

Information Sheet on Ramsar Wetlands

Categories approved by Recommendation 4.7 of the Conference of the Contracting Parties.

NOTE: It is important that you read the accompanying *Explanatory Note and Guidelines* document before completing this form.

FOR OFFICE USE ONLY.

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Designation date

Site Reference Number

1. Date this sheet was completed/updated:

Completed: during 80's, updated: 10.11. 1998.

2. Country:

Hungary

3. Name of wetland: Lake Fertő

4. Geographical coordinates: 47° 45' N, 16° 45' E

5. Altitude: (average and/or max. & min.)

Between 114 and 260 m over Baltic Sea level.

6. Area: (in hectares) 8432 ha

7. Overview: (general summary, in two or three sentences, of the wetland's principal characteristics)

Lake Fertő is the westernmost shallow steppe lake in Europe in the state of advanced eutrophication. Reedbeds and undisturbed bays of the site serves as an extraordinarily important stopover site for migratory bird species.

8. Wetland Type (please circle the applicable codes for wetland types as listed in Annex I of the *Explanatory Note and Guidelines* document.)

marine-coastal: A . B . C . D . E . F
 . G . H . I . J . K

inland: L . M . N . O . P . Q .
 R . Sp . Ss . Tp . Ts
 . U . Va . Vt . W . Xf . Xp . Y . Zg .
 Zk

see overview, ecol. features
 20/9/00 db

man-made: 1 . 2 . 3 . 4 . 5 . 6 .
7 . 8 . 9

Please now rank these wetland types by listing them from the most to the least dominant: Q and Ss

9. Ramsar Criteria: (please circle the applicable criteria; see point 12, next page.)

1a . 1b . 1c . 1d | 2a . 2b . 2c . 2d | 3a . 3b . 3c | 4a . 4b

Please specify the most significant criterion applicable to the site: 1c, 2a, 3a

10. Map of site included? Please tick *yes* -or- *no*

(Please refer to the *Explanatory Note and Guidelines* document for information regarding desirable map traits).

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

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Please provide additional information on each of the following categories by attaching extra pages (please limit extra pages to no more than 10):

12. Justification of the criteria selected under point 9, on previous page. (Please refer to Annex II in the *Explanatory Note and Guidelines* document).

1,(c): As the second largest in Hungary and fifth largest in Europe, the transboundary wetland of Lake Fertő provides a wide range of natural habitats within a narrow stripe of 50 km from mountain ranges of Alps to plains of Kisalföld.

2, (a): Reedbeds and the lake itself offers a proper stopover site for migratory birds during their passage between breeding and wintering grounds. (See point 18)

3, (a): Numbers of migratory waterfowl at the same time often reach or even exceeds 100.000.

13. General location: (include the nearest large town and its administrative region)

County of Győr-Moson –Sopron , 6 km east of town Sopron. One quarter of total territory of the lake lies in Hungary.

14. Physical features: (e.g. geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth; water permanence; fluctuations in water level; tidal variations; catchment area; downstream area; climate)

Geology and geomorphology

Altitude of the water level is 114 m over Baltic sea. Maximum length of the lake is 35 km, width is 15 km, minimum width is 7 km. The total length of its bank is 100 km of which 25 km can be found in Hungary. The lake bed is even, depth of water is 0.5-0.6 m along the bank and 1-2 m in open water however maximum depth do not exceeds 1.6-1.8 m. Maximum width of reedbeds is 6 km and can be found in the Hungarian part of the Lake.

Origin of the lake

As a consequence of the geomorphological –geological characteristics of Carpathian Basin, basins of Lake Fertő and its neighbouring basin Hanság has been developed through continuous tectonic sinking of the crustal area during Tertiary and Quaternary Periods. Age of the lake is estimated at 20.000 years based on studies on fossils.

Hydrology

Catchment area of Lake Fertő was always smaller than those of Hanság basin therefore less water was gathered in the lake resulting in an unpredictable water regime. The lake dried up relatively frequently in every 400-500 years during prehistoric times consequently salt content of it increased dramatically This process was also indicated by the encroachment of reed beds. In order to drain the Lake Fertő and Hanság region a canal was built in 1908 that resulted even more unpredictability in water regime. The water level has been stabilised since 1965 that stopped the expansion of reed. Water level fluctuates annually. It increases in winter with 25-30 cm and decreases in summer with 10-50 cm. Temperature of water varies according to seasons, in summer it may reach 29 degrees Centigrade. Days with ice cover are 42 in average width of ice cover might be 40-50 cm. The only natural watercourse on the surface is streamlet Rákos, which has a mean $0.059 \text{ m}^3 / \text{second}$ water supply.

Soils

Higher elevations covered by loess. On the eastern part of the site alkaline soils can be found. Soils associated with lacustrine and riverine systems are also present.

Water quality

Water in Lake Fertő is characterised by high nutrient and salt content with relatively low nutrient content that is suitable for aquatic plants. There is no significant human activity that may pollute seriously the lake, even fertilisers and chemicals are not carried to the lake through drainage canals. Water purification stations have been built at villages that are close to the Lake.

Catchment

The catchment of the lake is almost 4 times larger than those of open water covering 1116 km^2 .

Climate

Climate of this area is rather complex due to several climate types can be found in that region. In general it can be classified as continental wet. Yearly mean temperature is $10.6 \text{ }^\circ\text{C}$ on the wetland. Lake Fertő is the most windy region of the country. Total precipitation yearly is between 650-550 mm. Evapo-transpiration is extremely high 900 mm annually due to the winds.

15. Hydrological values: (groundwater recharge, flood control, sediment trapping, shoreline stabilisation etc)

Lake Fertő is interconnected with the river Danube through a subterranean gravel layer thus the planned and already half-built hydroelectric dam at Bős-Gabcikovo will probably have impact on that wetland ecosystem.

16. Ecological features: (main habitats and vegetation types)

Three-quarters of the Hungarian part of the lake cover reedbeds and small inner lakes. On the southern and south-eastern part of the area a narrow alkaline steppe can be found that was developed as a result of former drainage of the basins.

17. Noteworthy flora: (indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc)

Important plant associations are as follows:

Lemno-Utricularietum

Hydrochari-Stratiotetum

Carici flavi-Eriophoretum

Schoenetum nigricantis

Juncetum subnodulosi

Seslerietum uliginosae

Puccinellietum peisonis

Juncetum gerardi

Agrostri-Alopecuretum pratensis

Important plant species are as follows:

Ophrys phaeogodes, and other orchid species

18. Noteworthy fauna: (indicating, e.g., which species are unique, rare, endangered, abundant or biogeographically important; include count data, etc.)

Endemic invertebrates are the Rotatoria fertőiensis, Lepidocyrtus peisonis. Omithofauna of the Ramsar Site is exceptionally rich, including the following species:

Tachybaptus rufocollis

Ixobrychus minutus

Botaurus stellaris

Ciconia ciconia

Ciconia nigra

Platalea leucorodia 25 breeding pairs

Egretta alba 700 breeding pairs

Anser anser 150-200 breeding pairs

Netta rufina

Aythya nyroca
 Circus aeruginosus
 Accipiter gentilis
 Accipiter nisus
 Milvus migrans
 Buteo buteo
 Falco subbuteo
 Recurvirostra avosetta 3-25 breeding pairs
 Himantopus himantopus
 Larus melanocephalus 5-15 breeding pairs
 Larus ridibundus 1500-2000 breeding pairs
 Coturnix coturnix
 Rallus aquaticus
 Gallinula chloropus
 Cuculus canorus
 Tyto alba
 Strix aluco
 Alcedo atthis
 Merops apiaster
 Upupa epops
 Picus viridis
 Oriolus oriolus
 Remiz pendulinus
 Sitta europea
 Saxicola torquata
 Luscinia megarhynchos
 Luscinia svecica 20 breeding pairs
 Luscinia melanopogon
 Locustella luscinioides
 Panurus biarmicus

Maximum numbers of waterfowl species during migration:

Anser fabalis	40.000
Anser anser	12.000
Anser albifrons	9.000
Anas platyrhynchos	10.000
Anas crecca	12.000
Anas clypeata	5.000
Anas strepera	2.000
Netta rufina	1.500
Philomachus pugnax	7.000
Vanellus vanellus	7.000

19. Social and cultural values: (e.g. fisheries production, forestry, religious importance, archaeological site etc.)

The wetland played important role in the history of the region therefore cultural, traditional and aesthetic values are originated in it. At Fertő-Hanság national Park Directorate can be found references concerning the matter.

20. Land tenure/ownership of:

at the site Fertő-Hanság National Park Directorate 3.347 ha, local government 35 ha, forestry 81 ha, water management directorate 4.989 ha, cooperatives 29 ha.

(b) surrounding area: cooperative farms or privately owned

21. Current land use:

on the site: Limited fishery and reed harvesting are permitted on the base of purposes of nature conservation. Grasslands are managed by NP Directorate. No hunting activities are permitted on the Ramsar Site.

(b) surroundings/catchment plough lands, hay production, other agricultural activities.

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

at the site: the lake is in an advanced eutrophication. The tourism has a strong pressure on the wetland.

Intensified agricultural activities may have adverse impact on the wetland in the future.

23. Conservation measures taken: (national category and legal status of protected areas - including any boundary changes which have been made: management practices; whether an officially approved management plan exists and whether it has been implemented)

The area has been designated as a Ramsar Site since 1979 and as a core area of Fertő-Hanság NP since 1992. Grasslands and reedbeds are managed in harmony with purposes of nature conservation. Traditional grazing has been used for 5 years on most of the grasslands.

24. Conservation measures proposed but not yet implemented: (e.g. management plan in preparation; officially proposed as a protected area etc.)

Planned management measures: restoration of previous water regime of the lake Fertő A detailed management plan has been in 1996.

25. Current scientific research and facilities: (e.g. details of current projects; existence of field station etc.)

Universities of Sopron, Mosonmagyaróvár, Budapest and Keszthely along with Hungarian Academy of Sciences have been carried out various research programmes. Hydrobiological and environmental institutes are located in settlements around the lake.

Vegetation mapping and zoological monitoring of reedbeds are planned to carry out within a few years as well as the invertebrate fauna. The site is also a sample site of the Hungarian National Biodiversity Monitoring Project.

26. Current conservation education: (e.g. visitors centre, hides, information booklet, facilities for school visits etc.)

A nature conservation study centre is managed by the Fertő-Hanság National Park Directorate. In total approximately 4.000 students participate in the study programme that are organised by the Directorate.

27. Current recreation and tourism: (state if wetland is used for recreation/tourism; indicate type and frequency/intensity)

Annually an estimated number of 150.000 tourists visit mainly the cultural, historical sightings of the site and its closer surroundings annually. Only the buffer zones are able to visit for tourists, their number is nearly 30.000 annually. Core areas can be visited with permission of the National Park.

28. Jurisdiction: (territorial e.g. state/region and functional e.g. Dept of Agriculture/Dept. of Environment etc.)

On the wetland the National Park Directorate is the responsible authority.

29. Management authority: (name and address of local body directly responsible for managing the wetland)

Fertő-Hanság National Park Directorate
9435 Sarród, Rév-Kócsagvár, Hungary.
Tel.: +36 99 370 926, fax: +36 99 371 590

30. Bibliographical references: (scientific/technical only)

At Fertő-Hanság NP directorate can be found a lot.

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