

Information Sheet on Ramsar Wetlands

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

Note: It is important that you read the accompanying Explanatory Note and Guidelines document before completing this form.

1. Date this sheet was completed/updated:

April 24, 2001

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Designation Date

Site Reference Number

2. Country:

Pakistan

3. Name of wetland:

Indus Dolphin Reserve

4. Geographical coordinates: 27°36'N - 28°27'N, 68°48'E - 69°42'E

5. Altitude: (average and/or maximum and minimum) 80 meters

6. Area: (in hectares) 125,000 approx.

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

Formerly Indus dolphin was common throughout Indus river system, but now only 500 dolphins remain and this is the total population of this species *Platanista indi* found in Pakistan. More than 500 individuals are confined to 170 km stretch of the river Indus in Sindh between two (Guddu and Sukkar) irrigation barrages. This whole stretch has been declared Dolphin Reserve to protect this endangered species.

8. Wetland Type: (please circle the applicable codes for wetland types as listed in Annex I of the Explanatory Note and Guidelines document)

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

human-made: 1 . 2 . 3 . 4 . 5 . 6 . 7 . 8 . 9

Please now rank these wetland types by listing them from the most to the least dominant: M, 6, Tp

9. Ramsar Criteria: (please circle the applicable criteria; see point 12 next page)

1 2 3 4 5 6 7 8

Please specify the most significant criterion applicable to this site: 2

10. Map of site included? Please tick YES ✓ or-- NO (Please refer to the Explanatory Note and Guidelines document for information regarding desirable map traits.)

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

1. M. Tahir Qureshi, Head of Coastal Ecosystems Unit
IUCN – Pakistan, 1 Bath Island Road, Karachi – 75530
PAKISTAN, Tel: (92-21) 5861540, Fax: (92-21) 5835760, 5861448,
Email: tahir.qureshi@iucnp.org
2. Hussain Bux Bhagat, Deputy Conservator of Wildlife,
Airport Road, Sukkar, Pakistan. Tel: (92 71) 623125

Please provide additional information on each of the following categories by attaching extra pages (please limit extra pages to no more than 10):

12. Justification of the criteria selected under point 9, on previous page. (Please refer to Annex II in the Explanatory Note and Guidelines document).

Criterion 1: The site is a good representative example of a natural wetland, featuring the perennial river flow within two earthen dykes.

Criterion 2: The site has consistently recorded over 500 dolphins after the declaration of a River Indus Dolphin reserve in 1974 (Bhagat 1999). It is unique fresh water mammal *Platanista indi* endemic to Pakistan and is listed on Appendix I of CITES. The Indus dolphin *Platanista indi* considered an internationally important species. This particular stretch of the river is very important for the survival of this highly endemic mammal. The proposed area holds the maximum population of this unique species. Its presence in a particular area is also maintaining the biodiversity of that area.

13. General location: (include the nearest large town and its administrative region)

The Indus Dolphin Reserve is about 170 Km Long and is situated in the northern Sindh, from the Sukkar Barrage upstream to the Guddu Barrage near Kashmore. This reserve also passing through the towns of Sukkar, Rohri, Khandkot, Kashmore, Shikarpur and Jacobabad. These towns are situated in the Sukkar Civil Division.

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

Originally, Indus dolphin was an inhabitant of the sea when the Vast-Indian subcontinent was submerged under the Tethys Sea during the oceanogeological period. But as the land level raised and the sea divided up, the dolphin had to adopt themselves to the new habitant provided by the turbid waters of the river. The river Indus flow is perennial but has fluctuation in water level due to flooding in summer. The width of river varies from 300 to 1250 m and the depth from 3m – 15m between the Guddu and Sukkur barrages. The soil in the riverine are essentially made up to alluvial river deposits. The climate is broadly described as arid sub-tropical. The mean annual rainfall is about 20 cm.

15. Hydrological values: (groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.)

The ground water in this area upto Kotri barrage is sweet and is fit for irrigation purpose. The govt. has proposed to install a number of tube wells 0.5 cusecs capacity for irrigating the riverine area from the Guddu to Kotri barrage. River Indus is the main source of re-charging the ground water and the communities of the surrounding areas are utilising it for irrigation and domestic purposes.

16. Ecological features: (main habitats and vegetation types)

There are some marshy areas on the adjacent flood plain, typified by grass as such as *Saccharum spontaneum*, *Phragmites Karaka*, *Typha spp.* Riverine scrub is dominated by *Tamarix dioca*. This stretch of the Indus is the key stronghold for the Indus dolphin and many fresh water fish. Within the flood bunds, one of the characteristics ecosystem are the riverine forests. These are now predominantly vegetation of *Acacia nilotica* and *Prosopis cinneraria* which are dependant upon the annual flooding both for dissemination of seed and for establishing young seedlings for the first few years until the root system establishes. Pond areas near the barrages are providing habitat to the waterbirds.

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

The riverine are severely affected on account of reduced irrigation flows in Indus river. Wood species like *Acacia nilotica* have suffered due to commercial timber and mining, and are now restricted only to low-lying areas in the flood plains with well drained soil receiving fair amount of inundation during flood. Indigenous poplar variety *Populus euphratica*, another timber species ceased to grow and flourish on account of lesser deposition of *alluvium* and loam formation.

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

The current confirmed range of the Indus dolphins is between Chashma and Sukkur Barrages, and its total population size in this range is about 600-650 animals of various ages and sexes (Bhagat 1999). Although the current status of the Indus dolphin in 2000 IUCN Red List of Threatened species is “Endangered”, this assessment was based on information from the early 1996.

The stretch of river between the Sukkar and Guddu barrages is now the strong hold of the *Platanista indi* (*Platinista minor*), a blind cetacean endemic to this river system. Only 150 individual were located between these two barrages during a survey in 1974 to 1975. Their numbers have increased since the establishment of the reserve. Pond areas near these two barrages are also providing habitat to the migratory waterbird. During midwinter waterbird census 4,000 to 5,000 waterbird counted regularly in 1996 to 1999.

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

The Dolphin reserve near Sukkar barrage is surrounded by centuries old Sadhu bella, a Hindu shrine and Satinjo Astan, a Muslim historical graveyard.

20. Land tenure/ownership of: (a) site (b) surrounding area

Area of the river belongs to the Sind Irrigation and Water and Power Department and the surrounding riverine forests are under the jurisdiction of Sind Forests and Wildlife Department.

21. Current land use: (a) site (b) surroundings/catchment

The river is used for fishing, boat transportation and limited human recreational activities. There is no large scale commercial fishing, but large number of fish are caught in pools (surroundings of the river) purposes throughout the year while the seasonal agriculture is carried out during the low water level in the inner surrounding of the protection embankments.

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

The construction of barrages and dams on the rivers, beginning in the 1930's has had a major effect on the dolphin populations. The smaller volume of water, particularly in the dry seasons has greatly reduced available habitat. Sub-population on either side of these barriers are now isolated and hence are more vulnerable to extinction through hunting, accident or environmental change.

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

In Pakistan, conservation is a provincial responsibility. On the recommendation of 1970 Wildlife Enquiry Committee, the Government of Sindh gave the dolphin full protection in 1972. Effective protection, however, began in 1974 when government declared about 170 km river stretch between these two barrages as Dolphin Reserve.

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

A dolphin conservation plan and management plan for the reserve will be developed for the conservation of this highly important species.

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

The Sind Wildlife and Forest Department has been undertaking survey and research on Indus dolphin. The Zoological Survey Department has planned to initiate some ecological studies with regard to the site.

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

While there is no site specific conservation and education programme, Sind Wildlife department carries out awareness creating activities through local and foreign tourists' visits. Recently WWF-Pakistan has initiated an out reach programme in Sukkar and surrounding areas to create awareness about this species.

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

It has lot of potential for recreation and tourism, but due to lack of facilities it is absent.

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

Sindh Irrigation and Power Department has the territorial jurisdiction and Sindh Wildlife and Forest Department and Sindh Fisheries department has the functional jurisdictions.

29. Management authority: (name and address of local body directly responsible for managing the wetland)

1. The Sindh Irrigation and Power Department., 2nd Floor, Tughlaq House, Sindh Secretariate 2, Karachi Tel.: (92-21) 9207115
 2. Sindh Forest and Wildlife Department, Government of Sindh, Molana Din Moh & Wafai Rd., Saddar, Karachi, Tel.: (92-21) 9204952.
 3. Mr. Hussain Bux Bhagat, Deputy Conservator for Sukkur, Sindh Forest and Wildlife Department, Shikarpur Road, Sukkur, Tel./Fax: 071-30687
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30. Bibliographical references: (scientific/technical only)

- Bhagat, H.B. (1999) Introduction, conservation and behavioural Ecology of Indus dolphin (*Platanista indi*) in River Indus (Dolphin Reserve), Sindh Pakistan. Tiger paper vol: 26: No.1 Jan- Mar 1999
- Klinowska (1991) Dolphin, Porpoises and Whales of the World – The IUCN Red Data Book IUCN , Gland, Switzerland and Cambridge, UK.

Please return this Information Sheet to: The Ramsar Convention Bureau Rue Mauverney 28 CH-1196 Gland, Switzerland
(tel +41 22 999 0170, fax +41 22 999 0169, e-mail ramsar@ramsar.org)

Appendix –I

Table 1: Population Size of Indus in Dolphin Reserve (between Guddu & Sukkur Barrages)

Year	Month	Population	Observer
1980	April	346	Bhatti & Pilleri
1982	March-April	360	Abdul Fattah Soomro & Shahzado Bhayo
1989	April-May	368	Bhaagat & Shahzado
1990	March-April	387	Bhaagat Shahzado
1991	March-April	398	Bhaagat Shahzado
1992	March-April	410	Bhaagat Shahzado
1993	March-April	426	Bhaagat Shazado
1994	March-April	435	Bhaagat Shahzado
1995	March-April	447	Bhaagat Shahzado
1996	April-June	458	Bhaagat Shahzado

Appendix –I

Table 2: School-Wise Dolphin population in the Dolphin Reserve (April-June 1996)

No	Dolphin School	No. of Males	No. of Females	No. of Calves	Total in Group
1	Guddu	6	4	--	10 (Upstream)
2	Guddu	7	5	--	12 (Downstream)
3	Mashko	13	10	2	25
4	Gehalpur	6	3	1	10
5	Baya	22	14	--	36
6	Miani	14	9	--	36
7	Gublo	20	15	2	37
8	Daho	10	9	1	20
9	Tori	20	14	--	34
10	Jangin	17	13	1	31
11	Begari	21	15	2	38
12	Tegani	13	9	2	24
13	Mian Sahib	11	8	1	20
14	Hisbullah Shah	9	5	--	14
15	Chak	27	20	3	50
16	Shahbelo	19	11	1	31
17	Keti Shah	4	4	--	8
18	Sukkur/Rohri	21	14	--	35
	Total	260	+ 182	+ 16	= 458

Source: Tigerpaper Vol.26: No. 1 Jan-Mar. 1999