

Blue-bellied Roller Coracias cyanogaster. (ILLUSTRATION: MARK ANDREWS)

#### **GENERAL INTRODUCTION**

The Federal Republic of Nigeria is bounded to the north by Niger, to the south by the Atlantic ocean, to the east by Cameroon, and by Benin to the west. The extreme north-eastern border of the country is formed by Lake Chad, which is shared with Cameroon, Niger and Chad. Nigeria lies between 04°15′N–13°30′N and 02°59′E–15°00′E and has a surface area of about 923,000 km². Its human population is currently put at over 100 million with a growth-rate estimated at about 3% per annum. Administratively, the country is divided into 36 States and a Federal Capital Territory. The states are further divided into over 770 Local Government Areas.

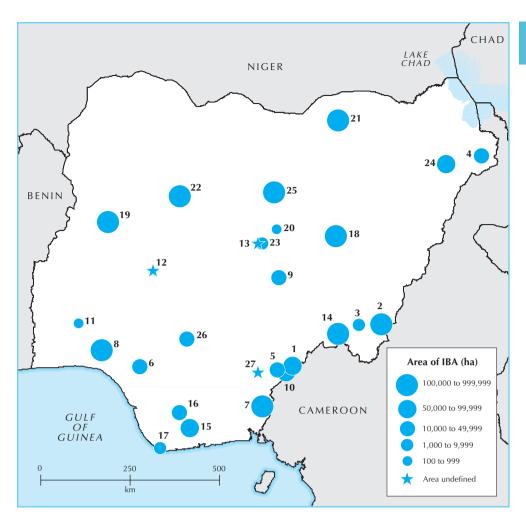
Except for the mountainous eastern borderlands, the country generally slopes gently upwards from the south, from sea-level to about 600 m in the north; this slow northward increase in altitude is interrupted only by the valleys of the Niger and Benue rivers and their tributaries and, in the far north, by the trough of the Lake Chad basin. On parts of the eastern border, extensions of the Cameroon mountain ranges penetrate into Nigeria. In the Obudu and Mambilla plateau areas, elevations reach over 1,500 m where Afrotropical highland conditions occur. Another upland area, the Jos Plateau in the centre of the country, peaks at below 1,500 m and is not, therefore, montane in character. It is, however, an important watershed for many of the country's large rivers, including the Kaduna, Gongola, Jama'are, and Hadejia rivers.

The main rivers of the country are the south-easterly flowing Niger, which enters the country in the north-west, and the Benue, which flows westwards from Cameroon to join the Niger as it turns southwards, to form the lower Niger. Before emptying into the Atlantic Ocean the lower Niger breaks into numerous channels, which form the Niger Delta, Africa's largest coastal wetland. Other significant wetlands occur further inland, in the flood-plains of the Sokoto-Rima and the Hadejia-Jama'are river systems, and in the Nigerian sector of Lake Chad.

The country has a seasonal tropical climate with distinct wet and dry seasons. Annual rainfall and length of wet season generally decrease northwards from the coast. Rainfall ranges between 4,000 mm per annum in some coastal locations to about 600 mm in the far north. Variations in mean daily, monthly and annual temperature are small in coastal and southern areas, but become greater further inland; thus, in the far north, temperatures over the year range from about 8°C to over 40°C.

A band across the south, comprising about 20% of the country, was originally covered in Guineo-Congolian lowland rainforest, but over 90% of these forests have, as a result of human activities, been degraded or lost. The coastal fringe of this zone is characterized by mangrove swamps, sandy beaches and barrier islands, while its northern fringe has been transformed to become a distinct vegetation-type known as 'derived savanna'. This is a mosaic of forest and savanna maintained in a predominantly savanna-like form by human activity. North of the forest biome is a wide band of Sudan-Guinea Savanna vegetation which covers about 70% of the country. Typical trees of this zone include Isoberlinia and Cassia spp. Banks of rivers in this region often support gallery forests that show some floristic affinities with the southern forests. However, along its drier northern fringes, the effects of deforestation and periodic drought have changed the structure and composition of the vegetation, such that northern Sahelian elements have penetrated further south. A narrow band of true Sahelian vegetation, covering less than 10% of the country runs across the north-eastern corner. Typical trees here include Acacia spp. The highland areas of the Obudu and Mambilla plateaus along the eastern border hold patches of montane forests and grasslands at altitudes above 1,200 m. The presence of tree-ferns Cyathea manniana, and the profusion of epiphytes are characteristic of montane forests in this area.

The petroleum industry generates over 90% of Nigeria's national income. The majority of the industry's activities are centred in the Niger Delta and in coastal areas, where they have caused considerable environmental pollution and forest degradation. In this area, and elsewhere in the country, logging and agriculture have resulted in the loss of forest and savanna woodlands together with some of the



**Map 1.** Location and size of Important Bird Areas in Nigeria.

Table	1. Summary of Important Bird Areas in Nigeria.	27 IBAs covering at	least	c.31,	,118 km² (the	area	s of t	hree s	ites a	are un	defin	ed)
					Criteria (see	p. 11; f	or A2//	A3 codes	s, see T	ables 2/3	3)	
IBA			A1		A2			A3		A4i	A4ii	A4iii
code	Site name	Administrative region		085	086 s041 s0	42 A0	3 A0	4 A05				
NG001	Obudu Plateau	Cross River	V		<b>V</b>				V			
NG002	Gashaka-Gumti National Park	Adamawa, Taraba	V		<b>V</b>		V	V	V			
NG003	Ngel-Nyaki forest	Taraba	V		<b>V</b>				V			
NG004	Chad Basin National Park—Chingurmi-Duguma Sector	Borno				V						
NG005	Afi River Forest Reserve	Cross River	V	V				V				
NG006	Okomu National Park	Edo	V					V				
NG007	Cross River National Park—Oban Division	Cross River	V	V				V				
NG008	Omo Forest Reserve	Ogun	V					V				
NG009	Pandam Wildlife Park	Plateau					V					
NG010	Cross River National Park—Okwangwo Division	Cross River	<b>V</b>	V				<b>V</b>				
NG011	IITA Forest Reserve, Ibadan	Oyo	<b>V</b>		<b>V</b>			<b>V</b>				
NG012	Lower Kaduna-middle Niger flood-plain	Niger					V				<b>V</b>	
NG013	Kagoro-Nindam Forest Reserves	Kaduna					V	<b>V</b>				
NG014	Donga river basin forests	Taraba						<b>V</b>				
NG015	Upper Orashi forests	Rivers						<b>V</b>				
NG016	Biseni forests	Rivers						<b>V</b>				
NG017	Akassa forests	Bayelsa	V					V		V		
NG018	Yankari National Park	Bauchi					V					
NG019	Kainji Lake National Park	Kwara					V					
NG020	Amurum woodlands (Taboru)	Plateau					V					
NG021	Hadejia-Nguru wetlands	Yobe, Jigawa, Bauchi	V			V	V			V		<b>V</b>
NG022	Kamuku National Park	Kaduna					V					
NG023	Assop Falls and hills	Plateau					V					
NG024	Sambisa Game Reserve	Borno				V						
NG025	Falgore and Lame Burra Game Reserves	Bauchi, Kano					V					
NG026	Sunvit Farm	Edo					V	<b>V</b>				
NG027	Ebok-Kabaken	Cross River	V					V			V	
	Total number of IBAs qualifying:		12	3	3 1	3	12	! 14	3	2	2	1

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

085 - Cameroon and Gabon lowlands Endemic	Bird Area
(three species in Nigeria: three sites meet the AC	criterion)

(three species in Nigeria; three sites meet t	the A2 c	riterior	1)	
IBA code:	005	007	010	027
Hirundo fuliginosa		<b>V</b>		
Picathartes oreas	<b>V</b>	<b>V</b>	<b>V</b>	V
Malimbus racheliae		<b>V</b>		
Number of species recorded:	1	3	1	1
086 – Cameroon mountains Endemic Bird	Area			
(18 species in Nigeria; three sites meet the	A2 crit	erion)		
IBA code:		001	002	003
Columba sjostedti		<b>V</b>	<b>V</b>	
Psalidoprocne fuliginosa		<b>V</b>		
Andropadus montanus		<b>V</b>	<b>V</b>	
Andropadus tephrolaemus		<b>V</b>	<b>V</b>	V
Phyllastrephus poensis		<b>V</b>	<b>V</b>	V
Phyllastrephus poliocephalus		<b>V</b>		
Laniarius atroflavus		<b>V</b>	<b>V</b>	<b>V</b>
Malaconotus gladiator		<b>V</b>		
Cossypha isabellae		<b>V</b>	<b>V</b>	
Kupeornis gilberti		<b>V</b>		
Cisticola discolor		<b>V</b>	<b>V</b>	<b>V</b>
Urolais epichlora		<b>V</b>	<b>V</b>	
Bradypterus bangwaensis		<b>V</b>	<b>V</b>	
Poliolais lopezi		<b>V</b>		
Phylloscopus herberti		<b>V</b>	<b>V</b>	<b>V</b>
Nectarinia oritis		<b>V</b>	<b>V</b>	V
Nesocharis shelleyi		<b>V</b>	<b>V</b>	
Ploceus bannermani		<b>V</b>	<b>V</b>	<b>V</b>
Number of species recorded:		18	13	7
s041 – South-west Nigeria Secondary Are	a			
(one site meets the A2 criterion)				
IBA code:				011
Malibus ibadanensis				V

fauna associated with them. Roads constructed for oil exploration and logging purposes often open up areas for use by hunters and other exploiters of forest resources. Rural populations make extensive use of forest resources such as wildlife, fruit and spices both for subsistence and to generate income through export to urban markets.

### **ORNITHOLOGICAL IMPORTANCE**

To date, 894 species have been recorded from Nigeria, of which some 436 are confirmed breeding residents; some 180 are residents suspected to breed, about 150 are Palearctic migrants and 90 are intra-African migrants—while the remainder are vagrants or are of unknown status. Twenty-six species of global conservation concern are known to occur, of which seven are non-breeding visitors from the Palearctic. These are Aythya nyroca (VU), Marmaronetta angustirostris (VU), Circus macrourus (NT), Falco naumanni (VU), Crex crex (VU), Gallinago media (NT) and Glareola nordmanni (NT) most of which probably occur regularly, with A. nyroca and G. media sometimes (at least historically) locally common. Four others, Sula capensis (NT), Phoenicopterus minor (NT), Neotis nuba (NT) and Sterna balaenarum (NT), are non-breeding visitors from elsewhere in Africa. While the tern occurs regularly in some numbers, the other three are no more than vagrants. With the exception of the enigmatic Apus sladeniae (DD), of uncertain status, the remaining species are resident; Ceratogymna elata (NT), Psalidoprocne fuliginosa (NT), Andropadus montanus (NT), Phyllastrephus baumanni (NT), Phyllastrephus poliocephalus (NT), Bradypterus bangwaensis (NT), Prinia fluviatilis (DD), Malaconotus gladiator (VU), Zoothera crossleyi (NT), Kupeornis gilberti (VU), Picathartes oreas (VU), Estrilda poliopareia (VU), Ploceus bannermani (VU) and Malimbus ibadanensis (CR). Collar et al. (1994) record Ceratogymna cylindricus for Nigeria in error, as only C. albotibialis occurs.

Parts of two Endemic Bird Areas (EBAs) occur in Nigeria. These are the Cameroon and Gabon lowlands (EBA 085) and the Cameroon mountains (EBA 086), a small extent of each of which reaches the south-eastern corner of the country. Twenty-one species of restricted range are found in them, including eight species of global conservation concern (*Psalidoprocne fuliginosa*, *Andropadus montanus*, *Phyllastrephus poliocephalus*, *Bradypterus bangwaensis*,

**Table 3.** The occurrence of biome-restricted species at Important Bird Areas in Nigeria. 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.

A03 – Sahel biome	(13 species	in Nigeria; three sites m	eet the A3 criterion)
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IBA code:	004	021	024
Neotis nuba			
Ardeotis arabs	<b>V</b>		<b>V</b>
Eupodotis savilei	<b>V</b>	<b>V</b>	<b>V</b>
Streptopelia roseogrisea	<b>V</b>	<b>V</b>	<b>V</b>
Caprimulgus eximius			
Trachyphonus margaritatus	<b>V</b>	<b>V</b>	
Dendropicos elachus		~	

Myrmecocichla albifrons

IBA code:	004	021	024
Cercotrichas podobe	V	<b>V</b>	<b>V</b>
Prinia fluviatilis			
Spiloptila clamans		V	
Anthoscopus punctifrons			
Passer luteus	<b>V</b>	<b>V</b>	<b>V</b>
Lamprotornis pulcher	<b>V</b>	<b>V</b>	V
Number of species recorded:	7	8	6

IBA code:	001	002	003	004	009	011	012	013	014	018	019	020	021	022	023	024	025	026	027
Falco alopex	V	<b>V</b>		V				<b>V</b>		<b>V</b>		<b>V</b>			<b>V</b>		<b>V</b>		
Vanellus superciliosus								V											
Streptopelia hypopyrrha								<b>V</b>		<b>V</b>		<b>V</b>			V		<b>V</b>		
Poicephalus senegalus	V	<b>V</b>			<b>V</b>	V	<b>V</b>			<b>V</b>	<b>V</b>	<b>V</b>	<b>V</b>	<b>V</b>	<b>V</b>		V	<b>V</b>	
Tauraco leucolophus		<b>V</b>	V																
Musophaga violacea		<b>V</b>			<b>V</b>	V	<b>V</b>	<b>V</b>		<b>V</b>	<b>V</b>	<b>V</b>		<b>V</b>	<b>V</b>		<b>V</b>	<b>V</b>	
Merops bulocki		<b>V</b>		V	<b>V</b>		<b>V</b>			<b>V</b>	<b>V</b>	<b>V</b>	<b>V</b>	<b>V</b>	<b>V</b>	V	V	<b>V</b>	
Coracias cyanogaster		<b>V</b>			<b>V</b>		<b>V</b>	<b>V</b>		<b>V</b>	<b>V</b>			<b>V</b>	<b>V</b>		<b>V</b>	<b>V</b>	
Lybius dubius					<b>V</b>		<b>V</b>	<b>V</b>		<b>V</b>	<b>V</b>	<b>V</b>	<b>V</b>	<b>V</b>	<b>V</b>		V	<b>V</b>	
Dendropicos poecilolaemus																			
Galerida modesta								<b>V</b>				<b>V</b>			<b>V</b>		V		
Hirundo leucosoma						V				<b>V</b>							<b>V</b>		
Lanius gubernator		<b>V</b>								<b>V</b>	<b>V</b>	<b>V</b>							
Corvinella corvina		<b>V</b>		V	<b>V</b>	V		<b>V</b>	V	<b>V</b>	<b>V</b>	<b>V</b>	<b>V</b>	<b>V</b>	<b>V</b>		<b>V</b>	<b>V</b>	
Cossypha albicapilla	V	~		V						V	V	<b>V</b>		<b>V</b>					

**Table 3** ... **continued.** The occurrence of biome-restricted species at Important Bird Areas in Nigeria. 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. A04 – Sudan–Guinea Savanna biome ... continued (42 species in Nigeria; 12 sites meet the A3 criterion) 004 021 025 IBA code: 001 002 003 009 011 012 013 014 018 019 020 022 023 024 026 Turdoides reinwardtii Cisticola ruficeps Cisticola dorsti Cisticola rufus Hypergerus atriceps Eremomela pusilla Muscicapa gambagae Anthoscopus parvulus Nectarinia coccinigaster Emberiza affinis Nesocharis capistrata Pytilia phoenicoptera Pytilia hypogrammica Euschistospiza dybowskii Lagonosticta rufopicta Lagonosticta rara Lagonosticta larvata Estrilda caerulescens Estrilda troglodytes Vidua interjecta Petronia dentata Plocepasser superciliosus Ploceus heuglini Lamprotornis purpureus Lamprotornis chalcurus Ptilostomus afer 30 21 25 Number of species recorded: 10 23 10 23 33 28 24 15 28 18 4 1 A05 – Guinea–Congo Forests biome (187 species in Nigeria; 14 sites meet the A3 criterion) IBA code: 001 002 003 005 006 007 008 009 010 011 012 013 014 015 016 017 023 026 027 Tigriornis leucolophus V V Bostrychia rara Pteronetta hartlaubi Dryotriorchis spectabilis Accipiter castanilius Accipiter erythropus Urotriorchis macrourus Spizaetus africanus Francolinus ahantensis Francolinus lathami Agelastes niger Sarothrura pulchra Himantornis haematopus Canirallus oculeus Columba unicincta Columba iriditorques Turtur brehmeri Psittacus erithacus Tauraco persa Tauraco macrorhynchus Cercococcyx mechowi Cercococcyx olivinus Chrysococcyx flavigularis Centropus leucogaster Bubo poensis Bubo leucostictus Scotopelia bouvieri Glaucidium sjostedti Caprimulgus nigriscapularis Telacanthura melanopygia Rhaphidura sabini Neafrapus cassini Apus batesi

**Table 3** ... **continued.** The occurrence of biome-restricted species at Important Bird Areas in Nigeria. 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.

are highlighted in blue.																			
A05 – Guinea–Congo Forests bi	ome	conti	nued (	187 sp	oecies	in Ni	geria;	14 site	es mee	t the A	A3 crit	erion)							
IBA code:	001	002	003	005	006	007	800	009	010	011	012	013	014	015	016	017	023	026	027
Apaloderma aequatoriale						<b>V</b>													
Alcedo leucogaster		<b>V</b>			<b>V</b>	<b>V</b>	<b>V</b>	V	<b>V</b>			<b>V</b>	V						
Ispidina lecontei					<b>V</b>	<b>V</b>	<b>V</b>												
Halcyon badia				~	<b>V</b>	<b>V</b>	<b>V</b>							V	<b>V</b>	V			V
Merops gularis		1		~		<b>V</b>	V		<b>V</b>				V						V
Merops muelleri					<b>V</b>	<b>V</b>			V										
Merops breweri																			
Merops malimbicus						V				V	V							V	
Eurystomus gularis		<b>V</b>			V	V	V			V		V	V						
Phoeniculus castaneiceps							V												
Tockus albocristatus				V	V	/	V		V	V				/					<b>V</b>
Tockus hartlaubi				?	· /	V	V		V										
Tockus camurus				· /	·	~	V		· /					/					
Tockus fasciatus		v		~	· /	~	~	V	~	V	/	,	V	7	/	7	/	7	/
Ceratogymna fistulator		.,	V	~	_	·	~	V		_	V	~	~	~	.,	~	•	.,	•
0,		•	V	V				V	/		V		V	•	V	•		V	
Ceratogymna subcylindricus					V	~	<i>V</i>					V							
Ceratogymna albotibialis				~	<i>V</i>	<i>V</i>	<i>V</i>		/										
Ceratogymna atrata					<b>V</b>	V	<b>V</b>							/					
Ceratogymna elata				<b>V</b>	<b>V</b>	<b>V</b>	<b>V</b>	V											
Gymnobucco calvus	V	<b>V</b>	V	<b>V</b>	<b>V</b>	<b>V</b>	<b>V</b>		<b>V</b>	<b>V</b>			<b>V</b>	<b>V</b>	<b>V</b>	<b>V</b>			~
Gymnobucco peli				<b>V</b>	<b>V</b>	<b>V</b>			<b>V</b>	<b>V</b>									
Pogoniulus scolopaceus	V	<b>V</b>		<b>V</b>	<b>V</b>	<b>V</b>	<b>V</b>		<b>V</b>	<b>V</b>				<b>V</b>					<b>V</b>
Pogoniulus atroflavus				V	<b>V</b>	V			<b>V</b>					V	V	V			V
Pogoniulus subsulphureus				V	<b>V</b>	1	<b>V</b>			<b>V</b>				V	1	<b>V</b>			V
Buccanodon duchaillui		V	V	V	V	1	<b>V</b>		V				V	V	1				
Tricholaema hirsuta		V		V	V	<b>V</b>	V		V	V				V				V	
Trachyphonus purpuratus		/	V	V	/	V	~		/	V			/	/	V				~
Indicator maculatus		7		V		•	•		· /	•		<b>V</b>	· /	V	· /				_
Indicator willcocksi		~		•		/						7	_		•				
Melichneutes robustus		•				·				/		_							
		.,			.,					•				.,					
Prodotiscus insignis	.,	V		.,	<i>V</i>	V						.,		V					
Campethera nivosa	V	~		~	<i>V</i>	V	<i>V</i>		<b>V</b>			V		/		V			
Campethera caroli					<i>V</i>	V	<b>V</b>												
Dendropicos gabonensis				V	<b>V</b>	<b>V</b>			~	<b>V</b>				/					
Dendropicos pyrrhogaster					<b>V</b>	<b>V</b>	~		<b>V</b>	<b>V</b>				<b>V</b>	~				
Dendropicos xantholophus						~													
Smithornis sharpei													<b>V</b>						
Smithornis rufolateralis				<b>V</b>		<b>V</b>	<b>V</b>		<b>V</b>										
Hirundo nigrita						<b>V</b>								<b>V</b>					
Hirundo fuliginosa						<b>V</b>													
Psalidoprocne nitens		<b>V</b>		<b>V</b>		<b>V</b>			V										
Psalidoprocne obscura		V				1		V				<b>V</b>	V	V				V	V
Coracina azurea				V	V	V	<b>V</b>		V	V				V	V	V			
Campephaga petiti	V	V																	
Lobotos oriolinus	Ť	•				V													
Andropadus gracilis	V	/		V	V	~			/			V	/						/
Andropadus ansorgei	V	~		<i>y</i>	•	~	V		~			•	•	J	/				•
		<i>V</i>		? ?	.,	V			, ,	.,		.,			V				.,
Andropadus curvirostris		V		,	~		/			<b>V</b>		<b>V</b>		V	,				V
Calyptocichla serina					,	<b>V</b>			<b>V</b>	,		,							
Baeopogon indicator		~		<b>V</b>	<b>V</b>	<b>V</b>	<b>V</b>		<b>V</b>	<b>V</b>		<b>V</b>			V				<b>V</b>
Baeopogon clamans				<b>V</b>		<b>V</b>									V				
Ixonotus guttatus				<b>V</b>	<b>V</b>	<b>V</b>	<b>V</b>		<b>V</b>	<b>V</b>			<b>V</b>	~	<b>V</b>				
Chlorocichla simplex		<b>V</b>			<b>V</b>	<b>V</b>				<b>V</b>			<b>V</b>	<b>V</b>					<b>V</b>
Thescelocichla leucopleura				<b>V</b>	<b>V</b>	<b>V</b>	<b>V</b>		<b>V</b>	<b>V</b>				<b>V</b>					
Phyllastrephus scandens		<b>V</b>			<b>V</b>	<b>V</b>		<b>V</b>		<b>V</b>		<b>V</b>		<b>V</b>	V	<b>V</b>		<b>V</b>	
Phyllastrephus baumanni										<b>V</b>									<b>V</b>
Phyllastrephus albigularis		V				V				V		V							V
Phyllastrephus icterinus				V	<b>V</b>	V	V		<b>V</b>	<b>V</b>						V			
Phyllastrephus xavieri						V													
Bleda syndactyla		V	V	/	<b>V</b>	7			/				V						/
Bleda canicapilla		~	•	•	~	7	/		~	<b>V</b>		/		/	/	<b>V</b>			•
Dieda camcapilla		•			•	•	•		•	•		•		•	•				
Bleda notata						V			<b>V</b>						<b>V</b>				

**Table 3 ... continued.** The occurrence of biome-restricted species at Important Bird Areas in Nigeria. 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.

Rode:	027 V
Nicator chloris	<b>V</b>
Criniger barbatus         V	
Criniger calurus         V	<i>v</i>
Criniger calurus         V	<i>V</i>
Criniger ndussumensis         V	<i>v</i>
Dryoscopus senegalensis  V V V V V Laniarius leucorhynchus V Malaconotus cruentus V V V Prionops caniceps V V V V Neocossyphus fraseri V V V V V V V V V V V V V V V V V V V	V
Dryoscopus sabini         V         V         V           Laniarius leucorhynchus         V         V         V           Malaconotus cruentus         V         V         V           Prionops caniceps         V         V         V         V           Neocossyphus fraseri         V	<i>v</i>
Laniarius leucorhynchus  Malaconotus cruentus  V  V  Prionops caniceps  Neocossyphus fraseri  Neocossyphus poensis  Alethe diademata  Stiphrornis erythrothorax  Sheppardia cyornithopsis  Cossypha cyanocampter  Illadopsis cleaveri  V  V  V  V  V  V  V  V  V  V  V  V  V	<i>v</i>
Malaconotus cruentus  Prionops caniceps  V  V  V  Neocossyphus fraseri  Neocossyphus poensis  Alethe diademata  V  V  V  V  V  V  V  V  V  V  V  V  V	<i>v</i>
Prionops caniceps  Neocossyphus fraseri  Neocossyphus poensis  V V V  Alethe diademata  V V V V V V V V V V V V V V V V V V	<i>v</i>
Neocossyphus fraseri  Neocossyphus poensis  Alethe diademata  V V V V V V V V V V V V V V V V V V V	<b>v</b>
Neocossyphus poensis         V	<i>v</i>
Alethe diademata       V	<i>'</i>
Stiphronis erythrothorax         V <td>~</td>	~
Sheppardia cyornithopsis  Cossypha cyanocampter  Illadopsis cleaveri  V V V V V V V V V V V V V V V V V V	~
Cossypha cyanocampter    Illadopsis cleaveri	<b>v</b>
Illadopsis cleaveri     V     V     V       Illadopsis puveli     V     V     V     V       Illadopsis fulvescens     V     V     V     V     V       Phyllanthus atripennis     V     V     V       Picathartes oreas     V     V     V	<b>V</b>
Illadopsis puveli     V       Illadopsis fulvescens     V     V     V     V     V       Phyllanthus atripennis     V     V     V       Picathartes oreas     V     V     V	
Illadopsis fulvescens     V     V     V     V     V       Phyllanthus atripennis     V     V     V       Picathartes oreas     V     V     V	
Phyllanthus atripennis V V Picathartes oreas V V V	
Picathartes oreas	
Cisticola anonymus V V V V	<b>V</b>
Apalis nigriceps V V V	
Apalis rufogularis V V V V V V	
Camaroptera superciliaris V V V V V V V V	
Camaroptera chloronota V V V V V V V V V V V V V V V V V V V	<b>V</b>
Eremomela badiceps 🗸	
Sylvietta virens V V V V V V V V V V V V V V V V V V V	V
Sylvietta denti	
Macrosphenus kempi ✓ ✓	
Macrosphenus flavicans	
Macrosphenus concolor V V V V V	
Hylia prasina V V V V V V V V V V V V V V V V V V V	<b>V</b>
Hyliota violacea ✓	
Fraseria ocreata V V	
Fraseria cinerascens V V V V V	
Muscicapa ussheri ✓	
Muscicapa infuscata V V V V	
Muscicapa olivascens	
Muscicapa epulata ✓	
Muscicapa sethsmithi	
Muscicapa comitata V V V V	
Muscicapa tessmanni ✓	
Muscicapa cassini V V V V V	
Myioparus griseigularis	
Bias flammulatus V V V V	
Batis occultus	
Platysteira castanea V V V V V V V V V V	V
Platysteira tonsa V V	
Platysteira blissetti V V V	V
Erythrocercus mccallii V V V V	V
Trochocercus nigromitratus	
Trochocercus nitens V V V V V V V	V
Terpsiphone rufiventer V V V V V V V V V V V V V V V V V V V	V
Anthoscopus flavifrons	
Anthreptes fraseri	
Anthreptes gabonicus V V V	
Anthreptes rectirostris V V V	
Nectarinia seimundi	
Nectarinia batesi   V	
Nectarinia reichenbachii	
Nectarinia cyanolaema V V V V V V V V V V V V V V V V V V V	
rectama cyanotacina	

Table 3 ... continued. The occurrence of biome-restricted species at Important Bird Areas in Nigeria. 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. A05 - Guinea-Congo Forests biome ... continued (187 species in Nigeria; 14 sites meet the A3 criterion) IBA code: 001 002 003 005 006 007 800 009 010 014 015 016 017 023 026 027 Nectarinia fuliginosa Nectarinia rubescens Nectarinia adelberti Nectarinia minulla Nectarinia johannae Nectarinia superba Pholidornis rushiae Parmoptila woodhousei Nigrita fusconota Nigrita bicolor Nigrita luteifrons Spermophaga haematina Estrilda poliopareia Ploceus aurantius Ploceus nigerrimus Placeus tricolor Ploceus albinucha Malimbus racheliae Malimbus scutatus Malimbus ibadanensis Malimbus erythrogaster Malimbus nitens Malimbus malimbicus Malimbus rubricollis Poeoptera lugubris Onychognathus fulgidus Lamprotornis purpureiceps Oriolus brachyrhynchus V Oriolus nigripennis Dicrurus atripennis Total number of species: 17 56 11 89 93 145 74 15 85 67 34 44 65 50 37 2 20 39 A07 - Afrotropical Highlands biome (37 species in Nigeria; three sites meet the A3 criterion) IBA code: 001 002 003 IBA code: 001 002 003 Columba sjostedti Cisticola discolor Apaloderma vittatum Urolais epichlora Pogoniulus coryphaeus Apalis pulchra Campethera tullbergi Bradypterus bangwaensis Poliolais lopezi Psalidoprocne fuliginosa Coracina caesia Phylloscopus herberti Andropadus montanus Trochocercus albiventris Andropadus tephrolaemus Nectarinia oritis Phyllastrephus poensis Nectarinia preussi Phyllastrephus poliocephalus Serinus burtoni Laniarius atroflavus Linurgus olivaceus Nesocharis shellevi Laniarius poensis Malaconotus gladiator Cryptospiza reichenovii Zoothera crossleyi Ploceus bannermani Cossypha isabellae Ploceus baglafecht Cossypha roberti Ploceus melanogaster Pseudoalcippe abyssinica Ploceus insignis Kakamega poliothorax Onychognathus walleri

Malaconotus gladiator, Kupeornis gilberti, Picathartes oreas and Ploceus bannermani), emphasizing the conservation importance of both the montane and lowland forests in this area. In addition, two Secondary Areas fall entirely within the country, South-west Nigeria (s041) for Malimbus ibadanensis and the Lower Niger valley (s042) for Estrilda poliopareia. Both species are therefore globally threatened, restricted-range national endemics. This may also prove true of two further species, since the newly described Lagonosticta sanguinodorsalis together with its brood-parasite Vidua maryae are only known from the Jos Plateau area.

Full data for a number of biome species were unavailable for inclusion at the time this chapter was completed. ? Prescence uncomfirmed.

Kupeornis gilberti

Species assemblages of four biomes occur, those of the Sahel (biome A03) in a relatively small area of the north-east, the Sudan–Guinea Savanna (A04) across much of the centre and north, the Guinea–Congo Forests (A05) across the southern third, and the Afrotropical Highlands (A07) confined to the south-eastern corner. Two other biomes are represented by single vagrants to Lake Chad (outside the limits of IBA NG004): the Mediterranean North Africa biome (A01; Caprimulgus ruficollis) and the Sahara–Sindian biome (A02; Turdoides fulvus). Large numbers of Palearctic migrant waterbirds winter in the flood-plain wetlands of the country's Sahel

Total number of species:

35

28

and Sudan–Guinea Savannas, and in coastal estuarine wetlands. In the Hadejia-Nguru wetlands assemblages of over 200,000 waterfowl and over 100,000 waders have been counted in one season. The Niger and the Benue river systems support large numbers of waterbirds, as well as providing nesting habitat for large colonies of *Merops malimbicus*. Nigeria is one of only two countries in which the breeding of *Vanellus superciliosus* has been confirmed.

# CONSERVATION INFRASTRUCTURE AND PROTECTED-AREA SYSTEM

Two laws deal directly with wildlife conservation at the national level. These are Decree No. 11 of 1985 (Control of International Trade and Traffic in Endangered Species) and Decree No. 46 of 1999 (National Park Service Decree 1999), which revised the laws that established Nigeria's six former National Parks and added two new ones. Overall responsibility for monitoring compliance and enforcing environmental legislation in Nigeria is vested in the Ministry of the Environment (MOE) which was created in 1999 and took over the functions of the Federal Environmental Protection Agency (FEPA). The Environmental Impact Assessment Decree No. 86 of 1992 requires proponents of 'development projects' to assess the impact of such projects on the environment, to design such mitigation measures as may be necessary and to refrain from the execution of such projects unless the MOE is satisfied that potential impacts are negligible or that adequate mitigation of potential environmental damage has been ensured. The MOE has also taken over responsibility for the National Parks Service and the Federal Department of Forestry.

Four categories of protected area are recognized:

- National Parks—these are ecologically and culturally important areas where human habitation is largely disallowed and tourism encouraged. There are currently eight National Parks in different biogeographic zones of the country, including two Game Reserves which were upgraded by decree in 1999. Hunting and other consumptive use of resources are completely forbidden in four of the parks, while limited, largely subsistence and noncommercial usage by local people may be allowed in selected areas of the others. Park regulations are often flouted by poachers. Together the National Parks cover about 22,592 km², c.2.5% of the country. National Parks are assets of the Federal Government and the agency responsible for biodiversity conservation in them is the National Parks Service of the MOE.
- Game Reserves—these are areas set aside by state governments for the protection of wildlife. Included here are Wildlife Parks, Bird Sanctuaries and Strict Nature Reserves. Hunting is usually prohibited, but is allowed under permit some times. Poaching is, however, widespread despite state edicts prohibiting illegal offtakes from reserves. Reserves are often very poorly managed because of inadequate staffing, poor funding, shortage of equipment and poor remuneration of staff. Many states in the south, where human population densities are high, do not have Game Reserves. Game Reserves are managed by state Ministries of Agriculture and Natural Resources. Well-managed Game Reserves may be considered for upgrading to National Park status. There are presently about 14 Game Reserves in the country.
- Forest Reserves—these are areas set aside by state governments for the protection of timber, fuelwood and other forest resources. Some, in the northern parts of the country, double as livestock-grazing areas. In some natural vegetation has been replaced with monocultures of exotic tree species. Harvesting of resources is usually allowed under permit or as special concessions to local people. Poor management often results, however, in uncontrolled resource utilization. Only a few reserves, located in remote or sparsely populated areas of difficult accessibility are still in good condition. Each of the 36 states has at least one Forest Reserve, managed by state Ministries of Agriculture and Natural Resources.
- Sacred Groves—these are forest blocks, usually of no more than
  a few hectares, set aside by rural communities, mostly in the south,
  as homes of local deities. With increasing urbanization and the
  spread of modern religions, these sacred forests are fast
  disappearing.

# INTERNATIONAL MEASURES RELEVANT TO CONSERVATION OF SITES

Nigeria has ratified CITES, the Convention on Biological Diversity, the Convention on Migratory Species, the World Heritage Convention, the Convention to Combat Desertification and the Convention on Climate Change. It also participates in UNESCO's Man and Biosphere (MAB) Programme, and one site (Omo Forest Reserve) has been designated as a Biosphere Reserve under the programme. In addition, Nigeria recently ratified the Ramsar Convention, and the Nguru Lake (and Marma Channel) complex in the Hadejia-Nguru wetlands was designated the first Ramsar Site.

# **OVERVIEW OF THE INVENTORY**

Twenty-seven Important Bird Areas (IBAs) have been identified (Map 1, Table 1), covering about 31,118 km² or 3.4% of the land area of the country, although the area of three sites is undefined. Fourteen are legally protected, two are privately-owned, six are partially protected, and five have no form of legal protection. It should be noted that none of Nigeria's endemic birds have been found to occur in National Parks or other legally protected areas.

Twelve sites qualify under the A1 criterion, for species of global conservation concern, and three sites do so for both the Cameroon and Gabon lowlands EBA (085) and the Cameroon mountains EBA (086) holding, respectively, all three and all 18 restricted-range species of these EBAs known from Nigeria (Table 2). For the biome-restricted assemblages, three sites are selected for the Sahel biome (A03), at which nine of the 13 species of the biome recorded nationally occur, 12 sites qualify for the Sudan-Guinea Savanna biome (A04) which, collectively, hold 40 of the 42 species in Nigeria, 14 sites qualify for the Guinea-Congo Forests biome (A05) (holding 182 of the 187 species) and three do so for the Afrotropical Highlands biome (A07) (with all 37 species)—see Table 3. However, full data for a number of biome species were unavailable for inclusion at the time this chapter was completed. A number of the IBAs have yet to be thoroughly surveyed such that it is likely that some biome-restricted species, apparently not yet included within the IBA network (Table 3), may prove to be so. In addition, some potential IBAs (e.g. Mount Vogel and Stubb's Creek Forest Reserve) have yet to be visited.

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# **GLOSSARY**

**DFID** Department for International Development (UK).

fadama seasonally inundated flood-plain wetlands.

FFI Fauna and Flora International.

kurmi riparian forests and woodlands.

NCF Nigerian Conservation Foundation (BirdLife in Nigeria).

RSPB Royal Society for the Protection of Birds (BirdLife Partner in the UK). tudu raised areas, not seasonally inundated, adjacent to fadama and kurmi.

WWF World Wide Fund for Nature

# SITE ACCOUNTS

#### Obudu Plateau

NG001

Admin region Cross River Coordinates 06°25′N 09°22′E Area c.72,000 ha Altitude 1,500–1,700 m

A1, A2 (086), A3 (A07) Unprotected

#### ■ Site description

The site is situated in the south-east of the country, close to the border with Cameroon, to the north-east of Cross River National Park—Okwangwo Division (NG010). The area is wet and mountainous with a plateau at about 1,500 m and peaks which rise to 1,700 m, and is a western extension of the Cameroon mountain range. It comprises a large area of montane grassland criss-crossed by numerous perennial mountain streams flowing through valleys. These valleys support patches of relict montane forest. Typical plants include *Andropogon distachyos* in the grasslands and various *Ficus* spp., *Polyscias fulva* and the tree-fern *Cyathea manniana* in the forests. Forest trees are often festooned with epiphytes. A state-owned cattle ranch covers part of the area, while the remainder of the land is owned by local communities. Access is via an asphalted road from the nearby town of Obudu. The wet season lasts from March to November and average annual rainfall is about 4,200 mm.

#### Birds

See Box and Tables 2 and 3 for key species. About 128 species have been recorded, among which seven species of the Sudan–Guinea Savanna biome (A04) and 17 species of the Guinea–Congo Forests biome (A05) occur (see Table 3).

## **Key species**

A1 Psalidoprocne fuliginosa Zoothera crossleyi
Andropadus montanus Kupeornis gilberti
Phyllastrephus poliocephalus Bradypterus bangwaensis
Malaconotus gladiator Ploceus bannermani
A2 (086) Cameroon mountains EBA: All 18 species of this EBA that occur in Nigeria have been recorded at this site; see Table 2.
A3 (A07) Afrotropical Highlands biome: 35 of the 37 species of this biome that occur

in Nigeria have been recorded at this site; see Table 3.

■ Other threatened/endemic wildlife

The primate Cercopithecus preussi (EN) still occurs; Gorilla gorilla (EN) at least used to do so, and is thought to visit the area seasonally, crossing from neighbouring Cameroon during the wet season. Some 52 of Nigeria's 550 nationally endangered plants are found on the Obudu Plateau.

# **■** Conservation issues

Many of the montane forest patches are badly degraded through subsistence farming and the grasslands suffer from overgrazing which, in places, has engendered serious sheet and gully erosion. Other major threats include bush fire and hunting. One of the largest forest patches and adjoining grassland has, however, been fenced by the Leventis Foundation to keep out livestock, and a firebreak has been constructed. A birdwatching trail and tree hide are maintained in an attempt to boost ecotourism. A local NGO is working with communities in the area to promote the sustainable use of the plateau's natural resources.

# Further reading

Dowsett (1989), Elgood (1965), Gbile *et al.* (1978), Heaton and Heaton (1980), Stuart and Jensen (1986).

# Gashaka-Gumti National Park

NG002

Admin region Adamawa, Taraba Coordinates 07°30′N 11°41′E

**Coordinates** 07°30′N 11°41′E A1, A2 (086), A3 (A04, A05, A07) **Area** 667,000 ha **Altitude** 300–2,400 m National Park

# Site description

Gashaka-Gumti is the largest of Nigeria's eight National Parks. It is located in the east of the country, against the Cameroon border, northeast of the Obudu Plateau (NG001). Part of it is situated on the mountainous Mambilla Plateau and is, therefore, part of a westward

extension of the Cameroon mountains; the site is contiguous with Tchabel Mbabo in Cameroon (IBA CM009). There are also extensive lowland areas. The landscape is undulating and rugged, with some escarpments rising up to 2,400 m, which makes the park largely inaccessible except on foot. An extensive system of pristine streams and rivers drain the park and join to form the Taraba river which, in turn, discharges into the Benue. The park is a heterogenous mix of habitats comprising montane forests and grasslands, derived savanna with relict lowland forests, riparian forest and Sudan-Guinea Savanna woodlands. Plants commonly found in the park include Terminalia superba, Khaya grandifoliola, and Milicia excelsa in lowland forest areas, Syzygium guineense, Prunus africana and Ilex mitis in montane forests, Loudetia simplex and Andropogon spp. in montane grasslands and Daniellia oliveri, Lophira lanceolata, Afzelia africana, Isoberlinia doka and Burkea africana in the Sudan-Guinea Savanna woodlands. Annual rainfall is in the range 1,000–1,750 mm and the length of the dry season varies between five months in the drier, lower parts to two months in the wetter montane areas.

#### Birds

See Box and Tables 2 and 3 for key species. With some 366 species so far recorded in the still relatively poorly explored park, Gashaka-Gumti can lay claim to being the most ornithologically diverse site in Nigeria. *Dendropicos poecilolaemus* may also occur, as the only Nigerian record of the species was from nearby Serti. It is one of only two sites where *Columba unicincta* and *Pseudoalcippe abyssinica* have been recorded and the only known site for *Cercotrichas hartlaubi*.

#### Kev species

A1 Andropadus montanus Bradypterus bangwaensis
Zoothera crossleyi Ploceus bannermani
A2 (086) Cameroon mountains EBA: 13 of the 18 species of this EBA that occur in
Nigeria have been recorded at this site; see Table 2.
A3 (A04) Sudan–Guinea Savanna biome: 30 of the 42 species of this biome that occur
in Nigeria have been recorded at this site; see Table 3.
A3 (A05) Guinea–Congo Forests biome: 56 of the 187 species of this biome that occur
in Nigeria have been recorded at this site; see Table 3.

A3 (A07) Afrotropical Highlands biome: 28 of the 37 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

#### ■ Other threatened/endemic wildlife

Some 103 species of mammals (over one-third of Nigeria's list, see Happold 1987) have been recorded. It is the only site in Nigeria at which *Hylochoerus meinertzhageni* is fairly common. A population of about 2,000 *Pan troglodytes* (EN) inhabits the area. *Loxodonta africana* (EN), *Lycaon pictus* (EN), *Taurotragus derbianus* (LR/nt), *Hippotragus equinus* (LR/cd) and *Redunca fulvorufula* (LR/cd) also occur. The latter is of the subspecies *adamauae* which is endemic to the Adamawa Plateau of Cameroon, of which this is a western extremity. About 55 species of fish including two possibly new species of the genera *Bryconaethiops* and *Gobiocichcla* have been reported. Some 300–500 species of butterflies (including five newly described species) are believed to occur.

#### ■ Conservation issues

Six designated enclaves, where activities such as pastoralism and cultivation are permitted, occur within the park. These activities are monitored to ensure compatibility with the park's wider conservation objectives. Nonetheless, grazing is a problem in some parts. Larger human settlements, including nearby Gembu, Serti and Beli, undoubtedly contribute to pressure on the park's resources. Despite anti-hunting regulations, large-scale subsistence hunting and some commercial poaching occurs. Due to improved road access in the area, deforestation as a result of an influx of farmers is increasing. Annual fires have given rise to the degraded montane forest patches in a few places. A management plan exists for the park and is being implemented by WWF-UK and the Nigerian Conservation Foundation in collaboration with the National Park Service.

#### Further reading

Akinsoji (1997), Ananze *et al.* (1996), Anon. (1998), Ash (1990), Ash *et al.* (1989), Dowsett and Dowsett-Lemaire (1989), Dyer *et al.* (1987), Green (1990), Hall (1976, 1977), Happold (1987), Manu and Demey (1997).

# Ngel-Nyaki Forest Reserve

**NG003** 

Admin region Taraba Coordinates 07°27′N 11°03′E Area 4,500 ha Altitude 1,400-1,600 m

A1, A2 (086), A3 (A07) Forest Reserve

### Site description

This small, mid-altitude Forest Reserve is located an hour's walk from Yelwa in Taraba State between Serti and Gembu, about 60 km west of Gashaka-Gumti National Park (NG002). It is surrounded by montane grasslands with other forest blocks nearby. The forest is diverse in species composition and has many tall emergents (e.g. Aningeria altissima, locally exclusive to this forest). The canopy is unusually dense because of the profusion of lianas and other climbers. The wet season lasts from March to November and average annual rainfall exceeds 2,000 mm.

See Box and Tables 2 and 3 for key species. Eighty-six species have so far been recorded. In addition to those mentioned below, four species of the Sudan-Guinea Savanna biome (A04) and 11 of the Guinea-Congo Forests biome (A05) occur—see Table 3. The nationally uncommon Apalis jacksoni occurs.

Zoothera crosslevi Α1 Ploceus bannermani A2 (086) Cameroon mountains EBA: Seven of the 18 species of this EBA that occur in

Nigeria have been recorded at this site; see Table 2.

A3 (A07) Afrotropical Highlands biome: 19 of the 37 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

### Other threatened/endemic wildlife

Pan troglodytes (EN) and Syncerus caffer (LR/cd) have been recorded.

#### Conservation issues

Although most of the forest is in good condition because access is difficult, there has been some clear-cutting and burning by farmers. These disturbed patches attract pastoralists who graze their cattle there. It is likely that hunting is widespread. Although legally protected as a state Forest Reserve, there are no active conservation initiatives. There is a proposal that the reserve be incorporated into nearby Gashaka-Gumti National Park.

#### Further reading

Ash et al. (1989), Dowsett-Lemaire (1989).

# **Chad Basin National Park** Chingurmi-Duguma Sector

**NG004** 

**Admin region Borno** Coordinates 11°45′N 14°15′E Area 35,400 ha Altitude c.305 m

A3 (A03) National Park

# Site description

The Chad Basin National Park (CBNP) is composed of several areas or 'sectors' which are geographically remote from one another. The Chingurmi-Duguma Sector is located in the Woloji and Gulumba Districts, south-east of Maiduguri. It lies close to Waza National Park in Cameroon (IBA CM003). The vegetation is typical Sudan-Guinea Savanna, except in the most northerly part of the park where it takes on a more Sahelian aspect, partly due to the influence of human activities. Common tree and shrub species include Acacia spp., Calotropis procera, Anogeissus leiocarpus, Balanites aegyptiaca and Sterculia setigera. A large part of the park is flooded by waters from the Dorma river during the rainy season, creating flood-plain wetlands (e.g. the Kutila fadama) which attracts waterbirds and other wildlife. The common tree of this habitat is Mitragyna sp. Artificial stock watering points have also been created in various places but these do not retain water through the dry season.

#### Rirds

See Box and Table 3 for key species. To date, 66 species have been recorded, including Circus macrourus and 10 species of the Sudan-Guinea Savanna biome (A04, see Table 3). The park has, however, been only poorly surveyed and many more species may be expected to occur, including those of the Sahel biome, since the neighbouring Waza National Park in Cameroon (CM003) holds nine of the 10 species of the biome recorded from that country. The two cranes Grus virgo and Balearica pavonina occur, the former as a winter visitor, the latter is resident. Numida meleagris is very common. Large numbers of Ciconia ciconia winter

#### Key species

A3 (A03) Sahel biome: Seven of the 13 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

# ■ Other threatened/endemic wildlife

Gazella rufifrons (VU) and Loxodonta africana (EN) are among the park's notable mammals. The park also offers Nigeria's only hope for the re-establishment of the nationally extinct Giraffa camelopardalis (LR/cd) population, since Giraffe (and other mammals) occasionally cross into the park from the Waza National Park in Cameroon.

#### **■** Conservation issues

Although legally protected as part of a National Park, illegal grazing, fuelwood-collection and hunting take place. Bush fires are frequent. This is probably because local people profess to be unaware that the area was upgraded in 1991 from a Game Reserve to a National Park. Guineafowl egg-collectors invade the park during the species' breeding

# **■** Further reading

Holmes (1972-1974).

### **Afi River Forest Reserve**

**NG005** 

Admin region Cross River Coordinates 06°20′N 09°00′E Area 40,000 ha Altitude 150-1,281 m

A1, A2 (085), A3 (A05) Forest Reserve

#### ■ Site description

Afi River Forest Reserve is a large forest in the south-east of the country situated immediately west of the Cross River National Park-Okwangwo division (NG010). The terrain is mountainous and much dissected by rivers and streams; the scenery is spectacular. The highest point is Afi Mountain, in the centre-north of the reserve. The vegetation is Guinea-Congo lowland rainforest and characteristic tree species include Berlinia confusa, Coula edulis, Hannoa klaineana, Klainedoxa gabonensis, Khaya ivorensis and Lophira alata. The reserve is important for production forestry, tourism development and wildlife conservation. There is also cultivation in parts of the reserve, including bananas, cocoa, kola and coco-yam (the main staple of the area); cassava and yam are also grown but, because of low fertility, after about three years the land is abandoned to fallow for up to 15 years. Average annual rainfall varies between 2,000-2,500 mm, with the dry season lasting from November to February.

# Birds

See Box and Tables 2 and 3 for key species. The avifauna of the reserve is poorly known. However, significant populations of Picathartes oreas occur and probably breed in the reserve, while a number of nationally uncommon species are known to occur, including Tigriornis leucolophus, Urotriorchis macrourus, Spizaetus africanus, Himantornis haematopus, Columba iriditorques, Bubo poensis, Indicator maculatus, Baeopogon clamans, Neocossyphus fraseri and Apalis nigriceps. In addition, Telacanthura melanopygia, hitherto considered merely a rare vagrant to the country has been recorded.

#### **Key species**

A1 Ceratogymna elata Picathartes oreas

A2 (085) Cameroon and Gabon lowlands EBA: One of the three species of this EBA that occur in Nigeria have been recorded at this site; see Table 2.

A3 (A05) Guinea-Congo Forests biome: 89 of the 187 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

### ■ Other threatened/endemic wildlife

Among mammals, the primates Mandrillus leucophaeus (EN), Cercopithecus erythrotis (VU) and Gorilla gorilla (EN) all occur, the latter in the hills in the north of the reserve, and signs of *Loxodonta africana cyclotis* (EN) have been seen in the south.

#### Conservation issues

The reserve has suffered from logging, forest clearance for agriculture and hunting. Large areas have been subject to dry-season bush fires, including a severe one in 1989. There are two major concessions for timber production by companies that operate in the north and south of the reserve. The attendant fragmentation and degradation will have serious consequences for the conservation value of the area. There have been proposals to upgrade this important forest to a Game Reserve or even to incorporate it into the Cross River National Park. If properly managed, the reserve is capable of the sustained production of timber, rattan cane and other forest products. Pandrillus, a local NGO, has established and, with assistance from NCF and FFI, runs a 'Drill Ranch' in the reserve. It is a rehabilitation and breeding centre for endangered primates, especially *Mandrillus leucophaeus* and *Pan troglodytes*. 'Afi Mountain Wildlife Sanctuary' was gazetted by the Cross River State Government in May 2000.

#### Further reading

Anon. (1996), Stuart and Adams (1990), WWF (1990b).

# Okomu National Park

Admin region Edo Coordinates 06°25'N 05°28'E Area 12,400 ha Altitude c.25 m

A1, A3 (A05) National Park

NG006

■ Site description

Okomu National Park, previously the Okomu Wildlife Sanctuary, is a forest block set within the 1,082 km² Okomu Forest Reserve, and situated about 60 km north-west of the city of Benin. The vegetation is typical Guinea–Congo lowland rainforest and is characterized by a mosaic of swamp-forest, high forest, secondary forest, and open scrub. Common trees include *Ceiba pentandra*, *Celtis zenkeri*, *Triplochiton scleroxylon*, *Antiaris africana*, *Pycnanthus angolensis* and *Alstonia congoensis*. The soils are sandy loam and acidic. Mean annual rainfall is about 2,100 mm and exposed soils are nutrient-poor as a result of leaching. The reserve's main drainage is the southerly flowing Osse river, which forms its eastern boundary.

#### **■** Birds

See Box and Table 3 for key species. About 150 bird species have been recorded from the park including, in addition to *Ceratogymna elata*, the nationally rare *C. atrata*. All four Negrofinches (*Nigrita fusconata*, *N. bicolor*, *N. luteifrons* and *N. canicapilla*) occur commonly. The nationally rare *Telacanthura melanopygia* has been recorded at Nikrowa, a settlement on the edge of the park.

# Key species

A1 Ceratogymna elata

A3 (A05) Guinea–Congo Forests biome: 93 of the 187 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

# ■ Other threatened/endemic wildlife

The mammal fauna is diverse (33 species) and includes *Loxodonta* africana cyclotis (EN) and *Syncerus caffer* (LR/cd), while the site is a stronghold for *Cercopithecus erythrogaster* (VU).

# **■** Conservation issues

Okomu Forest Reserve is the largest block of what is now left of lowland rainforest in western Nigeria. Large-scale illegal logging (which has been going on since the 1950s) and the expansion of large rubber and oilpalm plantations nearby are the biggest threats to the park. About 50,000 people in 45 villages live in and around the park, and the population is increasing. Many are recent immigrants attracted by possibilities of employment in the timber and plantation industries, or by farming and hunting opportunities. Until May 1999, the park was managed as a wildlife sanctuary by the Nigerian Conservation Foundation; management has since been taken over by the National Parks Service.

# Further reading

Coates et al. (1993), Darling (1995), WCMC (1988).

# Cross River National Park— Oban Division

Admin region Cross River Coordinates 05°25′N 08°35′E Area 280,000 ha Altitude 100–1,000 m

A1, A2 (085), A3 (A05) National Park

#### ■ Site description

Cross River National Park (CRNP) is a large area of lowland and submontane rainforest situated in south-east Nigeria along the border with Cameroon. The park is divided into two sections. The smaller area to the north-east, Okwangwo Division (NG010), is separated by about 50 km of disturbed forest from the larger Oban Division. Oban Division is contiguous with Korup National Park in Cameroon (CM019). The Cross river and its tributaries drain northern parts of Oban Division, while southern parts are drained by the Calabar, Kwa and Korup rivers. The terrain is rough and elevation rises from the river valleys to over 1,000 m in mountainous areas. Soils are ferralitic and sandy, and steadily become shallower with increasing elevation. Leaching and erosion are intense in exposed sites. The vegetation is lowland rainforest and characteristic tree species include Berlinia confusa, Coula edulis, Hannoa klaineana, Klainedoxa gabonensis, Khaya ivorensis and Lophira alata. In the less accessible areas the forest has had little interference, but elsewhere the vegetation has been much influenced by human activity. Exploitation has resulted in secondary regrowth and the establishment of plantations of oil-palm and rubber. The area has a rainy season of at least nine months (March-November) and receives over 3,500 mm annually.

#### Birds

See Box and Tables 2 and 3 for key species. This is one of the most ornithologically diverse sites in Nigeria. Over 350 bird species have been recorded in this still vastly underexplored park. It is one of only two Nigerian localities for *Phyllastrephus xavieri*. Other nationally uncommon species include *Macheiramphus alcinus*, *Spizaetus africanus*, *Guttera pucherani*, *Canirallus oculeus*, *Cercococcyx olivinus*, *Apaloderma aequatoriale*, *Melichneutes robustus*, *Criniger chloronotus*, *Myioparus griseigularis* and *Malimbus racheliae*.

#### **Key species**

1 Ceratogymna elata Picathartes oreas

A2 (085) Cameroon and Gabon lowlands EBA: All three species of this EBA that occur in Nigeria have been recorded at this site; see Table 2.

A3 (A05) Guinea-Congo Forests biome: 145 of the 187 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

#### ■ Other threatened/endemic wildlife

Floral diversity in Oban Division is extremely rich. A total of 1,303 flowering plants, 141 lichens and 56 moss species have so far been collected, some of which have restricted distributions, e.g. *Biophytum zenkeri*. Oban Division also has a rich mammalian fauna, including *Loxodonta africana cyclotis* (EN), *Procolobus preussi* (EN), *Mandrillus leucophaeus* (EN) and *Cercopithecus sclateri* (EN), a Nigerian endemic.

# **■** Conservation issues

Illegal logging is the most important threat to the park and has become worse since the withdrawal of funding by the European Union. The park contributes to the protection of the catchment of the Cross river. The human population in the park is currently low and most villages are restricted to the buffer zone. However, the population is growing rapidly and demand for farmland is leading to encroachment in parts of the park previously considered inaccessible and marginal for farming. Traditional exploitation of natural resources includes hunting, fishing and shifting cultivation. All are adversely affecting the park as the human population grows. Fish stocks and other aquatic life have declined as a result of the use of chemicals for fishing.

#### ■ Further reading

Hall (1981), Holland et al. (1989), Manu and Demey (1999), Schmitt (1996, 1999), WWF (1988, 1990a), WWF/NCF (1988), WWF/ODNRI (1989).

# **Omo Forest Reserve**

NG008

Admin region Ogun Coordinates 06°51′N 04°30′E Area 132,000 ha Altitude 15–300 m

A1, A3 (A05) Forest Reserve, Strict Nature Reserve, Biosphere Reserve

#### ■ Site description

Omo Forest Reserve is located about 135 km north-east of Lagos, some 20 km from the coast. The terrain is undulating and elevation reaches about 300 m on some rocky hills. The eastern border is formed by the Omo river which, with its many tributaries, drain the reserve. Omo is contiguous with five other, highly degraded, Forest Reserves, the largest of which is Oluwa Forest Reserve to the east. The vegetation is mixed moist semi-evergreen rainforest. Due to selective exploitation in the past, the forest is largely mature secondary, with pockets of primary forest along river courses and in other areas where log extraction is difficult. Average annual rainfall is over 2,000 mm.

#### Birds

See Box and Table 3 for key species. To date, 147 species have been recorded, including the nationally uncommon *Canirallus oculeus*, *Ispidina lecontei*, *Ceratogymna atrata*, *Campethera caroli* and *Parmoptila woodhousei*.

#### Key species

A1 Ceratogymna elata

A3 (A05) Guinea-Congo Forests biome: 74 of the 187 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

#### ■ Other threatened/endemic wildlife

Plant diversity is high, with over 200 tree species recorded. Mammals include *Cercopithecus erythrogaster* (VU) and *Loxodonta africana cyclotis* (EN).

#### Conservation issues

Part of the site, a 460 ha forest block to the south of the confluence of the Omo river with its tributary the Owena, has been declared both a Strict Nature Reserve and a Biosphere Reserve. Logging, illegal hunting and afforestation with exotic species are the major threats. The ecological integrity of the reserve was compromised when about 20% of the area was cleared and replanted with *Gmelina arborea*. The new Shagamu–Benin expressway threatens the reserve by making easy the transport of logs from the reserve. There are several human settlements (with a total population of about 7,000) within and around the reserve. An estimated 32,812 mammals were taken illegally from the reserve as 'bushmeat' in 1994. A plan to extend the Biosphere Reserve has been drawn up and submitted to the Ogun State Government.

#### **■** Further reading

Weeks (1997).

# Pandam Wildlife Park

NG009

Admin region Plateau Coordinates 08°40′N 09°03′E Area 22,400 ha Altitude 175–315 m

A3 (A04) Wildlife Park

# ■ Site description

The park is located beside the Lafia–Shandam road to the north of the Benue river. Two rivers, the Dep and the Li, drain the park, and join before emptying into the Benue. The land slopes gradually southwards and forms a basin, Pandam Lake—a wetland complex of approximately 2 km². The vegetation of the park is typical Sudan–Guinea Savanna with gallery forests in riparian areas. The savanna includes Burkea africana–Combretum woodlands in the south, Detarium microcarpum—Combretum woodlands in the central area and Isoberlinia doka woodlands to the north. Other trees include Parkia biglobosa, Butyrospermum paradoxum, Gardenia aqualla and Daniellia oliveri. On the scattered inselbergs, which dot the northern part of the park, Piliostigma thonningii is the dominant tree. Tree species of the gallery forests include Afzelia africana, Ceiba pentandra and Raphia sudanica. The wet season lasts from April to October and annual rainfall is 1,000–1,500 mm.

#### Rirds

See Box and Table 3 for key species. At least 217 species have been recorded, including a few observations of *Falco naumanni*. The gallery forests are one of the northernmost locations in the country where Guinea–Congo Forests biome (A05) species occur; *Ceratogymna elata* at least used to be present in small numbers. Fifteen species of this biome have been recorded (see Table 3) including the nationally rare *Scotopelia bouvieri*. *Scotopelia peli* also occurs and has been recorded breeding. Large flocks (1,000+) of *Dendrocygna viduata* spend the dry season on Pandam Lake, at which *Vanellus crassirostris* is known to breed.

#### Key species

A3 (A04) Sudan–Guinea Savanna biome: 23 of the 42 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

#### ■ Other threatened/endemic wildlife

Mammals of global conservation concern which occur, or at least used to do so, include *Trichechus senegalensis* (VU), *Hippotragus equinus* (LR/cd) and *Syncerus caffer* (LR/cd).

#### **■** Conservation issues

Threats include poaching, livestock-grazing and bush-burning by pastoralists. There are, or at least were, also plans for the reclamation of flood-plain habitat for the development of rice-growing schemes in areas adjacent to the park. Human population pressures around the park are growing, bringing threats from encroachment and illegal fishing; all other lakes in the area are severely overfished. There is a management plan for the park which remains unimplemented for lack of resources.

### **■** Further reading

Milego (1997).

# Cross River National Park— Okwangwo Division

NG010

Admin region Cross River Coordinates 06°17'N 09°14'E Area 92,000 ha Altitude 150-1,700 m

A1, A2 (085), A3 (A05) National Park

# ■ Site description

The Okwangwo Division is the northern part of the Cross River National Park (CRNP), separated by about 50 km of disturbed rainforest from the southern Oban Division (NG007). It is located south-west of the Obudu Plateau (NG001) in south-eastern Nigeria and lies immediately east of Afi River Forest Reserve (NG005). It is bordered to the east by Takamanda Forest Reserve in Cameroon. The terrain comprises numerous ridge systems and rocky outcrops. Elevations reach 1,700 m in the Sankwala mountains in the north and about 1,000 m in the Mbe mountains in the south-west. The site is drained by the Oyi, Bemi and Okon rivers, all tributaries of the Cross river. Vegetation consists of two general types; lowland rainforest at lower elevations and montane grasslands (with relict forests in valleys) along high ridge-tops. Areas of derived savanna occur in lowland parts where there has been intense forest degradation. Soils of the lowland areas are ferralitic and highly susceptible to leaching, while those of the grassland areas are ferruginous and very easily eroded when exposed. The area has marked wet (March-November) and dry (December–February) seasons. Up to 4,280 mm of rain falls annually.

#### ■ Birds

See Box and Tables 2 and 3 for key species. To date, over 280 species have been recorded including *Picathartes oreas*, which breeds in the Mbe mountains. Nationally uncommon species include *Calyptocichla serina*.

#### **Key species**

A1 Picathartes oreas

A2 (085) Cameroon and Gabon lowlands EBA: One of the three species of this EBA that occur in Nigeria have been recorded at this site; see Table 2.

A3 (A05) Guinea-Congo Forests biome: 85 of the 187 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

#### ■ Other threatened/endemic wildlife

With 18 species, Okwangwo has the highest diversity of primates recorded at a single site in Africa. Species include *Pan troglodytes* 

(VU), Gorilla gorilla (VU), Cercopithecus sclateri (EN), Cercopithecus preussi (EN) and Mandrillus leucophaeus (EN). Other large mammals include Loxodonta africana cyclotis (EN) and Syncerus caffer (LR/cd). Two species of Lepidoptera (Tetrarhanis okwango and T. ogojea) new to science have recently been described from the area. Plant diversity is high. A recent plant survey resulted in six first records for the country and four species possibly new to science.

#### **■** Conservation issues

About 66 villages in the buffer zone surrounding the park depend on its resources for their livelihoods. Rate of forest loss to slash-and-burn agriculture is growing as a result of the increasing human population. There is a worrying level of illegal logging. Hunting and fishing are traditional activities in the park's buffer zone, but chemicals are now used for the latter by some fisherman. Three species of primate are believed to have been extirpated.

#### Further reading

Ash (1991), Hall (1981), Oates et al. (1992), Obot (1996), Obot et al. (1996), Schmitt (1996), WWF (1990b).

# **IITA Forest Reserve, Ibadan**

Admin region Oyo Coordinates 07°30′N 03°55′E Area 150 ha Altitude c.227 m

A1, A2 (s041), A3 (A05) Private Forest Reserve

**NG011** 

#### ■ Site description

The reserve is an area of secondary forest within the 1,000 ha concession of the International Institute for Tropical Agriculture (IITA), located on the outskirts of Ibadan. Regeneration following protection since 1965 has resulted in forest now showing few signs of human disturbance. Areas now resemble mature Guinea—Congo lowland rainforest with scattered emergents which include *Ceiba*, *Milicia* and *Terminalia* spp. Large clumps of bamboo *Bambusa vulgaris* are common; stands of *Raphia vinifera* are found along watercourses while scattered oil-palms *Elaeis guineensis* grow in both low-lying and the relatively better-drained upland areas. Thickets of climbers grow in openings where the secondary nature of the forest is most apparent. Outside the forest is an extensive area of derived savanna supporting fallow fields and experimental agricultural plots. The wet season extends from March to October and annual rainfall is 1,500–2,000 mm.

#### ■ Birds

See Box and Table 3 for key species. A total of over 300 bird species have been recorded in the reserve. There have been several recent observations of *Malimbus ibadanensis*. Other species include *Gallinago media*, an infrequent visitor, and seven Sudan–Guinea Savanna biome (A04) species (see Table 3). A diverse assemblage of Palearctic waterbirds winter at the site.

# Key species

A1 Phyllastrephus baumanni Malimbus ibadanensis
A2 (s041) South-west Nigeria Secondary Area: Malimbus ibadanensis has been recorded at this site.

A3 (A05) Guinea–Congo Forests biome: 67 of the 187 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

# ■ Other threatened/endemic wildlife

Some 15 species of plant of conservation concern (including an *Entada* species which produces the longest fruit of any plant in West Africa) occur in the reserve.

### **■** Conservation issues

As forest patches in the Ibadan area disappear, the reserve will become increasingly isolated. Although IITA intends to continue managing the reserve as a conservation area, there is an urgent need for the protection of other forest patches in the area as it is unlikely that the IITA reserve is, in itself, large enough to ensure the continued presence of many species, including *Malimbus ibadanensis*, in the region.

#### Further reading

Ash (1991), Bosque-Perez and Bock (1996), Elgood and Sibley (1964), Fishpool (2000), Zachmann *et al.* (1995).

# Lower Kadunamiddle Niger flood-plain

Admin region Niger Coordinates 08°50'N 05°50'E Area Undefined Altitude c.60 m 2 (404) 44:

A3 (A04), A4ii Unprotected

#### ■ Site description

The site comprises a stretch of the middle Niger river and associated flood-plains, together with the lower reaches of the Kaduna river below the Wuya bridge near Bida. The rivers are characterized by broad channels with numerous sandbanks which become small islands during the dry season when the river levels drop. Extensive low-lying areas of *fadama* beside the rivers become flooded during the wet season. These and the adjoining savanna woodlands are intensively farmed, resulting in fragmentation and degradation of both the *Mitragyna* swamp-forests along the banks of the rivers and the surrounding savanna woodlands. Trees found in remnant forest patches include *Uapaca togoensis*, *Berlinia*, *Pterocarpus* and *Terminalia* spp. *Elaeis guineensis*, *Diospyros mespiliformis* and *Napoleona* sp. also grow in these riparian forests. Where undisturbed by farming, the woodlands are typical of the southern Guinea Savanna, with characteristic trees such as *Vitellaria paradoxa*, *Daniellia oliveri* and *Parkia biglobosa*.

#### Rirds

See Box and Table 3 for key species. The site is an important breeding area for *Merops malimbicus* with colonies of over 15,000 birds, seen in 1989 and 1996, near Tamaworo on the lower Kaduna river. Other nationally uncommon birds include *Ciconia episcopus*, *Pteronetta hartlaubii* and *Nettapus auritus*. Over 100 *Pluvianus aegyptius* and more than 150 *Glareola cinerea* have been counted. *Glareola cinerea* breeds, as does *Sterna albifrons*, while several *Merops nubicus* colonies occur in the eroded riverbanks. *Indicator indicator*, brood-parasites of the bee-eaters, are common visitors to the *M. malimbicus* colonies. In addition, four species of the Guinea—Congo Forests biome (A05) have also been recorded; see Table 3.

# **Key species**

A3 (A04) Sudan-Guinea Savanna biome: 10 of the 42 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

A4ii Breeding (pairs) Non-breeding

Merops malimbicus 15,000+ (1996) —

#### ■ Other threatened/endemic wildlife

None known to BirdLife International.

### **■** Conservation issues

The area is entirely unprotected. Unseasonal flooding of the sandbanks, caused by the release of water from the Shiroro Dam upstream, is reported to have destroyed the *M. malimbicus* colonies on several occasions. Children also sometimes swim across arms of the river to play on the sandbanks where the bee-eaters breed. Farming activities and the associated bush-burning, especially in riparian areas, are serious threats to these habitats. Most of the *fadama* lands are used for rice cultivation.

#### Further reading

Brown (1948), Ezealor (in prep.).

#### Kagoro–Nindam Forest Reserve

Admin region Kaduna Coordinates 09°32′N 08°30′E

Area Undefined Altitude 305–1,370 m

# NG013

A3 (A04, A05) Forest Reserves, Unprotected

# ■ Site description

The Kagoro-Nindam Forest Reserves comprise four Forest Reserves and areas of communal land near Kagoro in southern Kaduna State. The reserves are situated on the Kagoro Hills (a western extension of the Jos Plateau), which rise to over 1,300 m and dominate the landscape. The vegetation of the reserves is a mosaic of savanna and forest. The forests occur mainly in river and stream valleys, but also elsewhere away from the rivers, as a consequence of the relatively high

average annual rainfall, about 1,550 mm. Areas of wooded savanna occur on ridge-tops or at previously forested parts that have been cleared for agriculture. The area is drained by numerous streams which empty into the Sanga river.

#### Birds

See Box and Table 3 for key species. The site is a breeding area for *Vanellus superciliosus* (nests recorded in 1987 and 1997) and is one of two localities from which *Chrysococcyx flavigularis* has been recorded in Nigeria.

#### Key species

A3 (A04) Sudan–Guinea Savanna biome: 23 of the 42 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

A3 (A05) Guinea-Congo Forests biome: 34 of the 187 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

#### Other threatened/endemic wildlife

None known to BirdLife International.

#### **■** Conservation issues

Slash-and-burn agriculture, indiscriminate logging, poaching, livestock-grazing and forest-fires are all commonplace. Many of the remaining forest patches in the area are outside the legal boundaries of Forest Reserves, which is likely to hasten their disappearance.

#### Further reading

Dyer et al. (1986), Sharland (1980), Wilkinson and Beecroft (1988).

# **Donga river basin forests**

NG014

Admin region Taraba Coordinates 07°17′N 10°34′E Area 100,000 ha Altitude 200-1,200 m

A3 (A05) Forest Reserves, Unprotected

#### Site description

The Donga river basin forests are located on the slopes and at the foot of the Mambilla Plateau, south-west of Gashaka-Gumti National Park (NG002). They include Baissa, Amboi and Bissaula River Forest Reserves as well as some areas of unprotected forests near the villages of Akwabe and Akoforo. The area is lowland forest beside the Donga river, south of Buru village and about 10 km from the border with Cameroon. The terrain is hilly and rocky. Derived savanna occurs in disturbed parts, but more forest survives in the east and south of the site. Dominant tree species include Brachystegia sp., Khaya grandifoliola, Erythrophleum guineensis, Tetrapleura tetraptera, Pterygota macrocarpa, Cleistopholis patens and Garcinia kola. Amongst the many species of lianas present are Entada pursaetha, Laccosperma opacum and Piper guineense. Rainfall is heavy and persistent due to the influence of the neighbouring Mambilla Plateau and the Cameroon mountains, but no figures are available. Soils are well drained, brown sandy loams, containing limited organic material.

#### Rirds

See Box and Table 3 for key species. Over 190 bird species have been recorded, including three of the Sudan–Guinea Savanna biome (A04); see Table 3. The site is the only one known in Nigeria for Smithornis sharpei. Other nationally uncommon species include Pteronetta hartlaubii, Terathopius ecaudatus, Stephanoaetus coronatus, Indicator maculatus, Muscicapa sethsmithi, Nectarinia johannae and Mandingoa nitidula.

#### **Key species**

A3 (A05) Guinea-Congo Forests biome: 44 of the 187 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

#### ■ Other threatened/endemic wildlife

The mammals Syncerus caffer (LR/cd) and Pan troglodytes (VU) occur.

#### Conservation issues

Although some parts are Forest Reserves, the majority of the area does not enjoy any legal protection. Much of the easily accessible forest

has been logged since the 1970s and, in some areas, extensive habitat degradation has occurred. While the less accessible areas remain relatively intact, the northern forests have been split into three compartments, all earmarked for commercial logging, including parts of the Forest Reserves. One of these areas has already been virtually destroyed. The remaining forests are in the hands of the local communities. Land-use includes subsistence agriculture, fruit collection, hunting and grazing. Cocoa-farming and slash-and-burn agriculture are increasing and pose a threat, as does unregulated hunting. There is, however, strong local opposition to hunting by outsiders without permission and locals are keen to prevent fishing with chemicals or explosives. A community-based participatory conservation project began in 1999 in the area, managed by NCF in conjunction with the RSPB, WWF-UK and DFID.

#### **■** Further reading

Hopkins et al. (1999), Payne et al. (1997).

# **Upper Orashi forests**

NG015

Admin region Rivers Coordinates 04°52′N 06°45′E Area 70,000 ha Altitude c.35 m

A3 (A05) Forest Reserve, Unprotected

### Site description

The Upper Orashi forests are located in the northern part of the Niger Delta. The site includes the Upper Orashi Forest Reserve, the roost of *Psittacus erithacus* at Ikodi and its environs. These are largely areas of lowland rainforest, most of which is secondary. Parts of these forests may be seasonally flooded and support a mixture of *Raphia* palm and broadleaved trees. In disturbed sites in higher areas the vegetation is usually dominated by oil-palm *Elaeis guineensis* and *Musanga cecropioides*. The large roost of *Psittacus erithacus* is located in such an area, near Ikodi village in Ahoada Local Government Area.

#### Birds

See Box and Table 3 for key species. Over 1,000 *Psittacus erithacus* roost in tall oil-palm bush near Ikodi. In addition, the site is a possible locality for the restricted-range *Estrilda poliopareia*. To date, 91 species have been recorded. Nationally uncommon species that occur include *Pteronetta hartlaubi*, *Dryotriorchis spectabilis*, *Spizaetus africanus*, *Turtur brehmeri*, *Centropus leucogaster*, *Ceratogymna atrata*, *Pogoniulus atroflavus*, *Indicator conirostris*, *Dendropicos gabonensis*, *Apalis nigriceps*, *Anthreptes rectirostris* and *Nigrita fusconota*.

# **Key species**

A3 (A05) Guinea-Congo Forests biome: 65 of the 187 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

#### ■ Other threatened/endemic wildlife

Mammals include Cercopithecus sclateri (EN), C. erythrogaster (VU), Hexaprotodon liberiensis (VU) and Cephalophus sylvicultor (LR/nt). Hylochoerus meinertzhageni has also been recorded from the area.

# **■** Conservation issues

Uncontrolled timber extraction is the most significant threat to the area. Other threats include roads built for oil exploration activities, which open up areas previously inaccessible to poachers. Forest clearance for farming is also a threat.

# Further reading

Powell (1993).

# **Biseni forests**

NG016

Admin region Rivers Coordinates 05°15′N 06°30′E

Area c.21,900 ha Altitude c.40 m

A3 (A05) Unprotected

#### ■ Site description

The Biseni forests are located north-west of Ahoada (itself some 50 km north-west of Port Harcourt), just west of the Upper Orashi forests (NG015), in the Taylor Creek flood-plain of the Niger Delta. The forests

are seasonally flooded during the rains, but dry out during the dry season leaving numerous small forest lakes. *Raphia* palms and some woody broadleaved species such as *Symphonia globulifera* and *Ficus* spp. are common. There are also areas of tall grass swamps close to the river channels.

#### **■** Birds

See Box and Table 3 for key species. Although as yet little explored, 96 species have been recorded. In addition, the site is a possible locality for *Estrilda poliopareia*. Nationally uncommon species include *Baeopogon clamans*, *Trochocercus nigromitratus*, *Parmoptila woodhousei* and *Lamprotornis purpureiceps*.

#### **Key species**

A3 (A05) Guinea-Congo Forests biome: 50 of the 187 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

#### Other threatened/endemic wildlife

Mammals include Cercopithecus erythrogaster (VU), Hexaprotodon liberiensis (VU) and Cephalophus sylvicultor (LR/nt).

#### **■** Conservation issues

Taylor Creek forest has been proposed as a Forest Reserve. Indiscriminate tree-felling for timber, enhanced by access roads built for exploration activities by oil companies, is progressively degrading much of the forest of the area. Hunting and other wildlife exploitation are unregulated. An NGO (Living Earth, Nigeria) is working with the local communities of the area, seeking to develop sustainable resource-exploitation strategies.

#### ■ Further reading

Powell (1993).

# Akassa forests

Admin region Bayelsa Coordinates 04°21′N 05°59′E Area 7,900 ha Altitude 0–2 m NG01

A1, A3 (A05), A4i Unprotected

# ■ Site description

The Akassa forests are located in the Niger Delta in the extreme south of the country. The site comprises three low-lying blocks of lowland forest, much of which is seasonally flooded. In addition, there are large tracts of mangrove, mainly *Rhizophora racemosa* and *Avicennia africana*. The soils are alluvial, but the coastline, included within the IBA, has some stretches of sandy beaches. Expanding areas of *Raphia* palms and oil-palms *Elaeis guineensis* are evidence of anthropogenic pressures on the forests. The area receives over 4,500 mm of rain annually.

#### Birds

See Box and Table 3 for key species. As yet little known, 69 species, including waterbirds, have so far been recorded. Nationally uncommon species include *Muscicapa infuscata* and *Lamprotornis purpureiceps*. Sterna balaenarum, a non-breeding visitor, regularly roosts in large numbers on the beaches of the site. Indeed, the site is probably the most important roosting area for wintering Palearctic waders and terns in southern Nigeria, and is the only known breeding site for Sterna hirundo in Nigeria. Psittacus erithacus nest and roost in large numbers in the mangrove swamp-forests of the area.

# **Key species**

A1 Sterna balaenarum

A3 (A05) Guinea-Congo Forests biome: 37 of the 187 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

A4i Breeding (pairs) Non-breeding

Sterna balaenarum — 100–130

### Other threatened/endemic wildlife

The turtles *Demochelys coriacea* (EN), *Chelonia mydas* (EN) and *Lepidochelys olivacea* (EN) have been recorded on the Akassa beaches.

#### Conservation issues

Clandestine trade in the CITES-listed *Psittacus erithacus* is common. Nestlings are removed from nests and sold to traders from the north

of the country, who in turn export them to North America, Europe and the Middle East. Parrot trappers have been reported to come from as far away as Ghana. Fishing trawlers catch turtles. Pollution from oilspills and widespread, uncontrolled logging are further threats. An NGO, Pro-Natura International, is working with the local communities, seeking to conserve what is left of the Akassa forests.

#### Further reading

Powell (1993, 1995, 1997), Weeks and Claude-Eze (1997).

Yankari National Park

Admin region Bauchi

Coordinates 09°45′N 10°30′E

Area 224,400 ha Altitude 150–750 m

National Park

#### ■ Site description

Yankari is located in the east-central part of the country, some 72 km north of the Bauchi-Gombe road at Dindima. The park is bisected by the Gaji river. Two major habitat-types occur; dry savanna woodlands and riparian vegetation, which includes areas of fadama. Common woodland trees include Afzelia africana, Burkea africana, Pterocarpus erinaceus, Isoberlinia doka, Monotes kerstingii, Combretum glutinosum, Detarium microcarpum and Anogeissus leiocarpus. Gardenia aqualla and Dichrostachys glomerata are frequent in the shrub layer while Hyparrhenia involucrata and H. bagirmica are the dominant grasses. In riparian forest Khaya senegalensis, Vitex doniana, Acacia sieberiana, Tamarindus indica, Borassus aethiopum and Daniella oliveri are common. Characteristic of Yankari are large monodominant stands of Pteleopsis habeensis which grow in some drier areas along riverbanks, the only place in the country where such stands occur. In the seasonally flooded fadamas, Ficus spp. and Mitragyna sp. are the dominant trees, while tangles of Mimosa pigra dominate the shrub stratum.

#### Birds

See Box and Table 3. Some 337 species have so far been recorded. Up to six *Ciconia nigra* have been recorded wintering and it is the only site where *Ephippiorhynchus senegalensis* is regularly seen.

#### **Key species**

A3 (A04) Sudan–Guinea Savanna biome: 33 of the 42 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

#### ■ Other threatened/endemic wildlife

Large mammals include *Loxodonta africana* (EN) (330 in April 1999), *Alcelaphus buselaphus* (LR/cd), *Syncerus caffer* (LR/cd), *Hippotragus equinus* (LR/cd) and *Panthera leo* (VU).

# **■** Conservation issues

Yankari was gazetted as a Game Reserve in 1956, the first in Nigeria, and became a National Park in 1991. As a result of this long period of protection, the park has become the nation's foremost wildlife area and a major tourist attraction in Nigeria. Three major obstacles to conservation persist at Yankari-poaching, illegal grazing and bush fires. The introduction of rinderpest into the reserve in 1982, as a consequence of illegal grazing by pastoralists, significantly reduced the populations of large herbivores, e.g. Syncerus caffer. Annual dryseason bush fires set by poachers to flush mammals are also believed to be changing the structure and composition of the park's vegetation. There has also been some concern over the spread of neem tree Azadirachta indica in the park. The seeds of the species are dispersed by baboons and other primates which feed on their fruits. In addition, the growing population of Loxodonta africana in the park is becoming a problem. During their annual wet-season movements out of the park, they cause damage to crops belonging to the park's support-zone communities. This results in claims for large amounts of compensation, and culling and can also lead to poaching. Loxodonta africana have also destroyed many of the baobab trees Adansonia digitata in the park and may, in time, completely eliminate the species.

#### **■** Further reading

Crick and Marshall (1981), Dyer and Gartshore (1975), Geerling (1973), Green (1989), Ike *et al.* (1985).

# Kainji Lake National Park

Admin region Kwara Coordinates 10°05′N 04°40′E Area 534,100 ha Altitude 150–350 m

# NG019

A3 (A04) National Park

### ■ Site description

Kainji Lake National Park (KNLP) (headquarters Wawa) is situated 560 km north of Lagos, close to the border with the Republic of Benin. It comprises two sectors (Borgu and Zugurma) which are separated by Kainji Lake, a lake impounded on the Niger river for hydroelectric power generation. Only the Borgu (western) sector is currently used for tourism; the Zugurma (eastern) sector lacks infrastructure, including access roads. The topography of the park is gently undulating with a general decrease in elevation from west to east. The Borgu sector is drained mainly by the Oli, Timo and Doro rivers and their tributaries, while the Zugurma sector is drained by the Maingyara and Nuwa Tizururu rivers. The vegetation of the park is typical of the Sudan–Guinea Savanna, although in some areas it appears more Sahelian. Riparian forests occur on the banks of the larger watercourses.

#### Birds

See Box and Table 3 for key species. Over 180 species have been recorded including such nationally uncommon species as *Pelecanus rufescens*, *Anhinga rufa*, *Ixobrychus minutus*, *Sagittarius serpentarius*, *Terathopius ecaudatus*, *Neotis denhami*, *Burhinus capensis*, *B. vermiculatus*, *Caprimulgus climacurus*, *Bucorvus abyssinicus* and *Campephaga phoenicea*. Rare Palearctic migrants such as *Falco subbuteo* and *Cuculus canorus* have been recorded. The shores of Kainji Lake are wintering grounds for many hundreds of Palearctic waterbirds.

#### **Key species**

A3 (A04) Sudan–Guinea Savanna biome: 28 of the 42 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

#### ■ Other threatened/endemic wildlife

Numerous antelope species occur including *Hippotragus equinus* (LR/cd), *Alcelaphus buselaphus* (LR/cd), *Kobus kob* (LR/cd), *Redunca redunca* (LR/cd) and *Cephalophus rufilatus* (LR/cd). Other mammals reported are *Loxodonta africana* (EN), *Lycaon pictus* (VU), *Acinonyx jubatus* (VU) and, in Lake Kainji, *Trichechus senegalensis* (VU).

### **■** Conservation issues

KNLP is Nigeria's oldest National Park, established in 1976. Although the area around the park has a relatively low population density, numerous human activities adversely affect the park. These include deforestation, uncontrolled burning and illegal grazing and are particularly prevalent in the Zugurma sector. Wild mammals occur at relatively low densities due to illegal hunting. Lake Kainji has suffered a dramatic decline as a fishery due to the high numbers of artisanal and subsistence fisherfolk using the lake. It has been suggested that a period of closure, together with controlled fishing rights may help improve fish stocks.

#### Further reading

Ayeni (1983), FAO (1974), Geerling (1976), Green (1986), Tuna Wildlife Consultants Company (1983).

Amurum woodlands (Taboru)

NG020

Admin region Plateau Coordinates 09°53′N 08°59′E Area c.300 ha Altitude c.1,280 m

A3 (A04) Unprotected

# Site description

The Amurum woodlands are located 15 km north-east of Jos and comprise a small area of granitic outcrops in dry scrub savanna, interspersed with gallery forests, patches of grassland and cultivated farmlands on the Jos Plateau. Common tree species include *Danielia oliveri*, *Parkia biglobosa*, *Lophira lanceolata*, *Khaya senegalensis*, *Vitex doniana*, *Piliostigma thonningii* and *Ficus* spp. Average annual rainfall is around 1,400 mm.

#### Rirds

See Box and Table 3 for key species. In addition, the site also holds the recently described, and apparently nationally endemic, *Lagonosticta sanguinodorsalis* and its brood-parasite *Vidua maryae*, which may also prove to be both globally threatened and of restricted-range. *Gallinago media* may occur as it has been recorded from other parts of the Jos Plateau on migration. *Motacilla flava* winters in large numbers in the area.

#### **Key species**

A3 (A04) Sudan–Guinea Savanna biome: 24 of the 42 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

#### ■ Other threatened/endemic wildlife

None known to BirdLife International.

#### **■** Conservation issues

The site holds some of the best remaining areas of natural Jos Plateau vegetation, devastated elsewhere by, among other things, tin-mining operations. However, the site is vulnerable because of its small size and its proximity to the urban community of Jos. Some degradation, not yet serious, is occurring due to wood-cutting, cattle-grazing and farming. Further investigation of other forest patches in the area is needed. Community-based, participatory management of the site is supported by a joint NCF–RSPB–WWF(UK)–DFID project. There are plans for an Ornithological Research Institute, affiliated to the University of Jos, to be established near Amurum. These include developing the educational value of the site and so raising the profile of its conservation importance.

#### **■** Further reading

Payne (1998).

# Hadejia-Nguru wetlands

NG021

Admin region Yobe, Jigawa, Bauchi Coordinates 12°39'N 10°33'E Area c.300,000 ha

A1, A3 (A03, A04), A4i, A4iii National Park, Wildlife Sanctuary, Forest Reserves, Ramsar Site

#### ■ Site description

Altitude c.152-305 m

The Hadejia-Nguru wetlands (HNW) lie on the southern edge of the Sahel savanna in north-eastern Nigeria. The area is a flood-plain complex, comprised of a mixture of seasonally flooded lands and dry uplands. Prior to the droughts of the 1970s, the wetlands covered an area of about 4,125 km2, but are now reduced to c.3,500 km<sup>2</sup>. The wetland is supplied by the Hadejia and Jama'are rivers. The Jama'are rises in the Jos Plateau, the Hadejia in the hills around Kano; they join within the HNW to form the Yobe river, which discharges into Lake Chad. River flow is highly seasonal and varies considerably depending upon rainfall and run-off. Peak flow occurs in August and September when banks overflow and the area is inundated. Three broad vegetation-types are identifiable. One of these is scrub savanna, which includes the upland farmland areas and Acacia woodlands. The second grows on the 'tudu' lands, sandy ridges which, with the exception of scattered, ephemeral ponds, are never inundated. Characteristic tree species here include Acacia spp. (especially A. albida), Ziziphus spp., Balanites aegyptiaca, Tamarindus indica and Adansonia digitata, while common grasses are Cenchrus biflorus, Andropogon spp. and Vetiveria nigritana. There are also pockets of riparian forests, known as 'kurmi'. Common trees of the kurmi forests, at about the northern limit of their distributions, are Khaya senegalensis, Mitragyna inermis and Diospyros mespiliformis. In some parts, kurmi has been replaced with orchards of mango Mangifera indica and guava Psidium guajava. The third main vegetation-type includes the seasonally flooded marshes and 'fadama', in which the tree Acacia nilotica is common while Dum palms Hyphaene thebaica grow on small raised islands. Aquatic grasses such as Echinochloa and Oryza spp. are common in the marshes, while in drier parts Dactyloctenium aegyptium, Setaria spp. and Cyperus spp. occur. There are also extensive beds of Typha australis while Mimosa pigra thickets are common on edges of the lakes. Large parts of the fadama are under rice cultivation during the rainy season and, during the dry season, are usually utilized for

growing other crops as water-levels drop. Uncultivated areas are grazed by livestock. Annual rainfall ranges between 200-600 mm, confined to the period late May-September.

#### Birds

See Box and Table 3 for key species. A total of 377 bird species have been recorded. A few individuals of two species of global conservation concern, *Circus macrourus* and *Galinago media*, winter occasionally. Numbers of overwintering *Aythya nyroca* have declined considerably in recent years. The wetlands are extremely important for waterbirds, both for breeding species and for wintering and passage Palearctic waterbirds, while the surrounding areas hold significant numbers of species of the Sahel biome and Sudan–Guinea Savanna biome. Total numbers of waterbirds recorded during the January African Waterbird Census counts were 259,767 in 1995, 201,133 in 1996 and 324,510 in 1997.

Key spec	ies		
A1	Aythya nyroca		
A3 (A03)	Sahel biome: Eight of the 13 species	es of this biome that occ	cur in Nigeria have
	been recorded at this site; see Tab	le 3.	
A3 (A04)	Sudan-Guinea Savanna biome: 15	of the 42 species of this	s biome that occur
	in Nigeria have been recorded at t	his site; see Table 3.	
A4i		Breeding (pairs)	Non-breeding
	Plegadis falcinellus	_	2,447 (1997)
	Dendrocygna bicolor	_	9,510 (1997)
	Dendrocygna viduata	_	58,613 (1997)
	Plectopterus gambensis	_	7,332 (1995)
	Anas acuta	_	34,866 (1998)
	Anas querquedula	_	147,563 (1998)
	Aythya nyroca	_	1,594 (1988)
	Porphyrio porphyrio	_	261 (1997)
	Limosa limosa	_	6,473 (1997)
	Tringa erythropus	_	4,065 (1997)
	Philomachus pugnax	_	108,381 (1996)
A4iii	More than 20,000 waterbirds occu	r regularly at this site.	

#### ■ Other threatened/endemic wildlife

The mammal *Gazella rufifrons* (VU) occurs, but is scarce. At least 89 species of freshwater fish are reported to occur.

#### **■** Conservation issues

Parts of the wetlands are protected by five Forest Reserves, a Wildlife Sanctuary and a Ramsar Site. Two of the Forest Reserves, Zurgun Baderi and Gorgoram, as well as Dagona Wildlife Sanctuary form part of the Chad Basin National Park, while Nguru Lake and the Marma Channel complex (58,100 ha) are designated a Ramsar Site. Several consecutive years of drought in the 1970s reduced the extent of the wetlands. In the last two decades, several dams (including two large ones at Tiga and Challawa) and other hydro-agricultural projects with intensive water demand have been commissioned at locations upstream. These have interrupted the natural flood regime, diverting flood water in the wet season and releasing damaging flood surges during the dry. Fish migration, groundwater recharge, grazing and farming are disrupted as a result. In addition, pastures are overgrazed, soils compacted and tree regeneration is hampered by pastoralists who migrate into the area during the dry season. Depredation of crops by Quelea quelea and other avian pests hardens farmers attitudes against bird conservation. Chemical control of Quelea quelea often kills non-target species. Increasing human population and the rising demand for land is resulting in cultivation of land previously considered marginal. Finally, the fuelwood demand from the surrounding urban settlements is depleting the tree-cover of Forest Reserves in the wetland complex. The area has been the subject of a collaborative project between State Government, NCF, RSPB and IUCN. The project has succeeded in demonstrating the value of natural and traditional uses of the wetland and has been able to agree on dam releases that mimic natural flood patterns.

#### Further reading

Adams and Hollis (1989), Adams and Thomas (1996), Adams et al. (1993), Drijver and Marchand (1985), Ezealor (1993a, b), Garba-Boyi et al. (1992), Hollis et al. (1993), Mbanyiman (1990), Polet (2000), Stowe and Coulthard (1990).

### Kamuku National Park

Admin region Kaduna Coordinates 10°45′N 06°30′E Area 112,700 ha Altitude 305–610 m

A3 (A04) National Park

# ■ Site description

Kamuku National Park is located north-west of Kaduna near Birnin Gwari in central-western Nigeria. The terrain is largely flat, rising gradually eastwards to the Birnin Gwari Ridge, which forms part of the eastern boundary. The vegetation is Guinea Savanna with, in places, some transitional Sudan Savanna elements. Dominant tree species of the park include Isoberlinia doka, Terminalia avicennioides and Detarium macrocarpum. Also common are Danellia oliveri, Nauclea latifolia, Acacia spp., Lophira lanceolata, Parkia biglobosa, Prosopis africana and Isoberlinia tomentosa. Elaeis guineensis is common in riparian forests that line small, seasonal rivers. Together with the Forest Reserves in this area the park represents one of the best remaining blocks of Sudan–Guinea Savanna vegetation in the country's protected-area system.

#### Birds

See Box and Table 3 for key species. To date, 192 species have been recorded from the park. The park is also important for such species as *Sagittarius serpentarius*, *Neotis denhami* and *Bucorvus abyssinicus*, all now uncommon elsewhere in the country.

#### Key species

A3 (A04) Sudan–Guinea Savanna biome: 21 of the 42 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

### ■ Other threatened/endemic wildlife

Small but viable populations of *Loxodonta africana* (EN), *Hippotragus equinus* (LR/cd), *Redunca redunca* (LR/cd) and *Alcelaphus buselaphus* (LR/cd) occur, as do small numbers of *Panthera leo* (VU).

#### Conservation issues

Kamuku was upgraded from a state Game Reserve to a National Park in May 1999. Major threats include hunting and illegal cattle-grazing; there are several pastoralist settlements on the edge of the park. The success of a local community-based conservation project, managed by Savanna Conservation Nigeria, a national NGO, with the aim of promoting sustainable resource use, was in part responsible for Kamuku being upgraded from a Game Reserve to National Park.

#### **■** Further reading

Ajayi et al. (1981), Green (1987), Mohammed (1981).

Assop Falls and hills
Admin region Plateau
Coordinates 09°32′N 08°37′E
Area c.3,000 ha Altitude 600–1,100 m

NG023

A3 (A04)
Unprotected

### ■ Site description

The site is an area of Guinea Savanna on the slopes and top of a midaltitude ridge of the Jos Plateau, beside the Jos-Kagoro road, about 70 km from Jos. The vegetation comprises gallery forests sorrounded by grasslands. The Assop river, which feeds the picturesque rapids and falls, drains part of the Jos Plateau.

#### ■ Birds

See Box and Table 3 for key species. Over 165 birds have been recorded. In addition, the recently described *Lagonosticta sanguinodorsalis* and its brood-parasite *Vidua maryae* may occur. Nationally uncommon species include *Muscicapa gambagae*, apparently a common breeder, as well as *Hieraaetus pennatus*, *Agapornis pullaria*, *Lybius bidentatus*, *Cossypha polioptera* and *Vidua wilsoni*. Two species of the Guinea–Congo Forests biome (A05) have also been recorded (see Table 3).

# **Key species**

A3 (A04) Sudan–Guinea Savanna biome: 25 of the 42 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

#### ■ Other threatened/endemic wildlife

None known to BirdLife International.

#### Conservation issues

The waterfall and its immediate environs are legally protected and managed by Plateau State Tourism Corporation. The river also provides the domestic water-supply for villagers in the surrounding area. Wood-cutting and livestock-grazing are major threats to the catchment. The area immediately behind the waterfall is being farmed.

### Further reading

Elgood et al. (1994).

Sambisa Game Reserve
Admin region Borno
Coordinates 11°32′N 13°20′E
Area 68,600 ha Altitude c.35–100 m
Game Reserve

#### Site description

Sambisa lies within the catchment of the Yedseram river, south-east of Maiduguri in the north-east of the country. The dominant vegetation is Sudan-Guinea Savanna but, as a result of human activities, areas of the reserve have taken on a more Sahelian aspect. Dominant tree species include *Detarium macrocarpum*, *Ficus* spp., *Vitex doniana*, *Anogeissus leiocarpus*, *Balanites aegyptiaca*, *Prosopis africana*, *Acacia* spp., *Piliostigma thonningii*, *Combretum* spp., *Adansonia digitata*, *Diospyros mespiliformis*, *Tamarindus indica* and *Terminalia* spp.

#### Birds

See Box and Table 3 for key species. To date, 62 species have been recorded, including four species of the Sudan–Guinea Savanna biome (A04) (see Table 3). Nationally uncommon species include *Terathopius ecaudatus*, *Sagittarius serpentarius* and *Ardeotis arabs*. The site is also thought to be the last in the country at which *Struthio camelus* occurs.

#### **Key species**

A3 (A03) Sahel biome: Six of the 13 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

### ■ Other threatened/endemic wildlife

Mammals of global conservation concern include *Loxodonta africana* (EN), *Hippotragus equinus* (LR/cd) and *Alcelaphus buselaphus* (LR/cd).

#### **■** Conservation issues

Although legally protected, the site suffers particularly from widespread felling of trees for fuelwood. Additionally, illegal grazing, poaching and over-fishing (including with chemicals, which also kills piscivorous birds), are serious problems. There are proposals to include the site within the Chad Basin National Park.

# Further reading

Ebin (1983).

Falgore and Lame Burra
Game Reserves
Admin region Bauchi, Kano
Coordinates 10°50′N 08°55′E
A3 (A04)
Area 297,900 ha Altitude 95–185 m
Game Reserves

#### Site description

Falgore Game Reserve (92,000 ha), formerly Kogin Kano Forest Reserve, is located some 110 km south of Kano on the Jos-Kano road. The vegetation is open Northern Guinea Savanna woodland with elements of the Sudan Savanna in the north. Tree heights reach 9–14 m. The northern boundary is formed by the artificial Lake Tiga which, when full, submerges the north-western tip of the reserve. The reserve is bisected by the Kano river which, together with its tributaries,

the Maiwa, Kumbo and Randa, drain the reserve. To the south-east of Falgore lies Lame Burra Game Reserve (205,900 ha) in Bauchi State. Here also the vegetation is typical Northern Guinea Savanna with, in the north, areas of transition to Sudan Savanna. The 50 km wide strip of thinly inhabited, unprotected savanna woodland that separates the reserves is included in the IBA.

#### Birds

See Box and Table 3 for key species. A total of 261 species have, to date, been recorded at Falgore, and 101 at Lame Burra. Other species of interest include *Ciconia ciconia* and *Falco vespertinus*, both regular passage migrants, *Terathopius ecaudatus*, *Himantopus himantopus*, *Telacanthura ussheri*, *Bucorvus abyssinicus* and *Oenanthe bottae*.

#### **Key species**

A3 (A04) Sudan–Guinea Savanna biome: 28 of the 42 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

#### ■ Other threatened/endemic wildlife

The following mammals of global conservation concern occur, or used to do so; *Hippotragus equinus* (LR/cd), *Alcelapus buselaphus* (LR/cd), *Syncerus caffer* (LR/cd), *Cephalophus rufilatus* (LR/cd), *Gazella rufifrons* (VU) and *Panthera leo* (VU). Populations of all are very low and some may have been extirpated.

# **■** Conservation issues

Poaching, illegal grazing, over-fishing (including use of chemical poisons) and bush fires are the major threats. Protection of Falgore is crucial to the longevity of Tiga Lake, as deforestation of the reserve would speed up siltation of the lake. Conservation in both reserves would benefit from their merger and upgrade to National Park status.

#### Further reading

Anadu (1987), Ebin (1983), Sharland and Wilkinson (1981), WCMC (1988), Wilkinson and Beecroft (1985).

Sunvit Farm
Admin region Edo
Coordinates 07°07′N 06°41′E
Area 13,200 ha Altitude c.50 m

NG026

A3 (A04, A05)
Unprotected

### ■ Site description

Sunvit Farm is a private farm that has been turned into an agricultural training school, located between the towns of Fugar and Agenebode in the centre-south of the country, about 5 km from the western bank of the Niger river. The Ogbudu and Obe rivers form, respectively, the northern and eastern boundaries of the farm. Several other small rivers run through the farm with the result that large areas of it are usually seasonally flooded and three small seasonal lakes are created annually by retreating flood water. The vegetation is a mix of southern Guinea Savanna, riparian vegetation with Guinea—Congo Forest affiliations and open, cultivated or fallow, fields.

#### Birds

See Box and Table 3 for key species. Some 222 species have so far been recorded, with a diversity reflecting the mix of savanna, forest and wetland habitat-types. These include the nationally uncommon Coracias cyanogaster and, of forest species, the locally threatened Psittacus erithacus, as well as Pteronetta hartlaubii and Caprimulgus nigriscapularis. The flooded riparian forests are home to breeding Scotopelia bouvieri, known from only one other IBA nationally. Many waterbirds also occur, including Anhinga rufa, now nationally rare as a result of widespread habitat degradation. A variety of Palearctic migrants overwinter, including tens of Circus pygargus. Large flocks of Quelea erythrops are common in the cultivated parts of the farm.

#### Key species

A3 (A04) Sudan–Guinea Savanna biome: 18 of the 42 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

A3 (A05) Guinea–Congo Forests biome: 20 of the 187 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

#### ■ Other threatened/endemic wildlife

The farm and adjoining areas are believed to support a small population of *Syncerus caffer* (LR/cd).

#### **■** Conservation issues

The farm has recently become an agricultural school and large-scale farm operations have been suspended. As a result, hitherto heavily disturbed areas may be expected to regenerate. Even when farming operations occurred in the recent past, a large portion of the farm was set aside by the farm's management as a private reserve. Threats come mainly from the local fishing settlements on and around the property. Parts have been cleared for farms by families of these fishermen. They also illegally hunt on the farm while the fuelwood needed for smoking fish sometimes comes from trees they fell in the riparian forests.

#### **■** Further reading

Manu (undated), Turk (2000).

# **Ebok-Kabaken**

Admin region Cross River Coordinates 06°17′N 08°30′E Area Undefined Altitude c.305–600 m

A1, A3 (A05), A4ii Unprotected

### Site description

The site, variously known as Ebok-Kabaken, Ebbaken or Ebok-Boje, is a hilly locality in the Boki Local Area of Cross River State, between Afi River Forest Reserve (NG005) and Cross River National Park—Okwangwo Division (NG010). The hill-slopes are covered with tall grasses which reach heights of over 3 m. Forests grow in the valleys between the hills. The Ebbaken community, near which the site is located, comprises nine villages surrounded by the hills. Parts of the forest-edges and grassy hills are cleared and planted with cash-crops (e.g. cocoa, bananas and plantains) or subsistence crops (e.g. cassava, yam and coco-yam).

#### Rirds

See Box and Table 3 for key species. Over 1 million migrant swallows (mostly *Hirundo rustica*) are estimated to use the tall grasses of the hills of the area as a regular winter roost. The poorly known *Phyllastrephus baumanni* has been mist-netted here, one of only two IBAs from which it has been recorded. Picathartes oreas has been recorded in the nearby forests but its status locally is unclear. The locality is thought to be the southernmost in the country for *Euschistospiza dybowskii* (the one A04 species known).

#### **Key species**

A1 Phyllastrephus baumanni

A3 (A05) Guinea-Congo Forests biome: 39 of the 187 species of this biome that occur in Nigeria have been recorded at this site; see Table 3.

A4ii breeding (pairs) Non-breeding
Hirundo rustica — 1.000.000+

# ■ Other threatened/endemic wildlife

The surrounding community forests are believed to hold populations of primates including *Mandrillus leucophaeus* (EN) and *Pan troglodytes* (EN).

#### **■** Conservation issues

Clearance of forest in the low-lying areas and of grasslands of the hill-slopes for farming is increasing. Local people used to hunt the swallows for food and between 100,000 to 200,000 birds were estimated to have been caught annually. However, a series of modest interventions, including a piggery project, started by the NGO ProNatura International, but now managed by the NCF, appears to be having some success in changing the attitudes of the local people in favour of preserving the swallows and their roost-sites for their tourism and research value.

#### Further reading

Fishpool (2000).

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