

Oktober 2009

Annual Report 2009
on the protected landscape area and nature reserve
"Wollmatinger Ried - Untersee - Gnadensee" (Germany)

Period under review:	1 October 2008 to 30 September 2009
Central authority:	Ministry of Food and Rural Affairs Postfach 10 34 44, D-70029 Stuttgart Tel. 0049-(0)711-128-0, Fax 0049-(0)711-128-2255 poststelle@mlr.bwl.de
Management:	NABU-Naturschutzzentrum Wollmatinger Ried Harald Jacoby and Eberhard Klein Kindlebildstr. 87, D-78479 Reichenau Tel. 0049-(0)7531-78870, Fax 0049-(0)7531-72383 nabu.wollried@t-online.de
Report by:	Harald Jacoby, Eberhard Klein

I. GENERAL INFORMATION

1. Natural heritage – conservation status

1.1 Environment

The average temperature in the year under review was 10.1°C making it again 1.0°C above the long-term mean. The spring and summer months April to September 2009 were particularly warm. Only January 2009 was particularly cold (-1.7°C below average).

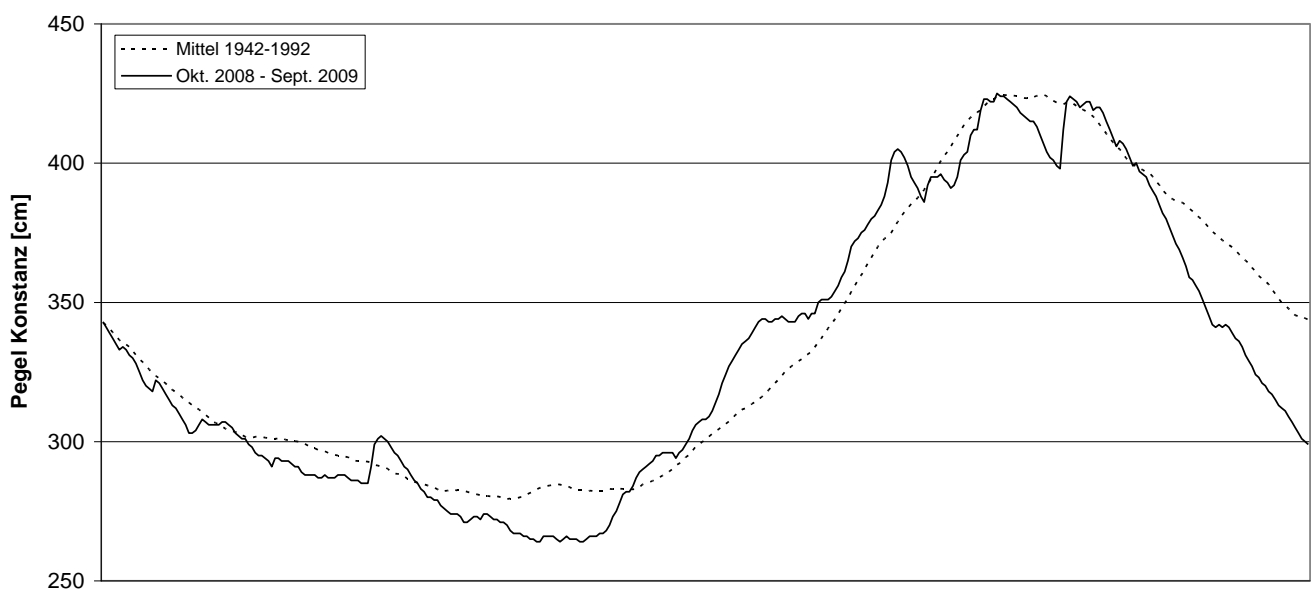


Fig. 1: Lake Constance water level (Konstanz harbour water mark) from 1 October 2008 to 30 September 2009 (continuous line) and mean values from 1942 to 1992 (dotted line)

The total annual rainfall in the period under review amounted to 761 mm and was 88 mm (10%) below the reference value. The months of November 2008 and August 2009 and very distinctively the month of April were marked by drought. Above average precipitations in October 2008 and May 2009 provided a certain balance.

A hailstorm on 26 May 2009 must be mentioned as significant weather event. With gales and more than 2 cm big hailstones the storm left a picture of destruction. The reed meadow which had been in blossom before (cf. 1.2), but also the reed banks looked as if they were freshly mulched. Many bird breeds were destroyed (cf. 1.3). The centre of damage was in an approx. 100 m wide aisle along the Gottlieber Weg, and clearly visible effects were found in the entire area in the West of Mühlegraben, stretching to a minor extent up to the Neue Mehlprimelwiese (Meadow of Bird's Eye primrose).

The level was in the range of the long-term mean since the rainfall deficit was moderate (see figure 1) so that at least the lower reed meadows were inundated. This was mainly caused by abundant rainfall in the Alps and the snowmelt connected therewith. From August onward, the summer dryness made the level drop quickly so that some mud areas were dry already at the end of August.

1.2 Flora and vegetation

The significant event for the plant counting season 2009 was the hailstorm of 26 May 2009 (cf. 1.1). On the areas which were most severely hit by the storm, over 90% of the **Siberian iris** (*Iris sibirica*) which had been in lush bloom were destroyed within just half an hour. Only some rests were preserved in the lee of trees. The further development showed that this did not only affect the presently blooming species, but also many late flowerers which were then still in development. The effects were particularly grave for the species which form a distribution focus within the hail aisle. From the **marsh gladioli** (*Gladiolus palustris*), for instance, only 123 flower stems could be found (compared to 3,594 in 2008), mainly protected by trees. The **roundheaded rampion** (*Phyteuma orbiculare* agg.) which was exclusively found on Diechselrain was completely destroyed. The stands of **short-spurred fragrant orchid** (*Gymnadenia odoratissima*) and the **burnt orchid** (*Orchis ustulata*) decreased severely in the hail areas whereas the other ones remained stable. The **small meadow-rue** (*Thalictrum simplex* ssp. *galioides*) decreased further from 3,689 specimens counted in the previous year to 1,374. But it remains to be hoped that a singular event such as the hailstorm will not have lasting effects so that the stands will recover in the next years.

Apart from the declines caused by the hailstorm, only the development of the **bug orchid** (*Orchis coriophora*) was alarming. Only two blooming plants could be found of this species both of which did not reach seed maturity.

On the other hand, top values could be registered again for several other species. For instance, a strong reproduction was found for the **marsh dandelion** (*Taraxacum* sect. *Palustris* div. *Sec.*) with 12,694 specimens (compared to 3,830 in 2008), the **bird's eye primula** (*Primula farinosa*) with 78,486 specimens (compared to 53,804 in 2008), and the **lax-flowered marsh orchid** (*Orchis palustris*) with 156 specimens (90 in 2008). The **hedge hyssop** (*Gratiola officinalis*) developed 13,600 shoots (in 2008: 10,050). The **summer ladies tresses** (*Spiranthes aestivalis*) presented with 778 specimens the highest density since 1988.

Bibershof beach meadow by Irene Strang

Unfortunately the beach meadows on Bibershof decreased further in 2009. The stocks of **shore weed** (*Littorella uniflora*) diminished to about one third from the maximum stock in 2005, and the stocks of the **creeping spearwort** (*Ranunculus reptans*) to about one half. The decrease on the North-East of the area is more severe than in the south-West area. This is partially due to the marked increase in the higher-growing and thus more competitive species of **slender tufted sedge** (*Carex acuta*), the **tufted sedge** (*Carex elata*), the **reed canarygrass** (*Phalaris arundinacea*), as well as the **common reed** (*Phragmites australis*). These species could spread out in the direction of the lake in the low-flood years 2003 to 2007. The beach meadow species of Bibershof, however, could not spread out further because the areas in front of the barrier beach are slightly eroded. In addition, the

two lower sinks behind the barrier beach were more and more covered with silt so that only few beach meadow plant can grow here.

Also in 2009, the **various-leaved pondweed** (*Potamogeton gramineus*) could no longer be confirmed in spite of the targeted search. The Untersee (of the Lake of Constance) had been one of two habitats just some years ago. The other habitat ("Schlafbach" in the West of Allensbach) seems to be extinct as well.

Occurrence of neophytes

The development of the expansive, newly immigrated plant species was non-uniform. Whereas the stock of the **red touch-me-not** (*Impatiens glandulifera*) showed a slightly decreasing tendency, with the exception of the stock on the Mühlegraben, the only population of the **Jerusalem artichoke** (*Helianthus tuberosus*) at the Reichenau barrier beach could clearly expand its stocks in the year under review from 640 to 1,750 plants in spite of regular control. The population of the **Canadian golden rod** (*Solidago canadensis*) and of the **late golden rod** (*Solidago gigantea*), increases and decreases balanced each other. All stocks which were controlled at least three times in the previous year demonstrated a vigour decline in the year under review. It is assumed that the control measures (cf. 5.1.1) and the higher levels of the Lake of Constance (cf. 1.1) were decisive for this relatively positive development.

1.3 Fauna

Birds (Aves)

The monthly counts of water fowl from September 2008 to April 2009 demonstrated clearly higher total populations than in the previous year: maximum of 42,000 individuals in January 2009 and 40,000 individuals in December 2008. Once again, daily values of national and international importance were reached for many water fowl species: 5,000 **gaswalls** (*Anas strepera*) in December, 5,400 **teals** (*Anas crecca*) in November, 960 **pintail ducks** (*Anas acuta*) in December, 3,900 **red-crested pochards** (*Netta rufina*) in January, around 12,000 **common pochards** (*Aythya ferina*) in October and 11,000 **tufted ducks** (*Aythya fuligula*) in January. Some remarkable hibernators were in addition up to 17 **Bewick's swans** (*Cygnus bewickii*), 212 **whooper swans** (*Cygnus Cygnus*) and 240 **Eurasian Curlews** (*Numenius arquata*).

Due to the low water levels and icing in high winter, large parts of the protected zone could not be used by the water fowl. The large population of water birds necessarily moved over into adjacent zones which did not offer the indispensable protection, neither in the riparian nor in the water zone. Once again it was demonstrated that the protected shallow water zone does by far not suffice in normal low water level periods to fulfil its role as most important habitat for water fowl in Baden-Württemberg. Therefore an extension of the protected zone to encompass the entire Ermatingen basin is urgently necessary (cf. III).

The reproduction balance of the bird species was partially impaired by the hailstorm of 26 May 2009 (cf. I). The favourable weather and water level conditions in high summer, however, allowed second breedings which resulted in a very rewarding overall outcome for several species. The **little grebes** (*Podiceps ruficollis*) was above the result of the previous year with 22 families (42 young) and so was the **black necked grebes** (*Podiceps nigricollis*) with 34 families (39 young). On the other hand, the **great crested grebes** (*Podiceps cristatus*) with 107 families (128 young) could not reach the high value of the previous year. The **red-crested pochard** (*Netta rufina*) with 30 families (140 young) again exceeded by far the number of 19 families of the previous year. For the first time since 1977, the **purple heron** (*Ardea purpurea*) was represented with one couple among the breeding bird species of the reed zone. The number of breeding territories for the **great reed warbler** (*Acrocephalus arundinaceus*) was registered with 32 territories (30 in the previous year), whereas only 2 were found for the **little bittern** (*Ixobrychus minutus*) (compared to 6 in the previous year). Other breeding birds in the reed bank were slightly below last year's values: **Savi's warbler** (*Locustella luscinioides*) with 23 territories and **bearded tit** (*Panurus biarmicus*) with about 38 territories compared to 42 last year. It was very gratifying that for the first time since 2004, at least 10 breeding pairs of **common terns** (*Sterna hirundo*) successfully bred on a raft.

Butterflies (*Lepidoptera*)

The known habitat of the **large blue** (*Maculinea teleius*) and the dusky large blue (*M. nausithous*) could be confirmed in qualitative surveys.

Bugs (*Coleoptera*) by E. Konzelmann

The surveys that started in 2006 were continued in 2008. The results are now available: in eight different areas in view of botanic or management situation, 8 soil samples each were taken in each year of investigation. At the same time, sweep-net catches were made. In 2006, 957 individuals from 152 species and 28 families were demonstrated, in 2008 1292 individuals from 151 species and 23 families. In both years of investigation, a total of 236 species was examined. The following new findings were made in the fauna area of Baden: *Neuraphes imitator* BLATTNY (*Scydmaenidae*), *Thinobius brevipennis* KIESENWETTER (*Staphylinidae*), *Tetartopeus sphagnetorum* MUONAS (*Staphylinidae*), *Calodera rufescens* KRAATZ (*Staphylinidae*) and *Phyllotreta flexuosa* BÄSE (*Chrysomelidae*). In addition, a species of the genus *Ptilium* (*Ptilidae*) was discovered that has presumably not yet been described scientifically.

Grasshoppers (*Saltatoria*)

On 20 August 2008, Stefan Werner was successful with a new find of the *Ruspolia nitidula* in the area of Gottlieber Weg. Surveys of Dr. Mike Herrmann showed that the *Ruspolia nitidula* preferably populates long-stemmed, rather loose stocks of molinia meadows (*Molinietum coeruleae*) in practically the entire protected area. The southern species has been known for many years from the Vorarlberg Rhine delta. Since 1995, new finds were made in the Reitnauer Moos and Eriskircher Ried. The Wollmatinger Ried is thus the third area in Germany in which this presently expansive species has been verified.

2. Cultural heritage and socioeconomic context

2.2 Socioeconomic context

Thanks to the higher water levels in summer, fishing activity was as regular as in the previous years, above all in the tubes. Due to the recurring disturbance caused by fishing, hardly any water fowl population could establish there. This concerned mainly the resting and moulting populations the **red-crested pochard** (*Netta rufina*), **gaswalls** (*Anas strepera*) and **ferruginous duck** (*Aythya nyroca*).

3. Education and scientific interest

3.1 Visitors – Information policy

3.1.2 Frequentation of visitors and behaviour

A total of 2,223 participants attended 180 excursions held in the reserve. In addition. In 19 nature study boat trips, 260 guests could convince themselves of the beauty and need of protection of the reserve. The NABU Nature Conservation Centre Wollmatinger Ried received 1,450 guests.

Unauthorized trespassers were only occasionally met within the prohibited areas coming from the land-side, and as a rule they left the area without delay, after a brief explanation. Due to the high water levels, there were more leisure time activities also in the low water zone and thus more disturbances caused by water sport fans trespassing the protected area from the lake-side. This emphasizes once again the great importance of the floating protection and observation station "Netta" (cf. 5.1.4).

3.2 3.2 Scientific research

3.2.1 Current and completed research

Plant counts were performed by employees of the NABU Nature Conservation Centre Wollmatinger Ried (cf. 1.2). The development of the riparian vegetation and beach meadow is scientifically accompanied by employees of the study group Bodenseeufer (cf. 1.2 and 3.2.2 OSTENDORP).

A survey of avifauna was performed by employees of the NABU Centre Wollmatinger Ried and the Lake Constance Ornithological Group which involved regular counts of waterfowl populations and mapping of breeding birds (cf. 1.3). A focus was the count of waterfowl during 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. After completion of the project, the moulting and/or estivating waterfowl was counted in a two-weekly cycle in summer 2009.

Entomological studies were performed by Dr. Mike Herrmann, Dr. Stefan Werner, Eberhard Konzelmann, Dr. Jürgen Kless, Claus Wurst and employees of the NABU Nature Conservation Centre Wollmatinger Ried.

Ground surveys were started for the preparation of management plans for the NATURA-2000 area No. 8220-341 "Bodanrück und westlicher Bodensee". The mappings are coordinated by the office for ecological landscape planning, Josef Kiechle.

3.2.2 Scientific publications

- OSTENDORP, W & DIENST, M. (2009): Vegetationsdynamik im NSG „Wollmatinger Ried-Untersee-Gnadensee“ (Bodensee-Untersee) unter dem Einfluss von hydrologischen Extremereignissen. – (Vegetation dynamics in the Nature Conservation Centre „Wollmatinger Ried-Untersee-Gnadensee“ (Bodensee-Untersee) under the influence of hydrological extreme events. - *Carolinea* in preparation.

4. Legal requirements

The District Government of Freiburg issued an "exemption ruling pursuant to § 45 par. 8 No. 1 and 2 BNatSchG (Federal Nature Conservation Law) to allow repelling shootings of individual cormorants on the Lake of Constance – Untersee". The exemption ruling allows under No. 2.1 inter alia repelling shootings in the Ermatinger Becken. This measure is irrelevant for the intended protection of spawning grounds of graylings (*Thymallus thymallus*) since there are no graylings spawning grounds here due to the flow conditions and substrate composition. In fact, with this measure the authority recedes fundamentally from the prohibition to hunt waterfowl in the Ermatinger Becken which means a substantial impairment of bird protection.

5. Site management

5.1 Improvements made

5.1.1 Ecological action

As in the previous year, complete maintenance of litter meadows and tall sedge meadows was performed by order of the nature conservation authorities by farmers using large-scale equipment. Due to the lack of financial means, a part of these areas will only be mulched in the maintenance season 2009/10. In addition, a part of the mainly manually maintained 36 hectares of litter and meagre meadows in the sensitive areas of the riparian dams and areas with endangered species as well as tall sedge meadows will be cultivated in future with large-scale equipment, for cost reasons.

The mowing of the high-fertility common "Zügwiesen" (17 hectares) was only necessary in late August 2009 due to the effects of the hailstorm (cf. 1.1). 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 12 hectares cf. 5.1.2).

Cattle grazing (6 hectares) on the "Lange Züge" common was changed from an eight-month set stocking to rotational grazing, in order to protect litter meadow species. For this purpose, four partial areas were fenced off.

Since the funds were allocated belatedly, the combat against the known neophyte occurrences (**Canadian golden rod**, *Solidago canadensis*, **late golden rod**, *S. gigantea*, **policeman's helmet**, *Impatiens glandulifera* and **Jerusalem artichoke**, *Helianthus tuberosus*) from the beginning of May to late September was only incomplete.

5.1.2. Species protection

The Office for Agriculture and Nature Conservation of Zurich (Switzerland) is building up a breed of rare and threatened species of autochthonous origin in order to spread them out in renaturalization measures. For this purpose, seeds of **marsh gladioli** (*Gladiolus palustris*) were taken. The planned seed taking of **bug orchid** (*Orchis coriophora*) was not possible (cf. 1.2). In order to improve the food habitat of the **Eurasian Curlews** (*Numenius arquata*), 0.7 hectares of fodder meadows in the area of "Zügwiesen" and "Neuer Wiesenteich" were mown already mid-May. Subsequently, also due to the effects of the hailstorm, about 6 Eurasian Curlews could be observed all through the summer.

5.1.4 Observation equipment

The floating protection and observation station "Netta" which had been used since 1971 to monitor the protection area border from the lake-side was strongly affected by corrosion and had to be replaced by a new boat which was financed by the NABU foundation "Naturerbe Baden-Württemberg". The new "Netta" which was taken in operation on 10 July 2009, features a draught of only 15 cm so that ornithological surveys can be made from the lake-side even when the water levels of Lake of Constance are only 310 cm in Constance (cf. 1.1).

Again, make-shift repair work had to be carried out on the access pontoon leading to the observation platform at the Ermatinger Becken. The preliminary planning for the overall restoration of the entire structure which has been promised by the District Government of Freiburg since five years, has now been awarded to a project group of the University for Technology, Economy and Design of Constance.

5.1.4 Field equipment

Since the floating protection and observation platform "Netta" used since 1971 to monitor the lake-side border of the reserve was severely impaired by corrosion, it had to be replaced by a new boat which was financed by the NABU foundation "Naturerbe Baden-Württemberg". The new "Netta" which was taken into operation on 10 July 2009 has a draught of only 15 cm so that ornithological stand surveys can now be carried out from the lake-side even at water levels of 310 cm in Constance (cf. 1.1).

Once again, the access footbridge to the observation platform at the Ermatingen Basin had to be repaired. The preliminary planning of the general refurbishment of the entire construction promised since five years by the Government headquarters Freiburg was now entrusted to a project group of the University for Technology, Business and Design of Constance.

5.2 Site Management

5.2.4 Infringement of regulations and damage: Legal action

Relevant disturbances against which legal steps had to be taken were limited so some individual events during the period under review, such as reed fire on 22 March 2009, low-flying helicopters on 5 May 2009, loud noise on 17 May 2009 and different persons trespassing the protected zone coming from the land-side or the water-side.

II. EFFECTS OF THE EUROPEAN DIPLOMA

The European Diploma is often the decisive argument in favour of nature conservation concerns, particularly in processes where all advantages and disadvantages are weighted, as for instance in the planning for the extension of the B 33.

III. PROGRESS IN COMPLIANCE WITH EUROPEAN COUNCIL RECOMMENDATIONS

The State of Baden-Württemberg has not yet received officially new recommendations of the European Council and reverts insofar to the recommendations of 2003.

In the year under review, no relevant interventions into the own development dynamics of the shallow water zone took place. The District Government of Freiburg and the Ministry of Rural Areas of Baden-Württemberg examine the dragging of the particular sensitive "Schläuche" which is mainly requested by fishery.

The narrow part of the Ermatingen basin which is qualified as nature reserve lies regularly dry during low-water levels in wintertime. Therefore the water fowl crowds (cf. 1.3) which are unique in the central-European midland – as described in numerous annual reports – are forced to evade to off-shore unprotected water areas. Here they are exposed to disturbances.

The District Government considers the existing protection categories (Natura 2000, Ramsar, biotope according to the state law on nature conservation) as sufficient and does not strive for an amendment procedure.

The construction work for the west ring road and the four-lane extension of the B33 along the Northern border of nature reserve has started. The construction planning and also the construction work itself will be monitored by an ecological attendance and a monitoring study group with members from nature conservation. The Mühlegraben in the nature reserve had to be dredged after several decades of largely undisturbed evolution in order to create a sufficient outlet. Measures were taken to prevent that the newly shaped outlet channel has a draining effect on the reed zones. In addition, the preliminary work for the new green bridge was started which is expected to ensure a better cross-linking of the nature reserve towards the North.

Due to the relatively high water levels, the fishery activities particularly in the "hoses" were again high. The negative effects on bird life were only documented by random observations. No scientific monitoring at to the fishery, fish ecologic and thus ornithological questions was made.

In 2009, the state of Baden-Württemberg placed 1 million € at the disposal of a new nature reserve centre.

In spite of the improved legal regulations, some isolated disturbances by low-flying helicopters were again noted. Legal steps were immediately taken against the causers.