

Annual Report 2013

On the nature reserve and protected landscape area

"Wollmatinger Ried - Untersee - Gnadensee" (Germany)

Country:	Germany
Name of the reserve:	Nature Reserve Ried-Untersee-Gnadensee
Period under review:	1st October 2012 to 30th September 2013
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I. GENERAL INFORMATION

1. Natural heritage – conservation status

1.1 Environment

On a yearly average, the temperature was 9.8 °C, up slightly over the long-term mean of 9.2°C. After temperatures some 1-2°C up over the reference values from October to December, a warm start to January was followed by a significant drop in temperatures from the middle of the month onwards, with almost daily ground frost occurring right through to the end of March. Finally in April warmer weather set in, providing maximum temperatures of over 20°C up until the middle of the month. A cool May and average June were followed by July temperatures which were 3.4°C above average. This was followed in August by a continuation of slightly above-average temperatures, while September was only 0.3°C on average above the reference value.

With a total annual precipitation 968 mm, the year under review was even wetter than the previous year. Heavy rainfall from October 8 – 10 caused the already high water level of Lake Constance to rise to 418 cm, the highest October level for 20 years. November and December also saw above-average precipitation, causing the level to remain around 50 cm above the reference value up until the end of February. Heavy rainfall of 120 mm at the beginning of February caused the level to rise briefly on February 7th to 345 cm, the highest value ever measured in February. The lack of melting snow meant that Lake Constance only reached its lowest level for the year of 206 cm on March 6th. Repeated heavy rainfall and melting snow then caused a rapid increase of the Lake Constance water level in April and May. Following average precipitation in June, the Lake reached its broad maximum for this year (see Fig. 1) on

June 21st at 479 cm. The dry and hot weather in July and August caused a rapid drop in the water level of the lake, leaving the level below the reference value from July 14th onwards. The level rose again to above the mean value following the marked increase in rainfall again from September 8th onwards to the end of the period under review.

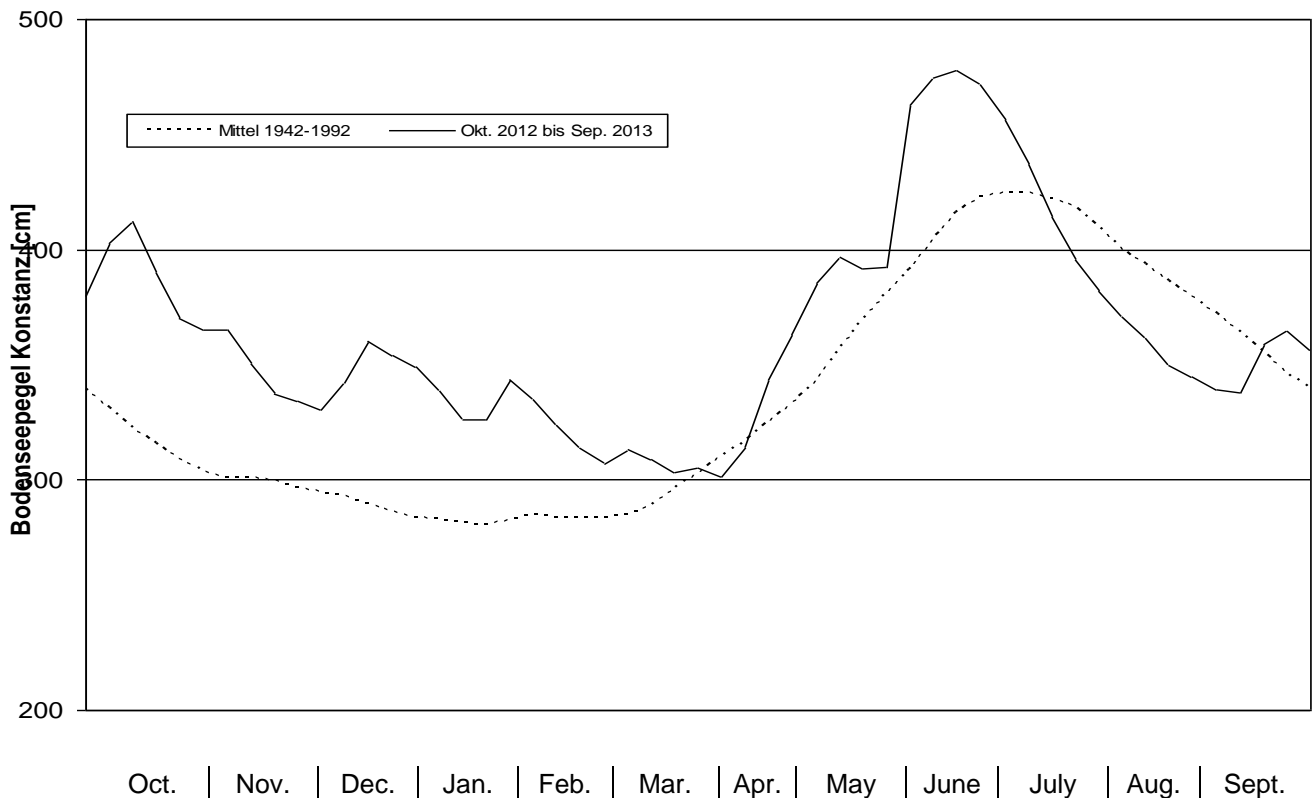


Abb. 1: Lake Constance water level (Konstanz harbour water mark) from October 1. 2012 to September 20, 2013 (continuous line) and the mean values from 1942 to 1992 (dotted line)

1.2 Flora and vegetation

The high water level prevailing in Lake Constance (cf. Chapter 1.1) during the year under review had a significant impact on flora development. Although the high water level was only 8 cm above the previous year's level, due to the very flat relief in many areas, this resulted larger areas of inundation, with negative impact on flood-sensitive species whose growth sites were affected: The **bladder gentian** (*Gentiana utriculosa*) developed only 854 (2012=12,469) flowering stems, only 205 (2012=662) flowering stems of the **lax-flowered marsh orchid** (*Orchis palustris*) were counted, and stocks of the only partially counted **burnt-tip orchid** (*Orchis ustulata* ssp. *aestivalis*) fell from 4,926 (2012) to 26. In the case of the **marsh dandelion** (*Taraxacum* sect. *Palustria* div. *spec.*) which flowered already in April, the reduction from 8,489 (2012) to 2,441 specimens must have other causes, conceivably there may be a connection here with the protracted ground frosts.

Despite these negative developments, the conservation status of the meadow in the nature reserve may be assessed overall as good, as documented by the high stocks of most characteristic species: Both the **marsh gladioli** (*Gladiolus palustris*) with 3,962 (2012=4,827) plants and the **summer ladies tresses** (*Spiranthes aestivalis*) with 1,187 (2012=1,279) almost matched the very good results of the previous year. 72,448 (2012=97,613) specimens of the **bird's eye primula** (*Primula farinosa*), 67,683 (2012=50,806) **sweet wattle** (*Allium suaveolens*) specimens and 22,777 (2012=28,169) specimens of **mouse garlic** (*Allium angulosum*) were counted. With 579 flowering stems counted during only random sampling, the **early marsh orchid** (*Dactylorhiza incarnata*) clearly exceeded the previous year's result (2012=432). 1,697 (2012=1,665) specimens of the **Siberian iris** (*Iris sibirica*) were counted in the regularly logged test areas. In addition, for the first time, during the year under review a total count of the Siberian iris was carried out, resulting a total of 192,572 specimens. The recovery of the **hedger hissop** (*Gratiola officinalis*) continued with 8,867 vegetative shoots (2012=2,436).

Whether or not the gratifying increase of the **bug orchid** (*Anacamptis coriophora*) to 12 (2012=3, 20-year mean = 6) flowering plants represents a sustainable stock increase, which may have been initiated by scrub clearance initiated from February 2012 onwards, will only become evident with further development (cf. Chapter 3.2.1).

Bibershof beach meadow by Irene Strang

The rapid upward development of the **water forget-me-not** (*Myosotis rehsteineri*) failed to continue during 2013. Following the reappearance of the species in 2010 after a protracted absence, the stock amounted to just under 160 rosettes in 2011, and had more than doubled by 2012. The inspection carried out in the late summer of this year revealed a marked reduction. The stock now corresponds approximately to the 2011 level. The drop may be considered due at least in part to continued erosion on the northern side of the area.

The development of **shore weed** (*Littorella uniflora*) has remained approximately stable, while a slight reduction of the stock of **creeping spearwort** (*Ranunculus reptans*) has been recorded. The **shore weed** is now forming a highly dense carpet in the area, in which the **creeping spearwort** appears only sporadically. As the Bibershof area is relatively flat with the formation of a type of lagoon, there is a particularly large amount of sediment deposited here. This has created good conditions for the lush growth of **reeds**, **tufted sedge** and **slender tufted sedge**. The winter mowing and removal of litter has counteracted this effect, preventing the small growing beech meadow flora from being swamped.

Occurrence of neophytes

The development tendencies observed in the expansive newly arrived plant species in the previous year continued:

Most occurrences of **Canada golden rod** (*Solidago canadensis*) and the **late golden rod** (*S. gigantea*) in particular demonstrated a slight reduction. This was most pronounced on the areas subject to most protracted flooding. The stock of **grass leaved golden rod** (*S. Graminifolia*), however, remained practically unchanged despite combatting measures (cf. chapter 5.1.1) and inundation.

The **red touch-me-not** (*Impatiens glandulifera*), by contrast, had reduced only minimally overall, and in the peripheral areas on the land side particularly had actually increased.

The incidence of **Jerusalem artichoke** (*Helianthus tuberosus*) at the Reichenau beach barrier had significantly increased.

Two new polycormones of **Japanese knotweed** (*Reynoutria japonica*) had to be included in the eradication measures on the northern periphery of the nature reserve (cf. chapter 5.1.1).

1.3 Fauna

Birds (Aves)

The monthly counts of water fowl were continued in the winter months as previously in 2012/2013. The total population, by contrast to the pre-winter period, was above average over the whole of the season despite the unusually high water level: A maximum of 51,000 individuals during December 2012. The daily values recorded for the following water fowl species once again achieved national and international significance: 5,500 **gaswalls** (*Anas strepera*) in December, 490 **pin-tailed ducks** (*Anas acuta*) in January/February, 4,400 **red-crested pochards** (*Netta rufina*) in September, 20,300 **common pochards** (*Aythya ferina*) in October and 11,500 **tufted ducks** (*Aythya fuligula*) in January. Up to 13 **Bewick swans** (*Cygnus bewickii*), 151 **whooper swans** (*Cygnus cygnus*) and around 200 **Eurasian curlews** (*Numenius arquata*) returned to take up their traditional overwinter quarters.

The monthly water fowl counts from May to August were also continued. Up to 14,000 moulting water fowl were recorded spending the summer in the nature reserve. The reserve provided a particularly significant habitat for 3,500 **red-crested pochards** (*Netta rufina*) and up to 900 **gaswalls** (*Anas strepera*). Up to 11 specimens of the **ferruginous duck** (*Aythya nyroca*) which is threatened by extinction were encountered in the reed beds at the Reichenau Dam during the moulting period.

Already in April and May, the water level was higher than for many years, and at the beginning June rose within three days by 76 cm. This abrupt rise in the sea level proved challenging for many water fowl broods. A large number of duck egg clutches, in particular, were inundated. 19 families of **red-crested pochards** (*Netta rufina*) were counted with 87 young (2012=15 families). Surprisingly, a successful brood of **ferruginous ducks** (*Aythya nyroca*) with two young was verified, and one family each of **gasswalls** (*Anas strepera*) and **garganeys** (*Anas querquedula*) were registered. The **black-necked grebes** (*Podiceps nigricollis*) managed only 10 families with 17 young (2012=26 families), the **great crested grebes** (*Podiceps cristatus*) 186 families with 257 young (2012=271 families) and the **little grebe** (*Tachybaptus ruficollis*) 9 families with 20 young (2012=15 families).

In the main, the populations of breeding birds in the reed bed area achieved the same high level as the previous year: The **little bittern** (*Ixobrychus minutus*) 17 territories (2012=16), **great reed warbler** (*Acrocephalus arundinaceus*) 46 territories (2012=42), **Savi's warbler** (*Locustella luscinioides*) 17 territories (2012=26) and the **bearded tit** (*Panurus biarmicus*) 52 territories (2012=49). 5 territories were registered of the **little crane** (*Porzana parva*) (2012=7), and the **spotted crane** (*Porzana porzana*) had an unusually strong showing with 17 territories. Once again there was suspicion of a breeding **purple heron** (*Ardea purpurea*). On the three **common tern** (*Sterna hirundo*) rafts, after initial failure 59 pairs successfully bred young (2012=42).

Dragon flies (Odonata)

In a count of the **Siberian winter damsel** (*Sympecma paedisca*) commissioned by LUBW, during two walking inspections in September, Holger Hunger succeeded in verifying of 32 individual specimens in the Kindlebild area and a total of 57 individual specimens in the Frohnried/Giehrenmoos area.

Butterflies (Lepidoptera)

As well as a phenology of caterpillar host plants, a complete count was also carried out of the three large blue species (*Maculinea* spec.) verified in the area on a total of 28 recording days. Between June 25 and July 7, Jennifer Fleischer counted a total of 411 specimens of the **scarce large blue** (*M. teleius*) and between July 2 and July 30, a total of 201 specimens of the **dusky large blue** (*M. nausithous*). Only two butterflies of the **alcon large blue** (*M. alcon*) species were counted on August 1, while the number of eggs counted on August 29 was 278.

2. Cultural heritage and socioeconomic context

2.2 Socioeconomic context

The only legally run commercial use in the Wollmatinger Ried is fishery. As we have emphasized in the previous reports, this kind of use entails adverse effects and disturbance of the avifauna (cf. Chapter 5.2.4.) However, fishing in the Wollmatinger Ried is carried out on the basis of an international convention with Switzerland.

3. Education and scientific interest

3.1 Visitors – information policy

3.1.1 Arrangements for receiving and informing the public

A new, revised and updated publication of the leaflet entitled “The Wollmatinger Ried-Untersee-Gnadensee Nature Reserve” has been published to replace the previous, out of print version.

3.1.2 Frequentation of visitors and behaviour

During the period under review, 133 guided tours took place in the reserve, attended by 1,706 participants. During 16 nature study boat trips, 229 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 1,171 visitors to its exhibition.

3.2 Scientific research

3.2.1 Current and completed research

Plant counts were performed by the employees Nature Conservation Centre Wollmatinger Ried (cf. section 1.2) by order of the Regierungspräsidium Freiburg. The development of lakeside vegetation and beach meadows is scientifically studied by the employees of the Lake Constance Shore Working Group (AGBU) bi-annually (cf. Chapter. 1.2). The growth area of *Anacamptis coriophora* (cf. Chapter 1.2) was examined by the ETH Zürich in order to draw conclusions as to the causes for the decline of this value-determining species.

A survey of Avifauna was carried out by the 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).

Within the framework of her practical internship in the NABU Nature Reserve Wollmatinger Ried, Jennifer Fleischer has developed a monitoring technique for the standardized recording of the large blue butterfly species *Maculinea teleius*, *M. nausithous* and *M. alcon* (cf. Chap. 1.3).

3.2.2 Scientific publications

INULA (2013): Dragonfly species conservation Baden-Württemberg – Report on the Siberian Winter Damsel (*Sympecma paedisca*) in the Lake Constance Reed Beds 2013, commissioned by the LUBW (preliminary version)

4. Site description

No changes during the year under review.

5. Site management

5.1 Improvements made

5.1.1 Ecological action

A summer mowing process to thin the vegetation was performed over 21 hectares. 142 hectares of the extended meadow area were mown in autumn and winter, and 13 hectares were only mulched. Scrub clearance was carried out over 0.11 hectares in order to restore flower meadows. Cattle grazing (6 hectares) on the “Lange Züge” common has been continued with a rotational system.

From May, action was performed to combat the well-known neophyte occurrences of **Canada golden rod**, *Solidago canadensis*, **late golden rod**, *S. gigantea*, **grass-leaved golden rod** (*S. graminifolia*), **Himalayan balsam** (*Impatiens glandulifera*) and **Jerusalem artichoke**, *Helianthus tuberosus*) by mowing or manual weeding. The two newly discovered occurrences of **Japanese knotweed** (*Reynoutria japonica*) were each mown seven times.

5.1.4 Field equipment

The plans to replace the dilapidated observation platform at the Ermatinger basin are almost complete, and the State of Baden-Württemberg has made available the necessary funding. Consequently there is every prospect that the repairs will be performed in the winter of 2013/14.

5.2 Management

5.2.4 Infringement of regulations and damage; legal action

Once again illegal campers disturbed the site, mainly in the vicinity of railway stops. Thanks to the well-attuned line of action of police, aliens authorities and municipal administrations, the camps could be removed faster than in the past once they were discovered. However, it is not possible to completely remove faeces and dispersed waste.

The number and dimension of perturbations caused by Zeppelin-NT-airships flying across the area was much smaller in the year under review than in the previous years. But since no existing legal regulations are injured thereby, the only remedy is to continue the intensive contacts with the Zeppelin shipping company.

The legally operated fishery as well caused repeated disturbances even in the sensitive core zones of the reserve.

III. PROGRESS IN COMPLIANCE WITH THE EUROPEAN COUNCIL RECOMMENDATIONS

The European Council has linked extension of the European Diploma to November 28, 2019 to six recommendations. The following progress has been made towards implementation of these recommendations during the year under review:

Implementation of the individual recommendations:

1. Self-perpetuating development of the shallow water zone:
During the year under review, no new attempts were made by the fishing lobby to intervene in the self-perpetuation development of the shallow water zone.
2. Tentative suspension of fishing in the particular sensitive core areas:
Due to the repeated events disturbing birdlife caused by legal fishery in the protected shallow water zones (cf. chapter 5.2.4), NABU and the Lake Constance Ornithological Bird Group have resumed the discussions with the Conservation Administration. The Regierungspräsidium endeavours to find a consensual regulation between the concerns of conservation and fishery and will call rounds of talks in this respect also in the year 2014.
3. Documentation of moulting and elimination of potential disturbances:
The importance of the reserve as summering and moulting grounds for water fowl is documented by the extended water fowl counting (cf. chapter 1.3). The close cooperation between volunteers in the protection and observation station "Netta" and the Waterway Police is an efficient instrument to reduce disturbances by outdoor activities, in particular boating. Even fishing in proper form and overflights of the Zeppelin-NT have a disturbing effect on the moulting and breeding activities (see No. 2).
4. Harmonization of cooperation between Switzerland and Germany:
Again during the year under review, no direct contacts to harmonize cross-border cooperation were made on the State level within the framework of the International Lake Constance Conference (IBK) with a view to improving protection of the shallow water zone of the Ermatinger Basin.
5. It is not admissible for road building measures to disturb the nature reserve – compensation measures must be performed as a priority:
Construction of the Westtangente arterial road has been completed, construction on the B33 continues: Road building-related impacts on the nature reserve are being minimized by the construction of suitable barriers. Construction of the green bridge has been completed. However, the completion of greening measures including near-natural wildlife crossing systems will take several more years. Along the new construction sections, noise shielding walls and splash water protection guards have been set up to better protect the nature reserve against the damaging impact of road traffic. The next construction stage of the B33 will be the construction of a motorway-like junction-free road linking the Kindlebildstraße with the bridge over the railway directly adjacent to the nature reserve.
6. Clarification of the future of Wollmatinger Ried Nature Conservation Centre:
Due to legal wrangling around the issue of land ownership, the work on the planned new Nature Conservation Centre has not yet begun. Funding is largely assured with grants set aside from the State of Baden-Württemberg and from NABU totalling 1.8 million €.