

October 2007

Annual Report 2007
on the protected landscape area and nature reserve
"Wollmatinger Ried - Untersee - Gnadensee" (Germany)

Period under review:	October 1 2006 to September 30 2007
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I. GENERAL INFORMATION

1. Natural heritage – conservation status

1.1 Environment

The average temperature during the year under review was 11.4 °C making it 2.3 °C above the long-term mean. The warm period lasted from October to June, with only 5 days of ice and 36 days of frost during the whole winter. These values are normally typical of the Italian subalpine lakes. Only September was colder than the comparative value with an average temperature of 13.5 °C.

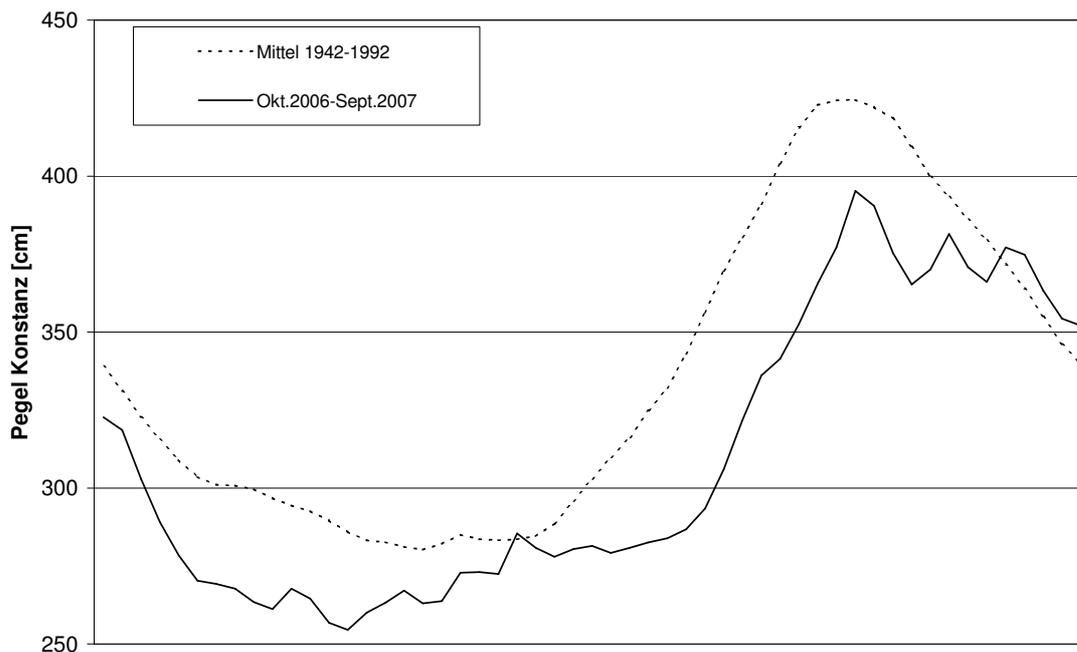


Fig. 1: Lake Constance water level (Konstanz harbour water mark) from October 2006 to September 30 2007 (continuous line) and mean values from 1943 to 1992 (dotted line)

In contrast to the four previous dry years, the total annual rainfall amounted to 916 mm, taking it well above the long-term mean of 849 mm. However, important for developments during the period under review is the fact that initially during the period from October to January there was a continued precipitation deficit. After slightly above-average rainfall in February and March, April was also extremely dry with just 10.5 mm. It was only from May that the precipitation deficit was compensated by more frequent rainfall. August in particular saw very heavy rainfall with 191 mm, while an average amount of rain fell in September with 73.8 mm.

The level of water in Lake Constance lay well below that of the long-term mean for most months (cf. Fig. 1). Due to the dearth of snow in the Alps, the above-average rainfall in May did bring about a marked increase in the water level, but nowhere near the long-term mean. Consequently, the 320 cm mark at which the water level reaches the reed front was not exceeded this year until May 30th, one month later than usual. This year's high water level of 402 cm was also not reached until July 12, 2007. Extensive rainfall in August meant that levels fell only slowly, and consequently above-average water levels were reached from the beginning of September.

1.2. Flora and vegetation

Most species of moor grass meadows (*Molinion*) demonstrated good bloom development: The **Siberian iris** (*Iris sibirica*) once again achieved a very high bloom density with 835 (06= 885) specimens on both sample areas. The **marsh gentian** (*Gentiana pneumonanthe*) achieved an average result with 846 inflorescences counted on the six continuously monitored areas. The **mouse garlic** (*Allium angulosum*), for which the count was incomplete, demonstrated the greatest bloom density ever recorded with 70.063 counted inflorescences. The stock of **hedge hyssop** (*Gratiola officinalis*) has reduced slightly to 4,286 (06= 4,875) shoots. The **small meadow-rue** *Thalictrum simplex ssp.galioides* lay below its high of 5,097 in 2006 but still above the ten-year mean of 4,079 specimens, with a total of 4,408 specimens counted.

Despite the dry spring, the alkaline fen (*Caricion davallianae*) demonstrated largely positive development. With 56,607 specimens, the **bird's eye primula** (*Primula farinosa*) almost regained its 2003 high of 58,021. The **bladder gentian** (*Gentiana utriculosa*) produced 7,093 specimens, bringing it well above the 10-year mean of 4,054. The **lax-flowered marsh orchid** (*Orchis palustris*) rediscovered in 1995 has succeeded in doubling its stocks each year for the last three years, with 62 specimens now counted. With 9,986 samples counted, the **marsh dandelion** (*Taraxacum palustre agg.*) has reached a new high for the third year running. The **northern grass of Parnassus** (*Parnassia palustris*) demonstrated a very high density with 28,911 specimens. The **summer ladies tresses** (*Spiranthes aestivalis*) recovered only slightly with 89 specimens counted from its slump of the previous year (06= 20).

The species common to the mesobromion grasslands also developed positively: The **Chiltern gentian** (*Gentianella germanica*) reached a new high with 61,471 samples (10-year mean = 7,900). As in the previous year, only one plant of the **late spider orchid** (*Ophrys holoserica*) was in evidence, but in a different location. On the same meadow, new specimens of the **pyramidal orchid** (*Anacamptis pyramidalis*) (22 specimens) and **bee orchid** (*Ophrys apifera*) (11 specimens) were discovered. The **green-winged orchid** (*Orchis morio*) once again reached the levels of previous years with 42 (06=59) specimens. With 10 specimens counted, **bug orchid** (*Orchis coriophora*) did not quite match the good result of the previous year with 17 specimens, but was well above the 10-year mean of 5 specimens.

In summary, it may be concluded that bloom stocks of the species prevalent in moist locations have so far hardly suffered as a result of the continued dry conditions, whereby primarily light germinating plants and species in patchy predominantly demonstrated positive development.

Bibershof beach meadow by Irene Strang

Overall Bibershof beach meadows demonstrated a positive balance in 2007. Stocks in the Southwest developed very well and extended to well below the mean water level. However, stocks of **shore weed** (*Littorella uniflora*) and **creeping spearwort** (*Ranunculus reptans*) in the northern part of the area have diminished slightly. This is due partially to a slight erosion in the area of the barrier beach.

The reduced population in the northeast is also due to a marked increase in the competing species **reed canarygrass** (*Phalaris arundinacea*), **slender tufted sedge** (*Carex acuta*) and in some cases **creeping bentgrass** (*Agrostis stolonifera*). The plants in the shore area have profited from the fifth low water year in succession, i.e. the species have been able to spread in summer as a result of the low water level in the direction of the lake.

The maintenance work carried out in November 2006, during which around 3500-4000 young **willows** in the beach meadow area were weeded out, may be confirmed to have been successful following the 2007 inspection.

Occurrence of neophytes

Due to the repeated absence of summer flooding, the invasive new populations continued to demonstrate expansive growth despite extensive combative measures (cf. chapter 5.1.1). This applied particularly to the **Canada golden rod** (*Solidago canadensis*) and the **late golden rod** (*Solidago gigantea*): In 40 % of known occurrences, there was a marked increase in populations. Additional new occurrences were discovered particularly in the Southern area. Aided by rummaging wild boar, the stock of **red touch-me-not** (*Impatiens glandulifera*) along the millstream doubled. Other stocks developed although less invasively. Only the population of **Jerusalem artichoke** (*Helianthus tuberosus*) at the Reichenauer barrier beach was successfully kept constant.

1.3 Fauna

Birds (Aves)

As a wetland of international importance, the criteria of the Ramsar Convention fulfilled by the NSG Wollmatinger Ried Untersee-Gnadensee nature reserve include the following:

- a) It regularly supports more than 20,000 water birds (criterion 5).
- b) It regularly supports a percentage of individuals in a population of one species or subspecies of a water bird (criterion 6).

The monthly counts of water fowl from September 2006 to April 2007 demonstrated total populations of a maximum of 53,000 individuals in October 2006 and 49,000 individuals in January 2007, whereby the daily values were particularly remarkable for the following species: 3,600 **gaswalls** (*Anas strepera*) in November, 4,300 **teals** (*Anas crecca*) in November, 960 to 970 **pintail ducks** (*Anas acuta*) in November and December, 940 **shovelers** (*Anas clypeata*) in November, 8,800 **red-crested pochards** (*Netta rufina*) in January and around 30,000 **common pochards** (*Aythya ferina*) in October. Given the low water levels prevailing during the winter months, the shallow water areas of the protected zone dried up to a large extent, forcing the water birds to migrate to neighbouring unprotected zones where they are often exposed to disturbances and are consequently driven out. In order to secure the significance of the NSG Wollmatinger Ried-Untersee-Gnadensee as a water fowl habitat, an extension of the protected zone to encompass the entire Ermatingen basin is urgently necessary.

Already for the fifth time in succession, the breeding outcomes for all water fowl species were poor despite the presence of adult pairs capable of breeding, due to the fact that breeding locations in the reed banks were almost unusable (cf. chapter 1.1). Little breeding success was recorded in particular among the **black necked grebes** (*Podiceps nigricollis*) with 6 families (10 young) and **red-crested pochard** (*Netta rufina*) with 3 families (12 young). In contrast, the breeding outcome for the ecologically more adaptable **great crested grebes** (*Podiceps cristatus*) was astoundingly good with 101 families (148 young). The number of breeding territories for the **great reed warbler** (*Acrocephalus arundinaceus*) in the reed zone remained at the same low level with 16 territories, and the case of the **little bittern** (*Ixobrychus minutus*) only one territory appeared to be occupied once again. Other breeding birds in the silt areas were differently represented compared to previous years: **Savi's warbler** (*Locustella luscinioides*) with 21 territories, **grasshopper warbler** (*Locustella naevia*) with 26 territories and the **bearded tit** (*Panurus biarmicus*) gratifyingly with a minimum of 30 territories. 9 breeding territories were recorded for the **stonechat** (*Saxicola torquata*).

Due to the low water level, the three breeding rafts could not be used by the **common terns** (*Sterna hirundo*).

Bugs (*Heteroptera*) by Ralf Heckmann

In the 17th year or more or less regular collections, a total of 209 bug species have now been recognized from the various biotopes of the protected area, of which 17 species are included in the "Suggestion for a red list of bugs in Baden-Württemberg" (RIEGER, 1986). 19 species have been added since the last report in.

Particularly worthy of mention is the discovery of *Psallus aethiops* Zett, which has been verified for the first time in Germany. This species is listed as boreal in the literature and was discovered in 2002 for the first time in Europe in a bug trap on the Reuss Plain in Switzerland. The species lives on *Salix* species and must have been overlooked due to its very early imaginal stage (mid May) (HECKMANN, RIEGER & DIEKÖTTER, 2006).

Butterflies (*Lepidoptera*)

The scarce large blue (*Maculinea teleius*) and the dusky large blue (*M. nausithous*) were recorded as in the previous year in the Frohnried area, but in a lower density. The dusky large blue was also sighted south of the sewage plant.

2. Cultural heritage and socioeconomic context

2.2 Socioeconomic context

Gratifyingly, fishing activity was far less in evidence than in the previous year. As a result of a lower degree of disturbance, large resting and moulting populations were able to settle, particularly of red crested pochards.

3. Education and scientific interest

3.1 Visitors – Information policy

3.1.2 Frequentation of visitors and behaviour

A total of 1,879 participants attended 147 excursions held in the core areas of the reserve. In addition, 147 were afforded an insight into the reserve with the guided bird watching sessions on the observation platforms set up at the edge of the area. By offering a total of 14 nature study boat trips, the NABU was able to welcome 245 guests. The NABU Nature Conservation Centre Wollmatinger Ried received 1,362 guests.

On land, unauthorized trespassers were only discovered very seldom in the prohibited area. After a brief explanation, in most cases they left the area without delay. As a result of good monitoring by the floating protection and observation station "Netta", it was possible to limit disturbances on the lake caused by water sports enthusiasts.

3.1.3 Special visits

Within the framework of the training course offered by the "Living Lakes Eastern Europe – Deutschland" network, 22 environmental experts visited Wollmatinger Ried in order to find out about nature reserve management.

3.2 Scientific research

3.2.1 Current and completed research

Plant counts were performed by employees of the NABU Centre Wollmatinger Ried (cf. 1.2).

A survey of avifauna was performed by employees of the NABU Centre Wollmatinger Ried and the Lake Constance Ornithological Bird Group, which involved regular counts of waterfowl populations and mapping of breeding birds (cf. 1.3). A particular focus was the count of water fowl during the summer moulting period within the framework of the "Wild birds and bird flu" project commissioned by the Baden-Württemberg Ministry of Food and Rural Affairs.

Entomological studies were performed by E. Konzelmann (beetles), M. Herrmann (aculeates), E. Klein and A. Krismann (butterflies) and R. Heckmann (bugs).

Entomofaunistic and arachnologic studies by J. Kiechle and vegetation scientific studies by E. Klein were continued within the framework of the experiment to maintain the open landscape of the litter meadows by grazing cattle.

3.2.2 Scientific publications

- HECKMANN, R., C. RIEGER, T. DIEKÖTTER (2006): “Erstnachweis von *Psallus* (*Apocremnus*) *aethiops* (Zetterstedt, 1838) für Mitteleuropa in der Schweiz und in süddeutschland (Heteroptera: Miridae: Phylinae)” (*First Central European verification of *Psallus* (*Aprocremnus*) *aethiops* in Switzerland and Southern Germany*) Mitteilungen d. Schw. Entomologischen Gesellschaft 79: 189-198 (*Memoranda by the Swiss Entomological Society*)
- KIECHLE, J. (2006) “Monitoring zum Einsatz unterschiedlicher Raupenfahrzeuge bei der Pflege von Streuwiesen in Naturschutzgebieten des Landkreises Konstanz” (*Monitoring the use of different crawler vehicles in maintenance of litter meadows in nature reserve areas in the district of Konstanz*) unpublished expertise commissioned by the Government Headquarters Freiburg, 245 pages.
- PEINTINGER M. (2006) “Verbreitung und Ökologie von Arten der *Eleocharis palustris*-Gruppe im westlichen Bodenseegebiet (Südwestdeutschland)” (*Proliferation and ecology of species of the *Eleocharis palustris* group in the Western Lake Constance area (Southwest Germany)*) *carolinea* 63; (2005) 97-112

4. Site description, legal status

The exemption ruling criticized in last year's report to permit kite surfing has now expired. In the negotiations currently under way to pass new approvals, alongside safety aspects for the first time decisive weight is being attached to the requirements of nature protection.

5. Site management

5.1 Improvements made

5.1.1 Ecological action

As in the previous year, complete maintenance of around 120 hectares of litter meadows and tall sedge meadow was performed by order of the nature conservation authorities (Administrative District Office of Konstanz) by farmers using large-scale equipment. The NABU took charge of maintaining, largely manually, the sensitive areas of the barrier beach and zones containing highly endangered species totalling around 39 hectares of litter and low-fertility meadow and sedge areas. In addition, this winter once again a mulcher was used on a total of 2 hectares of land.

The high-fertility common "Zügwiesen" (18.5 hectares) was mown at the beginning of June and the middle of September 2007. In the green bridge areas and on other meadows rich in nutrients, and litter meadows showing symptoms of eutrophication, NABU thinned the vegetation by mowing over an area of 9 hectares.

Cattle grazing (6 hectares) on the "Lange Züge" common was continued with 8 Highland breeding heifers and one bull.

From the beginning of June to mid-September, steps were taken to combat all neophyte occurrences (**Canadian golden rod**, *Solidago canadensis*, **late golden rod**, *S. gigantea*, **policeman's helmet**, *Impatiens glandulifera* and **Jerusalem artichoke**, *Helianthus tuberosus*) between one and three times by manual pulling up or limited-area mowing.

5.1.2. Species protection

In the botanical garden of the University of Konstanz, permanent cultures were successfully established for the following species: **bug orchid** (*Orchis coriophora*), **creeping spearwort** (*Ranunculus reptans*), **shoreweed** (*Littorella uniflora*), **water forget-me-not** (*Myosotis rhosteineri*), **sea thrift** (*Armeria maritima ssp purpurea*), **hedge hyssop** (*Gratiola officinalis*), **bladder gentian** (*Gentiana utriculosa*) and **globe daisy** (*Globularia punctata*). The Swiss nature conservation authorities are planning to produce a permanent culture of the **marsh gladioli** (*Gladiolus palustris*) and have submitted an application for seed collection from Wollmatinger Ried for this purpose.

The extension of the mowing area on the edge of the "bird breeding pond" has so far failed to have any effect on the breeding success of water fowl.

5.1.4 Field equipment

The access footbridge to the observation platform at the Ermatingen Basin had to be repaired again. The Government Headquarters Freiburg is planning a general refurbishment of the construction during the course of next year.

In order to permit improved observation of moulting and migration activity, the Lake Constance Ornithological Society OAB and NABU renewed the Felbenrain observation cabin which collapsed eight years ago within the framework of the project "Wild birds and bird flue (cf. chapter 3.2.1).

5.2 Site management

5.2.4 Infringement of regulations and damage: Legal action

Despite the fact that the nature reserve has been entered on the visibility approach map of the Konstanz airfield, during the year under review considerable disturbance occurred primarily due to low-flying helicopters and hot air balloons. The helicopters are predominantly service aircraft belonging to Federal authorities on supra-regional missions who use only the IACO aviation map and official operation charts. In the meantime, the Federal Office of Nature Conservation has succeeded in ensuring that EU bird sanctuary areas and consequently also Wollmatinger Ried are included in the 2008 edition of the IACO map. Negotiations are currently under way in order to adjust the operation charts accordingly. In addition, the Government Headquarters Freiburg has initiated proceedings for removal of the flight licence from the operator of a hot air balloon who has been responsible for causing disturbances already for years.

In respect of the plans to restore the bottom depth of the Bruckgraben which forms the border of the nature reserve to the Island of Reichenau, for which planning approval has been granted, NABU has put forward a representation indicating the risk of a possible hazard to the beach meadow at Bibershof. The planning authorities have submitted the case to the LUBW, the Institute of Lake Research, which dismissed any direct correlation between the dredging work and sediment accumulation on the beach meadow. However it did concede an indirect correlation if the dredging were to subsequently result in intensified boat traffic. Here, the project organizer must take suitable precautions to prevent intensified boat traffic.

II. INFLUENCE OF THE AWARD OF THE EUROPEAN DIPLOMA OF PROTECTED AREAS

The European diploma was an important guarantee in warding off demands for the use of additional land for development of the B 33 road. According to the current stage of planning, only a few acres to the east of the Kindlebildkapelle are under threat. Further plans have been initiated by NABU which it is hoped will allow any further usage of nature reserve land to be dispensed with.

However, it has not so far been possible to put a stop to on-going plans to construct additional roads in the area of the flood-proof buffer zones and networking corridors essential to the protected area.

A planning application is currently under way for construction of the new Westtangente road near Konstanz which observes all the customary current environmental standards. It is not yet possible to report on the conclusion of the application process.

III. PROGRESS IN COMPLIANCE WITH EUROPEAN COUNCIL RECOMMENDATIONS

With the agreement to list Wollmatinger Ried as an EU bird sanctuary in the official IACO aviation map (cf. chapter 5.2.4) it may be hoped that a marked reduction of air-borne disturbance can be achieved.

Now that the Wollmatinger Ried Nature Conservation Area has been served with notice to quit its premises in the former Reichenau railway station with effect from May 2009, support for the protected area faces an uncertain future. Although initial discussions are being held on the possibility of a new building on the edge of the buffer zones located to the North, to date no concrete financial pledge has been received.

The official opening of the informative teaching trail on the public footpaths within the protected area is planned for the spring of 2008.

Although the continued low water situation has once again highlighted the necessity for extending the conservation area as far as the national border (cf. chapter 1.3), to date no steps towards this end have yet been undertaken. As these areas are part of the FFH area 8220301 and the EU bird sanctuary 8220401, at least the maintenance and development plans requested by the EU should be drawn up and implemented in order to allow effective counter measures to be taken in case of undesirable developments.