

Information Sheet on Ramsar Wetlands

Categories approved by Recommendation 4.7 of the Conference of the Contracting Parties.

1. Date this sheet was completed/updated:

1998

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Designation date

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Site Reference Number

2. Country:

Australia

3. Name of wetland:

Kakadu National Park (Stage 1)

(Including the extension of boundaries of Stage I to incorporate wetland components of Kakadu National Park Stage III)

4. Geographical coordinates:

Latitude: (approx) 12° 40'S ; Longitude: (approx) 132° 45'E

5. Altitude:

0-400 m above mean sea level

6. Area:

The area of Stage I of the National Park is 667,000 ha of which approximately 43,490 ha (6%) is wetland. The Stage III wetland component is approximately 16,000 ha. Total area: 683,000 ha.

7. Overview:

A mosaic of contiguous wetlands comprising the catchments of two large river systems, the East and South Alligator rivers, seasonal creeks and the lower reaches of the East Alligator River. Stage I falls in the Torresian biogeographic sub-region and encompass sandstone plateau communities, escarpments, seasonal floodplains, tidal flats and estuaries. Stage III wetlands, in the south falls in the southern arid Eyrean sub-region. The vegetation communities contain elements of both the Eyrean and Torresian botanical provinces. The floodplains and other wetlands support about 1 million waterbirds of over 60 species, as well as many other vertebrate and invertebrate species.

8. Wetland Type:

marine-coastal: (A) (B) C D (E) (F) (G) (H) (I) J (K)

inland: (L) (M) (N) O P Q (R) (Sp) Ss (Tp) (Ts)

U Va Vt W Xf (Xp) Y Zg Zk

man-made: 1 2 3 4 5 (6) 7 8 9

9. Ramsar Criteria:

1a 1b 1c 1d | 2a 2b 2c 2d | 3a 3b 3c | 4a 4b

Please specify the most significant criterion applicable to the site:

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

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

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12. Justification of the criteria selected under point 9, on previous page.

13. General location:

Northern Territory, Australia, approximately 220 kilometres east of Darwin. Includes wetlands within the area bounded by the latitude (approx.) 12° 04' S to 13° 44' S and longitude (approx.) 131° 52' E to 133° 00' E. Exact location on map.

Addition of the wetland area located within Stage III encompasses the instream waters, waterholes and associated tributaries of the South Alligator River commencing at the western border of Kakadu National Park Stage I at (approx. 12° 59' S, 132° 21' E) following the river corridor southwards to its headwaters at (approx. 13° 44' S, 132° 43' E) and includes the ephemeral wetlands located on the Marrawal Plateau between (approx.) 13° 44' S, 132° 30' E and 13° 48' S 132° 34' E.

14. Physical features:

The park straddles the western edge of the Arnhem Land Plateau where scarp retreat and lowland erosion have formed a diverse landscape of escarpment, broken hills, valleys and extensive floodplains. The Pine Creek geosyncline is the dominant regional structure with which are associated uranium and other ore bodies. The South Alligator trough is a secondary tectonic depression with the East Alligator River on its eastern boundary. The park encloses most of the catchment of the perennial East and South Alligator rivers which rise on the sandstone plateau, drop to the lowlands via rocky gorges and waterfalls, then meander through extensive floodplains, becoming tidal in their lower reaches. The expansion of the Ramsar site to include the headwaters of the South Alligator River provides protection to more than 99% of the catchment of this river. Other large floodplains are associated with Nourlangie, Jim Jim and Barramundie creeks. Surface waters are generally very soft. Up to 29,315 ha (4.4% of the park) of floodplain may be inundated during the wet season. The climate is monsoonal with a hot wet season from November to March accounting, on average, for 90% of the average annual rainfall which ranges from approximately 1300-1565 mm. Mean monthly temperatures range from minima in the low twenties to maxima in the mid-thirties. The coolest months are in the dry season.

15. Hydrological values:

The two river systems of the wetlands are outstanding examples of the series of large rivers of the Torresian monsoonal biogeographic region draining into the Arafura Sea. Together with the West Alligator and Wildman rivers in the adjoining wetland of Kakadu Stage II they are the only such river systems under statutory conservation management.

16. Ecological features:

The tidal mudflats are largely bare of vegetation except for the inland zone where an association of samphire, sedges and grasses develops. The East Alligator River supports bands of mangrove forest along its tidal reaches. Some 39 species of Australian mangrove occur in these forests. By far the largest component of the wetlands is the floodplain complex associated with the perennial East Alligator River and the seasonal creeks, notably Nourlangie Creek. The vegetation is predominantly grass and sedge communities with freshwater mangrove or paperbark swamps along stream and lagoon edges. Lilies and ferns occur in the deeper permanent lagoons. In May the floodplains begin to dry out with the water contracting into lagoons and billabongs. It is during this dry season phase until the wet begins in November that the floodplains are most intensively used by migratory waterbirds.

17. Noteworthy flora:

The floodplains are outstanding examples of their types in the monsoon tropics.

18. Noteworthy fauna:

Between August and October up to 1 million waterbirds accumulate on the floodplains, notably those of Nourlangie Creek. More than 60 species of waterfowl occur in the wetlands including large concentrations of magpie geese *Anseranas semipalmata* and wandering whistling duck *Dendrocygna arcuata*. These and many other species breed in the wetlands but most species are dry season migrants. Thirty five species of wader have been recorded, including many winter migrants to the sub-Arctic, whose first Australian landfall is the Kakadu area. Fifty nine fish species (excluding obligate marine species) are known from the wetland including eight with narrowly restricted ranges. Breeding populations of both freshwater and estuarine crocodiles occur. The wetland is either noted for or important to the conservation of the magpie goose *Anseranas semipalmata*, whistling tree duck *Dendrocygna arcuata*, Burdekin duck *Tadorna radjah*, yellow chat *Ephthianura crocea*, eastern grass owl *Tyto longimembris*, collared kingfisher *Halcyon chloris*, false water rat *Xeromys myoides*, golden-backed tree rat *Mesembriomys macrurus*, pig-nosed turtle *Carettochelys insculpta*, Mariana's hardyhead *Craterocephalus marianae*, exquisite rainbow fish *Melanotaenia exquisita*, Midgley's grunter *Pingalla midgleyi* and the frog *Megistolotes lignarius*.

19. Social and cultural values:

High economic and religious values are placed on the wetland and surrounding catchment by the Aboriginal people of the region. High values are perceived nationally and internationally for conservation, mining, tourism, education and research. Perceptions vary of the consistency of these values with the ecological integrity of the wetlands. Aboriginal sacred sites and art sites are found throughout the park and are important to continuing Aboriginal culture.

20. Land tenure/ownership:

(a) site: Stage 1 of Kakadu National Park was gazetted in April 1979 under the provisions of the *National Parks and Wildlife Conservation Act 1975*, and in 1978 the land was leased by the traditional owners to the Director of National Parks and Wildlife for 99 years. Stage III of the park was proclaimed in June 1987, with later proclamations in 1989 and 1991 to increase the size of the park as areas of the former Conservation Zone were added.

(b) surrounding area: The nominated area is bounded on the east by Arnhem Land, on the south and west by Stage II and III of Kakadu National Park, and to the north by the Van Diemen Gulf.

21. Current land use:

(a) site: The two principal landuses of the wetlands are the conservation of ecosystems and tourism, principally boat based nature appreciation tours. An easily sustained level of hunting and gathering by Aboriginal people living in and around the park takes place in accordance with long-standing tradition.

(b) surroundings/catchment: Mining of uranium takes place in the East Alligator River catchment but is subject to effective environmental damage controls to prevent damage to the wetlands. Mineral exploration activity that took place in the South Alligator River catchment has now been suspended. Commercial barramundi fishing takes place in the sea which has a probably insignificant impact on the rivers and estuaries.

22. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land use and development projects:

(a) at the site: Ecosystem modifications caused by feral livestock, *Mimosa* and *Salvinia* have been reduced in recent years but require continuous intervention. The possible effects of mining the known deposits of uranium, gold, tin and copper, if permitted, remain controversial.

(b) in the surroundings/catchment: As above.

23. Conservation measures taken:

Most of the catchments of the wetlands associated with the two perennial river systems are national park as are approximately 60% of the East Alligator floodplains and the seasonal creek floodplains. Management plans are required by law, and are implemented. Enforcement of comprehensive legislation is effective. Feral livestock, particularly buffalo *Bubalus bubalis* which in the past had modified floodplain ecosystems, are controlled and current densities are low. Extensive infestations of mimosa *Mimosa pigra*, and salvinia, *Salvinia molesta*, have been greatly reduced but not exterminated. Hunting is prohibited except by Aboriginal people and for feral animal control. Controlled recreational fishing is permitted. Fire management is designed to replicate traditional Aboriginal burning practices. In recognition of the conservation significance of the area Kakadu Stage I, II and wetland components of Stage III are listed as Wetlands of International Importance under the Ramsar Convention on Wetlands. In addition, the area is listed on the Register of National Estate, administered by the Australian Heritage Commission.

24. Conservation measures proposed but not yet implemented:

Continued management under the guidelines of the Kakadu National Park Plan of Management and continued review of management guidelines.

25. Current scientific research and facilities:

Research in Kakadu is coordinated by the Biodiversity Group, Environment Australia (formerly ANCA). Research projects are funded and/or conducted by a variety of organisations including the Biodiversity Group, the Commonwealth Scientific and Industrial Research Organisation (CSIRO), the Department of the Environment (DOE), the Department of Tourism and the Northern Territory University. The Environmental Research Institute of the Supervising Scientist conducts research in the region focussing on prevention and amelioration of the environmental impacts of mining. A review of research projects funded recently by the Biodiversity Group (previously ANCA) was conducted in 1995 (Smyth 1995).

26. Current conservation education:

Courses are offered to train tour operators in park interpretation. The Bowali Visitor Centre contains audio-visual displays, static displays and brochures, including information on wetlands within the park. Pamphlets and books are regularly produced. There are numerous bird hides situated at wetland areas

throughout the park. Many of the walking tracks are provided with interpretive signs discussing the Ramsar values of the site. Induction courses for mine staff are given, and public talks are given by interpretive rangers during the peak tourist season (June to September).

27. Current recreation and tourism:

Some 210,000 international and national tourists visit the park each year, a large proportion of whom visit some part or other of the wetlands.

28. Jurisdiction:

Functional authority: The Director of Australian National Parks, Biodiversity Group, Environment Australia.

Territorial authority: The Northern Territory of Australia.

29. Management authority:

Kakadu National Park Board of Management, Kakadu National Park, PO Box 71, Jabiru NT 0886, Australia in conjunction with the Director, Australian National Parks, GPO Box 636, Canberra, ACT, 2600.

30. Bibliographical references:

There are many hundreds of scientific and popular references to the region. Comprehensive accounts of many aspects of the area with extensive reference lists are contained in the following:

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