |
| KE036 | Nairobi National Park | 3 | 1 | 3 |
| KE037 | Dunga swamp | 2 | 0 | 1 |
| KE040 | Ruma National Park | 2 | 2 | 3 |
| KE041 | Yala swamp complex | 2 | 1 | 1 |
| KE043 | Cherangani Hills | 2 | 1 | 2 |
| KE044 | Lake Baringo | 1 | 2 | 1 |
| KE045 | Lake Bogoria National Reserve | 1 | 1 | 3 |
| KE046 | Lake Elmenteita | 1 | 1 | 1 |
| KE047 | Lake Magadi | 1 | 1 | 0 |
| KE048 | Lake Naivasha | 2 | 1 | 1 |
| KE049 | Lake Nakuru National Park | 2 | 1 | 2 |
| KE050 | Masai Mara | 2 | 1 | 3 |
| KE054 | Ol Donyo Sabache | 2 | 1 | 3 |
| KE055 | South Nandi Forest | 2 | 1 | 2 |
| KE058 | Kakamega Forest | 2 | 1 | 3 |
| KE061 | Lake Ol' Bolossat | 1 | 1 | 1 |
| KE062 | Kwenia | 2 | 2 | 0 |
| KE064 | Ol Ari Nyiro | 2 | 1 | 2 |
| KE065 | Hell’s Gate National Park | 2 | 0 | 2 |
| KE066 | Mumoni Hill Forest Reserve | 0 | 3 | 1 |
| KE067 | Mutitu Forest | 0 | 3 | 1 |


South Sudan
Ethiopia
Somalia
Uganda
Tanzania
Kenya
Lake Turkana
Dida Galgalu Desert
Turkwell River
Kerio River
Cherangani Hills
Mt. Elgon Forest
Lake Baringo
Oi Donyo Sabache
Uaso Nyiro River
Shaba NR
Samburu/ Buffalo Springs NR
Busia Grasslands
North Nandi Forest
Lake Bogoria NR
Sio Port Swamp
Kakamega Forest
South Nandi Forest
Yala Swamp
Dunga Swamp
Kusa Swamp
Koguta Swamp
Mau Narok/ Molo Grasslands
Lake Ol' Bolossat
Aberdare Mountains
Mt. Kenya
Meru NP
Lake Nakuru NP
Lake Elmentaita
Kianyaga Valleys
Mukurweini Valleys
Kinangop Grasslands
Ruma NP
Mau Forest Complex
Lake Naivasha
Mwea NR
Masinga Reservoir
Kikuyu Escarpment Forest
Tana River
Mara River
Nairobi NP
Dandora Ponds
Masai Mara NR
South Nguruman
Machakos Valleys
Lake Magadi
Athi River
Tana River Forests
Kiunga Marine NR
Amboseli NP
Chyulu Hills Forest
Tsavo East NP
Tana River Delta
Dakatcha Woodland
Tsavo West NP
Sabaki River
Sabaki River Mouth
Arabuko Sokoke Forest
Gede Ruins NM
Mida Creek, Whale Island & the Malindi/ Watamu Coast
Taita Hills Forests
Kaya Gandini
Kaya Waa
Shimba Hills
Diani Forest
Dzombo Hill Forest
Mrima Hill Forest
Marenji Forest
Kisite Island
Lakes, rivers and oceans
Parks and Reserves
Important Bird Area (official protection)
Important Bird Area (no official protection)

Arabuko-Sokoke Forest. Photo by J. Starkey

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