

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:

Mesurado 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. The pink parts are dry land areas within the mangrove that inhabitants reclaimed for dwelling.

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 between latitudes 06 ° 19 ' and 06 ° 16' N and longitudes 10 °48' and 10 ° 42 ' 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.

The Mesurado Wetland is in the South-West of Liberia, in the City of Monrovia. The large administrative region is Montserrado County with a population of over one million people.

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

Average 7-10m

11. Area: (in hectares)

6,760 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 Principal ecological characteristics include the mangrove vegetation which contains patches of mud flats that provide good habitats for migratory birds feeding. This wetland serves as spawning ground for many species of fish, such as, Barracudas and Cavallas. It runs through several suburbs in Monrovia providing a source of protein diet as well as livelihood for local communities in the suburbs of Monrovia.

They also use the mangrove forests as a source of fuel wood supply for energy needs. The site is seen as a waste land by community people and they are therefore using it as dump site.

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 Mesurado 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 bird 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) occurs there too. 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 Section 9.3 (a) and (b) concerning listed endangered species determined by a national survey on wildlife.

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 Ecoregion 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.

The wetland is a flat plain with a polymorphous shape stretching eastwards of the City of Monrovia. It has a natural hydrology and its water quality bears a high level of pollution in high concentration of iron, zinc, fluoride and calcium concentrates. The major sources of pollution are from human wastes and petroleum oil deposits. It has a variation in soil type ranging from sandy in the west up to clay further up east. In between these zones is a blend of sandy-clay. The water depth varies from 1.5m at very low tide to 4.5m at high tides. During low tides some parts of the mangrove swamps, particularly the central part, become very dry and are used for sporting activity, such as football. The site never runs dry completely of water; there is always some amount of water present in many parts of the wetland throughout the year. The water is shallow (1-1.5m) during the dry season and increases up to 3-3.5m during the rains.

The Mesurado Wetland falls within the Coastal belt of Liberia with a relative humidity of 90-100% during the rainy season and 85-90% during the dry season. It has a mean annual temperature of 26 °C (78.9° F).

The parent soil materials are Precambrian and lateritic. The floor of the river is muddy with gravels close to the shoreline.

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 Mesurado wetland is a vast stretch of land comprising of mangrove extending up to ten miles that branches in several directions of the city. Squat latrines, dwelling houses and some metal scraps can be found along the shores, up to two miles North East, of the wetland area. Fishing is one common activity in this area.

Further up, carpenters and sawmill owners are depositing sawdust into the wetlands to reclaim the land for commercial activities.

18. Hydrological values:

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

The Mesurado Wetlands are indeed aiding in shoreline stabilization as well as sediment trapping.

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, G, J, A, K

20. General ecological features:

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

The Mesurado wetland is important for a host of migratory coastal birds some of which include Lesser Kestrel *Falco naumanni*, falcons and caracaras *Falconidae* and Common Snipe *Gallinago gallinago*.

The freshwater lagoon is also a host of some of Liberian favourite species of fish, for example Barracuda and Cavallas. These fishes are often caught in the Mesurado River.

This wetland contains shrubs and various varieties of savanna grasses and sedges in between the mangroves as vegetative covering.

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 RIS.*

Noteworthy flora to mention here are the water hyacinth, an invasive species that is commonly seen on the surface of the Mesurado River.

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.*

Noteworthy fauna are the African dwarf crocodile *Osteolaemus tetraspis*. It is the most encountered species of crocodile in Liberia.

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) 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:

The current social value of this site is seen in the fact that it provides livelihood for many community dwellers. Community people are often seen fishing and collecting mangrove from the site. Some of the fish species have already been mentioned in other points.

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:

Local community people and government own the land

- (b) in the surrounding area:

The community people own the area.

25. Current land (including water) use:

- (a) within the Ramsar site:

The site is currently used for fishing, dumping garbage, fuelwood collection and car washing. It provides a livelihood means for community people. During Saturdays, especially, many persons go to the site to purchase fish and crustaceans for their Sunday meals. Although it is not a huge supply of fish, it is a sure market for whatever amount collected from the river. All of what is collected is sold and nothing remains. This income assists many community members to get their children in school and take care of other personal obligations. It also provides a cheap fish market for many families, not necessarily those residing in the area, but from other areas.

- (b) in the surroundings/catchment:s

In the surrounding catchment the community people are making furniture; some are collecting sand from the river bed to make cement blocks; many garages are established around the site and are carrying out vehicle repairs; many ex-combatants are now engaged in car washing as a new means of livelihood and are using the river for this purpose and many other activities are taking place that can be mentioned. Small industries are using the river as a dumping site for their extractive wastes.

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 increase in population is a potential threat that could exert great pressure on the wetlands causing rapid depletion of the wetland resources. Besides depleting the mangrove, the unregulated fishing carried out by community people, using very small meshes, are destroying immature fishes due to the indiscriminate fishing methods used. In the past, it was difficult for people to move in this area, but now the area has become so navigable and allows many people through due to the uncontrolled harvesting of the mangrove stands. If nothing is done to control this, people will soon begin to hunt the crocodiles and other wildlife in this area.

- (b) in the surrounding area:

The pollution from industrial wastes by many factories is affecting the wetland which is situated within the industrial zone of Liberia. Oil spill from the Liberia Refinery Company is one major threat to the quality of the water and marine life forms. The paint industry operating around the site also is one major group that is constantly dumping its waste materials along the river banks.

The population increase has resulted into many squat latrines being built around the banks of the river. Others are dumping domestic wastes as well.

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

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.

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 officially approved management plan is developed

d) Describe any other current management practices:

Awareness activities are taking place by the posting of billboards at strategic points. These billboards are depicting the importance of wetland conservation in the area. In the surrounding areas nothing much is being done to improve the situation.

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 Mesurado 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 measure, like all other proposed Ramsar sites is to place Mesurado Wetland under a protected area management network when it has successfully met the criteria set by Ramsar.

29. Current scientific research and facilities:

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

Under the Environmental Protection Agency Act, the EPA is to establish a laboratory for conducting research. Most part of the research will be based on water quality analysis. The current scientific research carried out in this area was based on a study “The Impacts of Nutrient Discharge in The Liberian Coastal Waters”. This study was conducted by the Environmental Protection Agency (EPA) through the Guinea Current Large Marine Ecosystem (GCLME) Project. The water analysis was done by the Ministry of Lands Mines and Energy (Hydrological Service).

30. Current conservation education:

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

No ongoing conservation education taking place aside from a training that was conducted by BirdLife International for staff of the University of Liberia, EPA, SCNL and the FDA. This training was sponsored by Wetland International under the administrative guidance of Society for the Conservation of Nature (SCNL) in Liberia. The head trainer was Wolf Gatter of Germany who led a team of personnel from the Forestry Development Authority (FDA), the University of Liberia (UL) and the Environmental Protection Agency (EPA) of Liberia in 2005. Techniques for identifying birds and bird population were introduced during the training.

31. Current recreation and tourism:

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

There is nothing for recreation and tourism attraction in this area developed as yet.

32. Jurisdiction:

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

Presently the institution having jurisdiction over the area is the Monrovia City Corporation (MCC). When the area becomes a protected area it will fall under the jurisdiction of the Environmental Protection Agency of Liberia (EPA). However, the EPA remains the contact Agency along this line.

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.

Presently the institution having management control over the area is the Monrovia City Corporation. When the area becomes a protected area, it will fall under the management of the EPA. However, the EPA remains the contact along this line.

Contact Person: C/O
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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
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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>Platalae 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	Curlew	<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	Curlew 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 paradisaea</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>