

# Information Sheet on Ramsar Wetlands (RIS) – 2006-2008 version

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Designation date

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Site Reference Number

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**2. Date this sheet was completed/updated:**

June 2007

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**3. Country:**

Nigeria

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**4. Name of the Ramsar site:**

Pandam and Wase Lakes

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**5. Designation of new Ramsar site or update of existing site:**

This RIS is for (tick one box only):

- a) Designation of a new Ramsar site ; or  
b) Updated information on an existing Ramsar site

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**6. For RIS updates only, changes to the site since its designation or earlier update:**

- a) Site boundary and area

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**7. Map of site:**

- a) A map of the site, with clearly delineated boundaries, is included as:

- i) a hard copy (required for inclusion of site in the Ramsar List): ;  
ii) an electronic format (e.g. a JPEG or ArcView image) ;  
iii) a GIS file providing geo-referenced site boundary vectors and attribute tables .

- b) Describe briefly the type of boundary delineation applied:

The boundary follows on the west side the river (limit of the vegetation on the right side of the river), on the south-east and east side the vegetation as seen on the landsat

(bands 6,4,2) and the boundary of the forest reserve, on the north side the topography (crest) and on the north-west side the road .

It is important to note that the size of the lake and wetland area varies during the year, depending on the season and the natural flood and drawdown rhythm.

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**8. Geographical coordinates** (latitude/longitude, in degrees and minutes):

8°42'N 8°58'E (Latitude 8,71 and Longitude 8,98 decimal degrees)

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**9. General location:**

Include in which part of the country and which large administrative region(s) the site lies and the location of the nearest large town.

The Pandam Lake is in central eastern Nasarawa State (2006 population: 1,863,275) and located just north of the Shendam (Plateau State; 3,178,712) – Lafia (Nasarawa State) highway near the bridge across the River Dep. The area is north of the River Benue in central Nigeria. Lafia (population: 134,185) the State Capital is 45 km to the west. Two other towns of importance in the area are Assaiko (15,000), which lies 18km along the road towards Lafia, and Namu (20,000), which lies 15 km along the road northeastward towards Shendam. The lake is situated approximately 200m north of the Pandam village (500). The village is on the highway.

The Pandam Lake is in the designated Pandam Wildlife Park (formerly Dep River Forest Reserve), which abuts the highway.

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**10. Elevation:**

150m a.s.l.

**11. Area:** (in hectares)

19742,08 hectares

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**12. General overview of the site:**

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

The Pandam Lake lies within the flood plain of River Dep though about 750m away from the river at the closest point. The lake has two tributaries, each draining into one of its two arms. The lake is separated from the River Dep by a swamp that extends upstream along both tributaries of the lake to beyond latitude 8°42' N. There is no clear channel through which the overflow from the lake drains into the River Dep. It appears that flow is in two directions. When the river is at spate, water flows over the swamps into the lake. Flow is reversed when the water level in the river is lower than in the lake. The lake supports large numbers of resident and migrant bird species, including inter-African and Palearctic birds. About 217 species of birds have been recorded in the area, including the Lesser Kestrel (*Falco naumanni*), Yellow-casqued Hornbill (*Ceratogymna elata*), White-crested Turaco (*Tauraco leucolophus*), Red-throated Bee-eater (*Merops bulocki*), Vermiculated Fishing Owl (*Scotopelia bouvieri*), Pel's Fishing Owl (*Scotopelia peli*), Willow Warbler (*Phylloscopus*

*trochilus*) and Pied Flycatcher (*Ficedula hypoleuca*). Large flocks (>1000) of *Dendrocygna viduata* spend the dry season on the lake, while the Long-toed Lapwing (*Vanellus crassirostris*) breeds on the lake. The lake hosts several fish species that are economically important e.g. *Gymnarchus niloticus*, *Lates* sp., *Bagrus* sp. and *Hydrocynus* sp. The lake has been declared a Manatee (*Trichechus senegalensis*) reserve. Other mammals of global conservation concern such as the Roan Antelope (*Hippotragus equinus*) and African Buffalo (*Syncerus caffer*) have been observed in the surrounding Pandam Wildlife Park and wetlands. There is a management plan for the Park and Lake but this remains unimplemented for lack of political will. There are also plans for reclamation of floodplain habitat for the development of rice-growing schemes in areas within and adjacent to the park. Fishing occurs in the lake while the surrounding wetlands are being gradually converted to farms. Wildlife resources are collected or poached.

### 13. Ramsar Criteria:

Tick the box under each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11). All Criteria which apply should be ticked.

1	•	2	•	3	•	4	•	5	•	6	•	7	•	8	•	9
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### 14. Justification for the application of each Criterion listed in 13 above:

#### Criterion 1:

The site is an example and representative of the natural wetlands of the Sudan-Guinea Savanna biome in Nigeria. This is justified by the rich diversity of water birds typical of this biome which are found in this site, thus contributing to maintaining the biodiversity of this biome.

#### Criterion 2:

Pandam Lake and the adjoining Wildlife Park support vulnerable, endangered, critically endangered species, and threatened ecological communities. Mammals of global conservation concern such as *Trichechus senegalensis* (West African manatee) have been observed in the surrounding Pandam Wildlife Park and wetlands. The nationally rare Vermiculated Fishing-owl (*Scotopelia bouvieri*), has been recorded in this site (Fishpool and Evans, 2001)

#### Criterion 3:

Twenty-three of the 42 species of water birds of the Sudan-Guinea Savanna biome that occur in Nigeria have been recorded at this site. These include: The Senegal Parrot (*Poicephalus senegalus*), Violet Turaco (*Musophaga violacea*), Red-throated Bee-eater (*Merops bulocki*), Blue-bellied Roller (*Coracias cyanogaster*), Bearded Barbet (*Lybius dubius*), Yellow-billed Shrike (*Corvinella corvine*), White-crowned Robin Chat (*Cossypha albicapilla*), White-fronted Black-Chat (*Myrmecocichla albifrons*), Blackcap Babbler (*turdoides reinwardtii*), Rufous Cisticola (*Cisticola rufus*), The Green-backed Eremomela (*Eremomela pusilla*), Sunbird (*Nectarinia coccinigaster*), Brown-rumped Bunting (*Emberiza affinis*), The Red-winged (*Pytilia phoenicoptera*), Red-Faced Aruroa (*Pytilia hypogrammica*), Bar-breasted Firefinch (*Lagonosticta rufopicta*), Black-bellied Firefinch (*Lagonosticta rara*), Black-throated Firefinch (*Lagonosticta larvata*), Lavender Waxbill (*Estrilda caerulescens*), the Bush

Petronia (*Petronia dentata*), Heuglin's Masked-Weaver (*Ploceus heuglini*), Purple Glossy Starling (*Lamprotornis purpureus*), Bronze-tailed Glossy-starling (*Lamprotornis chalcurus*) and the Piapiac (*Ptilostomus afer*) (Fishpool and Evans 2001). This site is therefore of importance in maintaining the biodiversity of this biome.

#### **Criterion 4:**

The wetlands support bird species at critical stages in their life cycle and provide refuge during adverse conditions in their home niche. Large flocks (>1000) of *Dendrocygna viduata* spend the dry season on the lake, while *Vanellus crassirostris* is known to breed on the Pandam Lake. Pel's Fishing Owl (*Scotopelia peli*) also occurs in this site and has been recorded as breeding here (Fishpool and Evans, 2001).

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**15. Biogeography** (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

a) **biogeographic region:**

Guinea Savanna

b) **biogeographic regionalisation scheme** (include reference citation):

Keay, R.W.J. (1959a). An outline of Nigerian vegetation. Lagos: Government Printer

Keay, R.W.J. (1959b). Derived savanna: derived from what? Bulletin de l'Ifan 21: 427-438

Keay, R.W.J. (1960). An example of Northern Guinea Zone vegetation in Nigeria. Nigeria Forestry Information Bulletin No 4. Lagos: Government Printer

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**16. Physical features of the site:**

Cretaceous sediments of the Lower Benue Basin underlie the Pandam Lake area. The rocks consist almost entirely of shales, silts and silty shales. Soils in the area are clayey. The soils and rocks form poor aquifers and consequently, ground water recharge is low. The generally impermeable formation has promoted the occurrence of high runoff, wide valleys and vast wetlands. The area is a gently undulating plain with a surface elevation of approximately 150m a.s.l. The plain drains southwards towards the River Benue.

The Pandam Lake lies within the flood plain of River Dep though about 750m away from the river at the closest point. The lake has two tributaries, each draining into one of its two arms. The lake is separated from the River Dep by a swamp that extends upstream along both tributaries of the lake to beyond latitude 8<sup>o</sup>42' N. There is no clear channel through which the overflow from the lake drains into the River dep. It appears that flow in the wetland is in two directions. When the river is at spate, water flows over the swamps into the lake. Flow is reversed when the water level in the river is lower than in the lake.

The climate is the Koppen's A<sub>w1</sub> (i.e. humid tropical wet and dry climate with almost equal length of rainy season and dry season) with a clearly marked dry season extending from November to April and a rainy season during the remainder of the year. Mean annual rainfall is 1200mm with a unimodal distribution during the rainy season. The peak of the season is between July and August. Mean temperatures range

from 26°C during the Harmattan to 35°C during the hot month of April and May. The dry season is dominated by dusty, northeasterly Harmattan winds.

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#### 17. Physical features of the catchment area:

This is an area with wide river valleys, lakes and wetlands. The largest lake in the area is the Lake Tabkin Oga. All the lakes and wetlands are associated with the River Dep and its main tributary, the Sarin Ruwa. The Pandam Lake does not have a direct outlet through a channel, but a large wetland separates it from R. Dep and overflow from the lake moves through the swamps to the R. Dep.

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#### 18. Hydrological values:

The lake and wetland may serve as sediment trap since they receive drainage from the erosion-prone foothills of the Jos Plateau and there is no direct connection between the wetlands and R. Dep. The area is forested and therefore with the exception of the areas opened up for cultivation, does not facilitate erosion. Thus sediments are mainly brought down from the plateau.

The soils and rocks form poor aquifers and therefore ground water recharge is low. The wetlands will serve to reduce the velocity of flow and thus enhance flooding.

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#### 19. Wetland Types

##### a) presence:

Circle or underline the applicable codes for the wetland types of the Ramsar "Classification System for Wetland Type" present in the Ramsar site. Descriptions of each wetland type code are provided in Annex I of the *Explanatory Notes & Guidelines*.

Inland: L • M • N • Q • P • Q • R • Sp • Ss • Tp • Ts • U •  
Va •  
Vt • W • Xf • Xp • Y • Zg • Zk(b)

##### b) dominance:

Tp, O

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## 20. General ecological features:

The area is within the Guinea Savanna, with characteristics consistent with those of the Southern Guinea savanna. Gallery forests fringe the valleys. The woodland vegetation in the area consists of *Burkia africana*, *Dentarium microcarpum*, *Combretum glutinosum*, *Isobertinia doka*, *Parkia biglobosa*, *Butyrospermum paradoxum*, *Daniellia oliveri* and *Gardenia aqualla*. Gallery forest species include *Azelia africana*, *Ceiba pentandra* and *Raphia sudanica*.

The lake supports large numbers of resident and migrant bird species, including inter-African and Palearctic birds. About 217 species of birds have been recorded in the area, including *Falco naumanni*, *Ceratogymna elata*, *Tauraco leucolophus*, *Merops bullocki*, *Scotopelia bouvieri* and *Scotopelia peli*. Large flocks (>1000) of *Dendrocygna viduata* spend the dry season on the lake, while *Vanellus crassirostris* breeds on the lake. The lake hosts several fish species that are economically important e.g. *Gymnarchus niloticus*, *Lates* sp., *Bagrus* sp. and *Hydrocynus* sp.

Mammals of global conservation concern such as *Tricherus senegalensis*, *Hippotragus equines* and *Syncerus caffer* have been observed in the surrounding Pandam Wildlife Park and wetlands. Fishing occurs in the lake while the surrounding wetlands are being gradually converted to farms. The rural population around the wetlands collect wild resources from the wetlands and the adjoining Park. Threats include poaching, livestock grazing and bush burning by pastoralists.

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## 21. Noteworthy flora:

The woodland vegetation in the area consists of *Burkia africana*, *Dentarium microcarpum*, *Combretum glutinosum*, *Isobertinia doka*, *Parkia biglobosa*, *Butyrospermum paradoxum*, *Daniellia oliveri* and *Gardenia aqualla*. Gallery forest species include *Azelia africana*, *Ceiba pentandra* and *Raphia sudanica*.

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## 22. Noteworthy fauna:

Birds include *Falco naumanni*, *Ceratogymna elata*, *Tauraco leucolophus*, *Merops bullocki*, *Scotopelia bouvieri*, *Scotopelia peli*, *Dendrocygna viduata*, and *Vanellus crassirostris*. Mammals of global conservation concern in the Park include *Hippotragus equines* and *Syncerus caffer*. Other mammals include the red river hog (*Potamochoerus porcus*), waterbuck (*Kobus ellipsiprymnus*) and a variety of monkeys. Apart from the West African manatee, the lake is also said to contain hippopotamus (*Hippopotamus amphibious*), the crocodile (*Crocodylus niloticus*) and a variety of fish species.

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## 23. Social and cultural values:

a) Describe if the site has any general social and/or cultural values e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values:

This is a site for fisheries production and forestry. Main values of the lake include tourism and an annual fishing festival.

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning?

If Yes, tick the box  and describe this importance under one or more of the following categories:

iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:

The site, through livestock grazing, bush burning, farming and harvesting of wild resources supports community livelihood and if community activities are not regulated, the ecological character of the wetland may be impaired. The site is known to be under tremendous pressure from poaching and the above-listed anthropic activities.

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#### 24. Land tenure/ownership:

##### a) within the Ramsar site:

Though Federal and State Laws alienate the communities, more so since the area was designated as a Park in 1972, the people operate as owners of the wetlands and adjoining territory. The Federal Government owns, by law, all the land in Nigeria and private ownership is contingent upon the issuance of a Certificate of Occupancy by a State Governor. Even this can be revoked if the government needs the land. However, government being far away (poor policing) in many instances, the local people use land as owners until evicted.

##### b) in the surrounding area:

Nasarawa State Government

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#### 25. Current land (including water) use:

##### a) within the Ramsar site:

Livestock grazing and fishing.

##### b) in the surroundings/catchment:

Rice farming, livestock grazing, poaching, forestry. A small village, Pandam (population c. 500) lies just south of the wetlands. There are very few villages within 10 km of the wetlands.

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#### 26. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

##### a) within the Ramsar site:

Overfishing and grazing are stressing the lake and wetland.

##### b) in the surrounding area:

Pressure from the rural population around the wetlands including poaching, overfishing, livestock grazing, and bush burning by pastoralists are adversely affecting the ecology of the area. A final and permanent straw would be the plan of the government to reclaim the wetlands surrounding the lake for rice growing schemes.

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**27. Conservation measures taken:**

a) List national and/or international category and legal status of protected areas, including boundary relationships with the Ramsar site: N/A

b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate):

Ia ; Ib ; II ; III ; IV ; V ; VI

c) Does an officially approved management plan exist; and is it being implemented?  
No

d) Describe any other current management practices:  
None

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**28. Conservation measures proposed but not yet implemented:**

The government has designed a management plan for the wetlands and the adjoining Pandam Wildlife Park, but it is yet to be implemented.

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**29. Current scientific research and facilities:**

The Important Bird Area survey has been conducted in the area.

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**30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:**

Not known.

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**31. Current recreation and tourism:**

The State Government supports an annual Fishing Festival on the lake. A tourist centre has been built in the Pandam Village. It is called the Pandam Tourist Village (Quan Pan Local Government Area). It consists of 20 chalets. The lake and wetlands are popular for bird watching.

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**32. Jurisdiction:**

Nasarawa State Ministry of Agriculture, Lafia

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**33. Management authority:**

Nasarawa State Ministry of Agriculture, Lafia

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**34. Bibliographical references:**

- BirdLife International 2007** BirdLife's online World Bird Database: the site for bird conservation. Version 2.1. Cambridge UK: BirdLife International
- Danjuma, D. F.** A comparison of bird species at Pandam Wildlife Park and the surrounding farmlands. [http://www.aplori.org/danjuma\\_df.pdf](http://www.aplori.org/danjuma_df.pdf)
- Ezealor A.U** ed. (2002) Critical sites for biodiversity conservation in Nigeria NCF, Lagos, Nigeria
- Fishpool and Evans** (2001) Important Bird Areas in Africa and associated islands: Priority sites for conservation. Newbury and Cambridge, UK : Pisces Publications and BirdLife International (BirdLife Conservation Series No. 11)
- Ita, E.O.** (1994) Aquatic plants and wetland wildlife resources of Nigeria. *CIFA Occasional Paper* No. 21. Rome, FAO. 52p
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- Keay, R.W.J. (1959b). Derived savanna: derived from what? *Bulletin de l'Ifan* 21: 427-438
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- Milego, C.** 1997. Management plan for Pandam Wildlife Park. Plateau State Tourism Corporation, Jos. Unpublished Report.
- Powell, J.A.** 1987 New light shed on Natural History of African manatees: Nigeria. *Sirenews* No 8. Oct 1987
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