

■ MOZAMBIQUE

VINCENT PARKER



Mangrove Kingfisher *Halcyon senegaloides*. (ILLUSTRATION: MARK ANDREWS)

GENERAL INTRODUCTION

The Republic of Mozambique is a country on the east coast of Africa, with a land area of 799,380 km² and a coastline of c.2,500 km². It is divided into 10 provinces, and shares borders with South Africa, Swaziland, Zimbabwe, Zambia, Malawi and Tanzania. The population was estimated at 15,656,000 in 1990, with a natural increase of 2.7% per annum. The population growth is compounded by the return of refugees from neighbouring states since the end of the civil war in 1992.

The coast is characterized by a shallow continental shelf with extensive intertidal areas and numerous offshore coral reefs. Other topographical features include a coastal plain accounting for almost half the land area, broadest in the south, rising to mountain ranges in the west, which are most substantial in the centre and north, with the highest peak at 2,436 m. The country is virtually cut in two by the valley of the Zambezi river, and the Cahora Bassa Dam on the Zambezi river constitutes the largest body of fresh water, with a surface area of over 3,000 km². Large flood-plains are associated with the mouths of the Zambezi and Limpopo rivers, which rise in the centre of the continent and pass through Mozambique on their way to the Indian Ocean. The major rivers and their flood-plains have been profoundly affected by impoundments and steadily increasing off-takes of water upstream in neighbouring countries. The extent to which this has caused ecological changes has not been monitored and can only be guessed at.

Four-fifths of the country lies within the tropics, and the climate is correspondingly warm and frost-free. Average annual temperatures exceed 25°C in part of the Zambezi Valley and in the northernmost coastal areas, and fall below 20°C in the mountains. Rainfall occurs mainly during the austral summer and is highest along the coast and in the central mountains, where the mean annual total exceeds 1,800 mm, and lowest in the south-west, where it averages below 400 mm per annum.

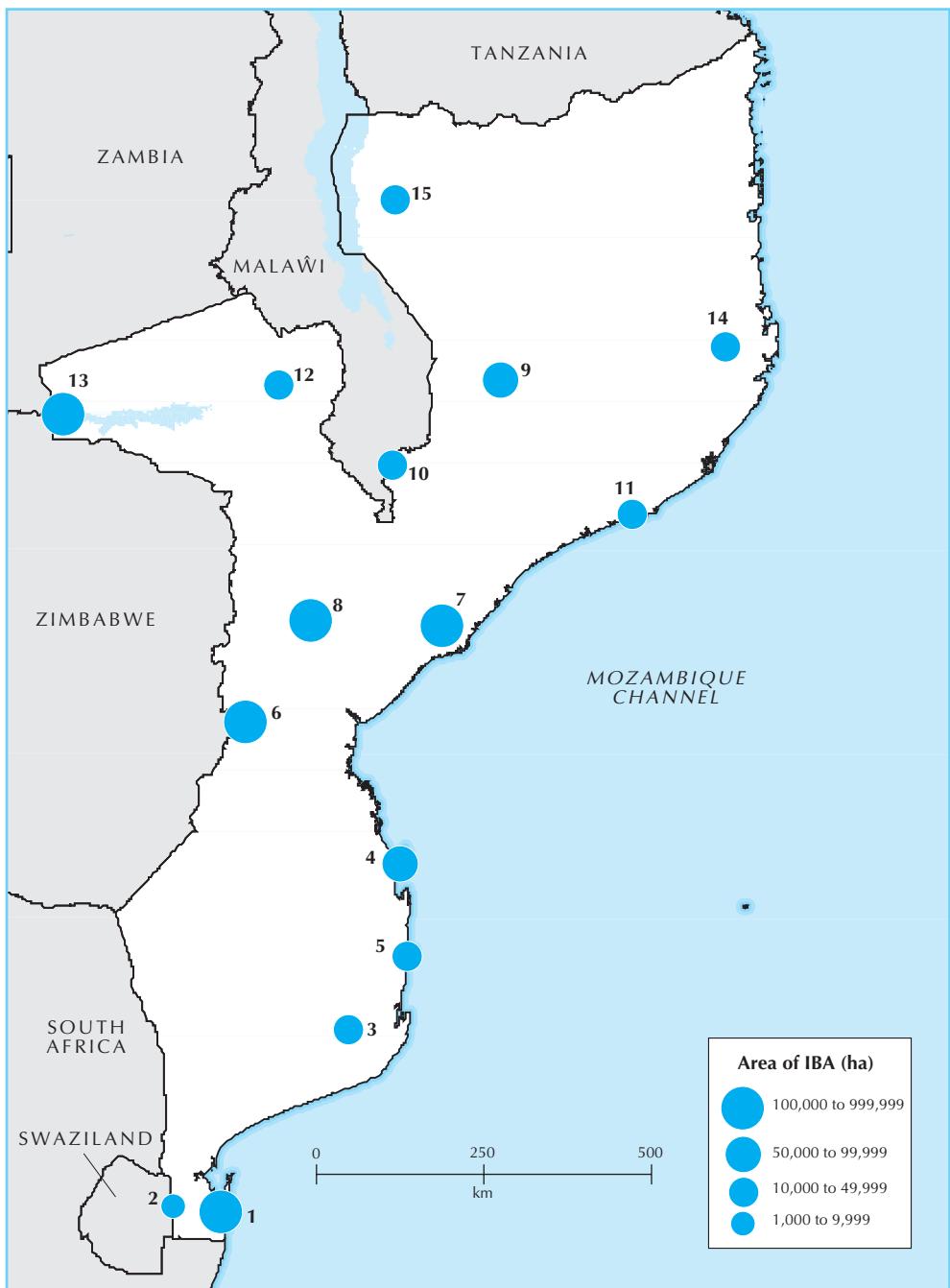
Most of the country is wooded, with vegetation-types ranging from evergreen forest to semi-arid woodland. Moist grasslands and

swamps occur on the coastal plain, especially in the flood-plains of the major rivers. Extensive mangrove forests occur in bays and estuaries. The large herds of game which are characteristic of the African plains used to be represented in the more open woodlands and flood-plains, but were decimated during the civil war, and only small numbers now occur.

Human activities have for centuries been concentrated on the coastal plain. The civil war of 1976 to 1991 caused even greater population concentration along the coast, which increased pressure on natural resources. Consequently, much of the coastal vegetation has been replaced by agriculture, and marine resources have been over-exploited. Since the end of the civil war, exploitation of woodlands in the interior has intensified. Areas around the major cities have been denuded for the production of charcoal. Elsewhere, large areas of woodland have been felled for the exportation of timber. Deforestation is a threat common to the rest of southern and East Africa, and evergreen forests are threatened throughout Mozambique.

The southern tip of the country, south of the Bay of Maputo, forms the northern end of the IUCN-listed Maputaland Centre of Plant Endemism. Elsewhere, habitat-types are generally continuous with those in neighbouring states and the level of endemism is low. There are four major biogeographic regions in Mozambique: (1) Sul Do Save; (2) Manica And Sofala Provinces; (3) Tete Province; and (4) Northern Mozambique.

Sul Do Save is the region south of the Save river (Maputo, Inhambane and Gaza Provinces), and is flat, with the exception of the Libombo mountains, consisting of a rhyolite ridge which forms the western boundary and rises to a maximum of 500 m elevation. The region is dominated by the alluvial flood-plains of the Inkomati and Limpopo rivers. These support marshes and grasslands which are fragmented by intensive agriculture. The natural vegetation of the coast consists of a mosaic of evergreen forests and moist grasslands. The coast is densely populated and from the Bay of Maputo northwards the vegetation has largely been replaced by orchards of non-native fruit trees, including coconut palms, and by slash-and-burn agriculture. Soils in the interior are sandy and



Map 1. Location and size of Important Bird Areas in Mozambique.

Table 1. Summary of Important Bird Areas in Mozambique.

15 IBAs covering c.13,890 km²

IBA code	Site name	Administrative region	Criteria (see p. 11; for A2/A3 codes, see Tables 2/3)						A4i	A4iii
			A1 092	A2 104	A2 105	A3 A07	A3 A09	A10		
MZ001	Maputo Special Reserve	Maputo	✓	✓				✓		
MZ002	Changane river gorge	Maputo	✓	✓				✓		
MZ003	Panda <i>Brachystegia</i> woodlands	Inhambane	✓	✓					✓	
MZ004	Bazaruto archipelago	Inhambane							✓	✓
MZ005	Pomene	Inhambane	✓	✓				✓		
MZ006	Chimanimani mountains	Manica	✓		✓		✓	✓	✓	
MZ007	Zambezi river delta	Sofala	✓					✓		✓
MZ008	Gorongosa mountain and National Park	Sofala	✓		✓		✓	✓		
MZ009	Mount Namuli	Zambezia	✓			✓	✓			
MZ010	Mount Chiperone	Zambezia	✓			✓	✓			
MZ011	Moebase region	Zambezia	✓					✓	✓	
MZ012	Furancungo woodlands	Tete	✓						✓	
MZ013	Headwaters of the Cahora Bassa Dam	Tete							✓	
MZ014	Netia	Nampula						✓		
MZ015	Njesi plateau	Niassa	✓			✓	✓		2	1
Total number of IBAs qualifying:			12	4	2	3	5	8	5	

nutrient-deficient, retaining little surface water, and the area is therefore sparsely populated. Vegetation consists of deciduous woodlands which are homogenous over large areas, ranging from moist woodlands (including *Brachystegia* and *Julbernardia* woodlands) in the east to semi-arid woodlands (mainly mopane *Colophospermum* and *Acacia*) in the west.

Manica And Sofala Provinces, lying between the Save and Zambezi rivers, comprise a narrow coastal plain, which rises steeply to a maximum of 2,436 m in the Chimanimani mountains on the western border. Extensive grasslands and swamps characterize the flood-plains of the Pungoe and Zambezi rivers. Elsewhere the coastal plain supports lowland evergreen forest, merging into moist deciduous woodland, with grassy clearings. The mountains support evergreen montane forest, scrub and grassland.

Tete Province is dominated by the upper valley of the Zambezi river and by the reservoir of the Cahora Bassa Dam. The valley is hot and supports semi-arid woodland and savanna. The land rises to a plateau in the north which supports *Brachystegia* woodland.

Northern Mozambique consists of the provinces of Zambezia, Nampula, Niassa and Cabo Delgado. The coastal plain rises to a plateau at over 500 m, with isolated mountain peaks rising further, to a maximum of 2,419 m. The plateau is a volcanic intrusion and represents the southern extreme of the East African chain of mountains associated with the Rift Valley. The coastal plain supports evergreen lowland forests merging into deciduous woodlands, interspersed with grasslands and marshes. The plateau is covered mainly by *Brachystegia* woodland and the mountain peaks support evergreen montane forests.

ORNITHOLOGICAL IMPORTANCE

The birdlife of Mozambique is poorly known and, as yet, no definitive bird checklist exists for the country. More than 680 bird species have been recorded and more than 530 breed within the country. A single species, *Apalis lynesi*, is endemic to Mozambique, occurring only on Mount Namuli in the north. Two distinct bird communities exist in the country, with the boundary between them coinciding more or less with the Zambezi river. North of the Zambezi, birdlife is largely shared with that of East Africa, while south of the Zambezi, birdlife is largely characteristic of southern Africa.

In conservation terms, the avifauna is most notable for its forest-restricted birds. Although these are mostly shared with neighbouring countries, they are threatened wherever they occur. Out of 22 resident species which are classified as globally threatened and/or of restricted range, 13 occur in evergreen forests. Of the three Endemic Bird Areas (EBAs) which overlap significantly with Mozambique (Stattersfield *et al.* 1998), the South-east African coast EBA (EBA 092) supports four restricted-range species in Mozambique (being defined geographically by their combined ranges), the Eastern Zimbabwe mountains EBA (EBA 104) holds three such species, and the Tanzania–Malawi mountains EBA (EBA 105) holds seven, including one shared with EBA 104, *Swynnertonia swynnertoni* (Table 2). The four Mozambican species of the South-east African coast EBA—*Apalis ruddi*, *Nectarinia neergaardi*, *Hypargos margaritatus* and *Serinus citrinipectus*—all have more than half of their global populations within Mozambique, and are thus near-endemic to the country.

Three major biomes meet in Mozambique (Table 3). The Afrotropical Highlands biome (biome A07) occurs in montane areas of the country, which hold 30 out of the 226 species globally restricted to this biome. The East African Coast biome (A09) occurs in lowland areas of Mozambique, which support 25 out of the 36 species globally restricted to this biome. Finally, the Zambezian biome (A10), one of the more extensive biomes in Africa, is represented in Mozambique mainly by the *Brachystegia* woodlands of middle altitudes and plateaus, and these habitats hold 26 of the biome's 67 characteristic species.

The long coastline, extensive intertidal flats, major lowland rivers and flood-plains, and abundance of marshes and lakes all make the country important for waterbirds. The coastal habitats provide wintering grounds for large numbers of Palearctic migrants and the freshwater habitats provide both refuges and breeding grounds for southern African waterbirds. These wetlands are distributed among a great number of smaller sites, and there are few single sites which

Table 2. The occurrence of restricted-range species at Important Bird Areas in Mozambique. Sites that meet the A2 criterion are highlighted in **bold**. Species of global conservation concern are highlighted in **bold blue**.

089 – South African forests Endemic Bird Area

(one species in Mozambique; no sites meet the A2 criterion)

IBA code:	001			
<i>Cercotrichas signata</i>				✓

092 – South-east African coast Endemic Bird Area

(four species in Mozambique; four sites meet the A2 criterion)

IBA code:	001	002	003	005
<i>Apalis ruddi</i>	✓	✓		✓
<i>Nectarinia neergaardi</i>	✓		✓	
<i>Serinus citrinipectus</i>		✓		✓
<i>Hypargos margaritatus</i>	✓	✓		✓
Number of species recorded:	3	3	1	3

104 – Eastern Zimbabwe mountains Endemic Bird Area

(three species in Mozambique; two sites meet the A2 criterion)

IBA code:	006	008
<i>Swynnertonia swynnertoni</i>	✓	✓
<i>Prinia robertsi</i>	✓	
<i>Apalis chirindensis</i>	✓	✓
Number of species recorded:	3	2

105 – Tanzania–Malawi mountains Endemic Bird Area

(seven species in Mozambique; three sites meet the A2 criterion)

IBA code:	006	008	009	010	015
<i>Alethe choloensis</i>			✓	✓	✓
<i>Swynnertonia swynnertoni</i>	✓	✓			
<i>Modulatrix oroustruthus</i>			✓		
<i>Apalis lynesi</i>			✓		
<i>Apalis chariessa</i>				✓	
<i>Orthotomus metopias</i>					✓
<i>Orthotomus moreauii</i>					✓
Number of species recorded:	1	1	3	2	3

regularly support large numbers of birds. The most important single site for waterbirds is the Zambezi river delta, with its significant numbers of breeding and non-breeding *Grus carunculatus*.

CONSERVATION INFRASTRUCTURE AND PROTECTED-AREA SYSTEM

Current conservation legislation was drawn up by the colonial administration prior to 1977 and is in the process of being rewritten. The existing legislation makes provision for the creation of protected areas under six categories: National Park, Game Reserve, Partial Reserve, Faunal Reserve, Hunting and Photographic Safari Area and Forest Reserve. Management of protected areas petered out during the civil war. By 1992, all designated protected areas were unstaffed, without infrastructure and effectively unprotected. Subsequently, rehabilitation of the protected areas is gradually being implemented.

Current conservation planning envisages the creation of larger conservation areas, in which the present inhabitants will continue to practise agriculture, fishing and hunting under resource-management programmes which aim to minimize negative impacts on natural resources and which envisage generating income from tourism. This development is linked to a transfrontier parks concept which seeks to link conservation areas with adjacent protected areas in neighbouring countries. A potential drawback is that conservation areas may be selected primarily according to the feasibility of linking them to protected areas in neighbouring states, rather than according to the occurrence of threatened habitats.

The existing network of protected areas was established by the colonial administration prior to 1977, with the primary goal of protecting larger mammals. Consequently, open woodlands, savanna and grassland are well represented within the network, largely to the exclusion of other habitats, especially montane habitats and coastal forests.

The major environmental threat faced by the country is deforestation, which is threatening all wooded habitats. Woodlands

Table 3. The occurrence of biome-restricted species at Important Bird Areas in Mozambique. Sites that meet the A3 criterion are highlighted in **bold**. Species of global conservation concern are highlighted in **bold blue**. Any other species with a restricted range are highlighted in **blue**.

A07 – Afro-tropical Highlands biome (30 species in Mozambique; five sites meet the A3 criterion)

IBA code:	001	002	006	007	008	009	010	012	015			
<i>Sarothrura affinis</i>			✓									
<i>Schoutedenapus myoptilus</i>				✓								
<i>Apoloderma vittatum</i>							✓	✓				
<i>Hirundo atrocaerulea</i>				✓		✓						
<i>Coracina caesia</i>			✓	✓		✓		✓				
<i>Andropadus nigriceps</i>							✓					
<i>Andropadus milanjensis</i>				✓		✓	✓					
<i>Telophorus olivaceus</i>		✓		✓								
<i>Zosterops gurneyi</i>				✓			✓	✓				
<i>Alethe fuelleborni</i>					✓	✓						
<i>Alethe choloensis</i>							✓	✓	✓			
<i>Swynnertonia swynnertoni</i>				✓		✓						
<i>Pogonocichla stellata</i>					✓	✓	✓	✓	✓			
<i>Cossypha anomala</i>							✓	✓				
<i>Modulatrix stictigula</i>									✓			
<i>Modulatrix orostrophus</i>							✓					
<i>Prinia robertsi</i>					✓							
<i>Apalis lynezi</i>							✓					
<i>Apalis chirindensis</i>				✓		✓						
<i>Bradypterus barratti</i>					✓							
<i>Orthotomus metopias</i>									✓			
<i>Orthotomus moreau</i>									✓			
<i>Phylloscopus ruficapilla</i>				✓		✓	✓	✓				
<i>Trochocercus albonotatus</i>				✓		✓	✓	✓	✓			
<i>Nectarinia mediocris</i>							✓					
<i>Nectarinia kilimensis</i>					✓							
<i>Promerops gurneyi</i>					✓							
<i>Cryptospiza reichenovi</i>							✓	✓	✓			
<i>Estrilda melanotis</i>						✓		✓				
<i>Ploceus bertrandi</i>									✓			
Number of species recorded:				1	2	15	2	10	14	9	1	8

A09 – East African Coast biome (25 species in Mozambique; eight sites meet the A3 criterion)

IBA code:	001	002	003	004	005	006	007	008	009	010	011	012	014	015
<i>Circaetus fasciolatus</i>	✓					✓	✓				✓			
<i>Poicephalus cryptoxanthus</i>	✓													
<i>Halcyon senegaloides</i>						✓					✓			
<i>Pogonius simplex</i>														
<i>Lybius melanopterus</i>													✓	
<i>Phyllastrephus fischeri</i>										✓				✓
<i>Phyllastrephus debilis</i>								✓	✓					
<i>Telophorus quadricolor</i>	✓	✓				✓	✓							
<i>Prionops scopifrons</i>						✓	✓	✓						
<i>Zosterops guttata</i>	✓													
<i>Sheppardia gunningi</i>								✓						
<i>Apalis ruddi</i>	✓	✓				✓								
<i>Macrosphenus kretschmeri</i>													✓	
<i>Batis fratrum</i>	✓					✓	✓	✓	✓			✓		✓
<i>Batis soror</i>				✓		✓		✓	✓			✓		✓
<i>Anthreptes reichenowi</i>						✓	✓		✓			✓		
<i>Anthreptes neglectus</i>														✓
<i>Nectarinia veroxii</i>	✓	✓		✓	✓		✓					✓		
<i>Nectarinia neergaardi</i>	✓			✓										
<i>Serinus citrinella</i>				✓			✓							
<i>Pyrenestes minor</i>							✓	✓	✓					✓
<i>Hypargos margaritatus</i>	✓	✓			✓									
<i>Euplectes nigroventris</i>												✓		
<i>Lamprotornis coruscans</i>	✓	✓			✓	✓	✓	✓					✓	
<i>Oriolus chlorocephalus</i>								✓			✓			
Number of species recorded:	10	6	2	1	11	7	9	7	1	1	9	1	5	1

Table 3 ... continued. The occurrence of biome-restricted species at Important Bird Areas in Mozambique. Sites that meet the A3 criterion are highlighted in **bold**. Species of global conservation concern are highlighted in **bold blue**. Any other species with a restricted range are highlighted in blue.

A10 – Zambezian biome (26 species in Mozambique; five sites meet the A3 criterion)

IBA code:	001	002	003	004	005	006	007	008	009	010	011	012	013	014	015
<i>Falco dickinsoni</i>													✓		
<i>Agapornis lilianae</i>													✓		
<i>Merops boehmi</i>									✓			✓			
<i>Coracias spatulata</i>			✓					✓					✓		
<i>Tockus pallidirostris</i>											✓				
<i>Stactolaema whytii</i>							✓								
<i>Dendropicos stierlingi</i>									✓			✓			✓
<i>Lanius souzae</i>												✓			
<i>Monticola angolensis</i>											✓				✓
<i>Cossypha humeralis</i>	✓	✓			✓	✓									
<i>Cercotrichas barbata</i>												✓			
<i>Myrmecocichla arnotti</i>			✓										✓		
<i>Pinarornis plumosus</i>							✓								
<i>Turdus libonyana</i>	✓	✓	✓				✓		✓						
<i>Calamonastes undosus</i>							✓	✓				✓			
<i>Sylvietta ruficapilla</i>												✓			
<i>Parus rufiventris</i>						✓			✓		✓				
<i>Parus griseiventris</i>						✓						✓			
<i>Anthreptes anchietae</i>												✓			
<i>Nectarinia talatala</i>	✓	✓	✓	✓	✓	✓		✓			✓			✓	
<i>Nectarinia manoensis</i>							✓					✓			
<i>Nectarinia shelleyi</i>										✓					
<i>Serinus mennelli</i>							✓								
<i>Vidua obtusa</i>								✓			✓				
<i>Ploceus olivaceiceps</i>			✓						✓			✓			✓
<i>Lamprotornis mevesii</i>												✓			
Number of species recorded:	3	3	5	2	2	9	2	3	3	1	5	9	6	1	3

and forests are being cleared for charcoal manufacture, slash-and-burn agriculture and the export of timber. This threat will continue to grow as long as no alternative economic activities are available to rural residents.

INTERNATIONAL MEASURES RELEVANT TO THE CONSERVATION OF SITES

Mozambique is a party to the Convention on Biological Diversity, the Convention to Combat Desertification, the World Heritage Convention, CITES and the Convention on Climate Change.

OVERVIEW OF THE INVENTORY

The inventory comprises 15 Important Bird Areas (IBAs) with a combined area of c.13,890 km², equivalent to c.1.8% of the total land area (Map 1, Table 1). A single site is fully protected (Maputo Special Reserve, IBA MZ001), five have part of their area protected by legal and/or practical measures (MZ004, MZ005, MZ007, MZ008, MZ013), and the remaining nine are unprotected. All of the major habitats which occur in the country are represented in the IBA inventory, namely open seashore, bays and estuaries, coastal grassland, coastal forest, moist deciduous woodland, semi-arid woodland, semi-arid savanna, montane grassland, montane scrub, montane forest, cliff-faces, marshes and freshwater lakes.

Five species which are of global conservation concern, and which occur in Mozambique only peripherally and unpredictably as non-breeding visitors, are not represented at any of the sites. These are *Spheniscus demersus*, *Circus macrourus*, *Falco naumannii*, *Crex crex* and *Acrocephalus griseldis*. The remaining 27 globally threatened and restricted-range species whose regular presence in Mozambique is confirmed, are represented at one or more of the 15 sites (Tables 2 and 3). The South-east African coast EBA (092) is represented by four sites (MZ001–MZ003 and MZ005) which between them hold all four of the EBA's restricted-range species that occur in Mozambique; the Eastern Zimbabwe mountains EBA (104) by two sites (MZ006 and MZ008) which together hold all three such species,

and the Tanzania–Malawi mountains EBA (105) by three sites (MZ009, MZ010 and MZ015) which hold six of the seven relevant restricted-range species in Mozambique (Table 2).

Likewise, all but one of the 81 biome-restricted species whose presence in the country is confirmed are represented at one or more IBAs, although not all of these sites meet the A3 criterion for the biome concerned (Table 3). The Afro-tropical Highlands biome (A07) is represented by five sites, which together hold all but one of the characteristic species of this biome that are found in Mozambique. Similarly, the East African Coast biome (A09) is represented by eight sites, which hold all but two of the relevant species. Finally, the Zambezian biome (A10) is represented by five sites, which together hold all but three of the relevant species (all of which occur in other IBAs, however).

COMMENTS ON THE INVENTORY

- The region south of the Save river has recently been comprehensively surveyed by the Mozambique Bird Atlas Project, but large areas of central and northern Mozambique have never been ornithologically explored. The available information on five of the sites in northern Mozambique dates back to 1933 or 1948. Site selection for the inventory was restricted to sites for which adequate information is available. Threatened species which have not yet been recorded in Mozambique may occur in areas not yet explored, and it is imperative that the inventory be updated as soon as further information becomes available.
- The selection of sites which may hold significant congregations of waterbirds presents some difficulties, because conditions at all freshwater wetlands fluctuate irregularly, both in response to local rainfall and to varying flows of rivers originating in the centre of the continent. Waterbirds are consequently highly nomadic in the region, and typically occur in large congregations at certain sites for short periods at irregular intervals. Some sites, for which congregations of waterbirds exceeding threshold levels have been reported on occasions in the past, are not included in the inventory, because the likelihood that such congregations may re-occur there is unknown. At two sites, Lake Chuali and the

Massingir Dam, which are known to have supported congregations of waterbirds exceeding threshold levels in the past, the current artificial manipulation of water-levels makes it unlikely that such congregations will occur in the foreseeable future, and consequently these sites are not included.

ACKNOWLEDGEMENTS

Information about the occurrence of bird species at selected sites was extracted from the database of the Mozambique Bird Atlas Project of the Endangered

Wildlife Trust (South Africa). Among the many contributors to the Project, those whose contributions were particularly useful include: D. Allan, W. Branch, S. Edwards, P. and U. Kohler and P. Ryan. Information was supplied by the National Directorate of Forestry and Wildlife (DNFFB) and K. Wilson (Ford Foundation). M. Wren-Sargent (Avian Demography Unit, University of Cape Town) assisted with literature searches.

GLOSSARY

inselberg a rounded hill, rising from a surrounding plain.

SITE ACCOUNTS

Maputo Special Reserve

Admin region Maputo

Coordinates 26°27'S 32°48'E

Area c.104,000 ha Altitude 0–30 m

MZ001

A1, A2 (092), A3 (A09)

Nature Reserve

Site description

The site consists of the coastal plain lying between the Futi Channel and the Indian Ocean at the south end of the Bay of Maputo. It consists of a mosaic of forest, woodland, grassland, marshes and lakes. It forms the northern end of the IUCN-listed Maputaland Centre of Plant Endemism. The forest and woodland habitats are also represented in conservation areas in the adjacent part of South Africa, but it is only in this reserve that significant areas of the grassland habitats are protected. The impact of human activity in the area to date has been light, and much of the reserve is pristine. Between 500 and 1,300 inhabitants practise agriculture and fishing, under the control of reserve authorities.

Birds

See Box and Tables 2 and 3 for key species. *Gyps coprotheres* breeds nearby at the Changelane river gorge (IBA MZ002). It has not been reported at this IBA, although the reserve lies well within the foraging range of the species—the present low numbers of large mammals provide few foraging opportunities for it. *Zoothera guttata* has recently been discovered here and may be a breeding resident. *Circaetus fasciolatus* is a breeding resident, as is *Nectarinia neergaardi*, which is also a near-endemic to southern Mozambique, with more than 5% of its global population occurring at this site. Another restricted-range species here is *Cercotrichas signata*, of the South African forests EBA (EBA 089). The site also holds three species of the Zambezian biome and one of the Afrotropical Highlands biome (see Table 3). The extensive marshes and flooded grasslands hold notable numbers of rails/crakes and other marshland species, including *Balearica regulorum* and *Turnix hottentota*, while the lakes support large numbers of waterbirds (including *Pelecanus onocrotalus* and *Mycteria ibis*) on an irregular basis.

Key species

A1	<i>Gyps coprotheres</i>	<i>Zoothera guttata</i>
	<i>Circaetus fasciolatus</i>	<i>Nectarinia neergaardi</i>
A2 (092)	South-east African coast EBA: Three of the four species of this EBA that occur in Mozambique have been recorded at this site; see Table 2.	
A3 (A09)	East African Coast biome: Ten of the 25 species of this biome that occur in Mozambique have been recorded at this site; see Table 3.	

Other threatened/endemic wildlife

The population of elephant *Loxodonta africana* (EN) is c.150.

Conservation issues

The agricultural and fishing activities of the resident human population are controlled by the reserve management to minimize the impact on wildlife. Diving at offshore reefs by tourists is popular and needs to be controlled to prevent damage to the reefs. The development of tourist resorts is being planned. Reintroduction of game animals is planned, and would create increased foraging opportunities for *Gyps coprotheres*. The grassland habitats are sensitive to overgrazing and the temptation to overstock with game to attract tourists is a potential threat. An extension of the reserve along the Futi Channel to link up with conservation areas in the adjacent part of South Africa has been

proposed, in order to allow free movements of *Loxodonta africana*. The proposed extension would provide protection for an important wetland area. A proposal for the development of a harbour at the southern boundary of the reserve is currently being considered. The accompanying industrial development would encroach significantly into the reserve. Bush clearance for the construction of a new powerline through the reserve threatens to remove a significant area of pristine forest.

Further reading

Clancey (1996), Parker (1999), Parker and de Boer (2000), Tello (1973), Van Wyk (1994).

Changelane river gorge

MZ002

Admin region Maputo

Coordinates 26°20'S 32°07'E

Area 4,000 ha Altitude 200–500 m

A1, A2 (092), A3 (A09)

Unprotected

Site description

The site lies within the Libombo mountain range, a rhyolite ridge running along the frontier between Mozambique and Swaziland. It includes steep hillsides, a gorge through which the Changelane river flows and a large cliff-face at the joint confluence of the streams Timbogoloene and Mizinandjovo with the Changelane river. The vegetation consists of coastal forest (on the steeper slopes), woodland and savanna. The area is inhabited by itinerant charcoal manufacturers in temporary dwellings, and by subsistence farmers in fewer than 10 more permanent homesteads.

Birds

See Box and Tables 2 and 3 for key species. A colony of 10–15 pairs of the globally threatened *Gyps coprotheres* breeds on the one substantial cliff-face in the Changelane river gorge. Foraging opportunities for the species in this part of Mozambique are severely limited, due to the lack of game and livestock. The birds forage mostly in the nearby Mlawula/Hlane wildlife complex in Swaziland. The proposed reintroduction of game into the Maputo Special Reserve (IBA MZ001) would provide additional foraging opportunities for the species within Mozambique. The site holds three species of the Zambezian biome and two of the Afromontane Highlands biome (Table 3).

Key species

A1	<i>Gyps coprotheres</i>
A2 (092)	South-east African coast EBA: Three of the four species of this EBA that occur in Mozambique have been recorded at this site; see Table 2.
A3 (A09)	East African Coast biome: Six of the 25 species of this biome that occur in Mozambique have been recorded at this site; see Table 3.

Other threatened/endemic wildlife

None known to BirdLife International. Larger mammals which used to occur in the area have been exterminated by hunting.

Conservation issues

The site is unprotected. Body parts of *Gyps* vultures are widely used in traditional medicine. The breeding site of *Gyps coprotheres* is potentially threatened by hunters seeking carcasses of the birds for this trade. The continued depletion of forests by charcoal manufacturers poses a threat to forest-dwelling birds. A proposal has

been made by residents of the area to the Department of Wildlife for tourism development, based on birdwatching.

■ Further reading

Clancey (1996), Parker (1994a, b, 1997, 1999).

Panda *Brachystegia* woodlands

Admin region Inhambane

Coordinates 24°00'S 34°40'E

Area c.32,000 ha Altitude 70–140 m

MZ003

A1, A2 (092), A3 (A10)

Unprotected

■ Site description

The site lies between the town of Panda in the east and Lake Guele in the west. The terrain is generally flat, and the substrate sandy. The valley of the Inhatouco river is no more than a shallow marshy depression running through the site from north to south. Two distinct woodland-types occur. The eastern half of the site supports *Brachystegia* woodland (up to 20 m high), with sparse undergrowth. Taller tracts, which support a greater diversity of birdlife, are interspersed among shorter, denser tracts. This is the only locality in southern Mozambique (south of the Save river) where this vegetation-type occurs. Further exploration on the ground is needed to determine the exact limits of the surviving *Brachystegia* woodlands. The other woodland-type is tall mixed woodland, including *Acacia* species, which occurs in the western half of the site. Exploration to date has been inhibited by the suspected presence of land-mines. Human settlements are expanding steadily away from the town, along the two roads. Slash-and-burn agriculture is the main human activity.

■ Birds

See Box and Tables 2 and 3 for key species. The tall *Brachystegia* woodlands at this site are estimated to support up to 100 breeding pairs of *Ploceus olivaceiceps*, which are likely to constitute about 0.5% of its global population. The birds at this site are separated by more than 600 km from any other population. Two species of the East African Coast biome occur, including *Nectarinia neergaardi*, a near-threatened and restricted-range species of the mixed woodlands; its population here is isolated from that of the Maputo Special Reserve (IBA MZ001). Marshlands associated with the riverbed support many wetland birds.

Key species

A1 *Nectarinia neergaardi*

A2 (092) South-east African coast EBA: One of the four species of this EBA that occur in Mozambique has been recorded at this site; see Table 2.

A3 (A10) Zambezian biome: Five of the 26 species of this biome that occur in Mozambique have been recorded at this site; see Table 3.

woodland on Benguerra island. Several freshwater lakes occur on Bazaruto island. The San Sebastião peninsula has well developed woodlands and forest and extensive marshes. The human population is dense on the islands and sparse on the peninsula. Human activities consist of subsistence farming and fishing. There is a well developed infrastructure for tourism.

■ Birds

See Box for key species. The site is an important wintering ground for migratory waders from the Palearctic. For six species of non-breeding waterbird, numbers exceed the 1% population thresholds. The largest congregations in southern Africa of *Limosa lapponica* (average 4,300 during 1996–1998) and of *Dromas ardeola* have been observed here. Flocks of *Phoenicopterus ruber*, which arrive in midwinter, include newly fledged young, and this is an important stop-over site for birds from breeding grounds in Botswana which disperse along the east coast of Africa. The number of waterbirds present during the austral summer regularly exceeds 20,000. The rare *Falco eleonorae* has been observed and may be a regular non-breeding visitor. The globally near-threatened *Anthreptes reichenowi* is likely to occur at San Sebastião, although not yet observed there. Rare birds observed in the marshes of San Sebastião include *Vanellus crassirostris* and *Butorides rufiventris*. One species of the East African Coast biome occurs, as do two of the Zambezian biome (Table 3).

Key species	Breeding (pairs)	Non-breeding
A4i		
<i>Pluvialis squatarola</i>	—	2,029
<i>Charadrius mongolus</i>	—	476
<i>Calidris alba</i>	—	2,273
<i>Sterna hirundo</i>	—	20,000
<i>Sterna bengalensis</i>	—	5,895
<i>Sterna albifrons</i>	—	1,883
A4iii	More than 20,000 waterbirds occur.	

■ Other threatened/endemic wildlife

The islands support six endemic species of gastropod (*Conus pennaceus*, *Epitonium pteroen*, *E. repandior*, *Fusiaphera eva*, *Thracia anchoralis*, *Limatula vermicola*). Two lizard species are endemic to Magaruque and Benguera (*Scelotes duttoni*, *Lygosoma lanceolatum*). The following marine mammals are of conservation concern: *Megaptera novaeangliae* (VU), *Tursiops truncatus* (DD), *Sousa chinensis* (DD), *Dugong dugon*. Due to disturbance and persecution, sea-turtles have abandoned many breeding beaches in Mozambique, but here breeding by *Caretta caretta* (EN) is confirmed and breeding by *Dermochelys coriacea* (CR) and *Eretmochelys imbricata* (CR) is probable.

■ Conservation issues

The Bazaruto National Park encompasses the islands of Benguerra, Margarueque and Bangue. The incorporation of Bazaruto and Santa Carolina islands and the San Sebastião peninsula have been proposed. A programme is in place to empower community guards so as to monitor and control exploitation of marine resources by the resident population throughout the archipelago. Control of the access by tourists and fishermen to the spit at the north end of Bazaruto island, where the greatest congregations of migratory waders occur, has been proposed. Clearing of natural vegetation for agriculture, and overgrazing by goats, are problems which require further control. The present population of the peninsula is too small to impact significantly on the natural environment.

■ Further reading

Clancey (1996), Clancey and Lawson (1966), Nuttall (1998, undated), Parker (1999).

Bazaruto archipelago

Admin region Inhambane

Coordinates 21°45'S 35°25'E

Area c.50,000 ha Altitude 0–90 m

MZ004

A4i, A4iii

National Park, Unprotected

■ Site description

The site consists of the islands of Bazaruto, Santa Carolina, Benguerra and Margarueque, and also the San Sebastião peninsula on the mainland. There are high sand-dunes on the eastern side, but the rest of the land area is flat. The most important habitat for birds is the extensive intertidal flats which connect the islands. Vegetation on the islands is mostly scrubby, with a small patch of moderately well developed

Pomene

Admin region Inhambane

Coordinates 23°00'S 35°30'E

Area c.40,000 ha Altitude 0–100 m Nature Reserve, Unprotected

MZ005

■ Site description

The site consists of the bay of Pomene, the coastline to the south and the adjoining hinterland. The bay consists of intertidal flats surrounded

by a large mangrove forest. A slight depression behind the sand-dunes is bordered by a plateau. The dunes are forested, the depression contains marshland and scrubland, and the plateau has forests which are taller and more species-rich than the dune-forests. Much of the plateau forest has been destroyed for subsistence farming. In fact, this type of forest has been cleared along most of the coastal plain between Maputo and the Save river, and the forests of this area represent the largest surviving tract.

Birds

See Box and Tables 2 and 3 for key species. The site is important for coastal forest birds which have declined in the region, and the bay is a wintering ground for large numbers of migratory shorebirds. Regular counts of waterbirds may prove that congregations of some species (e.g. *Sterna bengalensis*) exceed 1% threshold levels. *Morus capensis* occurs regularly offshore as a non-breeding winter visitor. Two species of the Zambezian biome have been recorded.

Key species

A1	<i>Morus capensis</i>	<i>Anthreptes reichenowi</i>
A2 (092)	South-east African coast EBA:	Three of the four species of this EBA that occur in Mozambique have been recorded at this site; see Table 2.
A3 (A09)	East African Coast biome:	11 of the 25 species of this biome that occur in Mozambique have been recorded at this site; see Table 3.

A3 (A10) Zambezian biome: Nine of the 26 species of this biome that occur in Mozambique have been recorded at this site; see Table 3.

Other threatened/endemic wildlife

Several larger mammals, including *Loxodonta africana* (EN), still occur in significant numbers. At least 45 endemic plants and two endemic amphibians occur.

Conservation issues

The site is at present unprotected. It adjoins the Chimanimani National Park in Zimbabwe, and comprises an even greater area of protection-worthy habitat than that park. A transfrontier conservation area has been proposed for this site as part of a GEF (Global Environment Facility) initiative, supported by the World Bank. The provincial Forestry and Wildlife Service and the Ford Foundation have proposed the development of infrastructure for tourism, based on birdwatching in the area. Further investigation on the ground is needed to determine boundaries of the proposed conservation area in such a way as to minimize conflict of interest with the land requirements of local inhabitants.

Further reading

Clancey (1996), Harrison *et al.* (1997), Irwin (1963), Wilson (undated).

Other threatened/endemic wildlife

Not known to BirdLife International.

Conservation issues

A nature reserve incorporates the bay and mangrove forest, but not the forests of the hinterland. Clearing of the forest for subsistence agriculture is on-going, and protection of the remaining forest is an urgent priority.

Further reading

Clancey (1996), Parker (1999).

Chimanimani mountains

MZ006

Admin region Manica

Coordinates 19°50'S 33°10'E A1, A2 (104), A3 (A07, A09, A10)
Area c.174,000 ha Altitude 500–2,436 m Unprotected

MZ007

Zambezi river delta

Admin region Sofala

Coordinates 18°30'S 36°00'E

A1, A3 (A09), A4i
Reserve, Unprotected

Site description

The Chimanimani mountains lie on the border between Mozambique and Zimbabwe, with most of the range lying within Mozambique. The site includes the plateau and eastern slopes of the mountains and the adjoining lowlands. Several rivers flow eastward from the plateau. The lowland forests of the coastal plain intrude along the river valleys, where they occur in close juxtaposition to montane forests. The site also includes a significant area of montane grassland and scrub. There is a large rural population engaged in agriculture which is concentrated around the main villages.

Birds

See Box and Tables 2 and 3 for key species. Each of the main habitats supports species of global conservation concern. *Circaetus fasciolatus* and *Anthreptes reichenowi* are residents of lowland forest, *Hirundo atrocaerulea* is a breeding migrant in montane grassland, and *Swynnertonia swynnertoni* is a resident of montane forest. *Falco fasciinucha* has been recorded once, but is likely to occur regularly. The site is situated at the intersection of three biomes—Afrotropical Highlands, East African Coast and Zambezian—and as a result is probably the area of greatest avian diversity within Mozambique.

Key species

A1	<i>Circaetus fasciolatus</i>	<i>Swynnertonia swynnertoni</i>
	<i>Falco fasciinucha</i>	<i>Anthreptes reichenowi</i>
	<i>Hirundo atrocaerulea</i>	
A2 (104)	Eastern Zimbabwe mountains EBA:	All three species of this EBA that occur in Mozambique have been recorded at this site; see Table 2.
A3 (A07)	Afrotropical Highlands biome:	15 of the 30 species of this biome that occur in Mozambique have been recorded at this site; see Table 3.
A3 (A09)	East African Coast biome:	Seven of the 25 species of this biome that occur in Mozambique have been recorded at this site; see Table 3.

Key species

A1	<i>Grus carunculatus</i>	<i>Sheppardia gunningi</i>
	<i>Circaetus fasciolatus</i>	
A3 (A09)	East African Coast biome:	Nine of the 25 species of this biome that occur in Mozambique have been recorded at this site; see Table 3.
A4i	Breeding (pairs)	Non-breeding
<i>Anastomus lamelligerus</i>	—	1,000
<i>Grus carunculatus</i>	70	2,000

Other threatened/endemic wildlife

Among larger mammals, *Loxodonta africana* (EN) occurs (30–40 animals). Significant populations of threatened amphibians, fish and other aquatic fauna are likely but as yet unknown.

Conservation issues

The site includes three hunting concessions and the Marromeu Reserve, within which hunting is controlled and agriculture is minimal. The inaccessibility of much of the site contributes to its protection. The natural flooding regime of the Zambezi river has been severely disrupted by the construction of the Kariba and Cahorra Bassa dams

upriver. A study supported by the International Crane Foundation is presently under way to assess the effects of the impoundments and to propose a controlled flooding regime which would be consistent with the preservation of biodiversity in the delta. If access by road is improved, protection of *Grus carunculatus* from hunting will become a major concern. Extensive commercial logging of natural forests has occurred immediately to the south of the site, and the potential encroachment of this activity into the site is of concern. A well developed infrastructure for tourism exists within the hunting concessions.

■ Further reading

Beilfuss and Allan (1996), Clancey (1996), Davies *et al.* (1975), Goodman (1992a, b), Irwin (1963).

Gorongosa mountain and National Park

Admin region Sofala

Coordinates 18°25'S 34°05'E

Area c.385,000 ha Altitude 400–1,863 m

MZ008

A1, A2 (104), A3 (A07, A09)

National Park,

Unprotected

MZ009

Mount Namuli

Admin region Zambezia

Coordinates 15°12'S 36°52'E

Area c.50,000 ha Altitude 800–2,419 m

A1, A2 (105), A3 (A07)

Unprotected

■ Site description

Gorongosa mountain is a massive inselberg rising out of the coastal plain. Habitat consists of *Brachystegia* woodland on the lower slopes, dense evergreen forests at altitudes between 1,200 and 1,500 m, and montane grassland at the summit, with forest patches in the ravines. Many of the lower slopes have been cleared for agriculture, but the higher reaches constitute a sacred site for local inhabitants and, as such, enjoy some measure of protection. The adjoining national park consists of a large plain with deciduous woodland and extensive marshes and lakes.

■ Birds

See Box and Tables 2 and 3 for key species. Gorongosa mountain makes up less than 10% of the extent of this site, but is the most important part because most of the species which are of conservation interest are concentrated here. *Swynnertonia swynnertoni*, *Apalis chirindensis* and *Anthreptes reichenowi* are resident in the evergreen forests, while the montane grassland may hold *Hirundo atrocaerulea*, although this has not been confirmed yet. The mountain is widely known as the only locality where *Oriolus chlorocephalus* occurs in southern Africa. Three species of the Zambezian biome occur at the site. The wetlands in the National Park have not been comprehensively surveyed, and may support numbers of waterbirds which exceed 1% threshold levels. *Gallinago media* has been reported here and the wetlands are possibly an important wintering ground for the species. *Balearica regulorum*, which is threatened within southern Africa, occurs regularly in the wetlands.

Key species

A1	<i>Gallinago media</i>	<i>Anthreptes reichenowi</i>
	<i>Swynnertonia swynnertoni</i>	
A2 (104)	Eastern Zimbabwe mountains EBA: Two of the three species of this EBA that occur in Mozambique have been recorded at this site; see Table 2.	
A3 (A07)	Afrotropical Highlands biome: 10 of the 30 species of this biome that occur in Mozambique have been recorded at this site; see Table 3.	
A3 (A09)	East African Coast biome: Seven of the 25 species of this biome that occur in Mozambique have been recorded at this site; see Table 3.	

■ Site description

The site consists of Mount Namuli and part of the plain to the north. The mountain is an isolated peak rising out of the plain. Habitat consists of *Brachystegia* woodland at the base, grassland and scrub with forested river valleys on the slopes, grassy plateaus with forest patches and dense forest at the summit.

■ Birds

See Box and Tables 2 and 3 for key species. *Alethe choloensis*, *Modulatrix orostrophus* and *Apalis lynesi* are all residents of the montane forest and woodland, with the last-mentioned species being endemic to this site. *Dendropicos stierlingi* is a resident of *Brachystegia* woodland on the plains to the north, as—probably—is *Ploceus olivaceiceps* (it is not certain whether specimens collected in this region originated within the boundaries of this site). One species characteristic of the East African Coast biome has been reported from the IBA, as have three of the Zambezian biome (Table 3).

Key species

A1	<i>Dendropicos stierlingi</i>	<i>Modulatrix orostrophus</i>
	<i>Alethe choloensis</i>	<i>Apalis lynesi</i>
A2 (105)	Tanzania–Malawi mountains EBA: Three of the seven species of this EBA that occur in Mozambique have been recorded at this site; see Table 2.	
A3 (A07)	Afrotropical Highlands biome: 14 of the 30 species of this biome that occur in Mozambique have been recorded at this site; see Table 3.	

■ Other threatened/endemic wildlife

None known to BirdLife International.

■ Conservation issues

Presently, the forests at the summit are largely untouched, but selective logging has recently commenced. A road which passes close to the summit is currently under construction and this could lead to large-scale exploitation of the forests. The lower slopes are densely settled, and although there are significant areas of semi-natural grassland and scrub, only remnants of riverine forest remain. *Brachystegia* woodlands at the base, to the south and west, have been cleared for agriculture. It is not known to what extent similar woodlands to the north and east have shared the same fate.

■ Further reading

Ryan *et al.* (1999), Vincent (1933a, 1934).

Mount Chiperone

MZ010

Admin region Zambezia

Coordinates 16°21'S 35°18'E

Area c.40,000 ha Altitude 800–2,200 m

A1, A2 (105), A3 (A07)

Unprotected

■ Other threatened/endemic wildlife

The plains supported high numbers of larger mammals in the past, including *Loxodonta africana* (EN). These have been extirpated by hunting but reintroductions are planned.

■ Conservation issues

The mountain is not officially protected, but the higher reaches enjoy some protection by local residents for whom it is a sacred site. The incorporation of this site into the adjoining Gorongosa National Park has been proposed. The site is renowned among birders in southern Africa, and has the potential to attract large numbers of visitors if infrastructure for tourism were to be developed, and thus generate the funds necessary to protect the site and provide alternative employment for subsistence farmers whose fields are presently encroaching on the montane forests. The national park became defunct during the civil war, but rehabilitation has been under way since 1992.

■ Site description

Mount Chiperone is an isolated mountain peak at the southern extremity of a chain of East African mountain ranges. It lies 40 km south of the frontier town of Milange. It supports substantial montane forests and is surrounded by deciduous woodlands (mainly *Brachystegia*-dominated).

■ Birds

See Box and Tables 2 and 3 for key species. The avifauna of the site is known only from a report by Benson, based on a brief collecting expedition which took place in 1950. *Alethe choloensis* and *Apalis chariessa* are believed to occur in the montane forest—the only site in Mozambique for the latter species. It is likely that more globally threatened and restricted-range species occur. One species of the East African Coast biome has been reported, as has one of the Zambezian

biome, *Nectarinia shelleyi* (Table 3). The latter species has been recorded in woodlands in the vicinity, making this the only IBA in Mozambique where it is known to be present. However, it is probably fairly widespread, and may yet be found at other sites.

Key species

- A1 *Alethe choloensis* *Apalis chariessa*
- A2 (105) Tanzania–Malawi mountains EBA: Two of the seven species of this EBA that occur in Mozambique have been recorded at this site; see Table 2.
- A3 (A07) Afro-tropical Highlands biome: Nine of the 30 species of this biome that occur in Mozambique have been recorded at this site; see Table 3.

■ Other threatened/endemic wildlife

None known to BirdLife International.

■ Conservation issues

Further ornithological exploration is a priority. Recent unpublished information indicates that the forests at the summit are substantially untouched, but that encroachment by subsistence farmers and logging is likely to occur in the near future.

■ Further reading

Benson (1950).

Furancungo woodlands

Admin region Tete

Coordinates 15°15'S 33°40'E

Area c.10,000 ha Altitude 1,300 m

MZ012

A1, A3 (A10)

Unprotected

■ Site description

The site consists of an area of woodlands on rolling terrain, with rocky outcrops and numerous streams, situated 25 km south of the town of Furancungo. The *Brachystegia* and mixed woodlands are interspersed with grassy clearings.

■ Birds

See Box and Table 3 for key species. The birdlife of the site is known from a single expedition by Vincent in 1932. A single species of the Afro-tropical Highlands biome, *Ploceus bertrandi*, has been reported here and at no other IBA in Mozambique. Similarly, *Lanius souzae*, *Sylvietta ruficapilla* and *Anthreptes anchietae* of the Zambezian biome have not been reported at any other IBA in Mozambique; *Ploceus olivaceiceps* also occurs. A single species of the East African Coast biome occurs (Table 3).

Key species

- A1 *Dendropicos stierlingi*
- A3 (A10) Zambezian biome: Nine of the 26 species of this biome that occur in Mozambique have been recorded at this site; see Table 3.

Moebase region

Admin region Zambezia

Coordinates 17°00'S 38°44'E

Area c.40,000 ha Altitude 0–50 m

MZ011

A1, A3 (A09, A10)

Unprotected

■ Site description

The site consists of the coastal region between Notocoto and Moebase and the adjoining hinterland. Habitats include intertidal flats, mangrove swamps, beaches and sand-dunes, grassland and marshes, evergreen forest and deciduous woodland. Human activities consist of fishing and subsistence agriculture.

■ Birds

See Box and Table 3 for key species. The variety of habitats support a high diversity of birdlife. *Ardeola idae* has been reported as a non-breeding winter visitor and the marshlands may be an important wintering site for the species. *Circaetus fasciolatus* and *Anthreptes reichenowi* are resident in the forests. *Euplectes nigroventris* (of the East African Coast biome) and *Tockus pallidirostris* (of the Zambezian biome) are not known from any other IBA in Mozambique. Regular wetland counts may reveal that numbers of some waterbird species exceed 1% threshold levels. Offshore islands have not yet been explored and may be important breeding grounds for seabirds.

Key species

- A1 *Ardeola idae* *Anthreptes reichenowi*
- Circaetus fasciolatus*
- A3 (A09) East African Coast biome: Nine of the 25 species of this biome that occur in Mozambique have been recorded at this site; see Table 3.
- A3 (A10) Zambezian biome: Five of the 26 species of this biome that occur in Mozambique have been recorded at this site; see Table 3.

■ Other threatened/endemic wildlife

A project by the Port Elizabeth Museum (South Africa) is currently investigating the status of flora, reptiles and invertebrates. Descriptions of a new species of olympic snake (*Dromophis* sp.), dwarf day gecko (*Lygodactylus* sp.) and a new tree genus are in preparation. Larger mammals have mostly been hunted to extinction.

■ Conservation issues

Subsistence agriculture is making severe inroads into the *Brachystegia* woodlands. This is exacerbated by an influx of settlers to the area since the end of the civil war. The beaches may have provided breeding sites for turtles in the past, but if so these have been destroyed. The large concentration of fishermen raises concern about sustainability of the exploitation of marine resources.

■ Further reading

Branch and Branch (1998), Dold (1998).

Headwaters of the Cahora Bassa Dam

Admin region Tete

Coordinates 15°40'S 30°30'E

Area c.150,000 ha Altitude 300 m

MZ013

A3 (A10)

Unprotected

■ Site description

The site lies between the confluence of the Luangwa and Zambezi rivers and the Mussangezi and Zambezi rivers, at the head of Lake Cahora Bassa. The main habitats include seasonally flooded grassland, palm-savanna, a fringe of riverine woodland, semi-arid woodland with baobabs *Adansonia digitata*, and wooded hillsides. The area is sparsely inhabited and is a hunting concession.

■ Birds

See Box and Table 3 for key species. Three species of the Zambezian biome are not represented in any other IBA in Mozambique. *Falco dickinsoni* occurs in semi-arid woodland, *Agapornis lilianae* utilizes semi-arid woodland and flooded grasslands, and *Lamprotornis mevesii* occurs in fringing riverine woodland. Several waterbirds occur on the lake shores and flooded grasslands, and distinct communities of woodland birds occur in the riverine and semi-arid woodlands.

Key species

- A3 (A10) Zambezian biome: Six of the 26 species of this biome that occur in Mozambique have been recorded at this site; see Table 3.

■ Other threatened/endemic wildlife

Significant populations of larger mammals, including *Loxodonta africana* (EN) occur.

■ Conservation issues

The site is the pilot-program area for a community-based resource management program called ‘Tchuma Tchato’, managed by the

provincial forestry and wildlife service and supported by the Ford Foundation. It lies close to the Chewori Safari Area in Zimbabwe and the Lower Zambezi National Park in Zambia, and a combined transfrontier conservation area is a possibility. Agricultural settlement is concentrated in the riverine areas, resulting in depletion of habitat for *Lamprotornis mevesii*.

■ Further reading

Clancey (1996).

Netia

Admin region Nampula
Coordinates 14°44'S 40°04'E
Area c.10,000 ha **Altitude** 200 m

MZ014

A3 (A09)
Unprotected

MZ015

Njesi plateau

Admin region Niassa

Coordinates 12°45'S 35°20'E

Area c.30,000 ha **Altitude** 1,300–1,800 m

A1, A2 (105), A3 (A07)

Unprotected

■ Site description

The site is part of a plateau lying above the coastal plain and is situated between the towns of Netia and Itoculo. It is mostly flat, with rocky outcrops, and watercourses are scarce. The habitat is predominantly coastal forest, merging with deciduous woodlands more typical of the interior. Clearings have been created throughout the forest by subsistence farmers.

■ Birds

See Box and Table 3 for key species. The birdlife of the site is known from a report on a single visit by Vincent in 1932. The following biome-restricted birds occur at no other IBA in Mozambique: *Lybius melanopterus*, *Cercotrichas barbata* (restricted to the Zambezian biome), *Macrosphenus kretschmeri* and *Anthreptes neglectus* (Table 3).

Key species

A3 (A09) East African Coast biome: Five of the 25 species of this biome that occur in Mozambique have been recorded at this site; see Table 3.

■ Other threatened/endemic wildlife

None known to BirdLife International.

■ Conservation issues

This site was last described in 1933 and further investigation is urgently needed, to determine the extent to which subsistence farming and commercial logging have encroached on the forest.

■ Site description

The site consists of the northern arm of the Lichinga plateau and part of the adjoining plain. The habitat consists of montane grassland with forested gullies on the plateau, surrounded by *Brachystegia* woodland on the lower slopes and at the base.

■ Birds

See Box and Tables 2 and 3 for key species. The birdlife of the site is known only from one report, based on a single visit in 1945. *Alethe choloensis*, *Modulatrix stictigula*, *Orthotomus moreau* and *Orthotomus metopias* are resident in the montane forest, while *Dendropicos sterlingi* and *Ploceus olivaceiceps* are resident in the *Brachystegia* woodland. One species of the East African Coast biome and three of the Zambezian biome have been recorded.

Key species

A1	<i>Dendropicos sterlingi</i>	<i>Orthotomus moreau</i>
	<i>Alethe choloensis</i>	
A2 (105)	Tanzania–Malawi mountains EBA: Three of the seven species of this EBA that occur in Mozambique have been recorded at this site; see Table 2.	
A3 (A07)	Afrotropical Highlands biome: Eight of the 30 species of this biome that occur in Mozambique have been recorded at this site; see Table 3.	

■ Other threatened/endemic wildlife

None known to BirdLife International.

■ Conservation issues

The only account of the site dates from 1946. It is not known to what extent human activities have encroached on the natural habitats in the meantime. Further exploration is urgently needed to assess the current status of the site.

■ Further reading

Benson (1946).

BIBLIOGRAPHY

- BEILFUSS, R. D. AND ALLAN, D. G. (1996) Wattled Crane and wetland surveys in the Great Zambezi Delta, Mozambique. In R. Beilfuss, W. Tarboton and N. Gichuki, eds. *Proceedings of the 1993 African Crane and Wetland Training Workshop*. Baraboo, Wisconsin, USA: International Crane Foundation.
- BENSON, C. W. (1946) A collection from near Unangu, Portuguese East Africa. *Ibis* 88: 240–241.
- BENSON, C. W. (1950) A collection from Chiperoni Mountain, Portuguese East Africa. *Bull. Brit. Orn. Club* 70: 51.
- BRANCH, W. R. AND BRANCH, T. C. (1998) Birds of the Moebase region, Zambezia Province, northern Mozambique. *Bird Numbers* 7(3): 8–12.
- CLANCEY, P. A. (1996) *The birds of southern Mozambique*. Durban, South Africa: African Bird Book Publishing.
- CLANCEY, P. A. AND LAWSON, W. J. (1966) A new subspecies of the Oliveheaded Golden Weaver from Southern Mozambique. *Durban Mus. Novit.* 8: 35–37.
- DAVIES, B. R., HALL, A. AND JACKSON, P. B. N. (1975) Some ecological effects of the Cabora Bassa Dam. *Biol. Conserv.* 8: 189–201.
- DOLD, A. P. (1998) A new genus of Caesalpiniodeae from Mozambique. *PlantLife* 19: 13–14.
- DOWSETT, R. J. AND DOWSETT-LEMAIRE, F. (1993) *A contribution to the distribution and taxonomy of Afrotropical and Malagasy birds*. Liège, Belgium: Tauraco Press (Tauraco Research Report 5).
- GOODMAN, P. S. (1992a) Wattled Cranes on the Marromeu floodplain. In D. J. Porter, H. S. Craven, D. N. Johnson and M. J. Porter, eds. *Proceedings of the first southern African crane conference*. Durban, South Africa: Southern African Crane Foundation.
- GOODMAN, P. S. (1992b) Zambezi Delta—an opportunity for sustainable utilisation of wildlife. *IWRB News* 8: 12.
- HARRISON, J. A., ALLAN, D. G., UNDERHILL, L. G., HERREMANS, M., TREE, A. J., PARKER, V. AND BROWN, C. J., EDs. (1997) *The atlas of southern African birds*. Vols 1 and 2. Johannesburg: BirdLife South Africa.
- HOCKEY, P. A. R. (1995) Finding Crab Plovers. *Africa—Environment and Wildlife* 3: 16.
- IRWIN, M. P. S. (1963) Notes on some birds collected in the region north of Beira, Portuguese East Africa. *Durban Mus. Novit.* 7(1): 17–26.
- KOHLER, P. AND KOHLER, U. (1996) The Bazaruto Archipelago, Mozambique, a site of potential international importance for Palearctic waterbirds. *Ostrich* 67: 165–167.
- KOHLER, P. AND KOHLER, U. (1999) Extension of the known non-breeding range of the Bar-tailed Godwit (*Limosa lapponica*) in southern Africa: A major wintering site in Mozambique. *Die Vogelwarte* 40: 142–144.
- KOHLER, P. AND KOHLER, U. (undated) The ornithological survey January 1997 of the coasts and some of the wetlands of the Bazaruto Archipelago, Mozambique. (Unpubl. report to WWF.)
- MINISTERIO DA EDUCACAO (1986) *Atlas Geografico*. Vol. 1. Maputo: Ministry of Education/Stockholm: Esselte Map Service AB.
- NUTTALL, D. (1998) War and peace, and wildlife in Mozambique—the Oliveheaded Weaver story. *Endangered Wildlife* 28: 4–7.
- NUTTALL, D. (undated) The Oliveheaded Weaver in Mozambique: towards the sustainable integration of human and non-human animal ecologies. Unpubl. report to the Environment Capacity Enhancement Project (ECEP).
- PARKER, V. (1994a) Cape Griffons in Mozambique. *Vulture News* 31: 21.
- PARKER, V. (1994b) *Swaziland Bird Atlas 1985–91*. Mbabane, Swaziland: Webster's.

- PARKER, V. (1997) The status of vultures in Swaziland and Mozambique. Pp.90–92 in A. F. Boshoff, M. D. Anderson and W. D. Borello, eds. *Vultures in the 21st century: Proceedings of a workshop on vulture research and conservation in southern Africa*. Johannesburg: Vulture Study Group.
- PARKER, V. (1999) *The atlas of the birds of Sul do Save, southern Mozambique*. Johannesburg: Endangered Wildlife Trust/Cape Town: Avian Demography Unit, University of Cape Town.
- PARKER, V. AND DE BOER, W. F. (2000) *Birds of the Maputo Special Reserve, Mozambique*. Cape Town, South Africa: Avian Demography Unit, University of Cape Town (Bright Continent Guide 2).
- PINTO, A. A. DA ROSA. (1959) Um esboço da avifauna sedentaria da regiao da Gorongoza (Moçambique). Pp. 98–125 in M. K. Rowan, ed. *Proc. First Pan-African Congress*. Cape Town: South African Ornithological Society (*Ostrich Suppl. No. 3*).
- RYAN, P. G., BENTO, C., COHEN, C., GRAHAM, J., PARKER, V. AND SPOTTISWOODE, C. (1999) The avifauna and conservation status of the Namuli massif, northern Mozambique. *Bird Conservation International* 9: 315–331.
- TELLO, J. L. P. (1973) Reconhecimento ecoloica da reserva dos elefantes do Maputo. *Veterin. Mocamb.* 6(1): 19–76.
- VAN WYK, A. E. (1994) Maputaland-Pondoland region South Africa, Swaziland and Mozambique. Pp. 227–235 in S. D. Davis, V. H. Heywood and A. C. Hamilton, eds. *Centres of plant diversity: A guide and strategy for their conservation*. Vol. 1. Cambridge, UK: IUCN.
- VINCENT, J. (1933a) On safari to Namuli mountain, Portuguese East Africa, 18–20 July, 1932. *J. Roy. Geog. Soc.* 81: 314–327.
- VINCENT, J. (1933b) The birds of Northern Portuguese East Africa. Comprising a list of, and observations on, the collections made during the British Museum Expedition of 1931–32. Pt. 1 *Ibis* 13: 611–652.
- VINCENT, J. (1934) The birds of Northern Portuguese East Africa. Comprising a list of, and observations on, the collections made during the British Museum Expedition of 1931–32. Pt. 2 *Ibis* 14: 126–160.
- WILSON, K. (undated) Ecotourism and resource management in the Zimbabwean and Mozambican Chimanimanis. Unpubl. report, Ford Foundation, Southern Africa Office, Johannesburg.