

## **Annual Report 2010**

### **on the protected landscape area and nature reserve "Wollmatinger Ried - Untersee - Gnadensee" (Germany)**

Period under review:	1. October 2009 to 30. September 2010
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#### **I. GENERAL INFORMATION**

##### **1. Natural heritage – conservation status**

###### **1.1 Environment**

The average temperature during the year under review was 9.6 °C, making it only around 0.5°C above the long-term mean. Particularly warm conditions were experienced in November (+2.5 °C above average), April, June and July 2010. As during the previous year, particularly cold conditions were experienced in January (-1.3 °C); May and September were only marginally colder than the reference value.

Total precipitation was 852 mm, only 4 mm below the reference value. As there was above-average precipitation in November and December, the months January to April were dryer than the long-term average, resulting in an early spring marked by very dry conditions. From May to July, rainfall was well above average, which together with the high Lake Constance water levels ensured high water penetration of the reed meadows.

Due to the drought of the previous summer, the Lake Constance water level had dropped to the winter minimum already by the beginning of October. The autumn rainfall prevented it from dropping still further, so that by November, the water level had attained the area of the long-term mean, and on June 21st reached a provisional high water level of 451 cm, which after a temporary drop was exceeded on 8th August by an even higher level of 453 cm. After reaching this late peak, the level fell only slowly, not dropping below the 4 m mark until 16th September (cf. Fig. 1).

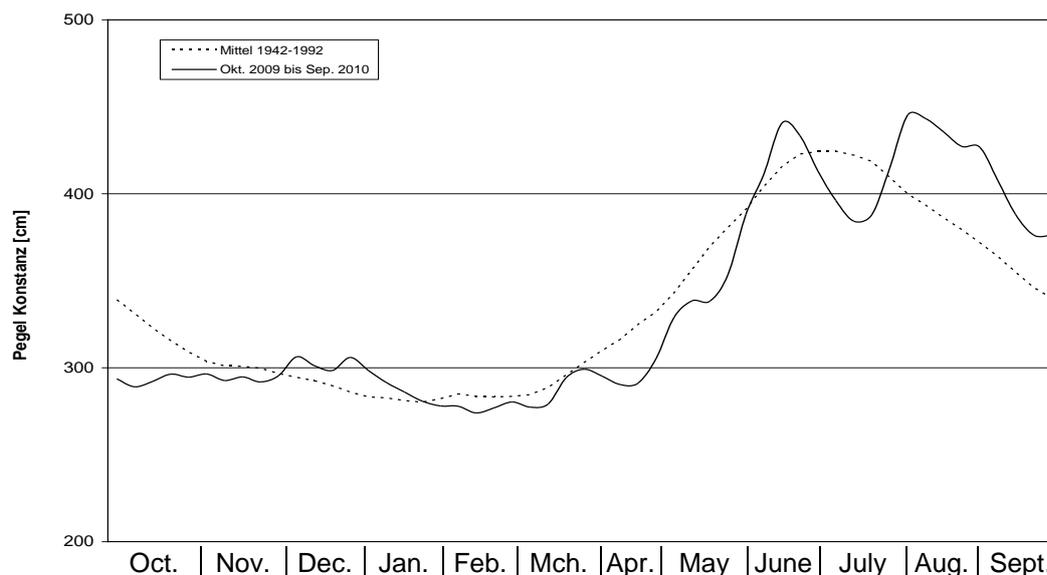


Fig. 1: Lake Constance water level (Konstanz harbour water mark) from October 1 2009 to September 30, 2010 (continuous line) and the mean values from 1942 – 1992 (dotted line)

## 1.2 Flora and vegetation

The results of this year's plant count showed that the severe hail storms of last year had no lasting effect: The **marsh gladioli** (*Gladiolus palustris*) achieved an average result once again with 1,475 flowering plants, and the **small meadow rue** (*Thalictrum simplex ssp. galioides*) almost doubled its population with 2,138 plants counted.

As in the previous year, the **lax-flowered marsh orchid** (*Orchis palustris*) reached a new peak value: With the population now numbering 283, stocks have been steadily increasing since 2005. The **bird's eye primula** (*Primula farinosa*) achieved its second best result since records began in 1971, with 60,775 specimens (2009=78,486). From counts performed on the six sampling areas, the **Siberian iris** (*Iris sibirica*) had its highest count since the 1999 flood with 2,659 specimens. The same applies to the **green-winged orchid** (*Orchis morio*) with a total stock of 201 flowering plants. The **marsh gentian** (*Gentiana pneumonanthe*) was able to continue its upward trend with 1,154 (2009=995).

New high levels were recorded for the **marsh dandelion** (*Taraxacum sect. Palustria div. spec.*) with 8,373 (2009=12,694), the **bladder gentian** (*Gentiana utriculosa*) with 6,116 (2009=5,726) and the **hedge hissep** (*Gratiola officinalis*) with 9,000 (2009=13,600) specimens. The **summer ladies tresses** (*Spiranthes aestivalis*) trailed well below the excellent number of specimens counted in the previous year (778), achieving a bloom density just below the average with only 187 specimens.

Still giving cause for concern is the development of the **bug orchid** (*Orchis coriophora*), with only one flowering specimen (2009=2), but which failed to reach fruiting maturity. Due to an error in the mowing regime, only 23 specimens of the **keeled garlic** (*Allium carinatum*) were counted (2009=102). The count result for **mouse garlic** (*Allium angulosum*) also fell, presumably as a result of the late high water, from 64,039 specimens in the previous year to 20,344.

### Bibershof beach meadow (by Irene Strang)

After an absence of the **water forget-me-not** (*Myosotis rehsteineri*) over a period of several years on the Bibershof meadow, in April 2010 a small stock with just 60 rosettes was discovered. However, the occurrence of other beach grass species has dwindled further. This development is particularly drastic in the **shore weed** (*Littorella uniflora*) to the Northeast of the meadow. The stocks of this species in 2010 were only 15% of those counted in 2005, the year of its widest spread. A similar situation is in evidence for the **creeping spearwort** (*Ranunculus reptans*), although this species had generally always been less frequent on the Bibershof meadow. Luckily the losses in the Southwest area are only minor.

Causes include the marked increase of higher-growing and consequently more competitive grasses such as **slender tufted sedge** (*Carex acuta*), **Bowles golden grass** (*Carex elata*), **reed canarygrass** (*Phalaris arundinacea*) and **common reed** (*Phragmites australis*). These species succeeded in expanding considerably out towards the lake during the low-water years 2003 to 2007. This has not been possible for the beach meadow species on the Bibershof, as their potential growth areas in front of the small beach barrier are slightly eroded. In addition, the two lower-level basins behind the beach wall are being increasingly covered in silt, allowing the growth of only few beach meadow plants.

### Occurrence of neophytes

Despite intensive combative measures, development of the expansive newly arrived plant species gives cause for concern. In particular the **red touch-me-not** (*Impatiens glandulifera*) was able to spread substantially: In most of the known growth areas its stocks increased significantly, and in addition 3 new occurrences were discovered. The activation of seed due to adjacent road works presumably contributed to this effect.

The only occurrence of the **Jerusalem artichoke** (*Helianthus tuberosus*) at the Reichenau beach barrier diminished as a result of additional combative measures.

The **Canada golden rod** (*Solidago canadensis*) and the **late golden rod** (*Solidago gigantea*) frequently demonstrated a slight increase. A total of 13 new occurrences of both species were discovered, while 11 occurrences from the previous year were no longer in evidence. Among the occurrences known about for several years, increases slightly outweighed decreases.

Within the framework of building work near the Hegne rail stop, a new invasive neophyte species has emerged, the **Japanese knotweed** (*Reynoutria japonica*).

## 1.3 Fauna

### Birds (Aves)

The monthly counts of waterfowl during the winter season 2009/2010 showed similarly high overall stocks in comparison to the previous year: a maximum of 40,000 individuals were counted in January 2010 and 36,000 in November 2009. The daily counts of many of the waterfowl species reached national and international significance: 5,700 **gaswalls** (*Anas strepera*) in October, 11,200 **teals** (*Anas crecca*) in November, 1,080 **pintail ducks** (*Anas acuta*) in December and 9,300 **red-crested pochards** (*Netta rufina*) in January. In addition, up to 10 **Bewick swans** (*Cygnus bewickii*), 216 **whooper swans** (*Cygnus cygnus*) and 260 **Eurasian curlews** (*Numenius arquata*) overwintered in the area. Due to low water and icing over, in the height of winter as in the previous winters, large areas of the protected zone were not usable by waterfowl, and the waterfowl community was forced to leave the protected feeding and resting places. The waterfowl counts during the winter season have been supplemented since 2007 by counts at two-weekly intervals during the summer months. This allows waterfowl stocks to be recorded also during the moulting period. An important result to be gained by this extended waterfowl monitoring operation is the confirmation that the reserve is of extreme significance also as a summer habitat for over >7,000 waterfowl. For the ducks which are unable to fly for several weeks during the moulting season and are therefore particularly vulnerable, the extended reed beds are ideal moulting areas, offering a safe daytime resting place in combination with the plentiful food available in the shallow water zones, and were used for example in July / August 2010 by around 2,600 **red-crested pochards** (*Netta rufina*) and over 300 **gaswalls** (*Anas strepera*). The **ferruginous duck** (*Aythya nyroca*) which is threatened with extinction also prefers protected, peaceful reed stocks during the moulting period, and may be encountered regularly in the reserve in small numbers, primarily in the inner Hegnebuch area.

The cool, wet weather in May and unfavourable water level conditions compromised breeding success for many water and reed bird species. Most reed breeding pairs had to wait until the end of May until the water level of the lake was sufficiently high. Many first clutches fell victim to the rapid further rise of the water level in June. In July and August, the marked fluctuations in water level caused problems also for subsequent clutches. The **little grebe** (*Podiceps ruficollis*) fell below the previous year's count with 19 families (29 young), as did the **black necked grebe** (*Podiceps nigricollis*) with 26 families (42 young). By contrast, the **great crested grebe** (*Podiceps cristatus*) exceeded the previous year's level with 144 families (194 young). The **red-crested pochard** (*Netta rufina*) was present with 24 families (130 young), below the previous year's count of 30 families. The **purple heron** (*Ardea purpurea*), present on the reserve for the first time since 1977, is thought to have been breeding again this year. With 23 territories (32 the previous year), the **great reed warbler** (*Acrocephalus arundinaceus*) remained within the framework of its usual fluctuations, and the return of the **little bittern** (*Ixobrychus minutus*) was noted with 2 territories. The stocks of other breeding bird types in the reed bed zone were well down on the previous year's results: **Savi's warbler** (*Locustella luscinioides*) with only 8 territories, down from 23 and the **bearded tit** (*Panurus biarmicus*) with only 24 territories down from 38. The population of **common terns** (*Sterna hirundo*) doubled from 10 to 20 pairs, which thanks to the restoration of two rafts were once again able to breed successfully on three rafts.

### Butterflies (Lepidoptera)

After an incomplete quantitative count, it was possible to confirm the known incidence of the **alcon blue** (*Maculinea alcon*) in Frohnried. Over a total of 198 monitored bushes of the **marsh gentian** (*Gentiana pneumonanthe*) 61 butterfly eggs were recorded. The average number of eggs per plant was 3.1.

## **2. Cultural heritage and socioeconomic context**

### **2.2 Socioeconomic context**

With the increase of the water level in May, once again this year fishing activity was lively, predominantly in the Hegnebuch area and from the entrance of the "Schläuche" into the Ermatingen basin as far as the corner. Due to the recurring disturbances, this usage impaired the establishment of waterfowl colonies, impacting primarily on the moulting communities of **red-crested pochards** (*Netta rufina*), **gaswalls** (*Anas strepera*) and **ferruginous ducks** (*Aythya nyroca*).

## **3. Education and scientific interest**

### **3.1 Visitors – Information policy**

#### **3.1.1 Arrangements for receiving and informing the public**

On June 26, 2010 the new information trail for the Wollmatinger Ried was inaugurated by Government President Julian Würtenberger. This comprises a total of 25 notice boards, of which 22 are publicly accessible and three others are used during guided tours. The freely accessible boards are presented in a new leaflet and can be accessed over the internet at [www.NABU-Wollmatingerried.de/info.html](http://www.NABU-Wollmatingerried.de/info.html).

#### **3.1.2 Frequentation of visitors and behaviour**

During the period under review, 162 guided tours were held within the reserve, which were attended by 2,816 visitors. During 19 nature study boat trips, 260 visitors had the opportunity to gain an awareness of the beauty of the area and the need for its preservation. The NABU nature reserve recorded 1,239 visitors to its exhibition.

Relevant disturbances caused by boats travelling deep into the nature reserve were minimized by maintaining a continuing presence on the Netta floating protective and observation station. During the year under review, a total of five disturbances were recorded due to flight activity outside of the authorized air space of Constance Airport. Due to the adjacent commercial and residential area, there remains a considerable degree of recreation-related pressure on the nature reserve. Thanks to the known intensive surveillance activity carried out by NABU, unauthorized persons were only encountered on rare occasions in the prohibited areas.

### **3.2 Scientific research**

#### **3.2.1 Current and completed research**

Plant counts were performed by the employees of the NABU Nature Conservation Centre Wollmatinger Ried (cf. section 1.2). The development of lakeside vegetation and beach meadows was scientifically studied by employees of the Lake Constance Shore Working Group (AGBU).

A survey of avifauna was performed by employees of the NABU Nature Conservation Centre Wollmatinger Ried and the Lake Constance Ornithological Bird Group, which involved regular counts of waterfowl populations and breeding birds, and mapping of breeding territories (cf. section. 1.3).

Ground surveys were continued as part of the compilation of management plans for the NATURA-2000 area no. 8220-341 "Bodanrück and Western Lake Constance". Mapping work was coordinated by the Office for Ecological Landscape Planning, Josef Kiechle.

## **4. Site description, legal status**

On August 16, 2010 the Freiburg Government Headquarters passed another "Exemption ruling in accordance with Art. 45 Para. 7 no. 1 and 2 BNatSchG on the legal shooting of cormorants in the Untersee area of Lake Constance." In contrast to the previous year, no legal harassment shooting of cormorants is now allowed in the Ermatingen basin. This reduction of disturbance is of major significance for the large stocks of waterfowl resting in this area.

## 5. Site management

### 5.1 Improvements made

#### 5.1.1 Ecological action

Due to lack of funds, the yearly maintenance of the moor grass meadows and calcareous heathland could not be carried out in full: 109 hectares were mown and cleared, while 40 hectares were only mulched, 3.5 hectares on the Langenrain and Kopf islands remained fallow, which impacted negatively on the available resting space offered to breeding and migratory visiting birds.

The high-fertility common "Zügwiesen" (17 hectares) was only mown once at the end of August 2010. In the area of the green bridge, on other small meadows rich in nutrients, as well as on 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 (6 ha) was changed from an eight-month set grazing period to rotational grazing in order to preserve the litter meadow species. For this purpose, four partial areas were fenced off.

Between mid May and the end of September, the known neophyte occurrences (**Canada golden rod**, *Solidago canadensis*, **late golden rod**, *S. gigantea*, **Himalayan balsam**, *Impatiens glandulifera*, **Jerusalem artichoke**, *Helianthus tuberosus* and **Japanese knotweed**, *Reynoutria japonica*) were almost completely eradicated.

#### 5.1.2. Species protection

Within the framework of the autumn mowing, and as a result of manual collection, seeds of various typical litter meadow species of the Wollmatinger Ried (*Molinion*, including dry formations and *Caricion davallianae*) were harvested for sowing restored meadowland areas in the adjacent FFH district "Göldern". The aim of this exercise is to establish flood-proof meadow areas adjacent to the Wollmatinger Ried with as similar a species composition as possible.

In order to support the breeding colony of the **common tern** (*Sterna hirundo*), at the outlet of the mill race three breeding rafts have been permanently installed. It was possible for two of these breeding rafts to be restored in the spring of 2010 thanks to a grant from the Rohr Foundation for the Protection of Birds (cf. section 1.3).

#### 5.1.3 Field equipment

The wooden observation tower in Wäglirain used exclusively for monitoring the territory had to be renewed. This tower is used in particular for surveillance of the sensitive "Schläuche" area.

Emergency repairs had to be carried out yet again on the access footbridge to the observation platform at the Ermatingen basin. The Freiburg Government Headquarters has been planning to carry out a general overhaul of the complete building for years. Together with the nature reserve and the City of Constance, the Konstanz University of Applied Sciences has drawn up initial drafts. Talks are currently in progress to negotiate the degree to which the City of Constance as land owner is able to provide official assistance with the planning and submission of planning permission to refurbish the platform. After a suitable preparatory phase and provision of the required budget resources, 2012 is targeted for the start of construction.

## 5.2 Management

### 5.2.1 Infringement of regulations and damage; legal action

On August 23, 2010 and on September 26, 2010 disturbances of the waterfowl occurred again due to Zeppelin-NT airships flying overhead. Whether or not the airships flew over the protected zone is in dispute. Talks with the operating company regarding the impact of the disturbance are due to be held in November.

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

The European Diploma is a significant argument for due consideration of nature conservation-related matters in many decision-making processes. Examples of this include withdrawal of cormorant hunting in the Ermatingen Basin, the calculation of measures to compensate for road building along the border of the protected area, and the degree of influence which can be exerted by the permit issuing authorities against the wishes of the fishing lobby that the "Schläuche" area be excavated.

### III. PROGRESS IN COMPLIANCE WITH EUROPEAN COUNCIL RECOMMENDATIONS

The European Council has linked renewal of the European Diploma until November 2019 with six recommendations, in the implementation of which the following progress was made in the year under review:

#### Recommendations:

1. Self-perpetuating development of the shallow water zone:

During the year under review, despite continued pressure from the fishing lobby, no infringement of the shallow water zone took place. The fishing lobby will presumably decide during the course of this winter whether or not to submit an application to excavate the "Schläuche". It would then be the task of the responsible authorities to review all nature conservation-related matters within the framework of a necessary approval procedure with the water authorities, and in the following deliberation process to weigh up the necessity for legal protection against the concerns of the fishing lobby.

2. Experimental suspension of fishing in the very sensitive core areas Schläuche and Hegnebuht:

As illustrated in section 2.2, fishing utilization has been continued without restriction. On the basis of the decree, it is legal for proper fishing to be carried out. To implement a suspension of fishing, the possibilities of voluntary restrictions should be considered, where applicable against compensation of any loss of income.

3. Documentation of moulting activity and elimination of potential disturbances:

The significance of the protected zone as a summer moulting location for waterfowl is being documented by extended waterfowl monitoring (cf. section 1.3).

Through the use of the "Netta" floating protection and observation station, disturbances as a result of leisure activities, in particular boating sports, are being effectively reduced. In order to reduce potential future disturbances as a result of fishing, voluntary agreements should be used as an instrument.

4. Harmonization of cooperation between Switzerland and Germany:

As a result of cross-border talks with the Swiss shipping company Untersee und Rhein, this company was induced to reduce the travel speed of its ships in order to prevent impairment to the natural shoreline zone.

5. Road building measures must not disturb the protected zone – compensation measures must be performed as a priority:

Along the Northern border of the protected zone, work has begun on construction of the B33 and the Westtangente arterial road, whereby the impact on the protected zone caused by the building is being minimized by the construction of suitable barriers. However, to ensure the correct drainage of surface water, the mill race in the protected zone had to be excavated. As a parallel measure, implementation of the compensation measures has also started: A very coarse-grained substructure is intended to counteract the effects of increased water congestion, wide passages facilitate the migration of water-bound organisms, the green bridge is in the preparation stage, development of the relevant guidance system is due to start during the coming winter, a noise and splash protection wall will protect the nature reserve in future from immissions. It was also possible to bring about a major improvement by moving the cycle path which previously directly bordered the protected zone well away from the boundary.

6. Clarification of the future of Wollmatinger Ried Nature Conservation Centre:

The State of Baden-Württemberg has made available funding of 1 million € for a new nature conservation centre. The NABU has completed its preliminary plans with a detailed architectural draft, execution planning is currently in progress. Despite delays in the associated development planning process, it is hoped that building work can begin during the course of the coming months.