

Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.

1. Name and address of the compiler of this form:

Romanian Ornithological Society/BirdLife Romania
Str. Gheorghe Dima, Nr. 49/2
400336 Cluj – Napoca, CJ

61 Bd. Marasti, floor 3, rooms 323 – 324, zone 1
011464 Bucharest
ROMANIA

Tel/fax: 0040 26 438 086
0040 21 3184701

E-mail: office@sor.ro
www.sor.ro

2. Date this sheet was completed/updated:

27 February 2006

3. Country:

Romania

4. Name of the Ramsar site:

Lake Techirghiol

5. Map of site included:

a) **hard copy** (required for inclusion of site in the Ramsar List): yes

b) **digital (electronic) format** (optional): yes

6. Geographical coordinates (latitude/longitude):

44°02'35" N, 28°37'35" E

7. General location:

SE Romania

Large administrative unit: Constanța County. Constanta town is located at 16 km north from the lake.

Local administrative units: Techirghiol town

Lake Techirghiol is situated in the region on the coastal area at 150 m from the Black Sea coast. A town bearing the name of the lake has been developed since ancient times nearby the lake. At present the town has 7000 inhabitants and is a famous tourist resort offering treatments based on curative qualities of the sapropel, taken from the salty bottom of the lake.



8. Elevation (m):

Min: 5, Max 30 (on the surrounding area).

9. Area: (in hectares)

1462 The area includes the lake itself and the surrounding marshes.

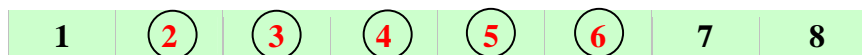
10. Overview:

Between sec. 4 – 10 A.D. the lake was formed from a bay blocked by sand banks. Until 1970s - 1980s the salinity of the lake decreased continuously due to the fresh water supplied by springs situated on the western end of the lake and due to agricultural irrigations. In order to keep the marine salt characteristics of the lake and saving *Artemia salina*, a small crustacean which produces the sapropel, two dams were built in the 1980s, splitting the lake in three parts with different characteristics of the water. The eastern part and the biggest area remained salty, between the dams the water became brackish and the western end of the lake contains fresh water. In such diverse conditions the habitats and the population of plants and animals have developed continuously and the coastal habitats and wetlands provide good conditions for numerous species. Plants as *Suaeda maritima*, *Kochia hirsuta*, *Salicornia herbacea*, *Aster tripolium*, *Puccinellia distans* and *Spergularia marginata* cover the coastal area. In the areas with low salinity *Juncus gerardi* is common and *Phragmites australis* appeared on the fresh water. From invertebrates in the benthos of the lake two endemic species were found: *Haliella noctivaga* and *Cothurnia tekirghiolica*. Several species of amphibians can be seen: (only in fresh water parts) *Triturus dobrogicus*, *Pelobates syriacus balcanicus* and *Bombina bombina*. Protected reptile species, such as *Emys orbicularis*, are present. Lake Techirghiol the main wetland in southern Dobrogea, situated on the littoral bird migration route, provides a very important roosting place for waterfowl. (during the winter, the lake do not freeze – except western parts beyond dams, less salty). Many bird species breeds on the reed beds and during the winter is one of the main roosting places for geese and ducks. Many species of

mammals were identified in the area: *Spermophilus citellus*, *Lepus europaeus*, *Microtus arvalis*, *Rattus norvegicus*, *Mustela putorius* and some are protected: *Mustela eversmanni*, *Vormela peregusna euxina* endemic subspecies, *Miniopterus schreibersi*, *Myotis myotis* and *Myotis blythii*.

One of the most important things, not only for local people, is the biogenic silt, called sapropel. It is used for its therapeutic proprieties.

11. Ramsar Criteria:



12. Justification for the application of each Criterion listed in 11 above:

Criterion 2:

The site supports the following species of the Bird Directive Annex I:

Scientific name	Common name
<i>Gavia arctica</i>	Arctic Loon
<i>Phalacrocorax pygmaeus</i>	Pygmy Cormorant
<i>Pelecanus onocrotalus</i>	Great White Pelican
<i>Pelecanus crispus</i>	Dalmatian Pelican
<i>Botaurus stellaris</i>	Bittern
<i>Ixobrychus minutus</i>	Little Bittern
<i>Nycticorax nycticorax</i>	Black-crowned Night-heron
<i>Ardeola ralloides</i>	Squacco Heron
<i>Egretta garzetta</i>	Little Egret
<i>Egretta alba</i>	Great White Egret
<i>Ardea purpurea</i>	Purple Heron
<i>Ciconia ciconia</i>	White Stork
<i>Cygnus cygnus</i>	Whooper Swan
<i>Anser erythropus</i>	Lesser White-fronted Goose
<i>Branta ruficollis</i>	Red-breasted Goose
<i>Mergus albellus</i>	Smew
<i>Oxyura leucocephala</i>	White-headed Duck
<i>Aythya nyroca</i>	Ferruginous Duck
<i>Circus aeruginosus</i>	Western Marsh-harrier
<i>Circus cyaneus</i>	Northern Harrier
<i>Circus macrourus</i>	Pallid Harrier
<i>Buteo rufinus</i>	Long-legged Buzzard
<i>Falco columbarius</i>	Merlin
<i>Falco peregrinus</i>	Peregrine
<i>Falco cherrug</i>	Saker
<i>Himantopus himantopus</i>	Black-winged Stilt
<i>Charadrius alexandrinus</i>	Kentish Plover
<i>Pluvialis apricaria</i>	Eurasian Golden-plover
<i>Philomachus pugnax</i>	Ruff
<i>Larus melanocephalus</i>	Mediterranean Gull

Larus minutus	Little Gull
Sterna albifrons	Little Tern
Chlidonias hybridus	Whiskered Tern
Chlidonias niger	Black Tern
Asio flammeus	Short-eared Owl
Alcedo atthis	Kingfisher
Dendrocopos syriacus	Syrian Woodpecker
Melanocorypha calandra	Calandra Lark
Galerida cristata	Crested Lark
Lanius collurio	Red-backed Shrike
Lanius minor	Lesser Grey Shrike

Some of the threatened bird species occurring on this lake are: the Red-breasted Goose *Branta ruficollis*, the Pygmy Cormorant *Phalacrocorax pygmeus*, the White-headed Duck *Oxyura leucocephala*, the Saker Falcon *Falco cherrug*.

Other important vulnerable and near threatened species present on the lake and its nearby areas are: the Lesser White-fronted Goose *Anser erythropus*, the Dalmatian Pelican *Pelecanus crispus*, the Pallid Harrier *Circus macrourus*.

Scientific name	Common name	Winter visitor (individuals)	Passage migrant (individuals)	2004 Global IUCN Red List Category	2004 Global IUCN Red List Criteria	Birds Directive	Bern Convention	Bonn Convention
<i>Phalacrocorax pygmaeus</i>	Pygmy Cormorant	600-830		NT	A2c; A3c	I	II	II
<i>Pelecanus crispus</i>	Dalmatian Pelican		40-60	VU	A2c; A3c	I	II	I; II
<i>Anser erythropus</i>	Lesser White-fronted Goose	2-31		VU	A2b,c,d; A3b,c,d	I	II	I; II
<i>Branta ruficollis</i>	Red-breasted Goose	800-27,000		VU	B2a+b(iii)	I	II	I; II
<i>Aythya nyroca</i>	Ferruginous Duck		40-50	NT	A2c,d; A3c,d	I	III	I; II
<i>Oxyura leucocephala</i>	White-headed Duck	60-700		EN	A2b,c,d,e	I	II	I; II
<i>Circus macrourus</i>	Pallid Harrier		2-5	NT	A2c,d,e; A3c,d,e	I	II	II
<i>Falco cherrug</i>	Saker	1-3	2-4	EN	A2b,c,d; A3b,c,d	I	II	II

Criterion 3:

The most important species for maintaining the biological diversity of this lake are:

Green algae:

Cladophora vagabunda, *Cladophora crystallina*, *Closterium acerosum* (Chlorophyta)

Diatoms:

Synedra tabulata, *Nitzschia sigmoidea*, *Achnanthes brevipes* (Bacillariophyceae)

Invertebrates:

Cothurnia tekirghiolic (Ciliophora)

Pseudamnicola codreani (Gasteropoda)

Polycladodes album, *Polycelis nigra* (Platyhelminthes)

Artemia salina, *Rivulolga mursupulex* (Crustacea)

Haliella noctivaga, *Halliella taurica* (Chironomidae)

Criterion 4:

The lake Techirghiol is unique in Romania due to its physical and biological characteristics. It is the biggest lake situated in south-eastern Romania. Its size and the limited access due of the steep shores offer safe sites for waterfowl. Salt and brackish water prevent the lake to freeze like most other lakes from Dobrogea, offering the best area for roosting especially in January when all fresh water lakes are frozen. Usually large numbers of ducks are roosting in good weather on the Black Sea but they seek for refuge on the lake during storms. Lake Techirghiol is surrounded by large areas of agricultural land offering a good choice of food in its vicinity. In the coldest period of the winter, birds do prefer to feed close to the lake sparing their energy. In the area situated up to 15 – 20 km from the Black Sea coast, the weather is warmer and the crops are usually free of snow compared with all other areas from Dobrogea. All these characteristics make the Lake Techirghiol the best roosting site on southern Romania during the winter and its deterioration would have a major negative impact on the waterfowl.

Please see Annex 1 of this document for the list of bird species.

Criterion 5:

The Lake Techirghiol represents an important staging area for most of migratory species on their way from Russia to Mediterranean and Africa. During migration on spring and autumn 20,000 – 30,000 birds can be recorded. In winter the number of *Anser albifrons* roosting on the lake varied from 6,000 individuals up to 40,000 individuals. Ducks (*Anas platyrhynchos*, *Aythya nyroca*, *Aythya fuligula*, *Bucephala clangula*) gathered in large number between 5,000 – 15,000 individuals especially in January.

Criterion 6:

During the winter, a large number of the Red-breasted geese (*Branta ruficollis*) can be found here. Up to 27,000 individuals were counted on the lake in the year 2000 representing about 31 % of the entire world population.

The number of White-headed Ducks *Oxyura leucocephala* individuals observed on Techirghiol Lake varied from 60 up to 700 individuals (0.8 to 9.3%).

13. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

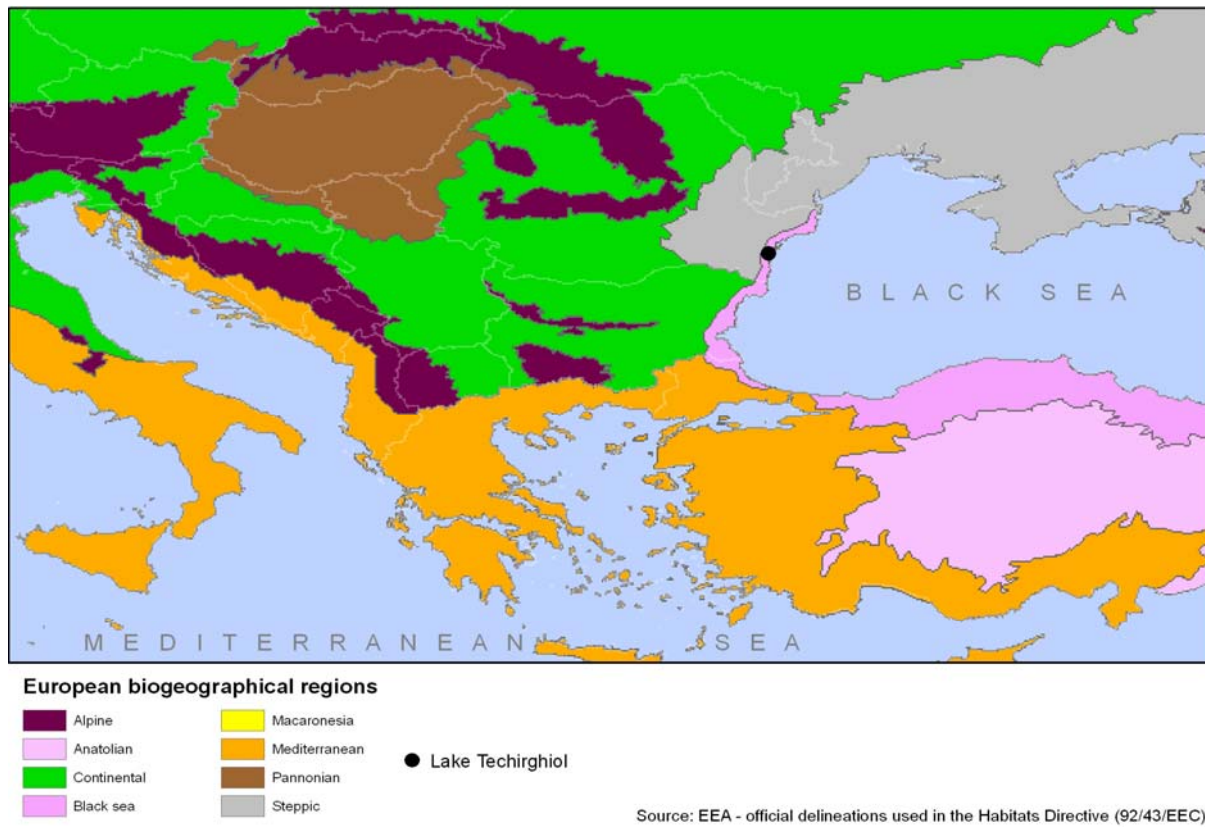
a) biogeographic region:

World: West Palearctic

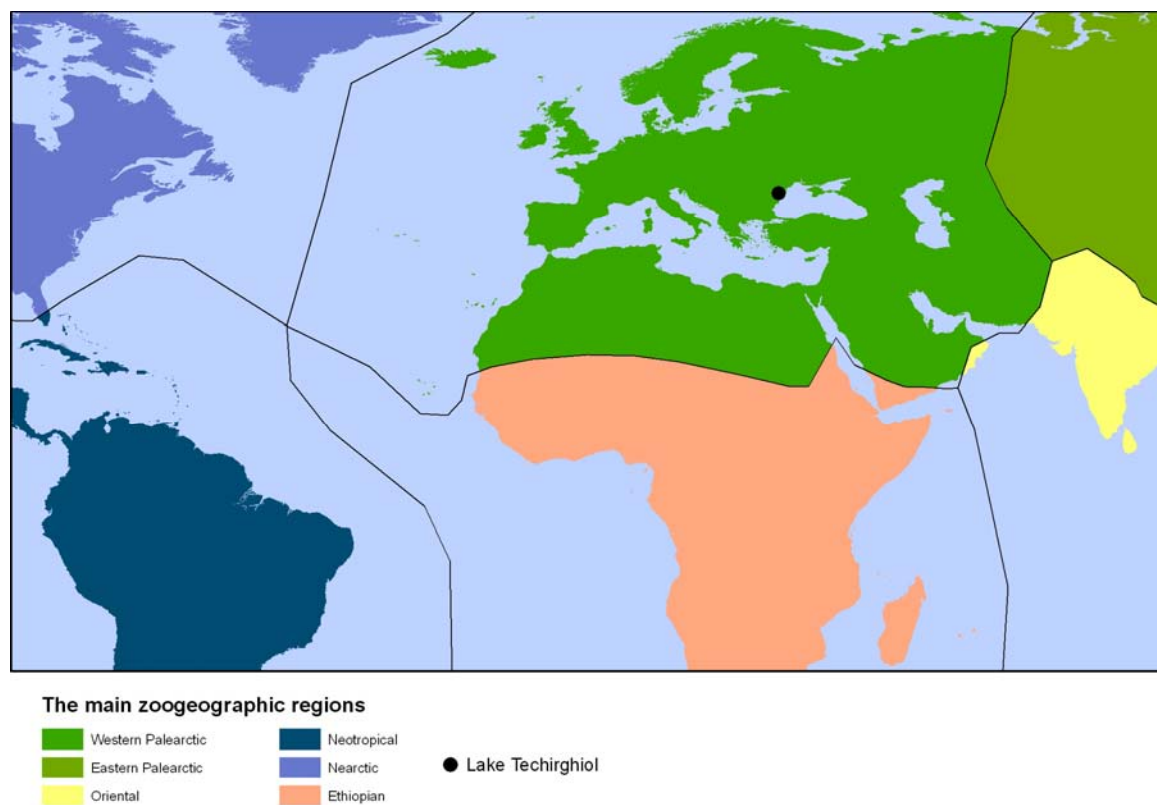
Europe: Pontic

b) biogeographic regionalisation scheme (include reference citation):

EU Biogeographic regions – Source: EEA – official delineations used in the Habitats Directive (92/43/EEC)



World Zoogeographical Regions



14. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Geology and geomorphology: in this area the main rock is Sarmatian limestone. Under this, we found shale, separated by clay. Above limestone is loess. On the bottom of the lake is limestone, covered by red clay with limestone concretions (especially on the shore) and shale (in dipper sections).

Soil type and chemistry range: soil formed on the loess is chernozym and levigated chernozym. Where the loess layer was eroded, a rendzinic soil is present.

Origins: Originally, here was a marine lagoon. During time, waves and tectonic movements isolate the lake's area and a bay begun to take shape (in antiquity). Later, deposition of sediments continued to isolate the bay and the lake was born.

Hydrology: inflow: from 0.64 to 1.93 Us kmp

Water quality: Due to irrigation the salinity of the lake has decreased: 83.6 g/l (1970), 63.6g/l (1980) and 53.50 g/l (1997), in the main water body.

The two dams built in 1983 and 1989 respectively, divided the lake in three parts, two smaller and the main body:

- fresh water zone – in western part (salinity: 1.0 – 2.3 g/l)
- intermediate zone – in central part (salinity: 6 – 8 g/l)
- saline zone – near Black Sea (salinity: 52 – 55 g/l)

Depth, fluctuations and permanence of water:

Maximum depth: 12.5 m; medium depth: 4 m.

Fluctuation: between – 1.64 m and + 1.79 above sea level.

Water area: between 11.54 and 13.4 square km.

Climate:

Rainfall – 350 mm. Rainy months: May and November

Solar radiation: 125 kcal/ sq. m

Temperature: Average: 11.5 °C; max: 32 °C; min: - 26 °C;

July (average) 22.5 °C, January (average) - 0.5 °C;

Atmospheric pressure: 764.3 mm (average)

Prevailing wind direction: NE, SE and W.

15. Physical features of the catchment area:

Area: 160 sq. km

Geological characteristics are the same as in surrounding lake area: the main rock is Sarmatian limestone. Under this, we found shale, separated by clay. Above limestone is loess.

Soil type: chernozym and levigated chernozym (installed on loess)
rendzin (installed on limestone, where loess was eroded)

Land use:

agriculture (68 %)

wetlands (20%)

pastures (10%)

discontinuous urban (2%)

Climate: the same as in surrounding lake area

16. Hydrological values:

Volume 70 000 000 m³

The site has no special importance for flood prevention or groundwater recharge.

17. Wetland Types

a) presence:

Marine/coastal:

A	B	C	D	E	F	G	H	I	J	K	Zk(a)
---	---	---	---	---	---	---	---	---	---	---	-------

Inland:

L	M	N	O	P	Q	R	Sp	Ss	Ip	Ts	U	Va	Vt	W	Xf	Xp	Y	Zg	Zk(b)
---	---	---	---	---	---	---	----	----	----	----	---	----	----	---	----	----	---	----	-------

Human-made:

1	2	3	4	5	6	7	8	9	Zk(c)
---	---	---	---	---	---	---	---	---	-------

b) dominance:

Q – approx. 90% permanent saline/brackish lakes.

Ip – approx. 5% permanent freshwater marshes/pools.

W – approx. 5% shrub-dominated wetlands.

The eastern part of the lake, closest to the Black Sea (Sp), at present is separated from the sea by a narrow sand belt, 100 m wide and 3 km long.

18. General ecological features:

Sand vegetation: on the lake shore, because of the presence of the sand and salty environment, characteristic halophile vegetation develops. Main species are: *Suaeda maritima*, *Kochia hirsuta* and *Salicornia herbacea*.

Wetland vegetation: because of water's salinity, this type of vegetation is poorly developed. Representative species is *Phragmites australis*.

Algal communities: also very poor developed, because of the salinity. There is only one species of multi – cell green algae: *Cladophora vagabunda*.

19. Noteworthy flora:

On the saline sandy shores we may find also *Aster tripolium*, *Puccinellia distans* and *Spergularia marginata*. The algae *Cladophora crystallina* contributes to the process of sapropel forming.

20. Noteworthy fauna:

Artemia salina (Crustacea) – the most important biogenic source for sapropel, together with *Haliella taurica* larvae

Endemic invertebrates:

Haliella noctivaga (Chironomidae)

Cothurnia tekirghiolica (Ciliophora)

21. Social and cultural values:

The sapropel formed in saline water is used for its therapeutic properties. On the north – eastern shore an international medical center for physiotherapy and baths were built.

Because of the fresh water drain (from the irrigation system surrounding the lake), in south – western part of the lake (which is separated from the rest by a dam) water becomes less salty and was populated with several fish species, for commercial purposes.

22. Land tenure/ownership:

(a) within the Ramsar site:

Lake's surface is state property and the administrator is the National Administration Romanian Water – Direction Water Dobrogea Litoral

(b) in the surrounding area:

Up to 7 m from the edge of the lake the land is owned by the National Administration Romanian Water – Direction Water Dobrogea Litoral (lake's protection zone).

All other land was privatized and the size of the properties is about 3 ha.

23. Current land (including water) use:

(a) within the Ramsar site:

Some parts of the eastern and north – eastern shore are used for medical therapeutic activities. During the summer, people are using sapropel for medical treatments. The central and the eastern part of the lake are used only by waterfowls. The opposite edge of the lake with fresh water was taken in custody by a private firm (Crisfishing - Constanta, Gheorghe Lazar street, no. 6, owned by Cristea Gheorghe) in order to be transformed into a fishery.

The land surrounding the lake is cultivated with cereals: winter wheat, maize and sunflower. People gathered in associations and they work their land together. The quantity of pesticides used in agriculture had decreased in the past years, because of high price.

(b) in the surroundings/catchment:

The main economic activity in the area surrounding the lake is the agriculture so the lands are cultivated with winter wheat, maize, sunflower, barley, clover and rape. Also near the lake are grass lands used by the local stock-breeders for sheep, goat and cattle farming.

24. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

(a) within the Ramsar site:

Before the construction of irrigation system, there was no major ecological impact for waters in Lake Techirghiol. During 70's a large irrigation system was built and the salinity of the lake began to decrease due of the fresh water inflow.

In order to reduce the freshwater input from lake's springs, the western part of the lake was isolated with two dams, resulting in three different zones: fresh water in the western part, brackish water in the central part and saline, in the part of the lake close to the Black Sea. The first dam was made in 1983. The second one was constructed to isolate the western sector of the lake, which receives a large volume of freshwater, from the brackish sector and the rest of the lake that has more saline water. Along the shoreline 9.5 km of banks were reinforced.

The access at the roost site is unrestricted. Local people, tourists and motor vehicles crossing from one site of the lake to the other use the two dykes splitting the lake as shortcuts. Also there is a garbage deposit near Techirghiol village where feral dogs come to search for food but are attracted also by dead corpses of geese and so contribute to the disturbance of the bird species roosting on the lake.

b) in the surrounding area:

The area is predominantly agricultural and the intensive irrigation system used in the past together with the surface runoff has led to a loss in water salinity. After 1990, the irrigation activities diminished but if these will be used intensely again than the special conditions of the lake might be threatened.

25. Conservation measures taken:

The Lake obtained its protection status (Protected Area) in 2000. (Government's Decision No. 1226 / 2000, Dec., 7). Starting 1972, local authorities began to implement several activities in order to reduce the amount of fresh water flowing into the lake. They build pools at the end of irrigation channels, to prevent direct water inflow.

Another measure was to drill several pits and to pump fresh water into another catchment area (Tatlageac Valley). Despite all these measures, the amount of fresh water did not decrease. This was the first stage of a project implemented by Romanian Water National Administration and financed by Romanian Government.

In the second stage efforts were concentrated to prevent surface water to flow into the lake, by deviation of 120 sq. km from catchment area. Also, seven pumps were used to push underground fresh water into the local supply network.

In the third stage (1988) of the project was building a dam to separate western part (that receives a large amount of fresh water) from the rest of the lake. The water will be drained gravitationally into the Black Sea using a 9.5 km long pipe.

In the last years, the funds allocated for this project, proved to be insufficient. Calculated costs for pump functioning only exceed 400.000 Euro per year. The system will be completed before the end of 2006 using EU funds through a LIFE Natura project.

26. Conservation measures proposed but not yet implemented:

The preparation of the management plan is on going and would be completed in 2006. Simultaneously the preparation of the National Action Plan for *Branta ruficollis* is on going.

With farmers agri-environment schemes will be developed in autumn 2005. In 2006 the water control system will be improved by setting up two automatic stations on the lake which will collect daily a core of physico-chemical parameters. In order to prevent disturbance caused by people and cars crossing the dams barriers will be build on the main dam.

27. Current scientific research and facilities:

e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

Studies have been carried out since 1965 (Tuculescu, I.; The Biodinamycs of Lake Techirghiol), with identifying the invertebrate fauna and the most important ecological processes that thake place in Lake Techirghiol. Hydrological processes in the area have been also studied (Breier, A.; Lakes on the Romanian seashore of the Black Sea).

The number of the Red-breasted geese and the White fronted geese are monitored each winter. In January the waterfowl are counted into the Mid-winter European counts organized by Wetlands International. The raptors distribution and their number were surveyed in southern Dobrogea during 2004 and 2005.

28. Current conservation education:

e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

In 2005 an information centre was opened by the town hall of Techirghiol as part of the LIFE Natura project – Improving wintering conditions for *Branta ruficollis* at Techirghiol. Four boards will be set up in 2006 in appropriate places visible to the public: two at Lake Techirghiol, one at the information centre in Techirghiol town and one at the Techirghiol sanatorium.

Posters and leaflets were already edited in 2005 and each year update versions of the poster and leaflets would be available. Local population will be permanently informed about the importance of the Lake Techirghiol, locally and internationally. Training courses will be carried on for farmers and hunters, presenting the needs of wildlife and actions required to protect the Lake Techirghiol and its surroundings.

29. Current recreation and tourism:

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

Currently the area has not used for recreation apart from walks on the edge of the lake. We can assume that in the absence of a strong internationally conservation status the tourism with boats will be soon developed.

30. Jurisdiction:

Ministry of Waters and Environmental Protection

31. Management authority:

National Administration Romanian Water – Direction Water Dobrogea Litoral.

127 Mircea cel Batran, Constanta, 8700, Romania

Tel: + 40 241 672089

Fax: + 40 241 672036

Email: camelia.dumitrache@dadl.rowater.ro

32. Bibliographical references:

scientific/technical references only. If biogeographic regionalisation scheme applied (see 13 above), list full reference citation for the scheme.

1. BirdLife International, 2001, Important Bird Areas and potential Ramsar sites in Europe, BirdLife International, Wageningen, The Netherlands.
2. Black, J.M. & Madsen, J. (1993) Red-breasted goose: research and conservation needs. *IWRB Goose Research Group Bulletin*, 4, 8-15.
3. Ciochia, V. & Hafner, H. (1969) Observations sur quelques especes d'oiseaux qui hivernent sur le littoral de la mer Noire et dans le delta du Danube. *Lucr. Stat. Cerc. Mar.* 3, 307-313.
4. Dereliev, S. (2000) Results from the monitoring of wintering geese in the region of Shabla and Durankulak Lakes for the period 1995 – 2000. Bulgarian – Swiss Biodiversity Conservation Programme & Bulgarian Society for the Protection of Birds/BirdLife Bulgaria. Report. Sofia, 79 pp.
5. Dijkzen, A.J., Lebret, T., Ouweneel, G.L. & Philippona, J. (1973) Ornithological observations on the lagoons of the Dobrogea, Rumania, in autumn and winter of 1969, 1970 and 1971. *Ardea*, 61, 159-178.
6. Hulea, G.D., 2002, Winter feeding ecology of the Red-breasted Goose (*Branta ruficollis*), Ph.D Thesis, University of East Anglia, Norwich, UK
7. Hunter, J.M. & Black, J.M. (1996) International action plan for the Red-breasted goose (*Branta ruficollis*). In *Heredia, B., Rose, L. & Painter, M. Globally threatened birds in Europe - Action plans. Council of Europe Publishing, Strasbourg.*
8. Johnson, A. & Biber, O. (1971) IWRB goose research group mission to eastern Europe December 1970. *IWRB Bulletin*, 31, 43-51.
9. Johnson, A. & Hafner, H. (1970) Winter wildfowl counts in south-east Europe and western Turkey. *Wildfowl*, 21, 22:36.
10. Kiss, J.B., Ballon, E. Ionascu, N. (1992) Efectele ingrijoratoare ale utilizarii insecticidelor pe baza de carbofuran, pe teritoriul RBDD. *Analele Stiintifice ale Institutului Delta Dunarii*, 253-255 (in Romanian).
11. Lebret, T. (1975) Geese counts in the Dobrogea, Rumania, *IWRB Bulletin*, 39/40, 49.

12. Munteanu, D., Toniuc, N., Weber, P., Szabo, J. & Marinov, M (1989) Evaluarea efectivelor pasarilor acvatice in cartierele lor de iernare din Romania (1988, 1989). *Ocrot. Nat.* 33, 105-112.
13. Patterson, I.J., 1991, Conflict between geese and agriculture; does goose grazing cause damage to crops. *Ardea*, 79, 179-186.
14. Puscariu, V. (1977) Roumanie. *IWRB Bulletin* 43/44, 32-33.
15. Scott, P. (1970) Redbreasts in Rumania. *Wildfowl*, 21, 37-41.
16. Summers, R.W., 1990, The effect on winter wheat of grazing by brent geese *Branta bernicla*, *Journal of applied ecology*, 27, 821-833.
17. Sutherland, W.J. & Crockford, N.J. (1993) Factors affecting the feeding distribution of Red-breasted geese *Branta ruficollis* wintering in Romania. *Biological Conservation*, 63, 61-65.
18. Tolvanen, P., Pynnonen, P., 1997, Monitoring the autumn migration of Lesser White-fronted Goose *Anser erythropus* and other geese in NW Kazahstan in October 1996, Finish Lesser White-fronted goose conservation project, Annual report 1997. WWF Finland, Report 9, 19-20.
19. Tuculescu, I. (1965) Biodinamica Lacului Techirghiol. Academia Republicii Socialiste Romania, Bucuresti.
20. Vangeluwe, D. & Snethlage, M. (1992) Rapport des investigations sur l'ecologie et la conservation de la Bernache a cou roux *Branta ruficollis* en Dobroudja (Roumanie & Bulgarie), Janvier. *Institut Royal des Sciences Naturelles de Belgique*.
21. Weber, P. (1990) Rezervatia ornitologica Histria-constatari privind situatia avifaunei de interes cinegetic in toamna anului 1990. *Ocrot. Nat.*, 36, 35-40

Annex 1.

List of bird species with numbers from previous censuses (censuses during 1996-2005)

Birds Directive annex I bird species

Scientific name	Common name	Population		
		Breeding	Wintering	Staging
<i>Gavia arctica</i>	Arctic Loon		3	
<i>Phalacrocorax pygmaeus</i>	Pygmy Cormorant		800	
<i>Pelecanus onocrotalus</i>	Great White Pelican			100
<i>Pelecanus crispus</i>	Dalmatian Pelican			40-60
<i>Botaurus stellaris</i>	Bittern		1	
<i>Ixobrychus minutus</i>	Little Bittern	10		
<i>Nycticorax nycticorax</i>	Black-crowned Night-heron			10
<i>Ardeola ralloides</i>	Squacco Heron			20
<i>Egretta garzetta</i>	Little Egret			10
<i>Egretta alba</i>	Great White Egret		34	
<i>Ardea purpurea</i>	Purple Heron			4
<i>Ciconia ciconia</i>	White Stork			1300
<i>Cygnus cygnus</i>	Whooper Swan		40	
<i>Anser erythropus</i>	Lesser White-fronted Goose		10	
<i>Branta ruficollis</i>	Red-breasted Goose		7000	
<i>Mergus albellus</i>	Smew		180	
<i>Oxyura leucocephala</i>	White-headed Duck		700	
<i>Aythya nyroca</i>	Ferruginous Duck			40-50
<i>Circus aeruginosus</i>	Western Marsh-harrier		3	
<i>Circus cyaneus</i>	Northern Harrier		3	
<i>Circus macrourus</i>	Pallid Harrier			2
<i>Buteo rufinus</i>	Long-legged Buzzard		1	
<i>Falco columbarius</i>	Merlin		1	
<i>Falco peregrinus</i>	Peregrine		1	
<i>Falco cherrug</i>	Saker		1-2	2-4
<i>Himantopus himantopus</i>	Black-winged Stilt	30		
<i>Charadrius alexandrinus</i>	Kentish Plover			20
<i>Pluvialis apricaria</i>	Eurasian Golden-plover			30
<i>Philomachus pugnax</i>	Ruff			100
<i>Larus melanocephalus</i>	Mediterranean Gull			600
<i>Larus minutus</i>	Little Gull		3	5200
<i>Sterna albifrons</i>	Little Tern			20
<i>Chlidonias hybridus</i>	Whiskered Tern			30
<i>Chlidonias niger</i>	Black Tern			30
<i>Asio flammeus</i>	Short-eared Owl		1	
<i>Alcedo atthis</i>	Kingfisher		1	
<i>Dendrocopos syriacus</i>	Syrian Woodpecker	4		
<i>Melanocorypha calandra</i>	Calandra Lark	20		
<i>Galerida cristata</i>	Crested Lark	30		

Lanius collurio	Red-backed Shrike	6		
Lanius minor	Lesser Grey Shrike	8		

Non annex I migratory bird species

Scientific name	Common name	Resident	Population		
			Breeding	Wintering	Staging
Tachybaptus ruficollis	Little Grebe		24	17	30
Podiceps cristatus	Great Crested Grebe		40		
Podiceps grisegena	Red-necked Grebe			9	
Podiceps nigricollis	Black-necked Grebe			94	2000
Phalacrocorax carbo	Great Cormorant			83	
Ardea cinerea	Grey Heron				20
Cygnus olor	Mute Swan			29	30
Anser fabalis	Bean Goose			1	
Anser albifrons	Greater White-fronted Goose			20000	
Anser anser	Greylag Goose			150	
Tadorna tadorna	Common Shelduck	65		112	
Anas penelope	Eurasian Wigeon			2000	
Anas strepera	Gadwall				20
Anas crecca	Eurasian Teal			400	
Anas platyrhynchos	Mallard			400	400
Anas acuta	Northern Pintail			5	
Anas querquedula	Garganey				200
Anas clypeata	Shoveler				1100
Netta rufina	Red-crested Pochard				24
Aythya ferina	Common Pochard			5200	3000
Aythya fuligula	Tufted Duck			1000	
Bucephala clangula	Common Goldeneye			25	
Mergus serrator	Red-breasted Merganser			4	
Mergus merganser	Goosander			1	
Accipiter nisus	Eurasian Sparrowhawk			1	2
Buteo buteo	Common Buzzard			4	
Buteo lagopus	Rough-legged Hawk			6	
Falco tinnunculus	Common Kestrel		4	3	
Coturnix coturnix	Common Quail		30		
Rallus aquaticus	Water Rail			2	
Gallinula chloropus	Common Moorhen		30	15	
Fulica atra	Common Coot			776	3000
Charadrius dubius	Little Ringed Plover				20
Vanellus vanellus	Northern Lapwing				20
Gallinago gallinago	Snipe			1	
Tringa totanus	Common Redshank				40
Tringa ochropus	Green Sandpiper				30
Actitis hypoleucos	Common Sandpiper				10
Larus ridibundus	Common Black-headed Gull			1500	1000
Larus canus	Mew Gull			1000	
Larus cachinnans	Yellow-legged Gull			1800	
Chlidonias leucopterus	White-winged Tern				30
Columba palumbus	Common Wood-pigeon				20
Alauda arvensis	Eurasian Skylark		60		

Riparia riparia	Sand Martin		1000		
Hirundo rustica	Barn Swallow				200
Oenanthe oenanthe	Wheatear		6		
Oenanthe hispanica	Black-eared Wheatear		2		2
Emberiza melanocephala	Black-headed Bunting				4
Miliaria calandra	Corn Bunting				600

Please return to: Ramsar Convention Bureau, Rue Mauverney 28, CH-1196 Gland, Switzerland
Telephone: +41 22 999 0170 o Fax: +41 22 999 0169 o e-mail: ramsar@ramsar.org