
WORLD HERITAGE NOMINATION – IUCN TECHNICAL EVALUATION

CULTURAL LANDSCAPE OF FERTÖ-NEUSIEDLER LAKE (AUSTRIA AND HUNGARY)

1. DOCUMENTATION

- i) **IUCN/WCMC Data Sheet:** (7 references)
- ii) **Additional Literature Consulted:** BirdLife International 2001, **Data Base for Important Bird Areas**, Wageningen, Netherlands; Grimmett R.F.A. and Jones T.A., 1989, **Important Bird Areas in Europe** ICBP, Cambridge, UK; Heath M. and Evans J (eds.) 2000, **Important Bird Areas in Europe - Priority Sites for Conservation, (vols. 1 and 2)**, BirdLife International, Cambridge, UK; Patten B. (ed.), 1994, **Wetlands and Shallow Continental Water Bodies Vol. 2**, SPB Academic Publishing; Province of Burgenland 1995, **Nomination of the Neusiedler See/Seewinkel as a Natural World Heritage Site**, Eisenstadt, Austria; Ramsar Secretariat 2001, **Annotated Ramsar List**, Gland, Switzerland; Thielcke G. and Resch J. 2000, **Living Lakes**, Stadler Verlag, Constanz, Germany; Thorsell J., Levy R.F. and Sigaty T. 1997, **A Global Overview of Wetland and Marine Protected Areas on the World Heritage List**, IUCN, Gland, Switzerland; Tucker G. and Evans M. 1997, **Habitats for Birds in Europe**, BirdLife International, Cambridge, UK; UNESCO MAB Programme 2001, **UNESCO MAB Biosphere Reserve Directory**, Paris;
- iii) **Consultations:** 8 external reviewers contacted. Relevant officials from Austrian and Hungarian park authorities.
- iv) **Field Visit:** A. Phillips (IUCN) with A. Michalowski and B. Werner. M. Rymkiewicz, (ICOMOS) March 2001.

2. SUMMARY OF NATURAL VALUES

The Fertö-Neusiedler Lake area is located on the Austrian-Hungarian border. It is an unusual and diverse ecosystem, affected by a long period of interaction between people and nature. The shallow, steppe lake (on average only 50-60cm in depth) is the largest saline water body in Europe (about 309km²), and the most westerly in Eurasia. It is about 20,000 years old, at a late stage of succession. Its water level is now subject to artificial control. The reeds that cover between half and two-thirds of the lake provide a crucial habitat for many nesting birds, such as the great white egret (over 1000 pairs) and bittern. The lake is internationally important for migratory birds, and many bird species rest and feed here at the base of the Alps. To the east of the lake is the important Seewinkel area, with some 80 shallow saline ponds and remnant salt meadows where thousands of geese arrive in the late autumn. The basic fauna of the lakeshore is of European or Central European origin with a few endemic species and a specifically prairie type fauna.

The flora of the nominated site is strongly affected by the convergence of four climatic zones resulting in some unique assemblages of species from different bio-geographic regions, and several rare endemics. There are various natural habitats including saline grassland and marshlands, steppe-relicts, bogs, and drought tolerant oak stands. Around the lake, viticulture is the most important land use, but there are other man-made or semi-natural habitats of ecological and landscape importance which along with some attractive villages, help to create a landscape of great appeal. Some of these surrounding lands are also included in the nomination and the rest is in the buffer zone. The landscape setting of the lake, the bird populations and the existence of so many biotopes in a relatively small area are the most important natural values of the site.

3. COMPARISONS WITH OTHER AREAS

From the standpoint of physical geography, the Fertö-Neusiedler Lake ecosystem is the most westerly of a string of saline steppe-lakes across Eurasia. It is important because of its special climatic and other conditions. However, it needs to be compared with other similar if distant lakes.

A tabular comparison may be made with several saline lakes elsewhere in the world in Central Asia, the Middle East, North America and Argentina (see table 1 below). This shows that many of these lakes are substantially larger and likely to be in a less modified condition than the nominated site. Whilst the salinity level (1700 mg/litre on average) of the nominated site is quite low, at less than half that in the oceans, the particular saline biotope complex found at Fertö-Neusiedler Lake is a unique assemblage.

Table 1 : Some features of saline lakes: nominated site and other lakes

Saline Lake (source: Thielcke and Retsch, 2000)	<i>Area km²</i>	<i>Catchment km²</i>	<i>Age (in 000 yrs.)</i>	<i>Sea level m.</i>	<i>Salinity (gm/l)</i>	<i>Human population nearby</i>
Neusiedlersee/ Fertö, Austria/Hungary	309	1,230	20	115	17	68,000
Lake Tengiz /Kurgald Shin, Kazakhstan	1920	94,900	?	304	30-40	20,000
Lake Mono, USA	182	1,800	176	1947	29-275	?
Dead Sea, Israel/Jordan/ Palestine	1050	42,000	12	-316	340	30,000
Mar Chiquita, Argentina	ranges 1969-5770	37,570	30	62-71	75	?

The nominated site is located within two “Udvardy” Biogeographical Provinces, Middle European Forest and Pannonian. There is no existing natural World Heritage site in these provinces. Although it occurs in a different Biogeographical Province (the Pontian Steppe), comparison with the World Heritage Site of the Danube Delta Biosphere Reserve provides a measure of the relative importance of the nominated site for species conservation. The Danube Delta is about six times larger, and it contains the only reedbed which exceeds that of Fertö-Neusiedler Lake, though it is not a saline environment. The delta contains the largest continuous marshland in Europe. The bird species list of the two sites is somewhat similar, but for many species the Danube Delta is frequented in far greater numbers. For example Purple Heron (500 in Fertö-Neusiedlersee Lake, 1,500 in Danube Delta) and Teal (20,000, and 150,000); on the other hand there are more Great White Egret at the nominated site and impressively large numbers of geese species (bean, white-fronted and greylag) migrate to it annually.

In its detailed site by site comparison of European Important Bird Areas (IBAs), BirdLife International notes that the IBA on the Hungarian side (Lake Fertö, covering 12,542ha) is "an important breeding and staging post in Europe". It describes the two Austrian IBAs within the nominated site, Neusiedler See (23,272ha) and Southern Seewinkel (14,000ha), in similar terms. Generally, using the IBA criteria, it appears that the Austrian part of the nominated site is the most important wetland area in that country; whereas the Hungarian part is among the top five such sites in Hungary. The IBA analysis identifies one species of global concern as resident at the nominated site in significant numbers, the Ferruginous Duck. This compares with the number of species of global concern found at other European wetland World Heritage sites: ten in the Danube Delta, six in Donana (Spain), and three at the Srebarna (Bulgaria). Comparison may also be made with the Hortobágy National Park/Ramsar Site, a World Heritage cultural landscape in the Pannonian Biogeographical Province in Hungary. This has a diverse range of wetland habitat types, including saline marshes. BirdLife International has described Hortobágy, which has significant numbers of eight globally threatened species, as "the most important site in Hungary for steppic birds and waterfowl" (BirdLife International, 2000).

Table 2 compares the IBA information for the nominated site and other World Heritage Sites in Europe.

Table 2 : Important Bird Areas: comparative significance of nominated site within Europe

Important Bird Area (IBA) (source: BirdLife International 2000)	<i>A1 criterion bird spp.</i>	<i>A4 Criterion bird spp.</i>	<i>regionally important congregations of</i>	<i>Congregations of bird spp. of importance to the</i>

			<i>bird spp.</i>	<i>EU</i>
Neusiedlersee, Austria	1	3	9	13
Seewinkel, Austria		4	6	15
Ferto, Hungary	-	5	11	n.a.
<i>Total nominated site</i>	<i>1</i>	<i>8</i>	<i>13</i>	<i>24</i>
Hortobagy, Hungary	8	13	29	n.a.
Donana (Guadalquivir Marshes), Spain	6	22	33	39
Danube Delta, Romania	10	30	54	n.a.
Srebarna, Bulgaria	3	2	11	n.a.

A1 criterion = the site regularly holds significant numbers of globally threatened species. A4 criterion = site holds globally important congregations (in most cases the site is known to hold, on a regular basis, 1% or more of a bio-geographic population of a congregatory waterbird species).

Note that many birds occur under several criteria.

Finally it should be noted that in the publication *A Global Overview of Wetland and Marine Protected Areas on the World Heritage List*, (1997) IUCN identifies only two wetland sites which appear to merit consideration for inclusion on the World Heritage gaps in the Western Palearctic Region: the Wadden Sea and the Volga Delta.

4. INTEGRITY

4.1 Boundaries

The rationale used for the boundaries of the nominated site and the buffer zone is different in Austria and in Hungary.

In Austria, the nominated site is in general aligned with the boundaries of the Ramsar site. It includes many of the vineyards and other farmed areas around the eastern part of the lake, but is generally bounded by the reedbelt on west and north; it includes the nature and protection zones of the Neusiedler See-Seewinkel National Park. Also included is the historic centre of the town of Rust. The buffer zone is identical with the Neusiedler See-Seewinkel nature and landscape reserve.

In Hungary, where the Ramsar boundaries were drawn more tightly, the nominated site is essentially that of the Fertő (western) part of the larger Fertő-Hanság National Park, including both the nature area and the protection zone of the park. To this has been added the Nagycenk and Fertő palaces and a part of village of Fertorakos.

4.2. Legal Protection and Transboundary Co-operation

National measures for conservation began in the 1920's on the Austrian side when small areas of land were taken on lease by organisations for nature protection. In the 1930s, there was a movement to create a national park. Landscape and nature protection regulations began in 1962 with the Neusiedlersee Nature Reserve. Protection was progressively strengthened until the Neusiedler See-Seewinkel National Park was gazetted in 1993.

In Hungary, the Fertő Landscape Protection Area (created in 1977) became the Fertő National Park in 1991, renamed Fertő-Hanság National Park in 1994.

In 1987, the Austro-Hungarian National Park Commission was established to oversee transboundary co-operation in the management of the two national parks. There is also an international commission dealing with the water level of the lake. Credit is due to the authorities of both countries for the excellent work now being done for conservation and for the degree of co-operation that has occurred across the international border.

As to international protection, UNESCO designated the Neusiedler See - Österreichischer Teil Biosphere Reserve in 1977, and the Lake Fertő Biosphere Reserve on the Hungarian side of the border in 1979. The Neusiedler See, Seewinkel and Hanság Ramsar Site was established in 1982 on the Austrian side, and the Lake Fertő Ramsar Site in 1989 on the Hungarian side. The lake and its surroundings are also designated as a Council of Europe biogenetic reserve (the area is almost identical to the hydrographic catchment of the lake). The Austrian side is

designated as a Special Protection Area (SPA) under the EU Birds Directive of 1979 and a Special Area of Conservation (SAC) under the EU Habitats Directive of 1992. The Austrian part of the area proposed for World Heritage listing has been accepted as a Natura 2000 site, a development that will require the preparation of a management plan; the Hungarian part will be added to the Natura 2000 site when Hungary joins the EU.

4.3 Threats

As a potential *natural* World Heritage Site, the nomination of the Cultural Landscape of Fertő-Neusiedler Lake raises some serious integrity questions. These include:

- The presence of several small towns (notably Apelton, Illmitz, and the tourist resort of Podersdorf) within the Austrian part of the nominated area. The combined population of these and other settlements is 3,200; over 60,000 more live in the buffer zone;
- Some prominent tourist developments are to be found, all on the Austrian side. There is an "esplanade" at Podersdorf (the only lakeside shore free of reeds), a large hotel at the water's edge at Rust, an operetta stage on an island near Morbisch, and a number of medium-sized ferries that run between several Austrian resorts across the northern part of the lake;
- There is also an intrusive high voltage power line that crosses several kilometres of the reed beds in the north west part of the site;
- There are numerous vineyards within the nominated site, some of them planted quite recently on what were formerly floristically-important meadows. Even though wine growing has occurred here since Roman times, modern methods of viticulture are intensive, with regular use of chemicals and intrusive techniques such as the use of low flying aircraft to scare off starlings.
- Introduced fish (e.g. eels, carp) affect all parts of the nomination including the core Nature Zone within the two national parks.
- Water quality remains another concern. Despite successful strategies to reduce run-off entering the lake, the waters are still eutrophied.

More far reaching are the effects of drainage modification. The water level of the lake varied greatly in the past. Naturally it was a markedly "astatic" lake, drying out on a number of occasions (the last in 1868) - but also with floods when it was twice its present size. In times of flood, it would drain away through the Hanság Marshes to the south east, and thence, eventually, to the Danube. In order to control flooding and assist in reclamation of land for farming canals and bunds have been constructed within the nominated site. The water level is now maintained under an international agreement through an international commission.

4.4. Management

There is currently no joint management plan for the nominated site and management varies according to the protection zone involved in each country. Thus, in the core nature zone of the two national parks, there are strict controls over public access. Fishing or hunting other than for conservation purposes (e.g. control of wild boar) are forbidden. The spread of reeds is controlled so as to keep open water areas.

In the protection zone, a more active management regime is in place. For example, traditional grazing systems are being restored so as to recreate puszta (steppe) grasslands, using native Hungarian long-horned grey cattle, water buffalo, racka (long horned) sheep, Przewalskii's horse and mangaliza (hairy) pigs. Traditional methods of reed cutting are also encouraged in this zone, some of which is used to roof local buildings in the traditional style. Wetland habitats are being carefully managed and, especially on the Hungarian side, restored. The opportunity is also being taken to acquire additional areas to add to land in the management of the national parks. The positive effects of such actions on species and habitats have been observed in recent research work (e.g. recovery of rare orchid populations).

The management of the wider landscape beyond the national parks follows generally similar lines, with emphasis on supporting traditional land use and maintaining traditional village form to safeguard the integrity of the landscape setting of the lake.

Much attention is given to visitor management, with excellent visitor centres at Sarrod (Hungary) and Illmitz (Austria). The Austrian national park annually attracts some 700,000 visitors. The management of the parks in both countries emphasises eco-tourism and visitor education.

Under the auspices of the joint commission, there is considerable collaboration in the management of the two national parks (e.g. in monitoring, scientific research and visitor services). The parks use the same symbol and the two staffs wear the same uniform. The forthcoming preparation of a management plan for the Natura 2000 site should be used to consolidate the Austrian management regime and link it still more closely to that on the Hungarian side.

A further challenge to transboundary co-operation relates to the different regimes for nature and culture protection within the two neighbouring countries. This is further complicated in the case of Austria where responsibilities for nature and landscape protection lie essentially at the provincial level, whilst the Federal Government has many responsibilities for conservation of the cultural heritage. Finally there are a large number of existing national and international protection designations (on the natural side), with overlapping boundaries and some duplication of function.

5. ADDITIONAL COMMENTS

None.

6. APPLICATION OF CRITERIA

The Cultural Landscape of Fertő-Neusiedler Lake was nominated as a mixed site, and IUCN and ICOMOS therefore fielded a joint mission. The site was nominated under natural criteria (ii), (iii) and (iv). IUCN concludes as follows:

Criterion (ii): Ecological processes

The Fertő-Neusiedler Lake does display a number of unusual ecological and biological processes, many of which are rare, if not unique, in Europe. Overall, however, the site cannot claim to be so globally unique that it can satisfy this criterion. Other saline lakes elsewhere in the world better exemplify the bio-physical processes associated with closed lake systems. This is especially so, since the controls over the lake levels and the impact of eutrophication etc., mean that those bio-physical processes are no longer able to follow their natural course, and cannot therefore be said to be "on-going". Despite commendable efforts to restore the natural situation, the lake regime remains to some extent artificial. IUCN does not consider that the nominated site meets this criterion.

Criterion (iii): Superlative natural phenomena or natural beauty and aesthetic importance

The natural beauty of the lake is very evident, however, its greatest appeal arises from the proximity of the reedbeds to the nearby meadows and vineyards, and the way in which the lake is overlooked by a number of attractive historic villages. It is the juxtaposition of natural and cultural values that makes for the exceptional beauty of the nominated site – but these are qualities of a cultural landscape rather than a natural site. IUCN does not consider that the nominated site meets this criterion.

Criterion (iv): Biodiversity and threatened species

Criterion (iv) is most relevant to the site's importance for bird conservation. Fertő-Neusiedler Lake is undoubtedly one of Europe's premier sites for birds, as the Ramsar, SPA and other international designations confirm. The nominated site is a key location for many birds on the major flyways for migratory birds seeking to fly around the Alpine barrier but whether it is of global significance is another question. When set alongside the Danube Delta or Donana, it is not of quite the same order, as BirdLife's detailed IBA analysis demonstrates. It has neither the numbers nor the rarities to justify inclusion among the premier wetland sites in the world. The site has also many different kinds of increasingly rare biotopes occurring in a small area, but this is not so unusual that it can be said to be of outstanding universal value. IUCN does not consider that the nominated site meets this criterion.

The evaluation also raises a number of significant integrity questions as described above.

7. RECOMMENDATION

The Bureau did not recommend the inscription of the Cultural Landscape of Fertő-Neusiedler Lake on the World Heritage list under natural criteria.

The Bureau congratulated the Austrian and Hungarian authorities for the collaborative work that they have already undertaken in setting up and managing the adjoining national parks, and in preparing this joint nomination. The Bureau recommended that the Committee should encourage this collaboration to continue in future, particularly through the framework of the requirements of Natura 2000.