

INFORMATION SHEET ON RAMSAR WETLANDS

1. Country:

Republic of Turkey

2. Date :

14 April 1998

3. Ref :**4. Name and address of compiler:**

Ministry of Environment

General Directorate of Environmental Protection

Wetlands Section

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5. Name of wetland:

Akyatan Lagoon

6. Date of Ramsar designation:

15 April 1998

7. Geographical coordinates:

36° 37' N; 35° 16' E

8. General location:

It is located in the shore of Mediterranean within the border of the Karataş district of the Adana province. It is 48 km. to Adana.

9. Area:

14,700 ha.

10. Wetland type:

E, J

11. Altitude:

Sea level

12. Overview:

The swamp which emerged as a result of the overflowing of the Rivers Seyhan and Ceyhan became separated from the sea in the course of time by a thin strip formed by the waves. It later took its present form, that of a typical alluvial dammed lake.

13. Physical features:

The formations of the lagoons and lakes at the Seyhan and Ceyhan deltas has started after 4th stage (10.000 years ago) when the sea level of the Mediterranean Sea began changing. At the place where Akyatan Lagoon is located, a wide marsh was formed by flooding the rivers, which formed the delta, out of their beds. The marsh was separated later by a cord formed at the coast

Akyatan lagoon the biggest lagoon lake of Turkey. The area of it at the average water level is 4.900 hectares.

The lagoon area has become smaller during summer because of decrease in the water feeding the lake and high evaporation. Wide muddy plains are formed at the areas where the water was drained and it has become totally dry through end of summer.

Muddy plains are formed especially at the west and east parts of the lake, and some islands near Kapıköy joins with the land.

In winter and spring, with the effects of the water carried by the drainage canals and the rainfalls lake water becomes fresh, but in summer the saltiness is increased because of the high evaporation and water entry from sea to lake. In addition, the saltiness is higher at the part where the connection takes place, and low at north where the leakage and drainage water are effective.

Between the lagoon and sea the biggest sand dunes are taken place which are few kilometers wide and 20 meters high. There are some pits below the sea level between the sand dunes. These are filled with water in rainy season. In addition, there are fresh water pools and marshes at the north of the sand dunes which never dry up and are very important for ecology.

Continental climate peculiar to the Mediterranean prevails in the site.

The annual average temperature is 18.3°C

The annual average rainfall is 774.2 mm.

The average relative humidity is %60.

14. Ecological features:

At the coasts of the lake there are marshes and reed beds whose widths depend on the fresh water leakage. North of the lake surrounded by wide agricultural fields.

In the area, the effect Irano - Turanian and Mediterranean plant geography is dominant. Diversity of habitats have provided possibility for plant species, needing different ecological requirements, to develop. Most interesting part for plants is the sand-dunes, between the sea and lagoon. When climbed from lagoon to sand-dunes. *Nerium oleander* and *Echinops* sp. are seen as dominant species. More interior, *Orobranche* sp., *Augallis arvensis*, *Vicia* sp. and *Trifolium* sp. are common. The bushy areas consist of the *Myrtus communis*, *Rubus* sp. and similar species. Sand-dune valleys are covered with *Ophyrus sphegodes*, *Serapias* sp. and *Orchis* sp.

In 1995 afforestation work were started for the purpose of sand-dune stabilization and approximately 3687 hectares of sand-dune areas have been afforested up to now. At afforestation, *Eucalyptus camaldulensis*, *Acacia cyanophylla*, *Robinia pseudoacacia*, *Pinus pinea*, *Pinus brutia* and *Cupressus sempervirens* were used.

In areas where fresh water is effective, *Phragmites* sp., *Typha* sp., *Nymphaea alba* and *Iris pseudocorus* are available. *Tamarix* sp., *Salicornia* sp. and *Sueda* sp. are common in fresh water marshes. The islands near the Kapıköyü village are covered with *Daffodilis narcissus*. In the grasslands, *iris* sp. and *Ornithogalum* sp. are seen.

15. Land tenure/ownership:

- a) The site is a public property.
- b) Surrounding Areas: The surrounding area consists of lands by state, private persons, village legal entities.

16. Conservation measures taken :

11.244 hectares of land covering the whole lake and afforestation area has declared as Wild Life Protection Area by Forest Ministry in 1987.

17. Conservation measures proposed but not implemented:

The whole of the lagoon and surrounding areas were proposed as First Degree Natural Site Area on 1997.

18. Current land use:

Çukurova, with its quality soils and suitable climate, is the most productive and biggest delta plain of our country. Very big part of the Delta has been used for agricultural purposes. Main product of the plain is cotton. Other important products are rice, watermelon, muskmelon, strawberry, grain and fruits such as orange, tangerine, mandarin and lemon. Akyatan Lagoon is one of the richest fishing area of the East Mediterranean. Through the canal connected to the sea plentiful of fish enter to the lagoon for feeding and procreation. At the section opening to the sea a traditional fishing net fixed on poles called 'Dalyan' was build. The Dalyan is operated by the fishers from the Karata° village. The fish species caught at the lagoon are; Mugil sp., Chryophyris aurata, Clarias lazera, Barbus sp., Morone labrax, Anguilla anguilla, Silurus glanis, Cyprinus carpio, Cyprinus carpio, Salmo turutta gaidneri and varicorhinus sp. At east of the lagoon Callinectus sapidus is hunted.

19. Disturbances and threats including changes in land use and major:

Opening the fields of the high areas to industry and settling, high increase in population, dense migration caused the pressure on the natural areas to increase; and by draining them almost all of the temporary wetlands around the lake were opened to the agriculture. Again, the sand dunes around the lagoon have been transferred to water melon, melon and strawberry fields by leveling them.

Illicit and irregular hunting, collecting the very small fish and the water pollution came from the agricultural areas has harmed the fish population at the lagoon.

20. Hydrological and biophysical values:

The lagoon is connected with the sea through 2 km. narrow canal from its southeast. Water currents occur from lake to sea through the canal when the Lake water level is high and apposite direction when the water level is low. For this reason the saltiness in the lake water differs according to the seasons.

One major drain channel is called YD₃ channel was built in 1968.

21. Social and cultural values:

First occupations data to the end of the Neolithic Age (800-5500 year B.C.). Near the Kabata° village, which is located at the east of the lake, there was antique Mallos City in First Age. At the southwest of the Mallos City, the Magarsos city, which was the first harbor city, was established. At the harbor side of the city, whose northern part rounded by walls, there are castle, theatre, Athena Altar, church, bath, walled tomb and remaining of a cistern. The castle, which collapsed in Middle Age, was repaired by Abbasids. But, the Karata° Inn, built in Ottoman Period was collapsed. The Asurians, Greeks, Romans, Byzantines, Seljuks, and Ottomans dominated the area, which was under Hittis sovereignty in 17th century, B.C., until the proclamation of Republic of Turkey.

22. Noteworthy fauna:

Wide sand dunes and bushy areas between the lake and sea, are very suitable places for many carnivores:

Most common species seen in the area is Canis aureus. Other species seen in the area are vulpes, Felis silvestris, Lepus capensis and Erinaceus coecolor.

At the lake coast and the small lakes formed by old river branches the Herpetes ichneuman is seen commonly. The area is the most range section of the species in Asia. In addition, there are

some records that even *Lutra lutra* are seen in the area.

There are many *Hyla arborea*, *Rana ridibundus* and *Bufo viridis* existing in the area.

Important species in the area, which is highly rich of reptile, are *Chelonia mydas* and *Caretta caretta*. The beaches at the area is one of the few breeding places of *Chelonia mydas* in Mediterranean.

In fresh water puddles and canals, *Mauremys caspia* and *Emys orbicularis* are seen, and land turtles are seen commonly at the sand dunes. *Malpogen monspessulanus*, *Coluber jugularis*, *Ophiops elegans*, *Mabuya aurata*, *Chamaeleo chamaeleo*, *Cryptodactylus kotschyii* and *Agama stellio* are the other reptile species seen at the sand dunes.

Akyatan Lagoon is one of the important fishgarths in Mediterranean. Many fish enters from the canal, connecting it to the sea, for feeding. Another important species is *Callinectes sapidus*.

Akyatan Lagoon one of the wetlands having international importance. Being on the migration path is, and suitable climatic conditions has made the area rich and important for birds.

In a study made on the March, April and May months of the year 1990, 250 bird species were found in the area. During migration thousands of waders stay temporarily at the lake. Muddy plains around the lake are ideal places for waders.

The waders, which create crowded groups during the migration, are; *Ricuvirostra avosetta*, *Charadrius alexandrinus*, *Calidris minuta*, *Calidris ferruginea*, *Calidris alpina*, *Philomachus pughas* and *Limosa limosa*. Reed bed coasts and sand-dunes covered with bushes which very rich in insects are ideal feeding and sheltering areas for the birds such as; *Upupa epops*, *Coracias garrulus* and *Hirunda rustica*.

Akyatan Lagoon is very important as a place for wintering. Especially at the time periods when the severe cold dominate Anatolia, the bird existence reaches to huge numbers. Each year between 70.000 and 80.000 water birds pass the winter in this area.

Along with *Oxyura leucocephala*, which is in danger of extinction, *Aythya ferina*, *Anas penelope*, *Tadorna tadorna* and *Fulca atra* create crowded groups. One of the important species of the birds pass the winter in the area is *Phoenicopterus ruber*. Each year more than 10.000 flamingoes, whose important part come from Urumiye Lake of Iran, pass the winter at the lake.

The lagoon is one of the important breeding places for *Marmaronetta angustirotris*, whose species in danger of extinction, *Porphyrio porphyrio*, which is seen rarely in our country, and *Francolinus francolinus*. *Netta rufina*, *Anas platyrhynchos* and *Aythya nyroca* are other duck species breed at the lake. Other important bird species breeding at the lake are; *Burhinus oedicephalus*, *Charadrius alexandrinus*, *Hoplopterus spinosus* and *Sterna albifrons*. A detailed study is needed about breeding birds.

23. Noteworthy flora:

There isn't any noteworthy fauna.

24. Current scientific research and facilities:

A project is called the research of ecological and biological values in international important wetlands in Turkey was started for Akyatan Lagoon in 1997.

A project is called the Bird Migration Routes of Türkiye which includes Akyatan Lagoon was started in 1997.

25. Current conservation education:

A booklet for giving general information about Akyatan Lagoon and surrounding areas published by The Ministry of Environment is being distributed to local schools and related institutions.

26. Current recreation and tourism:

Tourism activities is very few at Akyatan Lagoon. Only some recreational buildings has been built east of the canal connecting the lake to sea.

Summer recreational buildings are available near Lake Tuzla and demands for tourism aimed establishment are high.

27. Management authority:

The Ministry of Environment ,

The Ministry of Forest,

28. Jurisdiction:

The Regional Organization of the Ministry of Forest,

The State Hydraulic Works (DSI) Regional Organization,

Adana Provincial Organization of the Ministry of Environment

Provincial organization of the Ministry of Environment.

29. References:

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30. Reasons for inclusion:

1 (a); 1 (C); 2 (a); 2 (c); 2 (d); 3 (a); 3(b); 3 (c).

31. Outline map of site:

The map is attached to this report.