

Information Sheet on Ramsar Wetlands (RIS)

— 2006-2008 version

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Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8th Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX. 22 of the 9th Conference of the Contracting Parties (2005).

Notes for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 7, 2nd edition, as amended by COP9 Resolution IX.1 Annex B). A 3rd edition of the Handbook, incorporating these amendments, is in preparation and will be available in 2006.
3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

1. Name and address of the compiler of this form:

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Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

10th October, 2008

3. Country:

The Gambia

4. Name of the Ramsar site:

Niumi National Park

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

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

a) Site boundary and area

The Ramsar site boundary and site area are unchanged:

or

If the site boundary has changed:

- i) the boundary has been delineated more accurately ; or
- ii) the boundary has been extended ; or
- iii) the boundary has been restricted**

and/or

If the site area has changed:

- i) the area has been measured more accurately ; or
- ii) the area has been extended ; or
- iii) the area has been reduced**

b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

7. Map of site:

Refer to Annex III of the *Explanatory Note and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

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) NB: As a print out of digital map: ;
- 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:

Niumi National Park – This Park occupies the coastal strip north of the river Gambia The Park is bordered by Barra, Essau, Mayamba, Medina Kanuma and Kanuma in the south; on the East by Mbollet ba and Mbankam villages; on the northern side we have the village of Bakindik and the Delta Du Saloum National Park of Senegal (the Northern limit of the Ramsar site is the border between Gambia and Senegal.). On the western front is the Atlantic Ocean. The boundary of the proposed Ramsar site is the same as the boundary of the National Park.

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

Central coordinates: 13°34'N 16°31'W

9. General location:

Niumi National Park occupies the coastal strip of the north bank of the river Gambia. Niumi extends to the Senegalese border where it joins with the Delta du Saloum National Park. Niumi essentially form the southern limit of the vast delta complex which is centered on the seasonal sine and Saloum Rivers. The site is located in the North Bank Region and especially in the Lower Niumi District/ It is located within easy access to Banjul city with a distance of 7 nautical miles and stretching all the way to the border of Senegal at Hamdallayi

10. Elevation: (in metres: average and/or maximum & minimum)

The average elevation within the park is <5.m with a maximum of c15.m the high ground occurs primarily along the Mansarinko Bolong where a sandy escarpment fringes what presumably was an ancient shoreline.

11. Area: NNP covers c4,940ha

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 current park boundary extends from Barra point at the mouth of the River Gambia north to the border covering the low sandy island of Jinack and east along the Mansarinko Bolong to the upper limit of saline intrusion

Niumi National Park encompasses a mosaic of wetlands and vegetation types, ranging from sand spits and brackish lagoons to seasonal freshwater marsh. The range of wetland types is listed in Annex 2. The average elevation within the park is <5.m with a maximum of c15.m the high ground occurs primarily along the Mansarinko Bolong where a sandy escarpment fringes what presumably was an ancient shoreline.

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

14. Justification for the application of each Criterion listed in 13 above:

Niumi National Park is part of the Western Africa Marine ecoregion. The NNP meets many criteria of a Wetland of International Importance and is part of the core zones of a potential Transboundary Biosphere reserve. In particular, it meets criteria 2, 3, 4, 5, 7 and 8

Criterion 2:

Niumi National Park shelters endangered species such as green turtle (*Chelonia mydas*) and Humpback dolphins (*Sousa teuzii*) and/or vulnerable species including manatees (*Trichechus senegalensis*) and clawless otters (*Anonyx capensis*).

Mammals of conservation concern in this site include the endangered Red Colobus (*Procolobus badius temminckii*, EN), while the African Manatee (*Trichechus senegalensis*, VU) may still occur. The manatee until recently was still persecuted within the park area and remains shy and elusive, though evidently present from recent local reports. The green turtle (*Chelonia mydas* (EN), has been recorded and there is some evidence of breeding (Paul Robinson, 2001).

Criterion 3:

A wide variety of faunal species are found in association with the various wetland habitat types within *Niumi National Park*. There is considerable overlap in the habitat utilized by any given species in general, though some species are more confined by their adaptation to either a freshwater or saline environment. One of the values of *Niumi* lies in the variety of habitat types found in close proximity which results in a rich array of ecotones.

The Jinack Island included in the Park has some narrow, sandy beaches facing the Atlantic, backed by sand-dunes, a coastal lagoon, seasonally wet salt marshes, narrow *Rhizophora* mangrove, mud flats and rice fields. The main land section of the Park has more extensive tall *Rhizophora* mangrove forest, small areas of salt marsh and mudflats. The Atlantic coast is notable for nationally high numbers of *Sterna dougallii* and, probably, several breeding pairs of the locally declining *Charadrius marginatus*. The tidal creeks, saltmarshes and rice-fields have generally low numbers of waterbirds, but *Limosa limosa* occasionally occurs in thousands (Paul Robinson, 2001).

The mangrove ecosystem is considered as vulnerable, it covers 600 ha in NNP. NNP is a continuum of Delta du Saloum Biosphere Reserve where it is found that more than 70 species of fish either reproduce or nurse in the mangrove. The swamp and the mudflats shelters more than 200 species of birds, crustaceans and planktons. The avifaunal diversity is remarkable, with total of 293 species from 63 families that have been recorded from Niimi National Park to date. See annex 3 for more details on avifaunal diversity in NNP.

The gallery forest in NNP shelters diverse fauna such as monkey: patas (*Erythrocebus patas*), green (*Cercopithecus aethiops*) and Gallago (*Galago galago*), hyenas (*Crocuta crocuta*), bucks (*Antelope cervicapra*), warthogs (*Phacochoerus aethiopicus*), etc.

Niimi National Park has currently 293 species listed from 63 families, 88 breed in the Palearctic. (AFRICAN WATERFOWL CENSUS REPORTS 1997, 1998, 1999, 2000. T.Dodman, Cor de Vaan, Edith Hubert and Claire Nivet) Published by Wetlands International, Wageningen, The Netherlands.)

See Annex 1 for the list of birds found in Niimi National Park.

Criterion 4:

Many terrestrial and aquatic species spend a part of their life cycle in NNP.

Palearctic birds spend winter time in NNP and Delta du Saloum National Park mudflats. The health of these mudflats is critical for wintering birds, since their reproduction in Siberia and North Europe and Canada depends on the fattening stage during winter season.

Research in Delta du Saloum have shown that more than 70 species of fish either spawn or nurse in the mangrove, In particular, shrimps species such as *Panaeus notialis* recruit in the mangrove ecosystem of the Saloum, Gambia and Casamance Rivers. NNP is crosses the two first cited rivers.

The sand beach of NNP is identified by DPWM and University of Exeter (UK) as nesting site for green turtles in 2006 survey

Large numbers of herons, egrets and terns regularly fly through the site into roosts in the Delta du Saloum National Park in Senegal

The sand beach is special place for green turtle (*Chelonia mydas*) nest.

Criterion 6:

The site is known to hold, on a regular basis, $\geq 1\%$ of the biogeographic population of the Sandwich Tern (*Sterna sandvicensis*). Other congregatory waterbird species such as Slender-billed Gull (*Larus genei*), Caspian Tern (*Sterna caspia*), and Royal Tern (*Sterna maxima*) are also supported by the resources from the site, however the supported population is just under the 1% threshold. They nevertheless contribute to the overall biodiversity of the biogeographic region (BirdLife International 2008).

Criterion 7:

The species observed and those reported to occur in the area were quite similar to those found at Tanbi Wetland Complex. Nonetheless, it should be mentioned that the amount of fry of the Great Africa threadfin (*Polydactylus quadrifilis*) seen here surpassed those found at any of the other sites sampled. Provided below is a list of the families of species observed and those reported to occur in the area.

Families of Fish

Families	Mangrove	Lagoons	Seasonally Flooded Areas	Coastal Strip
Cichlidae	X	X	X	
Clupeidae	X	X		X
Carangidae	X			X
Drepanidae	X			X
Elopidae	X	X		X
Gerreidae	X	X	X	X
Lutjanidae	X			X
Mugilidae	X	X	X	X
Polynemidae	X			X
Pomadasyidae	X	X		X
Sciaenidae	X	X		
Sparidae	X			X
Tetraodontidae	X			X

Aquatic Invertebrate:

Crustaceans: Shrimps were not observed in the invertebrate fauna during field assessments. It was however reported that they were in the area. Few individuals of gladiator swim crabs, (*Callinectes pallidus*) were observed in some of the lagoons near the Niji bolong. Numerous West African fiddler crabs were seen inhabiting in burrows near the water bodies at the creeks and lagoons. Many African ghost crabs, (*Ocypode Africana*) were observed at the coastal strip.

Molluscs:

The presence of dense vegetation of mangrove trees around the creeks may easily permit habitation by mangrove oysters, (*Grassostera tulipa*). It was reported that in the past large quantities of mangrove oysters were harvested around Kajata village for commercial purposes by the villagers. Other molluscs observed were whelks present in the mud near the water bodies in large amounts.

Criterion 8:

During the survey the species that were physically encountered belong to the families of the *Cichlidae*, *Clupeidae*, *Gerreidae*, *Mugilidae*, *Pomadasyidae* and *Polynemidae*. Apart from the few tilapia adults seen, all the other fishes were found in their early development stages, mostly as fry and juveniles. Scoop net trials in water bodies at the Niji bolong captured shads (*Ethmalosa fimbriata*) fry measuring an average length of 12 .0mm and Great Africa threadfins of 3.4cm (*total length*). Numerous fry and juveniles of mullets (*Mugil cephalus*), tilapia, Giant Africa threadfins (*Polydactylus quadrifilis*), shads and *flagfin mojarra* occur at the creeks and lagoons with salinities of 45.0% and below. Lagoons and ponds within the seasonally flooded

areas with salinities of 40.0-45.0‰ had low fish densities. Most of them were tilapia and mullets. Water bodies which recorded higher salinity levels did not have fish occurring in them. Many of the species that are known to be littoral at maturity were found at the mangrove creeks, lagoon and ponds near the creeks. The smallest fry were found in ponds where the depth was shallowest.

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

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) **biogeographic region:**

The site falls under the Senegal-Gambia Catchments Fresh water eco-region of the "Savanna-Dry Forest Rivers" bioregion. This is a tropical and subtropical eco-region in which rivers flow through landscapes dominated by grasslands, sometimes interspersed with tall shrubs and trees in an open formation.

Senegal-Gambia Catchments Freshwater Eco-region

b) **biogeographic regionalisation scheme** (include reference citation): WWF Freshwater Ecoregions of Africa and Madagascar

16. Physical features of the site:

Geology

Niumi National Park occupies the southern portion of the Sine – Saloum Delta and has a surface geology greatly influenced by the formation of a Ritz (drowned river valley within the Njii Bolong during the Noukachottian (7,000 to 3,650 YBP) (Whyte and Russel 1988). During this transgression sea level rose 3-4 m flooding much of what is now Niumi National Park resulting in sequences of unconsolidated sand silts and clay. Beaches and sand berms were subsequently left perched 4m above the existing high water mark, though have subsequently been eroded and re-worked. The sand deposits of the oceanic coast are referred to as the coastal Beach complex (IBID). The continental Terminal Series abuts onto this complex at Niumi with occasional exposure of laterite boulders as in the escarpment east to the Marsarinko Bolon. The Nouakchottian shoreline is evident along the Keur Sanyang Bolong where it forms low eroding cliffs. Jinack island and the mosaic of islands to the north which form the sine – Saloum delta are essentially shifting shoals of sand which have stabilized through colonization by vegetation though still maintain a degree of dynamism evident in the erosion – deposition occurring at the channel mouths e.g. Buniada point.

Soils

A detailed soil survey was conducted in the vicinity of Kajata and Niji on Jinack Island as part of the programme to rehabilitate rice fields which have been subject to saltwater intrusion over the last decade. The survey area was confined to two broad physiographic units the elevated sand dune complexes and the low – lying flood plain area. The sand dune complexes are composed of relatively young underdeveloped coarse textured soils that are low in nutrients and available water. The soil is unsuitable for most crops with the exception of coconuts. The low lying flood plain is loaded with sodium salts, though the soils are moderately drained and contain appreciable amounts of nutrients. The problem of excessive sodium could be overcome if sufficient water is available to leach it out (SWMU 1990).

Hydrology

The bolongs or creeks/tributaries of Niimi National Park are subject to the daily rhythm of the tides which have a maximum range of 2.0m on equinoxal springs. The freshwater input into the Kerr Sanyang and Sanchi Bolongs is negligible over the dry season. During the rains from May/June to October, the salinity of the bolongs decreases in the upper reaches. The low lying areas on Jinack island and on the mainland flood during the rains creating generally linear ponds and seasonal marshes in the salt pans and tamarisk scrub. The degree of flooding is a function of the extent of the rainfall, and in low – rainfall years flooding may be limited to relict bolongs. Flooded areas gradually recede as the dry season sets in and salinity of the water increases through evaporation.

The ground water table on the island of Jinack fluctuates between 3 and 5m depending on the season. The complexity of the aquifer in the area has not been thoroughly investigated, but in places freshwater is present at 3 to 4m depth less than 100m from the shoreline.

Climate

The Gambia is in the intertropical and its climate is generally described as Sudano-Sahalian. Rainfall concentrates between the months of June to October with a country average of 850mm per annum (Report of the ANR Working Group, 1996). The rainfall is generally less in the northern half of the country and greatest in the southwest. There has been a 25-30% decrease in annual average rainfall over the period 1950 to 1990s (Ibid).

17. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, and climate (including climate type).

Niimi National Park has two main creek systems running through it. The Niji bolong connects to the ocean immediately north of Barra point and to the Mansarinko Bolong at the Senegalese border thereby forming the island of Jinack. This bolong is subject to the regular diurnal tidal cycle and as it has a small catchment area there is relatively little seasonal variation in salinity. The Mansarinko bolong divides north of Mbankam to form the Keur Jatta and Duniajoe bolongs. These bolongs have a combined catchment in the region of 100 km² and resultantly have a marked seasonal variation in salinity. During the dry season hyper – saline conditions exist in the upper reaches due to limited tidal flushing and high evaporation rates. As the rains commence dilution occurs and the salinity levels reduces progressively. The associated vegetation with these bolongs is predominantly mangrove where there is a gentle gradient on the banks. Elsewhere, the vegetation ranges from woodland to grassland. There appears to be no associated aquatic vegetation within the bolongs with the exception of the mangrove complex.

18. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

The hydrological values of the wetland are one of the major reasons to classify NNP as a Ramsar site. The hydrological values are explained in section 14. They include

- flood control,
- groundwater replenishment,
- shoreline stabilization,
- sediment and nutrient retention and export,

The bolongs or creeks of Niimi National Park are subject to the daily rhythm of the tides, which have a maximum range of 2m on equinoxal springs. The freshwater input into the Keur Saniang

and Sanchi Bolongs is negligible over the dry season. During the rains from May/June to October/November, the salinity of the bolongs decreases in the upper reaches. Low-lying areas on Jinack Island and on the mainland flood during the rains creating generally linear ponds and seasonal marshes in the salt pans and Tamarisk, *Tamarix senegalensis* scrub. The degree of flooding is a function of the extent of the rainfall, and in low-rainfall years flooding may be limited to relict bolongs. Flooded areas gradually recede as the dry season sets in and salinity of the water increases through evaporation (Ramsar Wetland Study The Gambia, 1997).

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*.

Marine/coastal: A • B • C • D • E • F • G • H • I • J • K • Zk(a)
 Inland: L • M • N • O • P • Q • R • Sp • Ss • Tp • Ts • U • Va •
 Vt • W • Xf • Xp • Y • Zg • Zk(b)
 Human-made: 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • Zk(c)

b) dominance:

Mangrove forest (Type I) is predominant within Niimi National Park and is found along the Mansarinko and Niji Bolongs. The north – east tip of Jinack Island and the Mbankam spit have extensive stands of this forest type which is backed by scrub forest and bare tannes. Stands of riverine mangrove forest are found in the mid and upper tidal reaches of the Mansarinko Bolong, reaching heights up to 12m though generally less than 10m. On the spits opposite and to the south of Bakindik Koto, this forest type occurs on a peat deposit which sporadically in the Gambia as thin beds within the fluvial marine sequence (White and Russell, 1988).

The season saline flats (Type R) which are found within Niimi National Parks are distributed primarily on the landward side of the mangrove belt.

Areas peripheral to and often part of the saline flats and backing the mangrove forest in places develop as seasonal saline marshes (Type Ss) with a combination of halophytic species and various cyperaceous. As the dry season commences these areas undergo progressive desiccation and the vegetation cover dies back.

The head waters of the various bolongs both large and small support seasonal fresh water marshes (Type Ts). As the dry season advances most of these areas desiccate entirely or undergo an increase in salinity through evaporation and saline intrusion. Between Barra Point and Buniada Point the coastal profile is a gently shelving sand embayment with a predominantly northerly current.

The Mansarinko bolong is the main water body within the Niimi National Park and rises as two streams c1km inland. The freshwater flow (Type F) on these bolongs is negligible during the dry season and they are brackish to saline through out the year. The habitat associated with these water bodies includes mangrove forest; inter tidal mudflats and salt marsh. In their upper reaches freshwater pools persist into the dry season but ultimately dry completely.

The upper reaches of Keur Jatta and Duniajoe bolongs have seasonal freshwater follow (Type N). There are a number of other small bolongs both on the island of Jinack and on the mainland which are rain fed but due to small catchment areas are more prone to rapid salinisation through a combination of evaporation and intrusion

The northern tip of Jinack Island forms the estuary for a number of bolongs with seasonal freshwater flow. The bolongs are tidal for their entire dry season length and resultantly have extensive fringes of halophytic vegetation. The combined tidal outflow of these bolongs

meeting the northerly currents arising from the river Gambia have resulted in a sand bar formation (Type G) of Buniada Point.

The sand shoreline (Type E) between Barra and Buniada and the single coastal lagoon (Type J) occurring at Buniada Point on the north Shore of Jinack Island (occupying an area of ca 2ha) are the less dominant habitats in this national park . Finally there are very insignificant and temporal small spots of brackish seasonal lagoons occurring in the area.

Inter Tidal Marshes (Type H): Halophytic vegetation associated with salt pans has been referred to above and the same complex of species is also association with inter tidal marshes and seasonally flooded areas. On the island of Jinack the low lying nature of the island (essentially a vegetation spit) subjects a large portion of the island to seasonal flooding through rainfall. The salinity of these areas steadily rises due to residual salts and evaporation following the end of the rains and the dominant vegetation is essentially halophytic in nature. Rainfall swamps occur on the eastern side of the island and are utilized for rice cultivation. Parts of the seasonally flooded areas are also subject to periodic flooding during spring tides. Salt marshes are generally fringed by *Tamarix senegalensis* with occasional *Avicennia Africana*, *Adansonia digitata* occurs on slightly elevated land fringing the marshes.

Permanent Shallow Marine Waters (Type A): Between Barra Point and Buniada Point the coastal profile is a gently shelving sand embayment with a predominantly northerly current. The depth of water at high tide is in the region of 5 meters up to 2km offshore. There is considerable movement of sediments in the vicinity of Buniada Point where sand bars extend up to 2km to the west. Much of this sand deposition is the result of erosion further south along the shoreline of Jinack Island. Anecdotal information suggests that the beach in front of Madiyana Camp has been eroded by around 15m in the last two years. There appears to be little subtidal vegetation though the occasional presence of eel grass *cymodocea nodosa* along the shoreline which suggests there may be beds within the confines of the park.

- Intertidal forests, Mangrove forests (type I)
- Seasonal saline Flats (type R)
- Seasonal saline marshes (Ss)
- Seasonal freshwater marshes (Ts)
- Estuarine waters (type F)
- Seasonal rivers (type N)
- Intertidal sand and mud flats (type G)
- Sand Shores (type E)
- Coastal lagoons (type J)
- Brackish lagoons (type J)
- Seasonal freshwater marshes (type H)
- Seasonally wet salt marshes (type H)
- Permanent shallow marine waters (Type A)

20. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

The vegetation of Niimi National Park has to a greater or lesser degree been modified through anthropogenic factors, resulting today in a combination of derived and early successional vegetation types. The degree of modification varies according to the vegetation type and the proximity to settlement. On the mainland, extensive clearing for agriculture has followed a shifting pattern in the past with areas left to fallow allowing subsequent regeneration. Generally such areas are not cleared of the larger trees and this act as mother trees for natural

reseeding. The incidence of fire is also most prevalent on the mainland which kills young trees while scarring and weakening mature specimens. Utilization of the mangrove has been on limited scale in the past probably due to the preference for other timbers in construction, fencing, fuel wood requirements etc. The following major vegetation types can be distinguished.

Major Habitat/ Vegetation Types

Marine and Coastal

- Permanent Shallow Marine Waters
- Sand Shores
- Estuarine Waters
- Inter Tidal Sand and Mud Flats
- Inter Tidal Marshes
- Inter Tidal Forests
- Coastal Lagoons

Inland Wetlands

- Permanent Creeks
- Seasonal Creeks
- Seasonal Saline Flats
- Seasonal Saline Marshes
- Seasonal Freshwater Marshes
- Gallery Forest
- Dry Woodland and Wooded Grassland

See annex 2 for further details on habitat and vegetation types

Habitat Types and associated biodiversity

A wide variety of faunal species are found in association with the various wetland habitat types within *Niumi National Park*. There is considerable overlap in the habitat utilized by any given species in general, though some species are more confined by their adaptation to either a freshwater or saline environment. One of the values of *Niumi* lies in the variety of habitat types found in close proximity which results in a rich array of ecotones (see section on fauna-habitat association).

The greatest variation in biodiversity is found within the avifauna, which is composed of both resident and inter-African and Palearctic Migratory African species occur with many species utilizing the wetland areas for breeding and feeding purpose. In the early autumn the *Palearctic* migration gets underway and a large diversity and abundance of species accumulate in the wetlands of Niumi. Many of these birds will stop off to build up fat reserve after their migration before dispersing further into the continent. Niumi acts as one of the main staging post on the Palearctic migration, being located as it is at the mouth of the River Gambia. The river is apparently use as a corridor to the inland areas of the continent as well as providing extensive wintering grounds for many species. By the time the spring migration north commences, much of the Niumi wetlands have dried and its feeding value for waders and waterfowl is reduced. Nonetheless, it still holds valuable feeding and roosting for gulls, tens and certain wader species.

The waterways of *Niumi* are home to one of the region's rarer aquatic mammals: the West Africa manatee (*Trichechus senegalensis*). The manatee until recently was still persecuted within the park area and remains shy and elusive, though evidently present from recent local reports. The Atlantic humpbacked dolphin (*Sousa teuszii*) also utilizes the *Niumi* waterways and coastal waters. Crocodiles (*Crocodilus niloticus*) are resident within all of the permanent water bodies and some of the more secluded seasonal bolongs. In the latter areas, they occupy burrows over the period the bolong is dry which may be up to 6 months.

21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

The only available note worthy flora is attached as annex 2 of this document.

22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

Avifauna

Niumi National Park has currently 293 species listed from 63 families, 88 breed in the Palearctic. The park is contiguous with Sine-Saloum National Park in Senegal, and is centered around and inclusive of the coastal island of Jinack. Jinack contains a number of local communities which are all looking for new Jinack initiatives to generate economic activity. The present state is one of a locally depressed agricultural predicament. The island is divided from the Tanbi Wetland complex on the south bank with which it is intrinsically linked, by the estuary of the River Gambia.

Resident and migrant waterfowl

Rhizophora mangrove

The northern aspect of the park is demarcated by a labyrinth of Rhizophora mangrove creeks and channels that are presently not well researched in seasonal terms. At low tide in January extensive mud flats are exposed harboring a diverse range of feeding shorebirds that reflect the avifaunal content of the Bund Road area (Tanbi Wetland Complex) African Fish Eagle (*Haliaeetus vocifer*) and Goliath Heron (*Ardea goliath*) are commonly seen but not numerous. Ble-cheeked Bee Eater (*Merops persicus*) are particularly abundant also in January. The creek systems are used by a variety of kingfisher species both resident and regionally migrant.

Shoreline Shorebirds and Seabirds

The uninterrupted c 15 km shoreline of Jinack islands is a highway for constant streams of migrating flocks of turnstone (*Arenaria interpres*) and Sanderling (*Calidris alba*) in February-March. Grey plovers use the littoral to forage. Solitary and small group of palm-nut Vulture (*Gypohierax angolensis*) scavenge dead fish and good numbers of Osprey (*Pandion haliaetus*) sit directly on the sand to rest or eat prey during the movement north in February – early March (14 on 3km of beach March 1995 pers. Obs). Osprey is present in all months at this site.

Observations over the last decade suggests an increase of dry season Oystercatcher (*Haematopus ostralegus*) in The Gambia around Niumi increasingly bigger flocks are seen from Banjul crossing the estuary. Important stands of mixed gulls and terns accumulate at the

undisturbed northern tip of the island (e.g 500 Royal Terns (*Sterna maxima*) January 1994), it is proposed that increased observation time at this under-watched site would likely reveal Audouin's Gull (*Larus audouini*) and possibly Roseate Tern (*Sterna dougalli*). The first record for Arctic Tern (*S. paradisaea*) for over a decade was collected here in October 1994 in the same week that the species was found at Tanji Bird Reserve on the south coast (pers.obs.). The only modern Gambian coastal record for African skimmer (*Rynchops flavirostris*) is here also in September 1995 (pers.obs.). Large numbers of lesser-black-backed Gulls (*Larus fuscus*) assemble throughout the dry season.

Seasonal Pond and Streams

In years of heavy rain the island becomes centrally flooded with streams feeding out to the beach and creeks, while in years of poor rain it remain largely dry and crops fail. When inundated, these sites become rapidly colonised by African jacana (*Actophilornis africana*) and Greater Painted Snipe (*Rostratula benghalensis*) and when they recede and dry out after the wet-season much benefit is gleaned by foraging passage waders e.g 800 Black – tailed Godwit (*Limosa limosa*) feeding in a dried out field in February 95. Considerable areas remain flooded at least into February and provide feeding for a variety for waders.

Congregations of herons and egret species arrive to harvest stranded fish and Four-Banded Sandpiper (*Pterocles quadricinctus*) come at dusk to drink until it completely dries up. When flooded a diversity of ploceidae weavers and bishops, *Sylvinae cisticolas* and *prinias Timaliinae* babblers and Estrildidae waxbills breed in the damp rank vegetation. Didric cuckoo (*Chrysococcyx caprius*), Levillant cuckoo (*Clamator levillantii*) pin-tailed whydah (*Vidua macroura*) and village indigobird (*vidua chalybeate*) are all present seeking suitable hosts for their parasitic breeding habits and offer research potential.

Coastal Scrub and Palearctic Migrants

The mixed coastal scrub around the island is profuse in palearctic warbler life. A diversity of small palearctic insectivores, some on a brief loop type migratory passage e.g Garden Warbler (*sylvia boring*) exploit swampy Tamarisk and Andropegon to forage September-December. A number of other e.g Olivaceous, Melodious and sub-alpine warbler (*Hippolais pallida*, H. Polyglotta, *Sylvia cantillans*) are known to be more sedentary and use the abundant Acacia and ficus trees throughout their wintering stay. Earlier thoughts on strong southern Mediterranean links e.g Spain, between palearctic breeding birds and The Gambia are evidenced by the results of the Niimi ringing project. This was a small ringing project which was in operation for three seasons (1995-7) and was manned by visitors from October-April. A total of 34 palearctic passerine species have been handled up to April 1996. So far mistnetting has produced two species for The Gambia i.e Lesser Whitethroat (*sylvia curruca*) and European Scops owl (*Otus scops*).

Mammals

The mammalian fauna of The Gambia has been considerably depleted over the last century and few large mammals could be described as abundant with the exception of the warthog (*phacochoerus aethiopicus*) the vervet or green monkey (*Cercopithecus aethiops*) and the patas monkey (*Erythrocebus patas*)

Aquatic Mammal Diversity

West African Manatee:

The manatee (*Trichechus senegalensis*) is found in both Senegal and The Gambia inhabiting both coastal waters, rivers and lakes (Haltenorth and Diller 1980). It is tolerant of both salt and freshwater with a temperature range of 25-35°C. Being herbivorous, it is dependent on an ample supply of aquatic plants or riverside vegetation. Within Niimi it appears to feed on

mangrove (*Rhizophora* spp) primarily and possibly moves offshore to feed on the seagrass beds (*Cymodocea nodosa*). Being primarily nocturnal where it is subject to disturbance, it is difficult to gauge its abundance but to considerable hunting pressures up until quite recently it appears to have declined to a critically low level. Hunting was conducted by the construction a midwater platform from which foraging manatees were harpooned. The meat of the manatee is apparently very palatable and their hide is used in the making of "calosht" (baton of herding or protection).

There may be movement between the River Gambia and the Delta du Saloum but no details are known. There have anecdotal reports by fishermen of sightings several kilometers offshore.

Humpback Dolphin:

The humpback dolphin (*Sousa teuzii*) occurs along the West African coast from Mauritania southward occupying estuaries and coastal waters. The dolphin is known to utilize the inshore waters also on the coastal strip of Niimi and presumably moves into the bolongs also (dolphins have been reported in the Mansarinko and Niji bolongs though sufficient details to permit identification were not available). Within the Delta du Saloum numerous sightings have been made of this species well within the delta complex (Mairetg 1980). The estuary of the River Gambia especially the area around Dog Island (15 Km) south east of Barr point) is frequented by the humpback dolphin but it shares its range with the more widespread bottle-nosed dolphin (*Tursiops truncatus*) which is found up to 100km upriver.

There appears to be some seasonality to the movement of the humpback dolphin as few sightings have been made over the period from January to May. During October to December numerous sightings of dolphins were reported off Jinack Island with schools of up to 40 humpbacks seen (Paul Murphy). The dolphins are not actively persecuted though animals incidentally taken in fishing nets are generally consumed.

Clawless Otter:

The clawless otter (*Aonyx capensis*) has a virtual pan – African distribution south of the Sahara but appears to be no where common. It is thinly distributed throughout The Gambia and is considered to be nationally rare. Clawless otters are reported to be present within Niimi National Parks (DPWM files) though no evidence of the species was noted during the current survey. Given its general nocturnal activity and its ability to range over both terrestrial and aquatic habitats it is most probable that they still occur.

Terrestrial Mammal Diversity

Ungulates:

Both the oribi (*Ourebia ourebi*) and the bohor reedbuck (*Redunca redunca*) are reported to have been present within the Niimi National Parks in recent times (DPWM files) but no indications of the presence of either species was found during the current survey or in communication with local residents. The oribi and bohor reedbuck are founds within the Delta du Saloum National Parks and individuals may move into Niimi occasionally.

The bushbuck (*Tragelaphus scriptus*) is found throughout the parks where there is suitable cover but appears to be very secretive due to human disturbance. They appear to be most abundant on the island of Jinack and their tracks have been seen on the shoreline on a number of occasions.

Of the three species of duiker recorded from The Gambia, both Maxwell's (*Cephalophus monticola/maxwellii*) and the common or grey duiker (*Sylvicapra grimmia*) occur within Niimi. Owing to their shy behaviour and preference for dense thickets it is difficult to gauge their abundance but they appear to be widespread.

The warthog (*phacochoerus aethiopicus*), commonly referred to as the 'bushpig' within The Gambia is present within Niimi in apparently low numbers. This species appears to be more abundant in the Delta du Saloum National Parks and there is presumably some movement between the two parks. Owing to their depredations on agricultural crops, the warthog is listed under schedule IV of the wildlife Act (1997) as a vermin species and a licence is not required to hunt them. However all wildlife are given full protection within the protected areas of The Gambia and therefore the species should not be subject to persecution in Niimi. The relevant abundance of the warthog within The Gambia is probably a result of the dominance of Islam among Gambians.

Carnivores:

The leopard (*Panthera pardus*) has been recorded from Jinack island on a number of occasions in recent years and undoubtedly a small number of animals utilise the park as part of their range. Their extreme secretiveness and stealth allow them to go undetected, though an individual was sighted during day light hours in 1996 on the island of jinack. Again, the proximity of the Delta du Saloum National Parks has probably enabled this feline to maintain a hold within Niimi as surplus animals migrate out of their parental territory.

The caracal (*Felis caracal*), the serval (*Felis serval*) and the Africa wildcat (*Felis Sylvesters*) are known to occur within Niimi though it is difficult to determine their abundance. The western golden cat (*Profelis aurata*) may also be present but no records currently exist. The small cats have ample prey in the form of rodents and ground birds such as francolin (*Francolinus bicalcaratus*) and sand grouse (*Pterocles quadricinctus*). They are however, known to be prosecuted as evidenced by an incident in 1996 when a serval was captured and eaten on the island of Jinack.

The spotted hyena (*Crocuta crocuta*) is widespread within Niimi and its tracks are frequently seen. They appear to be generally solitary-presumably owing to the limited availability of prey and carrion but maintain contact through vocalising. Individuals have been observed foraging along the coastal strip for dead fish etc.

Other carnivores known to occur within he marsh mongoose (*Herpestes paludinosus*). The Egyptian mongoose (*H.ichneumo*). The slender mongoose (*H.sanguineus*), the banded mongoose (*Mungos mungo*), the Gambian mongoose (*M.gambianus*) and possibly the cusimanse (*Crossarchus obscurus*). The abundance of these smaller carnivores is currently not known.

Primates:

The red colobus (*Colobus badius temmincki*) is found in the denser woodland and remnant gallery forest areas and also sometimes utilizes the mangrove as a corridor or for roosting. The patas (*Erythrocebus patas*) is common within the park and is probably the most abundant primate due to its preference for open Savannah. Troops of up to 45 patas have been in the open grassed woodland west of Mbollet Bah. Vervet monkeys (*Cercopithecus aethiops*) are also widespread and appear to utilize the mangrove in the same way as the colobus.

The bushbaby or lesser galago (*Galago senegalensis*) is known to occur and is probably quite common though difficult to observe due to its nocturnal habits and arboreal habits. Baboons (*Papio cynocephalus anubis*) appear to use the parks only on a temporary basis, presumably moving between the Delta du Saloum to the north of the Niimi national park. No resident troop have identified within Niimi National Parks.

Other mammals

Crawshay's hare (*Lepus crawshayi*) is widely distributed within Niimi, as are the striped ground-squirrel (*Euxerus erythropus*) and the sun-squirrel (*Heliosciurus gambians*), the cane-cutter rat (*Thryonomys swinderianus*), the spring hare (*Pedetes capensis*) and the porcupine (*Hystrix cristate*). Smaller rodents are not well known, but include gerbils (*Gerbillidae*) and mice (*Muridae*). The hedgehog (*Erinaceus albiventris*) is most probably present and possibly also the armadillo (*Oryzomys afer*).

The bat's (*Chiroptera*) of Niimi National park have not been studied to date, though the following species have been recorded; the Gambian epauletted bat (*Epomophorus gambianus*), the Gambian slit-faced bat (*Nycteris gambianus*), other species present within the park.

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:

Current Socio-Economic Activities

Agriculture

The main agricultural activity within the wetland area is rice cultivation, which is conducted throughout the reserve much of the current cultivation techniques are extensive in nature and there is some degree of rotation in sites used on an annual basis.

Fishing

Despite the good fishing grounds within the bolongs and in the inshore waters, fishing activities are primarily at the subsistence level within Niimi National Park. A few individuals from each of the villages close to the bolongs are involved in gill netting on a part-time basis and fish traps are also utilized on the upper bolongs towards the end of the rains as the waters are subsiding. The catches are generally home consumed or bartered at the village level for other goods or services. On the Senegalese end of Jinack Island, the villages of Barra and Diatoko are more commercially oriented in their fishing activity which reaches the market of the larger towns.

Women are engaged in the harvesting of oysters clams and whelks in the Mansarinko and Niji Bolongs. The oysters are cut from the prop roots of mangroves, and the latter are gathered from sandbanks during spring tides. Again these activities are primarily at subsistence level though that is not to underscore their importance in the local economy and in nutrition.

Timber and Building Materials

The mangrove timber is valued for its resistance to insect damage and it is used primarily for cross-timbers and lath's in roofing. As the amount of timber available in the dry woodland diminishes through over-exploitation and excessive use of fire, it is being turned to more and more for use in the provision of fuelwood and fencing posts.

Palm fronds are used for a variety of purposes including thatching of roofs, fencing construction of "Kirinting" (Palisade strips used for fences, walls, ceilings etc) and basket making. The rhum palm (*Borassus aethiopicum*) swamp – date palm (*Phoenix reclinata*) and oil palm (*Elaeis guineensis*) are harvested off their leaves and with increasing demand, trees are often stripped of all but a tuft of emerging fronds. The elephant grass (*Andropogon gayanus*) is also harvested after reaching full maturity after the rains, when it provides stout and strong straw up to 2.5m in length. The grass is used in the construction of walls of house where it is surprisingly durable, and is also woven into 3m long sections used in fencing. The availability of good grass straw is reducing due to the dry season increase in livestock densities, which both consume and trample the grass.

Salt Production

The NGO Forut THE Gambia, has recently promoted the production of salt in the vicinity of the Mansarinko Bolong using evaporation pans. This activity is widespread in the Delta du Saloum National Park where it has been earnest though it is envisaged that it will produce a significant revenue for the communities of Niji and Kajata.

Livestock Grazing

Within Niuni National Park sheep and goats are grazed, being let to range over the bush land and on crop residues after the harvest. Small ruminants are generally grazed close to villages and are corralled within compounds overnight, cattle are corralled by tying to stakes in areas peripheral to the villages.

Other Activities

Palm wine tapping is carried out by a small number of people around the park. As the oil palm is confined to areas with high ground water levels, the decrease in rainfall over the last 2 decades is likely to restrict the occurrence of this species. Palm wine tapping is sustainable to a certain level but excessive tapping can lead to the death of the tree.

The harvesting of wild fruits is widespread through out the park and forms an important supplement to local diets and incomes where children often sell their harvest to raise funds for schoolbooks and fees. Numerous species are harvested including *Detarium senegalensis*, *Adansonia digitata*, *Acacia albida*, and *Saba senegalensis*. Excessive harvesting of wild fruits can lead to shortages for wild primates and other frugivorous species and in certain instance damage to the tree by unscrupulous lopping of branches to access fruits.

Potential Socio-Economic Activities

Tourism and Recreation

One of the main potential areas for economic development within the context of Niuni's wetland lies in the expansion of the tourism and recreational use of the area. This potential is one of the main focuses of the DPWM integration of local communities in to the benefits to be derived from the presence of the park. Opportunities exist for the provision of accommodation in the form of simple rondavels, guiding services for foot tourism, creek trips for bird – watching, dolphin and manatee watching, sport – fishing etc. and the development of subsidiaries such as local crafts and cultural displays.

These activities function to provide revenue directly to the communities as well as serving to highlight and underline the value of the local culture and traditions. To date within The Gambia there has been little development in the sector of ecotourism and the population at large sees little of the profits or benefits of tourism except through indirect employment. This approach has brought with it the negative aspects of tourists being harassed by would-be guides and a barrage of youths trying to make something to offer. The few that are befriended by tourists and receive some donation in money or kind serve to motivate the ever-increasing hordes to seek their luck in this degrading form of prostitution which fuels the rural armband rift. Directing the focus of support in the ecotourism sector towards the youth will serve to offer them both a challenge and opportunity to make an honest living in their own community.

To be successful however, there is a need for a change in current attitudes of the youth within both the park and The Gambia in general as typical encounters between tourists and youths can be fairly compared with scavengers on a kill. This relationship is unfortunately encouraged by many tourists who throw handfuls of sweets and small item to the swarms of children (some as young as 3 and 4) who descend upon the tourists. This abysmal behavior serves to demean

both parties and leads to an escalating and conflict-ridden problem which unless solved will serve to jeopardize any efforts at developing a sound ecotourism industry.

Balancing Economic Exploitation with Conservation

To full balance the economic exploitation of natural resources with conservation ideally requires a cost-benefit analysis of the various options of scenarios. This however is beyond the scope of this report and currently beyond the scope of DPWM. As a sound policy upon which to assess the values and demerits of any management strategy sustainability can be taken as a key concept invariably within the African environment, where natural ecosystems are still intact or nearly so, the adapted vegetation and functioning of the ecosystem in question can rarely be improved upon by man or its diversity recreated. Management strategies should therefore, be based upon utilizing the resources in a sustainable manner without jeopardizing the resource base or its ability to regenerate the principle of harvesting the surplus. This approach is of vital importance in dealing with sensitive ecosystems such as wetlands where numerous yet poorly understood subsidiary functions are at work to determine the sustainability though, will require continuous monitoring and evaluation and the intricacies of factors at work have to be separated out. On the ground the impact of livestock on shoreline stability and regeneration of trees can be difficult to separate from the natural erosion which coastal – dune systems are subject to, and the impact of fire on saplings. Where however, degradation of a resource base is occurring, it should be in the interest of the majority to ensure that the responsible activity is curtailed to regain the balance. When the vested interest of an individual is behind the erosion of the commonage the solution is more problematic and this unfortunately appears to be the scenario within the Niimi National Park.

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:

- i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:
- ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
- iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
- iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

24. Land tenure/ownership:

a) within the Ramsar site:

State owned land.

In the Gambia, all lands belong to government. We have traditional land ownership that is respected as they are always consulted before any attempt to gazette an area as a national protected area. The communities peripheral to protected areas are fully involved in the management of the area through the formation a Site Management Committee responsible for the management of the area. Nonetheless government recognizes their important role in biodiversity management and this is illustrated during the implementation of the ICAM project

with the distribution of more than \$8000.00 for bioright to local women association active in oyster collection in the Ramsar site.

b) in the surrounding area:

Government ownership but under Community land use

25. Current land (including water) use:

a) Within the Ramsar site:

Settlement on the island of Jinack has occurred only within the last hundred years. The mainland section of the park has been settled for an indeterminate time but extends back several generations. The two villages within the Gambian side of Jinack have a total of over 900 people (2003 census) Agricultural crops are traditionally grown on a shifting cultivation basis with land being left fallow for a number of years to allow a build up of nutrients. The use of fire combined with this practice has resulted in a significant modification of natural vegetation communities. Seasonally flooded areas towards the upper (freshwater) reaches of the bolongs and in rain fed swamps are used for rice cultivation and to a lesser degree for dry season vegetable production using hand dug wells for irrigation. Livestock is ranged throughout they are and let graze the crop residues after harvesting. During the dry season additional livestock are brought into the areas from further inland to take advantage of the grazing reserves in the coastal woodland.

Agricultural land is generally held in communal ownership with allocations as required being granted by the village head or Alkalo. Cultivation of agricultural land is done on a plot basis with a reciprocal approach to labour.

Despite the good fishing grounds within the bolongs and in the inshore waters, fishing activities are primarily at the subsistence level within Niimi National Park.

Harvesting of forest products such as Timber for some construction, fuel wood, palm fronts for construction of tatch roofs, ceilings baskets, etc., elephant grass for construction of walls and fences. Palm wine tapping is also carried out and thought to be relatively sustainable. Harvesting of wild fruits is also practiced at subsistent levels, to supplement local diets.

b) in the surroundings/catchment:

Human settlements,
Small agricultural schemes,
Horticulture
Some small industries.

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:

It was reported that, inhabitants of the area sometimes fish in the creeks with cast nets capturing mullets, tilapia, threadfins and shads specifically for domestic consumption. At the coastal strip, it was learnt that Senegalese fishermen occasionally ply the waters employing beach seines and landing considerate quantities of juveniles and sub-adults of compact grunts, (*Pomadasys jubelini*) croakers (*Pseudotolithus spp*) West African ladyfish (*Elops spp*), Jacks (*Caranx spp*) and other marine fishes.

The use of beach seine and the accompanying capture of juvenile and sub-adult fish may have a depletive impact on the young fish population in the future. Other animals such as crabs, skates and sea turtles which are usually included in these catches are also susceptible to this potential danger.

The degree of Salinisation (up to 70%) in some of the water bodies is an indication of the need to monitor salinity trends and the possible impact they might have on the *piscifauna* in the area. Apart from some bivalves and gastropods, animal life was virtually absent in the water bodies with salinities greater than 55%.

The mammals of the Niimi National Parks suffer from two main threats, namely illegal hunting and habitat degradation. With the establishment of a Niimi National Parks Management committee in 1996, the former threat appears to have subsided but there have been numerous incidents over the last years to indicate that there is still considerable hunting activity within the bounds of the park. Habitat degradation results from diverse factors including anthropogenic activities such as the setting of fires, clearance of land for agriculture, sand-mining and harvesting of timber. The steady reduction in rainfall has reduced the harvesting of timber. The steady reduction in rainfall has reduced the seasonal flow of the various bolongs (*tributaries*) and in combination with the anthropogenic factors is affecting the vegetation of the gallery forest and the extent of rain fed swamp vegetation of the associated watercourses.

Niimi National Park has been subjected to the same pressure as elsewhere in The Gambia which have brought about the decline in large mammals, including persistent traditional hunting, frequent bust-first, a rapidly expanding human population and the been somewhat lessened due to the diversity of habitats within Niimi and its proximity to the Delta du Saloum National Park. With adequate protection and a more sustainable approach to land use, it is conceivable that the remaining large mammals could recover in numbers through reproduction and immigration. The small mammalian fauna has been less subject to the pressures outlined above. However the focus of hunters has switched to the smaller species as the larger ones becomes scarcer, and the reduction in habitat diversity inevitably takes its toll on the more specialized species.

Expansion of agricultural activity reduces the availability of corridors for movement of wildlife, and increased human activity may further exacerbate this isolation factor. Should there be further expansion, many larger mammals may become restricted to enclave which are insufficient to meet their requirements or isolate a population too small to be genetically viable.

The apparent increase in grazing pressure from livestock brought into the park during the dry season has a direct impact on the standing crop of herbage available for wild ungulates, as having the effect of reducing the amount of cover for wildlife in general. On the island of Jinack, the cattle are limiting the regeneration of trees and shrubs through browsing and trampling. The pioneer zone of vegetation on the dune front is also being damaged through trampling thereby increasing the risk of coastal erosion to which the island is extremely vulnerable.

Livestock number is seasonally augmented during the dry season as cattle are brought to the coastal area to avail of the better grazing. On the island of Jinack, the number of cattle appears to double during the dry season and they are ranged over the entire island. In recognition of the impact that small stock were having on the regeneration of trees on the island the communities of Njie and Kajata have regulated the numbers of small stock. The impact of cattle on regeneration is less obvious but there is indication that through browsing

and trampling damage to young saplings is occurring and the sensitive coastal vegetation (i.e. the pioneer zone of plants on the dune fringe) is being degraded thereby exposing the stabilized dunes to erosion. There is quite clearly a need to determine an appropriate stocking density for the various ecological zones of the park and to regulate grazing to a sustainable level.

The increased fishing effort in the coastal waters and inland belongs, requires regulation in terms of methodology and mesh size to avoid impacting negatively on both the breeding and recruitment stocks. A reduction in the fish populations may result in a decrease in the utilization of the area by the humpbacked and bottle-nosed dolphins.

Sand Mining

No mining of sand is permitted within the confines of the National Park and all sand mining activities are under the control of the Geological Unit under the Ministry of Local government and lands, However, in closed canopy dry woodland to the north of Kanuma extensive mining of sand has been taking place over the last decade with serious negative consequences for the trees in the vicinity of the site. The excavation has left numerous trees standing on pedestals of soil 2m above the current ground level. Efforts are being made to control this activity through the cooperation of the Department of Parks and Wildlife Management, Geological Unit and the National Environment Agency.

27. Conservation measures taken:

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

In particular, if the site is partly or wholly a World Heritage Site and/or a UNESCO Biosphere Reserve, please give the names of the site under these designations.

Niumi National Park has been demarcated as the core area of a potential Transfrontier Biosphere reserve and Ramsar site involving the Delta du Saloum in Senegal at the other side of the Senegalo-Gambian border.

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?:

NNP has a draft management plan that is undergoing an update with the active involvement of the Programme Regional de Conservation Marine (PRCM). The process of updating involves the future conduct of a social framework process.

d) Describe any other current management practices:

NNP is managed by the Department of Parks and Wildlife Management (DPWM) with the backup of the PRCM who promised to provide some additional staff, logistics and administrative facilities.

The focus of land use management within Niumi has been directed back to the communities through the establishment of a management committee. This committee has its vested interest in the sustainable utilization of natural resources as their children stand to inherit whatever is left in their wake. If necessity in making the right decisions is the ability to assess each decision on the basis of its short and long term pros and cons, which may need to take the

guise of an environmental impact assessment for major decision or simply a good brainstorming for the minor ones.

28. Conservation measures proposed but not yet implemented:

e.g. the updated management plan and design of a transboundary Ramsar site management plan are in progress; the proposed designation of the site as the core area of a potential Biosphere reserve to be finalized soon.

The area has been gazetted as a national protected area.

Management Plans for endangered species such as Manatees, Turtles and dolphins are expected to be designed and implemented through ICAM project. Social, cultural and economic rights of the local people to the wetland require that management seeks collaborative support to ensure the sustainability of wetland use.

During this coming year, the PRCM will be very active in the area because of its location as a marine protected area in the West African ecoregion, managed by the PRCM.

29. Current scientific research and facilities:

e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

After the species surveys (mainly sea turtles, manatee and cetaceans) of the ICAM project in the Niimi National Park, weekly and monthly monitoring programmes are in place for data collection and database inputs for future management purposes. Presently species action plans are available and the DPWM is seeking financial support through the ICAM project phase 2 for their implementation.

The updating of the NNP management plan is under process by the PRCM. ICAM project intends also to build a biodiversity monitoring system for the DPWM in which NNP is included.

The Wings Over Wetland project, is presently updating the management plan in view of synchronizing the Niimi management with the Delta du Saloum one for a transboundary Ramsar site management plan as a major objective of the said project.

The monitoring of the breeding colonies of migratory bird is also a very important component of the project. This prompted the training of field staff and volunteers from local communities of the area in monitoring techniques and data collection this past week.

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

e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

There is no facility of this nature but the PRCM (under the RAMAO) has improved the status of the office, and presently the Wings Over Wetlands project is developing some ecotourism facilities in the premises for sensitization purposes.

31. Current recreation and tourism:

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

Many foreign tourists visit NNP through the neighbouring Senegalese national park (Delta du Saloum) but also a small number through the Gambia, but there is no strong statistical system to estimate the rate of use.

32. Jurisdiction:

The Director: Mr Alpha Omar Jallow of parks is directly responsible.
The Director-Department of Parks and Wildlife Management (DPWM) c/o Department of state for Forestry and the environment, State House, P.O. Box 577, Banjul, The Gambia

33. Management authority: Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

The NNP is locally managed by staffs that comprised of a warden, 4 rangers and 4 community volunteers.

Department of Parks and Wildlife Management
Abuko Nature Reserve
C/o Department of State for Forestry and Environment
State House, Banjul The Gambia
Telephone (220) 4376972/3, 4375888
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Email: wildlife@gamtel.gm ,
alphaojay@gmail.com,
alagie33@hotmail.com,
otouray2000@yahoo.com,
otouray@dosfen.gov.gm ,
oustouray@gmail.com

34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

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Annex 1
LIST OF BIRDS IN NIUMI NATIONAL PARK

<u>NAME OF BIRDS</u>	<u>SCIENTIFIC NAME</u>	
Pink-backed Pelican	<i>Pelecanus rufescens</i>	1
Hammerkop	<i>Scopus umbretta</i>	2
Long Tailed Cormorant	<i>Phalacrocorax africanus</i>	3
Cattle Egret	<i>Bubulcus ibis</i>	4
Squacco Heron	<i>Ardeola ralloides</i>	5
Black Egret	<i>Egretta ardesiaca</i>	6
Western Reef Heron	<i>Egretta gularis</i>	7
Little Egret	<i>Egretta garzetta</i>	8
Great White Egret	<i>Egretta alba</i>	9
Grey Heron	<i>Ardea cinerea</i>	10
White Faced Whistling Duck	<i>Dendrocygna viduata</i>	11
Sacred Ibis	<i>Threskiornis aethiopicus</i>	12
African Harrier Hawk	<i>Polyboroides typus</i>	13
Pied Crow	<i>Corvus albus</i>	14
Hooded Vulture	<i>Necrosyrtes monachus</i>	15
Black Kite	<i>Milvus migrans</i>	16
Shikra	<i>Accipiter badius</i>	17
Lizard Buzzard	<i>Kaupifalco monogrammicus</i>	18
Grey Kestrel	<i>Falco ardosiaceus</i>	19
Double Spurred Francolin	<i>Francolinus bicalcaratus</i>	20
Black Crake	<i>Amaurornis flavirostris</i>	21
African Jacana	<i>Actophilornis africanus</i>	22
Senegal Thick-Knee	<i>Burhinus senegalensis</i>	23
Spur Winged Plover	<i>Vanellus spinosus</i>	24
Senegal Wattled Plover	<i>Vanellus senegallus</i>	25
Grey Plover	<i>Pluvialis squatarola</i>	26
Ringed Plover	<i>Charadrius hiaticula</i>	27
Eurasian Curlew	<i>Numenius arquata</i>	28
Whimbrel	<i>Numenius phaeopus</i>	29
Bar Tailed Godwit	<i>Limosa lapponica</i>	30
Common Green Shank	<i>Tringa nebularia</i>	31
Common Sand Piper	<i>Actitis hypoleucos</i>	32
Eurasian Oyster Catcher	<i>Haematopus ostralegus</i>	33
Black Winged Stilt	<i>Himantopus himantopus</i>	34
Ruddy Turnstone	<i>Arenaria interpres</i>	35
Grey-Headed Gull	<i>Larus cirrocephalus</i>	36
Slender Billed Gull	<i>Larus genei</i>	37
Lesser Black-Backed Gull	<i>Larus fuscus</i>	38
Caspian Tern	<i>Sterna caspia</i>	39
Royal Tern	<i>Sterna maxima</i>	40
White-Winged Black Tern	<i>Chlidonias leucopterus</i>	41
Laughing Dove	<i>Streptopelia senegalensis</i>	42
Speckled Pigeon	<i>Columba guinea</i>	43

<u>NAME OF BIRDS</u>	<u>SCIENTIFIC NAME</u>	
Namaqua Dove	<i>Oena capensis</i>	44
Red-Eyed Dove	<i>Streptopelia semitorquata</i>	45
Vinaceous Dove	<i>Streptopelia vinacea</i>	46
Black-Shouldered Kite	<i>Elanus caeruleus</i>	47
Black Magpie	<i>Ptilostomus afer</i>	48
Senegal Coucal	<i>Centropus senegalensis</i>	49
African Palm Swift	<i>Cypsiurus parvus</i>	50
Green Wood Hoopoe	<i>Phoeniculus purpureus</i>	51
Pied King Fisher	<i>Ceryle rudis</i>	52
Blue-Bellied Roller	<i>Coracias cyanogaster</i>	53
Abyssinan Roller	<i>Coracias abyssiniica</i>	54
Blue-Heeked Bee-Eater	<i>Merops persicus</i>	55
Little Bee-Eater	<i>Merops pusillus</i>	56
Ring-Necked Parrot	<i>Psittacula krameri</i>	57
Senegal Parrot	<i>Poicephalus senegalus</i>	58
Western Grey Plantain-Eater	<i>Crinifer piscator</i>	59
Bearded Barbet	<i>Lybius dubius</i>	60
Red-Billed Horn Bill	<i>Tockus erythrorhynchus</i>	61
African Grey Horn Bill	<i>Tockus nasutus</i>	62
Greater Honey Guide	<i>Indicator indicator</i>	63
Crested Lark	<i>Galerida cristata</i>	64
Red Chested Swallow	<i>Hirundo lucida</i>	65
Fork-Tailed Drongo	<i>Dicrurus adsimilis</i>	66
Yellow Wagtail	<i>Motacilla flava</i>	67
Common Bulbul	<i>Pycnonotus barbatus</i>	68
Brown Babbler	<i>Turdoides plebejus</i>	69
Zitting Cisticola	<i>Cisticola juncidis</i>	70
Tawny Flanked Prinia	<i>Prinia subflava</i>	71
Beautiful Sunbird	<i>Nectarinia pulchella</i>	72
Yellow-Crowned Gonolek	<i>Laniarius barbarus</i>	73
Yellow-Billed Shrike	<i>Corvinella corvina</i>	74
Long-Tailed Glossy Starling	<i>Lamprotornis caudatus</i>	75
House Sparrow	<i>Passer domesticus</i>	76
Grey-Headed Sparrow	<i>Passer griseus</i>	77
White Billed Buffalo Weaver	<i>Bubalornis albirostris</i>	78
Village Weaver	<i>Ploceus cucullatus</i>	79
Red Billed Fire Finch	<i>Lagonosticta senegala</i>	80
Great Reed Warbler	<i>Acrocephalus arundinaceus</i>	81
Sedge Warbler	<i>Acrocephalus schoenobaenus</i>	82
Reed Warbler	<i>Acrocephalus scirpaceus</i>	83
Darter	<i>Anhinga melanogaster</i>	84
Mouse-Brown Sunbird	<i>Anthreptes gabonicus</i>	85
Pygmy Pipit	<i>Anthreptes platura</i>	86
Tawn Pipit	<i>Anthus campestris</i>	87
Red-Throated Pipit	<i>Anthus cervinus</i>	88
Tree Pipit	<i>Anthus trivialis</i>	89
Little Swift	<i>Apus affinis</i>	90

<u>NAME OF BIRDS</u>	<u>SCIENTIFIC NAME</u>	
European Swift	<i>Apus apus</i>	91
Pallid Swift	<i>Apus pallidus</i>	92
Tawny Eagle	<i>Aquila rapax</i>	93
Goliath Heron	<i>Ardea goliath</i>	94
Black-Headed Heron	<i>Ardea melanocephala</i>	95
Purple Heron	<i>Ardea purpurea</i>	96
Senegal Batis	<i>Batis Senegalensis</i>	97
Spotted Eagle-owl	<i>Bubo africanus</i>	98
Verreaux's Eagle-owl	<i>Bubo lacteus</i>	99
Abyssinian Ground Hornbill	<i>Bucorvus abyssinicus</i>	100
Yellow-billed Oxpecker	<i>Buphagus africanus</i>	101
Grasshopper Buzzard	<i>Butastur rufipennis</i>	102
Green-backed Heron	<i>Butorides striatus</i>	103
Sanderling	<i>Calidris alba</i>	104
Dunlin	<i>Calidris alpina</i>	105
Red Knot	<i>Calidris canutus</i>	106
Curlew Sandpiper	<i>Calidris ferruginea</i>	107
Little stint	<i>Calidris minuta</i>	108
Grey-backed <i>Camaroptera</i>	<i>Camaroptera brachyuran</i>	109
Golden-tailed Woodpecker	<i>Campethera abingoni</i>	110
Fine-spotted Woodpecker	<i>Campethera punctuligera</i>	111
Long-tailed Nightjar	<i>Caprimulgus climacurus</i>	112
Black & White Casqued Hornbill	<i>Ceratogymna subcylindricus</i>	113
Pied Kingfisher	<i>Ceryle rudis</i>	114
Kentish Plover	<i>Charadrius Alexandrinus</i>	115
Little Ringed Plover	<i>Charadrius dubius</i>	116
White-fronted Sand Plover	<i>Charadrius marginatus</i>	117
Kittlitz's Sand-Plover	<i>Charadrius pecuarius</i>	118
Black Tern	<i>Chlidonias niger</i>	119
Diederik Cuckoo	<i>Chrysococcyx caprius</i>	120
Amethyst Starling	<i>Cinnyricinclus leucogaster</i>	121
Brown Snake-eagle	<i>Circaetus cinereus</i>	122
Short-toed Eagle	<i>Circaetus gallicus</i>	123
Marsh Harrier	<i>Circus aeruginosus</i>	124
Montagu's Harrier	<i>Circus pygargus</i>	125
Stifling Cisticola	<i>Cisticola brachyptera</i>	126
Singing Cisticola	<i>Cisticola cantans</i>	127
Winding Cisticola	<i>Cisticola galactotes</i>	128
Whistling Cisticola	<i>Cisticola lateralis</i>	129
Rufous Cisticola	<i>Cisticola rufa</i>	130
Great spotted Cuckoo	<i>Clamator glandarius</i>	131
Malachite Kingfisher	<i>Corythornis cristata</i>	132
Snowy-crowned Robin-chat	<i>Cossypha niveicapilla</i>	133
Western Grey Plantain-eater	<i>Crinifer piscator</i>	134
Temminck's Courser	<i>Cursorius temminckii</i>	135
European House Martin	<i>Delichon urbica</i>	136
Cardinal Woodpecker	<i>Dendropicos fuscescens</i>	137

<u>NAME OF BIRDS</u>	<u>SCIENTIFIC NAME</u>	
Grey Woodpecker	<i>Dendropicos goertae</i>	138
Gambian puff-back	<i>Dryoscopus gambensis</i>	139
Yellow-billed Egret	<i>Egretta intermedia</i>	140
Grey-backed Eremomela	<i>Eremomela icteropygialis</i>	141
Green-backed Eremomela	<i>Eremomela canescens</i>	142
Chestnut-backed finch-lark	<i>Eremopterix leucotis</i>	143
Red-cheeked Cordon-bleu	<i>Estrilda bengala</i>	144
Lavender Waxbill	<i>Estrilda caerulescens</i>	145
Orange-cheeked Waxbill	<i>Estrilda Melpoda</i>	146
Black-rumped Waxbill	<i>Estrilda troglodytes</i>	147
Yellow-crowned Bishop	<i>Euplectes afer</i>	148
Black-winged Red Bishop	<i>Euplectes hordeaceus</i>	149
Red Bishop	<i>Euplectes orix</i>	150
Broad-billed Roller	<i>Eurystomus glaucurus</i>	151
Lanner Falcon	<i>Falcon biarmicus</i>	152
Red-necked Falcon	<i>Falco chicquera</i>	153
African Hobby	<i>Falco cuvieri</i>	154
Hobby	<i>Falcon subbuteo</i>	155
Common Kestrel	<i>Falco tinnunculus</i>	156
Pied Flycatcher	<i>Ficedula hypoleuca</i>	157
Common Snipe	<i>Gallinago gallinago</i>	158
Gull-billed Tern	<i>Gelochelidon nilotica</i>	159
Pratincole	<i>Glareola pratincola</i>	160
Pearl-spotted Owlet	<i>Glaucidium perlatum</i>	161
Palm-nut Vulture	<i>Gypohierax angolensis</i>	162
African White-backed Vulture	<i>Gyps africanus</i>	163
Ruppell's Griffon	<i>Gyps rueppellii</i>	164
Striped Kingfisher	<i>Halcyon chelicuti</i>	165
Grey-headed Kingfisher	<i>Halcyon leucocephala</i>	166
Blue-breasted Kingfisher	<i>Halcyon malimbica</i>	167
Woodland Kingfisher	<i>Halcyon senegalensis</i>	168
African Fish Eagle	<i>Haliaetus vocifer</i>	169
African Hawk Eagle	<i>Hieraetua spilogaster</i>	170
Olivaceous Warbler	<i>Hippolais pallida</i>	171
Melodious Warbler	<i>Hippolais polyglotta</i>	172
Red-rumped Swallow	<i>Hirundo daurica</i>	173
African Swallow	<i>Hirundo lucida</i>	174
European Swallow	<i>Hirundo rustica</i>	175
Mosque Swallow	<i>Hirundo sengalensis</i>	176
Wire-tailed Swallow	<i>Hirundo smithii</i>	177
British Storm-petrel	<i>Hydrobates pelagicus</i>	178
Lesser Honeyguide	<i>Indicator minor</i>	179
Wryneck	<i>Jynx torquilla</i>	180
Bar-breasted Firefinch	<i>Lagonosticta rufopicta</i>	181
Greater blue-eared Glossy Starling	<i>Lamprotornis chalybaeus</i>	182
Lesser Blue-eared Glossy Starling	<i>Lamprotornis chloropterus</i>	183
Purple Glossy Starling	<i>lamprotornis purpureus</i>	184

<u>NAME OF BIRDS</u>	<u>SCIENTIFIC NAME</u>	
Isabeline Shrike	<i>Lanius isabellinus</i>	185
Woodchat Shrike	<i>Lanius senator</i>	186
Black-headed Gull	<i>Larus ridibundus</i>	187
Marabou Stork	<i>Leptoptilos crumeniferus</i>	188
Black-tailed Godwit	<i>Limosa limosa</i>	189
Grasshopper Warbler	<i>Locustella naevia</i>	190
Bronze Mannikin	<i>Lonchura cucullata</i>	191
Silver-bill	<i>Lonchura malabarica</i>	192
Long-crested Eagle	<i>Lophaetus occipitalis</i>	193
Nightingale	<i>Luscinia megarhynchos</i>	194
Blue-throat	<i>Luscinia svecica</i>	195
Vieillot's Barbet	<i>Lybius vieilloti</i>	196
Jack Snipe	<i>Lymnocyptes minimus</i>	197
Sulphur-breasted Bush-shrike	<i>Malaconotus sulfureopectus</i>	198
Giant Kingfisher	<i>Megaceryle maxima</i>	199
Black Flycatcher	<i>Melaenornis edolioides</i>	200
Dark Chanting Goshawk	<i>Melierax metabates</i>	201
White-throated Bee-eater	<i>Merops albicollis</i>	200
European Bee-eater	<i>Merops apiaster</i>	203
Swallow-tailed Bee-eater	<i>Merops hirundineus</i>	204
Gabar Goshawk	<i>Micronisus gabar</i>	205
White Wagtail	<i>Motacilla alba</i>	206
Spotted Flycatcher	<i>Muscicapa striata</i>	207
Yellow-billed Stork	<i>Mycteria ibis</i>	208
Northern Ant-eater Chat	<i>Myrmecocichla aethiops</i>	209
White-fronted Black Chat	<i>Myrmecocichla albifrons</i>	210
Splendid Sunbird	<i>Nectarinia coccinigaster</i>	211
Copper Sunbird	<i>Nectarinia cuprea</i>	212
Scarlet-chested Sunbird	<i>Nectarinia senegalensis</i>	213
Brubru	<i>Nilaus afer</i>	214
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	215
Wheatear	<i>Oenanthe oenanthe</i>	216
African Golden Oriole	<i>Oriolus auratus</i>	217
Quail Finch	<i>Ortygospiza atricollis</i>	218
White-faced Scops Owl	<i>Otus leucotis</i>	219
European Scops Owl	<i>Otus scops</i>	220
African Scops Owl	<i>Otus senegalensis</i>	221
Levaillant's Cuckoo	<i>Oxylophus levaillantii</i>	222
Osprey	<i>Pandion haliaetus</i>	223
White-shouldered Black Tit	<i>Parus leucomelas</i>	224
Golden Sparrow	<i>Passer luteus</i>	225
Bush Petronia	<i>Petronia dentate</i>	226
White-breasted Cormorant	<i>Phalacrocorax carbo</i>	227
Ruff	<i>Philomachus pugnax</i>	228
Greater Flamingo	<i>Phoenicopterus ruber</i>	229
Black Wood-hoopoe	<i>Phoeniculus aterrimus</i>	230
Redstart	<i>Phoenicurus phoenicurus</i>	231

<u>NAME OF BIRDS</u>	<u>SCIENTIFIC NAME</u>	
Bonelli's Warbler	<i>Phylloscopus bonelli</i>	232
Chiffchaff	<i>Phylloscopus collybita</i>	233
Willow Warbler	<i>Phylloscopus trochilus</i>	234
Brown-backed Woodpecker	<i>Picoides obsoletus</i>	235
African Spoonbill	<i>Platalea alba</i>	236
Common Wattle-eye	<i>Platysteira cyanea</i>	237
Spur-winged Goose	<i>Plectropterus gambensis</i>	238
Chestnut Crowned Sparrow-weaver	<i>Plocepasser superciliosus</i>	239
Heuglin's Masked Weaver	<i>Ploceus heuglini</i>	240
Little Weaver	<i>Ploceus luteolus</i>	241
Black-headed Weaver	<i>Ploceus melanocephalus</i>	242
Black-necked Weaver	<i>Ploceus nigricollis</i>	243
Vitelline Masked Weaver	<i>Ploceus vitellinus</i>	244
Yellow-rumped Tinkerbird	<i>Pogoniulus bilineatus</i>	245
Martial Eagle	<i>Polemaetus bellicosus</i>	246
River Prinia	<i>Prinia fluviatilis</i>	247
Crested Helmet-shrike	<i>Prionops plumata</i>	248
Fanti Saw-wing	<i>Psaldiprocne obscura</i>	249
Four-banded Sandgrouse	<i>Pterocles quadricinctus</i>	250
Stone Partridge	<i>Ptilopachus petrosus</i>	251
Bulbul	<i>Pycnonotus barbatus</i>	252
Yellow Penduline Tit	<i>Remiz parvulus</i>	253
European Sand Martin	<i>Riparia riparia</i>	254
Painted Snipe	<i>Rostratula benghalensis</i>	255
African Skimmer	<i>Rynchops flavirostris</i>	256
Knob-billed Duck	<i>Sarkidiornis melanotos</i>	257
Whinchat	<i>Saxicola rubetra</i>	258
White-rumped Seed-eater	<i>Serinus leucopygius</i>	259
Yellow-fronted Canary	<i>Serinus mozambicus</i>	260
Whitethroat	<i>Sylvia communis</i>	261
Speckle-fronted Weaver	<i>Sporopipes frontalis</i>	262
Chestnut-bellied Starling	<i>Spreo pulcher</i>	263
Arctic Skua	<i>Stercorarius parasiticus</i>	264
Pomarine Skua	<i>Stercorarius pomarinus</i>	265
Little Tern	<i>Sterna albifrons</i>	266
Lesser Crested Tern	<i>Sterna bengalensis</i>	267
Common Tern	<i>Sterna hirundo</i>	268
Arctic Tern	<i>Sterna paradisaea</i>	269
Sandwich Tern	<i>Sterna sandvicensis</i>	270
Mourning Dove	<i>Streptopelia decipiens</i>	271
Pink-headed Dove	<i>Streptopelia roseogrisea</i>	272
European Turtle Dove	<i>Streptopelia turtur</i>	273
Gannet	<i>Sula bassana</i>	274
Blackcap	<i>Sylvia atricapilla</i>	275
Garden Warbler	<i>Sylvia borin</i>	276
Subalpine Warbler	<i>Sylvia cantillans</i>	277
Spectacled Warbler	<i>Sylvia conspicillata</i>	278

<u>NAME OF BIRDS</u>	<u>SCIENTIFIC NAME</u>	
Lesser Whitethroat	<i>Sylvia curruca</i>	279
Orphean Warbler	<i>Sylvia hortensis</i>	280
Crombec	<i>Sylvietta brachyura</i>	281
Black-crowned Tchagra	<i>Tchagra senegala</i>	282
Mottled Spinetail	<i>Telacanthura ussheri</i>	283
Red-bellied Hornbill	<i>Terpsiphone rufiventris</i>	284
Paradise Flycatcher	<i>Terpsiphone viridis</i>	285
African Green Pigeon	<i>Treron calva</i>	286
Bruce's Green Pigeon	<i>Treron waalia</i>	287
Spotted Redshank	<i>Tringa erythropus</i>	288
Wood Sandpiper	<i>Tringa glareola</i>	289
Green sandpiper	<i>Tringa ochropus</i>	290
Marsh Sandpiper	<i>Tringa stagnatilis</i>	291
Redshank	<i>Tringa totanus</i>	292
Broan Babbler	<i>Turdoides plebejus</i>	293
Blackcap Babbler	<i>Turdoides reinwardtii</i>	294
African Thrush	<i>Turdus pelios</i>	295
Black-billed Wood Dove	<i>Turtur abyssinicus</i>	296
Barn Owl	<i>Tyto alba</i>	297
Hoopoe	<i>Upupa epops</i>	298
Black-headed Plover	<i>Vanellus tectus</i>	299
Village Indigo Bird	<i>Vidua chalybeate</i>	300
Sahel Paradise Whydah	<i>Vidua interjecta</i>	301
Pin-tailed Whydah	<i>Vidua macroura</i>	302
Yellow White-eye	<i>Zosterops senegalensis</i>	303

Annex 2

Major Habitat/ Vegetation Types

Marine and Coastal

Permanent Shallow Marine Waters:

Between Barra Point and Buniada Point the coastal profile is a gently shelving sand embayment with a predominantly northerly current. The depth of water at high tide is in the region of 5 meters up to 2km offshore. There is considerable movement of sediments in the vicinity of Buniada Point where sand bars extend up to 2km to the west. There appears to be little sub tidal vegetation though the occasional presence of eel grass *Cymodocea nodosa* along the shoreline which suggests there may be beds within the confines of the park.

Sand Shores:

The sand shoreline between Barra and Buniada on the island of Jinack is backed by a clearly zoned dune system. The front dune is stabilized with *Ipomoea pes-caprae*, *Cyperus maritimus* and *Cenchrus biflorus*. Backing this raised pioneer zone the same species occur in a more species rich belt with a mean height of 75cm. *Canavalia rosea*, *Chloris sp*, *Leptadenia hastata* and occasional *Microstachys glomerata* were apparent during the site visits (a number of other forbes were noted to be present but in an unidentifiable condition) this herbaceous dominated zone extends inland for c10-15m where it is abruptly terminated by an evergreen shrub zone composed of *Maytenus senegalensis* and *Scaevola plumieri*. This shrub layer generally commences at the limit of the canopy formed by a belt of *Acacia seyal* which reaches 7-8m. *Adansonia digitata* occurs singularly or in copses throughout this coastal zone. The parasitic *Cassytha filiformis* forms dense mats over some of the Acacia-Maytenus belt. Further inland from this belt, the ground dips slightly to a seasonally flooded strip which is dominated by *Tamarix senegalensis*. This belt varies in width and in the northern end of the island extends into a mosaic of Tamarix fringed seasonally flooded pans. The tamarix belt reaches a height of ca 4m and is interspersed with *Sporobolus spp*, *Crotalaria retusa* and *Sesbania bispinosa*.

Estuarine Waters:

The northern tip of Jinack Island forms an estuary for the outflow of a number of bolongs, some of which derive from the Delta du Saloum. The Mansarinko bolong is the main water body within the Niimi National Park and rises as two streams c1km inland. The freshwater flow on these bolongs is negligible during the dry season and they are brackish to saline throughout the year. The habitat associated with these water bodies includes mangrove forest, inter tidal mudflats and salt marsh. In their upper reaches freshwater pools persist into the dry season but ultimately dry completely. Rice is cultivated on the upper flood plains of the rivers under the canopy of relic gallery forest.

Inter Tidal Sand and Mud Flats:

The northern tip of Jinack island forms the estuary for a number of bolongs with seasonal freshwater flow. The bolongs are tidal for their entire dry season length and resultantly have extensive fringes of halophytic vegetation. The combined tidal outflow of these bolongs meeting the northerly currents arising from the river Gambia have resulted in a sand bar formation of Buniada Point. The spit is covered on high tides and resultantly has no associated vegetation, though it is a regular roosting site for a variety of terns gulls, waders and herons. Along the Mansarinko and Niji Bolongs, Numerous mud banks become exposed during low water. No vegetation is associated with these mud banks possibly due to the tidal surge within

the bolons. Backing the mangrove fringe of the bolons extensive areas of salt pan (bare tannes) occur where hyper saline conditions limit the growth of plants. Colonization by halophytes is generally limited to the peripheries of these pans and consists mainly of *Sesuvium portulacastrum* , *Phloxerus vermicularis*, *Paspalum vaginatum*, and *Sporobolus spp.*

Inter Tidal Marshes:

Halophytic vegetation associated with salt pans has been referred to above and the same complex of species is also association with inter tidal marshes and seasonally flooded areas. On the island of Jinack the low lying nature of the island (essentially a vegetation spit) subjects a large portion of the island to seasonal flooding through rainfall. The salinity of these areas steadily rises due to residual salts and evaporation following the end of the rains and the dominant vegetation is essentially halophytic in nature. Rainfall swamps occur on the eastern side of the island and are utilized for rice cultivation. Part of the seasonally flooded areas are also subject to periodic flooding during spring tides. Salt marshes are generally fringed by *Tamarix senegalensis* with occasional *Avicennia Africana*, *Adansonia digitata* occurs on slightly elevated land fringing the marshes.

Inter Tidal Forests:

Mangrove forest dominates the bolongs fringes within the Niimi National Park. The total area of mangrove within the park is approximately 800ha. Six woody species are found within the mangrove belt, namely.

- *Rhizophora harissionii*
- *Rhizophora racemosa*
- *Rhizophora mangle*
- *Laguncularia racemosa*
- *Avicennia nitida*
- *Conocarpus erectus*

All 6 species occur within the Niimi mangroves though the distribution of *Rhizophora* species has not been investigated in detail. Sukardjo (1995) has outlines four mangrove communities types found in The Gambia based on Iugo and Sndaker's (1974) criteria. The communities identified are fringe forest, riverine forest, basin forest and scrub or dwarf forest. According to this criterion however it appears a fifth mangrove community occurs within the Tanbi Wetland complex overwash forest. The fringe mangrove forests are found along waterways where the shoreline elevation is slightly higher than the mean high tide level and the salinity remains fairly constant through out the year. This forest is composed of monotypic stands of *Rhizophora mangle* in the outer estuary of the River Gambia and in the Upper stretches of the bolongs within Niimi National Park. All three *Rhizophora* species are found in this zone and tree height can reach more than 10m. basin mangrove forests occur in areas subject to tidal inundation during spring tides only and with correspondingly high soil salinity levels. This forest type is dominated by *Avicennia nitida* and tree height may get up to 20m. Scrub or dwarf forests are to be found in areas with limited tidal inundation and high salinity levels, often backing the fringe forest. *Avicennia* predominates but may be accompanied by *Rhizophora* and *Laguncularia*.

Fringe Mangrove forest is predominant within Niimi and is found along the Mansarinko and Niji Bolongs. The north – east tip of Jinack Island and the Mbankama spit have extensive stands of this forest type which is backed by scrub forest and bare tannes. Stands of riverine mangrove forest are found in the mid and upper tidal reaches of the Mansarinko Bolong, reaching heights o up to 12m though generally less than 10m. On the spits opposite and to the south of Bakindik Koto, this forest type occurs on a peat deposit which sporadically in the

Gambia as thin beds within the fluvial marine sequence (White and Russell, 1988). Here also, the forest grades to scrub mangrove in the inland reaches.

Coastal Lagoons:

A single coastal lagoon occurs at Buniada Point on the north Shore of Jinack Island occupying an area of ca 2ha. The lagoon is maintained by the accumulation of sediments arising from the outflow of the Mansarinko Bolong and the northerly currents from the mouth of the Rive Gambia. The sediments form a spit which runs north – west from Buniada point for a distance of ca 1km. the lagoon is periodically inundated by the sea on spring tide through a channel on the north east side, though in recent months tidal surges have pushed over the westerly bank and there is a possibility this will ultimately form a breach. The seaward fringe of the lagoon is vegetated with a pioneer community of *Ipomoea pes-caprae*, *Sesuvium portulacastrum*, *Cenchrus biflorus* and *Cyprus spp.* Occasional *Avicennia* shrubs occur on the southern edge which grades into *Dichrostachys* thicket with emergent *Adansonia digitata*.

Inland Wetlands

Permanent Creeks:

Niumi National Park has two main creek systems running through it. The Niji bolong connects to the ocean immediately north of Barra point and to the Mansarinko Bolong at the Senegalese border thereby forming the island of Jinack. This bolong is subject to the regular diurnal tidal cycle and as it has a small catchment area there is relatively little seasonal variation in salinity. The Mansarinko bolong divides north of Mbankama to form the Keur Jatta and Duniajoe bolons. These bolons have a combined catchment in the region of 100km square and resultantly have a marked seasonal variation in salinity. During the dry season hyper – saline conditions exist in the upper reaches due to limited tidal flushing and high evaporation rates. As the rains commence dilution occurs and the salinity levels reduces progressively. The associated vegetation with these bolons is predominantly mangrove where there is a gentle gradient on the banks. Elsewhere, the vegetation ranges from woodland to grassland. There appears to be no associated aquatic vegetation within the bolons with the exception of the mangrove complex.

Seasonal Creeks:

The upper reaches of Keur Jatta and Duniajoe bolons have seasonal freshwater flow. There are a number of other small bolons both on the island of Jinack and on the mainland which are rain fed but due to small catchment areas are more prone to rapid salinisation through a combination of evaporation and intrusion. The Keur Jatta and Duniajoe bolons have an associated floating / emergent freshwater vegetation dominated by *Nymphaea lotus* and *N. micrantha*, *Typha* and *Cyprus spp.*, with *Marsilea sp.*, *Ageratum sp.*, *Urena lobata* and various gramineae. The areas have relic gallery forest fringing the bolons which in some areas has been cleared underneath for rice cultivation and seasonal vegetable gardening. The freshwater stretches of these bolons currently lies outside of the proposed park boundary though their inclusion is due to be negotiated with the neighboring communities in the near future.

Seasonal Saline Flats:

The saline flats which are found within Niumi National Parks are distributed primarily on the landward side of the mangrove belt. On the island of Jinack however low lying areas are seasonally flooded by rainwater forming temporary shallow lakes. After the rivers have ceased, the subsequent drying of these water bodies primarily through evaporation results in increasing saline concentration. The associated vegetation is essentially halophytic in nature with *Sesuvium portulacastrum*, *Philoxerus vermiculatus*, *Sporobolus spp.* and *Paspalum vaginatum*,

the shrubby *Tamarix senegalensis* occurs on the fringes along with occasional *Elaeis guineensis* and *Avicennia Africana*.

Seasonal Saline Marshes:

Areas peripheral to and often part of the saline flats and backing the mangrove forest in places develop as seasonal saline marshes with a combination of halopytic species and various cyperaceae. As the dry season commences these areas undergo progressive desiccation and the vegetation cover dies back.

Seasonal Freshwater Marshes:

With the overall low-lying topography of Niimi National Park, considerable areas are subject to flooding through freshwater runoff during the rainy season. Many of these areas are utilized for seasonal rice cultivation such as the headwaters of Keur Jatta and Duniajoe bolons. On the island of Jinack there are extensive areas immediately west of the villages of Kajata and Niji which flood through rainfall and support an essentially freshwater marsh plant community. These areas form the main rice fields on the island. A similar linear flood plain exists ca 1km west of Mbollet Bah, and a smaller one is found to the west of Kanuma. In the dry season some vegetable production is conducted in these areas with irrigation from shallow hand dug wells.

The head waters of the various bolons both large and small support seasonal fresh water marshes. As the dry season advances most of these areas desiccate entirely or undergo an increase in salinity through evaporation and saline intrusion. The vegetation associated with these seasonal freshwater marshes is similar to that referred to under seasonal creeks above.

Gallery Forest:

Gallery forest is found in relic patches in the upper (freshwater) reaches of the bolons. These relic forest patches are comparable in composition and structure to the Fathala forest within the adjacent Delta du Saloum National Park with the most abundant woody species being *Anthostema senegalensis* and *Dialium guineense* (c.f Lykke. 1994). Other notable species include *Khaya senegalensis*, *Detarium guineense*, *Alchornea cordifolia* and *Azelia Africana*. The forest on the Duniajoe Bolong is quite degraded through a combination of clearance of the under storey for rice cultivation, selective felling and fire damage.

Dry Woodland and Wooded Grassland

Woodland is defined as having a canopy cover of more than 40% and reaching a height of greater than 8m, while wooded grassland has a canopy of 10-40%. Within *Niimi National Park* land elevated above the seasonally flooded areas and valley bottoms falls within one or the other of these categories with the exception of some cleared agriculture land. The dominant species found within these vegetation types are *Parkia biglobosa*, *Daniellia oliveri*, *Pterocarpus erinaceus*. Shrubby species found in association include *Combretum nigricans*, *Dichrostachys glomerata*, *Guiera senegalensis* and *Ziziphus mauritiana*. These species are more dominant in locations where there has been clearance for agriculture in the past or a high incidence of fire damage to the vegetation giving rise to bushland or thicket. Dense regeneration of *Daniellia oliveri* is often found in fallow agricultural land. The under-storey in both woodland and grassed woodland is dominated by the grass *Andropogongayanus* which reaches heights of over 2m. Other grasses which occur include *Echinochloa colona* and *Chloris spp*.

On the island of Jinack and the sandier soils immediately east of the Niji Bolong, the woodland has a higher incidence of *Parinari Macrophylla*, *Macrophyall*, *Ficus spp* and *tamaarindus indica*. *Maytensus senegalensis* is common in this woodland type.

Annex 3

Total Avifaunal Diversity of Niimi National Park

Important bird habitats within Niimi National Park

Major habitat types	Code
Tidal creek systems and Rhizophora mangrove	A
Salt marsh and tidal flats	B
Seasonally flooded coastal scrub, Tamarisk acacias	C
Seasonal and erratic rain filled ponds/lakes, streams	D
Temporary rice paddies and agricultural fallow with surrounding trees	E
Oceanic sandy beach, lagoons and spits inc. open ocean	F

A total of 293 species from 63 families have been recorded from Niimi National Park to date. Abbreviations used in the following table are: GaM= Total of species for the family recorded in The Gambia; NNP = Recorded in Niimi National Park; PM – Palearctic Migrant; Res = species with records in every month in The Gambia; IAF = species with known African migratory populations occurring in The Gambia and these may include movements within Senegambia.

Avifaunal Diversity in Niimi National Park

FAMILY	GaM	NNP	PM	Res	IAF	HABITA
Procellariidae: storm-petrels	3	1	*			F
Pelicanidae: Pelicans	2	1		*	*	ADF
Sulidae Gannets	2	1	*			F
Phalacrocoracidae Cormorants	2	2		*	*	ABDEF
Anhingidae: Darter	1	1		*		ADF
Ardeidae: Herons. Egrets Bitterns. Tiger Heron	18	13	*	*	*	ABCDEF
Scopidae: Hamerkop	1	1				ABCDEF
CICONIDAE: Storks	7	2				ABCDEF
Threskiornithidae: Ibises spoonbills	5	2		*	*	ABCDEF
Anatidae: Ducks, Geese	14	3		*		ABCDEF
Accipitridae: Vultures Hawks Eagles	44	20	*	*	*	ABCDEF
Pandionidae: Osprey	1	1	*			ACF
FALCONIDAE: falcons	9	6	*	*		ABCDEF
Phasianidae: Gamebirds	6	2		*		BCE
Rallidae: Rails	9	1		*		CDE
Jacaniidae: Jacana	1	1		*		CDE
Burhinidae: Stone-Curlews	2	1		*		ABCDEF
Upupidae: Hoopoe	1	1	*	*	*	BCE
Phoeniculidae: Wood Hoopoes	2	2		*	*	ABCE
Bucerotidae Hornbills	5	4		*	*	ABCDF
Capitonidae Barbets	4	3		*		ACE
Indicatoridae: Honeyguides	3	2		*		ABC
Caprimulgidae: Woodpeckers	7	6		*		ABC
Hirundinidae: Swallows. Martins	15	8	*	*	*	ABCDEF
Motacillidae: Wagtails Pipits	9	5	*	*	*	ABCDEF

Laniidae: Shirkes	11	9	*	*		BCDE
Oriolidae: Orioles	2	1		*	*	CE
Dicruridae: Drongos	2	1		*		BCE
Sturnidae: Glossy Starlings, Oxpeckers	10	7		*	*	ABCDEF
Pycnonotidae: Bulbuls	7	1		*		ABCDE
Corvidae: Crows	3	2		*		BCDE
Muscicapidae: Turdinae Chats Thrushes	17	8	*	*	*	ABCDE
Muscicapidae: Sylviinae warblers cisticolas	38	26	*	*		ABCDE
Muscicapidae, muscicapinae flycatchers	6	3	*			ABCDE
Muscicapidae: Platysterinae wattle-eye, Batis	4	2		*		ACDE
Muscicapidae: Monarch Flycatchers	4	2		*		ACE
Paridae: Tits	1	1				CE
Remizidae: Penduline Tits	1	1				CE
Nectarinidae Sunbirds	9	6		*		ABCDE
Zosteropidae: White-eyes	1	1				CE
Fringillidae: Canaries	2	2		*		BCE
Ploceidae: Weavers, Sparrows Whydahs	23	19		*	*	ABCDE
Estrididae: Waxbills	19	9		*		ABCDE
Alaudidae: Larks	8	2		*	*	BE