

## INFORMATION SHEET ON RAMSAR WETLANDS

**1. Country:**

Republic of Turkey

**2. Date :**

14 April 1998

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

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**5. Name of wetland:**

Gediz Delta

**6. Date of Ramsar designation:**

15 April 1998

**7. Geographical coordinates:**

38° 30'N; 26° 55' E

**8. General location:**

One of the largest deltas in Turkey is the Gediz Delta lying in the eastern shore of the Gulf of Izmir, in the shore of Eagean Sea.

**9. Area:**

14,900 ha.

**10. Wetland type:**

B; E; F; G; J; K; L; M; Ss, Sp, 5

**11. Altitude:**

Sea level

**12. Overview:**

An extensive coastal wetland consisting of bays, salt marshes, freshwater marshes, large salt pans and four lagoons which formed at the former mouth of the Gediz River, 25 Km. north-west of İzmir.

**13. Physical features:**

The Gediz River is the second large river after the Büyük Menderes river which flows into the Aegean Sea from Anatolia. The Gediz River which is formed by joining of waters coming from Murat and Şaphane mountains in the central western Anatolia takes the streams of Kunduzlu, Selendi, Deliiniş and Demrek from the North and little rivulets coming from the volcanic area of Kulu from the South, while it advances towards the west. The River enters the Gediz plain

through the Northeast of the District of Salihli and takes the stream of Nif coming from the plain of Kemalpaşa in the south and flows into the İzmir Gulf through the south east of the hills of Foça.

The Gediz River which frequently changes its bed during overflow periods forms a delta of approximately 40.000 hectares. Some island in the Gulf of İzmir have joint with the land by time and included in the delta island.

The Gediz River used to flow into the Aegean Sea in the immediate east of the Çilazmak lagoon in late 19<sup>th</sup> century. But the bed of the river has been changed by opening canals, because of the danger that the Gulf might have been filled quickly and the access from the Gulf to the sea might have been closed.

Total length of River of Gediz: 401 kms

Water collecting basin : 17.500 km<sup>2</sup>

The Lagoons in the delta which are separated from the sea by narrow strips are Kirdeniz (400 ha.), Homa (1824 ha.), Çilazmak (725 ha.) and Ragıppaşa (Taş) (500 ha.), from the North to the South. The salt-plan of the State Monopoly Authority of Turkey are located between the Homa fish trap and the eastern shore of Çilazmak lagoon.

Three main fresh water swamps are found the Gediz Delta. The most important one out of these is the area consisting of 500 hectares of mudflats and 650 hectares of shallow fresh water swamp. This area lies in the East of Kirdeniz lagoon. One of the other two fresh water swamps is the Çiğli Swamp (140 ha.) in the Southeast of the region and the other is Sazlı Göl (30 ha.) in the Northeast of the Kozluca dike.

the past.

There are hilly areas (Poyraz Tepe, Orta Tepe, Üçtepelere) whose heights changing between 50-64 meters in the Southeast of Kirdeniz lagoon trap which had been located in the Gulf of İzmir. Continental climate peculiar to the Mediterranean prevails in the Delta.

The annual average temperature is 15,6°C.

The annual average rainfall is 635 mm.

The annual max. rainfall is 1116 mm.

The annual min. Rainfall is 327 mm.

The most rainy period is January and February.

#### 14. Ecological features:

The Gediz Delta which is a wetland with abundant food functions as an open air museum with its rich and different habitats.

There are large salt swamps in the Delta which are very important for some bird species. These salt swamps are located in the Northeast of Kirdeniz lagoon trap and between Bostanlı and Çilazmak fish traps. The old three beds of the Gediz River and the current mouth provide water birds and sea birds with reproduction, nutrition, wintering and sheltering.

The Gediz Delta which accommodates temporary wet meadows, gardens, agricultural areas and small woody areas together with all above mentioned systems is a unique living environment, not only for that region, but also for all Mediterranean region.

The habitats of dune, halophilic, phrygana and rush are found in the Gediz Delta which is located in the Mediterranean floristic area in respect of flora.

60 families, 308 taxa belonging to 206 species are determined after flora studies. These are included in Spermetophyte division.

Halophilic plants prevail in the salt-pan. *Phragmites australis*, *Thypha* sp. are found in the mushy area and canals, *Tamarix* sp. in dunes and *Asphadelus microcarpos*, *Pistacia terebinthus*, *Quercus* sp., *Ficus caria*, *Cori dotymus capitatus* are found an hills.

*Salicornia european* is seen densely on shores. *Arthrocnemum* sp., *Holocnemum strobilaceum* and *Halimone portulacoides* prevail in central areas as from the coast.

**15. Land tenure/ownership:**

- a) The site is a public property.
- b) Surrounding Areas: Agricultural lands are owned by private persons while meadows, pastures and bushy areas are public property.

**16. Conservation measures taken :**

Three lagoons in the west, hilly areas and near area and Çamaltı salt-pans were declared to be "Wild Life Protection Area" by the Directorate General of National Parks and Game-Wild Life of the Ministry of Forest in 1980. The same area was declared to be a 1<sup>st</sup> Degree Site Area by the Decree No.611 of the Izmir Council for the protection of cultural and Natural beings. The Leucæ antique city located in the salt-pan was declared and protected as an Archeologic site Area by the Decree dated 18.07.1985 and dated 1284.

The Gediz Delta and the Bird Paradise of Çamaltı Salt-pan which are found under the administration of the province of Izmir are governed by different establishments.

Salt-pans located in the Delta are under the control and administration of the state Monopoly Salt Establishment. Inspections in the Wild Life Protection Area of 8800 hectares are conducted by the General Directorate of National Parks and Game-Wild Life of the Ministry of Forest.

Also the Decree by the Higher Council for Protection of Cultural and Natural Beings dated 19.04.1996 and numbered 417 in applied in the Natural site Area.

**17. Conservation measures proposed but not implemented:**

There is not measures proposed.

**18. Current land use:**

Salt production has been made in the area since 1863 which is one of the most important sea shore salt production centers and the largest salt production center in Turkey. A salt production of 500.000 tons is realized annually by the Salt Works of the State Monopoly Authority in the salt-pans covering an area of 3300 hectares of the Delta.

The Delta is one of the most agricultural areas on the Aegean shores because of its suitable climatic and soil conditions. Main products in irrigated areas are cotton and rice. The water of the Gediz River is the vital spot in the region for agricultural activities

Rare natural pastures found in the area are utilized to feed cow, sheep and horses.

Two wish traps with an area of total 2400 hectares are located in the West and South of the Delta.

The Homa lagoon run by Water Products Higher School of Ege University is quite rich in regard of fish species.

Bird observation is being performed.

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

The water of the Gediz River is the vital spot in the region for agricultural activities. First irrigation works started in 1940 and then three dams have been constructed on the River and its branches for irrigation and energy generation purposes.

Aşağı Gediz irrigation project has been started by the General Directorate of State Hydraulic Works to irrigate the plain of Menemen lying in the East-Northeast direction of the Delta. The natural system has been interrupted especially in regard of water regime, because of land improvements and irrigation network realized in an area of 23000 hectares.

In addition, an agriculture-originated pollution problem has been arisen together with the beginning of irrigated agriculture.

The Gediz River is heavily polluted by at least 130 industrial resources and virtually all household waste generated in its basin but the effects of this on the wetland are unknown. Anaerobic water from the salines is through to cause sea pollution.

Fish catches in the Homa lagoon dropped from 70 tons in 1986 to max. 20 tons in 1995, possibly due to the increasing salinity of the lagoons as a result of the drastically reduced flow of the Gediz River and the diversion of drainage water which formerly flowed into the lagoon.

#### 20. Hydrological and biophysical values:

Because of the geographic characters of the land forms surrounding the Mediterranean, most water sources flow into the sea without joining to form rivers with high flow rates. They form many small deltas. Therefore, each of the rare large deltas formed by some high flow rate rivers is a living area without alternative.

The Gediz River, during formation of the delta, has frequently changed its course forwards the west, Southwest and South and has formed many lagoons, and mud plains towards the sea.

#### 21. Social and cultural values:

The Leukai antique city located at Üçtepeliler which is an island in the Aegean Sea situated in the Delta was established by Takhos, a Persian Admiral who planned to rebel against the Persian King (352 BC). The city had not played an important role in history. However it was mentioned during Hellenistic era, because of Aristoniskos, the illegal child of Eumenes II.

Some silver coins made by Leukai which was a colony of Klazomenai (Urla) are being exhibited now in British Museum. Excavations are not started yet for this antique city which has little ruins left. However, the walls surrounding the city and a room-tomb and 5 wells in different places have been discovered.

#### 22. Noteworthy fauna:

The Gediz Delta which have a rich fauna provide a living area for many animal species from numerous insect species to *Canis aureus* and *Sus scrofa*. But, the birds constitute the most important aspect of the fauna.

More than 200 out of 450 bird species found in Turkey have been observed in this area. The Gediz Delta provides many kinds of water birds with proper conditions for reproduction, nutrition, sheltering and wintering, because of its convenient climatic conditions, fresh and salty water ecosystems and rich and different habitats.

The *Pelecanus crispus* and the *Falco naumanni* which are threatened reproduce in the Gediz Delta. The area is a reproduction site in all Mediterranean region, for sea birds especially for gulls and terns.

Thousands of sea birds breed in sheltered small muddy islands in the Delta every year. The *Sterna* tern reproduces only in the Gediz Delta in Turkey. This area is also one of the five areas on all Mediterranean shores where this species reproduces regularly. The *Sterna cospia* reproduces regularly only in the Gediz Delta and Büyük Menderes on all Mediterranean shores. On the other hand, the area is important in respect of providing wintering and accommodations during migration for thousands of coastal birds every year. Salt-pans, marshes, meadows, hills and gardens are other habitats increasing the richness of the area. The *Ciconia nigra*, *Phoenicopterus ruber*, *Hoplopterus spinosus*, *Glareola pranticola*, *Burhinus oedicnemus*, *Buteo rufinus*, *Sitta neumayer* and *Monticola solitarius* can be given as examples for important species living in these habitats.

#### 23. Noteworthy flora:

There are endemic species and/or sub-species in the Gediz Delta, such as *Puccinellia kociana* subsp. *anatolica*, *Stachys cretica* subsp. *smyrnaea*, *Carex divisa*, *Sueda prostrata* subsp. *prostrata* and *Salsola kali*.

**24. Current scientific research and facilities:**

The project of Management Planing for Gediz Delta is being carried out by Agean University supported by The Ministry of Environment.

Rama Life Water Project started in 1993 by the protocol executed between The Governorship of Izmir and Unilever Rama Company under the co-ordination of the Ministry of Environment in order to prevent mushy areas from being dried up. The project was completed in 1995 and water flow of 50 lt per second started to be given to marshes from the underground water near Süzbeyli Village through a 5 km. canal.

**25. Current conservation education:**

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

A visitors center has been built in the protection area and the traffic of visitors coming for bird observation and research.

**26. Current recreation and tourism:**

The Bird Paradise of Çamaltı salt-pan located in the Delta and very near a metropolitan city such as Izmir, is an important place for daily recreation purposes.

**27. Management authority:**

The Ministry of Environment ,  
The Ministry of Forest,  
The Ministry of Trade and Industry,  
The Ministry of Agriculture,  
The Ministry of Culture,  
The Ministry of Energy and Natural Sources.

**28. Jurisdiction:**

The Regional Organization of the Ministry of Forest,  
The State Hydraulic Works (DSI) Regional Organization,  
The Municipality of Çiğli  
İzmir Provincial Organization of the Ministry of Environment  
The Regional Organization of the Ministry of Agriculture.  
The Ministry of Trade and Industry, Salt Works of The State Monopoly Authority.

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**30. Reasons for inclusion:**

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

**31. Outline map of site:**

The map is attached to this report.