

# 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

FOR OFFICE USE ONLY.

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Designation date

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Site Reference Number

**2. Country:**

PAKISTAN

**3. Name of wetland:** Hub (Hab) Dam

**4. Geographical coordinates:** 25°15'N, 67°07'E

**5. Altitude:** (average and/or max. & min.) 150 meters

**6. Area:** (in hectares) c. 27,000

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

A large water storage reservoir constructed in 1981 on the Hub River on the arid plains north of Karachi. The reservoir supplies water for irrigation purposes in Lasbella District, Balochistan as well as providing water for drinking and domestic use to Karachi City. The site is an important staging and wintering area for an appreciable number of waterfowl and it also contains a variety of fish species which increase in abundance when the water level in reservoir reaches at its highest. (Scott, 1989).

**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

**man-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:** 6

**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 the site:** 5

**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:**

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

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**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 5:** Over the past decade, the site has been evolved as an important staging and wintering area for grebes, pelicans, ducks, cranes and coots. Surveys undertaken in January of 1987 and 1988 revealed over 48,500 and 53,500 waterfowl, respectively. The Zoological Survey Department (ZSD) continued to carry out surveys in subsequent years with the total count easily exceeding 20,000. It was 89, 133 waterbirds in 1992. Over the past three years or so, the water level in the reservoir has decreased dramatically due to lack of rainfall during the summer months. This is likely to have an adverse effect on the population of waterfowl inhabiting the area during summer. A recent survey (Jan 2000) by the ZSD has indicated that the site still regularly supports over 45,000 waterbirds. The wetland also holds an appreciable number of *Pelecanus crispus*. It is also a breeding site for the little tern, gull-billed tern, and painted snipe.

**Criterion 7:** Mahseer (*Tor putitora*) is an indigenous riverine fish found in Hub river, where it breeds. It is found in the clear cold running water of rivers and streams of hilly regions and plains. It breeds from April to September in rocky waters. It grows upto 6 feet in length and provides excellent game to anglers. The Mahseer is one of the important fresh water game fish.

**Criterion 8:** The reservoir is an important spawning ground for fish and provides them with an abundant source of food. The site is claimed to have the highest fishery potential of the smaller reservoirs in Pakistan. Many varieties of naturally occurring and artificially stocked freshwater fishes are found in the dam. The main species of fish in the Hub dam are: Rohu (*Labeo rohita*), Gulfam (*Cyprinus carpio*), singhara (*Mystus scenghala*), Bat Pat Gandan (*Notopterus notopterus*) Mori (*Cirrhinus mrigala*) Kabans (*Labeo calbasu*), Nahi (*Glossogobius giuris*), Pattiah (*Puntius sophore*), Barn (*Mastacembelus armatus*), Chidu (*Puntius ticto*), and Durru (*Puntius chrysopterus*).

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

56 km northeast of Karachi city in the districts of Karachi (Sindh) and Lasbela (Balochistan).

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**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)

The wetland is surrounded by hills on three sides. The dam is fed by the Hub River and mountain springs. The

geological formation around the lake is calcareous. Sandy limestone predominates the physical features of the hill ranges. The dam is relatively shallow with maximum depth of 9.6 m. The climate of the area tends to be very arid and the average rainfall is less than 200 mm. Temperature often exceeds 36°C during summer.

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

The water in the catchment area has a relatively high concentration of dissolved salts, consisting of sulphate, Sodium and Chloride. The water is supplied for drinking purposes to Karachi and primarily for irrigation purposes to Lasbela District in Balochistan province.

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

The natural vegetation of the surrounding areas is dominated by *Olea ferruginea* and *Acacia senegal* in association with *Tamarix aphylla*, *Prosopis cineraria*, *Acacia jacquemontii*, *Zizypis nummularia*, *Euphorbia caducifolis*, *Cymbopogon jawarancusa*, *C. shoenanthus*, *Lasiurus hirsutus*, and *Eleusine compressa*.

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

There is an extensive growth of aquatic vegetation. No further information is currently available on the type of flora, although the Department of Botany, University of Karachi is working on such a survey.

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

The site is an important staging and wintering area for grebes, pelicans, ducks, cranes, and coots. A total of more than 52,000 waterbirds were present during the AWC 1987-91. These included *Podiceps nigricollis* (545), *Pelicanus onocrotalus* (535), *Phalacrocorax carbo* (330), *Avthva ferina* (5076), *Avthva fuligula* (2615), *Fulica atra* (34,870). A total number of 128 species of birds have so far been recorded from the area (Ghalib etal 2000).

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

The site is primarily valued for its freshwater reserves, which are channelled to urban users in Karachi, and also to agricultural land in the district of Lasbela, Balochistan. Commercial, licensed fishing also occurs on a seasonal basis and illegal fishing also occurs by the local inhabitants of adjacent villages.

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**20. Land tenure/ownership of:**

The reservoir is owned by the Government of Pakistan, while the adjacent areas are privately owned communal lands.

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**21. Current land use:**

The primary purpose of Hub Dam is to store water for Karachi's domestic use and for providing irrigation to Lasbela District of Balochistan. When the reservoir water level is high, most of the site area is inundated, allowing only for fishing, which is regulated by the provision of licenses. However, during the dry summer months when the water level drops, elevated patches of land and sparse vegetative cover are exposed. Nomadic villagers from adjacent areas bring their goats and sheep to graze illegally along the site and use the water for drinking purposes.

Surrounding area is meant for official and residential facilities.

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

Three consecutive years of below-average annual rainfall at the site has substantially reduced the reservoir's water level, which has reduced both the number of fish inhabiting the site as well as the avian fauna. There also were some plans to develop the area as a resort for outdoor recreation. This may adversely affect the ecological character of the site since it is likely that the influx of visitors to the area would leave behind refuse, leading to contamination of a significant freshwater source for Karachi city. This plan will most probably not materialise, especially given the fact that the access road to Hub Dam is unpaved and therefore is unlikely to attract large number of visitors seeking recreation and leisure.

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**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)

The reservoir is protected within the Hub Dam Wildlife Sanctuary, established in 1972. More recently, a Hub Dam Management Plan has been prepared jointly by WWF-Pakistan, Sindh Wildlife Department, Balochistan Forest and Wildlife Department, Zoological Survey Department, and the Water and Power Development Authority (WAPDA).

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

There are plans to intensify management of the site, partly through greater regulation/restriction of commercial fishing in the reservoir, particularly in light of the dam's reduced water level. Reforestation measures have been proposed in the water catchment area to mitigate the effects of erosion and sustain stream flow throughout the year. (Scott et al 1990).

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

The federally administered Zoological Survey Department (ZSD) usually conduct annual bird counts and assess the fauna of the site area. In virtually all cases, this survey exercise takes place during the winter; as a result, very little is known about the site conditions during summer.

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

While there is no site-specific conservation education programme, IUCN's Coastal Ecosystem Unit routinely carries out awareness and environmental sensitisation activities, largely through accompanying students, local, and foreign visitors to various coastal mangrove sites in the vicinity of Karachi. Public awareness of environment, and particularly of national wetlands has been steadily increasing in the national media through contacts with a number of interested and competent environmental journalists. WWF for example, had inaugurated a Wetland Visitor Centre in the same week as World Wetland Day (February 2, 1999), which is due to be operational by the end of June 1999. Provincial government agencies such as the Sindh Wildlife Department and the Sindh Environment Protection Agency also carry out selected awareness campaigns, related to turtle conservation or coastal pollution. Although, environmental awareness and conservation education activities occur throughout the year, it should be noted that such activities tend to be clustered around specific occasions, such as World Wetlands Day, World Water Day, or World Environment Day.

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

The Water and Power Development Authority (WAPDA) has declared a reserve area for anglers. A WAPDA angling club has been organised which holds small competitions every year, attracting a modest number of enthusiasts from Karachi. Given that the access road to the site is unpaved and poorly maintained, leisure tourists are few, although the Balochistan forest department has developed a park for recreation. There is also a rest house, which is restricted for public use without prior permission.

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

Jurisdiction for the site lies with both the Sindh Wildlife Department and the Balochistan Forest Department, given that the dam's geographic area spans across two provinces. The area is administratively managed by the provincial governments separately.

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

Water and Power Development Authority (WAPDA) is the management authority and the administrative head of this dam site. The Balochistan Forest Department has also carried out some reforestation work in the area under their jurisdiction and these areas are maintained by them.

Water and Power Development Authority (WAPDA)  
WAPDA House, Lahore, Punjab, Tel.: 021-6637971, 6635388 Fax: 021 6635388  
Tel. (Dam site): 4919144

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**30. Bibliographical references:** (scientific/technical only)

Ghalib, S.A., Hasnain, S.A. & Khursheed, S.N. (2000). Observations on the Avifauna of Hub Dam Pakistan J.Zoal. Vol.32(1), pp.27-32.  
Scott, D.A. (ed) 1989. A Directory of Asian Wetlands. IUCN, Gland Switzerland & Cambridge.  
Scott, D.A., Rao A.L, and Beg, A.R. 1990. The wetlands of Pakistan and the Ramsar Convention. (unpublished report).

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