

Bird conservation in Kenya: creating a national strategy

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Summary

Kenya possesses one of the richest and most diverse avifaunas in Africa: this reflects the country's varied habitats and the fact that it lies at the intersection of several biogeographic zones. Some 1,070 species have been recorded; nine are national endemics and 14 can be considered globally threatened. A number of other species or groups are of particular national concern. Alteration and degradation of habitats is taking place rapidly, mainly due to human population growth combined with increased urbanization and industrialization. Overall, forests are the most threatened habitats; the coastal Arabuko-Sokoke Forest is particularly important in global terms. A number of wetlands are also under threat from a variety of causes. Habitat destruction is the key problem; direct threats such as hunting, trade and the use of pesticides and poisons are of relatively minor importance. Specific suggestions to be incorporated within a national bird conservation strategy include: better regulation and development of bird tourism as a means of generating revenue; increased efforts in particular areas of conservation education; provision of appropriate training to bird guides and researchers; and improved integration of research.

Introduction

Throughout the world, bird conservation problems are tied to pressing issues of human development. Solutions for birds depend on solutions for people and many of these critical issues are beyond the means of conventional conservation. In every case, however, the achievement of long-term goals depends on building solid national structures to coordinate appropriate research, management and education. To this end, the development of bird-orientated national conservation strategies can provide both a tool and a framework for shared efforts. This paper sets out the basis for developing a bird conservation strategy for Kenya, and incorporates points raised during discussion within the Kenya Section of ICBP, which has accepted it as a framework for its bird conservation programme. We take for granted from the outset that bird conservation is important for a variety of reasons (see, e.g., Diamond and Fillion 1987), and that it goes hand-in-hand with efforts to promote wise use of the environment and the conservation of biodiversity in general.

The birds

For an African country of only medium size (roughly that of Texas), Kenya supports a remarkably rich avifauna: 1,070 species have been recorded. To a

large extent this reflects the diversity of Kenya's habitats, which include desert and semi-arid scrub, lowland and montane forest, alpine meadows, large freshwater and soda lakes and a long coastline. In addition, a number of species from several broad regional avifaunas reach their limits in Kenya. These comprise species from the lowland West African rainforests, which extend eastward to the mid-level forests of western Kenya; species confined to the east flank of Africa, including the "Eastern Arc" mountains of Tanzania, which reach Kenya's coastal forests and hills; species of the southern tropics which reach their northern limits in Kenya; species of the dry Horn of Africa which extend into the north-east of the country; and Sahelian species which extend across the northern tropics into Kenya's north-western districts. In addition, the country is located on a major migration flyway for waterfowl, raptors and passerines from Europe, the Middle East and the U.S.S.R.

Kenya is thus at the intersection of several biogeographical zones but at the centre of none, so it has relatively few endemic bird species. Nine species are national endemics; about 16 others cross national borders but can be considered endemic to the East African region. Fourteen species and two subspecies are globally threatened (see below).

With such a rich and complex avifauna, Kenya has equally complex global and national responsibilities. Below, along lines originally proposed by Collar (1987), we consider in turn globally threatened species, globally threatened subspecies and national or regional endemics. We also discuss in general terms species whose Kenyan populations are threatened, and Palearctic migrants. The species considered in detail here are listed in the Appendix, which also gives their Red Data Book status (Collar and Stuart 1985) where appropriate. Unless otherwise stated, taxonomy follows Britton (1980). Our discussion concentrates on factors relevant to species conservation; in many cases, unfortunately, data are few.

Globally threatened species

Sokoke Scops Owl *Otus ireneae* This small scops owl was discovered in Arabuko-Sokoke Forest in 1965 (Ripley 1966). It is confined to the *Cynometra-Manilkara-Brachylaena* habitat-type which occurs on a belt of red Magarini soils. Within this habitat, the owl is absent from large tracts of forest (35% of the total 372 km² area) which have been heavily modified to form low, dense thicket. Consequently, only 111 km² of the forest (about 30% of the total area) appear to support scops owls.

In 1983, over a thousand pairs were believed to be present in the forest (Kelsey and Langton 1984). There is no evidence that the situation has changed since then. However, the *Cynometra-Manilkara-Brachylaena* forest is still disturbed for the legal removal of fuelwood (dead standing or fallen timber), which has meant the opening and maintenance of an extensive network of forest tracks. *Brachylaena hutchinsii*, a tree species preferred by wood carvers in the region, is still poached, but this is being reduced by improved policing by the Forest Department. Except for *Brachystegia spiciformis* the logging of all indigenous timber has been stopped.

Conservation of the owls depends on the maintenance of sufficient high-quality *Cynometra* forest. On the whole, the outlook is promising, with new

restrictions on logging, the start of an ICBP/NMK conservation project in Arabuko-Sokoke, and the likelihood that part of the forest may be managed specifically for its threatened wildlife. A key element of the conservation project involves improving access for tourists and other visitors and, as part of this, a Forest Department employee, David Ngala, has been taking groups of bird-watching tourists to see the owl.

Sokoke Pipit *Anthus sokokensis* Arabuko-Sokoke Forest supports by far the most important remaining population of this species, which is also known from a neighbouring forest fragment at Gede and three forest patches in Tanzania (where, at best, it is very rare) (Collar and Stuart 1985). It is commonest in dense, uncleared *Afzelia* forest (Kelsey and Langton 1984) but also occurs in other habitat zones. See remarks under Sokoke Scops Owl.

East Coast Akalat *Sheppardia gunningi* The subspecies *sokokensis* of this rare and rather secretive thrush occurs in Arabuko-Sokoke Forest and in coastal Tanzania. There are few data on numbers in Sokoke, but it is undoubtedly uncommon and appears largely restricted to dense undisturbed *Afzelia* forest (Kelsey and Langton 1984).

Spotted Ground Thrush *Turdus fischeri* The race *fischeri* of this rather enigmatic intra-African migrant spends the non-breeding season in the Kenyan coastal forests. It occurs at highest densities in tiny patches on coral rag, like the forest surrounding Gede National Monument (Bennun 1985). It also occurs thinly in Arabuko-Sokoke. The total population of this race is evidently very small. Until 1988, its breeding grounds were unknown, but nesting birds have now been discovered on the Rondo Plateau in southern Tanzania (Holsten *et al.* 1991). Conservation of the non-breeding quarters in Kenya needs to be coupled with further study of migration routes and breeding areas.

Taita Thrush *Turdus helleri** The Taita Thrush, a close but distinct relative of the Northern Olive Thrush *T. abyssinicus*, is entirely confined to three tiny forest patches on the Taita Hills (Mbololo, Ngangao and Ronge) and nearby Mt Kasigau. An old record from Kilimanjaro, Tanzania, is considered doubtful (Collar and Stuart 1985). A recent study in Ngangao (McGuigan 1987) found this species was confined to the least disturbed and best shaded parts of the forest, where it was reasonably common. Population estimates for Ngangao would indicate a total number in the Taita Hills of roughly 750 birds (McGuigan 1987). Its status on Kasigau, in a largely inaccessible forest patch, is unknown. The Forest Department appears to have succeeded in preventing further degradation of Ngangao in recent years (McGuigan 1987), but pressure on all forests in the densely populated Taita Hills remains severe, and their status merits continued monitoring. Two endemic subspecies, the Taita Apalis and Taita White-eye, are also confined to these forest fragments (see below).

Hinde's Pied Babbler *Turdoides hindei* Restricted to a small area of bushed and

*Treated as a subspecies of *T. abyssinicus* by Britton (1980).

open wooded habitats in east-central Kenya, there is little recent information on the status of this bird. It appears unlikely that it is immediately threatened, but further studies of the species's ecology and status are required.

Papyrus Yellow Warbler *Chloropeta gracilirostris* This rare papyrus endemic reaches the eastern extremity of its range in Kenya, where it is known chiefly from Lake Kanyaboli in the Yala Swamp (Lewis and Pomeroy 1989). This entire wetland area is under threat from plans for reclamation and exploitation. There are also records from the extensive papyrus swamps bordering Lake Victoria, which may be more secure.

Tana River Cisticola *Cisticola restricta* This species is known only from six specimens collected in semi-arid bushland in the lower Tana River basin. It has never been relocated confidently in the field and there is doubt about its existence as a valid species (Lewis and Pomeroy 1989). If it is, it would not appear to be under any immediate threat.

White-winged Apalis *Apalis chariessa* This species has a highly fragmented range from Kenya to Malawi, and though originally considered "near-threatened" (Collar and Stuart 1985) it was upgraded to threatened status in Collar and Andrew (1988). Formerly known from gallery forest along the lower Tana River, the type-locality, it may be extinct in Kenya (this would also signify the global extinction of the nominate race). One area which may formerly have been habitat for the apalis is now partially protected as a reserve for two species of endemic primates, although considerable environmental problems remain (Odhiambo 1990).

Turner's Eremomela *Eremomela turneri* This generally rare species reaches its eastern limit in western Kenya, where it is locally common in Kakamega Forest.

Chapin's Flycatcher *Muscicapa lendu* A rare (but possibly overlooked) bird of montane rainforest, this flycatcher reaches its eastern limit in western Kenya, where it has been sporadically recorded in the Kakamega and North Nandi Forests.

Amani Sunbird *Anthreptes pallidigaster* This species occurs only in the Arabuko-Sokoke Forest and in the East Usambara Mountains of north-eastern Tanzania. In Sokoke, it is largely confined to the *Brachystegia* woodland, some 18% of the total forest area, where it appears to be fairly common (Britton and Zimmerman 1979, Kelsey and Langton 1984). *Brachystegia* is the only indigenous tree that can still be felled legally in Sokoke, so a threat remains. It is hoped that current conservation measures, which include an inventory of standing timber, will improve the situation (see Sokoke Scops Owl, above).

Clarke's Weaver *Ploceus golandi* This enigmatic weaver is apparently endemic to the Arabuko-Sokoke Forest, although breeding is still unrecorded. Most records are from the *Brachystegia* woodland, a habitat under considerable threat

(see Amani Sunbird, above). The weavers appear in large flocks at certain times of year, but at other times vanish completely; hence total numbers and range are unclear. Discovery of the species's nesting sites, which might not be in *Brachystegia* or even in the forest, is of great importance for its conservation. Some of the mysteries surrounding this bird may be clarified by the intensive survey work now under way in Arabuko-Sokoke.

Abbott's Starling *Cinnyricinclus femoralis* This little known montane starling was treated as a near-threatened species in the African Red Data Book (Collar and Stuart 1985), where research on its status was urged. Because it remained a source of considerable concern it was later treated as fully threatened (Collar and Andrew 1988), although simultaneously a study showed that it is comparatively common in Kieni forest on the Kikuyu Escarpment (Taylor and Taylor 1988). The species's range extends to the forests surrounding Mt Kenya, as well as to those in Mt Kilimanjaro and Arusha National Parks in northern Tanzania. Many of these sites are threatened to a greater or lesser extent by forest cover removal. Monitoring this starling must be considered, especially since local movements appear likely (Taylor and Taylor 1988, Lewis and Pomeroy 1989).

Globally threatened subspecies

Some of the globally threatened species listed above are represented in Kenya by particular subspecies, which naturally must themselves be considered globally threatened: *Sheppardia gunningi sokokensis*, *Turdus f. fischeri*, *Chloropeta g. gracilirostris*, *Apalis c. chariessa*, *Eremomela t. turneri* and *Muscicapa l. lendu*.

Taita Apalis *Apalis thoracica fascicularis* and **Taita White-eye** *Zosterops poliogastra silvanus* These distinctive subspecies are confined, like the Taita Thrush, to forest fragments in the Taita Hills. The apalis is very distinctively marked and was treated as a threatened incipient species in the Red Data Book (Collar and Stuart 1985). In Ngangao, the apalis appears moderately common throughout (McGuigan 1987, L.A.B.), but its precise status is not clear; McGuigan (1987) noted that it was not recorded outside the forest proper. By contrast, McGuigan (1987) found that Taita White-eyes roamed widely, often feeding in stands of exotic trees. The breeding requirements of the white-eye are unknown, however, and it could well depend on indigenous forest for successful nesting.

Ansorge's Greenbul *Andropadus ansorgei kavirondensis* This race of Ansorge's Greenbul, disjunct from those in West and Central Africa, is endemic to western Kenya (Britton 1980). The only recent records are from Kakamega Forest. It is likely that this bird, like many greenbuls, is sensitive to habitat disturbance, and its survival depends on effective conservation of this forest (see below).

National and regional endemics

This section includes a number of "regional endemics": birds of restricted range whose distributions extend into neighbouring countries (see Turner 1977).

Seven such endemic species – the Sokoke Scops Owl, Hinde's Pied Babbler, Taita Thrush, Tana River Cisticola, Abbott's Starling and Clarke's Weaver – have already been discussed above.

Jackson's Francolin *Francolinus jacksoni* is confined to montane forest at higher levels, on both sides of the Kenyan Rift Valley, but is probably well protected at present by a system of mountain national parks (the Aberdares, Mt Kenya and Mt Elgon).

Hartlaub's Turaco *Tauraco hartlaubi* is endemic to highland forests in Kenya and northern Tanzania, widespread and adaptable, existing even in small forest patches, and thus under no obvious threat at present.

Williams's Bush Lark *Mirafra williamsi* is endemic to northern Kenya, where it inhabits black-soil lava plains and is little known and rarely recorded.

Red-throated Tit *Parus fringillinus* is endemic to interior north-east Tanzania and south-west Kenya, and while uncommon, it is probably adequately protected by the existing national parks and reserves network.

Sharpe's Longclaw *Macronyx sharpei* is endemic to west and central Kenya, in grassy highland areas at 2,000–3,400 m; its populations need monitoring, since its habitat is largely unprotected and increasingly being turned over to cultivation and forestry plantation.

Grey-crested Helmet-shrike *Prionops poliophaga* is, like the Red-throated Tit, confined to north-east Tanzania and south-west Kenya and, while uncommon, an apparent range decline, attributed to rural development, has been reversed in recent years (Lewis and Pomeroy 1989); although absent from some areas in the Rift Valley where it was once relatively abundant (M. Coverdale pers. comm.), it appears adequately protected by existing reserves.

Northern Pied Babbler *Turdoides hypoleucus* is another endemic of northern Tanzania and south-central Kenya, but locally common, adaptable, and apparently in no danger.

Hunter's Cisticola *Cisticola hunteri* is endemic to the highlands of north-east Tanzania and west and central Kenya, reaching Uganda on the western side of Mt Elgon, and well protected by the existing system of montane national parks.

Malindi Pipit *Anthus melindae* is a species of very limited distribution, restricted to coastal grasslands near the mouths of major rivers on the Kenya and Somali coasts; it appears fairly numerous in its restricted range, but is obviously vulnerable to habitat alteration.

Hildebrandt's Starling *Spreo hildebrandti*, endemic to Kenya and eastern Tanzania, is a widespread and fairly common species that is well protected by existing reserves.

Kenrick's Starling *Poeoptera kenricki* is endemic to the highlands of eastern Tanzania and central Kenya, where it is known only from Mt Kenya and the Nyambeni Hills (Lewis and Pomeroy 1989); there are no records of breeding in Kenya, where its status is uncertain. Monitoring might be indicated given the extensive logging of Mt Kenya forests in recent years.

Jackson's Widowbird *Euplectes jacksoni*, endemic to the highlands of west and central Kenya and north-eastern Tanzania, breeds in open grassland where it sometimes appears common; but numbers are probably declining in many areas due to the disappearance of undisturbed breeding sites, and further study of this species's status is required.

Taveta Golden Weaver *Ploceus castaneiceps* is restricted to border areas of southern Kenya and north-east Tanzania, where it is sometimes common in swamp-side habitats; Amboseli National Park supports an important population and the species does not appear to be under immediate threat.

Nationally endemic subspecies

Three threatened subspecies, the Taita Apalis, Taita White-eye and Ansorge's Greenbul, have been mentioned above. A number of other recognized subspecies, too many to include here, are endemic to Kenya or the East African region, but we mention two which have been considered to merit full specific status by various authorities. Although distinguishing species and subspecies is the work of taxonomists, it takes on a particular significance when seen from a conservation perspective, since the decisions made will influence the attention paid to a species's survival. At a national level, proper attention must be paid to subspecies and incipient species wherever they occur.

Golden-tailed Woodpecker *Campethera abingoni mombassica* Confined to the coastal belt, this race has recently been raised to specific status as the Mombasa Woodpecker *C. mombassica* (Short *et al.* 1990). It occurs in woodland and forest with a stronghold in Arabuko-Sokoke Forest. The western Kenya race of the Golden-tailed Woodpecker, *C. a. kavirondensis*, is now confined to the south-west corner of the country, principally in the Mara Game Reserve, where it is very localized (D. A. Turner *in litt.*).

D'Arnaud's Barbet *Trachyphonus darnaudii usambiro* On the basis of song differences, this race was elevated to species status as the Usambiro Barbet *T. usambiro* by Wickler (1973), a revision accepted by Britton (1980). It is confined to interior northern Tanzania and south-west Kenya and is under no obvious threat. Recent authors have disputed the change to species level, arguing that the song difference is minor and confined to one member of a duet only (Fry *et al.* 1988, Short *et al.* 1990).

Nationally threatened species

Many of these species have been dealt with in previous sections. However, there are others which may be nationally threatened although not globally so. Chief among these are a number of rare, forest-dependent birds confined in Kenya to the small western forests of Kakamega and North and South Nandi. Many of these species range through Uganda and eastern Zaire; however, their status outside Kenya is unclear and some may be declining throughout their ranges. Examples of nationally threatened species occurring in these forests include Grey Parrot *Psittacus erithacus*, Blue-headed Bee-eater *Merops muelleri*, Hairy-breasted Barbet *Lybius hirsutus*, Brown-eared Woodpecker *Campethera caroli*, Grey-chested Illadopsis *Kakamega poliothorax*, Honeyguide Greenbul *Baeopogon indicator*, Joyful Greenbul *Chlorocichla laetissima*, Toro Olive Greenbul *Phyllostrephus baumanni*, White-tailed Ant Thrush *Neocossyphus poensis*, Uganda Woodland Warbler *Phylloscopus budongoensis*, Shrike Flycatcher *Megabyas flam-*

mulata, Yellow-bellied Wattle-eye *Platysteira concreta*, Dusky Crested Flycatcher *Trochocercus nigromitratus*, Orange-tufted Sunbird *Nectarinia bouvieri* and Red-headed Malimbe *Malimbus rubricollis*. Such species are of enormous national value. In addition to their intrinsic importance, they represent a great attraction for bird tourists (see below).

Other groups that should be mentioned under this heading include raptors, bustards and Grey Crowned Cranes *Balearica regulorum*. Many raptors are considered to be threatened by habitat destruction, and to an uncertain extent by pesticides and human disturbance. Even some formerly common raptors, such as the Long-crested Eagle *Lophaetus occipitalis*, appear to be in decline, although reliable data are scanty. Much more needs to be done to determine the real impact of presumed threats, and to monitor the populations of scarce species such as the Crowned Eagle *Stephanoaetus coronatus*.

ICBP is already concerned with monitoring bustard populations world-wide. Seven species of bustard are resident in Kenya; all of them have ranges that include protected areas, from where most recent records derive. There is little information about population sizes, and their status outside protected areas is unclear.

Similarly, Grey Crowned Cranes, although good numbers exist, are the subject of considerable concern. Populations are under pressure from habitat degradation, pollution and human disturbance. A continuing study and monitoring programme based at the National Museums of Kenya (e.g. Gichuki and Gichuki in press) focuses on the crane as a "flagship" for wetland conservation efforts in general.

Palaearctic species

Migrants face fewer threats in Kenya than do many resident species, but they are nonetheless a source of concern. The problems facing migratory birds in Kenya and other African countries have been reviewed by Grimmett (1987). He listed the following sites as being of particular concern: Lakes Turkana, Ol Bolossat and Naivasha and the delta of the Tana River (for duck, waders and other waterfowl); agricultural areas north-west of Mt Kenya and the Rift Valley near Njoro and Rongai, and agricultural grasslands generally (for raptors); and the east-central and south-eastern Kenya bushlands (for a variety of terrestrial passerine and non-passerine migrants).

A detailed discussion of these sites is beyond the scope of this paper, although the main problems can be listed (see also below). Waterfowl are threatened by the continuing disappearance of wetlands due to reclamation, irrigation and the damming of tributaries; and by wetland pollution or eutrophication, particularly through the disposal of industrial waste water and sewage. The major threats to migratory raptors are habitat loss, as grasslands are converted to other uses; pesticides and human disturbance are probably relatively minor problems. Other terrestrial migrants face fewer immediate threats, although the continuing degradation of bushland (through overstocking, fuelwood removal, etc.) is a long-term problem.

The habitats

In most parts of Kenya the environment is undergoing rapid change, usually as a direct result of human population growth. Marginal land is being degraded through unsustainable use; pollution levels in air and water are increasing through the expansion of industry and urban centres; the pressure on forests for fuelwood and for land is intense; large-scale irrigation and hydro-electric projects have, for better or worse, drastically altered the ecology of some wetland areas. From the point of view of birds in particular and biodiversity in general, forests and wetlands are the most critical areas.

Forests

Forests are the most threatened habitats in Kenya. They are also the most important habitats in the country for bird conservation, since the majority of Kenya's globally threatened species (71%, 10 out of 14) are forest-dependent.

At present, protection of forests is unsatisfactory from the point of view of bird conservation. Only two of Kenya's national parks or reserves (Marsabit and Kakamega) contain substantial forest areas. The montane parks of Mts Elgon, Kenya and the Aberdares include little forest, as their boundaries begin in the upper bamboo or moorland zone. Thus, most gazetted forests are under the control of the Forest Department. In the past, the Forest Department has managed areas mainly for watershed protection and timber production, which has frequently included the replacement of indigenous forest with exotic plantations. Conservation of biodiversity has not been an aim. Although the Forests Act (1982) gives powers for the setting up of nature reserves, these have tended to comprise very small areas of forest, and their sanctity has been far from strictly observed. Moreover, the Forests Act has proved difficult to enforce. Consequently, severe degradation has occurred in many forests, including Arabuko-Sokoke, Kakamega, Mt Kenya and the Mau forest complex.

Recently, however, the Forest Department has begun to exert greater control over forest use and to shift away from the logging of indigenous timber trees and conversion to plantation forestry. There are also encouraging signs of increasing cooperation between the Kenya Wildlife Service and the Forest Department. These bodies fall respectively under the Ministry of Tourism and Wildlife and the Ministry of the Environment and Natural Resources, a separation of responsibility for wildlife and forests which has hitherto tended to hamper the formulation of comprehensive management plans. The present administrative structures still largely block the generation of revenue from birdwatching tourists in forests, which is one potential alternative to destructive exploitation. By and large, they also prohibit the use of forest products by the surrounding communities, an activity which, if properly controlled, could increase local commitment to forest conservation. These social and administrative issues are currently being addressed in the drawing up of a forestry master plan, a large-scale project that will last several years and involves a number of different components, including an inventory of natural resources and socio-economic studies.

Several forests have been mentioned under the species accounts above. This

section will briefly summarize the importance and status of key sites. Collar and Stuart (1988) provide a more detailed account of several forests.

Arabuko-Sokoke Forest Without question, this extraordinary forest, which lies just inland from the coastal town of Malindi, is Kenya's greatest challenge for bird conservation. Two endemic species, the Sokoke Scops Owl and Clarke's Weaver, depend entirely on the forest for their survival. The forest also contains the most important populations (possibly the only viable ones) of three resident species, Sokoke Pipit, East Coast Akalat and Amani Sunbird, and one intra-African migrant, the Spotted Ground Thrush. A number of near-threatened or candidate species are also present (see Appendix). In terms of threatened bird species, Arabuko-Sokoke ranks second in importance on the entire African mainland (Collar and Stuart 1988). More detailed accounts of the species and some of the conservation measures proposed are presented above.

Lower Tana riverine forests These forests, where East Coast Akalat, White-winged Apalis and Spotted Ground Thrush have been recorded along with a number of near-threatened species (Collar and Stuart 1988), are under threat from encroachment, exploitation for wood-fuel, and particularly the present and proposed damming on the upper Tana River (see also Odhiambo 1990). The forests cover a small area, about 59 km², only part of which is included in national reserves intended to protect two endemic subspecies of primate. Research on the primates is continuing, and recommendations arising out of this project offer the best hope for conservation of the forests.

Kakamega and Nandi Forests Some discussion of these forests is given above, but their importance for national as well as global conservation needs to be stressed again. In one particular way, Kakamega may be of key importance to bird conservation in Kenya: it is the prime site for birdwatching tourists visiting the country. North and South Nandi forests are smaller and higher than Kakamega (rising to 2,130 m compared with 1,700 m), and, although containing many important species, are less diverse biologically. Their present status is unclear, but it appears that much of North Nandi has been made over to softwood plantations.

The Kakamega National Reserve protects a small and relatively little visited area to the north of the main Kakamega forest station; this area is also less well studied than some other parts of the forest in terms of its bird community. The remainder of the forest is managed by the Forest Department. Recent reports from Kakamega indicate that a programme has begun to remove squatters, clear exotic plantations and allow natural regeneration of indigenous forest. The surrounding areas are among the most densely populated in Kenya, the forest is on flat, cultivable land, and human pressure on the area remains extremely high. As Collar and Stuart (1988) point out, a policy is required to integrate the social and economic needs of the people with effective conservation of the forest they are destroying. Such a policy may emerge out of socio-economic studies that are planned to begin this year (1991) in parallel with biological inventory work. Better organization of bird tourism, with revenue returning to the local community, is one obvious mechanism that could prove valuable.

Taita Hills forests See above under Taita Thrush, Taita Apalis and Taita White-eye.

South-eastern coastal forests These forests lie between Mombasa and the Tanzanian border, and include forests on the Shimba Hills, on other small coastal hills, and on patches of coral rag. Together, they contain a number of near-threatened or candidate species (see Appendix); two Red Data Book species, East Coast Akalat and Spotted Ground Thrush, have also been recorded in several. The Shimba Hills forest is protected, to an extent, by the Shimba Hills National Reserve. The status of most of the other forests is unclear and further study is urgently needed.

Montane forests These contain far fewer threatened or near-threatened species than the forests mentioned above, and are substantially larger in area. They are nonetheless of importance. The implications for birds of forest modification in reserves on Mt Kenya, Mt Elgon and the Mau are little known and need to be studied. These forests contain species of national importance, including some near-threatened or candidate species (Appendix). Recent studies of the Kieni Forest on the Kikuyu Escarpment (Taylor and Taylor 1988) and the Trans-Mara/South-western Mau Forests (Bennun 1990) indicate that these areas, which are little visited at the moment, may have considerable potential for bird tourism.

Wetlands

The Rift Valley lakes of eastern Africa support large breeding populations of aquatic species, notably Lesser Flamingo *Phoeniconaias minor* and White Pelican *Pelecanus onocrotalus*, as well as dense concentrations of passage and wintering waterfowl and waders during the Palearctic winter (Britton 1980, Pearson *et al.* in press). Kenya supports the majority of lakes in the region, although they form part of a chain, which is really one continuous flyway, stretching from Ethiopia south to Tanzania. From north to south, the major lakes are Turkana, Baringo, Bogoria, Nakuru, Elmenteita, Naivasha and Magadi. Smaller sites like Lake Ol Bolossat may also hold significant numbers of waterfowl in certain years. The number of man-made waterbodies is continually rising. These include sites like the rice scheme at Ahero and need eventually to be drawn into monitoring programmes.

Other wetland areas of importance include rivers like the Nzoia in the west (which supports a small breeding population of the White-collared Pratincole *Pratincola nuchalis*), and the Galana and Tana in the east, which flow to the Indian Ocean and provide habitat for uncommon species like Pel's Fishing Owl *Scotopelia peli*. The Tana River and its delta is important not only as a wetland but because of the gallery forest it supports (see above). The Nzoia River drains to Lake Victoria through a system of swampy valleys in Uasin Gishu and Trans-Nzoia which are little studied but provide important habitat for birds such as Grey Crowned Cranes. Yala Swamp and the papyrus swamps fringing Lake Victoria are of enormous importance for their populations of papyrus endemics. All these wetlands, of course, have wider ecological roles to play, for instance as water regulators and fish breeding grounds.

Mangrove swamps and tidal flats at the coast harbour large numbers of resident and migratory waders and other birds. Among the creeks and rivermouths, Mida Creek is probably the most important wader passage and wintering ground. Large numbers of birds congregate here each winter. The creek does not appear threatened at present, although extensive mangrove cutting is becoming a problem. The creek's mangroves and birds already form a tourist attraction, with visitors entering by boat or watching from the shore. The mangroves are controlled by the Forestry Department and the creek's proximity to Arabuko-Sokoke Forest means that tourism plans are being laid for both sites in unison.

The protection of wetlands, as of forests, is currently highly unsatisfactory. Two lakes, Nakuru and Bogoria, are protected as a national park and a national reserve respectively. Saiwa Swamp National Park protects a small wetland (and associated riparian forest) in the catchment of the Nzoia River. The land around some wetlands is privately owned; this may provide a measure of protection in some cases (e.g. Lake Elmenteita), but not in others (e.g. Lake Ol Bolossat). The majority of major wetlands have no formal protection and many are under considerable threat. They face a variety of problems, including pollution from industry, sewage or agricultural run-off (e.g. Nzoia River, Nakuru, Ol Bolossat), excessive off-take of water for irrigation or municipal supply (Naivasha), large-scale projects involving damming or drainage (Naivasha, Turkana, Yala Swamp, Tana River), and siltation arising from soil erosion in degraded watersheds (Baringo, Tana River).

Most of the more important wader and waterfowl sites have been monitored in the past, although rarely on a regular basis. In July 1990 Kenya became a signatory to the Ramsar Convention, with Lake Nakuru as the country's first Ramsar site. This encouraging development opens the way to protection of the country's most important wetlands under the convention. Efforts to begin sustained monitoring at selected sites are already under way (see below).

Other habitats

Although forests and wetlands are by far the most important sites from the point of view of species conservation, other habitats cannot be ignored. Fortunately, a range of grassland, bushland and woodland habitats is already well represented within the network of national parks and other protected areas. Outside these areas, remaining tracts of grassland or woodland in relatively well-watered parts of the country are rapidly being converted to agriculture, often on a large scale. In more marginal areas, there are very widespread problems of overstocking and fuelwood removal leading to soil erosion, the encroachment of weed species and declining productivity. There has been little comparative study of the characteristics of bird communities among the very varied rangeland habitats within Kenya, nor of the effects of habitat changes on these communities. More attention needs to be paid to biological diversity in rangeland in order to avoid certain representative habitat-types, and the communities associated with them, being lost altogether.

One other important Kenyan bird habitat should be mentioned: the offshore islands that seasonally support many thousands of nesting terns and gulls.

Precise information is hard to obtain since the islands are difficult to visit while the birds are breeding. However, species nesting there are known to include the Roseate Tern *Sterna dougallii*, a bird which gives cause for concern in West Africa. Although cases of egg removal have been reported, the islands are not believed to be under any immediate threat.

The problems

The chief conservation problem in Kenya, at least for birds, is habitat destruction. The dwindling and increasingly degraded indigenous forests give the most cause for concern, but modification of wetlands and, to a lesser extent, of bushland and woodland is also taking place rapidly.

The use of pesticides and fertilizers in agriculture is a potential problem, and could threaten birds both directly (through poisoning) and indirectly (through eutrophication of aquatic habitats). However, use of agrochemicals appears to be diminishing in Kenya, mainly because of the prohibitive expense involved (M. Coverdale pers. comm.). In addition, there is now strict screening of agrochemicals before they are licensed for use. The extent to which pesticides currently affect bird populations in Kenya is unclear. There are no recent studies, and older data are not clear-cut, although they generally suggest that the problem was not severe (reviewed in Crick in press). The main crops currently sprayed are coffee and wheat, and use on coffee is minimal (M. Coverdale pers. comm.). However, anecdotal reports of numbers of dead raptors and storks being found in agricultural areas such as the Elgon Downs (N. Gichuki pers. comm.) indicate the need for this issue to be examined further.

As far as eutrophication of wetlands is concerned, agrochemical run-off is probably less of a problem than waste water. This is a particularly severe threat in Lake Nakuru, where industrial waste and sewage from the town already runs into the lake; plans to supply Greater Nakuru with water from the Malewa River, the main inflow into Lake Naivasha, are likely to exacerbate the situation greatly (R. Wilde *in litt.*).

Some of the problems facing birds elsewhere, such as hunting and trade, are not severe in Kenya. The traditional cultures of many groups discourage the killing of birds, and even where this is not the case it is unlikely that the impact on the population of any species is severe.

The Wildlife Act gives protection to the majority of bird species. Geese and ducks, francolins, partridges, quails, guineafowl, spurfowl, the smaller bustards, snipe, sandgrouse, pigeons and doves can be shot under license, and queleas and mousebirds are classed as pests and afforded no protection. Although bustards are not fully protected under the terms of the Act, their capture and export has been banned by presidential decree. Statistics are unavailable, but it seems unlikely that licensed shooting poses a conservation problem; indeed, by contributing revenue to the Kenya Wildlife Service it may be of considerable value. Nonetheless, research is required to set appropriate seasons, bag limits and license fees.

At present falconry is illegal in Kenya, and there is a small, but vocal, lobby for change in the regulations. As in many other countries, it is a controversial subject. A thorough review appears necessary, which should give careful consideration to the argument that properly regulated falconry is a powerful means towards raptor conservation, rather than a threat.

The structures

Tackling bird conservation in any country demands skilled people and appropriate instruments. Both are increasingly available in Kenya, although still inadequate in number and strength. There are five structures which have an ornithological focus and which are able to promote bird conservation nationally. Two are staffed full-time: the Kenya Wildlife Service's Ornithology Unit and the National Museums of Kenya's Department of Ornithology. The three others are volunteer organizations: the Ornithological Sub-committee of the East Africa Natural History Society, the Kenya Section of ICBP, and the Kenya Wetlands Working Group, which provides input to the International Wetlands and Waterfowl Research Bureau (IWRB). All of these groups have close links with the National Museums, and it is the Museums which are probably best placed to act as a focus for bird conservation in Kenya.

In July 1990 a new body, the Kenya Wildlife Service (KWS), took over national responsibility for protected areas, assuming the functions of the government's Wildlife Conservation and Management Department under the Ministry of Tourism and Wildlife. The department's Ornithology Unit was part of the package taken over. Its responsibilities include reviewing off-take levels for bird shooting, monitoring captive birds and advising KWS on all ornithological issues. The unit, which has two full-time staff, is now five years old. Since KWS is the executive body for implementing policy on all wildlife, including birds, and is also designated to oversee the workings of the Ramsar Convention in Kenya, the unit has a very important role to play.

The main focus for bird-oriented research is the Department of Ornithology at the National Museums of Kenya. The department currently has six staff, three of whom are professional ornithologists. Its responsibilities include maintaining Kenya's fine bird skin collection of over 25,000 specimens, providing data to local and overseas bodies, and supporting and advising local and foreign researchers working on Kenya's birds.

In keeping with traditions elsewhere, much of the energy devoted to bird study and conservation in Kenya is amateur. Under the auspices of the East Africa Natural History Society, an Ornithological Sub-committee collates and publishes an annual bird report and a bi-annual journal, *Scopus*. Records of rare and vagrant species to the region are screened by members of an authoritative Rare Birds Panel. Now in its fourteenth year, *Scopus* is well established and respected internationally, and constitutes the chief medium for disseminating new information about eastern African birds. The East Africa Natural History Society also coordinates ringing efforts in the region, and runs a long-established nest record card scheme.

It is also worth noting that several international conservation organizations have their regional offices in Kenya. These include the World Wide Fund for Nature (WWF), the International Union for Conservation of Nature and Natural Resources (IUCN), the African Wildlife Foundation (AWF) and Wildlife Conservation International (WCI). In addition, the United Nations Environment Program (UNEP) has its world headquarters in Nairobi. A considerable concentration of conservation experience and concern thus exists in the country.

The solutions

In previous sections, we have introduced the avifauna of Kenya, discussed critical species, habitats and issues, and reviewed the structure of ornithology in the country. A national bird conservation strategy must seek solutions to the problems outlined, in particular: (1) conservation of bird species as a component of biodiversity in general; (2) increased awareness of the value of birds, including their economic importance; (3) strong integration and direction for amateur and professional bird research; and (4) a firmer institutional base for Kenyan ornithology.

Of course, Kenya's environmental concerns extend much further than birds alone, and conservation efforts must take place across a broad front if they are to be effective. Nonetheless, there are good reasons to concentrate on birds in particular (ICBP 1990), and a strategy to conserve birds validly forms part of an overall plan for wise use of the environment. The mechanisms suggested here are partial solutions that can only complement, not conflict with, other conservation measures.

Tourism

Bird tourism offers one of the main hopes for bird conservation in Kenya. To be successful in the long run, conservation efforts must enrol the support of people living around protected areas. Bird tourism offers one way to inject economic benefits into the local as well as the national economy. The Kenya Wildlife Service has already acknowledged this principle with the promise that a quarter of all takings from park entrance fees will be handed over to local communities.

At present most bird tourism takes place outside the national parks structure. Entrance to many sites, like Kakamega Forest, is free, and there is little infrastructure to cater specifically for birdwatchers. It is now time to bring birds into the mainstream of the tourist industry. If the existing legal instruments are inadequate, new classes of protected area may need to be created that will cater simultaneously for conservation, revenue generation and limited, controlled exploitation.

One encouraging recent development has been the initiative of some county councils to protect areas within their jurisdiction, specifically for the generation of revenue from birds. Examples are Baringo County Council and Nyandarua County Council, who have put forward plans to protect the escarpment area near Lake Baringo and Lake Ol Bolossat respectively. Such plans need to be encouraged, and councils offered advice and assistance. Many good birdwatching sites are small and relatively easy to protect. The revenue generated from tourism may not be large, but could easily be greater than that from an alternative, more exploitative use; it could provide a useful small income for the council and employment for several persons, while fulfilling conservation aims.

The Kenya Wildlife Service should be encouraged to research the potential for bird tourism more thoroughly, to document possible reserve sites (with the assistance of ICBP-Kenya) and advise interested parties. It should also begin to cater more fully for bird tourism in the reserves that it administers, and to create

opportunities to generate income for itself – for example, by the sale of checklists and provision of bird guides.

Conservation education

The overwhelming importance of conservation education in Kenya is widely recognized in the abstract, but rarely adequately supported in more concrete terms. It is obvious that without building up popular concern for environmental issues, conservation attempts are eventually doomed to failure.

In schools, conservation education is largely the task of the Wildlife Clubs of Kenya. Most schools have wildlife clubs, and birds are a natural focus of interest. Fostering students' involvement in birds has been hampered by the lack of a good but inexpensive field guide. This may be remedied in the near future with the production of a new guide to Kenyan birds designed specially for the Wildlife Clubs.

All organizations concerned with bird conservation in the country need to work much more closely with the Wildlife Clubs; individuals should be prepared to write articles, lead field excursions and generally provide expertise and support. Hitherto, the support of most ornithologists has been more vocal than practical. The Wildlife Clubs should also be encouraged to extend their activities more fully to young people who are not still in school, so that their concern for nature is consolidated. The Clubs already organize events such as an annual census of Grey Crowned Cranes; thought needs to be given as to how young people can be involved in similar, useful activities that will strengthen their interest in natural history.

Conservation education should go beyond the Wildlife Clubs, however, to an attempt to involve people, especially those living around protected areas, in caring for their own environment. Several such projects are now under way in various parts of Kenya. It is not necessary that these be focused on birds, but the importance and value of birds should be emphasized wherever appropriate. Another approach is to attempt to return the rich traditional appreciation of the natural world, including birds, to peoples' lives. Towards this end an ethno-ornithology project, based at the National Museums of Kenya, has already collected much material on folklore connected with birds; this now needs to be made available in an accessible form.

Training

The success of bird tourism presupposes the presence of suitably trained people to support the industry. There is no formal training available at present in "birdwatching", except as a small part of courses at Utalii College, which trains students for the hotel and tourist trade. To meet the demand for knowledgeable and competent guides, the Museum or Kenya Wildlife Service needs to institute a short training course or courses in "Kenyan birds". Participants should be sponsored by their employers or institutions to take part in a field-centred training programme run by volunteer experts.

Similarly, there is at present no specialist training available for those who wish to pursue research in ornithology. In particular, training in ringing techniques

has been very difficult to obtain. Emphasis needs to be placed on the creation of ringing groups, with members who are able and willing to give training on a regular basis to inexperienced ringers. This is vital to ensure the continuation of amateur ringing, and the valuable insights it brings, as well as to produce competent professional researchers.

An initiative of the Kenya Wetlands Working Group is the training and equipping of Kenyan observers to enable them to monitor waterfowl populations at important wetland sites as a coordinated team. This programme has already begun and should be consolidated and expanded this year (1991). Counts of waterfowl in Kenya have been executed by members of the Ornithological Subcommittee of the East African Natural History Society on behalf of IWRB (Meadows 1980). The majority of the work has been carried out by experienced visiting or resident expatriates, and there has been little training of local observers.

At present, when opportunities for employment or training in ornithology arise, it is often difficult to locate appropriate candidates – even though there appears to be a growing number of young Kenyans interested in birds. A useful initiative that might be undertaken by the Museum's Department of Ornithology would be to compile a register of persons who would like to work in this field, at all levels of expertise and education.

Research

As a result of dedicated work by many professional and amateur ornithologists, Kenyan birds are much better known than those of many other African countries (see Britton 1980, Brown and Britton 1980, Lewis and Pomeroy 1989). Several long-term studies on particular species have made outstanding contributions to our understanding in the field of behavioural ecology (e.g. Reyer 1980, Emlen and Wrege 1989). On the amateur level, the largest sustained project is the long-running study of migration at Ngulia in Tsavo West, where some 115,000 Palearctic migrant birds of 47 species have been ringed over the last 20 years (G. C. Backhurst pers. comm.). By any standard, this is an extraordinary record, especially considering that the ringing conducted is entirely voluntary. Recoveries from this work have substantially increased our knowledge of Palearctic–African bird migration, although for a variety of reasons recovery rates are inevitably very low.

Basic research into the distribution and ecology of resident species has been relatively neglected, however, at both the professional and amateur level. This paper itself demonstrates how much more we need to know for conservation efforts to be effective. Another major problem at present is that research efforts are widely scattered, and many data are never made available for analysis.

To deal with this difficulty, the Museum needs to be strengthened as a base and focus for research on Kenyan birds, particularly in its applied aspects. Properly managed databases need to be set up to handle and update the many data that are already available in the form of ringing records, nest record cards, and distributional records. In addition, databases are required for managing information about topics of special interest, such as wetlands, forests, potential reserves and species of concern.

Without such a system, it is very hard for proper coverage to be achieved. Data need to be compiled at the national level where local knowledge can be stored, built on and updated at regular intervals. Central storage brings two-fold advantages: it allows quick access to the data by national and international bodies, and allows change (which may be of great conservation importance) to be quickly detected.

Monitoring programmes need to be instituted for sites or species that give particular cause for concern. Birds are often useful indicators of habitat quality and environmental health, and more attention needs to be given to their use in this way in Kenya. Finally, an aggressive effort should be made to collect basic biodiversity data on the many remaining areas, especially of forest and wetland, that are practically unknown. The results may often reveal surprises (see, e.g., Bennun *et al.* 1986).

Conclusion

Kenya's birds face grave conservation problems, with increasing pressures on their habitats and accelerating environmental change. Forest birds are undoubtedly the most threatened. Kenya has a global responsibility to protect the Arabuko-Sokoke Forest, the second most important forest for bird conservation on mainland Africa, and a national responsibility for protecting several other important forests. The best hope for conservation appears to lie in drawing birds into the mainstream of revenue-generating tourism. Real efforts need to be made to train Kenyans in ornithology at all levels, and to spread awareness of the value of birds as an important national asset. Monitoring of threatened species and sites needs to be stepped up, and better use made of the data that are already being generated by amateur and professional ornithologists.

Despite the difficulties, there are some encouraging signs. Now that Kenya is a signatory of the Ramsar Convention, moves to give several wetland areas increased protection are under way, at both national and local level, and there are new and positive philosophies concerning the sustainable and profitable exploitation of wildlife. Everyone interested in the future of Kenya's birds now has a responsibility to join forces towards shared conservation goals. This requires a clear and well thought-out conservation strategy; we hope that this paper, through stimulating discussion, will act as a first step in this direction.

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Appendix. Species for which Kenya has international and national responsibility

Name ¹	Status ²	Distribution
Madagascar Squacco Heron <i>Ardeola idae</i>	Near-threatened ³	Coastal, intra-African migrant
White-backed Night Heron <i>Gorsachius leucomotus</i>	Candidate	Widespread, low densities
Saddle-billed Stork <i>Ephippiorhynchus senegalensis</i>	Candidate	Widespread, low densities
Green Ibis <i>Bostrychia olivacea</i>	Candidate	Montane forests
Southern Banded Snake Eagle <i>Circus etruscus fasciolatus</i>	Candidate	Coastal forests
Ayres's Hawk Eagle <i>Hieraetus dubius</i>	Candidate	Widespread, low densities
Taita Falcon <i>Falco fasciinucha</i>	Near-threatened	Widespread, low densities
Jackson's Francolin <i>Francolinus jacksoni</i>	Endemic	Montane
Ring-necked Francolin <i>Francolinus streptophorus</i>	Candidate	Montane
Grey Crowned Crane ⁴ <i>Balearica regulorum</i>	Candidate	Widespread, low densities
Chestnut-banded Sandplover <i>Charadrius pallidus</i>	Candidate	Alkaline lakes
Brown-chested Wattled Plover <i>Vanellus superciliosus</i>	Candidate ⁵	Vagrant intra-African migrant
African Skimmer <i>Rynchops flavirostris</i>	Candidate	Lake Turkana
White-winged Dove <i>Streptopelia reichenowi</i>	Near-threatened	Daua Valley
Fischer's Turaco <i>Tauraco fischeri</i>	Candidate	Coastal forests
Hartlaub's Turaco <i>T. hartlaubi</i>	Regional endemic	Montane
Thick-billed Cuckoo <i>Pachyococcyx audeberti</i>	Candidate	Coastal forests
Red-chested Owllet <i>Glaucidium tephronotum</i>	Candidate	Montane forest
Sokoke Scops Owl <i>Otus irenae</i>	Endangered	Sokoke endemic
Star-spotted Nightjar <i>Caprimulgus stellatus</i>	Candidate	Northern arid
Forbes-Watson's Swift <i>Apus berliozii</i>	Candidate	Intra-African migrant
Green Tinkerbird <i>Pogoniulus simplex</i>	Candidate	Coastal forests
Mombasa Woodpecker ⁶ <i>Campethera mombassica</i>	Regional endemic	Coastal forests
Golden-tailed Woodpecker <i>C. abingoni kavirondensis</i>	Localized race	South-western woodland
Fine-banded Woodpecker <i>C. tullbergi</i>	Candidate	Montane
Masked Lark <i>Calandrella personata</i>	Candidate	Northern arid
Friedmann's Bush Lark <i>Mirafra pulpa</i>	Candidate	Northern arid/Tsavo
Williams's Bush Lark <i>M. williamsi</i>	Candidate	Northern arid, endemic
Blue Swallow <i>Hirundo atrocaerulea</i>	Candidate	Intra-African migrant
Mascarene Martin <i>Pledina borbonica</i>	Candidate ⁵	Vagrant
Green-headed Oriole <i>Oriolus chlorocephalus</i>	Candidate	Coastal forests
Red-throated Tit <i>Parus fringillinus</i>	Regional endemic	Acacia savanna
Hinde's Pied Babbler <i>Turdoides hindei</i>	Vulnerable	South-central, endemic

Appendix (cont.)

Name ¹	Status ²	Distribution
Northern Pied Babbler <i>T. hypoleucus</i>	Regional endemic	Bushland
Scaly Babbler <i>T. squamulatus</i>	Candidate	Coastal
Joyful Greenbul <i>Chlorocichla laetissima</i>	Candidate	Kakamega
Tiny Greenbul <i>Phyllastrephus debilis</i>	Candidate	Coastal forests
East Coast Akalat <i>Sheppardia gunningi</i>	Rare	Coastal forests
Taita Thrush ⁷ <i>Turdus helleri</i>	Endangered	Taita Hills endemic
Spotted Ground Thrush <i>T. fischeri</i>	Rare	Coastal forests, intra-African migrant
White-winged Apalis <i>Apalis chariessa</i>	Near-threatened	Tana River
(Taita Apalis) <i>A. thoracica fascicularis</i>	Incipient species	Taita Hills
White-winged Warbler <i>Bradypterus carpalis</i>	Near-threatened	Papyrus specialist
Papyrus Yellow Warbler <i>Chloropeta gracilirostris</i>	Rare	Papyrus specialist
Aberdare Cisticola <i>Cisticola aberdare</i>	Candidate	Montane endemic
Boran Cisticola <i>C. bodessa</i>	Candidate	Northern arid, endemic
Carruthers's Cisticola <i>C. carruthersi</i>	Candidate	Papyrus specialist
Hunter's Cisticola <i>C. hunteri</i>	Endemic	Montane
Tana River Cisticola <i>C. restricta</i>	Insufficiently Known	Tana River basin endemic
Turner's Eremomela <i>Eremomela turneri</i>	Rare	Kakamega Forest
Kretschmer's Longbill <i>Macrosphenus kretschmeri</i>	Candidate	Vagrant
Uganda Woodland Warbler <i>Phylloscopus budongoensis</i>	Candidate	Western forests
Chapin's Flycatcher <i>Muscicapa lendu</i>	Rare	Kakamega/N. Nandi Forests
Little Yellow Flycatcher <i>Erythrocerus holochlorus</i>	Candidate	Coastal forests
Malindi Pipit <i>Anthus melindae</i>	Candidate	Coastal grassland, regional endemic
Sokoke Pipit <i>Anthus sokokensis</i>	Vulnerable	Coastal forests
Sharpe's Longclaw <i>Macronyx sharpei</i>	Candidate	Montane grassland endemic
Papyrus Gonolek ⁸ <i>Laniarius mufumbiri</i>	Near-threatened	Papyrus endemic
Grey-crested Helmet Shrike <i>Prionops poliolopha</i>	Near-threatened	Acacia woodland
Chestnut-fronted Helmet Shrike <i>P. scopifrons</i>	Candidate	Coastal forests
Abbott's Starling <i>Cinnyricinclus femoralis</i>	Near-threatened	Montane forests
Kenrick's Starling <i>Poocoptera kenricki</i>	Near-threatened	Montane forests
Hildebrandt's Starling <i>Spreo hildebrandti</i>	Regional endemic	Eastern bushland
Uluguru Violet-backed Sunbird <i>Anthreptes neglectus</i>	Near-threatened	Coastal forests
Amani Sunbird <i>A. pallidigaster</i>	Rare	Coastal forests
Plain-backed Sunbird <i>A. reichenowi</i>	Near-threatened	Coastal forests

(Taita White-eye) <i>Z. polioogastra sibanus</i>	Incipient species	Taita Hills
Jackson's Widowbird <i>Euplectes jacksoni</i>	Candidate	Highland grassland
Taveta Golden Weaver <i>Ploceus castaneiceps</i>	Regional endemic	Swamp fringes
Clarke's Weaver <i>Ploceus golandi</i>	Endangered	Sokoke endemic
Papyrus Canary <i>Serinus koliensis</i>	Near-threatened	Papyrus specialist

¹Names follow Britton (1980) unless otherwise stated.

²Species categorized by the ICBP Research Department: for details see Collar and Stuart (1985).

³Considered near-threatened by Collar and Stuart (1985): it seems unlikely that the wintering population is at risk in Kenya.

⁴Called Crowned Crane *Balearica pavonina* by Britton (1980).

⁵These species, treated as candidates by Collar and Stuart (1985), occur in Kenya only as vagrants.

⁶Regarded as a race of the Golden-tailed Woodpecker by Britton (1980).

⁷Regarded as a race of the Northern Olive Thrush *T. abyssinicus* by Britton (1980).

⁸Called Mfumbiri Bush-shrike by Collar and Stuart (1985).

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