Naturschutzzentrum Wollmatinger Ried

October 2006

Annual Report 2006 on the protected landscape area and nature reserve "Wollmatinger Ried - Untersee - Gnadensee" (Germany)

Period under review:	October 1 2005 to September 30 2006
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I. GENERAL INFORMATION

1. Natural heritage – conservation status

1.1 Environment

The average temperature during the year under review was 9.7 °C, making it 0.5 °C above the long-term mean. Particularly warm months were October 2005 and June and July 2006. It was unusually cold in January, March and August 2006.

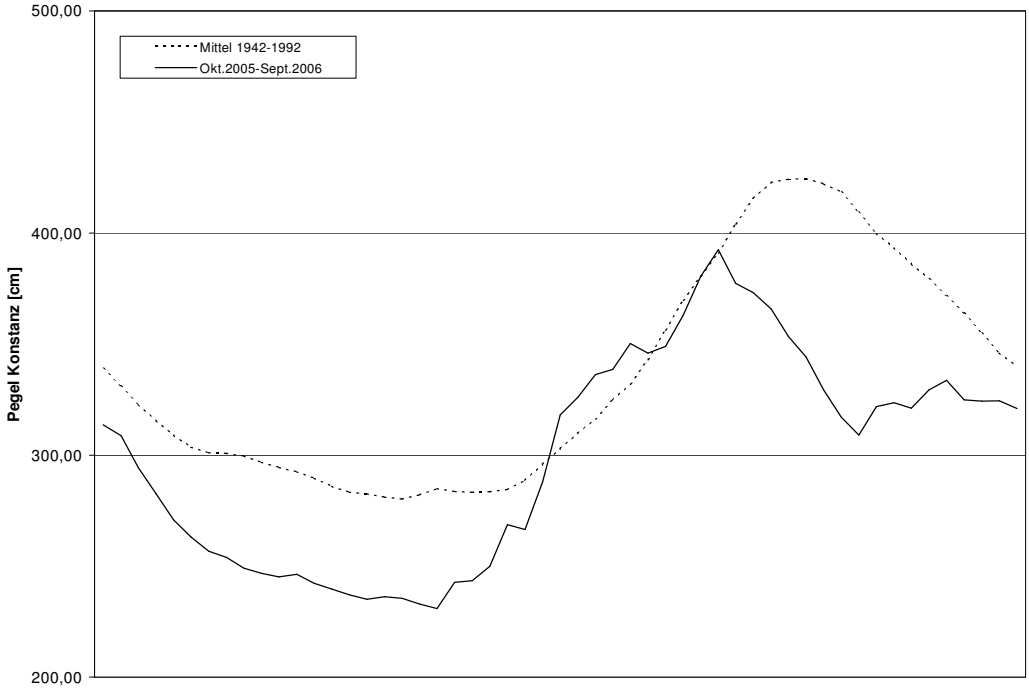

Fig. 1: Lake Constance water level (Konstanz harbour water mark) from October 1, 2005 to September 30, 2006 (continuous line) and mean values from 1943 to 1992 (dotted line)

As in the four previous years, the year under review was substantially drier than the long-term mean of 849 mm, with an annual rainfall totalling 749 mm. The months June, July and September 2005 were particularly dry, while March, April and August 2006 had unusually high rainfall.
The level of water in Lake Constance lay well below that of the long-term mean during the period from October 2005 to March 2006 (cf. Fig. 1), and only reached the average mean values from the end of March to the end of May 2006. After reaching its maximum level for this year at 398 cm on June 2, 2006, the level dropped due to a protracted dry spell throughout the whole catchment area rapidly to 306 cm on August 03, 2006. By September 30, 2006, the level had risen only marginally to 321 cm.

1.2. Flora and vegetation

The flower development of most value defining species has been positive.
Most types of moor grass meadows (*Molinion*) demonstrated good bloom development: The **Siberian iris** (*Iris sibirica*) once again achieved a very high bloom density with 827 (05=1,100) specimens on both sample areas. The **marsh gladioli** (*Gladiolus palustris*) continued on its recovery since the flood of 1999 with 2,061 (05=1,508) specimens. The **marsh gentian** *(Gentiana pneumonanthe)*, recorded only on selected sample areas, demonstrated an above-average density with 3,167 (05=2,358) inflorescences. A slight increase in stocks was registered for the **hedge hyssop** (*Gratiola officinalis*) with 4,875 shoots. The *Thalictrum simplex ssp.galioides* flowered profusely again with 4,988 (05=5,097) specimens. Only the **fringed pink** (*Dianthus superbus*) demonstrated a dwindling tendency with 367 (05=451) specimens, whereby development differed in certain of the individual growth areas.
The alkaline fen (*Caricion davallianae*) species demonstrated largely positive development. The **bird's eye primula** (*Primula farinosa*) remained only just below its highest recorded value (03=58,021) with 52.846 specimens. The **bladder gentian** (*Gentiana utriculosa*) produced 5,670 (05=1,540) flowering specimens. In both of the old growing locations, 11 specimens of the **lax-flowered marsh orchid** (*Orchis palustris*) were found, and a further 23 flowering specimens were counted at a new location discovered last year. With 8,659 specimens, the **marsh dandelion** (*Taraxacum palustre agg.*) achieved its best result registered to date. Stocks of **summer ladies tresses** (*Spiranthes aestivalis*), which as a late flowering species presumably suffered as a result of the severe summer drought, slumped to 20 (05=150) specimens.
The species common to the mesobromion grasslands also developed positively: The **burn-tip orchid** (*Orchis ustulat*a) once again exceeded previous records with a stock of 1,834 (05=1,605) specimens. As in the previous year one specimen of the **late spider orchid** (*Ophrys holoserica*) was successfully identified. The **green-winged orchid** (*Orchis morio*) sustained the previous year's level with 59 (05=57) specimens. The **bug orchid** (*Orchis coriophora*) successfully exceeded the relatively good result achieved in the previous year (13 specimens) with a recorded 17 specimens.

Beach meadow by Irene Strang
The Bibershof beach meadows have developed well in 2006. The population of **shore weed** (*Littorella uniflora*) has fallen slightly compared to the previous year, while the **creeping spearwort** (*Ranunculus reptans*) has succeeded in further expanding. The small population of **Lake Constance forget-me-not** (*Myosotis rehsteineri*) has increased slightly. In March 2006, the beach meadow area and the adjoining vegetation were mown and cleared. Unfortunately a heavy vehicle used to transport away the mown hay drove over the beach meadow, resulting in damage both to the vegetation and to the shore substrate itself.

Occurrence of neophytes

Due to the absence of summer flooding, stocks of **Canada golden rod** (*Solidago canadensis*) and **late golden rod** (*Solidago gigantea*) expanded markedly once again despite combative measures undertaken. Many of the known occurrences increased, and several new outbreaks were discovered in central beach meadow areas. Incidences of **red touch-me-not** (*Impatiens glandulifera*) have dwindled as a result of intensive combative measures in the Frohnried area; however in the Mühlegraben area and south of the sewage plant stocks are vigorous despite control measures. The **Jerusalem artichoke** (*Helianthus tuberosus*) to the west of the Reichenauer beach profited from the displacement of a hedgerow despite combative measures undertaken.

1.3 Fauna

Birds (*Aves*)

The extraordinary significance of the protected shallow water zone and the adjacent reedbed belt as a water fowl habitat was demonstrated again by the population counts of migrating water fowl using the zone as a stopover and to spend the winter. The monthly counts from September to April demonstrated total populations of a maximum of 47,000 individuals in October and 44,000 individuals in November 2005, whereby the count results were particularly remarkable for the following species: 222 **whooper swans** (*Cygnus cygnus*) in February, 4 **whistling swans** (*Cygnus columbianus*) from November to February, 4,200 **gadwalls** (*Anas strepera*) in November, 5,000 **green-winged teals** (*Anas crecca*) in November, 1,000 **pintail ducks** (*Anas acuta*) in December, 930 **shovelers** (*Anas clypeata*) in November, 6,600 **red-crested pochards** (*Netta rufina*) in September and 19,000 **common pochards** (*Aythya ferina*) in November. As the shallow water zone of the Ermatingen Basin is only partially protected, but the water fowl urgently require the entire area as a habitat, an extension of the protected zone is imperative during the winter months. Given the low water levels prevailing during the winter months, large areas of the protected zone dry up and consequently cannot be used by the water fowl.
The run of years with low water levels has continued. For the fourth time in succession, breeding outcomes for several water fowl types were unsatisfactory despite the gratifyingly high numbers of breeding adult pairs due to the fact that breeding locations in the reed banks were almost unusable. Particularly unsuccessful breeding results were recorded for the **black necked grebes** (*Podiceps nigricollis*) with 4 families (5 young) and **red-crested pochard** (*Netta rufina*) with 6 families (30 young). In contrast, the **great crested grebe** (*Podiceps cristatus*) achieved an astoundingly good breeding result with 112 families (173 young). The number of breeding territories for the **great reed warbler** (*Acrocephalus arundinaceus)* in the reed zone remained at the same low level with just 14 territories, and in 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 represented in lower numbers than in the previous year: **Savi's warbler** (*Locustella luscinioides*) with 21 territories, the **grasshopper warbler** (*Locustella naevia*) with 16 territories and the **bearded tit** (*Panurus biarmicus*) with 7 territories. By contrast, the **black kite** (*Milvus migrans*) increased its number of territories to 6 territories. Once again at least 4 breeding territories were recorded for the **stonechat** (*Saxicola torquata*). After initial favourable development, the colony of **common tern** (*Sterna hirundo*) once again abandoned the territory prematurely following a serious event: In mid July at least 16 fledglings fell victim to an unknown predator.

Dragonflies (*Odonata*) by Achim Lehmann

On June 13, 2006, several areas were searched during the course of a full-day inspection for dragonflies and dragonfly exuvia. 11 different species were observed. Alongside the generally commonly represented specilies such as the **azure damselfly** (*Coenagrion puella*) and the **common blue damselfly** (*Enallagma cyathigerum*), particularly noteworthy was the occurrence of the **southern emerald damselfly** (*Lestes barbarus*). The appearance of this species which was spotted during the previous year at the shallow lake was confirmed again. While mapping was taking place, a mass hatching of over 300 young was witnessed. As many other species also occur here (including *Anax imperator, Libellula quadrimaculata, Sympetrum spec*.) with a consistent degree of regularity, it is urgently recommended that (at least partially) clearing of the vegetation should wait until hatching is complete.

Beetles (*Coleoptera*) by E. Konzelmann

Eight soil samples each were taken at eight locations with different botanical or cultivation characteristics. In parallel, netting catches were carried out. Two of the above mentioned eight collectives have already been determined as containing 55 beetle types make of 17 beetle families. Particularly notable was the appearance of the species *Paradromius longiceps* DEJEAN (sarabidae), *Stenus palustris* ERICHSON (staphylinidae) a*nd Aphthona herbigrada* CURTIS (chrysomelidae),

which are extremely rare in Baden-Württemberg and whose presence was verified for the first time in the Wollmatinger Ried.

Butterflies (*Lepidoptera*)

The main occurrence of both the **scarce large blue** (*Maculinea teleius*) and the **dusky large blue** (*M. nausithous*) were recorded as in the previous year in the Frohnried area. A sighting was also verified of the *Maculinea teleius* on the "Alte Mehlprimelwiese" meadow. This was a first sighting of this butterfly since the flood of 1999 in its formerly most frequented habitat prior to the flood year in the "Langen Zügen" area.
The mini population of **alcon blue** (*M. alcon*) discovered only a few years ago was confirmed once again this year by the discovery of egg clutches.

2. Cultural heritage and socioeconomic context

2.2 Socioeleconomic context

In two areas within the protected site, fishing activity of relevance to wildlife is in evidence: In the Schlauch and Reichenau Dam areas, numerous bow nets were set up and regularly emptied from as May onwards before the occurrence of the flooding (cf. Chapter 5.2.4). In the inner Hegnebucht area, nets were set up from the spring of 2006 presumably for fishing purposes and frequent trips made to them. Both occurrences lead to increased disturbance, particularly for water fowl.

3. Education and scientific interest

3.1 Visitors – Information policy

3.1.2 Frequentation of visitors and behaviour

During the period under review, 72 guided tours took place in the reservation, attended by 1,543 participants. With a total of 5 instructive boat trips, a large number of passengers also received instruction in the natural history of the area. 12 nature study boat trips allowed 314 visitors to appreciate the beauty of the area and the need for its protection. The NABU visitor's centre was pleased to welcome 1,223 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. Due to the repeated low water levels, disturbances caused by water sports enthusiasts illegally entering the low water area were kept very much in check.

3.1.3 Special visits

On May 21, 2006 Member of the State Parliament Andreas Hoffmann visited the conservation area with a delegation from the German Christian Democratic Party (CDU), and on September 19, 2006 a visit was received by representatives of the parliamentary group of the German Liberal Democratic Party (FDP).

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).
Entomological studies were performed by E. Konzelmann (beetles), M. Herrmann (aculeates), E. Klein and A. Krismann (butterflies), A. Lehmann (dragonflies) and Dr. W. Münch (ants).
A study commissioned by the Freiburg Government Headquarters into the possibility of deploying a mulcher should provide at least provisional interim findings by this winter.

3.2.2 Scientific publications

- FRANKL, ROBERT, S. WANNING, R. BRAUN (2005) „Quantitative floral phenology at the landscape scale: Is a comparative spatio-temporal description of „flowering landscapes“ possible?“ Journal for Nature Conservation 13, 219-229
- HERRMANN, MIKE, E. KLEIN (2005) „Das Wollmatinger Ried am Bodensee“ *(The Wollmatinger Ried on Lake Constance”* in „Der Rhein – Lebensader der Region“ *(The Rhein – Artery of the Region)* Herausg. F. Klötzli et al.
- HERRMANN, MIKE (2005): „Neue und seltene Stechimmen aus Deutschland *(New and rare aculeates from Germany* (Hymenoptera: Apidea, Sphecidea, Vespidea)“ Mitt. Ent. V. Stuttgart Jg. 40, 2005
- KLESS, JÜRGEN & U. KLESS (2005): „Ergebnisse der Exkursion 2002 der Arbeitsgemeinschaft südwestdeutscher Koleopterologen (Teil 1)“ *(Results of the 2002 Excursion of the Southwest German Coleopterologists)* , Mitt. Ent. V. Stuttgart, Jg 40, 2005

4. Site description, legal status

In September 2006, a certificate of exemption was issued to the shipping authorities by the Administrative District Office of the Bodensee District with the agreement of the Administrative District Office of Konstanz which, in contravention of Lake Constance shipping regulations, permits kite surfing on certain sections of the lake. One of the areas set aside for kite surfing is in the Gnadensee district and borders directly onto the protected area. Due to the considerable remote effect and the immense disturbance kite surfing will exert on water fowl, this move may be expected to entail a considerable negative impact on the conservation area.

5. Site management

5.1 Improvements made

5.1.1 Ecological action

During the year under review, complete maintenance of around 120 hectares of flood litter and tall sedge meadow were undertaken 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 sea wall and zones containing highly endangered species totalling around 38 hectares of litter and low-fertility meadow and sedge areas. In addition, this winter for the second time 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 end of August 2006. 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 10 hectares.
Cattle grazing (6 hectares) on the "Lange Züge" common was continued with 9 Highland breeding heifers. 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

To establish permanent cultures, seed material of the **bug orchid** (*Orchis coriophora*) and **marsh gladioli** (*Orchis palustris*) were taken and sent to three companies specializing in orchid cultivation. Initial germination success has been achieved with both species. Seed material was also taken from the **globe daisy** (*Globularia punctata*). The survival cultivation program is progressing well in the botanical garden at the University of Konstanz.

5.1.4 Field equipment

The access footbridge to the observation platform at the Ermatingen Basin was repaired by order of the Freiburg Government Headquarters. In September and October 2006, the observation platform at the Hegne bathing beach and clamping site underwent repairs. As a final stage of the program, the observation platform at the Ermatingen Basin will be renovated in the autumn of 2007.

5.2 Site management

5.2.4 Infringement of regulations and damage: Legal action

At the beginning of January 2006, Allensbach Council spread gravel on the shore by the camp site of around 3 cm in thickness. Areas covered by the gravel included glowing habitats of the beach meadow. Thanks to decisive intervention by the Lower Nature Conservation Authorities, this was removed again with as much care as possible over the course of the following weeks.
In the spring of 2006, infringements by individual professional fishermen against the Untersee Fishing Regulations in the most sensitive of the reed zones (Schlauch and Reichenaudamm) necessitated repeated intervention on our part with the Fishing Supervisory Authorities of the District of Thurgau (cf. Chapter 2.2). As a consequence, inadmissibly installed bow nets were removed and the fishermen involved prohibited from spreading nets in the nature conservation area.
Marked disturbances by air traffic, in particular by airships and helicopters, once again led to major consternation amongst the bird population. Thanks to an initiative by the Member of the Baden-Württemberg State Parliament Andreas Hoffmann (who witnessed a serious disturbance by an airship on May 21, 2006) a written undertaking was received from ZLT Zeppelin Luftschifftechnik GmbH & Co KG to the effect that air ship pilots would be instructed not to fly over the Wollmatinger Ried nature conservation area in future. Following a repeated incidence of an air ship flying over on September 12, 2006, the company was reminded of its undertaking and in response promised to investigate the incident.

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

Particularly within the framework of deliberation processes such as that surrounding planning the rerouting of the B 33 road, the European Diploma often provides a decisive arguing point in obtaining a decision in favour of nature conservation concerns.

III. PROGRESS IN COMPLIANCE WITH EUROPEAN COUNCIL RECOMMENDATIONS

By order of the Freiburg Government Headquarters, the NABU Institute of Landscape Ecology and Nature Conservation has developed a suggestion for a monitoring system. Unfortunately this does not take into account either the substrate dynamics in the shallow water zone or aspects of fish ecology.
Contrary to initial estimates, the plans relating to rerouting of the B 33 road in the section from the railway track to the Kundlebild junction does after all take into account the current border of the protected area. Concerns relating to impairment of the FFH areas as a result of road building in the buffer bones of the Wollmatinger Ried nature reserve remain in place, however.
In response to repeated coercion, the Air Traffic Control Authorities have in the meantime ordered that the Wollmatinger Ried nature reserve be marked in the aviation map for Konstanz airport. There is no corresponding entry made in the actual airport map. However, primarily it is entry of the protected area in the official ICAO aviation map which is most urgently required in view of the permanent disturbance by aircraft. Only in this way will it be possible to achieve better protection of the sensitive waterfowl reservation.
To extend and reorganize the car park at the Hegne camp site, a solution has been found which protects important wet grassland areas in the nature reserve and excludes additional use as an “overflow car park”. These areas have been renaturalized and cultivated as wet grassland.
The future of the Wollmatinger Ried Nature Conservation Centre remains uncertain. The rental agreement for the currently used area is due to expire in 2008 and to date despite considerable efforts no assurances have been given regarding a succession arrangement.
Completion of the informative signage system commissioned by the Freiburg Government Headquarters is expected to be delayed until the summer of 2007.
Steps to extend the conservation area to the national border have not as yet been undertaken. As these areas are part of FFH area 8220301 and EU bird sanctuary 8220401, at the very least maintenance and development plans should be drawn up and implemented to allow developmental errors to be prevented (cf. chap. 4.).