

3.1 BENIN

Introduction

Benin, formerly known as Dahomey, has an area of 112 620 km², a population of 3 905 000, and thus, a mean population density of 34.7 persons/km². The country has a coastline of 100 km, along the Gulf of Guinea, and is bounded by Togo in the west, Burkina Faso and Niger in the north, and Nigeria in the east. It extends 675 km from north to south, between latitudes 12°23'N (on the Niger River) and 6°16'N (on the coast at the Togo/Benin border), and 330 km from east to west between longitudes 3°52'E (on the Benin/Nigeria border) and 0°48'E (on the Togo/Benin border). It is shaped like a cudgel, with the handle, about 125 km wide, leading due north from the coast, and widening to the head, 330 km wide, above a latitude of 9°N.

The littoral region is characterised by an almost continuous sand-bar, built up under the influence of the west to east longshore drift, which is estimated to carry some 1.5 million m³ of sand/yr along the coast from the Volta delta to the Niger delta (Klingebiel, 1981). Some coconuts are planted on the bar, particularly in the west, and immediately to landward there is a lagoonal system, connected to Lake Ahem & some distance inland, but not to Lake Nokoue. Both these lakes are moderately deep and were created when their river valleys were flooded during the last marine transgression. The lagoons, some now artificially maintained as canals, are oriented E-W behind the coastal sand-bar and connect with a similar lagoonal system in Togo to the west. Another system, beginning at Lake Nokoue, connects with Lagos Lagoon in Nigeria to the east. In Benin the westerly lagoons have outlets to the sea at Boca del Rio, west of Grand Popo (6°17'N/ 1°50'E), and Lake Nokoue has an opening at Cotonou (6°21'N/2°26'E), where an artificial deepwater harbour was opened in 1965.

Both Lakes Ahémê and Nokoue are situated in the lower reaches of shallow valleys at the back of the sandy coastal plain. The plain rises gently towards the north, to the low southern plateau country at an altitude of 200-300 m. However, the coastal slope is broken by the Lama Depression, a swampy clay plain between Abomey (7°11'N/1°59'E) and Cotonou, which is intensively cultivated, and the valleys of the Couffo, Zou and Oueme Rivers which penetrate far into the plateau region; the floor of the Oueme Valley is for example, less than 40 m asl 150 km from the coast.

The plateau extends north, covering most of the country, with isolated hills rising to heights of between 350 and 625 m, but it is interrupted by the escarpment of the Chaîne de l'Atakora which enters the country on the parallel 10°N, and crosses the northwestern extremity obliquely from SW-NE. This range, which is an extension of the Chaîne du Togo, reaches a maximum altitude of 641 m at a point 10°19'N/1°33'E. From these mountains, the land surfaces slope down to an altitude of 150 m along the course of the Pendjari (Oti) River, which forms the border with Burkina Faso for some distance in the northwest before it flows into Togo. In the northeast, the Niger River forms the border with Niger, at altitudes which decline from 175 to 161 m in passing downstream.

The Pendjari River drains the Chaîne de l'Atakora in the northwest. It rises on the

southeastern flank of the range and initially flows northeastwards before looping around the end of the mountains to flow back southwestwards in parallel. The northeastern part of the interior plateau is drained by three principal streams, the Mekrou, Alibori and Sota Rivers, which all flow northeastwards to join the Niger River. Drainage of virtually the entire country south of the parallel 10°N, is to the Oueme River. This stream rises just below the 500 m contour at a point 9°52'N/1°33'E near the town of Kopargo, but receives several ephemeral tributaries which rise farther north than this. It flows almost due south down the centre of the country, receiving in its lower reaches its two major affluents. These are the So River, which drains the central western borderlands and the Okpara River, which drains the central eastern areas and forms the border with Nigeria for several hundred kilometres. The Oueme receives its last affluent, the Zou River which drains much of the central southern plateau, 75 km from the sea. Immediately below the confluence it breaks into a distributary system which traverses a delta 60 km long with a base 31 km wide on Lake Nokoue. The waters of the Oueme reach the sea via this lake and the lagoonal system at Cotonou. A small part of Benin, in the southwest, is drained by the Mono and Couffo Rivers, the latter discharging into the lagoonal system via Lake Ahemê. Water from both these rivers reaches the sea 12 km east of Grand Popo, at Boca del Rio (6°17'N/1°58'E).

Climate

Along the coast, rainfall increases from west to east. Mean annual rainfall at Grand Popo is close to 800 mm, but this has increased by more than 50% at Cotonou. Precipitation at the coast is bi-modal, with 2 wet seasons. The principal rains are from March to July, with a brief dry period in August, followed by renewed rains from September to November. The main dry season lasts 3 months, from December to February inclusive. Mean annual precipitation at Cotonou is 1307 mm, with a mean monthly maximum of 380 mm in June and mean monthly minima of 27 mm in August and 16 mm in December. It rains on about 100 days each year at Cotonou. In passing inland the dry period in August is lost, but the major dry season increases in length. Thus at Save (8°02'N/2°29'E), 190 km from the coast, it still rains on 100 days each year, but the single dry season lasts from November to February inclusive. The mean annual precipitation is 1090 mm, with a mean monthly maximum of 171 mm in September, and mean monthly minima of 8 mm in both December and January. At Kandi (11°08'N/2°56'E), rain falls on less than 80 days each year and mean annual precipitation is close to 900 mm, while the dry season persists for 7 months, from October to April, but the Atakora Massif is wetter, with annual falls of 1100-1300 mm, and very high precipitation in July to September.

In the south, temperatures are relatively constant throughout the year with daily maxima and minima close to 34°C and 22°C. By contrast, in the north, the hot desiccating dust laden Harmattan wind blows during the dry season, when daytime temperatures can exceed 43°C and night-time readings can be as low as 19°C.

Vegetation

In general the southern half of the country supports a Guineo-Soudanian transition type of

vegetation, since although there are 8 wet months, total rainfall is not high and humidity is very low during the major dry season. The northern half of the country supports Soudanian savanna vegetation, with galleries of forest along the rivers. Most of the original forest has been cleared for agriculture, except along the rivers, where the forest tends to be swampy.

Wetlands

The sea beaches are sandy, but there are small mangrove stands in the lagoons and in Lake Nokoue. A swampy strip, inundated during the rainy seasons and measuring up to 5 km in width, surrounds the lagoons and extends along the entire coast immediately to landward of the low coastal dunes. Zones of periodic inundation extend inland from this strip, up minor streams for distances of up to 23 km, while swamps occur around the several small lakes on the coastal plain, and extensive swamps occur in the delta of the Oueme River, on the Couffo River at the head of Lake Ahemê, and on the lower course of the Mono River.

On the interior plateau, in the central eastern district, extensive permanent swamps occur in the headwaters of tributaries of the Okpara River, some 50 km east of Parakou (9°21'N/2°37'E). In the northeast, floodplains and permanent swamps occur all the way along the Niger River where it forms the boundary between Benin and Niger. In the northwest, floodplains and permanent swamps occur on the Pendjari River and many of its affluents, both to the east and west of the Atakora Mountains.

There are numerous small agricultural impoundments in the interior and northern parts, and a major dam is under construction on the Mono River, at Nangheto in Togo. This will no doubt influence the flood regime below the dam, and hence the Mono Swamps in Benin.

List of Wetlands Described

1. Wetlands of the Coastal Plain
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1. Wetlands of the Coastal Plain

Wetland Name: The Coastal Lagoons

Country: Benin

Coordinates: 6°16'-6°26'N/1°48'-2°47'E

Area: c. 29 000 ha (2500 ha open water, 26 500 ha seasonal wetland)

Altitude: sea level

Nearest Towns: Cotonou and Porto Novo (in system)

General: Swampy land subject to seasonal inundation occupies a strip 96 km long and up to 7 km wide (mean width 3.6 km) behind the barrier dunes along the entire coastal strip, with a total area of some 29 000 ha. These swamps are developed along a semi-continuous line of narrow lagoons, which are weakly tidal. The swamps, although not the lagoons, provide a continuous wetland, connecting the swamps at the mouth of the Mono River on the Togo border with those that surround Lake Nokoue and Lake Porto Novo on the Nigerian border. The floodplain swamps of several minor coastal streams, e.g. the Toha, Todouba and Dati, which discharge into the lagoons, extend these coastal swamps up to 20 km into the coastal plain. The lagoons are best developed in the west, where they are in contact with the sea through the Boca del Rio, but they peter out in a series of small lakes just before Cotonou is reached. Some of these little lakes may become continuous in June-July, at the height of the rainy season, and the large central lagoon may gain contact with the open western lagoon near the village of Djêgbadji (6°19'N/2°05'E), carrying the discharge of the minor coastal streams to the sea.

Flora & Fauna: The lower swamps are tidal, and especially towards the Boca del Rio, they support scattered mangroves and extensive swards of *Paspalum distichum* with various sedges on their fringes. Groves of *Hibiscus tiliaceus* and *Pandanus candelabrum* occur on some shores. *Sporobolus virginicus* is common in the fringes on the seaward side. *Avicennia* and *Conocarpus* occur around some of the isolated lagoons. Reeds and bulrushes occur on affluent streams, and fringe some of the upper lagoons. The fish fauna is characteristically estuarine in the western areas, but both marine and freshwater species occur in the eastern lagoons and in the affluent streams. Several marine fishes and prawns enter the lagoons to breed, after which their juveniles utilise the lagoons as nurseries. There is a rich coastal avifauna.

Human Impact & Utilisation: The southern third of the country is far more densely populated than the north, and the three major cities of Grand Popo, Cotonou and Porto Novo have been constructed in the coastal strip. A main international road and railway run along the landward side of the swamps, the ramparts built for these structures in places effectively limiting the landward extension of the inundated lands. Both the road and railway cross the swamp belt west of Cotonou, and the city interrupts the swamp lands on the southern shore of Lake Nokoue. Locally the lakes, lagoons and swamps are fished, and the adjoining lands which are free from inundation, are intensively cultivated, but apart from drainage and clearances for buildings around villages, the swamps of the coastal strip have not been extensively altered since traditionally the wetlands are considered unsuitable for agriculture. Hunting takes place in the swamps and many water fowl are taken each year.

Conservation Status: It was proposed in 1985 that a reserve be set up to protect some mangrove stands, but the wetlands of the coastal strip are presently unprotected.

Wetland Name: The Mono River System

Country: Benin

Coordinates: 6°17'-6°33'N/1°42'-1°52'E

Area: c. 46 400 ha (26 800 ha in Benin)

Altitude: 0-20 m asl

Nearest Towns: Grand Popo (2 km S); Lokossa (10 km N)

General: The lower course of the Mono River meanders over a floodplain and forms the border between Togo and Benin. Here, for 36 km above Grand Popo, the banks of the river are swamp-clad on both sides, the zone of inundation reaching 10.2 km in width near Come (6°24'N/1°52'E) in Benin. The swamp zone includes much open forest or woodland, which is inundated seasonally, and permanent reed and tree swamps. Flooding is deepest in June-July, during and after the heaviest rains, and much of the area is dry in December, though strips of permanent swamp occur along the river and in depressions on the floodplain. Immediately above Grand Popo, the Mono River flows under a road bridge and swings due east along the coast behind a long sandspit, discharging to the Gulf of Guinea at Boca del Rio.

Human Impact & Utilisation: The swamps and floodplain are fished and a railway traverses the swamps along most of the eastern boundary, where agriculture has begun to encroach upon the swamp land. Although the great expanse of swamp land is little disturbed, wood is cut for fuel locally. The dam being constructed at Nagheto in Togo will undoubtedly reduce flooding of the Mono swamps and will reduce the wetland area.

Conservation Status: Unprotected.

Wetland Name: Lake Aheme and the Couffo River

Country: Benin

Coordinates: 6°30'N/1°59'E

Area: 12 600 ha (8640 open water + 3960 lakehead swamps)

Altitude: c. 3-5 m asl

Nearest Towns: Lokossa (30 km W); Cotonou (48 km ESE)

General: Lake Ahem and its lakehead swamps, which may be inundated at high water, are 35 km long with a maximum width of 5.5 km and a mean width of 3.6 km. The lake is 24 km long and its southern extremity extends into the inundated zone of the coastal strip, and is in contact with the sea through the western coastal lagoon into which it discharges.

Flora & Fauna: The riparian and lakeside swamps are dominated by *Phragmites* and *Typha* with some *Cyperus papyrus*. Typical floodplain grasses occur to landward of the permanent reed swamps around the lake head, with *Echinochloa* and *Vetiveria* spp. Aquatic macrophytes occur in extensive beds around the lakeshores including such genera as *Ceratophyllum*, *Nymphaea*, *Pistia*, *Potamogeton*, *Trapa* and *Utricularia*. The lake fauna comprises a mixture of species, some with marine affinities and others with riverine and lacustrine affinities.

Human Impact & Utilisation: The lakeshore is densely populated and the lake is fished intensively. Cultivation extends right to the lakeshore, and abuts the lakehead swamps. There is an increasing siltation problem due to heavy erosion occasioned by intensive local agriculture.

Conservation Status: Unprotected.

Wetland Name: Lakes Nokoue & Porto Novo & the Queme Delta

Country: Benin

Coordinates: 6°23'-7°04'N/2°07'-2°37'E

Area: c. 103 600 ha (17 600 open water)

Altitude: 0-12 m asl

Nearest Towns: Cotonou (on lake); Porto Novo (on lake)

General: Both Lakes Nokoue (6°25'N/2°25'E) and Porto Novo (6°28'N/2°35'E) are situated at the base of the Oueme Delta, a protrusion of which separates them. Lake Nakoue opens to the sea by a channel some 5 km long passing along the eastern side of Cotonou, which city is situated on the coastal sand-bar between the lake and the sea. The mouth of the channel can become obstructed by sand in the dry season, then interfering with tidal fluxes between the lake and the sea. The lake is 19.2 km long with *its* long axis oriented E-W, has a mean width of 7.3 km, and an open water area of 16 000 ha at high water. It is connected by a 7 km long canal to Lake Porto Novo farther east, which is 5.4 km long and 3 km wide, and provides a further 1600 ha of open water surface. This latter water body is itself connected eastwards to the Lagos Lagoon system in Nigeria by a navigable channel, locally over 1 km wide.

The Oueme Delta extends northwards from the lakes for 70 km, decreasing in width from 31 km to 9 km. It comprises over 86 000 ha of permanent swamp land, fringed locally by zones of seasonal inundation. It is traversed by two meandering distributaries with many anastomoses and numerous oxbow lakes and sections of abandoned channel, especially on the western side. Some of the oxbow lakes are 5 km long and nearly 1 km wide. The western distributary discharges into Lake Nokoue and the eastern one into Lake Porto Novo.

There are numerous tracks through the swamps, many villages and encampments, the latter more numerous on the eastern side, and several substantial patches of dry land.

Hydrology & Water Quality: Water enters Lake Nokouè from the Oueme River, from the sea by tidal influx, and from direct precipitation, and leaves it by tidal efflux, throughflow to the Lagos Lagoon system, and evaporation. However, the level of the lake and its water chemistry varies with the seasons and the periodic closure of the mouth of the Cotonou Canal. High water is coincident with the rainy season over the central catchments of the Oueme River, between August and November, when the lake level may rise by 1 m, increasing its total volume by 80 million m³, from 250 to 330 million m³. High tide is not in phase in the two lakes, which sometimes leads to dramatic tidal scouring and currents of more than 2 m/sec in the connecting Totchè Canal. At times of low lake water and spring tides, saline sea water pours into the lake and makes its presence felt as far as 40 km up the Oueme River.

The lake water is not stratified because of tidal fluxes and currents due to riverine inflow and outflow. Surface temperatures do not vary greatly throughout the year, but vary from around 26°C in the mornings to 32°C in the late afternoons. pH varies from 7.4 to 7.6 over the course of the year, being lowest during the rains, and transparency decreases from west to east. Secchi depths reach maxima close to 1.2 m in the west, and minima of a few centimetres in the east during the rains. Salinities depend very much upon whether the Cotonou Canal is open or closed. If closed during the rainy season the whole lake can become almost fresh. When closed, mean salinities of 0.8-8.5‰ have been recorded in different parts of the lake, while the range for the same locations when the mouth is open is 5-19.5‰. Once closed, the mouth tends to remain closed until opened artificially. The mouth closed in April 1978 and remained closed for several years, but by 1985 it was open again.

Flora & Fauna: In the southeast of the lake, where salinities are highest but flood levels lowest, the tidally inundated banks are covered by dense swards of *Acrostichum aureum* and *Typha* sp., the latter having been cited as *domingensis*, *australis*, *latifolia* and

latifolia var. *capensis* by different authors. The first of these is probably correct. Waterways and lakes in the delta, right down to the lake, are fringed by *Cyperus papyrus* and *Phragmites karka* where inundation is permanent and tidal fluctuation is small, although seasonal changes are substantial. Behind the reed swamps, typical floodplain grasses occur around the lake and on the margins of the delta, e.g. *Echinochloa pyramidalis*, *Paspalum distichum* and *Vetiveria negritana*. During the rains, free-floating species drift into the lake and form large carpets, and sometimes these include large rafts of *Cyperus papyrus*. An old mangrove swamp, consisting mainly of *Avicennia africana* and some *Acrostichum aureum* is situated at the mouth of the Contonou Canal.

The benthic fauna of the two lakes is dominated by molluscs and crustaceans. Among the former *Arca senilis*, *Corbula trigona*, *Crassostrea gasar*, *Pahymelania* spp., and *Tympanotus* sp. are common, while among the latter *Callinectes latimanus*, *Cardiosoma armatum*, *Clibernhardius africanus*, *Goniopsys cruentata*, *Macrobrachium* sp., and *Penaeus duorarum* are most numerous. The fish fauna changes with the salinity, but the most numerous species appear to be little affected, and include *Ethmalosa fimbriata*, *Hemichromis fasciatus*, *Tilapia melanopleura* and *T. zillii*. The sensitive fishes retreat far into the delta during periods of high salinity in the lake, and prawns and large sea fish disappear from the lake if the mouth is closed for any length of time. Among reptiles snakes, turtles, terrapins, monitor lizards, crocodiles and agamids are found in the delta and lake fringes. The avifauna is rich with a typical spectrum of West African coastal wetland species. All the typical wetland mammals occur here including manatees.

Human Impact & Utilisation: Over 250 000 persons live in the vicinity of Cotonou and the density of the population around the lakes is great. The lakes are therefore fished intensely, with annual catches of 800-2000 tonnes, and the large populations of *Arca*, *Callinectes* and *Crassostrea* are also exploited. Many small fishing villages are set on piles on the lakeshore and it is estimated that no less than 25 000 persons are engaged in the fishing industry. Fish culture is carried out in the lakes and delta, involving 22 species, but the annual catch from the delta is not easy to determine. Liquid industrial wastes presently enter the two lakes untreated, and pollution is an ever increasing threat.

Conservation Status: Unprotected.

Wetland Name: Minor Lakes & Other Wetlands

Country: Benin

General: Several small lakes occur on the coastal plain. The most important being Lake Tobaoji (6°44'N/1°42'E) of 600 ha and Lake Toho (6°37'N/1°48'E) of 2590 ha in the west, and Lake Selo (7°09'N/2°27'E) of 300 ha and Lake Aziri (7°15'N/2°27'E) of 300 ha in the east. All are fringed by reeds but they are not described in the literature in any detail. Some strips of inundated forest occur along the Ouernè River and its tributaries, and of these some occur in the Forestry Reserves of Ketou Forest, Dogo Forest and the Forest of Ouemè and Boukou, where the river traverses one boundary of each of the forests. All these reserves are situated on longitude 2°30'E, between 7°20' and 8°00'N.

Wetland Name: Wetlands on the Niger River

Country: Benin

Coordinates: 11°40'-12°23'N/2°50'-3°37'E

Area: 44 000 ha floodplain

Altitude: 161-175 m asl

Nearest Towns: Malanville (on floodplain); Porto Novo (575 km S)

General: The River Niger forms the Benin/Niger border for a distance of 120.6 km in the far northeast in the Soudanian vegetational zone. Here it has a broad and often braided course with the main channels reaching 1.5 km in width, and many islands, some of which in the vicinity of Malanville (11°50'N/3°23'E) measure 4x1.5 km. Over this 120 km stretch the river overflows its banks each year. The floodplain is widest in the south, around Malanville, where the flood extends 12 km away from the river on the Benin bank, but in the north it is reduced to about 3 km in width. There are numerous lagoons and ponds on the floodplain, some semi-permanent, others ephemeral. The floodplain is covered by typical floodplain grasses, with patches of levee forest and gallery forest along the river and on some of the islands. The lagoons carry typical aquatic vegetation.

Over this 120 km section the Niger receives four major tributaries, from north to south, the Mekrou, Kompa Gorau, Alibori and Sota Rivers. The Mekrou forms the northern boundary of the National Park du 'W' du Benin for 129 km. The entire Kompa Gorau system lies within this park, and the Alibori forms the southern park boundary for 78 km, but the park does not extend to the Niger. All the park rivers carry galleries of forest, some of which are flooded, but floodplains are either very narrow or non-existent, except immediately above the confluences with the Niger. The park itself contains vast areas of *Isobertia* woodland, but in this there are some isolated marshes, occupying waterlogged depressions.

Flora & Fauna: The vegetation of the wetlands is as described in the regional introduction, with floodplain grasses such as *Echinochloa pyramidalis* and *Oryza barthii*, and swampy gallery forests containing *Cola laurifolia*, *Khaya senegalensis*, *Kigelia aethiopum*, *Mitragyna stipulosa* and *Parkia* sp. Most of the large mammals found in the savanna country visit the floodplains at some time, but all the usual aquatic types, e.g. *Aonyx*, *Atilax*, *Crocodylus*, *Hippopotamus*, *Lutra*, *Pelomedusa*, *Pelusios*, *Trichechus* and *Varanus* are present. There is an important elephant population in the National Park but *Giraffa camelopardalis* and *Taurotragus derbianus* are absent from the park.

Hydrology: The flood is bi-modal, reaching a peak in August-September, from rains over the Atakora Massif and the northeast of Benin in July and August, and a subsequent peak which usually arrives in December-January from rains over the upstream catchments. The waters of the first flood are turbid and carry much suspended matter, while those of the second flood are clear, almost free of suspended matter, and stained black by humic residues. The floods vary in extent from year to year, and in high flood years parts of the floodplain may be inundated to depths of 2 m.

Human Impact & Utilisation: Population density in the region is low, but the floodplain is fished, using traditional methods, and cattle are moved in to graze it as the flood recedes. Parts of the fringes in the vicinities of settlements are cultivated each year, and there has been some small scale floating rice cultivation.

Conservation Status: No part of the Niger floodplain is protected, but considerable stretches of gallery forest, and many small dambo type marshes are protected in the National Park du 'W' du Benin.

Wetland Name: Wetlands on the Pendjari River System

Country: Benin

Coordinates: 10°55' -11°29'N/0°55' -1°57'E

Area: c. 85 000 ha (floodplain + permanent swamp)

Altitude: 125-200 m asl

Nearest Towns: Djougou (150 km S); Porto Novo (525 km SE)

General: The Pendjari River and its tributaries drain the Atakora Massif in NW Benin, which receives very heavy rainfall in June, July and August, leading to heavy flooding on almost all streams. Other tributaries of the Pendjari drain the Gobnangou Massif in Burkina Faso. Floodplain areas on the Pendjari include one of about 3000 ha (11°06'N/1°43'E) at the confluence of an un-named affluent. This is on the NE flowing section of the river, south of the Atakora Massif. Just before the river rounds the tip of the massif and begins to flow back towards the SW, there is another floodplain, some 20 km long with a mean width of 3 km, situated between the co-ordinates 11°16' -11°27' N/ 1°51' -1°57'E, and covering a further 6000 ha. Downstream, where the river meanders along the border with Burkina Faso for over 70 km, there is the so-called Mare aux Hippopotames (11°16'-11°32'N/ 1°16'-1°48'N), a floodplain of 28 000 ha with widths up to 5.5 km. A small floodplain occurs yet farther downstream on a bend of the river (11°16'N/1°06'E), and another where the river begins to meander again prior to entering Togo. Here its name changes to Oti River. This latter floodplain is the largest on the Pendjari River, but most of it is situated in Togo. The upper section in Benin is 30 km long and some 4-5 km wide, with a total area of 12 000 ha.

On the tributaries extensive floodplains occur on the Bori River (40 km long - 12 000 ha), the Yapili River (45 km long - 13 500 ha) and the Podiega River (30 km long - 6000 ha) in Benin. In addition, numerous dambo areas and small valley head swamps occur in the Atakora Mountains.

Hydrology: The flood rises primarily as a response to rains in the Atakora Mountains, and generally peaks during September downstream. Maximum flood depths vary but may be as great as 4 m in some areas. Extensive lagoons, lakes, ponds and permanent reed swamps occur in the Mare aux Hippopotames.

Flora & Fauna: Typical floodplain grasses occur here, together with reed swamps, gallery and levee forest, as described in the regional introduction. Most of the West African savanna animals are found on these floodplains at some time of the year, and all the typical aquatic species are present. Among crocodiles, only *Crocodylus niloticus* has been identified. Turtles and terrapins, *Trionyx* and *Pelomedusa* are present, also *Varanus niloticus* and numerous snakes. The important plants and animals are listed by Sayer *et al.* (1979).

Human Impact & Utilisation: The area is sparsely populated and the wetlands outside the National Park and hunting zones are not heavily utilised. Fishing, cattle grazing and hunting occur on the floodplains, particularly along the Pendjari as it approaches the border with Togo.

Conservation Status: All the upper floodplains, including the Mare Aux Hippopotames, are included within the Pendjari National Park, as are the wetlands along the Podiêga River. The other wetlands downstream are unprotected.