

Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.

Note 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. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Bureau. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of 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:

Tuesday April 18, 2006

3. Country:

Liberia

4. Name of the Ramsar site:

Marshall Wetlands

5. Designation of new Ramsar 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 area are unchanged:

or

If the site boundary has changed:

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

**** Important note:** If the boundary and / or area of a designated site is being restricted/ reduced, the contracting party should have following the procedures established by the Conference of the Parties in the Annex of the COP9 resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

b). Describe briefly any major changes to the ecological character to 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 a site, with clearly delineated bordering, is included as:

- i) a hard copy (require for conclusion of site in the Ramsar list):
- ii) an electronic format (e.g. a JPEG or Arc View image)
- iii) a GIS file providing geo-referenced site bordering vectors and attribute tables

b). Describe briefly the type of bordering delineation applied:

e.g the boundary is the same as an existing protected area(nature reserve, national park, etc.), or follows a Catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows a shoreline of a waterbody, etc.

The delineation was an on screen digitizing using 250k topography base map taking into consideration geographical and catchments boundaries.

On the map, the pink parts are islets within the rivers. It is on some of these islets that the Liberia Institute of Biomedical Research places chimpanzees after medical experimentation.

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

Provide the coordinates of the approximate centre of the site and/ or the limits of the site. If the site is composed of more than one separate area, provide coordinates for each of these areas.

The site is at latitudes 06 ° 08' N and longitudes 10 °22' W

9. General location:

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

Marshall wetland is located south east of Liberia around Harbel firestone. It is within the administrative region of Margibi County and eight miles away from Kakata, the nearest large city and capital of Margibi County.

10. Elevation: (average and/or max. & min.)

9-15m

11. Area: (in hectares)

12,168 ha

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 Marshall Wetlands comprise three small rivers, the Junk, Farmington and Little Bassa Rivers. It has sandy and rocky shores. Further inland is a population of secondary forests and savannah woodland. The wetland is chiefly a mangrove type with matured mangroves reaching up to 30m. Three species of mangroves can be found, *Rhizophora harrisonii*, *R. mangle* and *Avicennia africana*.

The dominant tribe in this area is the Bassa tribe. There is a population of Fanties that emigrated from Ghana and are involved in fishing. They are the main ones involved in the cutting down of the mangrove for fish drying. While the Bassa tribe, which dominates, is involved in game hunt and cassava farming.

The dominant religion is Christians, others are Muslims and pagans.

The very large stands of mangroves, fish population and wildlife are valuable resources for inhabitants in this area. The three rivers are navigable and are used as a medium of transport from one village to another. Within the river bodies are islets that are inhabited by experimental chimps. In this wetland for example, one can find crocodiles such as the *Osteolaemus tetraspis*.

13. Ramsar Criteria:

Circle or underline 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).

1 • 2 • 3 • 4 • 5 • 6 • 7 • 8

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

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

Criterion 1

The Marshall Wetland is a unique wetland area found around the sea coast and is being designated to protect the *Rhizophora harrisonii*, *R. mangle* and *Avicennia africana* mangrove species in Liberia, found within the Southern Upper Guinea Freshwater Ecoregion, which are threatened by intense charcoal burning and fuel wood collection. In addition to this, the ecological character of the site provide favourable habitat to several species of birds for feeding every season. Some of the species observed are, for example, African spoonbill *Platalea alba*, Common Pratincole *Glareola nuchaltis*, Curlew *Numenius arquata*, etc.

Criterion 2

The African spoonbill *Platalea alba*, (CMS App. II), the Glossy Ibis *Plegadis falcinellus* (CMS App. II), Lesser Kestrel *Falco naumanni* (CMS App. I/II) and Common Pratincole *Glareola nuchalis* (CMS App. II) occur at the site. The site hosts three threatened reptile species such as the African dwarf crocodile *Osteolaemus tetraspis* (Red List: VU), the

Nile crocodile *Crocodylus niloticus* (CITES App. I) and the African sharp-nosed crocodile *Crocodylus cataphractus* (CITES App. I).

The Red Colobus monkey *Procolobus badius*, and the Water Chevrotain *Hyemoschus aquaticus* are two mammal species considered endangered and protected by the new Forestry Law of 2000. These species are observed in this area occasionally by residents.

Criterion 4

The ecological character of the site provides favourable habitat to several species of birds for feeding every season. Some of the species observed are, for example, African spoonbill *Platalea alba*, Common Pratincole *Glareola nuchalis*, Curlew *Numenius arquata*, etc. The Mesurado Wetland is also being designated to protect the *Rhizophora harrisonii*, *R. mangle* and *Avicennia africana* mangrove species in Liberia that are threatened by intense charcoal burning and fuel wood collection.

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:

Southern Upper Guinea Freshwater Ecoregion

b) biogeographic regionalisation scheme (include reference citation):

WWF's Freshwater Ecoregions of Africa

16. Physical features of the site: Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Three water bodies constitute the wetlands characterized by sand and mud flats. Along the shorelines are large stands of mangrove forest. Towards the mouths of the rivers are sand mounds and further inland is a muddy soil with Precambrian protrusive rocks at the river bottom. Brackish water is experienced up to 100km inland and much further up is fresh water. There is a daily and seasonal tides rise. During low tides, the water is up to 4m and at high tides up to 7m. The daily rises in tides vary from 1-1.5 meters average. It has a coastal climatic condition with relative humidity varying between 90-100% and has a mean annual temperature of 26° C (78.9° F).

17. Physical features of the catchment area:

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

The flow of water is north to south. The three rivers converged at a point close to the Atlantic Ocean where they empty. These rivers form short coastal water courses and drain about 3% of the country. The rivers are generally used for rural transport along the coast. Villagers collect wood from the mangroves and are frequently seen transporting the wood from one village to the other. They also transport goods and other items.

Fishermen (Fanties from Ghana) are carrying out commercial fishing activities on a daily basis including the drying of fish.

During drought periods the sea water flows into the rivers. The annual rainfall is between 2000mm-4000mm.

18. Hydrological values:

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

The Marshall Wetland provides control against flooding and is a sediment trap and underground water recharge for use by local community.

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:

List the wetland types identified in a) above in order of their dominance (by area) in the Ramsar site, starting with the wetland type with the largest area.

I, A, E, J

20. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site.

Generally, the ecological features characterized important invertebrate species, such as the Mollusca for example include Rock Shell *Purpura patula*, Marine/Venus Clam *Ventricolaria*, Sea Oyster *Crassostrea virginica*, Scallop *Pecten raveneli*, etc.

Some common fish population include Shark Spearhead *Scoliodon terranovae*, Sole Fish *Cynoglossus gorreanis*, Sword Fish *Xiphias gladius*, etc.

The site is also a good habitat for many migratory birds, such as, the Purple Heron *Ardea purpurea*, Glossy Ibis *Plegadis falcinellus*, African Spoonbill *Platalea alba*, etc.

21. Noteworthy flora:

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. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RLS.*

Noteworthy flora observed here are the *Chromolaena odorata*. This is an invasive alien species believed to be brought from Nigeria several decades ago. This species provides host to harmful agricultural insects like the variegated grasshopper *Zonocerus variegatus*. This grasshopper is the main problem of farmers in this area

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 RLS.*

The noteworthy fauna observed here is the Large Cane Rat *Thryonomys swinderianus*. It also destroys the cassava crops which are largely grown in this area. It multiplies rapidly and has become difficult to control.

23. Social and 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.

a). The social and cultural value of the site is seen in the multiple uses of the resources. The mangrove provides the inhabitants with firewood and materials for fencing against the Large Cane Rat attacks in the area. The sand and rocks are collected for housing and road reconditioning.

The Rivers Junk, Farmington and little Bassa are transport routes and water sources for car washing. Children are usually seen bathing in the rivers and the Lebanese from Monrovia travel up to Marshall every holiday and Sundays for boat riding. Fishing is also a very common activity, except that at the mouth of the rivers inhabitants fish by throwing dynamite into the rivers and further up the river, they use other means. Within the mangrove swamps, local people are searching for clams, snails and other crustaceans to make up their daily meals. The Fantie Community is very busy each day carrying out fish drying after their day's catch.

Like other coastal wetlands in Liberia, Marshall is favoured by many species of Migratory birds. The site is also viewed as being ideal for bird study by the focal point of Birdlife International at the Society for Conservation of Nature in Liberia (SCNL)

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:

No.

- 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:

Both government and local inhabitants share ownership

(b) in the surrounding area:

The Firestone Rubber Company owns the greater part of the upper region of the river (up to 70%) and close to the coast; government and local people own that portion.

25. Current land (including water) use:

(a) within the Ramsar site:

The local people are using the water for bathing, fishing, washing (clothes and car) and for transport.

The mangrove swamp is a source of firewood and food collection. Some of the foods gathered are snails, clams and crabs. In the Savannah woodland area, hunters which comprise the Bassa Ethnic tribe chase after game animals and are cassava farmers.

(b) in the surroundings/catchment:

In the surrounding catchment area the Farmington River is used by the Firestone Rubber Plantation company for Hydropower generation and industrial use.

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:

The continuous and uncontrolled harvesting of the mangrove forest and dynamiting of fish by local people are a serious threat to the ecological character of the site.

(b) in the surrounding area:

The uncontrolled harvesting of the mangrove forest by locals and pollution of the water bodies by the Firestone Rubber Plantation company, who are using sulphuric acid for their industry, poses great threat to the health of local people and marine life.

27. Conservation measures taken:

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

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

NA

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

NA

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

c) Does an officially approved management plan exist; and is it being implemented?:

No management plan has been developed

d) Describe any other current management practices:

Currently the Liberia Institute of Biomedical Research (LIBR) has the key management over the site for now. The placement of chimps on these islets is a restrictive mechanism for unwanted guests. One has to seek the permission of the LIBR management to be able to visit the site.

28. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area, etc.

No conservation measure has been proposed beside what the work of this RIS is intending to do. The Marshall Wetlands after fulfilling the required criteria for Ramsar Site designation will have a management plan developed in order to seek government's approval under the Act creating the Environmental Protection Agency (EPA) of Liberia.

The national conservation measures like all other protected areas, is to include the Marshall Wetland under a protected area management network after the successful designation as Ramsar Site and to exclude exploitation/ occupation, inimical to the purposes of designation of the area.

29. Current scientific research and facilities:

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

Currently within the site, research is on chimps for developing human vaccines against hepatitis A, B and C. The New York Blood Centre, an affiliate of LIBR is anticipating the construction of an environmental Resource Centre that will serve as an Environmental Resource Centre and tourist attraction as well as a centre for nature study.

30. Current conservation education:

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

The LIBR provides facilities for retreat activities that sometimes host guests from various sectors of society including schools, churches and other social organizations. During their visits, many of the guests realized the value of the wetlands, which they often expressed.

31. Current recreation and tourism:

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

The Lebanese Community from Monrovia is the most frequent user of the recreational opportunity offered by the Marshall Wetlands.

32. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.

The jurisdiction of this area is shared between government, through the Wetland Department of EPA and the local authority.

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 Liberia Institute of Biomedical Research (LIBR)
The Officer In Charge
Firestone, Margi County in care of:

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Cell# 02317-7035466
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34. Bibliographical references:

scientific/technical references only. If biogeographic regionalisation scheme applied (see 13 above), list full reference citation for the scheme.

- 1). The Liberian Bushmeat Atlas produced by the Philadelphia Zoo
- 2). Liberia National Biodiversity Strategy and Action Plan (NBSAP)
- 3). Report from the Project "The Impacts of Nutrient Discharge in The Liberian Coastal Waters"
- 4). The Birds of Mount Nimba, Liberia (Peter R. Colston and Kai Curry-Lindahl 1986)
- 5). Birds of Liberia (Wulf Gatter 1997)
- 6). Birds of Liberia-A Preliminary Check-List with Status and Open questions

APPENDICE

List of some Birds identified in Coastal wetlands in Liberia (Marshall and Mesurado Wetlands inclusive)

No.	Common Name	Scientific Name
1	Reef Heron	<i>Egretta gularis</i>
2	African spoonbill	<i>Platalea alba</i>
3	Water Thick-knee	<i>Burhinus vermiculatus</i>
4	Common Pratincole	<i>Glareola pratincola</i>
5	Kentish Plover	<i>Charadrius alexandrinus</i>
6	Grey Plover	<i>Pluvialis squatarola</i>
7	Senegal Plover	<i>Vanellus lugubris</i>
8	Spur-winged Plover	<i>Vanellus spinosus</i>
9	Curllew	<i>Numenius arquata</i>
10	Whimbrel	<i>Numenius phaeopus</i>
11	Spotted Redshank	<i>Tringa erythropus</i>
12	Marsh Sandpiper	<i>Tringa stagnatilis</i>
13	Redshank	<i>Tringa totanus</i>
14	Turnstone	<i>Arenaria interpres</i>
15	Sanderling	<i>Calidris alba</i>
16	Knot	<i>Calidris canutus</i>
17	Curllew Sandpiper	<i>Calidris ferruginea</i>
18	Little Tern	<i>Sterna albifrons</i>
19	Damara Tern	<i>Sterna balaenarum</i>
20	Roseate Tern	<i>Sterna dougallii</i>
21	Common Tern	<i>Sterna hirundo</i>
22	Black Tern	<i>Sterna nigra</i>
23	Arctic Tern	<i>Sterna paradisea</i>
24	Royal Tern	<i>Sterna maxima</i>
25	Sandwich Tern	<i>Sterna sandvicensis</i>
26	Caspian Tern	<i>Sterna tschegrava</i>
27	Little bee-eater	<i>Merops pusillus</i>
28	Bar-breasted Fire-Finch	<i>Lagonosticta rufopicta</i>