

INFORMATION SHEET ON RAMSAR WETLANDS

Note: General refers to the whole Ramsar site "Bodensee"

A refers to the Nature Reserve Wollmatinger Ried-Untersee-Gnadensee and the Nature Reserve Bodenseeufer (Bundesland Baden-Württemberg).

B refers to Mindelsee bei Radolfzell (not supplied yet)

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Name of wetland: Bodensee

Part A: Wollmatinger Ried-Gieherenmoos-Hegnebucht of the Gnadensee (now: Nature Reserve [NSG] and Landscape Reserve [LSG] Wollmatinger Ried-Untersee-Gnadensee and Nature Reserve Bodenseeufer)

Part B: Mindelsee bei Radolfzell

Date of Ramsar designation: 25 February 1976 (=Date of German Ratification of the Ramsar Convention)

Geographical coordinates:

A: 47°41'N 09°07'E

General location:

A: District of Konstanz; immediately to the West of the city of Konstanz, Bundesland Baden-Württemberg.

Area:

A: 767 ha Nature/Landscape Reserve (NSG/LSG)
Wollmatinger Ried
60 ha Nature Reserve Bodensee
827 ha in total

Wetland type:

A: M N Q U

Altitude:

A: 395-398.5 m above sea level

Overview:

A: The area consists of extensive floodplains, reedbeds with

adjoining meadows, which are within reach of flooding from the mouth of the Rhine and the Untersee between Konstanz, the Island of Reichenau and the district of Allensbach-Hegne. The floodplains and shore areas are of international importance as moulting- resting- and wintering-grounds for waterbirds. The area is managed by the German Trust for Nature Conservation (Naturschutzbund Deutschland).

Physical features:

A: The lower stratum is largely made from up to 50 m thick layers of clay of glacial origin. Above the clay is a chalkstone layer of several m depth ("Snailsand" Onkoide), which crosses the reedbeds, indicative of earlier shorelines. There are two small islands at the the mouth of the Rhine, which are also made of "Snailsand". Strong seasonal waterlevel fluctuations have an influence on the whole area. The average difference between highest waterlevel and lowest waterlevel is 160 cm, but it can reach 280 cm. The highest waterlevels are regularly recorded in June/July. During the winter months water levels are low. The floodplains dry out during that time, and large mudflats are exposed. Due to the mineralisation of the organic material at low waterlevel it is not possible for peat to form. Strong eutrophication of the Bodensee in the 60s and 70s caused a total phosphate level of 87 mg/m³ in the water of the Bodensee in 1979. This abundance of nutrients led to profound changes in fauna and flora. Intensive water purification processes have have been successful: in 1992, only 31 mg/m³ total phosphate was measured.

The area experiences mild winters with little snow. Even during hard winters, the mouth of the Rhine and the adjoining floodplains remain free of ice. Most of the precipitation falls in summer, with an annual total of 790 mm.

Ecological features:

A: The floodplain vegetation shows remarkable changes. *Charophyceae* algae, which were dominant in oligotrophic conditions up to the 60s are spreading again. *Potamogeton pectinatus* and *Zannichellia palustris*, on the other hand, which dominated in the last 20 years, are now declining. *Phragmites* spp. form a large belt along the shore. The inland neighbouring *Caricetum elatae* shows patchy areas of *Phragmites*. Larger wetland areas are dominated by *Cladium mariscus* other areas by *Schoenus nigricans*. The traditional use of *Allio-Molinietum*-meadows, which stopped already 30 years ago, continues for wetland management purposes, although some areas are left to allow natural succession to occur.

Maps showing the potential natural vegetation and the actual vegetation are enclosed.

Land tenure/ownership of

a) site:

A: The waterbodies are owned by the Bundesland of Baden-Württemberg; about 80 % of the reedbeds and floodplains are owned by the district authorities and by the Bundesland

Baden-Württemberg. The rest is in private ownership. For many years, the Nature Conservation authorities have been buying privately owned lots for Nature Conservation purposes (recently this has also been practiced by the Naturschutzbund).

b) surrounding area:

A: The areas (water and land) neighbouring the Ramsar site are owned by the state, the Bundesland, and various private owners.

Conservation measures taken:

General: With the decree of 16 December 1980 the existing Nature Reserve was extended to include the waterbodies in front. The whole Ramsar site is therefore entirely protected as a Nature Reserve (Wollmatinger Ried-Untersee-Gnadensee 757 ha, Bodenseeufer Hegne-Allensback 60 ha), Landscape Reserve (10 ha) respectively.

A: The Wollmatinger Ried received the "Europe Diploma" from the Council of Europe in 1968; in 1973, the German Section of the International Council for Bird Preservation declared it a "European Reserve". Waterfowl hunting has been prohibited within the Nature/Landscape Reserve since 1985. In 1979, the Naturschutzbund Deutschland (at that time the "German Trust for Ornithology") was put in charge of substantial management responsibilities. Since then, the Naturschutzbund has maintained the Wollmatinger Ried as a permanent station for the management of the Reserve. Amongst the duties of the reserve managers are: control of the Reserve area, scientific monitoring of fauna and flora, practical management of sensitive areas, analysis of management practices, and guided tours in the Reserve.

Conservation measures proposed but not yet implemented:

A: A new management- and development plan, which provides for ecological improvements and for further measures for visitor guidance and visitor information, is very near completion.

The Gnadensee is of international importance for waterfowl in its entirety, but only the eastern part lies within the Ramsar site. As a result, plans for the designation of the Gnadensee as a Nature Reserve have been developed. Amongst other measures, the prohibition of all watersports in this part of the Bodensee from October to March has been proposed.

Current land use: principal human activities in

a) site:

A:

- Nature Conservation (Reserve Management)
- Extensive agriculture;
- professional fishery (intensive weir-basket- and net-fishing);
- garden- and recreational activities within the Landscape Reserve and within the Nature Reserve "Bodenseeufer" (Bank of the Bodensee) (there are old weekend- and holiday homes);
- Camp site in the Landscape Reserve between Nature Reserve Wollmatinger Ried and Nature Reserve Bodenseeufer (Camp

site Hegne).

b) surroundings/catchment:

- A:
- Boating traffic and swimming along the borders of the Nature Reserve;
 - business- and residential estates on the north-eastern border of the Nature Reserve;
 - gardening and recreational activities on the eastern border of the Nature Reserve;
 - road traffic (National Road nr. 33 including cycle- and pedestrian path along the border of the Nature Reserve, District Road Nr. 221 cuts through the Nature Reserve);
 - rail traffic (railway track along the border of the Nature Reserve);
 - air traffic (Konstanz airport in the immediate vicinity).

Disturbances/threats, including changes in land use and major development projects

a) at the site:

- A:
- disturbance and damage due to road traffic (District Road Nr. 221 to the island of Reichenau);
 - disturbance and damage due to intensive weir-basket fishing during the summer season and sometimes also net-fishing (for example catching of *Coregonus*-spawn in December);
 - disturbance due to illegal watersports, increasingly also during the winter season (mainly through canoeing and wind surfing);
 - disturbance due to camping, gardening, recreational activities in the Landscape Reserve (at Hegne and on the island of Reichenau) as well as in the area of the Nature Reserve "Bodenseeufer" between Hegne and Allensbach (there are long-standing holiday and weekend chalets).

b) in the surroundings/catchment:

- A:
- disturbance and damage through road traffic (National Road Nr. 33);
 - disturbance due to boating traffic and swimming along the border of Nature Reserve;
 - disturbance due to the planned extension of air traffic at Konstanz airport.

Hydrological and physical values:

- A: The area is often naturally flooded because of the lake's extensive fluctuations in waterlevel; at highwater, the flooded areas act as biological purification systems and low water levels contribute to the mineralisation of the biomass, without affecting the quality of the lake.

Social and cultural values:

- A: The natural shore areas, floodplains and the near-natural cultivated landscape are of great importance for nature-education, ecological research and environmentally friendly recreation, because of their ecological, aesthetic and educational values. The enforced limits of access/visits to the area are important. Special facilities for the observation of waterbirds are planned on the periphery of the Ramsar site. Traditional fishing practices in the

marshes and floodplains are of regional importance, but they have to be subjected to Nature Conservation requirements.

Noteworthy fauna:

A: Breeding birds (maximum population numbers in breeding pairs between 1984 and 1991).

<i>Podiceps cristatus</i>	300
<i>Podiceps nigricollis</i>	80
<i>Ixobrychus minutus</i>	3
<i>Netta rufina</i>	100
<i>Circus aeruginosus</i>	2
<i>Porzana porzana</i>	6
<i>Gallinago gallinago</i>	21
<i>Acrocephalus arundinaceus</i>	42
<i>Panurus biarmicus</i>	45

Resting- and wintering birds (daily maximum counts between 1983 until 1991)

International Importance:	Date	Number
<i>Phalacrocorax carbo</i>	26.09.86	930
<i>Anas strepera</i>	17.10.91	8,400
<i>Anas crecca</i>	17.11.91	11,000
<i>Anas acuta</i>	13.10.91	983
<i>Anas clypeata</i>	13.10.91	2,300
<i>Netta rufina</i>	13.10.85	22,000
<i>Aythya fuligula</i>	14.10.84	22,000

National Importance:	Date	Number
<i>Tachybaptus ruficollis</i>	17.09.89	214
<i>Podiceps cristatus</i>	16.10.88	740
<i>P. nigricollis</i>	18.07.86	403
<i>Ardea cinerea</i>	08.09.84	100
<i>Cygnus cygnus</i>	12.02.89	160
<i>Fulica atra</i>	17.09.89	13,000
<i>Vanellus vanellus</i>	27.11.86	1,370
<i>Calidris minuta</i>		141
<i>Calidris alpina</i>	20.10.91	570
<i>Philomachus pugnax</i>	22.03.90	537
<i>Gallinago gallinago</i>	07.11.83	385
<i>Numenius arquata</i>	15.09.91	163
<i>Tringa erythropus</i>	06.10.90	128
<i>Tringa glareola</i>	17.08.90	55
<i>Larus minutus</i>	10.90	148

Noteworthy flora:

A: The following noteworthy, and sometimes very rare plants occur in floodplains, and shore areas, as well as in reedbeds:

Najas intermedia, *Myosotis rehsteineri*, *Deschampsia litoralis*, *Ranunculus reptans*, *Gratiola officinalis*, *Spiranthes aestivalis*, *Gladiolus palustris*, *Orchis coriophora*

Current scientific research and facilities:

A: The scientific programme being undertaken by the German

Naturschutzbund in the Wollmatinger Ried area during recent years included research projects on feeding ecology and effects of disturbance on waterbirds within the Nature Reserve and in neighbouring areas. Abundance and use of *Dreissena polymorpha*, which is one of the most important food sources for diving ducks and *Fulica atra*, was a major study. Data was also collected on submerged macrophytes. Studies of the effects of hunting and boating on waterbirds, in particular on *Netta rufina*, indicated the need for further protection measures. Count data for waterbirds, collected over many years, includes the following population developments: breeding success, moult, migration and wintering.

Current conservation education:

A: Public awareness activities organised by the German Naturschutzbund were intensified through the tenancy of the disused railway station Reichenau in 1990. As a result, new workshops, exhibition rooms, and lecture theatres are available to the Nature Conservation Centre Wollmatinger Ried.

Regular public tours of the Nature Reserves are whenever possible supplemented by talks aimed at schools and other groups on the natural history of the site.

Guided tours have so far been provided for an average of 3,000 visitors per year.

Current recreation and tourism:

A: The very limited right of access by visitors cannot be extended for nature conservation reasons. The construction of observation facilities in generally accessible places is planned for the next few years, in order to relieve the protected areas and to improve public information and awareness. Public funds made available to this purpose are supplied by the national government and the government of the Bundesland.

A new wetland in the immediate vicinity of the Nature Conservation Centre, created partially by land refills, will be developed as a "nature experience zone" for educational use.

Management authority:

A: Organisation entrusted with management duties:
Naturschutzbund Deutschland
Naturschutzzentrum Wollmatinger Ried
Kindlebildstr. 87
D-7752 Reichenau 2

Jurisdiction:

A: Authority responsible for Nature Conservation:
Regierungspräsidium Freiburg
Höhere Naturschutzbehörde
Abhofach
D7800 Freiburg

Expert authority responsible:
Bezirksstelle für Naturschutz und
Landschaftspflege

Werderring 14
D-7800 Freiburg

Bibliographical references:

- A: - Jacoby, H. (1991): Errichtung und Sicherung schutzwürdiger Teile von Natur und Landschaft mit gesamtstaatlich repräsentativer Bedeutung. Beispiel: Wollmatinger Ried. Natur und Landschaft 66: 567-572. (Establishment and protection of valuable parts of nature and landscape of national importance).
- Jacoby, H. & Dienst M. (1988): Das Naturschutzgebiet "Wollmatinger Ried - Untersee - Gnadensee": Bedeutung, Schutz und Betreuung. Naturschutzforum 1/2: 205-306. (Nature Reserve "Wollmatinger Ried - Untersee - Gnadensee": Importance, Protection and Management.)
 - Working Party Kaule/Bruns (1991): Pflege- und Entwicklungsplan "Wollmatinger Ried - Untersee - Gnadensee". (Vorläufiger) Schlussbericht April 1991. Text- und Kartenband. Naturschutzbund Deutschland (unveröffentlicht). (Management and Development Plan "Wollmatinger Ried - Untersee - Gnadensee". [Preliminary] final report April 1991, with text and maps (unpublished).

Reasons for inclusion:

- A: 1 (a), 1 (c), 1 (d)
2 (a), 2 (b), 2 (c), 2 (d)
3 (a), 3 (b), 3 (c)

Map of site:

- A: 1. Overview map 1: 25.000
2. map of the actual and potential natural vegetation
3. map showing visitor facilities.