



LIFE+ Nature Project Heide-Allianz

Biodiversity and biotope network in the
Nördlinger Ries and Wörnitz Valley



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Biodiversity and biotope network in the Nördlinger Ries and Wörnitz Valley

Project No.: LIFE12 NAT/DE/000091

Project Partners: The Bavarian State Ministry for Environment and Consumer Protection, the Administrative District of Donau-Ries, Rieser Naturschutzverein, Schutzgemeinschaft Wemdinger Ried, Bund Naturschutz Kreisgruppe Donau-Ries

Funding: The project is funded by the funding instrument, LIFE of the European Union (50%), as well as the Bavarian Nature Conservation Fund and the Bavarian Ministry for Environment and Consumer Protection (together approx. 40%).

Project Management: ARGE Pro Heide-Allianz (K. Weiß, C. Eglseer, M. Weiß)

Project Duration: 8/2013 – 9/2018

Budget: ca. 2.3M EUR.

Project Area: 5 sub-areas with a total size of around 3,550 ha, which form part of the European network of protected areas, Natura 2000. It consists of FFH areas and bird sanctuaries. Important animals (**Fauna**) and plants (**Flora**) as well as valuable habitats (**Habitats**) are protected in the **FFH** areas throughout Europe. Important bird species throughout Europe are also protected at bird sanctuaries.

Homepage: www.life-heide-allianz.de

Foreword

Ecologically valuable areas across Europe are being supported thanks to the LIFE+ environmental program by the European Union. The project of the Heide-Allianz Donau-Ries lies in a landscape on the edge of a crater, which is unique in Europe and was created about 15 million years ago by the impact of a meteorite.

The project area includes nutrient-poor grasslands, extensive pasture and forests in the Nördlinger Ries and along the Wörnitz Valley between the mountains of Franconia and Swabia. Due to this location, the project area is an “interface” of the national and international biotope network for dry sites and therefore of outstanding importance from a European point of view. Furthermore, in the project area, the distribution of numerous plant and animal species overlaps, which is why both Western Mediterranean, as well as Eastern-continental and Alpine species are seen living side by side here. This makes the area a “hotspot” of biodiversity. These unique natural paradises can be experienced up close in the district of Donau-Ries.

The objective of the LIFE+ Nature Project is to preserve and improve the biodiversity of the relevant habitats and their communities, to provide information about the area and the measures taken, and to stabilise the grazing infrastructure in cooperation with other land users.

Sheep grazing is an important key to ensuring the health of grasslands and juniper heaths in the long term. At the same time, grazing generally has to compete with high land pressure and intensive land use. This grazing infrastructure is in urgent need of support and directly contributes to the long-term security of these retreats for many rare and protected animal and plant species.

Across Europe, the extensively used valley meadows with rare wetland species are of great importance. LIFE+ actively has been able to work against the loss of species-rich grasslands and the current acute loss of species.

Over the past 5 years, the project has been a crucial step in preserving and improving the relevant habitats and their biodiversity so that they and the species living there can survive.

The many measures described below are a just part of the overall picture. United and networked for a good cause: District Administrator, Associations, Clubs, Management and Administration...



Stefan Röble
District Administrator
of Donau-Ries

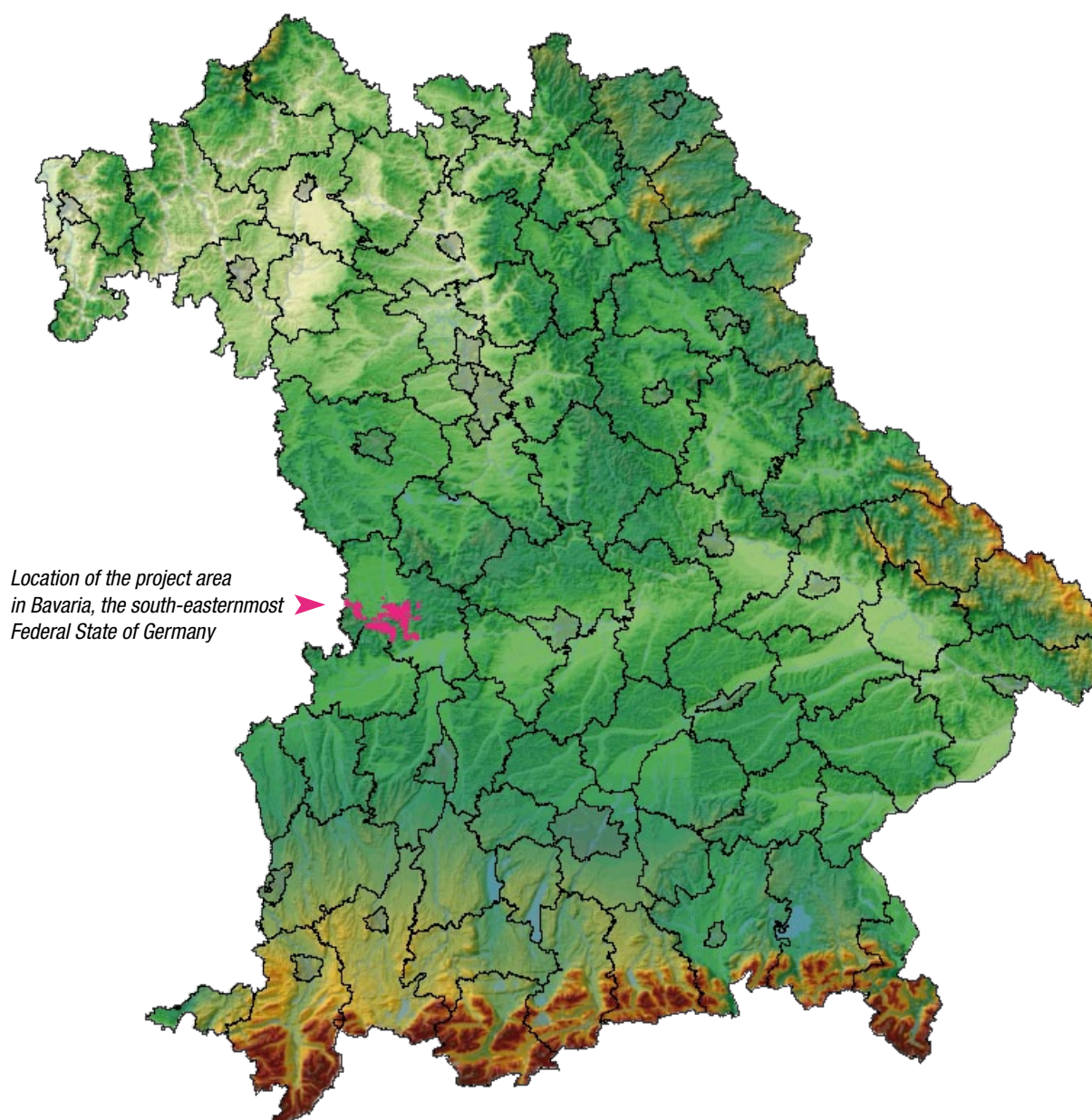


Johannes Ruf
Chairman
Schutzgemeinschaft
Wemdingener Ried e.V. and
Rieser Naturschutzverein e.V.



Alexander Helber
Chairman BUND Naturschutz
Kreisgruppe Donau-Ries e.V.

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Natura 2000 is a Europe-wide network of special, ecologically valuable protected areas that helps protect endangered habitats and species. The Fauna Flora Habitat Directive and the Birds Directive form the legal basis.



The European Union's LIFE program is a funding instrument for environmental and climate protection projects. The funding from the LIFE+ Nature Project only flows into areas of the European protected area system Natura 2000, which is to be stabilised and supported through this funding.

Nutrient-deficient Grassland and Pastures

- Conservation and development through care

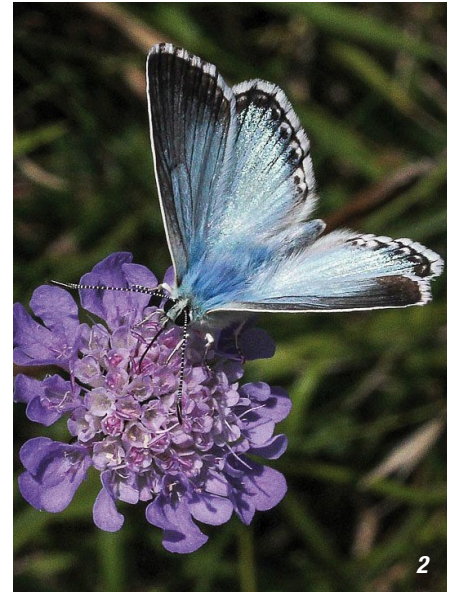
Grassland - nutrient-poor and yet full of life

Nutrient-poor grasslands are some of the most bio-diverse habitats in Central Europe. In the FFH areas on the southern edge of the Ries, they are the distinguishing formative feature of the landscape. The short-grass, species-rich plant populations are found on nutrient-poor, dry locations on the edges of Ries and on the adjacent Jura. They were created by centuries of grazing.

Such grazing is indispensable for the preservation of the grasslands and their characteristic plants and animals. However, particularly in areas that had not always been grazed in the past, trees have begun to grow. In particular, blackthorn has a strong competitive power due to its deep subterranean roots. Also, hawthorn and barberry are not eaten due to their thorns and can spread without hindrance. Under their protection, other shrubs and ultimately trees grow. This is where the LIFE project gets involved.

The progressive growth of woodlands was stopped through maintenance of an area covering 120 ha. They were cared for in such a way that single shrubs, possibly also of different species, were always preserved. The shrubs, and their flowers and seeds, are important for many species of animals, not only for birds, e.g. as a hideaway, autumn food or for protection.

A selection of light-loving grasslands that are supported by proper care:



One of the smallest orchids, the **small orchid Orchis morio** (1) and the **silver-green Chalkhill Blue** (2) are found only in low-growing nutrient-poor grass that contains lime. The **Antennaria dioica**, which are only 10 cm high, (3) are dependent on open grasslands that are not densely packed.



Old oak trees are still present in the area of Harburg-Mündling am Harberg, although many of them were lost in the dense shrubs. The oak trees were freed from overgrowth by fast-growing tree species.

The oak is of particular importance in nature. After all, more than 300 species of animals have adapted to them. With a high proportion of deadwood in the crown, coarse bark and protein-rich fruits, it is highly important for bird species, small mammals and many insects.

As part of the LIFE project, maintenance measures were carried out on 4.5 ha to restore old pastures (pastures with old, park-like distributed trees).

Nutrient-poor Grassland, Pastures

- Conservation and development through care



Magerrasen in Wedlbuck (Harburg) before proper care. Some thorn bushes are so dense that grazing is difficult. The valuable species of these nutrient-poor grasslands are disappearing.



The same nutrient-poor grasslands after proper care. The removed shrubs are still at the edge of the area and will be cleared later.



The Robinia was planted as a robust tree in many places in nutrient-poor grasslands. Today it is known that the Robinia spreads rapidly, provides shade for the nutrient-poor grass and fertilises the grass as a so-called nitrogen collector. By way of placing a ring around the trunk, the tree's ability to grow is first weakened and later it is completely removed.



Maintenance of the nutrient-poor grasslands is predominantly still carried out using manual labour. The commissioned companies were repeatedly supported by volunteers. Here, a heath is taken care of on Rollenberg on the steep northern flank, where the clippings are transported to the valley.



Nutrient-poor grassland "Bock" near Harburg after proper care: Diversity of the area with nutrient-poor knolls, shrubs and old trees, wide views.

Help for the nutrient-poor grasslands through the easing of grazing

The herds of sheep only graze on the nutrient-poor grassland in summer. In autumn, the grazers leave the nutrient-poor grasslands and migrate to the meadows. Over the winter, they are fed in the stable. Not only are the nutrient-poor grasslands important for profitable sheep grazing, but so are meadows, as they are used for autumn grazing and as a source of feed in the winter. It is a good thing that the LIFE project has created species-rich grasslands that can now also be used by the shepherds.

The nutrient-poor grasslands at the borders of Ries are often scattered and isolated from each other. They are still partially connected by an almost intact network of routes on which animals are driven. Due to maintenance measures taken, inter-

crossed routes were once again made accessible to the shepherd and the herd. Several areas were successfully purchased and will be part of the future network for the driving of herds.

The juniper heaths and nutrient-poor grasslands can only be preserved in the present quality if the sheep are brought into the pen outside the grasslands at night. As part of LIFE, 3 ha could be bought for corrals. This means that pens situated on the nutrient-poor grasslands could be shifted to the periphery. This significantly reduces the nutrient input into the nutrient-poor grasslands and maintains or improves the quality of the nutrient-poor grasslands.



At night, the sheep are driven into the pens that were acquired as part of LIFE at the Herkheimer Berg.

Sheep must be taken to the watering holes at least once a day. For large flocks of sheep with 500 or more animals, ensuring an adequate water supply on the arid heaths is a difficult task. In order to support the shepherds, several ponds have been made or evacuated to such an extent that they can be used as watering holes. Furthermore, the pond watering holes are also used as a living area by amphibians such as the yellow-bellied toad.



Newly created chain of watering holes at Lachberg (Nördlingen-Holheim).



Part of the watering hole created through the project at Hohen Stein (Ederheim Hürnheim).

In many places, the trails, the instinctive routes for the Hüteschäfer and their large herds, could be improved or recreated. Functioning paths between the grazing areas could be re-established via shredding measures, land purchases and the establishment of old borders.

Crags

– Supporting the inhabitants of crags through proper care

Crags with vegetation in the crevices are a protected form of habitat throughout Europe. In the district of Donau-Ries, the crags are particularly large at the Wörnitz passage near Harburg. There are crags, ridges and rock needles on both sides of the Wörnitz river that rise up to 40 m high. The emergence of woodlands reduced the quality there. The open structure necessary for a whole range of rock dwellers had been lost. As part of the LIFE project, trees and shrubs were extensively cleared in Hüllenloch, Wedlbuck and Wöllwart.



*View from the Wedlbuck Crags into the Wörnitz Valley. On some ridges typical rock dwellers, like *Allium lusitanicum*, but also stonecrop species, were able to take hold. In addition to these species, spotted knapweed can also be seen in the picture. Crags are also interesting for birdlife. In addition to the Eurasian eagle-owl and the Common raven, the Peregrine falcon also lives and breeds in the rock formations within the district.*



Trees and shrubs had sprung up around the Wedlbuck Crags near Harburg. In an elaborate and spectacular campaign, trees and shrubs were cleared in August 2015 and taken out of the area by crane. Trained tree climbers were used to take care of the trees. The crags are now visible from afar and form a delightful backdrop for the city of Harburg.



Curious goats like to climb and fill their bellies in these rocky areas. Their mouths and footsteps help to keep the Wöllwart Crags open in the long term.

Forests

– Aiding old and dead wood

The forests of the LIFE project, which are particularly important in Europe, are spread over several FFH areas and the bird sanctuary “Riesalb mit Kesseltal”. On fresh and nutritious soils, beech trees sometimes have the strongest growth and form **forests made entirely beech trees**. Under the dense canopy of the beech trees, it is so shady that other tree species can hardly grow.

On the dry and mostly shallow sites, on the other hand, more open and structurally rich **orchidbeech tree forests** grow, such as at Burgberg in Heroldingen. Due to their location, the beech trees permit other tree species to grow there, such as oak, European hornbeam, whitebeam or even *Sorbus torminalis*. Due to its dryness, the yield of beech wood is limited.

Oak-hornbeam forests are found on temporarily dry soils. In addition to the two named tree species, there are other trees that require a lot of light, the *Sorbus torminalis* and the *Tilia platyphyllos*, both of which can tolerate dry summers.

Five types of woodpeckers breed in the forests of this region: The middle spotted woodpecker, black woodpecker, great spotted woodpecker, grey-headed woodpecker and the European green woodpecker – but only in low densities. The reason is the low proportion of old and dead wood in the forests. The objective of the project was to increase this. This benefits not only the woodpeckers, but also the tenants of the holes made by the woodpecker, e.g. the pigeon. The preservation of more than 100 old trees with holes and dead wood was contracted for the next 12 years.



Among those benefiting from, among other things, old trees are: **Stock doves** (1), **grey-headed woodpeckers** (2) and their **caves** (3), with a convenient canopy.



Forests in which well over 100 old and deadwood trees have been secured (represented as brown areas).

Forests

– Helping maintain sparsely wooded and open forest edges

The forests in the LIFE project are often found on the nutrient-poor hilltops, which are not suitable for agriculture and meadow use. Juniper heaths and nutrient-poor grass are often immediately adjacent to one another. Forest edges often serve as routes for the driving of herds. Some forest edges are historical sheep pastures and are attested by the continued presence of Junipers. It is known that especially open forests and sun-bathed tree trunks are of particular ecological importance.



Forest edge at Hager Berg (Untermagerbein) following proper maintenance.

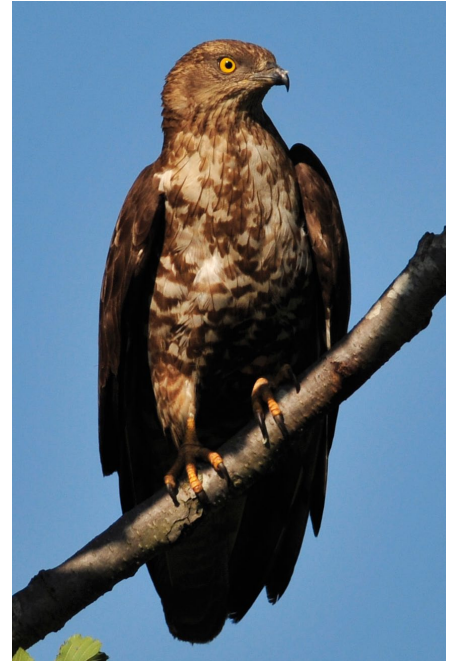


It is a former route for driving herds lined with Junipers.

As part of the LIFE project, a total of 2.5 km of forest periphery was opened up and curved in a structural manner. Now more light falls into the forest.



The open forest edges can now also be used again as a route for shepherds to drive their herds, like here at Lindle (Holheim, Nördlingen).



Structurally rich forest edges are often flown to by, for example, the European Honey Buzzard. Here, it finds its prey, namely wasp nests, which it digs up.

New Investments and Development of Species-rich Grasslands

The species-rich meadows covered in colourful flowers are receding greatly. In many places they are almost completely gone. As lowland meadows they consequently enjoy pan-European protection. The southern German lowland meadows are particularly diverse in their appearance and are of European-wide importance due to the diversity of species living there. As part of the LIFE project, it has been possible to purchase 21 hectares of land that have been newly created as species-rich flower meadows or on which previously species-poor meadows have been improved.

Flowering meadows are herbaceous meadows that are stable in the long term in regards to their species composition. The prerequisite for this are nutrient-poor conditions. Therefore, the newly created flower meadows are not fertilized. Flower meadows are mowed twice a year, and in very productive locations a third cut is added or they are grazed in the fall. For comparison: Intensive meadows are mown up to six times a year.

In these meadows, no seeds are sown in smaller places lacking growth. Actually, such empty spaces are welcomed. Because only where there is open ground can new meadow herbs develop again. A naturally very rare and at the same time highly endangered habitat are calcareous lowmoors. A small but very valuable area could be wetted in the border areas and thus enlarged.

Each type of meadow is characterized by particular species. In the drier meadows we find plant species that are adapted to the scarce water supply and high temperatures:



Bird's-foot trefoil



Meadow sage



Knautia arvensis



Oxeye daisy



Brown knapweed



European yellow rattle

In the wetland meadows, e.g. in the Wörnitz Valley, you can find plant species that have partly adapted to moist locations that are sometimes flooded for short periods of time:



Ragged robin



Silaum silaus



Cirsium oleraceum

New Investments and Development of Species-rich Grasslands

Methods of collection

The seed material for the development of species-rich grasslands was obtained within a radius of 20 km. This should preserve the local genetic diversity and not be to greatly modified by foreign genotypes. Species-rich meadows were selected as donor meadows that resemble the recipient areas in their individual character. Various methods were used to obtain the seed material: Harvesting was done with the "E-beetle", a special device for the harvesting of grass seed, or with a conventional combine harvester or the transfer of mowed material.



Harvesting with the E-Beetle: Using a brush system, seeds are brushed out of the species-rich meadows.



The recovered seed material is dried after harvesting.



A combine harvester threshes the ripe seeds from a species-rich meadow

How species-rich meadows become species-rich meadows

A suitable seedbed was prepared by tilling all recipient areas. In some areas, the nutrient-rich topsoil was removed to provide the flowering meadows with optimal starting conditions.



Soil preparation at Kayberg (Untermagerbein). In the species-poor grassland strips were created. Only on open soils can the desired meadow species develop well.



Grass cuttings being transferred to a meadow in the Wörnitz Valley.



In mid-June, grass cuttings from a species-rich meadow were collected and finely distributed in this open space.



After the transfer of the threshing, the first seedlings appeared three months later



*The meadow is almost covered 10 months after applying the threshing. Sage, *Crepis biennis* and daisies are already in bloom.*



*A meadow in the Wörnitz Valley one year after the crop is transferred. Rattles, daisies and *Crepis biennis* can now be seen.*

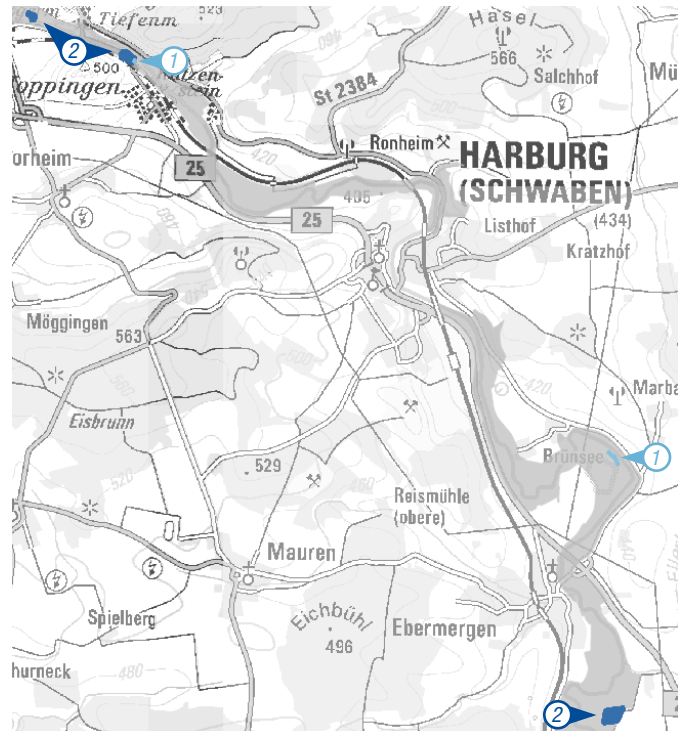
In the Wörnitz Valley: Trenches and shallow depressions as a habitat for river valley plants

Through the LIFE project, fresh species-rich meadows, shallow trenches and a typical wetland relief with shallow depressions of different humidity were restored. They house different plant communities. The meadows are still used for agriculture and can be grazed by the shepherd's flock in the autumn.

In the Wörnitz Valley, three shallow depressions with a size of 1.9 ha were laid out between 2015 and 2018 and then planted with species-rich, local seed material from the Wörnitz Valley. Furthermore, the banks of trenches were flattened over a length of 200 m.



The river valley tular water-dropwort (Oenanthe fistulosa) should be aided by such measures



- ① Two trench sections were flattened in the Wörnitz Valley. Slightly inclined and mowable, they are a suitable growth place for flowering plants.
- ② Three shallow depressions were created in the Wörnitz Valley. Only a few days a year do they feed water; therefore, they can continue to be mowed and used by the farmers. Soft ground, easy to poke into, e.g. for the stork, and flower-coloured meadows are thus achieved.



Gently formed flat depressions in the Wörnitz Valley at high tide. The water remains quite flat for a few hours to a few weeks.



Flattened trench banks with grass cuttings from a species-rich donor area. The material was subsequently finely distributed.

Stone Quarry Bollstadt

Northern crested newt and Yellow-bellied toad return

The former lake in the stone quarry in Bollstadt was silted up at the beginning of the project. Without open water surface, there was no spawning water for the two FFH species the Northern crested newt and Yellow-bellied toad.



Where the excursion participants stood on dry land in May 2014, was later developed into open water. In the background you can already see many grown trees.



The pond was dredged again in the spring of 2015. The result was a large, nutrient-poor pond without fish. Therefore, it is an ideal water source for frogs and amphibians to spawn.



Larva of the Northern crested newts, which was found in the stone quarry pond two years after implementation of the measures.



The Yellow-bellied toad spawns in the small, shallow waters newly created north of the large pond. They can partially dry out in mid-summer. By then, the larval development of the Yellow-bellied toad is already complete.

Meanwhile, a whole series of other amphibian species have been detected, such as the Common toad, European tree frog, Common frog, Water frog, Alpine newt and Smooth newt. Even rare aquatic plants have now immigrated, such as the Potamogeton alpinus. A second removal of the ponds in the autumn of 2017 has helped maintain the quality of the area in the longer term.

Spread Enthusiasm and Inform Others

More than 50 excursions led to the project area and advocated for the preservation of European natural heritage. A playful approach to the topic is provided by the geocaching trails and the hidden cache in the Wörnitz Valley. Two short films take you on a virtual journey into the area. Flyers, a lamb cookbook and roll-ups are still available via „www.life-heide-allianz.de“.

Here you will also find a comprehensive review of the two “Schaftage” 2015 and 2017 as well as the well-attended forums „Heideforum“ 2014 and 2017 (forums concerning the moorlands). The symposia offered the opportunity to broadly present various issues and to discuss them with the approximately 100 participants.



Animal encounters - watching, petting and feeding - that was what the two “Schaftage” were all about for the youngest visitors. Animal husbandry, racial diversity, sheep farming traditions, wool processing, diversity of life in forests and grasslands and sheep and goat products.



There was keen interest in the demonstrations regarding husbandry on the “Schaftage”.



The principal performer of the first short film can finally be convinced of the beauty and biodiversity in Ries. Both project films can be accessed via the website.



An integral part of the “Schaftage” were the demonstrations with sheep farmer Bosch, who showed how to shear sheep.



Nature conservation through the stomach - enjoy and support the local sheep farm: that is the topic of the cookbook. Addresses of suppliers make it easy to cook the dishes.

Project Review

2014 to 2018



The official “go” for the project was given on April 15, 2014, with the granting of the official authorization by Minister of State Dr. Ing. Marcel Huber on the Mähhorn.



During the presentation of a male goat, the shepherdess, Ms. Simone Prinzing, explained to the former Minister for the Environment, Ms. Ulrike Scharf, the difficulties that grazing enterprises are struggling with (May 11, 2015).



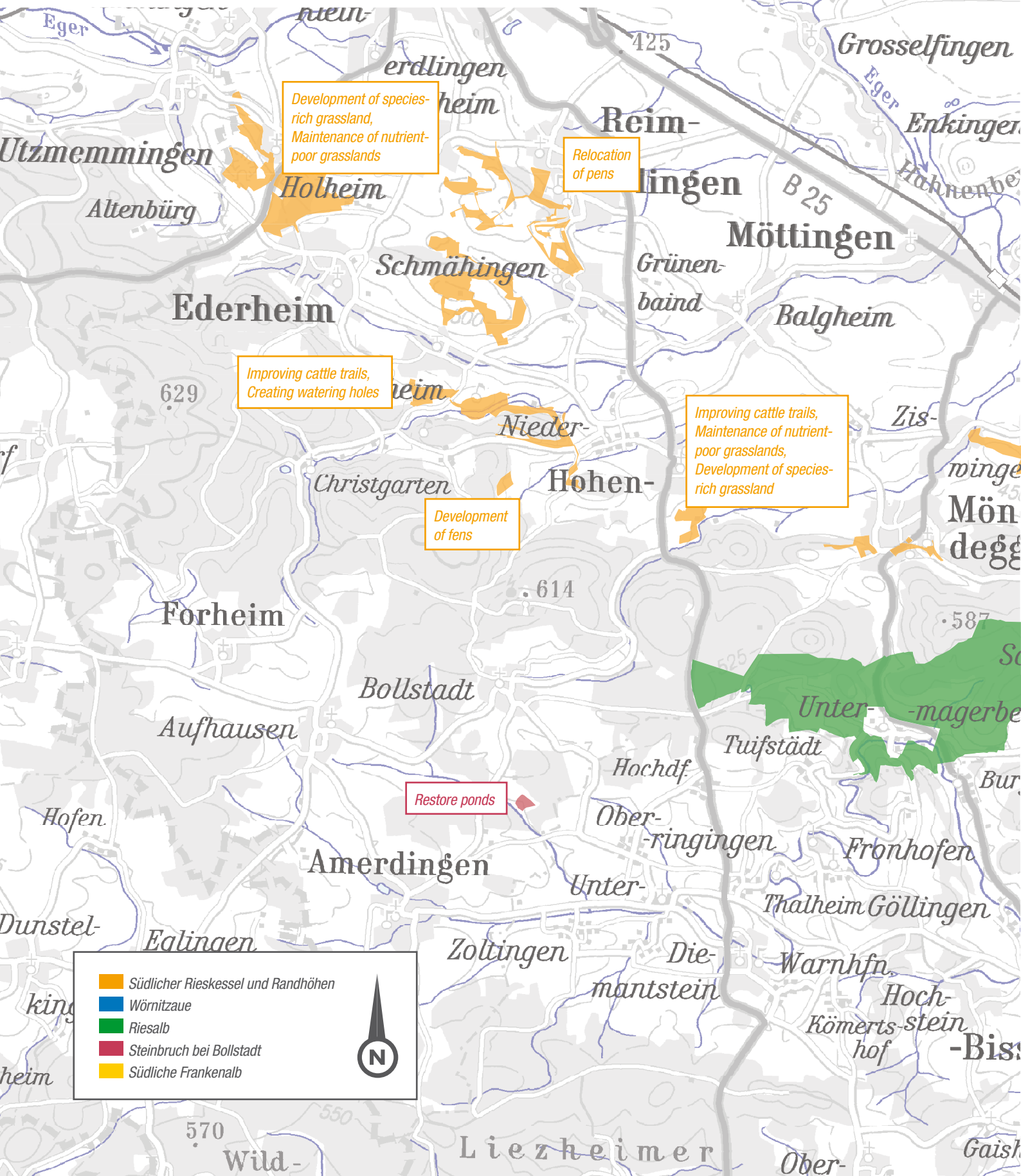
The project has been continuously reported on. The media (press, radio, television) was present at numerous events.

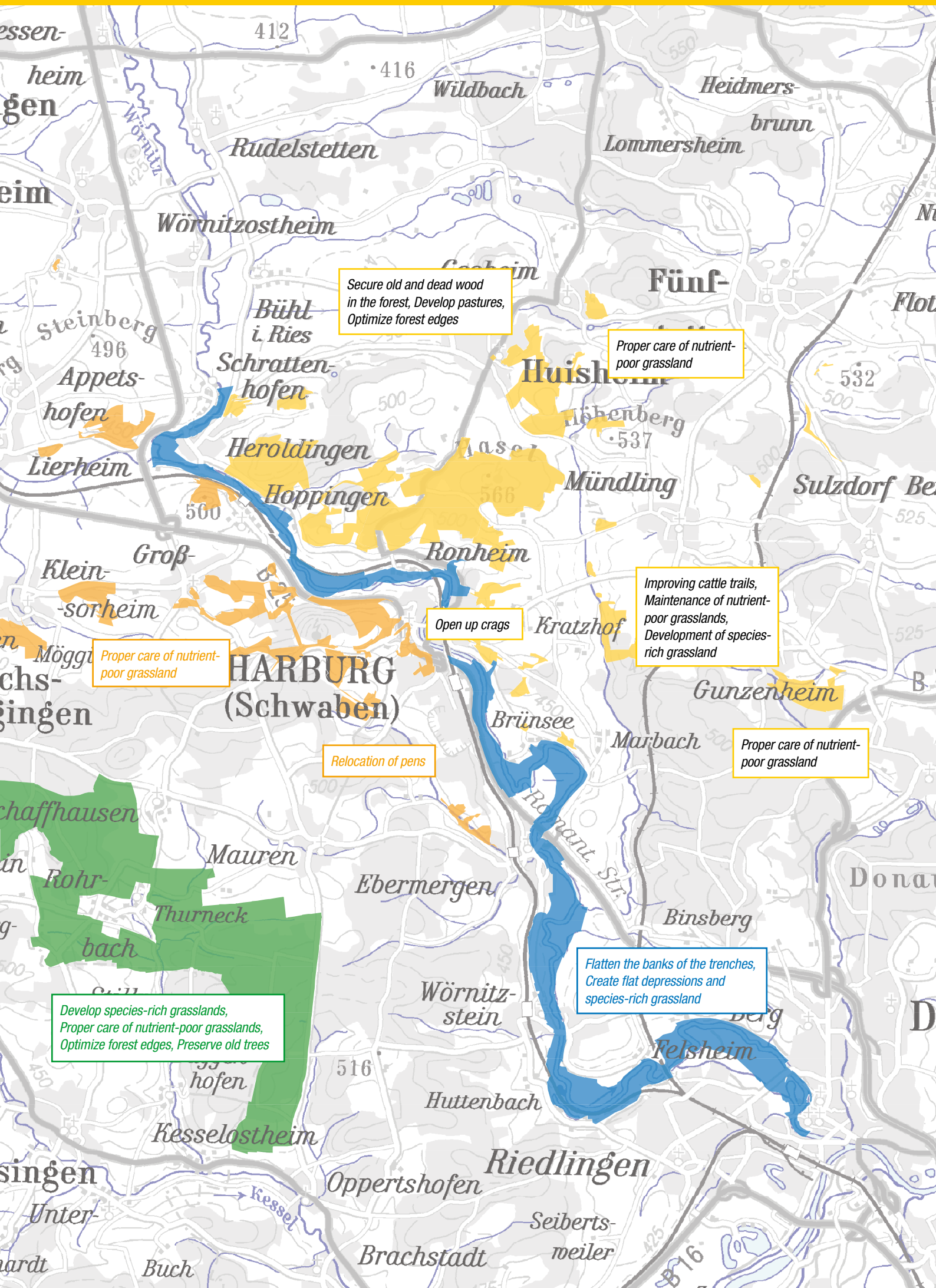


Once a year, the project is visited by a representative of the EU. Here, the group is looking forward to the last information board on the Mähhorn.

The project area with its subareas:

The respective main topics are assigned to the areas





Secure old and dead wood
in the forest, Develop pastures,
Optimize forest edges

Proper care of nutrient-
poor grassland

Proper care of nutrient-
poor grassland

Open up crags

Improving cattle trails,
Maintenance of nutrient-
poor grasslands,
Development of species-
rich grassland

Proper care of nutrient-
poor grassland

Relocation of pens

Flatten the banks of the trenches,
Create flat depressions and
species-rich grassland

Develop species-rich grasslands,
Proper care of nutrient-poor grasslands,
Optimize forest edges, Preserve old trees



Newly created, colourful flower meadow in the third year of development. A beautiful success!

Project Partners: The Bavarian State Ministry for Environment and Consumer Protection, the Administrative District of Donau-Ries, Rieser Naturschutzverein, Schutzgemeinschaft Wemdingen Ried, Bund Naturschutz Kreisgruppe Donau-Ries



Bayerisches Staatsministerium für
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