

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:

25 August 2005 (final version)

3. Country: Indonesia

4. Name of the Ramsar site: Wasur National Park

5. Map of site included:

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

a) **hard copy** (required for inclusion of site in the Ramsar List): yes -or- no

b) **digital (electronic) format** (optional): yes -or- no

6. Geographical coordinates (latitude/longitude):

139° 45' - 141° 0' East, 8° 0' - 9° 15' South

7. General location:

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

In southern Papua between the town of Merauke, and the border with Papua New Guinea, in Merauke regency.

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

0 - 55 m a.s.l.

9. Area: (in hectares) **413,810 ha**

10. Overview:

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

It is a low-lying wetland in the monsoon climate zone of southern New Guinea with intertidal mudflats and coastal mangroves with extensive seasonally inundated grasslands, savannas and monsoon forest. It is important for large concentration of waterfowl and migratory palaeartic waders. The geological system of Wasur National Park is lying on the lowland of New Guinea where placed in the Australian continental plate and is a stable area composed by the crystalline stone basement of

Precambrian and Paleozoic eras. This geological system is contiguous across the border with Papua New Guinea (PNG) and with Tonda Wildlife Management Area, a Ramsar Site in PNG.

11. 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).

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12. Justification for the application of each Criterion listed in 11. 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).

Criteria 1: Wasur National Park protects a large part of some of the most important wetlands in the TransFly of southern New Guinea. This region is unique in New Guinea for its large expanses of natural flooded grasslands, reed swamps, permanent and semi-permanent swamps, swamp forest and mangroves. Wasur shares a common border with Tonda Wildlife Management area – an existing Ramsar site in neighbouring Papua New Guinea.

Criteria 2: Wasur National Park is the habitat for a number of rare and endemic species. Red-listed species known to be present in viable populations are Scheepmaker's Crowned-Pigeon, *Goura scheepmakeri*, and New Guinea Harpy Eagle, *Harpyopsis novaeguineae*, (Stattersfield et al. 1998), *Thylogale brunii*, *Ephippiorhynchus asiaticus*, Fly River Grassbird/ *Megalurus albolimbatus*, and Little Curlew/ *Numenius minutes*. New Guinea Crocodile *Crocodylus novaeguineae* habitat is in danger as a consequence of skin trading and listed in Annex II of the CITES list. Much of the park's natural flooded grassland systems are restricted in extent and threatened in much of their range by large scale changes to scrub and woodland as well as threatened by invasions of alien species such as water hyacinth and *mimosa pigra*.

Criteria 3: Three TransFly endemic bird species have been recorded, including the Fly River Grassbird *Megalurus albolimbatus*, and the Grey-crowned Munia *Lonchura nevermanni*, (Beehler et al. 1986). Mammals, reptiles, amphibians and fish of the region have not been surveyed in detail, but are likely to be diverse. The TransFly region contains some 358 bird species, most of which are found in Wasur National Park. Of these some 80 species are endemic to the island of New Guinea. Fish diversity is also high in the region with some 111 species found in the eco-region and a large number of these are recorded from Wasur.

Criteria 4: It is an important habitat to protect the migrant birds' population in particular of almost endangered Little Curlew *Numenius minutes*, during migration apart from full life-cycle supports, growth for Wallaby population *Macropus agilis* and *Thylogale brunii*.

Criteria 5: The savannas and coastal back plain wetlands of Wasur are important for wintering Australian birds, large concentrations of waterfowl and migratory palearctic waders. A significant proportion of the world population of Little Curlew *Numenius minutus*, passes through this area on its annual migration (Stronach, pers. comm.). During winter the migrants from eastern Siberia to Northern Australia. Bruce M Beehler recognized that the Little Curlews usually stop over in Trans Fly and around Port Moresby. In wet season, tens of thousands of waterfowl visit the region and of these, significant numbers of Magpie Geese *Anseranas semipalmata*, White Ibis *Eudocimus albus*, Black-necked Stork *Ephippiorhynchus asiaticus*, and Brolga Crane *Grus rubicunda* breed. The avifauna is unusually diverse, reflecting the variety of habitats and the conjunction of the Australian and New Guinean sub-regions.

Estimated population of waterbirds that have been already identified in Wasur NP approximately are 56,145.

Criteria 7: A total of 111 fish species belonging to 40 families and 75 genera are recorded in the TransFly and most freshwater habitats that support these species are present in or near Wasur National Park. It is to be assumed that a significant proportion of these fish species would be represented in Wasur. Of this total 66 species are considered as principle freshwater species living most or all of their life cycle in pure fresh water, 40 species are secondary forms that are mainly estuarine dwellers or at least have a marine pelagic larval stage, and four species are introduced.

Criteria 8: Wasur National Park supports important breeding populations of the rare *Sclerophages jardinii* that are threatened because of ornamental fish trading. There are important breeding grounds for *Sclerophages* in the park.

13. 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:

Wasur National Park is located in Trans Fly ecoregion, which is part of the New Guinea and Melanesia bioregion (Wikramanayake et al, 2002).

b) biogeographic regionalisation scheme (include reference citation):

Terrestrial Ecoregion, Global 200 hundred Ecoregion.

14. 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.

Regional stratigraphy of Wasur National Park is covered into stratigraphy of southern Papua characterized by marine trivial sediments. Basement stones of Merauke are crystalline basement stones composed of the basement of Sahul Plateau between Australian Continent and Papua, covered with terrestrial clastic sedimentary rocks of Pliocene era. This Pliocene sediments then covered by quarter sedimentary that is alluvial and marine sediments. During the quarter era, this area has experienced the geological process of low and high tidal therefore its sedimentary rocks are containing various types between marine and fluvial sediments or recognized as fluvio-marine sediment.

The park contains a large permanent water body, Rawa Biru and numerous rivers and small streams including the Yauram, Mar and Torasi rivers. The Maro river borders the Park along its northern perimeter and flows westwards to the Arafuru sea. The Maro river is strongly tidal for most of its length and its lower reaches are strongly affected by salt water. Associated with the river is a complex system of swamps and oxbow lakes which are of immense importance for a larger number of birds and reptiles. The middle reaches of the Yauram, Mar and Torasi rivers frequently flood and the surrounding plains are under water for a large portion of the year.

15. 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).

Due to the very flat topography of the area, there is no slope occurring natural drainage system in large parts of the reserve. The rainfall run-off remains impounded for long periods during wet season, and causes extensive flooding. Excess water drains gradually into broad depressions of a few meters

depth, which may also remain wet during the dry season. The water depends entirely on antecedent rainfall, flow velocities are low and during the dry season they generally dry out. During the dry season, most of the water is confined to marshy areas, of which Rawa Biru is the largest whilst surrounding area is dried out. Maro River has a small catchment within the Park. Except for the Maro, Wanggo and Torasi Rivers (at the border with Papua New Guinea), there are no perennial rivers in or near the reserve. Maro River is brackish to far upstream. The only permanent open fresh water area is Rawa Biru, which is used as a water source for Merauke. There is a maximum elevation of some 55 m.

The soil types of Wasur National Park and Rawa Biru are dominated by Entisol and Eltisol. Entisol is relatively immature soil of alluvium sedimentary, while eltisol is high moldiness soil composed by soil coatings (horizon) containing clay or recognized as argylic horizon.

Climate is monsoonal with distinct wet and dry seasons. Almost 75% of the annual 1,875 mm of rain falls in the December to May wet season, the remainder falling in a dry season from June to November. This results in predominately grasslands, savannas and monsoon forest vegetation.

Land use is predominantly subsistence by local communities who reside in small settlements. Small yam gardens and sago cultivation are the predominant agriculture, with a few coastal settlers growing irrigated rice. Anthropogenic burning occurs over much of the park in the dry season.

16. Hydrological values:

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

The Maro river is strongly tidal for its length and its lower reaches are strongly affected by salt water. Associated with the river is a complex system of swamps and oxbow lakes which are of immense importance for a larger number of birds and reptiles. The middle reaches of the Yauram, Mar and Torasi rivers frequently flood and the surrounding plains are under water for a large portion of the year.

For extensive areas, shallow wells may provide sufficient water of reasonable quality in the wet season, but during the dry season there is a general lack of freshwater in areas other than Rawa Biru and the upstream Maro river. The ground water is not always potable. There are three separate confined to semi-confined aquifers in the Merauke area, near the Maro river and near Wasur (Coffey and Partners, 1985) which fluctuate by up to 4 meters depending on the season. However, all aquifers have water of poor quality and not potable. It is clear that, considering the increase of the Merauke population, Rawa Biru is and will be of increasing importance as a permanent potable water resource during the dry season. This is a major source of concern. Generally, the hydraulic conductivity (EC) Rawa Biru water is approximately 100-800 micro ohm/cm. It means physically the water has fulfilled a standard to drink, shown by no smell and untaste water, color is still under 50 of scale FTU, TSS, under 1000 mg/l.

Beach ridges protect the inland freshwater systems from saltwater intrusion. In places where intensive sand mining has taken place, the integrity of these natural barriers is compromised.

17. 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.

1. Xf -- **Freshwater, tree-dominated wetlands**; includes freshwater swamp forests, seasonally flooded forests, wooded swamps on inorganic soils.
2. O -- **Permanent freshwater lakes** (over 8 ha); includes large oxbow lakes.
3. I -- **Intertidal forested wetlands**; includes mangrove swamps, nipah swamps and tidal freshwater swamp forests.
4. G -- **Intertidal mud, sand or salt flats**.
5. M -- **Permanent rivers/streams/creeks**; includes waterfalls.
6. N -- **Seasonal/intermittent/irregular rivers/streams/creeks**.
7. Tp -- **Permanent freshwater marshes/pools**; ponds (below 8 ha), marshes and swamps on inorganic soils; with emergent vegetation water-logged for at least most of the growing season.
8. Ts -- **Seasonal/intermittent freshwater marshes/pools on inorganic soils**; includes sloughs, potholes, seasonally flooded meadows, sedge marshes.
9. W -- **Shrub-dominated wetlands**; shrub swamps, shrub-dominated freshwater marshes, shrub carr, alder thicket on inorganic soils.
10. Xp -- **Forested peatlands**; peat swamp forests.

18. General ecological features:

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

No comprehensive flora survey has been attempted although the plant communities are known in general. The flora is important biogeographically because it is determined by a monsoon climate and restricted to a small part of south New Guinea. The majority of this vegetation type in Irian Jaya, especially seasonally inundated grasslands, is being rapidly settled by people and converted for agriculture. The vegetation has a long history of manipulation by man through his traditional subsistence activities, notably through the use of fire in grasslands and savanna, and through small scale and local shifting cultivation.

9 vegetation types have been identified: 1- Beach; 2 - Mangroves: dominated by *Avicennia*, *Rhizophora*, *Sonneratia*; 3 - *Nauclea-Barringtonia* (freshwater mangrove/woodland swamp) with *Imperata* grassland; 4 - Littoral forest: with diverse tree species up to 35m canopy on old coastal dunes; 5 - Monsoon forest: diverse tree species, canopy to 35m, probably replaces mixed savanna in absence of fire; 6 - *Melaleuca* savanna: dominated by *melaleuca* spp. composition depends on degree of inundation, prone to fires; 7 - Mixed savanna: canopy to 20m, greater diversity of tree spp. than 6 above. Intergrades with *Melaleuca* savanna, prone to fires; 8 - Grassland: seasonally inundated, diverse structurally from long reed swamp to short sedges and grasses, fire prone; 9 - Permanent swamp: open water and dense aquatic vegetation.

19. 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.*

The monsoon forests which protect some of the upper catchment of the Maro river are extremely limited in extent in New Guinea and are considered fragile. Open sedge grasslands are found in only a very few other places in southern New Guinea.

20. 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.*

The savannas, grasslands and monsoon forests are unique to this part of New Guinea. In their turn they support unique assemblages of species. 10% of the park's 60 species of mammals are endemic, including the Marsupial Bronze Quoll *Dasyurus Spartacus*. There are at least 5 species of birds that are endemic. The grasslands are some of the richest in New Guinea and support vast numbers of breeding and migratory waterfowl and waders. A report on the significance of the TransFly from this perspective will be available by the end of 2005.

21. 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.

The four groups of autochthonous peoples are Kanume, Yei, Marind, Marori Men Gey people who rely on the area for food and all their daily needs. The people belong to the Kanum, Marind, Yei and Marori tribes. The local community consume fish (barramundi, Saratoga, *Strongylura krefftii*, *Oreochromis mossambica*, etc), Sago, sweet potato, deer, wallaby, bandicoot. Many aspects of their culture are disappearing although some elements such as festivals, pig feasts, dancing, weaving and traditional cooking remain. There are many sites of spiritual significance including sacred sites. The southern part of the area has large areas of ancient agricultural mounds which are of archaeological importance.

22. Land tenure/ownership:

(a) within the Ramsar site:

In Indonesian legislation, the park land is owned by government. However, there are four tribes of autochthonous peoples who are the traditional owners of all land within the park. Indonesian government has acknowledged the rights of these people for resource use, so long as they do not interfere with the conservation aims of the park. Traditional land ownership and use have been surveyed and mapped over a large area of the park.

(b) in the surrounding area:

The surrounding area is largely in ownership of individuals. The area immediately to the west of the park has a large amount of spontaneous settlement, where settlers are not considered legal. The area to the northwest of the park consists of largescale government sponsored transmigrant settlers from western Indonesia

23. Current land (including water) use:

(a) within the Ramsar site:

Landuse is predominantly subsistence by local communities who reside in small settlements. Small yam gardens and sago cultivation are the predominant agriculture, with a few coastal settlers growing irrigated rice. Anthropogenic burning occurs over much of the park in the dry season.

(b) in the surroundings/catchment:

To the parks western boundary lies the densely settled township of Merauke and large scale transmigration settlements to the northwest. These areas are largely subsistence farmed. Remaining forest is under threat from logging and fire wood collection. A buffer zone area has been designated and plans for the management of this area are being drawn up by PHPA, WWF and local government.

The park's eastern boundary is the international border with Papua New Guinea. Contiguous with Wasur is the Tonda Wildlife Management Area that is also a designated Ramsar wetland.

24. 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:

- Poaching using firearms and motorised vehicles, some trade in live fish, birds, fish and reptiles.
- Illegal selective logging, illegal settlement along the trans-Irian highway, unsustainable use of the coastal area due to non-indigenous people settled there by the government.
- There is also unsustainable dry season water extraction from Rawa Biru Lake which is having an *unknown effect* on the area's hydrology.
- Exotic species are a big threat, including cattle ranching, a large deer herd, wild pig, feral cats, horses, goats, four species of introduced fish, giant african land snail, giant mimosa (*Mimosa pigra*) water hyacinth, and siam weed (*Chromolaena odorata*).

(b) in the surrounding area:

The proximity of the town of the Merauke, only 20 minutes drive from the park's western boundary is cause for concern. Much of the poaching originates because of the town's demand for meat. Many of the introductions of exotic species come from the town and existing poor quarantine facilities which result in many exotic species arriving with the transmigration program. The transmigration programme is a major threat to the park's integrity as large population increases are expected in the near future, related to this government program.

25. 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.

Wasur area was first designated as a Wildlife Reserve by the Dept. of Agriculture in 1978 with an area of 210,000ha. Incorporated in the proclamation was Rawa Biru Strict Nature Reserve, encompassing 4,000ha. In 1981, the area of the reserve it was proposed that the area be increased to 225,000ha, although this proposal has not been declared law by the Indonesian Minister of Forestry. In 1982, the Minister of Agriculture granted an additional area of 98,000ha, making the total area 308,000ha. The Ministry of Forestry declared the Wasur area to be a National Park under a decree dated 6 March 1990 with a total area of 308,000 ha, but no official gazette has yet been issued. There is some discrepancy in terms of park area. Following the re-measurement of the official boundary maps for the Park using an electronic planimeter (Planix 7) the total area of the park was found to be 413,810 ha. The difference between this figure and the Ministerial proclamation is due to technical error as the area on the maps and in the field is the same. Unfortunately, the wrong figure is set forth in the proclamation.

Wasur National Park has been the site of a World Wide Fund for Nature (WWF) conservation and development project since 1991. WWF have worked with the government body for management of reserves (PHPA) to produce a management plan for the park. This draft plan is currently being reviewed by PHPA and will be ratified hopefully in 1995. Some elements of the plan are currently being implemented using WWF funding. PHPA has secured some funding for management activities, control on species plant introduce such as water hyacinth (*Eichornia crassipes*), *Mimosa pigra*, and *Chromolaena ordorata*, and fire control, develop the traditional community income through distillation of essential oils, monitoring and arresting the illegal hunter, and build tourism place infrastructures.

26. Conservation measures proposed but not yet implemented:

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

Some of the management measures proposed in the management plan have yet to be implemented, and await ratification of the management plan. A two year program of management oriented research started in 1995. Several studies have conducted such as to inventory and identification of fishes, birds and mammals in Rawa Biru; study on such as *Mimosa pigra*, *Eichhornia crassipes* (Eceng Gondok), and *Chromolaena odorata*; study on population of deer (*Cervus timorensis*), wallaby (*Macropus agilis*), and pig (*Sus scrofa* x *Sus celebensis*).

27. Current scientific research and facilities:

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

Research activities have been limited to preliminary observations of perceived ecological problems such as feral animal impacts on native vegetation, large scale vegetation change from grassland to woodland and hydrological changes by Neil Stronach (ecologist) and Renee (remote sensing expert). A scientific program of research to support management started in July 1995. Some research has been started on the utilisation of resources by local people. The most comprehensive research undertaken to date has been related to socio-economic activities. Several researches will be conducted for the future to support our management of Wasur National Park are ;

Study of distribution of gulma of plant in Wasur National Park.

Study in population of Wallaby (*Macropus agilis*)

Study of cajuput oil trees potential as non timber forest product to support income economic alternative for local communities.

28. Current conservation education:

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

A visitor's centre has been constructed within the park and there is also a smaller information post giving general information about the park's flora and fauna, tailored for the local visitor. Tourist information is given out at a local NGO office. Several leaflets and a brochure about the park have been produced. A widespread program of awareness talks has been given to all levels of society, but focusing on school children, government offices and the transmigration areas. School visits started in 1995 to the information centre and also as part of the school biology curriculum.

29. Current recreation and tourism:

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

International tourists are as yet few due to the distance of the park from major cities and international gateway into Indonesia. The area is starting to be promoted in several international travel guidebooks. Abundant local tourists use the park for recreation purposes, mainly recreation fishing and relaxing on the beach. Local community based tourism enterprises are being developed in association with a local NGO and activities include guest houses in villages, horse riding, trekking, and river trips etc. making local communities as the ultimate beneficiary.

30. Jurisdiction:

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

PHKA is a General Directorate within the Ministry of Forestry, Republic of Indonesia. The park is within the province of Papua, Indonesia.

31. 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.

Management is the responsibility of the Balai Taman Nasional Wasur, based in Merauke. This is under the management control of the Directorate General Forest Protection and Nature Conservation.

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32. Bibliographical references:

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

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Warta, Z. (1998) Dewan Penasehat Taman Nasional Wasur (Wasur National Park Advisory Board). Discussion concept: Wasur National Park Management Plan Workshop. WWF project report

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