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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:
Lake Uluabat

6. Date of Ramsar designation:
15 April 1998

7. Geographical coordinates:
40°10'N 28°35'E

8. General location:
It is located in south of Marmara Sea within the border of Karacabey and Mustafakemalpaşa districts of the Bursa province. The lake, which is 34 km. to the center of the Bursa province and 90 km. to the Balıkesir province, is located near the south of the Bursa - Karacabey highway.

9. Area:
19,900 ha.

10.Wetland type:
O

11. Altitude:
9.00 m. (Average)

12. Overview:
It is a large turbid, shallow and eutrophic freshwater lake. There are four islands in the lake. Along the western and southern shores of the lake vast reed beds with clusters of trees are found, whilst in the east and north reed beds are more localized.

13. Physical features:
Uluabat lake was formed at south of the Marmara Sea at the tectonic based Yenişehir-Bursa-Gönen depression area spreading east-west direction. It is separated from the Lake Kuş (Manyas) , which is located at the same depression area, by a shallow thresh-old.

Different explanations were made about its formation. A.Philippson and E. Lahn stated that in Neocene a big fresh water lake has been formed at the Bursa-Gönen depression area; as a result of movement in late Neocene or at the Quaternary four small basins formed at this lake area, other two basins were filled with alluvion and the Uluabat and Ku° lakes remained EMRE, KAZANCI and colleagues (1997) accepted that while the Bursa-Gönen depression area, which is formed as depending on the tectonic activity in pliocene, were land bounded from the beginning to end of Quaternary, and at a later stage filling the beds of the meandered rivers by the alluvions carried by them caused to form the Uluabat and Kuş lakes; and that both of the lakes are typical alluvial-set lakes.

When each of the opinion is assessed it is seen that the lake was formed at the tectonic depression area and the local rivers had a big role in shaping them.

North of the lake, which is located at the elevation of 8-9 meters from the sea level, there are small hills formed in Neocene, and south of the lake there are mountainous areas with sharp edges formed in Palaeocene.

The length of the lake, which has a rough triangular shape, at the east-west direction is 23-24 Km. and the width is 12 km. Lake area differs depending to the seasons. The highest measurement given for the Lake area up to now is 24.000 hectares and the lowest measurement is 13.500 hectares. The south-west shores of the lake were rounded with the levees built in 1993 and this side of the lake was opened to the agriculture and by doing this the flooding of this vast area, which happened before, was prevented.

Average depth of the lake is 2.5 meters. Big part of the lake is shallow and the depth of this area changes between 1-2 meters. The deepest place of the lake is a depression of 10 meters at the Halilbey Island.

North coasts of the lake is wavy when compared with other shores. There are two peninsulas (Eskikaraağaç and Gölyazı) of limestone structure at the north. Again there are 7 islands in the lake that limestone is dominant in their structures. The biggest of these islands is Halilbey island.

Lake water is always turbid because it contains colloidal clay. Sometimes greenish-yellow and sometimes grayish-yellow dominates to the lake water depending on the phyoplanktons at the lake. Light permeability is very poor of the lake water because of its turbidity. Depending on the amount of suspended particles entering in water during spring, the light permeability can drop down to 22 cms.

Most important water source feeding the lake is Mustafakemalpaşa stream. Karst springs at the bottom and surroundings of the lake and small streams arriving to the lake at rainy periods contribute to feeding of the lake. In addition, the drainage water of the agricultural fields at the south-east of the lake also flow to the lake. The amount of the water entering to the lake highly differs depending on the seasons and years. The excess water of the lake are emptied to the Susurluk Stream with the Uluabat stream which is located at west of the lake, and by this stream to the Marmara sea. But, when the lake water level drops below the level of the Uluabat Stream, the stream starts flowing through lake and feeds the lake. In addition, the water is drained by the pumps from the lake and 6350 hectares of agricultural fields around the lake is watered by this water.

The annual average temperature is 14.6°C

The annual average rainfall is 476 mm.

The annual max rainfall is 878 mm.

The annual min rainfall is 54 mm.

14. Ecological features:

Uluabat lake is one of the most rich wetlands of Turkey by aquatic plants. Almost all coasts of the lake are covered with vast reed areas, and shallow parts with aquatic plants.

The most common plant groups at the Uluabat Lake are Phragmites sp. and Typha sp.. The Phalaris arundinacea, Schenoplectus lacustris and Stachys palustris are seen where the Pharagmites australis is dominant.

At the vast wet meadows at the north-west of the lake Bolboschoenus maritimus rush is dominant. Other species seen at the area are Eleocharis polustris, Agrostis stohonifera and Alisma lanceolatum.

Uluabat Lake has the widest water lily beds of Turkey. Nymphea alba covers the wide areas on the north-east coasts and at the lake entry mouth of the Mustafakemalpa°a stream. At the areas where water lilies exist, there are Ceratophyllum demersum, Potamogeton crispus and Schoenoplectus lacustris. At the north-east of the lake, together with the Sparganim erectum and Paspalum paspolodes exist. Meadow foxtail grass and Potamogeton sp. are the other plant species seen commonly at the lake. Meadow foxtail form pure groups at the south-west tip of the lake and at the places where Mustafakemalpa°a stream mixed with the lake water.

At the south-west parts of the Tamarix sp., Salicornia species, Artemisia santericum, Hordeum marinum and Bromus hordeaceus are common. Again, at the place where the water Mustafakemalpa°a stream mixes with the lake water, there are plant groups consisting of Salix sp. and Tamarisks.

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 :

Protection works at the Uluabat Lake executed by the Ministry of Environment. Staff members from the Bursa Environment Provincial Organization take required measures by doing inspections at the lake from time to time.

17. Conservation measures proposed but not implemented:

18. Current land use:

As a result of the surveys made at the lake, 21 species of fish were found. When compared with other lakes of Turkey, it is a very high number. Among these species, main fish caught for commercial purposes are; Esox lucius and Cyprinus carpio. Also, although few in quantity, Silirus glanis, Leuciscus cephalus, Caspialosa maeotica and Scardinius erythrophtalmus are caught for commercial purposes. It is stated that Anguilla anguilla was abundant in the past, the late 25 years it is seen rarely.

The species of the fish caught in the lake most are pike (Average 250 ton each year) and carp (average 100 ton each year). The annual total of other species caught differs between 15 to 25 ton.

One of the most important water product of the lake is Astacus leptodatylus. While average 700 ton of crawfish was caught in the past, the crawfish production is totally finished because of fungus disease in 1986. Local fishers indicate that last few years the effects of the disease has began to diminish and the quantity of the crawfish caught has increased. All of the crawfish caught are exported.

5 cooperatives connected with the water products are having activities at the lake. Total members of these cooperatives is Gölyazı Fishery Production and Selling Cooperative having 590 members.

The area is one of the most productive agricultural area of Turkey due to suitable climatic conditions and quality soils. The Karacabey and Mustafakemalpaşa districts, which contains the lake within their borders, are the most developed district of the Bursa Province and Marmara Area. The people of neighborhood earn their living generally from agriculture and agricultural products. Main products grown commonly are; onion (approximately 6% and 12% of the total

onion production of Turkey), potato, beet sugar, corn, bean, and barley. Fruit trade also has an important role in agriculture at the area.
Stock-breeding is common in both districts, and an important source of income. The area is famous by its Merino sheep and quality cow. Karacabey district is famous with its Mihaliç Cheese.
The history of the Agricultural Enterprise at Karacabey district goes to the first years of the Ottoman Empire. It was established to meet the animal products and horse requirements of the Palace and Armed Forces. The enterprise has provided important contributions, mainly stock-breeding, to develop the agriculture of our country.
The industry at the area contains small enterprises mostly based on the agriculture. These are; canned vegetable factory, leather manufacturing workshops, dairy farms, vegetal liquid oil establishment and water products processing enterprises. Almost all of these establishments have pollutant characteristics because of their type of production. They cause pollution in the lake because lacking of purifying plants. In addition, there are many workshops doing business in metal households and manufacturing at the area.
Kestelek Boron Mineral Enterprise is one of the most important establishment polluting the lake through Mustafakemalpaşa river with its wastes.

19. Disturbances and threats including changes in land use and major:
The Mustafakemalpaşa river drains a large part of southern Marmara and north Aegean region, bringing large quantities of urban and industrial waste into the lake. The drainage water from surrounding fields flows back into the lake. Although no studies are available, further and intensive eutrophication may pose a serious threat to the lake's ecosystem.
Despite existing regulations, out-of-season and over fishing is regular and widespread.

20. Hydrological and biophysical values:
Most important water source feeding the lake is Mustafakemalpaşa stream. Karst springs at the bottom and surroundings of the lake and small streams arriving to the lake at rainy periods contribute to feeding of the lake. In addition, the drainage water of the agricultural fields at the south-east of the lake also flow to the lake. The amount of the water entering to the lake highly differs depending on the seasons and years. The excess water of the lake are emptied to the Susurluk Stream with the Uluabat stream which is located at west of the lake, and by this stream to the Marmara sea. But, when the lake water level drops below the level of the Uluabat Stream, the stream starts flowing through lake and feeds the lake. In addition, the water is drained by the pumps from the lake and 6350 hectares of agricultural fields around the lake is watered by this water.

21. Social and cultural values:
Surveys have shown that, since 4000 BC the area has been occupied by different civilizations. But the first clear information belong to 1200 BC. Known ancient settlements are Miletepolis (Karacabey) and lapadion (Uluabat village) near the Uluabat Lake. From 1200 BC to the foundation of Republic of Turkey, Bithynia, Lydia, Pers, Romans, Byzantines, and ottoman sovereignties have been occurred in the area.
Earthenware pots of the Romans, remaining of earthenware water pipe and an Apollion statue made of bronze have been found during the archaeological excavations made at the area.

22.Noteworthy fauna:
Uluabat Lake, is one of our eutrophic lakes for biological productivity. Because it is rich by planktons and bottom creatures, it creates ideal conditions for breeding and feeding of the different living species. Existence of the thousands of birds at the lake is an important indication of that 21 different kinds of fish have been identified at the lake. When compared with the

other lakes, this number is very high. Main mammal species seen at the lake surroundings, which has a very rich fauna, are; Lutra lutra, Canis aureua, Vulpes vulpes, Meles meles and Lepus capensis.
Uluabat Lake is one of the most important wetlands not only for Turkey but also for Europe and Middle East by its bird existence.
Being located on the migration way which enters to Anatolia from north-west, stationed to the Kuş (Bird) lake, which is an important bird area, very close (35 km.), being highly rich for food and having suitable climatic conditions provided feeding, passing winter and breeding possibility to the different species of crowded bird groups.
Uluabat Lake is the most important breeding area in our country for the Phalacrocorax pygmeus which is one of the bird species under world wide danger of extinction. 300 pairs of the species, whose total breeding population in Turkey is estimated as 1500 pairs breed. Important number of pygmy cormorants take shelter at the lake even after breeding periods. In January 1995, 1075 individuals of the species were recorded at the site. Uluabat lake is also one of the important feeding and wintering areas of the Pelecanus crispus, which is under the danger of extinction, and in October 1994, 136 individuals population of this bird recorded at the lake.
Other important species breeding at the lake are; Ardeola ralloides, Platalea leucoridia, Ergetta garzetta and Plegadis falcinellus, Podiceps cristatus, Lxobrychus minitus, Nycticorax nycticorax, Ardea purpurea, Circus aeruginosus, Collared pratincola, Hoplopterus spinosus, Chlidonias hybridus, Chlidonias niger.
The lake is important also for wintering and the main species which winter in the area are; Aythya fulugila (13600), Aythya ferina (42500), Podiceps cristatus (2780) Pelicanus onocrotalus (1310), Fulica atra (321550). In January 1996 429423 water-bird were counted at the lake. This number is highest since 1970 to now recorded in a wet-land in Turkey.

23. Noteworthy flora:
There isn't any noteworty fauna.

24. Current scientific research and facilities:
A project was proposed in this year, for establishing a management plan so as to cover the whole lake. It will be supported by the Ministry of Environment.
A project is called the research of ecological and biological values in international important wetlands in Türkiye was started for Lake Uluabat in 1997.

25.Current conservation education:
A booklet for giving general information about Lake Uluabat and surrounding areas published by The Ministry of Environment is being distributed to local schools and related institutions.

26.Current recreation and tourism:

27.Management authority:
The Ministry of Environment ,

28. Jurisdiction:
Bursa Provincial Organization of the Ministry of Environment

29. References:
ERDEM O., (1995), Bird Paradises of Turkey, Ministry of Environment, Environmental Protection General Directorate, Green Serial 5, Page 58,59.
SEÇMEN Ö., LEBLEBİCİ E., (1987), Flora and vegetation of the lakes and Marshy lands of

the Thrace, Marmara, West and Middle Black Sea, Interior Anatolia and East Mediterranean. Wet-land mid-winter water-birds counting of Turkey, Association of Protecting the Nature life, ISTANBUL.
YARAR M., MAGNIN G., (1997), Main Bird Areas of Turkey, Association of Protecting the Nature Life.

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.