

Ucchali Lake (A)

Country: Pakistan

Name of wetland: Ucchali Lake

Geographical coordinates: 32° 33'N, 72° 01'E

General location: 13km west of Nowshera and 40km northwest of Khushab, Punjab Province.

Area: 943ha

Wetland type: Salt lake (inland drainage system)

Altitude: 700m

Biogeographic Province: Indus Ganges Monsoon Forest

Description of site:

A brackish to saline lake, the largest in the Salt Range, with little marsh vegetation, and almost entirely surrounded by agricultural land. The lake is fed by a small spring, seepage from adjacent irrigated land, and run-off from the surrounding hills of the Salt Range. The water level and salinity fluctuate according to local rainfall. The depth varies from 0.2m to 6m; and water is usually hyper-saline (41.5 p.p.t. in April 1987), and had a Ph of 10 in March 1989.

Climatic conditions:

Dry sub-tropical climate with hot summers and cool winters. The annual rainfall varies from 300mm to 800mm, and the relative humidity from 22% to 85%. Temperatures range from an average minimum of 0.5°C in January to an average maximum of 36°C in June.

Principal vegetation:

Marsh vegetation is confined to a few small patches along the lake shore, but there is a very rich growth of plankton in the lake. The dominant aquatic plants are *Carex fedia*, *Hydrilla verticillata*, *Juncus* sp., *Phragmites australis*, *Potamogeton pectinatus*, *Spergularis marina*, *Suaeda fruticoso*, *Haloxylon multiflorum*, *Cynodon dactylon*, *Phyla nodiflora*, *Scirpus* sp. (dwarf), *Scirpus* sp. (tall), *Paspalum distichum*, *Typha angustata*, *Imperata cylindrica*, *Alhagi camelorum*, *Rumex* sp. *Ranunculus scleratus*. *Saccharum spontaneum*, *Typha augusta*, *Vallisneria spiralis* and *Zannichelia palustris*. The natural vegetation of the region is a mixture of sub-tropical semi-evergreen forest and tropical thorn forest with species such as *Acacia modesta*, *Adhatoda vasica*, *Asparagus gracilis*, *Cocculus laeba*, *Cynodon dactylon*, *Dononaea viscosa*, *Ehretia laenis*, *Gymnosporia royleana*, *Olea ferruginea*, *Reptonia buxifolia*, *Rahzya stricta*, *Sageretia lorrandettuana*, *Tamarix aphylla*, *Withania coagulans* and *Zizyphus mauritiana*. The natural vegetation around the lake has been cleared for agricultural use.

Land tenure:

The lake and the adjacent agricultural lands are privately owned, and the hill forests and range lands are state-owned.

Conservation measures taken:

The wetland was declared a Game Reserve in May 1986, and re-notified in May 1991. Hunting is allowed under a special permit, which has never been granted.

Conservation measures proposed:

Ucchali Lake has been proposed as designation as a Wildlife Sanctuary and for listing as a Wetland of International Importance under the Ramsar Convention, as a part of the Ucchali Complex including Khabbaki and Jahlar lakes (besides Ucchali).

Land use:

Public recreation, agricultural and livestock grazing insurrounding areas. Some mining leases have been granted in the surrounding hills.

Possible changes in land use:

Extension of agriculture, into the area under the lake by extracting land through stoppage of run-off water and construction of earthen bunds along the lake margins; intensification of agricultural practices by arranging tube well irrigation, horticultural practices and the adoption of silvo pastoral and agro-forestry practices; and the development of touristic facilities.

Disturbances and threats:

Illegal hunting, recreation, livestock grazing and agricultural activities cause some disturbance to waterfowl, and the marked fluctuations in water level and salinity are having a detrimental effect on the habitat. There has been considerable amount of illegal hunting of waterfowl by local people and by military personnel stationed in the area. The Soil Conservation and Agriculture Department advocate the stoppage of run-off water from going into the lake by constructing bunds, and directing towards the agricultural fields. In the process land is extracted from the lake which the owners use for cropping. Sinking of tubewells for irrigation purposes also affects the lake levels by drawing sub-surface water.

Economic and social value:

The lake provides excellent opportunities for scientific research and nature-oriented recreation (eco-tourism).

Fauna:

A very important wintering area for waterfowl, particularly *Phoenicopterus ruber* 2,100 recorded in March 1994, Anatidae and *Fulica atra*. The number of birds present fluctuates widely from year to year and seems to be critically dependent on the water level and salinity.

Between 1,100 and 3,100 Anatidae and coots wintered on the lake in the early 1970s, but much larger numbers have been reported in recent years. Over 100,000 waterfowl, very largely *Fulica atra*, were present in the winter of 1985/86, and 50,000 *F. atra* were reported in November 1986. The lake has the most important wintering area for the rare white-headed duck *Oxyura leucocephala* in Pakistan; over 400 have been reported on several occasions, and 667 were present on 9 January 1987.

Other noteworthy winter visitors include up to 130 *Podiceps nigricollis* and 30 *Tadorna tadorna*.

The census in mid-January 1989 revealed some 18,022 waterfowl, including: 62 *Anser anser*, 153 *Anas strepera*, 996 *Anas platyrhynchos*, 100 *Oxyura leucocephala*, 2 *Tadorna tadorna*, 306 *Anas crecca*, 6,132 *Anas clypeata*, and 10,271 *Fulica atra*.

More than 100 shore birds included *Vanellus vanellus* and *V. indica*. More than 40 bird species are normally recorded during the summer months.

Mammals known to occur in the area include *Canis aureus*, *Vulpes vulpes*, *Felis lybica* and *Lepus nigricollis*. There are no indigenous fishes in the lake.

Special floral values: None known

Research and facilities:

Annual mid-winter waterfowl counts have been carried out at the lake since 1971. Punjab Wildlife Research Centre, Faisalabad, since 1988 are conducting regular fortnightly waterfowl surveys during the winters from October to March to monitor populations with special emphasis on the white-headed duck. Summer breeding birds are under study by the scientists from Punjab Wildlife Research Centre, Faisalabad. Ecology of the wetland has been studied by M.Sc. students of Zoology Department, Government College, Lahore. A project to study the Ecology of Ucchali Complex lakes (Ucchali, Khabbaki and Jahlar) is currently underway at Punjab Wildlife Research Centre, Faisalabad which has been jointly funded by the Punjab Wildlife Department and WWF-Pakistan. A Draft Management Plan has been written for the lakes based on the findings of the project.