

# APPENDIX 4

## Ramsar Sites in Indonesia

### Information Sheet on Ramsar Wetlands

Categories approved by Rec.C.4.7 of the Conference of the Contracting Parties, Montreux, Switzerland - July 1990.

NOTE: Please read the accompanying guidelines before attempting this form. Use properly labelled extra paper if any space on this form is too small to accommodate the existing information. Completed sheets should be returned to: Scott Frazier, Ramsar Database, IWRB, Slimbridge, Gloucestershire, GL2 7BX, England.

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1. Country: Indonesia

2. Date: March 1991

3. Ref: ce use only

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4. Name of wetland: Berbak National Park

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5. Ramsar Criteria: (state and justify which Ramsar criteria - as adopted by Rec.C.4.15 of the Montreux Conference - are applicable).

- *Criteria for representative wetlands.* There are 23 palm species (Arecaceae) recorded at Berbak, making it the most palm-rich peatswamp forest yet known.
  - *It is a particularly good representative example of a natural or near natural wetland, common to more than one biogeographical region.* Berbak represents the largest and only peatswamp forest in Sumatra which is presently protected by Indonesian law. Berbak is unique in Southeast Asia. At 175,000 ha, it represents the largest undisturbed peatswamp forest reserve in Southeast Asia.
  - *General criteria based on plants and animals.* The biodiversity of the area is regarded as extremely high, though its full extent has not yet been ascertained owing to few surveys. Giesen (1991) recorded over 260 plant species including 23 palms (Arecaceae), making it the most palm-rich peatswamp forest yet known.
  - *It supports an appreciable assemblage of rare, vulnerable or endangered species of plants or animals or appreciable number of individuals of any one or more of these species.* A large number of species listed in IUCN Red data list (1990), CITES and species protected by the Indonesian law, occurs in the area.
  - *It is of special value for maintaining the genetic and ecological diversity of the region because of the quality and peculiarities of its flora and fauna.* Berbak is of special value for maintaining genetic and ecological diversity of the coastal lowlands of Sumatra. The Reserve constitutes a diversified gene pool of plants and animals and includes species of pharmacological and horticultural potential. The total number of plant species is as high as 260, with 23 palm species. There are about 250 species of birds from 49 families (22 species are migratory waders). 13 reptile species have been recorded, although not many surveys on reptiles and amphibians have been undertaken. The reserve is ecologically diverse with extensive and mostly undisturbed peatswamp forest, large expanses of freshwater swamp (6,000 ha) and some 1,500 ha of (degraded) mangrove forest.
  - *It is of special value as the habitat of plants or animals at a critical stage of their biological cycle.* Berbak's mangroves are likely to have an important function as breeding and nursery site of many marine animals, such as Penaeid shrimps, mullet, milkfish, sea perch, groupers, etc.
  - *It regularly supports substantial numbers of individuals from particular groups of waterfowl indicative of wetland values, productivity or diversity.* The reserve includes several important sites for waterbirds, one of the most important areas being the sandy beach near the mouth of Cemerah river. At least 24 species of shorebirds have been recorded, including Asian Dowitcher (*Limnodromus semipalmatus*) and Nordmann's Greenshank (*Tringa guttifer*).
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**6. Wetland type:** (as presented in guidelines, based on Montreux Rec.C.4.7)*Marine and coastal wetlands*

Type # 6 Estuarine waters, vegetated

Type # 5 Sand, shingle or pebble beaches.

Type # 7 Intertidal flats

Type # 9 Intertidal forested wetlands; includes mangrove swamps, nipa swamps, tidal freshwater swamp forests.

*Inland wetlands*

Type # 1 Permanent rivers and streams

Type # 4 Riverine floodplains, includes river flats, flooded river basins, seasonally flooded grassland.

Type # 11 Freshwater swamp forest, seasonally flooded forest, wooded swamps

Type # 13 Forested peatlands; peat swamp forest

Cultivated freshwater swamp

Cultivated peat swampland

**7. Date of Ramsar designation:** November 19, 1991**8. Geographical coordinates:**Latitude 01<sup>0</sup> 23' SLongitude 104<sup>0</sup> 20' E**9. Altitude:** (average and/or maximum & minimum)

0 - 20 m above sea level 162,700 ha

**10. Area:** (in hectares)**11. General location:** (e.g. administrative region and nearest large town)

Berbak National Park is situated in Jambi province, Sumatra. Located on the east coast, this site begins approximately 10 km inland of Berhala Strait, extending down the coast to Benu river. The eastern boundary was revised in 1985 to exclude the coastal settlements that extend from Benu river in the south to Remau river in the north. The city of Jambi lies approximately 50 km to the west and reserve headquarters are located at Nipa Panjang, 10 km to the northwest. Access is difficult and time-consuming due to poor infrastructure. The entrance to the park at Desa Air Hitam Laut can be reached in approximately 5 hours by boat from the reserve headquarters, although travel time may double during the wet season.

**12. Overview:** (general summary, in two or three sentences, of the wetland's principal characteristics)

Berbak N.P. forms part of the vast alluvial plain of East Sumatra, which occupies approximately one quarter of the island, and is one of Indonesia's largest swamp forest reserves. The region is entirely flat, being dissected by a number of levee-banked, meandering rivers that drain in a northeasterly direction toward the coast. Along the coast and lower sections of the rivers, extensive beach ridges and intertidal mudflats occur. The area contains 60,000 ha of freshwater swamp forest and 110,000 ha of undisturbed peat swamp forest. Its eastern boundary is bordered by villages, some muddy coast and a small fringe of mangrove forest (1,500 ha). The southern border is the Benu river and the site is bisected by the river Air Hitam Laut. The rivers are edged with *Nypa fruticans* then *Pandanus tectorius* and, further inland, riverine forest dominated by *Mammea* sp. The maximum coastal tidal range is 2-2.5 m decreasing to 1 m a further 10 km upstream. The rivers are up to 20 m deep and contain acid peatwater. In the dry season, brackish water penetrates up to 10 km inland.

The reserve includes several important sites for waterbirds and other fauna.

**13. Physical features:** (e.g. geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth water permanence; fluctuations in water level; tidal variations; catchment area; downstream area; climate).

Berbak N.P. is a vast alluvial plain in the eastern Sumatra. It is dissected by a number of levee-banked meandering rivers that drain in a northeasterly direction to the coast. The rivers are up to 20 m deep and contain acid peatwater. The area contains a vast peatswamp forest. The coastal area is influenced by tides with a range between 2-2.5 m. In the dry season, brackish water penetrates up to 10 km upland.

**14. Ecological features:** (main habitats and vegetation types)

The major wetland type found in this area is peatswamp forest and freshwater swamp forest. The freshwater swamp forest (60,000 ha) occurs along the rivers, on fluvial deposits and is normally inundated for a large part of the year. In this forest type, a distinct stratum can be observed, formed by *Alstonia pneumatophora*. The peatswamp forest occurs on deep peat at a distance of at least 3 km from the rivers and coast. Along the coast and lower sections of the rivers, extensive beach ridges and intertidal mudflats occur. A small fringe of mangrove forest (1,500 ha) occurs in a muddy substrate of the coast. Riverine and estuarine habitat are common in the area since a number of rivers dissect the area and flow to the coastal area.

**15. Land tenure/ownership of:**

(a) site: Government of Indonesia

The status was raised to National Park on February 26, 1992

(b) surrounding area: Government of Indonesia

**16. Conservation measures taken:** (national category and legal status of protected areas - including any boundary changes which have been made; management practices; whether and officially approved management plan exists and whether it has been implemented)

Formerly, the status of Berbak area was wildlife reserve (Suaka Margasatwa) [Based on Dutch colonial law "wilderesvaat" of 29-10-1935.] Berbak's status was changed to National Park by Decree of Minister of Forestry on 26-02-1992. The area has also become a RAMSAR site since 19-10-1991 by presidential decree.

**17. Conservation measures proposed but not yet implemented:** (e.g. management plan in preparation; officially proposed as a protected area etc.)

AWB-Indonesia has carried out a cooperative project with PHPA to initiate management of the Berbak area. With recent rise in status to National Park, and recent recognition of the international importance of the area under the Ramsar Convention, there is an urgent need for further management development. A proposal for Buffer Zone Development of Berbak N.P. has been prepared by AWB-Indonesia, to sustain the conservation of Berbak N.P. through economic development of buffer zones bordering and outside the designated area.



**18. Current land use:**

(a) site:

Habitat conservation : National Park

Human settlement: About 5 villages of Buginese people are located within the reserve.

Cultivation of rice and coconut.

Fishery

(b) surroundings/catchment:

Tree logging

Human settlement

Hunting/capturing animals

Regulation of flowing water for drainage

Cultivation of rice and coconut

Fishery

**19. Disturbances/threats, including changes in land use and major development projects:** (factors which may have a negative impact on the ecological character of the wetland)

(a) at the site:

Harvesting of secondary forest products appears to be occurring on a large scale in Berbak reserve, and many signs of this activity are visible along the Simpang Malakka, Benuh, Simpang Kanan, and Air Hitam Dalam rivers. Evidence of Jelutung (*Dyera costulata*) tapping was commonly found in the area. Locals were observed entering the reserve by small boats along the rivers.

Hunting/capturing animals occurs within the reserve.

Some illegal pondoks (huts) exist within the reserve

(b) in the surroundings/catchment:

Agriculture is carried out on large areas of converted forests. The system of parits (drainage channels) which are used for drainage of acid peat water and irrigation has a negative impact on the hydrology of the park.

**20. Hydrological and biophysical values:** (groundwater recharge, flood control, sediment trapping, shoreline stabilisation etc.)

The watershed area in Berbak benefits local farming practices. A "parit" system is used for agricultural purposes: this drains the swamplands and removes acid peat water; blockages are laid in the parits to control water levels. River fisheries are of local significance. 34 economically valuable species have been recorded.

The peatswamp forest may function as ground water recharge in the surrounding area, as well as functioning as flood control. Mangrove forest in the coastal area may trap the sediment from the water runoff.

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**21. Social and cultural values:** (e.g. fisheries production, forestry, religious importance, archaeological site etc.)

Between 1960 and 1983, it is reckoned about 16,716 ha or 8.8% of Berbak reserve was opened for farming land and resettlement by about 6,000 people of the Buginese tribe who have spontaneously migrated there. The main resource of income for the people derives from farming and fishing. Copra is the prime commodity in the farming sector, while prawn and shrimp is the main commodity from fishery.

Three types of farming occur in the reserve, i.e. dryland, wetland and garden. On dryland cultivation of crops, paddy and vegetables are common. On wetlands, the people grow paddy only as the main vegetation, while in gardens they grow coconut and other perennial trees such as oranges, coffee and cocoa.

Fisheries are most important in Benu river and Air Hitam Laut villages. Various fishing devices are still used.

There is a Buginese tradition of communal family living, so that if the parents move, the whole family follows, even if the other members are independent or economically self-sufficient. This indigenous cultural tradition is called SIRI.

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**22. Noteworthy fauna:** (indicating, e.g., which species are unique, rare, endangered, abundant or biogeographically important; including count data, etc.)

The following are species listed in IUCN Red Data List (1990) found in Berbak:

Endangered	Chinese Egret ( <i>Egretta eulophotes</i> )
	Sumatran Rhinoceros ( <i>Dicerorhinus sumatrensis</i> )
	Sumatran Tiger ( <i>Panthera tigris sumatrae</i> )
	Malayan Tapir ( <i>Tapirus indicus</i> )
	River Terrapin ( <i>Batagur baska</i> )
	False Ghavial ( <i>Tomistoma schlegelii</i> )
Vulnerable	White-winged Duck ( <i>Cairina scutulata</i> )
	Lesser Adjutant ( <i>Leptoptilos javanicus</i> )
	Milky Stork ( <i>Mycteria cinera</i> )
	Malayan Sunbear ( <i>Helarctor malayanus</i> )
	Clouded Leopard ( <i>Neofelis nebulosus</i> )
	Estuarine Crocodile ( <i>Crocodylus porosus</i> )
Rare	Storm's Stork ( <i>Ciconia stormi</i> )
	Asian Dowitcher ( <i>Limnodromus semipalmatus</i> )
	Wrinkled Hornbill ( <i>Rhyticeros corrugatus</i> )
	Wallace's Hawk-eagle ( <i>Spizaetus nanus</i> )
Insufficiently known	Helmeted Hornbill ( <i>Rhinoplax vigil</i> )
	Hairy-nosed Otter ( <i>Luttra sumatranus</i> )
	Asian Arowana ( <i>Scleropages formosus</i> )
	Bornean Terrapin ( <i>Orlitia borneensis</i> )
Indeterminate	Yellow-throated Marten ( <i>Martes flavigula</i> )

About 50 species found in Berbak are listed in Appendix I and II in CITES checklist. 56 species of bird, 7 mammals and 1 fish species are protected by Indonesian law.

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**23. Noteworthy flora:** (indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc.)

In a survey (GIESEN, 1991) about 187 plant species listed in Appendix I (CITES) were recorded, which comprises 10 species of *Myrtaceae*, 9 species of *Arecaceae*, and 8 species of *Moraceae*.

Interesting recordings during the survey are:

- *Cyrtotachys lakka* (synonym : *C. renda*/*Arecaceae*) which was not recorded by DRANSFIELD (1974), FRANKEN & ROOS (1981) or SILVIUS, SIMONS & VERHEUGT (1984).
- *Lepidaria kingii* (*Loranthaceae*) which is recorded in DANSER's (1931) monograph as occurring only in the Malayan Peninsula, and may be a first record in Indonesia.
- *Eugenia jambos* (*Myrtaceae*), the wild type of the popular Indonesian fruit "Jambu Air".

In Berbak, about 23 palm species have been recorded, making it the most palm-rich peat swamp forest yet known.

**24. Current scientific research and facilities:** (e.g. details of current projects; existence of field station etc.)

A number of surveys and researches have been conducted within the area by AWB-Indonesia and PHPA in Sumatra Wetland Project, which focus on wetlands, research on vegetation structure, flora and fauna inventory (birds, fishes, mammals), soils, and conservation and management issues.

**25. Current conservation education:** (e.g. visitors' centre, hides, information booklet, facilities for school visits, etc.)

The sub-section office of Berbak National Park is located at Nipah Panjang. Three resort offices are located in Air Hitam Laut, Air Hitam Dalam and Simpang Datuk. Within the reserve, two guardposts have been built.

**26. Current recreation and tourism:** (state if wetland used for recreation/tourism; indicate type and frequency/ intensity)

The Berbak National Park is relatively undisturbed by visitors, because of poor infrastructure/accessability to the area.

**27. Management authority:** (name and address of body responsible for managing the wetland)

Directorate General of Forest Protection and Nature Conservation (PHPA), Ministry of Forestry, Republic of Indonesia.

Mangala Wanabhakti Building  
8th floor Block 4th.  
Jl. Gatot Subroto, Jakarta

**28. Jurisdiction:** (territorial e.g. state/region and functional e.g. Dept of Agriculture/Dept. of Environment etc.)

This area is managed by the Government of Indonesia, c.g. Directorate General of PHPA

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**29. Bibliographical references:** (scientific/technical only)

AWB-INDONESIA. 1995. WETLAND DATA BASE Summary Report on Taman Nasional Berbak. AWB-INDONESIA. 1994. Buffer Zone Development of the Berbak National Park. (Project summary).AWB-I. Bogor. 6pp.

AWB SURVEY TEAM. 1991. A Preliminary Study of Socio-Economic Aspects of Communities in the Vicinity of Berbak Wildlife Reserve, Jambi, Sumatra. PHPA/AWB Sumatra Wetland project report no. 25b. Bogor. 107pp.

GIESEN, W. 1991. Berbak Wildlife Reserve, Jambi, Sumatra. Sumatra Wetland Project Report No. 13. AWB/PHPA. Bogor 26pp.

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**30. Name and address of compiler:**

Enis Widjanarti and Prianto Wibowo, AWB-Indonesia

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**31. Map of site included? Please tick *yes* -or- *no***

(Please refer to the Explanatory Note and Guidelines for information regarding desirable map traits).

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