

Information Sheet on Ramsar Wetlands (RIS) – 2006-2008 version

Available for download from http://www.ramsar.org/ris/key_ris_index.htm.

Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8th Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX. 22 of the 9th Conference of the Contracting Parties (2005).

Notes for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 7, 2nd edition, as amended by COP9 Resolution IX.1 Annex B). A 3rd edition of the Handbook, incorporating these amendments, is in preparation and will be available in 2006.
3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

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

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Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

30.11.2007

3. Country:

Turkey

4. Name of the Ramsar site:

Lake Seyfe (Seyfe Gölü)

5. Designation of new Ramsar site or update of existing site:

This RIS is for :

- a) Designation of a new Ramsar site ;
b) Updated information on an existing Ramsar site

6. For RIS updates only, changes to the site since its designation or earlier update:

a) Site boundary and area

The Ramsar site boundary and site area are unchanged:

or

If the site boundary has changed:

- i) The boundary has been delineated more accurately ; or
- ii) The boundary has been extended ; or
- iii) The boundary has been restricted**

and/or

If the site area has changed:

- i) the area has been measured more accurately ; or
- ii) the area has been extended ; or
- iii) the area has been reduced**

** **Important note:** If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

7. Map of site:

Refer to Annex III of the *Explanatory Note and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

a) A map of the site, with clearly delineated boundaries, is included as:

- i) a hard copy (required for inclusion of site in the Ramsar List): ;
- ii) an electronic format (e.g. a JPEG or Arc View image) ;
- iii) a GIS file providing geo-referenced site boundary vectors and attribute tables .

b) Describe briefly the type of boundary delineation applied:

e.g. the boundary is the same as an existing protected area (nature reserve, national park, etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a water body, etc.

8. Geographical coordinates (latitude/longitude, in degrees and minutes):

39° 12' N, 34° 25' E

9. General location:

Administratively, it is within the border of the Mucur district of the Kırşehir province. It is also, 220 km. from Ankara, and 30 km. from Kırşehir province.

10. Elevation: (in metres: average and/or maximum & minimum)

The average elevation of the lake is 1110 meters.

11. Area: (in hectares)

10.700 ha

12. General overview of the site:

The Lake Seyfe is located in the tectonic depression north-east of the Kırşehir province in the Inner Anatolia. It is an inland wetland type. Most of the lake coasts are muddy and flat. At the north and south-east of the temporary lake area, there are light salty and fresh water marshy fields which are very important for the birds breeding and wintering at the lake. Moreover, there are various islands at the temporary lake area where thousands of birds nest. Although it has a poor benthic fauna, Lake Seyfe is quite rich in organic production. In some years gathering of more than 100.000 birds is a most important indication of this rich varieties.

13. Ramsar Criteria:

Tick the box under each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11). All Criteria which apply should be ticked.

1	•	2	•	3	•	4	•	5	•	6	•	7	•	8	•	9
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14. Justification for the application of each Criterion listed in 13 above:

Criterion 2: It supports *Otis tarda*, *Aquila heliaca* and *Aquila clanga* bird species which are in vulnerable category of IUCN Red Data Book List

Criterion 4: The Lake is a critical site for migratory species which contains high proportions of bird populations. Regularly, flamingos come to lake for wintering (In 1987, 32.000 flamingos (*Phoenicopterus ruber*) were counted in only one observation.). Moreover, The lake Seyfe and its surrounding is an important gathering area for storks (*Ciconia ciconia*). At migration time their number can reach 1300.

Criterion 5: The Lake regularly supports more than 20.000 birds. There are not unfortunately very recent data available but In 1969-1970, for instance 152.380 birds were recorded. Also, in 1986 over than 320.000 birds were counted in the lake.

15. 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:

Anatolian

b) biogeographic regionalisation scheme (include reference citation):

EEA scheme EU Habitats Directive

16. 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: The Lake has occurred as a result of post Oligocene period developed in various directions.

Origins: Natural

Hydrology: There are mainly three natural ways to provide water for Lake Seyfe which are underground water, rainfall and brooks. Average annual rainfall is 428 mm/m², infiltration of the lake is maximum 0,85mm/day and the average flow is 7,40 mm/day.

Soil Type: There are mainly three soil types which are alluvial, hydromorphic and halomorphich

Water Quality: The water of the lake is very salty. Because of this it does not freeze in winter, so it provides an ideal feeding area to birds.

Area of sample	pH	Na ⁺ and K ⁺ (ppm)	Ca ⁺ (ppm)	Mg ²⁺ (ppm)	Cl ⁻ (ppm)	SO ₄ ²⁻ (ppm)	Water Hardness (Fr.)
North of the lake	9,02	429,7	21	114	523	113	725
East of the lake	9,38	556,7	13	112	435	243	625
South of the lake	9,50	582,8	16	75	391	231	455
West of the lake	9,24	451,6	17	98	361	204	575
Middle of the lake	9,33	558,2	23	120	483	216	715

Tidal Range and Variations: The area of the lake changes between 1500-7000 hectares.

Climate: The middle Anatolia steppe climate is dominant in the Lake Seyfe reservoir.

- Average temperature: 11,3°C
- Average high temperature: 26 °C
- Average low temperature: -7 °C
- Average relative humidity: % 65
- Annual rainfall: 428 mm/m²

17. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, and climate (including climate type).

18. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc

The lake, which is at the southern tip of the 152.000 hectares Seyfe closed reservoir, has occurred as a result of post Oligosen faults developed in various directions. The lake, which is at the base layer (1110meter) of the reservoir, is also natural drainage of the reservoir. Feeding of the Lake Seyfe is by the springs at the west and north-west of the lake, underground sources, surface currents at drainage area and falling rain to the lake area. Horla, Yenidoğanlı ve Seyfe springs are the main sources for feeding the lake. Depth of water shows changes dependent upon rainfalls. Because, the lake is located at the low slope, the big differences can be observed at the lake area depending on the rains and the seasons. The lake area at the high level of water (in winter and spring months) reaches 7800 hectares. The average water level of the permanent lake is between 100-130 centimetres. In summer seasons, water level drops to 60-70 cm.

19. Wetland Types

a) presence:

Circle or underline the applicable codes for the wetland types of the Ramsar "Classification System for Wetland Type" present in the Ramsar site. Descriptions of each wetland type code are provided in Annex I of the *Explanatory Notes & Guidelines*.

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 • Tp • Ts • U • Va •
Vt • W • Xf • Xp • Y • Zg • Zk(b)

Human-made: 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • Zk(c)

20. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

As a result of interplay between lake, people, animals, plants, geology of the area and climate properties a special ecosystem exists in the site. Around of the lake is very poor about vegetation because of not only mid-arid climate but also salinity of the soil. There are some kinds of plant including *Limonium sp.*, *Salicornia sp.*, *Juncus sp.* which are resistant to salinity growing around parts of the lake where salinity is relatively low. Kserofits and Halofits turn green at spring and then dry. Some of these are *Artemisia*, *Astragalus* and *Peganum Harmala*. Also around the tributaries flow to the lake, the groups of tree are seen that are mostly *Populus*, *Slix Alba* and *Juglans Regia*. Most important living creatures at the lake are water birds. Generally, no fish species are seen since water is salty and mixed with sodium. Only some species of little fish such as *Aphanius C hantrrei* and *Spirilinus sp.* live where tributaries flow to the lake. The lake has rich vegetal and animal planktons. Other species living in the salty lake water include some small crustacean which looks like shrimps (*Artemia sp.*) some worm and earth worm species and some mollusca.

21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14, Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

Juncus heldreichii *ssp. Orientalis* is a group of plants spreading over barren soil with excessive salt. *Aeluropus litoralis* group of plants grow up as an ingenuous community. *Halocnemumu strobilaceum* is a group of plants growing in the salty marshy land at south east of the lake. *Juncus gerardi sub sp.* together with *Juncus heldreichii* *ssp. Orientalis* is a group of plant widely seen around the lake. There are popular tree plantations and fruit tree gardens in the west of the lake.

22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14, Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

There are 187 bird species including songbirds on and around the Lake Seyfe. One of the largest flamingo populations was discovered in 1986 in this lake. Total bird population is over half a million. 27 of the species living on Lake Seyfe are included in the list of birds enjoying conservation by the International Council of Birds Protection (ICBP). They are:

1. *Pelecanus Onocrotulus**
2. *Pelecanus Crispus*
3. *Egretta Alba*
4. *Ciconia Ciconia*
5. *Phalacrocorax Pygmaeus*
6. *Ciconia Nigra*
7. *Platalea Leucorodia*
8. *Plegadis Fulcinellus*
9. *Phoenicopterus Ruber*
10. *Tadorna Ferruginea**
11. *Buteo Rufinus*
12. *Hearaactus Pennatus*
13. *Aquila Heliaca*
14. *Neophron Percnopterus*
15. *Circus Pygargus*
16. *Falco Cherrug*
17. *Falco Pergrinus*
18. *Falco Biarmicus*
19. *Otis Tarda**
20. *Glareola Pratincola**
21. *Vanellus Spinosus**
22. *Tringa Stagnatilis*
23. *Larus Genei* *
24. *Pterocles Orientalis**
25. *Bubo Bubo*
26. *Gelochelidon Nilotica*
27. *Aquila Clanga*

* Brooding species

23. Social and cultural values:

- a) Describe if the site has any general social and/or cultural values e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values:

The findings obtained from the archaeological diggings have shown that the first occupation occurred during Bronze Age (in the years 3500-200 BC). There are 20 artificial hill and tumulus of this age around the lake and its surroundings in which the boundaries of the conservation zone has been declared as an “archaeological site”. Investigations have shown that the people occupied the coasts of the lake practised throughout history of cultivating the land. It is estimated that the people were fed on hunting the migrating birds and agriculture. At present

also main livelihood of the people living around the lake is field agriculture and livestock. Main agricultural products are wheat, sugar beet, barley, lentil, chickpea, bean, oat and sunflower.

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning?

If Yes, tick the box and describe this importance under one or more of the following categories:

- i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:
- ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
- iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
- iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

24. Land tenure/ownership:

a) Within the Ramsar site: It is 100% state-owned.

b) in the surrounding area: It consists of state-owned, village legal entities, Malya State Breeding Farm and individual's

25. Current land (including water) use:

a) Within the Ramsar site: There is no activity other than bird watching at the lake.

b) in the surroundings/catchment: Adjacent lands are being used by farmers living in villages near the lake and Malya State Breeding Farm for agricultural and pasturing purposes. Other activities include recreation, bird watching and hunting.

26. 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: An irrigation project aiming to open steppe area to agriculture has been developed. However it has been revised as "Seyfe Basin Ecology Conservation Project" after the area was declared as a "Nature Conservation Zone" in 1990. The project was designed to discharge waste water coming from adjacent agricultural land outside the basin. However, there are doubts about a decrease in the water level of the lake, even in the long term there may be removal of various salt types depending on their solubility when the project is completed. Another important problem is fertilizers used in agricultural lands. Especially, fertilizers used by Malya State Breeding at the north side of the lake, reach the lake with both surface water and underground water.

b) in the surrounding area: The basin is generally covered by lake-shaped Neocene formations. Salts melted by rainwater and underground water from these formations concentrate at upper layers during high evaporation periods after rising by capillarity. As a result of this process barren lands extend in the basin every year.

27. Conservation measures taken:

a) List national and/or international category and legal status of protected areas, including boundary relationships with the Ramsar site:

- The lake and 10.700 hectares of land surrounding have been declared as a Nature Conservation Zone in 1990. (the boundary of zone is same with the Ramsar site)
- In 1989, the lake has been declared as a First Degree Natural SIT Area and the catchment area has been declared as a Second Degree Natural SIT Area.

b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate):

Ia ; Ib ; II ; III ; IV ; V ; VI

c) Does an officially approved management plan exist; and is it being implemented?:

d) Describe any other current management practices:

28. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area, etc.

The Ministry has drawn up an Environment Order Plan at a scale of 1/25000 including geographical arrangements as part of its policy designed to ensure socio-economic development while maintaining equilibrium between conservation and utilization needs at Lake Seyfe basin.

29. Current scientific research and facilities:

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

30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:

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

31. Current recreation and tourism:

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

There is no current tourism and recreation activities.

32. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.

- Ministry of Environment and Forestry, General Directorate of Nature Conservation and National Parks is responsible because of the "Ramsar Site" status,
- Ministry of Environment and Forestry, General Directorate of Nature Conservation and National Parks is responsible because of "Nature Conservation Site" status,
- The Ministry of Culture & Tourism is responsible because of "Natural SIT area of 1st Degree" status.

33. Management authority:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

- Ministry of Environment and Forestry
General Directorate of Nature Conservation and National Parks
Department of Nature Conservation
Wetlands Division.
Addresses: Sogutozu caddesi No: 14/E 14.kat B-blok 06560 Bestepe/Ankara Turkey

- The Ministry of Culture and Tourism
Adresses: Atatürk Bulvarı No: 29 06050 Opera / Ankara
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34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

- The Ecosystem of Lake Seyfe 1995, Ankara University Publications, Prof Dr. Hakan YİĞİTBAŞIOĞLU
 - Turkey's Important Bird Sanctuaries 1989, The Association for Conservation of Wildlife, A. ERTAN, A. KILIÇ, M. KAPSAREK
 - Wetlands of Turkey, The Association Foundation of Turkey
 - Flora and Fauna of lakes and Marshy Land in Aegean Region, Central Anatolian Region and West of Mediterranean Region,1984, TUBITAK-TBAG, Ö SEÇMEN, E LEBLEBİCİ 1982
 - Bird Species in Turkey, Chris HSBANDS,
 - Bird Heavensof Turkey, Ministry Of Environment,1995, O. ERDEM,
 - Seasonal Changes in Species and Quantities of Zooplanktonic Organisms in Lake Seyfe, 1990, Ankara University, Institute of Sciences, A. ALTINDAĞ
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