

## **WORLD HERITAGE NOMINATION - IUCN SUMMARY**

### **147 (BIS): KAKADU NATIONAL PARK (AUSTRALIA)**

Summary prepared by WCMC/IUCN (March 1992) based on the original nomination submitted by the Government of Australia. This original and all documents presented in support of this nomination will be available for consultation at the meetings of the Bureau and the Committee.

---

#### **1. LOCATION**

Situated between the Wildman and East Alligator rivers, 200km east of Darwin, Northern Territory. 19,804 km<sup>2</sup>

#### **2. JURIDICAL DATA**

Kakadu National Park was established in three successive stages, I, II and III, which were proclaimed in 1979, 1984, and 1987, respectively. Stage I was inscribed on the World Heritage List in 1981; Stage II was inscribed in 1987. Stages I and II of the park were designated as Ramsar sites in 1980 and 1989. The Kakadu Aboriginal Land Trust and Jabiluka Aboriginal Land Trust own approximately one-third of the land but lease it to the Director of National Parks and Wildlife to be managed as a national park. The remaining area is vested in the Director of National Parks and Wildlife.

#### **3. IDENTIFICATION**

The park comprises four major land forms: Arnhem land plateau and escarpment complex; southern hills and basins; Koolpinyah surface; and coastal riverine plains. The western rim of the Arnhem land plateau comprises escarpments ranging in height from about 30m to 330m over a distance of some 500km. In addition to the four major landforms, approximately 473 sq. km of coastal, intertidal and estuarine areas and two islands lie within the park. The tropical monsoonal climate, with its marked wet and dry seasons, is the major factor determining the surface water hydrology, vegetation and, over time, the landforms of the park region.

The vegetation can be classified into 13 broad categories, seven of which are dominated by a distinct species of Eucalyptus. Other categories comprise:

mangrove; samphire; lowland rain forest; paperbark swamp; seasonal flood plain and sandstone rain forest.

In excess of 64 mammal, 275 bird, 128 reptile, 25 frog and over 59 freshwater and estuarine fish species have been recorded, including some scarce and endemic taxa. This extremely rich fauna includes 33% of Australia's bird species and 25% of the fish species. Huge concentrations of waterbirds (2.5 mil.) make seasonal use of the floodplains of the Park.

The park contains many Aboriginal archaeological, sacred and art sites. Approximately 300 Aboriginal people reside in the park, including traditional owners and Aboriginals with recognised social and traditional attachments to the area.

#### 4. STATE OF PRESERVATION / CONSERVATION

The park is actively managed to ensure that minimal damage is caused by weeds, feral animals, fire, past mining activities, tourism and other human use. The 1991 Plan of Management provides for extensive consultation on management matters between the Director, representatives of the traditional Aboriginal landowners, and relevant Northern Territory government authorities. One threat to the park is from aggressive weeds, notably *Mimosa pigra* and *Salvinia molesta*. Another and more major threat comes from possible radioactive contamination from an existing uranium mine within an enclave in the park, though controls to date have been effective.

#### 5. JUSTIFICATION FOR INCLUSION ON THE WORLD HERITAGE LIST

The Australian National Parks and Wildlife Service has presented the following justification for designation as a World Heritage property:

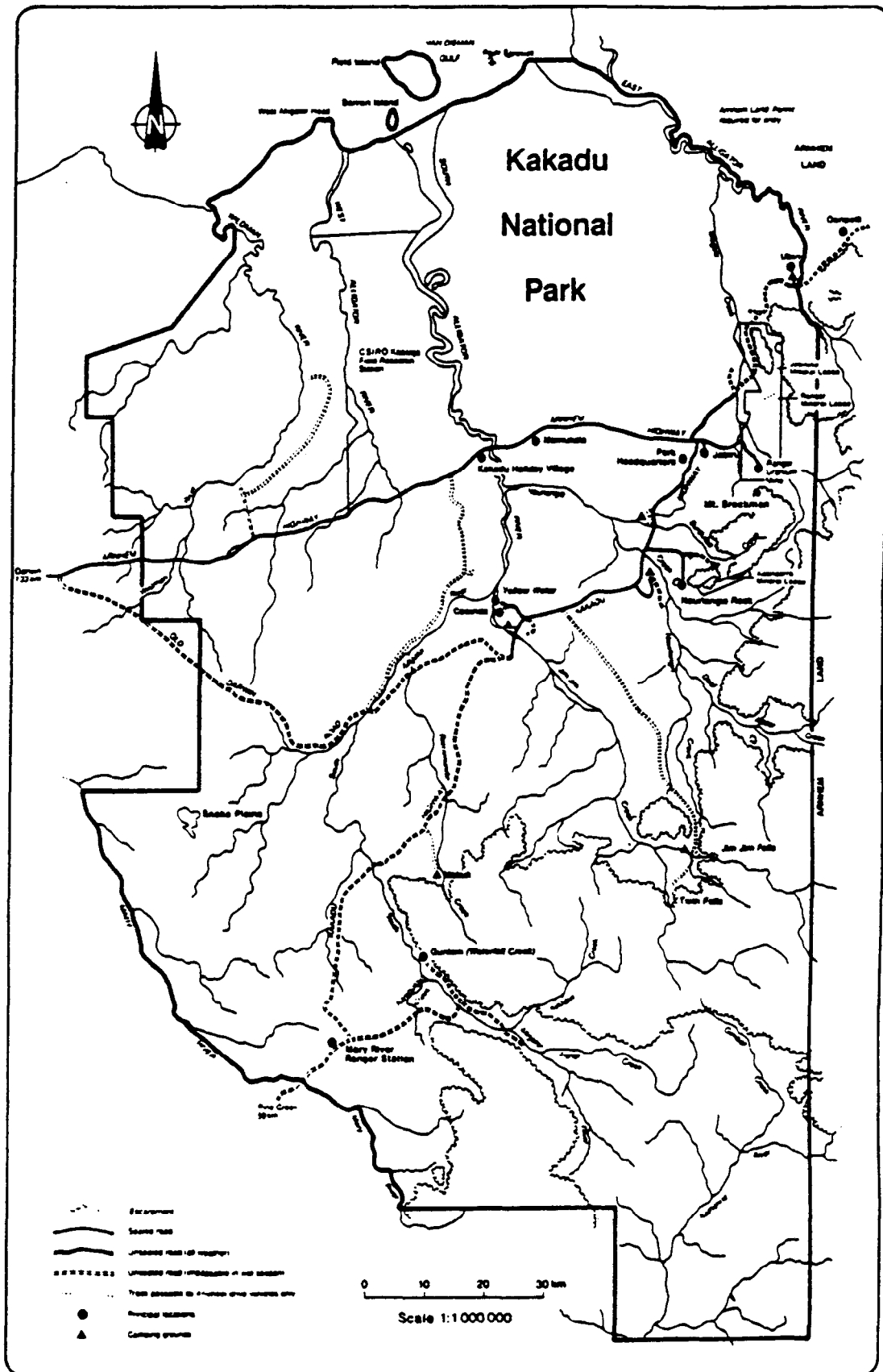
Natural property

- (i) **Outstanding examples representing the major stages of the Earth's evolutionary history.** All the major landforms of the north of Northern Territory of Australia are incorporated in the park, which therefore provides an outstanding example of both ancient and recent geological changes to the continent. The park also contains many examples of relict species and species that represent the various periods of the biological evolution of the Australian fauna.
- (ii) **Outstanding examples representing significant ongoing geological processes, biological evolution and man's interaction with his natural environment.** The coastal rivers and flood plains illustrate the ecological effects of sea-level change in northern Australia. The

region has been little affected by European settlement, in comparison with the remainder of the continent, hence the natural vegetation remains extensive in area and relatively unmodified, and its faunal composition is largely intact. As such, the park provides a special opportunity to investigate large-scale evolutionary processes in an intact landscape.

The archaeological remains and rock art represent an outstanding example of man's interaction with the natural environment. They bear remarkable witness to past environments in northern Australia and to the interaction of human beings with these environments.

- (iii) **Contains unique, rare or superlative natural phenomena, formations or features of exceptional natural beauty.** The focal points of the park are the vast expanse of internationally important wetlands, and the spectacular escarpment and its outliers.
- (iv) **The most important and significant habitats for threatened species of plants and animals.** Paradoxically, the park is both representative and unique. It is representative of a vast area of northern Australia, but it is unique in that it incorporates an almost complete river system and all the major land forms and habitat types of the area, plus others not found anywhere else. The park's large size, its diversity of habitats, and its position in an area of northern Australia subjected to considerably less degradation by European settlement than elsewhere on the continent, have resulted in the protection and conservation of many significant habitats and species.



## WORLD HERITAGE NOMINATION - IUCN TECHNICAL EVALUATION

### 147(BIS): KAKADU NATIONAL PARK (AUSTRALIA)

---

#### 1. DOCUMENTATION

- i) IUCN/WCMC Data Sheet (six references)
- ii) Additional Literature Consulted:
  - Daset 1991. Background Information to the Australian Government's Nomination of Kakadu National Park, 9p.
- iii) Consultations: Australian Government officials, M. Finlayson, H Messel, G. Mosely.
- iv) Field Visit: April 1988; January 1992. Jim Thorsell.

#### 2. COMPARISON WITH OTHER AREAS

As with all national site nominations from Australia, the peculiarities of this island continent make comparison with ecosystems elsewhere difficult. In terms of size, Kakadu rates among the largest ten National Parks in the tropics (Table 1). It is also the largest National Park in Australia and the second largest RAMSAR site there. Within Australia no other park has such a great variety of "land systems" (41) including nine which were added when Stage III of the site was added. It is also one of the few parks which contains an entire major river basin within its boundaries (the South Alligator). Floristically it is the most diverse and most natural area of northern Australia with 46 species of plants considered rare or threatened and nine restricted to the park. The park is unique too in that it is relatively clear of the exotic Mimosa plant which has spread widely in other portions of the "Top End".

Faunistically too, Kakadu is set apart from any other protected area. Among its many unique attributes are that it contains the most important breeding habitat in the world for the saltwater crocodile and the pig-nosed turtle -- both threatened reptiles. Because of its diversity of land systems from marine and coastal habitats (which support substantial turtle and dugong populations) through to the arid sandstone escarpment, Kakadu is one of the world's richest wildlife parks. Included are a variety of forms from 55 species of termite and 200 species of ants (10% of the total world number) to a wide diversity of small mammals and huge concentrations of waterbirds. For this diverse assemblage of species, Kakadu is of exceptional value, unsurpassed elsewhere, and vital to their long-term conservation.

Combined with the overlay of its cultural values, there is simply no other protected area on earth like Kakadu.

TABLE I  
Largest National Parks in Tropical Regions

<u>Name</u>	<u>Country</u>	<u>Size (mil ha rounded)</u>
Salonga *	Zaire	3.7
Parima-Tapirapeco	Venezuela	3.4
Canaima	Venezuela	3.0
Boma	Sudan	2.3
Southern	Sudan	2.3
Jaru	Brazil	2.3
Neblina	Brazil	2.2
Lorentz	Indonesia	2.2
Tsavo (E. & W.)	Kenya	2.1
Kakadu *	Australia	2.0
Manovo-Gounda-St.Floris *	CAR	1.7
Manu *	Peru	1.5
Serengeti *	Tanzania	1.5

\* World Heritage site

### 3. INTEGRITY

Kakadu not only contains an exceptional combination of natural heritage values but it is also an area with unique conservation challenges. Since Stage I of the park was first designated as a World Heritage Site, the Australian authorities have made special efforts to ensure it is managed to the highest standards. These efforts have included the involvement of Aboriginal residents in park management, a strong visitor education programme, impressive research and monitoring activities, grazing lease and minesite restoration, removal of introduced species (buffalo and mimosa), and development of a controlled burning policy related to previous Aboriginal fire practice. All these efforts are described in the new management plan for the park.

In many ways, Kakadu has become a model of effective park management. The authorities are to be commended for a solid and well-funded field programme as well as for taking some difficult decisions on mineral extraction that have had positive consequences on conservation of the park. Stages I, II and III are now all combined and this revised nomination has been submitted as the culmination of a 10 year process to define a conservation unit that encompasses the heritage values of the region. While recognising the accomplishments that have been achieved, the following observations on specific issues are offered:

- **Salvinia** The rigor with which the invasive weed Mimosa has been controlled has not yet been applied to Salvinia. Some essential and innovative research is underway and the authorities should be encouraged to pursue further action on controlling the infestations.
- **Military Training** IUCN has received the draft environmental impact report on the Mount Bunday military training area which adjoins the park in the Wildman river area. If the guidelines and controls suggested are implemented, the values of the park will not be significantly affected. A monitoring report in five years time should be requested.
- **Tourism** As have many World Heritage sites, Kakadu has received a quantum jump in visitation (500% in the past 9 years). Though Kakadu has a large capacity to absorb even higher numbers, it will be important to ensure that tourism is of the appropriate variety.
- **Restoration** Land degradation that occurred in Stage III from small-scale mining and over-stocking has now ceased. Restoration measures are being undertaken and recovery is being monitored.
- **Regional Training Cooperation** Kakadu already attracts park management experts from many countries to review the experience gained here. Perhaps a regular training course sponsored by Kakadu for other World Heritage and RAMSAR site managers could be considered.
- **Mining** This issue is addressed only briefly in the nomination but the long-term aspects of waste disposal and eventual recovery give some cause for concern. In addition to the excised uranium mine at Ranger, there are also two other excised leases, one of which (Jabiluka) is located close to an important floodplain inside the park. Fortunately, the prospects of further mining activity within Stage III have been eliminated but the future potential effects on Kakadu of uranium mining outside the park and from within the enclosure deserve on-going scrutiny.

#### 4. ADDITIONAL COMMENTS

As is the case for all National Parks, the straight-line boundaries of Kakadu are artificial ones. They relate to a long history of administrative land use decisions with the Northern Territory Government and the Arnhem Land aboriginal reservation. Although the South Alligator River drainage basin is contained within the park, headwaters of other rivers lie outside. In an ideal world, ecological/hydrological criteria would allow a different configuration and might also include the drainage basin of the East Alligator River in Arnhem Land which would add additional values and integrity to Kakadu. There are also important natural values in the Cobourg Peninsula and in some of the coastal wetlands to the west of the park. At this point in time, however, such an extension is not seen as necessary for the viability of the nomination.

## 5. EVALUATION

Due to the substantial increase in the size of Kakadu, a new nomination providing a comprehensive assessment of both the natural and cultural values of the site has been compiled. The quality of the documentation is high and the actions called for by the Committee in inscribing Stage I in 1981 and Stage II in 1987 have been fulfilled (except for the questions of a possible extension to the east). The addition of Stage III not only increases the size of the site by 50% but also ensures that the threat from mining in the headwaters of the South Alligator has been extinguished. Stage III also contributes an area of high biological value that is not found in Stages I and II (eg. plant associations, land system types, scenic features, and threatened species).

In conclusion, the three stages in the evolution of Kakadu have resulted in a much improved World Heritage site. Certainly the three natural criteria (ii, iii, and iv) satisfied in 1987 are even more valid with the addition of Stage III. (Its merits on criterion i are secondary and not considered applicable or necessary). All conditions of integrity are also met. The only concern is the possible effects of mining in the small excised leases which could cause future problems.

## 6. RECOMMENDATIONS

The full extent of Kakadu as re-nominated should be inscribed on the World Heritage list on the basis of three natural criteria. The Committee should commend Australia for concluding a 10 year programme to expand the park and for putting in place an exemplary management regime.

