

NOMINATION TO THE WORLD HERITAGE LIST

Convention concerning the Protection of the World Cultural and Natural Heritage

Name: KEOLADEO NATIONAL PARK

Identification No: 340

Date received by WH Secretariat: 18.8.84

Contracting State Party having submitted the nomination of the property in accordance with the Convention: INDIA

Summary prepared by IUCN (March 1985) based on the original nomination submitted by India. 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: The park is 2 km southeast of Bharatpur town and 50 km west of Agra in the state of Rajasthan. Indus-Ganges Monsoon Forest Biogeographical Province.

2. JURIDICAL DATA:

The 2,873 ha national park had its beginnings in 1900 when it was managed as a private duck shooting preserve. In 1956 it was designated as a bird sanctuary but the Maharaja retained shooting rights until 1972. It was designated a Ramsar site in 1981 and was upgraded to a national park in 1982. It is managed by the Forest Department of the state of Rajasthan.

3. IDENTIFICATION:

Keoladeo is an artificially created and maintained wetland site at the upper reaches of India's Indo-Gangetic plains. For much of the year the wetland area is only some 1,000ha. The area floods in the rainy season (July-September) with average water depth of 1-2m. From October to January the water level gradually lowers and from February the land begins to dry out. By June only some water depressions remain. The environment is partly man-made with dykes dividing the area into 10 units, each with a system of sluice gates to control the water level. The site would not support such numbers of waterfowl as it does without the addition of water from a man-made impoundment. The soils are predominantly alluvial, overlying kankerpan and with some clay formations resulting from the periodic inundation. The mean annual rainfall is 650cm, falling mainly during the wet monsoon.

In an area characterised by sparse vegetation, the Park is the only spot which has dense vegetation and trees. The principal vegetation types are tropical dry deciduous forest intermixed with dry grassland (where forest has been degraded); the greater part of the area is covered with shrubs and medium-sized trees.

The park is primarily known as a major focal point for wintering waterfowl from Afghanistan, Turkmenistan, China and Siberia. Some 364 species of birds have been recorded including the rare Siberian Crane (total in 1985 - 41 birds). The most common waterfowl are gadwall, shoveller, common teal, tufted duck, pintail, white spoonbill, little cormorant, cormorant, painted stork, Asian open-billed stork, oriental ibis, spot-billed pelican, darter, common sandpiper, wood sandpiper, green sandpiper and plover. The Sarus crane, with

its spectacular courtship dance, is also found here. Among land birds is a rich assortment consisting of warblers, babblers, bee-eaters, bulbuls, buntings, chats, partridges and quails. There are many birds of prey including the osprey, peregrine, Pallas or ringtailed fishing eagle, short-toed eagle and tawny eagle.

The dry part of the park harbours moderate numbers of animals such as nilgai, sambar, chital, blackbuck, civet (2 species), and python, 36 species of fish are also found in the waters of the park.

4. STATE OF PRESERVATION/CONSERVATION:

Keoladeo National Park is a small green wildlife oasis within a populated human-dominated landscape. It is surrounded by 17 villages and the industrial city of Bharatpur. The boundaries are clearly delineated by a 32 km long, 2 m high stone wall which totally surrounds the park to prevent human and domestic stock trespass. The wetlands of the park are dependent on a regulated water supply from a dam outside the park boundary.

Aware of the natural value of the park and the human pressures it was subject to, major management controls have been implemented over the past few years. Grazing, Khus grass and firewood collection was phased out in 1983. A through road through the park was closed to traffic and relocated outside the park. A research and monitoring programme sponsored by the Bombay Natural History Society is investigating the impacts of these changes as well as conducting inventories of park resources. A remaining management problem is the existence of some 700 feral cattle in the park.

The park is well run by the State Government and attracted some 80,000 visitors in 1984 (25,000 of whom were foreign). There is no management plan.

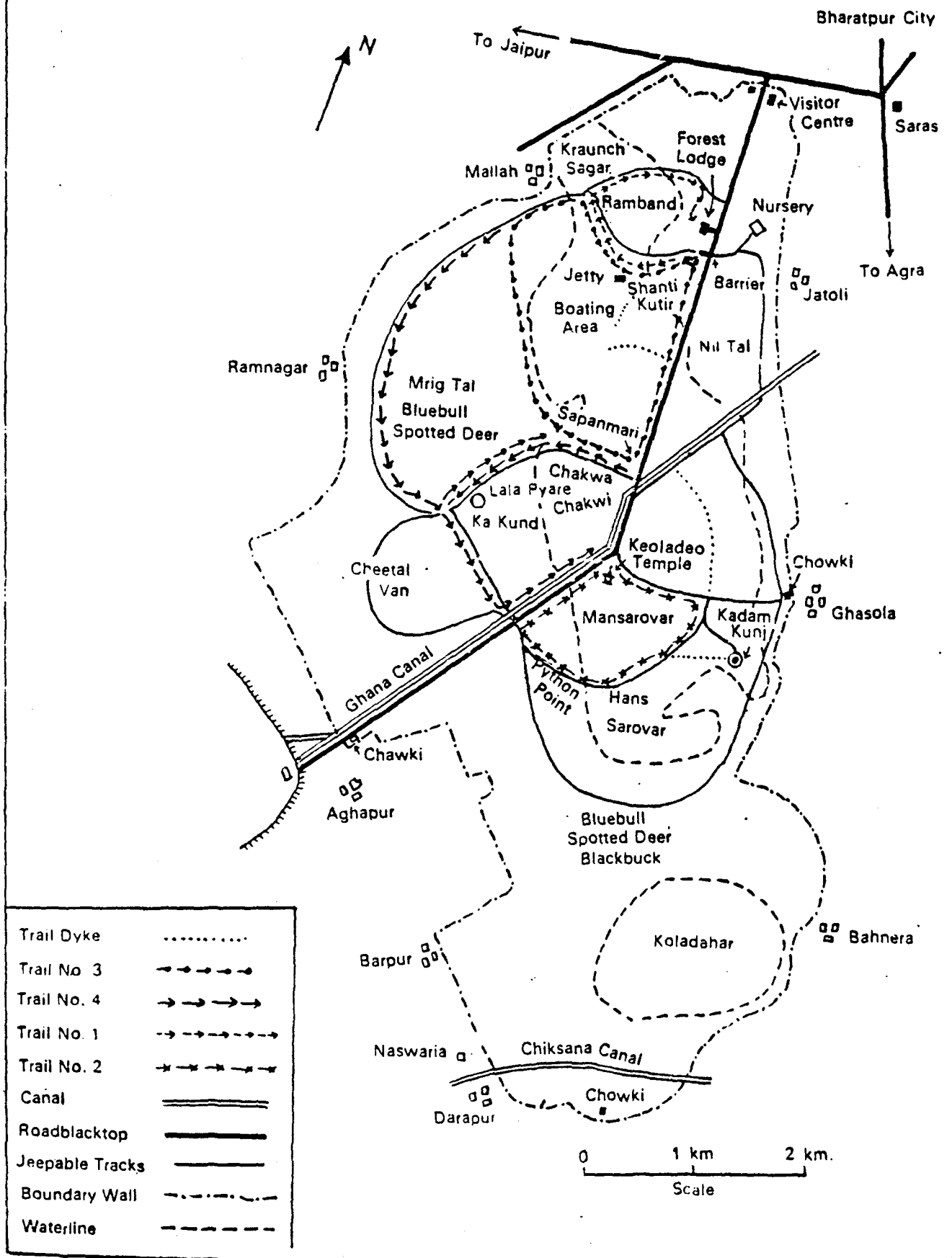
5. JUSTIFICATION FOR INCLUSION ON THE WORLD HERITAGE LIST:

The Keoladeo National Park, as presented by the Government of India, provides the following justification for designation as a World Heritage property:

- a) Cultural property -- not applicable
- b) Natural property

(iv) Habitats of rare and endangered species. The park is a wetland of international importance for migratory waterfowl. It is the wintering ground for the rare Siberian Crane and is habitat for large numbers of resident nesting birds.

MAP OF KEOLADEO NATIONAL PARK BHARATPUR



340 KEOLADEO NATIONAL PARK (INDIA)

1. DOCUMENTATION:

- (i) Nomination form
- (ii) IUCN Data Sheets
- (iii) Site visit, 9-11 February 1985
- (iv) Consultations: Dan Navid, John MacKinnon, K. Sankhala, Michael Smart, Patrick Dugan, Peter Jackson, Claude Martin, Ian Grimwood, India Government Officials
- (v) Literature Consulted:
 - Ian Grimwood, 1981. The Impact of Tourism on National Parks of India, WWF-India Report.
 - India's Wildlife, 1980. Animal Kingdom, October/November.
 - National Report of India at Second Ramsar Conference, Groningen, 1984.
 - IUCN, 1984. Directory of Wetlands of International Importance.
 - J.C. Daniels, 1985. India's Wetland Resources. CNPPA Corbett Meeting paper.

2. COMPARISON WITH OTHER AREAS

The Indus-Ganges Monsoon Forest Biogeographical Province is a well represented one within the Indomalayan Realm with over 5.3 million ha protected in 123 areas. In the case of Keoladeo however, it is more useful to compare it to other wetland sites on the Indian sub-continent. The Government of India has inventoried 407 wetlands in the country, 2 of which, including Keoladeo, have been placed on the Ramsar List of Wetlands of International Importance. Pakistan also has comparable wetlands and has 9 areas as designated Ramsar sites. Several other important comparable wetland areas exist in Bangladesh and Afghanistan. Areas in Pakistan and Afghanistan such as the Haleji, Khushdil Khan and Dast-e-Nawar, being further north, are used more as resting places for birds on passage than as permanent winter quarters.

Of the wetlands in India, more than 100 sites are larger than Keoladeo. Some of the important sites are Chilka Lake (116,500 ha), Point Calmere (25,435 ha), Pullicat (50,000 ha), Kolleru (673,000 ha), Nalsarovar (11,500 ha), Sultanpur (13,727 ha), Little Rann of Kutch, and the Sunderbans.

The distinctiveness of Keoladeo is that it is the only wetland with national park status, it is the only site where the rare Siberian Crane winters, and it is an accessible, much visited, and well-known reserve. Other sites thus may be larger and have greater numbers of Palaearctic migrants but have not received the attention or the level of protection as Keoladeo.

The importance of the area as a wintering ground for 41 Siberian Crane (western population from the Ob River, Siberia) is of less significance since the discovery of 1350 (eastern population) at the Poyang Lake Bird Sanctuary in Jiangxi, China.

The terrestrial wildlife of the park is a supplemental attraction of the area but it does not include a significant population of any rare species.

In summary, there are a large number of wetland sites on the Indian sub-continent, many of which are larger, some of which provide habitat for greater numbers of birds, but few with a similar species assemblage as Keoladeo. Nowhere else in the region are nesting colonies of resident storks and cranes as numerous or as dense.

3. INTEGRITY

The park is totally enclosed by a stone wall immediately outside of which is intense human settlement. Conflicts with local people and the park have caused some political debate as well as civil disturbances. Security of the reserve is now, however, very good and poaching and illegal removal of grass and firewood has been phased out. There is no possibility for a buffer zone.

The dependence of the park's water system on the monsoon and on the water pumped in from outside is a matter of some concern. In 1979, for instance, both sources were inadequate and waterfowl numbers in the park were low. On-going research on the hydrology should minimize this problem in future.

There has been some concern expressed over possible air and water pollution effects from the adjacent city of Bharatpur, but these effects are unknown at present.

In the dry area of the park the existence of over 700 feral cattle is the main management problem. These cattle compete with wildlife for the limited forage available and there are numerous signs of overgrazing as a result. Within the cultural milieu of India, a solution to this problem has not yet been found.

Keoladeo attracts many visitors and has a substantial accommodation facility located inside the park. Disturbances to nesting birds has been substantially reduced in the past few years by closing the park to vehicular traffic. Some negative impacts are still in evidence but an education programme and efficient guide service keeps these to an acceptable minimum.

In conclusion, it is recognized that the existence of Keoladeo is due to the modifications of man. Its management for conservation purposes has gradually been intensified and has resulted in an internationally recognized wetland site. Although the park has many supporters it also suffers from antagonism by the local people who have lost their accessibility to use the area. Finally, it is emphasized that the marshes of Keoladeo are not natural, they are the result of careful management, and their maintenance depends on this continued manipulation.

4. ADDITIONAL COMMENTS

The nomination submitted for Keoladeo was not sufficiently detailed, a fact that several reviewers noted. IUCN has supplemented the submission with additional information from interviews and unpublished sources.

5. EVALUATION

The Keoladeo National Park is an internationally famous wetland for Palaearctic migrant waterfowl and for its large congregations of non-migratory resident breeding birds. The existence of the resource system on which this spectacle is based is dependent on the hand of man and demonstrates what can be accomplished for conservation through his judicious intervention. The park receives much publicity and is a focal point for visitors who are attracted for the birdlife. Keoladeo is one of the most important bird habitats in the Indomalayan Realm and thus meets category iv.

6. RECOMMENDATIONS

Keoladeo National Park should be added to the World Heritage List. The Committee should commend and encourage the Government of India to continue its improvements to management of the site.

INDIA - Rajasthan

NAME Keoladeo (Bharatpur) National Park

MANAGEMENT CATEGORY II (National Park)
X (World Heritage Site - Criteria: iv)

BIOGEOGRAPHICAL PROVINCE 4.08.04 (Indus-Ganges Monsoon Forest)

GEOGRAPHICAL LOCATION Situated in eastern Rajasthan, the park is 2km south-east of Bharatpur and 50km west of Agra. 27°07'-27°12'N, 77°29'-77°33'E

DATE AND HISTORY OF ESTABLISHMENT Established as a national park on 10 March 1982. Previously the private duck shooting preserve of the Maharaja of Bharatpur since the 1850's, the area was designated as a bird sanctuary on 13 March 1956 and a Ramsar site in October 1981. The last big shoot was held in 1964 but the Maharajah retained shooting rights until 1972. Inscribed on the World Heritage List in 1985.

AREA 2,873ha

LAND TENURE Rajasthan State Government

ALTITUDE 174m

PHYSICAL FEATURES The area consists of a flat patchwork of marshes in the Gangetic plain, artificially created in the 1850s and maintained ever since by a system of canals, sluices and dykes. Normally, water is fed into the marshes twice a year from inundations of the Gambira and Banganga rivers, which are impounded on arable land by means of an artificial dam called Ajan Bund, to the south of the park. The first time, usually in mid-July, is soon after the onset of the monsoon and the second time is in late September or in October when Ajan Bund is drained ready for cultivation in winter. Thus, the area is flooded to an depth of 1-2m throughout the monsoon (July-September), after which the water level drops. From February onwards the land begins to dry out and by June only some water remains. For much of the year the area of wetland is only 1,000ha. Soils are predominantly alluvial - some clay has formed as a result of the periodic inundations.

CLIMATE During 1988 mean maximum temperature ranged from 20.9°C in January to 47.8°C in May, while the mean temperature varied from 6.8°C in December to 26.5°C in June. The diurnal temperature variation ranged from 5°C in January to 50°C in May. Mean relative humidity varied from 62% in March to 83.3% in December. The mean annual precipitation is 662mm, with rain falling on an average of 36 days per year. During 1988 only 395mm of rain fell during 32 wet days (Vijayan, 1989).

VEGETATION In a semi-arid biotype, the park is the only area with much vegetation, hence the term 'Ghana' meaning 'thicket'. The principal vegetation types are tropical dry deciduous forest, intermixed with dry

Infobase produced by WCMC, January 1992

grassland in areas where forest has been degraded. Apart from the artificially managed marshes, much of the area is covered by medium-sized trees and shrubs. Forests, mostly in the north-east of the park, are dominated by kalam or kadam Mitragyna parvifolia, jamun Syzygium cumini and babul Acacia nilotica. Neem Azadirachta indica, probably introduced, is occasional. The open woodland is mostly babul with a small amount of kandi Prosopis spicigera and ber Zizyphus mauritiana. Scrublands are dominated by ber and kair Capparis decidua. Pилоo Salvadora oleoides and S. persica also

occur scrubland and are virtually the only woody plants found in areas of saline soil. The aquatic vegetation is rich in species and is a valuable source of food for waterfowl. Saxena (1975) lists the park's flora.

FAUNA Primates are rhesus macaque Macaca mulatta and langur Presbytis entellus. Large predators are absent, leopard Panthera pardus (V) having been deliberately exterminated by 1964, but small carnivores include Bengal fox Vulpes bengalensis, jackal Canis aureus, striped hyena Hyaena hyaena, common palm civet Paradoxurus hermaphroditus, small Indian civet Viverricula indica, Indian grey mongoose Herpestes edwardsi, fishing cat Felis viverrina, leopard cat F. bengalensis, jungle cat F. chaus and smooth-coated otter Lutra perspicillata numbering about 30 individuals (Haque and Vijayan, 1988). Ungulates include blackbuck Antelope cervicapra (60)[30], chital Cervus axis (350)[230-260], sambar C. unicolor[20], hog deer C. porcinus, nilgai Boselaphus tragocamelus (480)[160-180] and wild boar Sus scrofa [200-250] and feral cattle [950-1,000]. (The figures in brackets refer to the number of animals counted in the 1980 census and those in square brackets refer to the 1988 census (Vijayan, 1989)). Other mammals include Indian porcupine Hystrix indica and Indian hare Lepus nigricollis. Some 364 species of bird have been recorded in the park, which is considered to be one of the world's finest areas for birds, with an unique assemblage of species. It is the major wintering ground of the western population of Siberian crane Grus leucogeranus (E). A total of 41, including eight young, were recorded in December 1984 - this is the highest number for many years (ICBP, 1985). There is only one other known western population, in Iran, but a thriving eastern population of some 1,350 cranes has recently been discovered wintering in Poyang Lake Nature Reserve, Jiangxi, China. The park's location in the Gangetic Plain makes it an unrivalled breeding site for herons, storks and cormorants and an important wintering ground for large numbers of migrant ducks. The most common waterfowl are gadwall Anas strepera, shoveler A. clypeata, common teal A. crecca, cotton teal Nettapus coromandelianus, tufted duck Aythya fuligula, comb duck Sarkidiornis melanotos, little cormorant Phalacrocorax niger, great cormorant P. carbo, Indian shag P. fuscicollis, ruff Philomachus pugnax (probably the most abundant wader), painted stork Ibis leucocephalus, white spoonbill Platalea leucorodia, Asian open-billed stork Anastomus oscitans, oriental ibis Threskiornis melanocephalus, darter Anhinga melanogaster, common sandpiper Tringa hypoleucos, wood sandpiper T. glareola and green sandpiper T. ochropus. Sarus crane Grus antigone, with its spectacular courtship dance, is also found here. Among land birds is a rich assortment consisting of warblers, babblers, bee-eaters, bulbuls, buntings, chats, partridges and quails. Grey hornbill Tockus birostris and Marshall's iora Aegithina nigrolutea are also present. There are many

birds of prey including the osprey Pandio haliaetus, peregrine Falco peregrinus, Pallas' fish eagle Haliaeetus leucoryphus, short-toed eagle Circaetus gallicus, tawny eagle Aquila rapax, imperial eagle A. heliaca, spotted eagle A. clanga and crested serpent eagle Spilornis cheela. Greater spotted eagle has recently been recorded breeding here, a new breeding record for the species in India (Prakash, 1988a) and lesser spotted eagle Aquila pomarina hastata nested in the park in 1986, the first nesting record for the species in India for some time (Prakash, 1988b). Abdulali and Pandey (1978) and Ali and Hussain (1982) provide checklists of birds recorded in the park. Reptiles include water snakes, Indian python Python molurus (V), banded krait Bungarus fasciatus, green rat snake Zaocys nigromarginatus, turtles (Lissemys punctatus, Trionyx gangeticus, Kachuga tectum and Hardella thurgi) and monitor lizard Varanus sp. Some 50 species of fish have been identified (Kumar and Vijayan, 1988). Protozoa, zooplankton and macrobenthic oligochaeta, Insecta and Mollusca have been studied with particular reference to drought conditions (Mahajan et al., 1981a, b and c). A discussion on the aquatic macroinvertebrates, terrestrial invertebrates, fish, herpetofauna, birds and mammals is given in Vijayan (1989).

CULTURAL HERITAGE No information

LOCAL HUMAN POPULATION There are no local people living within the park, but it is surrounded by 17 villages and the town of Bharatpur is closeby.

VISITORS AND VISITOR FACILITIES Food and accommodation is available at Shanti Kutir Forest Lodge (64 beds), bookable through the Forest Department, and the more expensive ITDC Forest Lodge (36 beds), bookable through the Tourist Department. Boats can be hired and guides knowledgeable about birds are available. There were 80,000 visitors in 1984.

SCIENTIFIC RESEARCH AND FACILITIES The Bombay Natural History Society has done considerable work in the area, including the ringing of birds for the last 40 years. The society has recently intensified its operations and has established a hydro-biological station to monitor the ecology of the wetland. Particular attention will be given to any in dramatic change in the vegetation following the ban on grazing. Limnological studies have been carried out by the Zoology Department of the University of Rajasthan, Jaipur. The park authorities are monitoring the bird populations. A documentary film 'Indian birds of the monsoon' was produced by S. and B. Breeden in 1979-1980. The park has considerable potential for education, more so than other wetland sites in India, in view of it being relatively near to the cities of Agra, Delhi and Jaipur. A bibliography of papers etc. produced during 1988 is given in Vijayan (1989).

CONSERVATION MANAGEMENT The management objective is to allow the area to flood and dry out annually, rather than be maintained as a system of permanent marshes. Water for the wetlands is supplied from a dam outside the park boundaries, usually some 15 million cu.m, and the water levels are regulated to benefit waterfowl. If the wetland is in danger of drying out completely, water can be pumped from four boreholes to ensure the survival

of some aquatic flora and fauna until the monsoon. The boundaries are clearly delineated by a 32km long, 2m high stone wall, which totally encloses the park to prevent humans and domestic livestock from trespassing. Due to the dense human settlement surrounding the park, there is no possibility of creating a buffer zone. The road from Bharatpur town, which bisects the park, has been closed and relocated outside the boundaries. This has considerably reduced the level of disturbance by visitors from the town. Grazing and the collection of firewood and khus grass Vetiveria zizanioides were phased out in 1983. The absence of grazing, which is now believed to keep waterways open, is causing management problems as vegetation, principally Paspalum distichum, a perennial amphibious grass, blocks up the channels. The Rajasthan government has rejected a proposal from the Bombay Natural History Society to allow limited grazing, since this conflicts with the law (Earle, 1987). Larvae of the Lepidopteran Parapovynx diminutalis has been a serious pest, considerably inhibited the growth of Nymphoides cristatum during June-July 1986 (John and Nanjappa, 1988).

MANAGEMENT PROBLEMS Some 2,500 cattle and water buffalo were allowed in the area up until November 1982 when grazing was banned. Predictably, it led to local resentment, boiling up to an attempt to force entry into the park. Police opened fire and eight people were killed. Tension remains high. The absence of domestic livestock has meant that aquatic plant growth is no longer held in check and there is virtually no open water remaining, perhaps four or five small areas at most. Furthermore, recycled nutrients from the large quantity of dung deposited by livestock probably supported considerable numbers of insects. Thus, a limited level of grazing may need to be permitted in order that the area remain attractive to a wide variety of birds and fish.

A management problem is the presence of some 700 feral cattle still within the park, which compete with wildlife for valuable forage. The high level of pollutants in Ajan Bund is believed to be responsible for the increasing number of piscivorous birds seen in a dazed state and unable to fly. Notably fewer birds were recorded in 1984 than in previous years. Four Sarus crane and 40 ring dove were found dead outside the park during 1988 and early 1989, possibly due to pesticide poisoning, and a study of the impact of pesticide use in surrounding areas on the park has been initiated in addition to studies on heavy metal contamination (Vijayan, 1989). Disturbance from visitors can be a cause for concern.

STAFF Under the Deputy Chief Wildlife Warden are a research officer, forester, three rangers, 20 wildlife guards, clerks and an accountant.

BUDGET No information

LOCAL ADMINISTRATION Deputy Chief Wildlife Warden, Keoladeo National Park, Bharatpur, Rajasthan

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DATE October 1985, updated May 1989 and May 1990
0153V

DESIGNATION POUR LA LISTE DU PATRIMOINE MONDIAL

Convention concernant la protection du patrimoine mondial, naturel et culturel

Nom: PARC NATIONAL DE KEOLADEO

No d'identification: 340 Date de réception par le secrétariat: 18.8.84

Etat Partie contractante ayant présenté la désignation du bien, conformément à la Convention: INDE

Résumé préparé par l'UICN (mars 1985) d'après la désignation d'origine soumise par l'Inde. L'original et tous les documents présentés à l'appui de cette désignation seront disponibles pour consultation aux réunions du bureau et du comité.

1. SITUATION: Le parc est à 2 km au sud-est de Bharatpur et à 50 km à l'ouest d'Agra, dans l'Etat du Rajasthan. Province biogéographique de la forêt de mousson indo-gangétique.

2. DONNEES JURIDIQUES:

Le parc national de 2873 ha a été créé en 1900, époque à laquelle il était géré comme réserve privée de chasse au canard appartenant à un Maharaja. En 1956, Keoladeo avait été désigné comme sanctuaire d'oiseaux mais le Maharaja conserva ses droits de chasse jusqu'en 1972. Inscrit sur la Liste de Ramsar en 1981, le site devint parc national en 1982. Il est géré par le Département des forêts de l'Etat du Rajasthan.

3. IDENTIFICATION:

Keoladeo est une zone humide artificiellement créée et entretenue dans le bassin supérieur de la plaine indo-gangétique. Pendant une bonne partie de l'année, la zone humide est réduite à environ 1000 ha. L'aire est inondée pendant la saison des pluies (juillet-septembre), l'eau atteignant une profondeur moyenne de 1 à 2m. D'octobre à janvier, le niveau de l'eau baisse progressivement et à partir de février, la terre commence à sécher. En juin, il ne reste que quelques trous d'eau. Le milieu est partiellement artificiel, des digues divisant l'aire en 10 unités qui possèdent un système d'écluses pour contrôler le niveau de l'eau. Le site ne pourrait entretenir autant d'oiseaux sans l'apport d'eau captée artificiellement. Les sols sont principalement alluviaux, recouvrant des "kankerpan" et il y a des formations argileuses résultant des inondations périodiques. La moyenne annuelle des pluies est de 650 cm, tombant surtout pendant la mousson.

Dans cette région qui se caractérise par une maigre végétation, le parc est le seul endroit possédant une végétation dense et des arbres. Les principaux types de végétation sont une forêt tropicale sèche décidue mêlée à la prairie sèche (où la forêt est dégradée); la plus grande partie du parc est couverte de buissons et d'arbustes.

Le parc est surtout connu comme point de rassemblement essentiel pour les oiseaux d'eau d'Afghanistan, du Turkménistan, de Chine et de Sibérie qui viennent hiverner. On y a répertorié environ 364 espèces d'oiseaux, notamment la rare grue de Sibérie (total en 1985 - 41 oiseaux). Les oiseaux les plus communs sont le canard chipeau, le canard souchet, la sarcelle d'hiver, le fuligule morillon, le canard pilet, la spatule blanche, le petit cormoran, le cormoran, la cigogne ornée, l'anastome d'Asie, l'ibis oriental, le pélican d'Asie, l'anhinga, le chevalier guignette, le chevalier sylvain, le chevalier cul-blanc et le pluvier. On y trouve aussi la grue antigone à la parade nuptiale spectaculaire. Parmi les oiseaux terrestres on trouve des fauveltes, grives, guépriers, bulbuls, bruants, tariers, perdrix et cailles. Il y a de nombreux oiseaux de proie, notamment le balbuzard, le faucon pèlerin, l'aigle Pallas, l'aigle pêcheur, le circaète Jean-le-Blanc, l'aigle ravisseur.

La partie sèche du parc abrite, en petit nombre des nilgais, sambars, chitals, antilopes cervicapres, civettes (deux espèces) et des pythons et, dans les eaux du parc, on trouve 36 espèces de poissons.

4. ETAT DE PRESERVATION/CONSERVATION:

Le Parc national de Keoladeo est une petite oasis verte abritant la vie sauvage dans une région fortement dominée par l'homme. Il est entouré par 17 villages et la ville industrielle de Bharatpur. Le parc est clairement délimité par un mur de pierre de 32 km de long et de 2m de haut l'entoure totalement, empêchant l'entrée illicite des hommes et du bétail. La zone humide du parc dépend d'un apport régulier d'eau assuré par un barrage se trouvant hors les limites du parc.

Conscientes de la valeur naturelle du parc et des pressions humaines qui pesaient sur lui, les autorités ont mis en oeuvre des mesures de gestion strictes, ces dernières années. Il a été mis un terme au pâturage et à la collecte d'herbe et de bois de feu, en 1983. Une route qui traversait le parc a été fermée et reconstruite à l'extérieur. La société d'Histoire naturelle de Bombay parraine un programme de recherche et de surveillance continue qui étudie les effets de ces modifications et fait l'inventaire des ressources du parc. La présence, dans le parc, de quelque 700 têtes de bétail redevenu sauvage pose un problème de gestion.

Le parc est bien administré par le gouvernement de l'Etat et a attiré 80 000 visiteurs en 1984 (dont 25 000 étrangers). Il n'y a pas de plan de gestion.

5. RAISONS JUSTIFIANT LA DESIGNATION POUR LA LISTE DU PATRIMOINE MONDIAL:

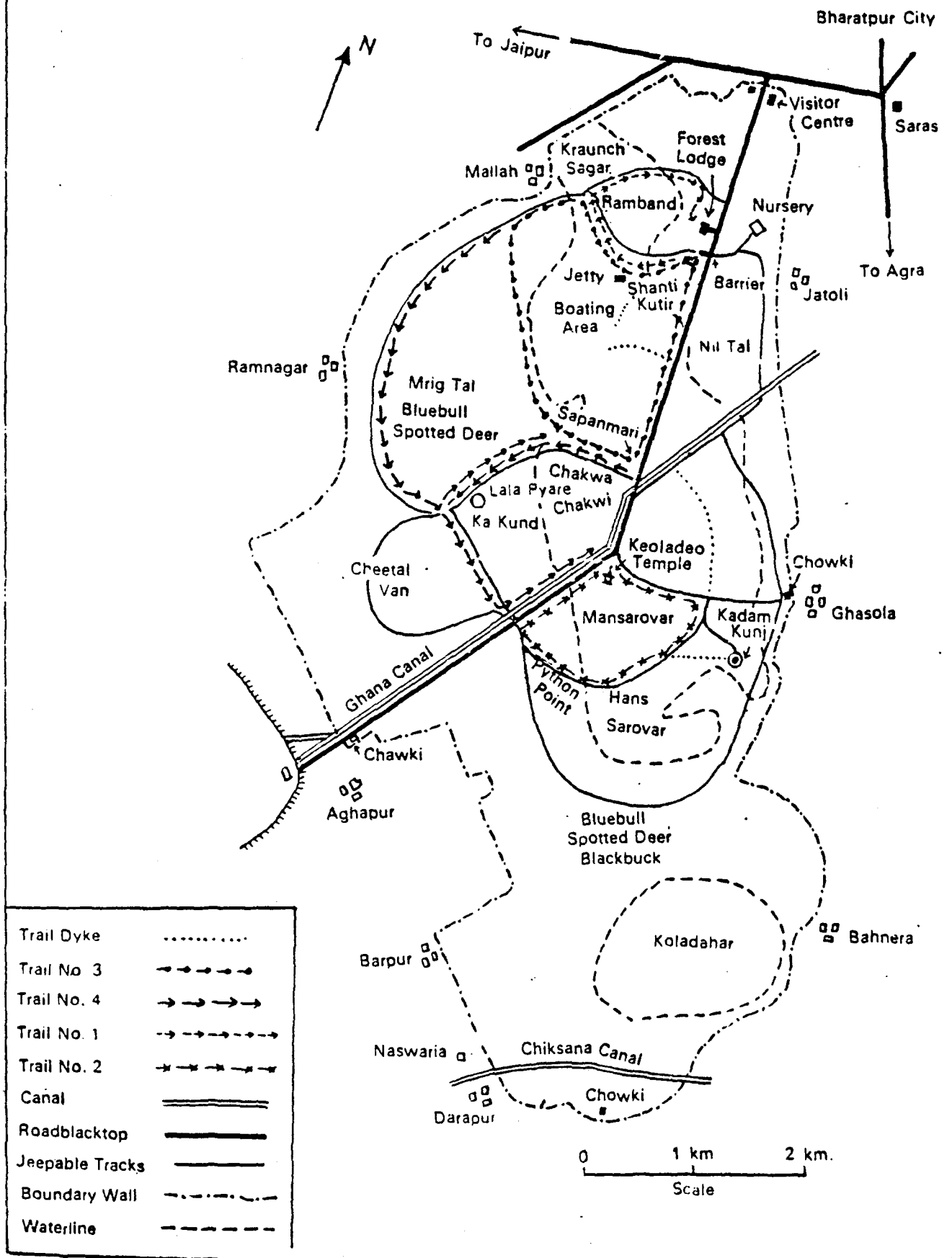
Pour justifier la désignation du Parc national de Keoleado en tant que bien du patrimoine mondial, le gouvernement de l'Inde a donné les raisons suivantes:

a) Bien culturel -- non applicable

b) Bien naturel

(iv) Habitats d'espèces végétales ou animales rares ou menacées. Le parc est une zone humide d'importance internationale pour les oiseaux d'eau migrants. C'est le site d'hivernage de la rare grue de Sibérie et l'habitat de grands nombres d'oiseaux nicheurs résidents.

MAP OF KEOLADEO NATIONAL PARK BHARATPUR



340 PARC NATIONAL DE KEOLADEO (INDE)

1. DOCUMENTATION:

- a) Formulaire de désignation
- b) Fiches de données de l'UICN
- c) Visite sur le terrain, 9-11 février 1985
- d) Consultants: Dan Navid; John MacKinnon; K. Sankhala; Michael Smart; Patrick Dugan; Peter Jackson; Claude Martin; Ian Grimwood; représentants du gouvernement de l'Inde
- e) Littérature consultée:
 - Ian Grimwood, 1981. The Impact of Tourism on National Parks of India, rapport du WWF-Inde.
 - India's wildlife, 1980. Animal Kingdom, octobre/novembre.
 - rapport national de l'Inde à la Deuxième Conférence de Ramsar, Groningue, 1984.
 - UICN 1984. Directory of Wetlands of International Importance.
 - J. C. Daniels, 1985. India's Wetland Resources. Documents de la réunion de la CPNAP au Parc national Corbett.

2. COMPARAISON AVEC D'AUTRES AIRES:

La province biogéographique de la forêt de mousson indo-gangétique est bien représentée dans le domaine indo-malais, avec 5,3 millions d'hectares protégés en 123 aires. Cependant, il est plus utile de comparer Keoladeo avec d'autres zones humides du sous-continent Indien. Le gouvernement de l'Inde a inventorié 407 zones humides. Deux d'entre elles, dont Keoladeo, ont été inscrites sur la Liste des zones humides d'importance internationale (Ramsar). Le Pakistan possède aussi des zones humides comparables et a inscrit 9 sites sur la Liste de Ramsar. Il existe d'autres zones humides d'importance comparable au Bangladesh et en Afghanistan. Certaines aires pakistanaises et afghanes telles que Haleji, Khushdil Khan et Dast-e-Nawar, plus au nord, sont utilisées comme sites de repos par les oiseaux de passage plutôt que comme sites d'hivernage.

En Inde, plus de 100 zones humides sont plus grandes que Keoladeo. Parmi les plus importantes se trouvent le lac de Chilka (116 500 ha), Point Calmère (25 435 ha), Pullicat (50 000 ha), Kolleru (673 000 ha), Nalsarovar (11 500 ha), Sultanpur (13 727 ha), Little Rann of Kutch et les Sundarbans.

La particularité de Keoladeo est qu'il s'agit de la seule zone humide ayant le statut de parc national; c'est le seul lieu d'hivernage de la grue de Sibérie et c'est une réserve accessible, très connue et très visitée. Il se peut que d'autres sites soient plus grands et abritent plus d'oiseaux migrateurs du Paléarctique mais ils n'ont reçu ni l'attention ni le niveau de protection accordés à Keoladeo.

L'importance de l'aire en tant que site d'hivernage de 41 grues de Sibérie (population occidentale de l'Ob, Sibérie) est moins déterminante depuis la découverte de 1350 grues de Sibérie (population orientale) au Sanctuaire d'oiseaux du lac Poyang, dans le Jiangxi, Chine.

La faune terrestre du parc est un attrait supplémentaire mais ne comprend aucune population importante d'espèces rares.

En résumé, il y a beaucoup de zones humides dans le sous-continent Indien, beaucoup d'entre elles étant plus grandes et certaines abritant des oiseaux en plus grand nombre mais peu ont une aussi grande variété d'oiseaux que Keoladeo. Nulle part dans la région, les colonies de cigognes et de grues nicheuses et résidentes ne sont aussi nombreuses et denses.

3. INTEGRITE

Le parc est totalement fermé par un mur de pierre et entouré par des villages fortement peuplés. Des conflits opposant la population locale au parc ont suscité des débats politiques et se sont soldés par des affrontements dans lesquels 8 personnes ont été tuées par la police.

Cependant la sécurité de la réserve est maintenant excellente. On est venu à bout du braconnage et de la collecte illicite d'herbe et de bois de feu. Il est impossible d'établir une zone tampon.

Le fait que le système d'alimentation du parc en eau dépende de la mousson et de l'eau pompée depuis l'extérieur ne manque pas de poser des problèmes. En 1979, par exemple les deux sources se sont révélées insuffisantes et le nombre d'oiseaux d'eau a baissé. La recherche en hydrologie qui a lieu de manière permanente devrait permettre d'atténuer ce problème à l'avenir.

Certains se sont inquiétés des effets possibles de la pollution de l'air et de l'eau en raison du voisinage de la ville industrielle de Bharatpur mais ces effets restent inconnus pour l'instant.

Dans la partie sèche du parc, la présence de 700 bovins retournés à l'état sauvage pose un grave problème de gestion. Ces animaux font concurrence à la faune pour le fourrage limité et il existe de nombreux signes de surpâturage. Dans le contexte culturel de l'Inde, il n'a pas encore été possible de trouver une solution au problème.

Keoladeo attire de nombreux visiteurs et possède des logements à l'intérieur du parc. Les nuisances dont souffrent les oiseaux nicheurs ont été sensiblement réduites en fermant le parc à la circulation. Certains effets négatifs sont encore évidents mais un programme d'éducation et des services de guides efficaces les réduisent à un niveau tolérable.

En conclusion, il est reconnu que Keoladeo doit son existence aux modifications apportées par l'homme. Sa gestion en vue de la conservation a petit à petit été améliorée, ce qui fait que le site est reconnu comme une zone humide d'importance internationale. Si le parc a de nombreux défenseurs, il est mal accepté par la population locale qui a perdu l'accès à l'utilisation de la région. Il est enfin souligné que les marais de Keoladeo ne sont pas naturels, sont le résultat d'une gestion rigoureuse et dépendent, pour leur survie de l'intervention permanente de l'homme.

4. COMMENTAIRES ADDITIONNELS

La désignation présentée n'était pas assez précise, fait noté par plusieurs examinateurs.. L'UICN a complété la désignation avec des informations supplémentaires extraites d'entretiens et de sources non publiées.

5. EVALUATION

Le Parc national de Keoladeo est une zone humide d'importance internationale pour les oiseaux d'eau migrateurs du paléarctique et pour ses grandes colonies d'oiseaux nicheurs résidents. L'existence du système qui entretient ce spectacle dépend de l'intervention de l'homme et démontre ce que l'homme peut faire pour la conservation en intervenant de manière judicieuse. Le parc fait l'objet d'une bonne publicité; il attire les visiteurs qui s'intéressent aux oiseaux. Keoladeo est un des biotopes les plus importants pour les oiseaux, dans le domaine indo-malais et satisfait, de ce fait, au critère (iv).

6. RECOMMANDATIONS

Le Parc de Keoladeo devrait être ajouté à la Liste du patrimoine mondial. Le comité devrait féliciter le gouvernement de l'Inde et l'encourager à poursuivre ses efforts d'amélioration de la gestion de ce site.