Ramsar Information Sheet

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1. Date this sheet was completed: 20-08-97

2. Country: Islamic Republic of Iran

3. Name of wetland: Anzali Wetland Complex

4. Geographical co-ordinates: 37°25'N 49°28'E

5. Altitude: 23 m below sea level

6. Area: 15,000 ha

7. Overview
A large complex of fresh water lagoons with extensive reed-beds, shallow impoundments ("ab-bandans") and seasonally flooded meadows in the Southwest Caspian lowlands, extremely important as spawning and nursery ground for fishes, andas breeding, staging and wintering areas for a wide variety of waterfowl. Parts of the wetland are protected in the Siakesheem protected area and Selke wildlife refuge. The entire wetland has been designated as a Ramsar site.

8. Wetland type: K Tp Ts M W O

9. Ramsar Criteria: 1a, 2a, 2b, 2c, 3a, 3c

10. Map of site included: Yes

11. Name and address of compiler:
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12. Justification of criteria selected under point 9:
1a: Anzali wetland complex is a good example of a natural wetland, characteristic of the South Caspian Lowlands.
2a: It provides wintering habitat to species of threatened birds: *Phalacrocorax pygmaeus*, *Pelecanus onocrotalus*, *Pelecanus crispus*, *Anser erythropus*, *Oxyura leucocephala*, *Halieetus albicilla*, *Aquila heliaca*, *A. clanga*, *Falco peregrinus*, *F. cherrug*, *F. columbarius*, *Asio flammeus*, *Circus aeruginosus* and many other species that breed in the Anzali and Selke protected wetlands.
2b: Anzali complex supports an extremely diverse wetland flora and fauna.
2c: Anzali and Siakesheem are important spawning and nursery grounds for several fish species, while the area and the riverine and the marsh support large breeding colonies of Ardeidae, and several species of terns and shorebirds.
3a: The Anzali wetland complex holds well in excess of 50,000 waterfowl.
3c: The wetland supports over 0,5% of the regional Middle East breeding population of the waterbirds *Chlydonias hybrida*, *Sterna albifrons* and *Sterna hirundo*, and also *Phalacrocorax pygmaeus*.

13. General location:
Anzali wetland complex is situated in the province of Gilan, in Northern Iran. It is located at the South-west of the Caspian Sea, adjacent to the city of Bandar-e-Anzali.

14. Physical features:
The Anzali complex is comprised of large, shallow, eutrophic freshwater lagoons, marshes and seasonally flooded grasslands, separated from the Caspian Sea by a sand dune barrier of about 1 km wide, with open grassland, pomegranate shrub and sand dune vegetation. The main wetland covers about 11,000 ha, and comprises an open lagoon, 26 km long and 2.0 - 3.5 km wide, surrounded by reed-beds which extend its eastern limits a further 7 km. Several perpetual streams emanating in the

nearby Talesh Mountains feed into the Anzali Complex. The most important are the Bahambar, Chakoor, Esfand and Siadarvishan. The entire marsh and lagoon complex drains into the deep water harbour of Bandar Anzali through the main channel (Nehangrougah) at the Northeast end of the main lagoon.
A rise in the sea level of the Caspian Sea of the last decade has resulted in a marked rise in water level of the Anzali complex, and affected all the rehabilitation programmes which were expected to be carried out, due to some changes in ecological features.
The average annual rainfall is 1900 mm, with rain falling throughout the year but mainly in winter. The lowest temperatures occur in February (mean around 6°C) and the highest in August (mean maximum nearly 25°C); extremes are -11°C and 30°C.

15. Hydrological values:
Anzali wetland plays a vital role as a micro-climate during the dry season, and it is a very important spawning and nursery area for economically important species in the Caspian Sea fishery.

16. Ecological features and 17. Noteworthy flora:
The dominant vegetation throughout much of the Anzali wetland consists of vast beds of *Phragmites australis* which in places grows to six meters height. A rapid expansion in the extent of the *Phragmites* reed began in the late 1960s, and by the early 1980s, almost the entire eastern and central portion of the main wetland were covered in reeds. Due to the continuing fall in the level of the Caspian Sea, and accelerated eutrophication as a result of increased inflow of domestic sewage, fertilisers and other organic material. The situation had become so serious by the end of the 1970s that the Department of the Environment was investigating possible methods of control. The recent rapid rise in water level in the wetland changed the situation and the expansion of *Phragmites*. The open-water areas of the wetland support extensive beds of the water lily *Nelumbium (caspicum) maciferum* and a very rich growth of other floating and submerged vegetation including *Nymphoides indica*, *Nymphaea alba*, *Utricularia vulgaris*, *Salvinia natans*, *Hydrocharis morsus-ranae*, *Hydrocotyle vulgaris*, *Lemna minor*, *L. trisulca*, *L. polyrhiza*, *Trapa natans*, *Limnanthemum verticillatum*, *Polygonum* spp., *Myriophyllum verticillatum*, *M. spicatum*, *Ceratophyllum submersum*, *Potamogeton pectinatus*, *P. crispus*, *Elodea nuttalli* and *Ranunculus divaricatus*. The marshes and flood meadows support a wide variety of emergents, including *Sparganium beglectum*, *Typha latifolia*, *Echinochloa crus-galli*, *Scirpus palustris*, *Cyperus longus*, *Juncus* spp., *Sagittaria sagittaefolia*, *Alisma plantigo-aquatica*, *Butomus umbellatus* and *Equisetum* spp.. Patches of woodland with alders *Alnus glutinosus* and willow *Salix* sp. in high ground and along river levees. The wetland is bordered to the north by sand dunes with grassland and scrubby vegetation, and the south by cultivated land (mainly rice) and patches of woodland.

18. Noteworthy fauna:
Anzali wetland and its satellite wetlands such as Siakesheem marsh and Selke protected area are extremely important for a wide variety of breeding, passage and wintering waterfowl. The wetlands support a wide variety of breeding, passage and wintering waterfowl. The wetlands support a very large breeding colony of *Chlydonias hybridus* (2,000 - 4,000 pairs), small colonies of six species of Ardeidae, and a resident population of *Porphyrio porphyrio* (nowadays decreased). The wetland also supports huge wintering concentrations of ducks, geese, swans and coots. The Anzali wetland is the most important wintering area in Iran for *Phalacrocorax pygmaeus*. In recent years this bird was seen breeding in a small population. *Pelecanus onocrotalus*, *Pelecanus crispus*, *Botaurus stellaris* and *Anser erythropus* are occasional winter visitors in small numbers, while *Oxyura leucocephala*, *Charadrius asiaticus*, *Vanellus gregarius* and *Gallinago media* have been recorded on passage.
Scolopax rusticola is a very common winter visitor to the surrounding damp woodlands and scrub, while *Acrocephalus melanopogon* and *A. arundinaceus* are very common breeding birds in the reedbeds.
The Anzali complex is also a very important wintering area for birds of prey, such as *Halieetus albicilla*, *Aquila clanga*, *Falco peregrinus*, *Falco cherrug*, *Falco columbarius*, *Asio flammeus*, *Circus aeruginosus*, and *Aquila chrysaetus*.
Mammals include the Golden Jackal (*Canis aureus*), Common Otter (*Lutra lutra*), Jungle Cat (*Felis chaus*), Wild Boar (*Sus scrofa*), White-toothed Shrew (*Crocidura leucodon*), Crested Porcupine (*Histrix indica*) and *Canis lupus*.

19. Social and cultural values:

Throughout the winter months, a large proportion of the local human population is involved either directly or indirectly in waterfowl hunting, and this is of considerable importance in the local economy. In summer time the wetland has a very important role in recreation activities in the area.

20. Land tenure/ownership of:
Mainly public (Government); some of the ab-bandans along the south side of the wetland are privately owned.

21. Current land use/principal human activities:
Anzali Mordab locally supports a major commercial fishery. The wetland and deeper rivers flowing into it are used for transportation of people, farm goods and other materials to the various villages around the wetland, and to Bandar Anzali. Parts of the *Phragmites* marsh and the open wetlands bordering the south side of the wetland are heavily utilised by domestic livestock for grazing. Several villages cut the reeds for mat-weaving, fencing and building materials. Many of the ab-bandans surrounding the wetland are managed as duck-hunting areas throughout the winter months. At these sites, the duck hunters emply a traditional dazzling and hand-netting technique (the 'net, gong and flare' technique) to catch ducks and coots from a boat at night. Elsewhere in the wetland, hunting is mostly done by shotgun. The ab-bandans also provide a source of water for irrigation during the dry summer months.
Surrounding area's are mainly used for the production of rice and vegetable crops, although there is also some tea grown.

22. Factors adversely affecting the site's ecological character, including changes in land use and development projects:
No change is expected to occur in land use.

23. Conservation measures taken:
Two reserves have been established in the Anzali complex. The central portion of Siakesheem Marsh (3,515 ha) was first established as a Protected Region in 1967. The reserve was enlarged to 6,701 and upgraded to wildlife refuge in 1971, but reduced to its present size of 4,500 ha and downgraded to a protected area in the 1980s.
Selke Ab-bandan (360 ha) has been protected as a wildlife refuge since 1970. In an effort to increase the level of protection afforded to waterfowl in the Anzali wetland, the Department of the Environment has recently taken steps to establish a non-hunting area at Sorkan Kol in the central wetland. The Anzali Wetland complex (15,000 ha) was designated as a Ramsar site on 23 June 1975. This encompasses the whole of the Anzali wetland, Siakesheem Marsh, Selke protected area and several other ab-bandans bordering the marshes. The wetlands have been identified as an Important Bird Area by Birdlife International.

24. Conservation measures proposed but not yet implemented:
Various recommendations have been made by Fotoohi and Howell (1974), Mansoori (1980) and also a Ramsar Monitoring Procedure Mission to the wetland in January 1992 recommended that the Department of Environment should investigate a variety of possibilities for conservation of waterfowl populations in the wetland while at the same time maintaining hunting opportunities for the general public.

25. Current scientific and research facilities:
Numerous limnological and hydrological studies have been conducted by the national fisheries organisation Shilat. Annual mid-winter waterfowl censuses have been carried out by the Ornithology Unit of the Department of the Environment since 1967. Many ornithological studies have been carried out at other times of the year, including comprehensive waterfowl censuses in mid-November in 1972,1973, 1974, 1979, 1980, 1983, 1984, 1985, 1986 and a duck-ringing programme was initiated by the ornithology unit in 1974, and later ringing was concentrated on terns and passerine birds. The Department of the Environment has also carried out investigations on duck-hunting in the wetland, and on the spread of *Phragmites*.
The Department is currently undertaking a major research programme, which has involved the establishment of 35 monitoring stations throughout the wetland, to measure a variety of parameters, including changes in water level, water quality and physico-chemical characteristics. Excellent research facilities are available at the nearby town of Bandar Anzali, and the Department of the

Environment maintains a guest house for visiting researchers on the north edge of the marshes near Bandar Anzali.

26. Current conservation education:
no information available

27. Current recreation and tourism:
The wetland is one of the important recreation centres in the north of Iran, mainly in the summer time.

28. Jurisdiction:
Department of the Environment
PO Box 5181
15875 Tehran
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29. Management authority:
Department of the Environment, address as mentioned above (28)

30. Bibliographical references:
Carp, E. (1980). *A Directory of Western Palearctic Wetlands.* IUCN, Gland, Switzerland.
Evans, M.I. (1994). *Important Bird Areas in the Middle East*. BirdLife International, Cambridge, United Kingdom.
Fotoohi, H. (1974). Management of the Selke Protected Region. Internal Report. Department of the Environment, Tehran, Iran.
Firouz, E. (1974). Environment Iran National Society for the Conservation of Natural Resources and Human Environment. Tehran, Iran.
IUCN (1987). *A Directory of Wetlands of International Importance.* IUCN, Gland, Switzerland and Cambridge, UK. 460 pp.
Mansoori, J. (1983). *National Report on Iran's Wetlands of International Importance as Habitat for Waterfowl.* Prepared for the Groningen Conference, Netherlands, in May 1984.
Scott, D.A. (comp.),(1995). *A Directory of Wetlands in the Middle East*. IUCN, Gland, Switzerland and IWRB, Slimbridge, United Kingdom.

List of bird species including counting results
Anzali Wetland Complex

waterfowl:

- globally threatened species	
Phalacrocorax pygmeus	650
Pelecanus onocrotalus	14
Pelecanus crispus	6
Phoenicopterus ruber	124
Cygnus columbianus	51
Anser albifrons	500
Anser erythropus	32
Mergellus albellus	380
Oxyura leucocephala	passage

- other counts	
Podiceps cristatus	260
Podiceps auritis	6
Podiceps nigricollis	300
Phalacrocorax carbo	950
Nycticorax nycticorax	300
Ardeola ralloides	passage
Bubulcus ibis	56
Egretta garzetta	800
Ardea purpurea	20
Cygnus olor	2124
Cygnus cygnus	850
Anser anser	1500
Anas penelope	30,000
Anas strepera	19,000
Anas crecca	540,000
Anas platyrhynchos	67,000
Anas acuta	55,000
Anas querquedula	3,850
Anas clypeata	24,300
Netta rufina	1,275
Aythya ferina	65,000
Aythya fuligula	34,600
Bucephala clangula	120
Porphyrio porphyrio	135
Fulica atra	11,000
Charadrius hiaculata	passage
Charadrius asiaticus	passage
Pluvialis apricaria	50
Vanellus vanellus	5,600
Gallinago gallinago	590
Limosa limosa	1,380
Tringa erythropus	92
Larus ichthyaetus	122
Larus minutus	1,750
Larus canus	70
Sterna hirundo	many
Sterna albifrons	passage
Chlydonias hybridus	6,000
Chlydonias leucopterus	500
Chlydonias niger	passage

all counts single birds
source: Scott, DA, 1995