Image: Jürgen Henkel
Large image: Christina Marx

LIFE project

Pastures of the Wetterau

Nutrient-poor grasslands depend on sheepherding

WetterauerHutungen
Life+ Projekt

Life

NATURA 2000

HESSEN

Wetterau
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NIDDA

HUNGEN
die Schäferstadt

Minister for Environment Priska Hinz at the Shepherd's Festival in Hungen, 2014
Image: Jan-Lukas Böger
Large image: Christian Sperling
Sheep mascot: Julia Beltz

Introductory words from Priska Hinz, Minister for Environment

Dear readers,

the first EU-subsidized LIFE project in Hesse has just been concluded. The environmental protection "Pastures of the Wetterau" project was implemented along with the Wetterau district and the towns of Hungen and Nidda and carried out many measures and activities from 2010 to 2014. The aim of all this is to preserve the habitats in the grasslands that have traditionally been grazed by sheep, to maintain their astonishing biodiversity and allow it to flourish further.

The measures taken were many: the clearing of shrubs and saplings; the reestablishment and linking of nutrient-poor grassland sites; improvement of the water supply for grazing animals; setting up an equipment base to improve the follow-up maintenance of the lands; training nature and cultural guides; educating shepherds; and purchasing sheep.

At the Wetterau Country Lamb Festival every autumn, visitors have been able to enjoy delicious lamb dishes as well as taking tours, excursions and even cooking classes. The theme of these activities is: Nutrient-poor grasslands depend on sheep. In the Sheep and Nature multimedia room in the old village centre of Hungen, there are visual exhibits showing the biodiversity of the area and allowing visitors experience sheepherding in the past and today. The Path of the Shepherds is a walking tour in Nidda, Hungen, Langd, Münzenberg and around the Glauberg site which leads hikers through the ecological wealth of the poorest areas. The Sheep and the Cultured Landscape pavilion at the Celtic museum in Glauberg emphasizes the significance of grazers to humankind, in the past and today.

Grazing makes a valuable and irreplaceable contribution to biodiversity. Sheep have been helping to shape and maintain our cultured landscape for thousands of years. The socioeconomic study conducted as part of the LIFE project "Small grasslands in the Wetterau region" gives us sobering data, however, showing that sheepherding operations are suffering from declining revenue, despite agricultural subsidies; in most cases, sheepherding is not economically viable. The economic situation of the sheepherding operations must be improved, because shepherds are needed to preserve the rich variety of plant and animal species in nature preserves in Hesse and elsewhere – now and in future. To this end, the LIFE project identified important possible approaches to solving these problems, approaches that will be taken in the years to come. An overall business-oriented biodiversity consultation programme has been designed with the aim of helping shepherds unify and optimize business administration, site management and maintenance. Additional approaches include the exemplary partnership model between sheepherding operations and local governments and reinforcing the shepherds' position as providers of landscape maintenance services.

The cooperation of all the people and organizations involved, especially the shepherds and environmental protection volunteers, made the LIFE project "Pastures of the Wetterau" into a complete success. For the benefit of all animal and plant species and the people of Hesse, I fully expect that the region will attract additional projects in which a broad consensus and common action lead to such success.

What has the LIFE project accomplished?

Project achievements

- Approximately 90 hectares of formerly nutrient-poor grassland was cleared of shrubs and saplings and these can develop into habitat in the years to come. Paths for the flocks of sheep were restored and the area's suitability for grazing was improved
- Currently the habitat has been increased by 10 hectares
- Over 27 additional hectares have been purchased for implementation of these measures
- Restoration in over 27 subareas through removal of foreign objects (fences, trash, invasive species, etc.)
- Eleven areas constituting over 25 hectares of new grazing land
- Improvement of water supply for 30 areas (purchase of water vehicle(s), connection to water pipes, standpipes)
- Establishment of an equipment base in Nidda with specialized tools for the maintenance of nutrient-poor grassland
- Purchase of 25 grassland fence units, three refrigerated wagons, three rechargeable hoof clippers, one sheep-sorting device, one trailer, protectors for 500 trees
- Construction of over 1.7 km in fences, purchase of 10.5 km in mobile fences to enclose and protect the flocks/herds
- Purchase of approximately 500 sheep and goats in four herds in order to guarantee environmentally friendly grazing
- Training for two apprentice shepherds
- Improved cooperation between shepherds, butchers and restaurateurs
- Improved communication regarding environmental protection, sheepherding and hunting
- 100 tastings of lambmeat, marketing programme Wetterau Lamb Festival
- Opening of the Sheep and Nature multimedia room in Hungen
- Construction and furnishing/equipping of the "Sheep and Landscape" pavilion at the Celtic museum in Glauberg
- Signage for five walking tours in Hungen, Nidda, Glauberg, Münzenberg and Langd
- The website www.wetterauer-hutungen.de provides information about the project
- The project film "LIFE in the Shepherd's Wagon" reported on the relevant underlying topics of the LIFE project: habitat areas and their species, sheepherding, volunteer work and the Shepherd's Festival in Hungen

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Image: Christina Marx
Map: Natura 2000 sites in the 27 member states.
Source: European Environment Agency, as of 21 May 2014

LIFE – for the first time in Hesse

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Embedded in the farmland of the Wetterau region, pastures used for sheep grazing can be found on isolated hilltops and slopes. These hilltops, which consisted of open nutrient-poor grasslands until the 1960s, were becoming more and more populated by shrubs and small trees. The species-rich open grasslands increasingly turned into small islands, so that grazing became too difficult. Some areas however were largely preserved, thanks to the efforts of shepherds, volunteers and governmental authorities. The remaining nutrient-poor grasslands continue to make an extremely important contribution to biodiversity in the ecosystem, a fact that was recognized when they were officially accepted by the European Union's protected areas programme, Natura 2000. This gave the people of the region the idea that they could apply for support from the European Union for the preservation of the small grassland areas.

After many rounds of negotiation, in 2008 a LIFE+ proposal was drawn up with the purpose of having 50% of the expenses covered by the EU. This proposal was approved in 2009, and work on the project began in 2010. After a period of five years, the project ended in 2014. The project's budget was 4.1 million euros.

Environmental protection across Europe

Increased land usage and the reduced amount of agricultural and forest lands have both increased the risk that many unique ecosystems will be lost. This includes the ancient small grasslands in the Wetterau region, which have traditionally been grazed by sheep. However, the initiative to preserve the pastures of the Wetterau is part of a larger European-wide effort to preserve valuable and sensitive ecosystems. To this end, since 1992 the European Union has required that its member states comply with the Fauna-Flora-Habitat (FFH) directive to protect flora, fauna and habitat that are significant on a European-wide level. The Bird Protection directive has been in force since 1979 and aims to protect and ensure the survival of endangered bird species, especially migratory birds.

Natura 2000 – the protected areas programme

All member states identified and registered suitable areas; in doing so, they implemented the EU's FFH and Bird Protection directives. In order to protect the most valuable habitats, the protected areas programme Natura 2000 has now become a European-wide network.

In Hesse, approximately 440,000 hectares, more than 20 percent of the land, is part of the Natura network. A total of 639 protected areas have been selected for this purpose. Currently there are almost 23,000 FFH areas and about 5,400 bird preserves in the European Natura-2000 network as a whole; this is more than 17.5 percent of the entire European Union.

LIFE+

L'Instrument Financier pour l'Environnement (abbreviated as LIFE, known as LIFE+ since 2007) is the only EU subvention programme with the task of providing financial support to environmental protection initiatives only. LIFE+ provides an option when other EU subvention programmes are inapplicable. In general, the EU agrees to play a confinancing role and underwrite 50% of the expenses.

For 20 years, the LIFE Nature programmes has provided financing for sustainable investments in Natura 2000 areas and protective measures for species covered under the Bird Protection directive and/or species and habitat types covered under the FFH directive.

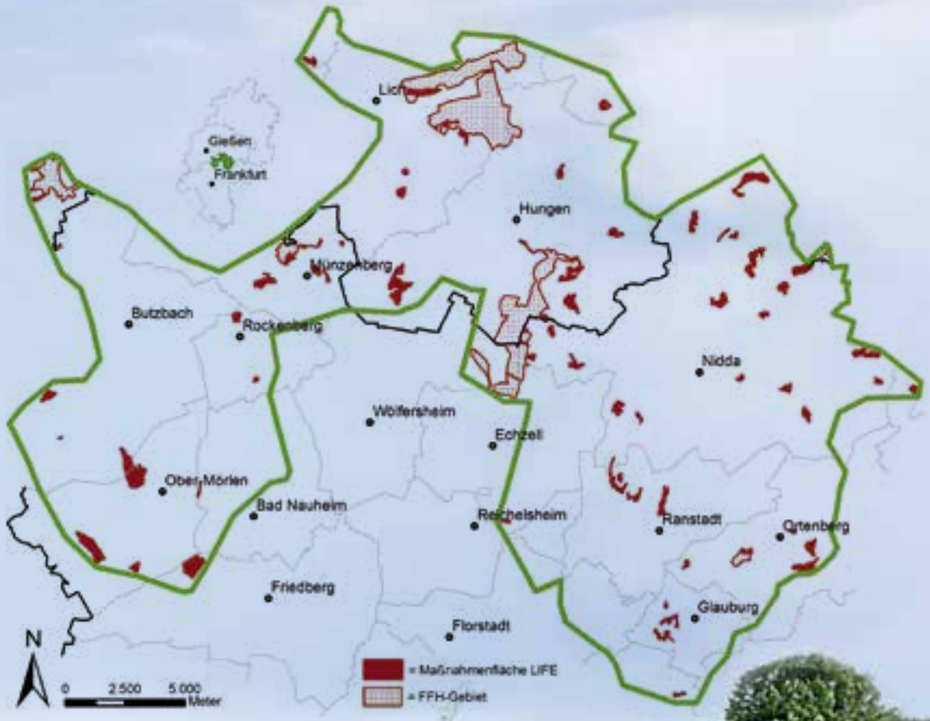
Image: Jürgen Henkel
Map: Planwerk, Wolfgang Wagner
Sheep mascot: Julia Beltz

The pastures of the Wetterau

The pastures of the Wetterau

Project area

The project area consisting of 500 km² is located, as the name implies, in the rural Hessian region of the Wetterau in the Rhine-Main lowlands, between the cities Frankfurt am Main and Gießen, and includes the northern Wetterau district and the southern administrative area of Gießen. The subareas – small grasslands which are unsuitable for agriculture – are mostly located on small hilltops embedded in the otherwise fertile and heavily farmed agricultural land of the Wetterau region. In total, the 65 LIFE+ subareas constitute an area of 2,612 hectares.



Goals of the LIFE+ project

The main focus of the LIFE project "Pastures of the Wetterau" was the nutrient-poor grasslands on hilltops and slopes which had traditionally been grazed by sheep. The aim was to preserve and improve these areas' biodiversity. The first step was to ensure the sustainable and sustained preservation of the (sheep-grazed) grasslands. To reach this goal, numerous steps were taken to preserve the habitat/biotopes and to promote sheepherding.

First, several subareas were cleared of shrubs in order to prepare them for the reestablishment as grazing land; the grazing infrastructure was improved. An example of this is the purchase of mobile and stationary fences and the improvement of the water supply. Including the public in the project was an important consideration. The Sheep and Nature multimedia room in Hungen, the Sheep and the Cultured Landscape pavilion in Glauberg, walking tours with signs providing information in Nidda, Hungen and Münzenberg, numerous events focusing on the LIFE+ project, and the marketing of sheep-related products appealed to young and old and reinforced the public's awareness of the connection between sheepherding and environmental protection.

The stemless thistle (*Cirsium acaule*) is found in 25 project subareas and is thus the most common key species in the project.
Image: Bodo Fritz

In early spring the endangered common pasque flower (*Pulsatilla vulgaris*) makes its appearance. It is one of the project's focus species.
Image: Jürgen Henkel

"Blossoming stones": pictured here is goldmoss stonecrop (*Sedum acre*).
Image: Wolfgang Wagner

The clustered bellflower (*Campanula glomerata*) is another of the project's key species.
Image: Christina Marx

Nardus grasslands (habitat type *6230) are often strewn with outcrops of rock and can only be "mowed" by sheep.
Image: Wolfgang Wagner

Large Image: Christina Marx
Sheep mascot: Julia Beltz

The wealth of the poorest sites

Plant life of the pastures

The plants typical of the Pastures of the Wetterau are experts at survival. They have to be! This is because they grow in a place with unfavourable conditions, on dry, nutrient-poor soil.

Several times a year there is a grazing session, during which a large amount of the leaves and flowers are consumed by sheep. The plants have developed various ways of adapting to this environment. Thorns, poisons and bitter substances help them protect themselves against the depredations of grazing. A low-lying shape, water storage and protective measures against evaporation are some of the adaptations that help plants survive the dry conditions. There are also plants which have found another way to survive: they simply wait out the summer in seed form.

The plants are able to cope with the extreme conditions in their environment – often they cope amazingly well. However, they encounter difficulties as soon as taller plants gain an advantage. This can happen when no grazing takes place, for example. Increasingly thick and matted grass spreads and more nutrients are stored in the soil. First strong competitive species gain a foothold, and then shrubs take over what once were the small grasslands – until it's no longer possible to see that they were there. A lack of or interruption in grazing and the accompanying formation of overgrowth is thus one of the most common dangers faced by the plants typical of the small grasslands.

The yellow dye produced by dyer's broom (*Genista tinctoria*) was once used to colour linen and wool, leading to its name. Image: Christina Marx

The bright flowers of the maiden pink (*Dianthus deltoides*) can be admired in the early summer.
Image: Jürgen Henkel

Although characteristic of the semi-dry grasslands, but it has become rare – the fringed gentian (*Gentianopsis ciliata*). Image: Wolfgang Wagner

The English sunrose (*Helianthemum ovatum*) is one of the LIFE project's key species.
Image: Jürgen Henkel

The heath with its characteristic mantle of heather (*Calluna vulgaris*).
Image: Dr. Benjamin Hill

Mediterranean spices underfoot?

If you find yourself in a nutrient-poor grassland, you may smell it before you see it. Thick matted thyme and tufts of oregano emit a strong aroma that may remind you of pizza and Mediterranean dishes. These herbs do not grow in the southern European countries only – they are also denizens of the Wetterau's pastures with their warm and dry microclimate. The essential oils from which the scents emanate are produced by thyme and oregano in order to discourage grazing. Insects are usually repelled by these strong odours and even sheep eat these plants only sparingly.

Early bloomer Thymian (*Thymus praecox*). Image: Jürgen Henkel

Oregano (*Origanum vulgare*).
Image: Wolfgang Wagner

The plant species of the pastures are specially adapted to habitats which once took up only a small amount of space in our landscape (hill- and mountaintops, stony slopes). With pastures shrinking, many of these species have become very rare, and some are even threatened with extinction. The preservation of these grazed grasslands is therefore important to the promotion of biodiversity.

In Hesse, the common pasque flower (*Pulsatilla vulgaris*) and the fringed gentian (*Gentianopsis ciliata*) are endangered, and the autumn lady's-tresses (*Spiranthes spiralis*) is acutely endangered.

In the cultured landscape of the Wetterau, most of which is heavily farmed, there is a corresponding lack of biodiversity – this makes the relatively small areas of nutrient-poor grass in the project area crucially important for preservation of biodiversity in the region. In the Wetterau district, nutrient-poor grasslands make up only 0.17% of the surface area, yet they are home to a significant percentage of the endangered plant species present in the district. A total of 76 endangered higher plant species and 32 endangered lichen species are found on these islands of biodiversity within the project area.

Large Image: Jürgen Henkel
Sheep mascot: Julia Beltz

Crawling on the ground, flying in the air

Animals of the pastures of the Wetterau

The pastures provide many animal species with food or with structures that will allow them to survive and which cannot be found in other habitats.

A total of at least 98 bird species are regularly found in the project area; of these, in 2014 70 species hatched their young in the area. The red-backed shrike, Eurasian wryneck, little owl, common redstart and the European green woodpecker were chosen as project focus species which can be considered as especially typical of the pastures of the Wetterau region. In terms of their populations, a significant increase was observed after the project measures had been implemented. They have benefited from the increased availability of food and easier access to prey on the well-maintained nutrient-poor grasslands.

Reptiles find the project area, with its short grasses and sunlit rocky surfaces, especially favourable; as haematocryalanimals, they can absorb more heat here. Sand lizards and smooth snakes are two of the species that hide in the nooks of the cairns and woodpiles. With 30 species in the project area, grasshoppers are especially well-represented in the project area. The importance of the small grasslands to animal species includes the wide variety of structures available to them, such as rotting piles of branches and standard fruit trees.

There are also many heat-loving insect species which find almost Mediterranean conditions on the dry southern slopes. In the summer, the chirp of the field cricket echoes across many slopes and hillsides – another reason visitors sometimes feel they are walking through a southern European landscape.

At the project's conclusion, both the average and absolute numbers of butterfly species per subarea had increased. After implementation of the project's measures, the average number of key and focus species rose significantly. Both facts can be attributed to the generally flower-rich nature of the nutrient-poor grasslands along with the continued presence of wood in close proximity.

The swallowtail (*Papilio machaon*) is one of the most impressive native butterfly species. Within the project area, it can be found in half of the subareas. Image: Jürgen Henkel

The small grasslands provide the red-backed shrike (*Lanius collurio*) with perfect conditions – open spaces for hunting and thorn hedges for breeding, nest support and keeping food supplies – the bird impales its prey on thorns. Image: Bodo Fritz

The project focus species blue-winged grasshopper (*Oedipoda caerulescens*) finds perfect conditions for camouflage on the stony ground; in flight its blue hindwings make it stand out. Image: dr. Günter Bornholdt

The stripe-winged grasshopper (*Stenobothrus lineatus*), still fairly common in Germany, occupies sheep-grazed lands with short grasses and partial vegetation cover. Image: Dr. Günter Bornholdt

Where the caterpillars find plants to feed on, and nectar-producing plants are available for the adults, the six-spot burnet (*Zygaena filipendulae*) populates nutrient-poor grasslands, meadows and ruderal areas. Image: Bodo Fritz

The little owl (*Athene noctua*) thrives especially well in the orchard meadows of the small grasslands, with their abundance of wooden structures and hollow trees. It is also a project focus species.
Image: Bodo Fritz

The sand lizard (*Lacerta agilis*) is a species characteristic of the project area and occupies over 50% of the areas under observation. Its population density has increased by an average of 80% – a very significant rise –– since the measures were implemented. This animal species is under strict protection and requires habitat with partial vegetation cover and a great deal of sunlight, with places where it can hide and others where it can sun itself (woodpiles, cairns).
Image: Dr. Günter Bornholdt

Within the project area, the field cricket (*Gryllus campestris*), a species that prefers warm, dry conditions, is found only in the northeast, in the Nidda valley and around Hungen. Its population is declining, both in Hesse and in Germany as a whole.
Image: Verena Holland

The smooth snake (*Coronella austriaca*), which is endangered in Hesse, was only found in three subareas of the project area due to its hidden living. Small woodpiles were set up to serve as hiding places and thus improve the conditions for this species.
Image: Bodo Fritz

Image: Marion Löhr-Böger
Black-and-white photo:
Harald Schmidt kindly gave us
permission to use this photo.

The cultured landscape now and in the past – the story of the pastures

Pastures in transition

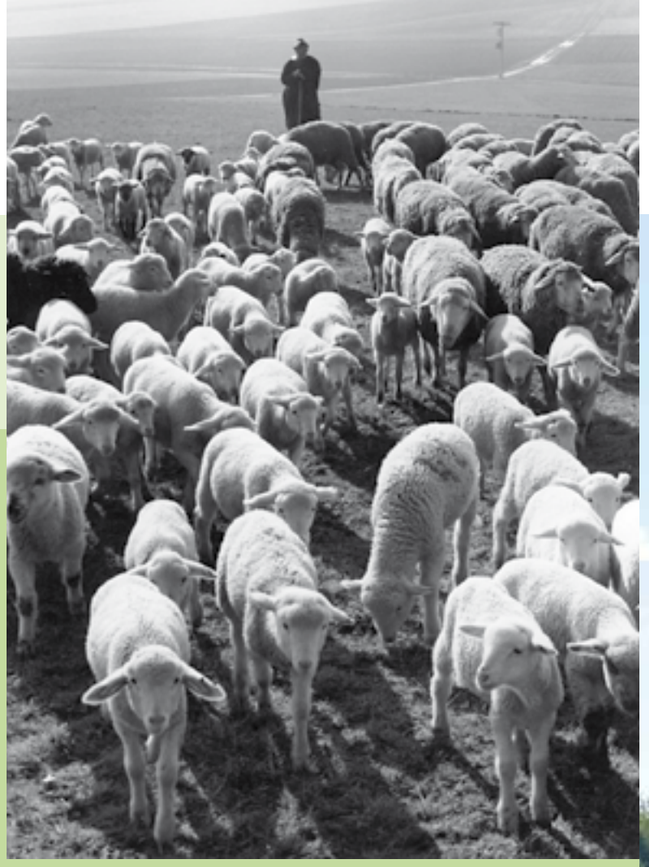
As early as several thousand years ago, the early farmers kept sheep and goats. This has been shown to be true of the Celts, for example, who settled in the region ca. 500 B.C. When the people in the Wetterau region became sedentary, they began to clear the forests to create room for their settlements and fields.

The animals were brought into the forest to graze, because in the early Middle Ages all other outdoor spaces were used to provide the growing human population with sufficient food. The animals were only kept in outdoor spaces which were unsuitable for other uses due to the soil's relative lack of fertility.

This agricultural pattern led to the formation of the pastures, which today are home to the nutrient-poor grasslands whose conservation is supported by the LIFE+ project. Heavy grazing meant that shrubs and saplings had no chance of survival. The continual presence of grazing animals meant that the open, park-like landscape ultimately turned into pastures or "Hutungen" in German, from the word "hüten", to keep (domestic animals).

Sheep as producers of fertilizer

When other land that could potentially be used for grazing became scarce and the existing fields were farmed more heavily, the people began to enclose sheep in fields of stubble during the night, so that their dung fertilized the fields. This meant, however, that the soil of the pastures became even more nutrient-poor and unlikely to yield a harvest. Nutrient-poor grasslands formed and spread. The other plants characteristic of these areas are adapted to a lack of nutrients (thus the term "nutrient-poor grass") and a great deal of sunlight (thus the term "sunlit grasslands"); this is a result of centuries of grazing, primarily sheep grazing, without fertilization.



Shepherd Harald Schmidt in Gambach with his flock in the 1970s.

The pastures are changing

In the 20th century, agriculture began to produce increased yields through mechanization, and at the same time artificial fertilizers were produced, while the demand for wool fell. This meant that sheep were no longer needed. Sheepherding was in decline, and fewer and fewer farms kept sheep. A small proportion of the pastures was turned into farmland through fertilization, but this was not possible in many of the pastures due to their steep terrain or shallow soil – these areas were abandoned to natural processes. When regular grazing is halted, these areas are taken over by matted grasses; shrubs multiply and the biodiversity of these spaces is lost. Nature retakes these small grasslands – they are claimed by forest.

The domino effect in the pastures

Notable plant and animal species

Types of usage

Endangerment due to usage and other

Focus and key species

Problem species

Securing the site

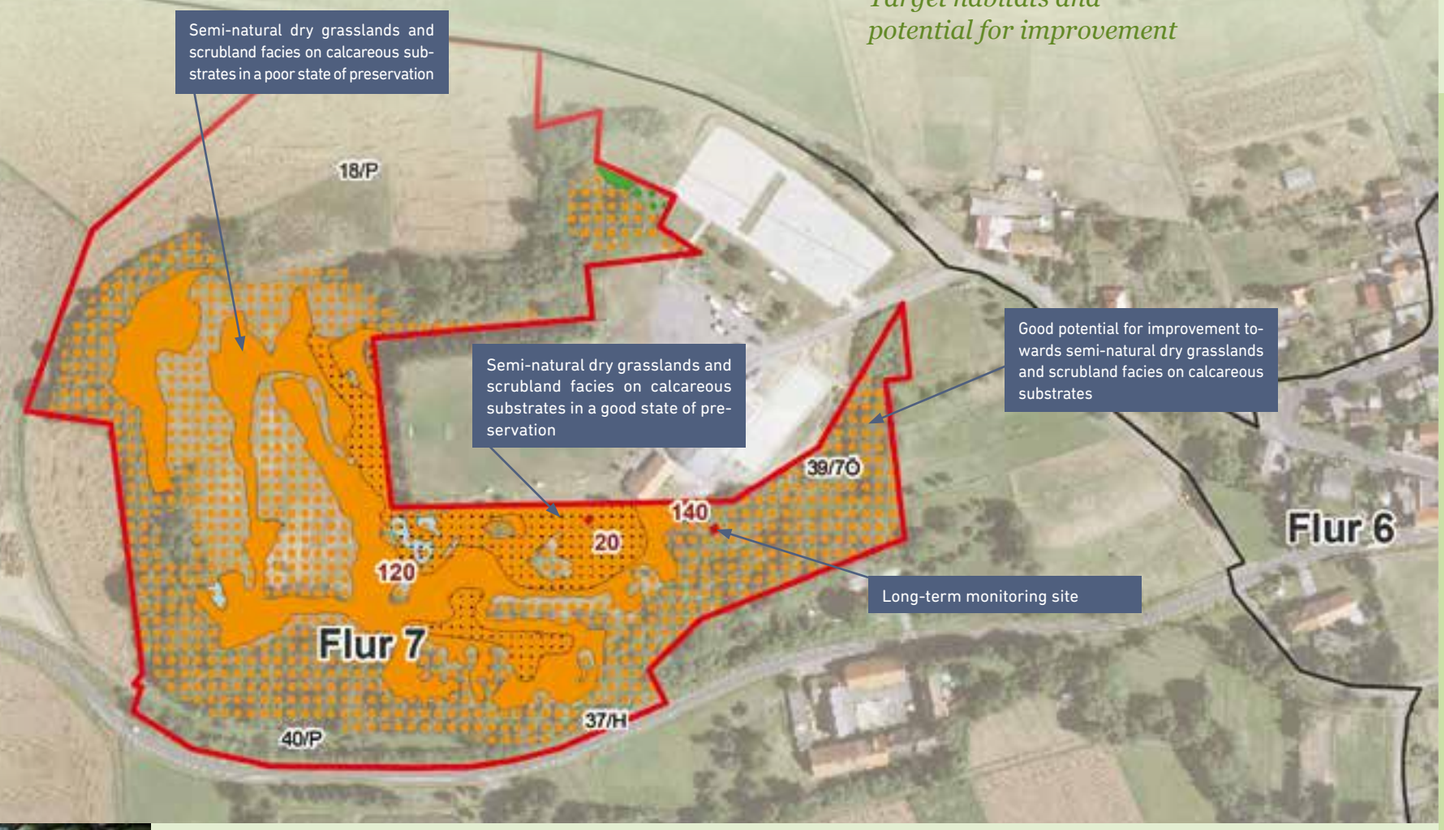
Maps: PlanWerk, Wolfgang Wagner
Sheep mascot: Julia Beltz

Restoration, initial setup and infrastructure measures

Long-term maintenance

The Lohhügel subarea near Ruppertsburg is populated by mostly semi-natural dry grasslands and scrubland facies on calcareous substrates (orange marking); the dotted area shows the potential for this kind of habitat to be developed.

Target habitats and potential for improvement



Vegetation assessments in a sage and oatgrass meadow.
Image: Marion Löhr-Böger

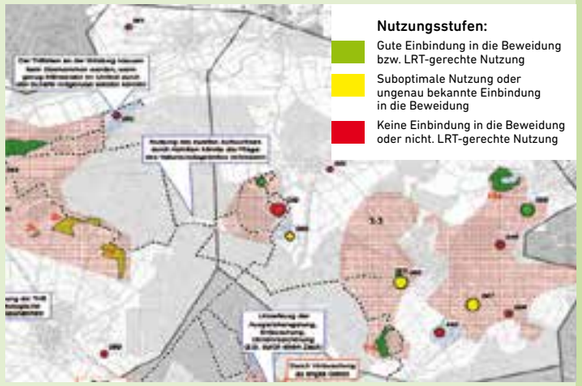
The following habitat types are significant to the project:

When the project began, the overall habitat type area consisted of 177 hectares divided into numerous subareas. At the project's conclusion, there was an increase of 10 hectares in habitat types. It is to be expected that the over 90 hectares of space that have been cleared of shrubs and saplings will develop into valuable sites in the years to come.

Sheep grazing several times per year is the key measure for preservation and development of the habitats. The current usage of the spaces was analyzed and optimized in cooperation with the sheepherders' operations. A good variety of economically viable grazing sites is an important prerequisite for the long-term survival of the sheepherding operations and thus to the maintenance of the nutrient-poor grasslands.

177 hectares – total habitat area at the beginning of the project
10 hectares – increase in habitat area by project's conclusion
90 hectares – project sites that have been cleared of shrubs and saplings and have good habitat potential

Grazing plan and state of preservation (traffic light labelling)



Taking inventory, implementation and monitoring

Getting down to work

The project area consists of 20 FFH areas with 65 subareas, amounting to a total of 2612 hectares. At the beginning of the project, all 65 areas were visited and survey maps created showing the following:

- Habitat types
- Endangered plant species, populations of focus and key species, populations of problem species (shrubs, species indicating abandonment, invasive species)
- Animal species: reptiles, butterflies, grasshoppers
- Usage and state of maintenance
- Limitations, hazards and conflicts
- Potential for development of habitats
- Designation and/or repetition of over 150 long-term monitoring sites

Based on these assessments, targeted measures were drawn up for the 65 subareas.

Maps were created for all subareas. This means that a total of 585 maps (nine maps for each of the 65 subareas) were produced.

In the last year of the project, the areas in which measures had been implemented were visited again and monitored in terms of how well aims had been achieved. It can be considered a great success that already during the project's term, 10 hectares of habitat were re-established in the target areas, and given an optimal amount of sheep grazing, this figure can be expected to increase further in the years to come.

As regards bird and butterfly species, the average overall number of species and the number of endangered species increased significantly; the examples of the increase in the common redstart population (RL Hesse 2) and that of the Eurasian wryneck (RL Hesse 1) make this clear. Another positive development is the fact that after two areas were cleared of shrubs, the blue-winged grasshopper was able to populate these areas.

Lage image: Dr. Günter Bornholdt
Series of images: Christian Sperling
Sheep mascot: Julia Beltz

A new home for the sand lizard and the pasque flower

Measures taken to preserve the nutrient-poor grasslands

Site in the Wehrholz subarea before shrubs were cleared.

Initial improvements

Based on aerial photosfrom 1935, the maintenance and development plan detailed which locations were suitable for the reestablishment of nutrient-poor grasslands. In addition to past usage as grazing land, the location's suitability for long-term grazing was a prerequisite for measures to be implemented there. Based on the plan, during the project 90 hectares were cleared of shrubs, saplings and trees. After being cut back, the shrubs develop robust new growth; depending on the amount, this makes it necessary to ensure regular grazing and also to perform follow-up maintenance in the form of mechanized pruning or mulching. Leasing contracts with shepherds were entered into for these sites, with the express aim of ensuring extensive grazing by sheep and goats. In the mid-term, these sites will continue to be grazed and will create new spaces for nutrient-poor grassland and habitats in which the sand lizard and other species can thrive.

Over 27 hectares of land were purchased to make it possible to implement these measures on privately owned land.

Clearing shrubs with the mulcher.

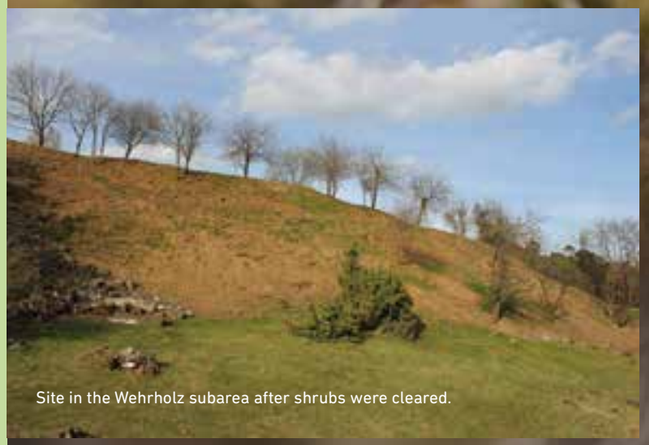
Sheep provide follow-up maintenance of the cleared sites.

Using mechanical equipment from the equipment base .

Sign asking visitors not to dig out the pasque flower.

During the clearing, a dry-stone wall was rediscovered.

The common pasque flower (*Pulsatilla vulgaris*) was reintroduced into some subareas as part of the measures to preserve the nutrient-poor grasslands. Image: Dr. Günter Bornholdt



Site in the Wehrholz subarea after shrubs were cleared.

Sheep as a taxi service

In addition, sheep's wool is well suited to transporting plant seeds, which cling to the thick fibre layer – but the same is true of grasshoppers, spiders, beetles and even lizards, which are quick to use the sheep's back as a kind of transportation service. Sheep serve as living agents of ecological exchange between sites like the small "islands" of nutrient-poor grasslands. This means they are the "taxis" of the open landscape: an unbelievable 10,000 plant seeds from approximately 100 plant species can be transported by a single sheep.

Sheep from left to right: Merino sheep, Suffolk, Rhön sheep and Coburg fox sheep.
Images: Marion Löhr-Böger.
Boer goat, Image: Jürgen Henkel

Who are we talking about?
A brief description of these workers of the animal world

The pastures of the Wetterau are maintained by a wide variety of sheep species. The most common is the merino sheep, which is favoured due to its stamina, general physical robustness and fertility. In addition, it provides a fine, fast-growing wool and it reproduces rapidly. Also present are the Suffolk and Rhön sheep with their black heads, and the Coburg fox sheep, thus named because of its reddish colour. The Boer goat is especially well suited to removing shrubs from overgrown sites.

Not a profession but a way of life –

Sheepherding

What would the landscape of the Wetterau region look like without the native shepherds?

Maintaining orchard meadows, nutrient-poor grasslands and the historic Glauberg site would be impossible without sheep grazing. Even steep slopes, sparsely vegetated ground and land that is inaccessible to farming machinery can be grazed by sheep.

Shepherds are thus the preservers of diverse flora and fauna on land that is unsuitable for modern agriculture and which are at risk of becoming overgrown; they conserve habitats and provide for an exchange between them, thus maintaining the landscape we love. At the same time, they produce healthy and tasty lamb meat and in doing so, continue an ancient tradition. Old sheepherding methods, specialized races of dogs and sheep, and valuable ancillary products of sheepskin and wool are all the work of the traditional shepherds of the Wetterau region.

"... Lamb meat and other sheep products need buyers – otherwise it will be impossible for the shepherds to thrive and continue to maintain the biodiversity of the nutrient-poor grasslands through grazing!"

Being a shepherd with heart, hand, sense and sensibility

The shepherd leans on his crook in a beautiful natural landscape, watching his flock as it quietly grazes, his dog at his side. Unfortunately, this idyllic picture is only a part of the reality:

A shepherd needs a good eye for his animals, has to be good with his hands and requires agricultural knowledge to do the work. The tasks involved change with the seasons – in the winter a lot of time has to be spent working on the stall and with the lambs – in the summer it's storing fodder and herding the sheep. A shepherd must always be able to guarantee that his flock's meadows are being maintained correctly and in accordance with environmental protection standards. A shepherd's daily life also includes maintaining mechanical equipment and fences, veterinary visits, training his sheepdogs and office tasks.

A shepherd has a varied and rich life, but it also requires hard work. A normal working day is 10-12 hours. While in the past the work of a shepherd was passed down from generation to generation, today it can be difficult for a sheepherding operation to find young employees.

Sheepherding operations receive subsidies from the EU, the German federal government and the state of Hesse from agricultural budgets for their contribution to maintaining the landscape with sheep grazing. Cheap imports from abroad mean that the shepherds are unable to earn enough from the production of meat and wool to cover their expenses. However, unlike meat, maintenance of the landscape cannot be imported. Despite the subsidies they receive, many of our native sheepherding operations are experiencing economic difficulties because the profit from marketing their products, even when supplemented with agricultural subsidies, is not enough to cover the high costs of winter feed, leasing costs and the necessary investments. The workload involved in keeping animals means that shepherds can't take the weekend off or go on holiday; this is another factor that has led to a years-long decline in the number of sheepherding operations and sheep in our region. The LIFE project has contributed to giving the important work of the shepherd the recognition it deserves.

One of a shepherd's many tasks: clipping hooves.
Image: Andrea Gerlach

Shepherd with his dog at the state sheepherding competition at the Shepherd's Festival in Hungen in 2014. Image: Jan-Lukas Böger

Shepherd's meeting at the state garden show in Bad Nauheim in 2010.
Image: Hoffmann

The town shepherd of Hungen with his herd at the traditional Shepherd's Festival in the town. Image: Ed Erbeck

Not all shepherds operate using traditional sheepherding methods, because these are by far the most work-intensive. The paddock method of keeping sheep involves less labour. In the LIFE project area, there are still numerous professional shepherds, but also many shepherds for whom the work is a hobby. Both received support from the LIFE project.

Sites

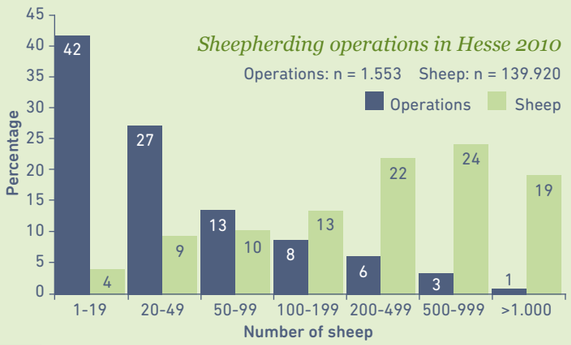
In order to provide one flock (370 female breeding sheep and offspring) with ensilage and hay for the winter, the shepherds in the LIFE project area work an average of 82 hectares of land which are divided into 40 to 100 sub-areas. On average, the sites are located 14 kilometres from the sheepherding operation; although some sites are nearby, the shepherds have to travel relatively long distances to reach the sites.

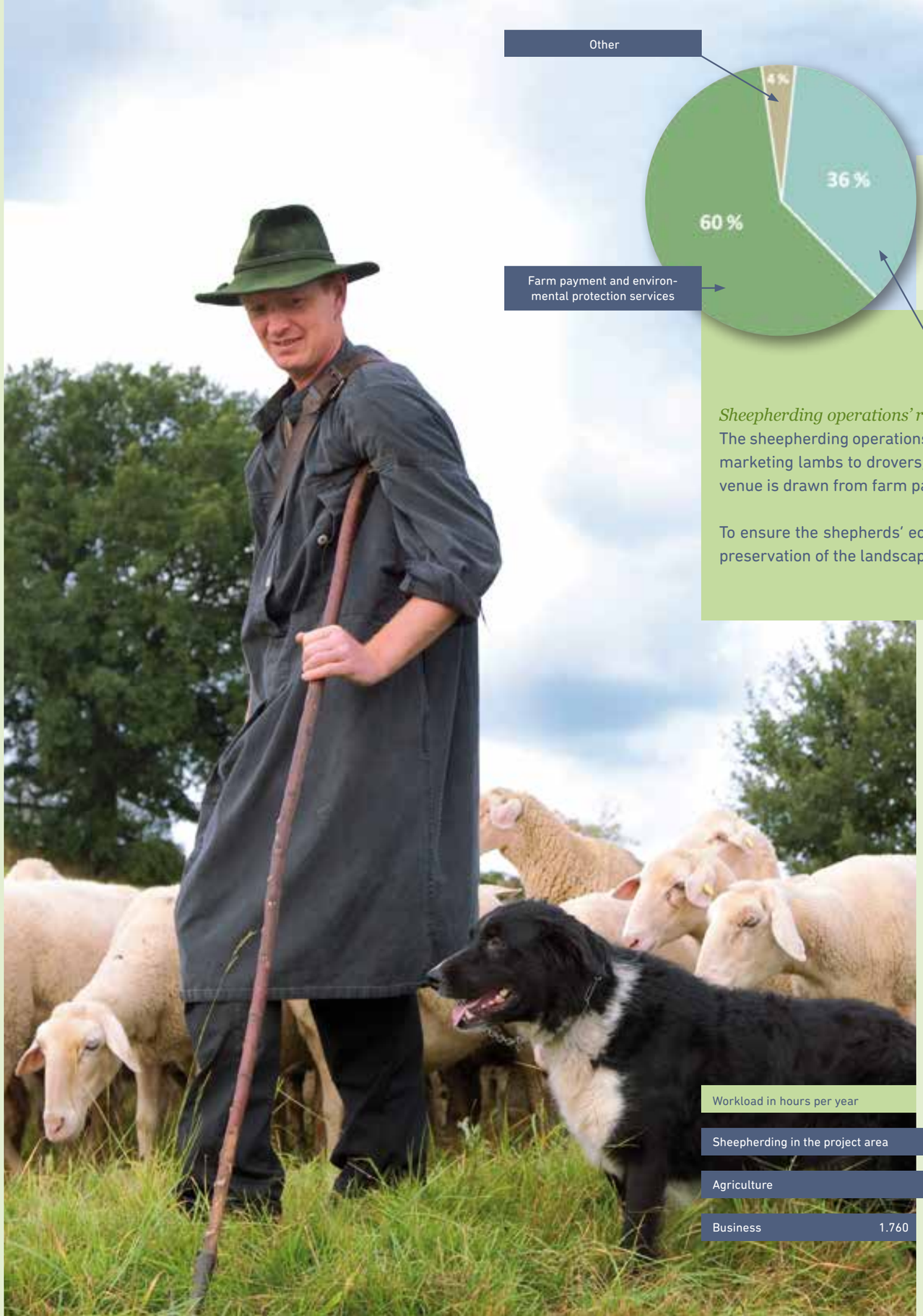
To be economically viable and as a prerequisite for receiving agricultural subsidies, a sheepherding operation requires a good variety of sites with a suitable mix of grazing, mowing and winter grazing, and a well-defined lease.

Size of flocks

In general, sheepherding is on the decline. In Hesse in 2010, 1,553 sheepherding operations held a total of approximately 140,000 sheep. The graph shows the relationship between the size of the operation and the animals held. Almost 70 percent of operations can be considered as hobby sheepherding (fewer than 70 animals). This 70% of operations hold only 13% of the sheep. This is compared to 10% of the operations which own 200 or more sheep; these operations account for 65% of the sheep in Hesse. In the project area, these operations which sheepherding is the main economic activity own on average 370 animals.

The sheepherding operations in the project area have small flocks when compared with the Germany-wide average. The isolated location of the pastures limits their growth.





Shepherd Christian Krauthahn, Image: Antina Walther

sheepherding in the project area

Facts and data

Sheepherding operations' revenues

The sheepherding operations within the LIFE project area draw 36 of their revenue from marketing lambs to drovers, restaurateurs and private customers. Sixty percent of revenue is drawn from farm payments and environmental protection services.

To ensure the shepherds' economic survival, suitable remuneration for maintenance / preservation of the landscape is of particular importance.

Workload

One employee is calculated as working 8 hours a day for 220 days per year; this is a total of 1,760 hours per year. In the agricultural sector, one employee at management level is calculated as working as many as 2300 hours per year. An estimate by the shepherds in the project area was summarized at an average of 3700 hours of work per year, with a flock of 370 female breeding sheep and 82 hectares of land. The workload involved in sheepherding must be ranked as very high.

A shepherd must invest 10 hours of work per breeding female and lamb. Herding the flock in summer and performing tasks in the stall in winter are especially work-intensive.

For sheepherding operations to remain economically viable in the long term, work processes and the operations' infrastructure urgently require optimization.

Image: Christian Sperling

Why are these trees wearing corsets?
Certain breeds of sheep and especially goats love to eat the bark of trees. This presents shepherds with the problem that the trees die off after the bark has been peeled away. The shepherd bears the responsibility for protecting the trees, including financial responsibility for any damage. The shepherds generally use ancient traditional methods to protect the trees: avoiding orchard sites during rainy weather (sheep like the bark especially well during rain) or rubbing the bark with sheep dung (this makes them leave the bark alone). However, the fact that more and more sheep are held in paddocks has made the problem worse.

Protective equipment in the form of metal corsets placed around the trunk of newly planted fruit trees make it easier for shepherds to protect the trees; these protectors were purchased using funds from the LIFE project.

Large image: Christina Marx

We maintain the landscape you love

Cultivation of landscape with sheep

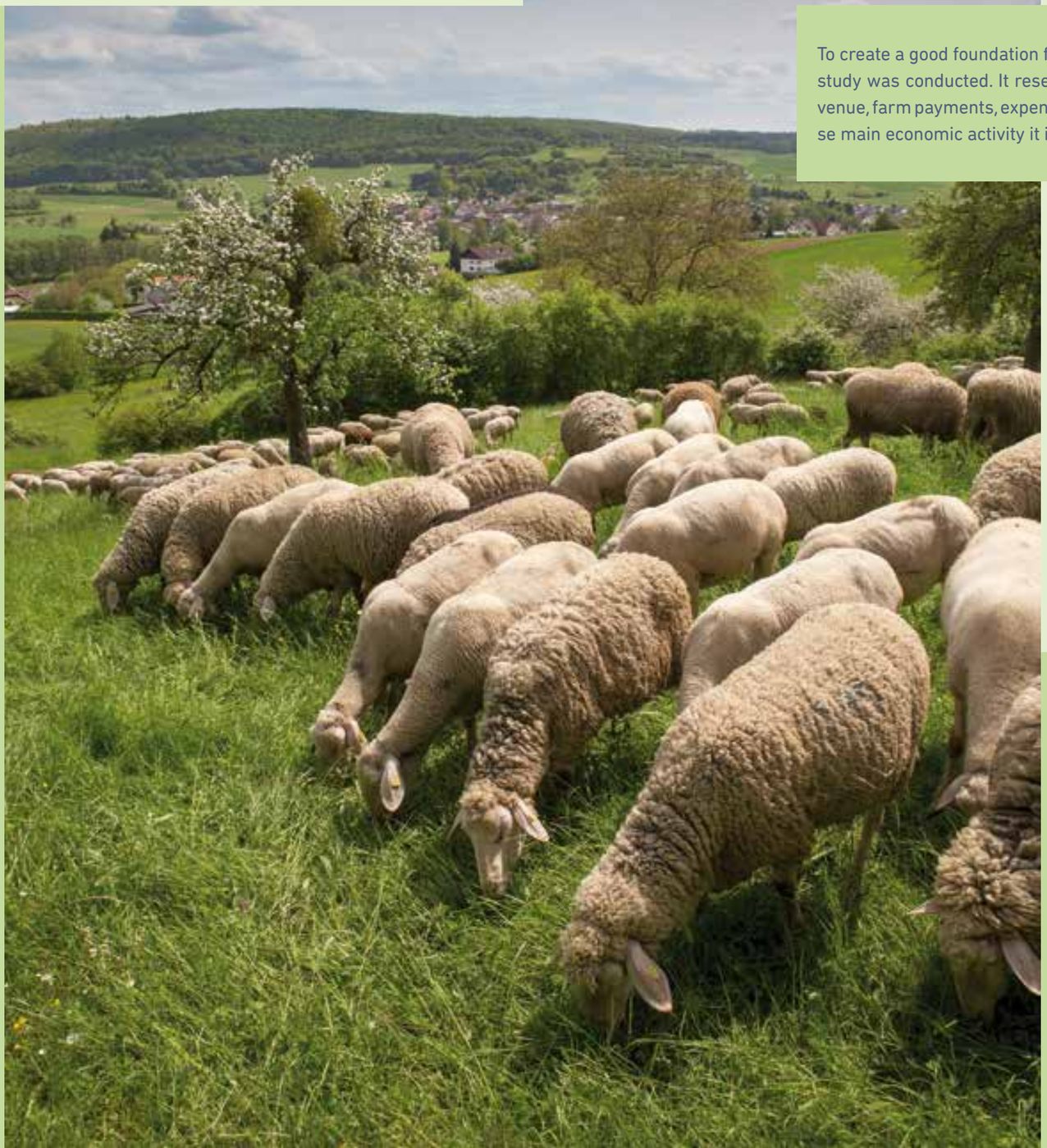
To create a good foundation for the LIFE project's support of shepherds, a socioeconomic study was conducted. It researched the economic base (grazing sites, size of flocks, revenue, farm payments, expenses) of 13 out of 25 sheepherding operations, both those whose main economic activity it is and those for whom it is an ancillary business, or a hobby.

To improve the economic situation for sheepherding operations, the project took the following approaches:

The viability of a **public-sector sheepherding operation** was examined. Two possible models were defined in towns within the project area and the theoretical figures were calculated in cooperation with the local parties involved. The aim is to ensure that sheepherding operations receive suitable remuneration for the part they play in environmental protection, maintenance of the landscape including the preservation of open spaces, and improving outdoor recreation for residents of the region. This model approach will only be feasible if public monies are made available to help with expenses.

ITo optimize work processes in the sheepherding operations and their revenue flow, shepherds can benefit from professional advice on site management, business administration and farm cartography within the framework of an **overall business-oriented biodiversity consultation programme**. This consultation programme for shepherds was designed as part of the project along with all institutions involved and will be implemented after conclusion of the LIFE project as part of the Hessian Agricultural, Environmental and Landscape Maintenance Programme (German abbreviation: HALM). The aim of the consultation is to infuse operational and business knowledge bases with awareness of environmental protection requirements and the preservation of biodiversity, and to find ways to reconcile the operations' economic needs with the necessity of an environmentally friendly use of the land.

Improvement in the variety of sites available to the sheepherding operations: In order to produce enough lambs, a sheepherding operation requires an optimal ratio of summer grazing land to mowable fields and winter grazing land. This is a basic requirement for the economic viability of a sheepherding operation. Since having their sheep graze the habitat sites brings them little economic reward, the shepherds should be allowed to graze them free of charge. Local governments, governmental authorities and environmental protection groups can and must act as support for the shepherds.



The plan was to develop a marketing concept and assess whether the introduction of a brand to market regional lamb meat would be productive. Butchers and restaurateurs were also surveyed.

The study came to the surprising conclusion that the revenue from marketing lamb in the project area, due to the introduction of the Wetterau Country Lamb Festival and other measures, is already relatively good. The decision was made not to introduce a regional brand of lamb due to the unfavourable cost/benefit ratio for the sheepherding operations. The sobering conclusion of the study was that the main activity of the sheepherding operations, maintenance of the landscape, is not sufficiently rewarded financially.

The **service contract** model approach aims to provide shepherds with an additional economic pillar by having them take on maintenance tasks for fields, meadows and/or environmentally protected sites (ecological compensation areas, solar parks, cultural heritage sites, etc.).

Where the conditions at the site are somewhat difficult (slope of 10 to 30 degrees), the maintenance of one hectare of land can be a competitive enterprise (Expenses grazing/hectar: EUR 573, paddocking/hectare: EUR 397).

Advantages of grazing are that the "crop" is immediately transported off-site, soil compaction is avoided and structures on the site are spared any damage.

Large image: Jutta Katz

Stationary fences to protect the animals are especially useful on roadsides and quarry edges.
Image: Christian Sperling

The generations learning from one another: apprentice shepherd Benedikt Schwing (l.) with Jesús Garzón, the Spanish pioneer of mobile grazing science; project manager Jutta Katz; and the town shepherd of Hungen, Ralf Meisezahl (r.). Image: Ingrid Schick

High-tech equipment facilitates the subsequent maintenance of the sites and is available at the maintenance equipment base. Image: Jutta Katz

Site visit "On the Lohrain" with the regional manager and the players after the restoration of skimmed grassland by spruce removal.
Image: Jutta Katz

Nutrient-poor grasslands depend on sheepherding:

LIFE supports the shepherds

Improvement of cooperation between shepherds

- Moderated brainstorming group for shepherds with the aim of improving the sheepherding network and connection to the project
- Grazing meetings for informational exchange and interpersonal networking
- In the sheepherding town of Hungen, financing training for two apprentice shepherds with focus on environmental aspects in order to ensure the existence of young employees
- Additional training and consultation services for shepherds

Optimization of grazing

- Provision of a water supply in 30 subareas, including purchase of 14 water barrels, two connections to water pipes, installation of a standing pipe with a drinking trough and the purchase of pump equipment for a well
- Purchase of 10,500 metres of mobile and 1,700 metres of fixed grazing fences, 25 electrical fence units, 500 fruit tree protectors, three rechargeable hoof clippers, three refrigerated wagons and one sheep-sorting device
- Establishment of a base for agricultural maintenance equipment in Nidda; the equipment can be used by both volunteer and professional shepherds
- Purchase of land for the implementation of measures to ensure the sustainable, environmentally friendly use of the land

Shepherds with two new breeding rams. Image: Christian Sperling

Apprentice shepherd and lamb princess (2012-2014): Franziska Storch.
Image: Marion Löhr-Böger

Often the sheepherding operation is far from the grazing meadows, which makes it difficult to provide the herds with water – LIFE+ helped by purchasing water vehicles and putting in water pipes. Image: Christian Sperling

Additional measures

- Purchase of a flock so that two subareas can be newly grazed for landscape maintenance; a herd of Boer goats to graze two subareas; five merino rams for breeding; twelve breeding Rhön sheep females; 400 breeding female sheep for the town sheepherding operation of Hungen
- Reestablishment of nutrient-poor grasslands at sites where habitat disruption had taken place
- Removal of shrubs and saplings on approximately 90 hectares
- Measures to combat invasive species
- Removal of trash, refuse, old fences, huts, trailers and fireplaces
- Creation of "tandem sites" consisting of nutrient-poor grasslands and more lushly vegetated land, both of which are leased to shepherds
- The sites purchased for the project leased free of charge
- Communication of area-specific information to the communities involved in the project with the aim of promoting sheepherding and leasing the habitats free of charge

Significance of sheepherding to the preservation of the nutrient-poor grasslands – improving public awareness

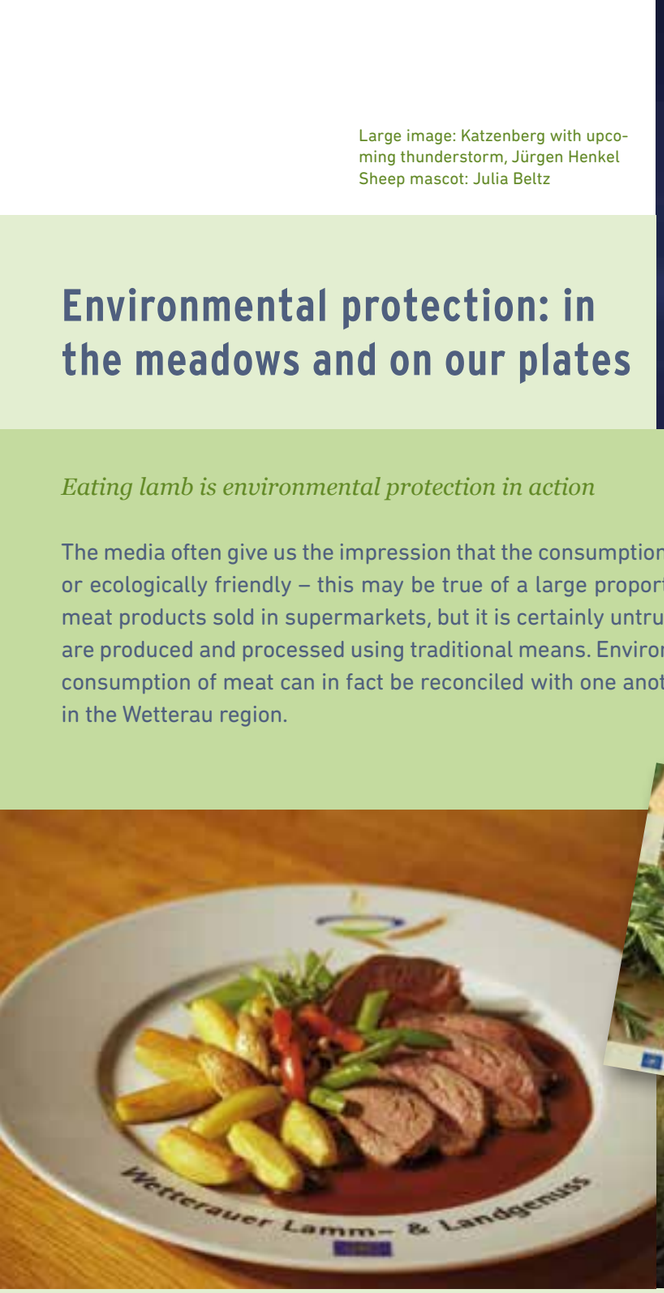
- Project website with specific press reports
- Creation of the lamb mascot in order to appeal to children
- Creation of the Sheep and Nature multimedia room in Hungen
- Hikes (e.g. along the sheepherding and nutrient-poor grasslands route in Nidda) and information booths at local festivals with lamb tasting and sale of sheep-related products along with the shepherds
- The travelling exhibition "Grazing meadows" with 20 informative and appealingly illustrated roll-up banners were exhibited in the project area; tours were given for groups of all ages with culinary lamb tasting sessions
- Over 100 culinary events were held, including tours, bike tours, a variety of cooking classes, tours of the travelling exhibition "Grazing meadows" and the Sheep and Nature multimedia room, especially at the annual Wetterau Country Lamb Festival
- A flyer containing lamb recipes was produced and printed

Large image: Katzenberg with upcoming thunderstorm, Jürgen Henkel
Sheep mascot: Julia Beltz

Environmental protection: in the meadows and on our plates

Eating lamb is environmental protection in action

The media often give us the impression that the consumption of meat is not sustainable or ecologically friendly – this may be true of a large proportion of the mass-produced meat products sold in supermarkets, but it is certainly untrue of regional products that are produced and processed using traditional means. Environmental protection and the consumption of meat can in fact be reconciled with one another, right on our doorstep: in the Wetterau region.



Culinary display – leg of lamb, deliciously prepared according to the Wetterau Country Lamb Festival's recipe flyer. Image: Dieter Klenk

Sausage from the project area. Image: Christian Sperling

Image left: Wetterau Country Lamb Festival stand at the 2013 Country Specialties show. Image below: Cooking demonstrations with lamb at the 2013 Country Specialties show. Both Images: Christian Sperling

How does it work?

Supporting the shepherds financially by buying local products ensures their economic viability and continued existence, which in turn is absolutely necessary for the preservation of the nutrient-poor grasslands and biodiversity in the landscape. Eating lamb is environmental protection in action and, even if one doesn't feel comfortable with eating meat, purchasing regional sheep products like wool or delicious feta cheese, helps improving the financial subsistence of the shepherds. In addition to environmental protection and supporting the local sheepherding operations, consumers can rely on the excellent quality of the lamb ...fresh meat, not meat that has been transported who knows how from the other side of the world. Although lamb is so delicious, unfortunately in Germany it does not enjoy great popularity: just under 1% of the meat consumed in Germany is lamb or goat meat. Part of the project was to publish and display delicious recipes and culinary concoctions.

"Wetterau – naturally delicious" is the motto of the Wetterau Country Lamb Festival which takes place each year in September. During the festival, restaurateurs from the project area are at hand with delicious lamb products and with events informing the public about the lambs of the Wetterau. They work hand-in-hand with shepherds and butchers from throughout the region and apart from a wide variety of culinary exhibitions, they increase public awareness about biodiversity and landscape maintenance. The butchers and many restaurateurs have lamb for sale and on the menu throughout the year, so the public has access to it even after the Country Lamb Festival is over. The restaurateurs cooperated in designing a flyer with their best lamb recipes so that guests will be encouraged to prepare lamb dishes at home. These recipes use all parts of the lamb, so that the valuable lamb meat is utilized profitably.

Large Image: Michael Elsaß
Shepherd with his flock in front of the Glauberg Celtic museum
Sheep mascot: Julia Beltz

LIFE in the field

Tours gave members of the public a glimpse of the fascinating biodiversity of the pastures of the Wetterau and informed them about the special characteristics of each subarea. "LIFE in the field" increased public awareness and appreciation of the region. The combination of a tour followed by a variety of lamb dishes was especially popular. Where possible, tours were held in cooperation with volunteer groups or with local shepherds. The training of nature and cultural guides means that even after the conclusion of the project, the public can go on these tours. The walking routes with signposts make it possible for walkers to discover the grasslands for themselves.

Tours of the project area are very popular. Image: Bodo Fritz

Learning through play – groups of children touring the travelling exhibition. Image: Volker Schmülling

Discover nature live: tours for groups of children, leading to a curious and environmentally friendly younger generation. Image: Kerstin Bär

The travelling exhibition "Grazing meadows" with its appealingly illustrated roll-ups was shown at several locations within the project area and beyond.

Images of the "Sheep and Landscape"-pavilion at the Glauberg Celtic site from left to right: beak-spouted ewer with enlarged pollen (Image: Axel Träger), boards with "scent-station" and plant characteristics, newly constructed pavilion before plantation (Images: Thomas Lessig-Weller).

Public relations

LIFE for the general public ...

More about LIFE

- Informative and appealing website www.wetterauer-hutungen.de with numerous informational downloads
- Events, biodiversity-themed hikes in the pastures of the Wetterau
- LIFE project representation at local festivals and events such as the Green Week in Berlin, the Ortenberg market and the Shepherd's Festival in Hungen
- The project film "LIFE in the Shepherd's Wagon" (also available on DVD; total number of copies: 2,000)
- Calendar as a thank-you present to all involved
- Information packet on the pastures, to be used in training nature and cultural guides
- Seminar information packet accompanying the concluding event "Nutrient-poor grasslands depend on shepherding" and the event "Sheepherding and hunting"

"Sheep and Landscape" at the Glauberg Celtic site

At the conclusion of the project, an informative pavilion was opened outside the Celtic museum at the Glauberg site. Here, museum visitors can find out how important the sheep has been to humankind throughout human history, and how important they remain today. The focus is on interactively experiencing the correlation between today's rich diversity of species on the pastures of the Wetterau and the history of sheepherding and nutrient-poor grasslands.

The pavilion presents pollen of heath, thyme and the wild carrot in a stunning 7000-fold enlargement. Pollen of these plant species have been found in a beak-spouted ewer in one of the Celtic graves of the Glauberg site – an evidence for the existence of those species in the Wetterau region back in Celtic times.

Large Image: Kerstin Bär
Sheep mascot: Julia Beltz

Public relations

On the shepherd's trails – Hiking the Wetterau region

"On the shepherd's trails", a 12 km long loop route with its starting and arrival point at the "Hungener Käsescheune", the hiker experiences the beautiful landscape accompanied by nine signboards. Those intend to put the readers into the world of the sheep, show them historical sites or highlight a great many of regional special features. This route can be combined and extended with the route "Man and Nature" but it is also possible to hike a family-friendly shortcut.

The hiking trail **"History of the Landscape"** on the Glauberg site is 11 km long and equipped with diverting and informative "2-minute-signs". Aspects of the history of the landscape are presented – ranging from geology to soils and as far as the former use. Nevertheless, the connection to sheepherding and its contribution to biodiversity is kept in focus.

The route **"Man and Nature"** at the project subarea and part of a FFH-area "Köppel bei Langd" complements the enjoyment of nature with five informative signboards.

In Münzenberg, the **"Short shepherd's tour"** connects the rocky hills "Götzenstein" and "Traiser Steinberg" with the FFH-area "In der Metz bei Münzenberg". The signposted route informs about the volunteers work, the "survivalists" within the plant- and animalspecies, the protected-areas programme "Natura 2000" and many more.

Those hiking routes throughout provide great opportunities of combining a great nature hike with other exciting highlights of the project: The "Sheep and Nature" multimedia room inside the "Hungener Käsescheune", the Glauberg Celtic site with the pavilion "Sheep and Landscape" or a culinary detour to one of the cooperating restaurateurs of the Wetterau Country Lamb Festival.

Guided tour "on the shepherd's trails". Image: Dr. Ilona Gebauer

Guided tour "Wild herbs" in spring. Image: Bodo Fritz

During the project term, guided tours through the landscape of the Wetterau region were very popular. After the conclusion of the project, people are invited to discover the beauty of nature by themselves – on one of the informative hikin routes for example. Image: Jutta Katz

Example of a signboard, which can be found alongside the hiking routes.

Signed hikingways– not only on the Shepherd's trails

On the **"sheepherding and nutrient-poor grasslands route"** from Eichelsdorf to Nidda you will find a 12 km-long walking route with a total of 22 stopping points furnished with well-illustrated, brief and informative signboards to increase visitors' awareness of natural science, cultural history and the history of the landscape. The focus is on sheepherding and its contribution to preserving biotopes and ecosystems with their characteristic plants. This very varied route has several outlook points with lovely views of the Vogelsberg and can be hiked in four hours.

Ten thousand copies were produced of the corresponding brochure, including a hiking map; it can also be downloaded on the Internet.

Large Image: Frank Hellwig
Series of images: Träger & Träger

Public relations

"Sheep and Nature" multimedia room

The "Sheep and Nature" multimedia room offers visitors many fascinating insights into the biodiversity of the pastures of the Wetterau, sheepherding today and in the past, the sheep as a domestic animal, the significance of volunteers to environmental protection, and the LIFE project. The centre offers multimedia experiences for all age groups.

ERLEBNISRAUM *Schaf und Natur*
UNTERWEGS IN DEN WETTERAUER HUTUNGEN

Erlebnisraum Schaf & Natur
in der Hungener Käsescheune
Brauhofstraße 3-7, 35410 Hungen

Opening hours: Tuesday - Saturday 9 a.m. - 11 p.m.,
Sunday 11 a.m. - 11 p.m.

Groups of visitors can register for a tour guided by members of the local environmental protection association. To make an appointment, please call 06402 85-0 in Hungen.

Volunteer animals – goats help clear away shrubs. Images from left to right: Christina Marx, Jutta Katz and Jürgen Henkel.
Large image: Jürgen Henkel

People and organizations involved in the project

The volunteers – We did it together

Working for the LIFE+ project with energy and commitment

Volunteers are very important to the pastures of the Wetterau. Volunteer associations had been active at many of the sites even before the LIFE project began; their aim was also the preservation of these areas. Volunteers helped to clear sites of shrubs, cut away undergrowth from pasture fences and perform follow-up maintenance on grazing sites.
These measures were primarily meant to allow grazing to continue. Volunteers also guided tours to give the people of the region a chance to experience the beauty and biodiversity of the pastures.

Without these initiatives, which were also supported by institutions such as the Environmental Protection Fund of the Wetterau and environmental protection authorities, the project "Pastures of the Wetterau" would hardly have come about. Some of these volunteer environmental protection groups were important supporters of the LIFE project. Many of the LIFE project's events were carried out in cooperation with volunteers, so that public relations efforts had the benefit of a broad base.

The environmental protection activities were as varied as the topics: improvement measures were carried out on biotope sites, including clearing the shrubs from the nutrient-poor grasslands as part of the LIFE project or the maintenance of orchards, erection of cairns or construction of an insect hotel. Additional focal points were taking inventory and banding birds, and taking measures to protect other species groups such as butterflies, reptiles and plants.

Image: Christian Sperling

Image top: Kerstin Bär
Image left: Peter Schulze

Lots of volunteers at work.
Images top and left: Christian Sperling, image below: Bodo Fritz

"... doing physical labour outdoors in nature can be tiring, but it's often really enjoyable as well. We found that out again and again – after all, out here you can see right away what you've accomplished!"

A total of 66 meetings of the project steering committee, six meetings of the project's accompanying task force and over 200 coordination meetings went into the administration of the LIFE project. Only the active support and great commitment of numerous people made successful implementation of the project possible. Our most sincere thanks to those below and to many others not named.

People and organizations involved in the project

The many who helped

2011: Press event at the Hunsrück. Image: Uwe Bonarius

2011: Presentation of the recipe Flyers of the Wetterau lamb and country pleasure. Image: Dr. Ilona Gebauer

Shepherds and goatkeepers:
Thomas Daume, Björn Edelmann, Thomas Etzel, Hubert Feyh, Sven Fischer, Dirk Gutsche, Wolfgang Heller, Burkhard Kammer, Guido Kammer, Christian Krauthan, Kurt Lind, Peter Link, NABU Ober-Lais, Ralf Meisezahl, Christiane Rehahn, Anja Reifegerste, Ingo Regen, Andreas Schmid, Wolfgang Schnarr, Dirk Schneider, Sascha Schumacher, Franziska Storch, Wolfgang Wagner, Mathias und Egon Walter, Schäferei Hüttenberg, Wilhelm Weißelberg jr., Ottmar and Sebastian Wirth

Volunteers:
Max Burk (Nature protection group Ober-Mörlen), Wolfgang Eckhardt (SDW Nidda), Erik Fischer (NABU Laubach), Bodo Fritz (NABU Langd), Axel Georg (Nature protection group Unter-Schmitten e.V.), Günther Guth (Orcharding & gardening club Ober-Widdersheim e.V.), Norbert Heßler (Nature protectiongroup Villingen working group nature and bird protection), Thomas Heyer (Nature protection group Birklar), Luise Klee (NABU Steinbach), Thilo zur Löwen (Working group Traiser Steinberg), Karin Morkel (Nature protection group Pohlgöns), Jürgen Purtz (NABU Glauburg), Robert Parr (NABU Langd), Steffen Rodekurth (Fire department Trais-Münzenberg), Frank Reusch (Orcharding & gardening club Niederkleen), Robert Scheibel (Nature protection group Ober-Mörlen), Harald Schad (Nature protection group Stornfels), Reinhold Stock (Nature protection group Ober-Schmitten), Sabine Tinz (Nature protection group Münzenberg), Sven Wagner (NABU Laubach), Horst Wagner (Ruppertsburg), Lars Wichmann (Nature pro-Tection group Ockstadt), Werner Zimmer (HGON), and many more

Cultural and nature guides:
Karin Bochenek, Esther und Lars Corsmeyer, Wolfgang Eckhardt, Werner Erk, Bodo Fritz, Walter Gasche, Richard Golle, Renate Hecht, Bernd Hoffmann, Michael Kammer, Andreas Kauderer, Nicole Krauthahn, Christina Marx, Dr. Angela Metzner, Annette Miksch, Karin Morkel, Barbara Georg Norgall, Anne Paech, Robert Parr, Daniel Schmidt, Beate Schubert, Sabine Tinz, Jürgen Vogt, Anja Wölm

Planning, conception, design, monitoring, moderation, print:
Gudrun Beekmann Mathar (solidee: educational concept), Dr. Günter Bornholdt (PGNU: zoology, monitoring), Frank Czarnach (Film), Kristin Engelmann (cubic-design: grafic design), Dr. Benjamin Hill (PGNU: zoology, monitoring), Markus Hofmann (PlanWerk: pasturing concept), Thomas Gärtner (PBV Tourism: signage hiking tracks), Dr. Ilona Gebauer (GEBAUER consulting: shepherd's network, moderation), Gonzo (print signage), Gründrucken (print flyer), Johannes Lang (Institute for animal ecology: moderation, contribution hunting), Marion Löhr-Böger (PGNU: flora, habitat mapping), Dr. Randolf Manderbach (manderbachmedia: CI, homepage), Markus Mayer (Office for landscape concepts: consulting, moderation), Dr. Angela Metzner (Hiking track Hungen), Dr. Stefan Nickel (PlanWerk: GIS), Postermaxx (Print travelling exhibition), Heidi Sieker (Film), Regina Sternstein (Zündstoff – Grafikdesign: grafic design), Ingrid Schick (Ingrid Schick Communications: press), André Staarmann (JLU Gießen: Institute for Geography), Dietmar Teuber (Plantago: moss, lichen, monitoring), Josef Tiefenbach (Support land purchase), Axel and Andreas Träger (Träger & Träger: „Sheep and Natur" multimedia room, „Sheep and Landscape" pavilion), Markus Wieden (Office for Landscape analysis: preparation of actions), Axel Wirz (FiBL: socioeconomics, marketing concept, co-development shepherding model, consulting), Veronika Wagner (PlanWerk: GIS, habitat mapping), Wolfgang Wagner (PlanWerk: flora, habitat mapping, pasturing concept, management planning and monitoring), w3print+medien (Print Roll-ups, calender), and more

Landscape conservation companies::
Berthold Antony, ELTOR, Forstservice Peppler, Landschaftspflege Weiß, Michael Herzberger, RDW Pro, Rudolph Garten- und Landschaftsbau GmbH, Scherz Umwelt GmbH und Co. KG, Thorsten Nagel, Wetterauer Agrar Service GmbH, Wildsaaten GbR, WISAG Garten- und Landschaftspflege Hessen GmbH & Co. KG, i.a.

Partners in the project implementation:
Ulrike Haupt (City of Hungen: i.a. organisation Shepherd's festival), Renate Hecht (Käsescheune: „Sheep and Nature" multimedia room), Thomas Lessig-Weller (educator of the Glauberg Celtic site museum: „Sheep and Landscape" pavilion and festivals at the Glauberg site), Bernhard Neugirg (NAH: organisation of the conference 2014, guided tour 2012), Dr. Vera Rupp (Manager of the Glauberg Celtic site: „Sheep and Landscape" pavilion and festivals at the Glauberg site), Reiner Wechs (Käsescheune: „Sheep and Nature" multimedia room)

Restaurateurs of the "Wetterauer Lamm- und Landgenuss":
Bistro Restaurant Weinscheune (Echzell), restaurant at OVAG apetitocatering B.V. & Co. KG (Friedberg), cafeteria at the community building of the Wetteraukreis (Friedberg), Deutsches Haus (Hungen), Gasthaus Zur Linde (Wölfersheim), Gasthofbrauerei Hotel Zur Traube (Nidda), Hungener Käsescheune (Hungen), GenussScheune (Reichelsheim-Weckesheim), Hotel Restaurant Cafe König (Duckys) (Bad Nauheim), Hotel Restaurant Cafe Schloss Ysenburg (Florstadt-Staden), Hotel Restaurant Tannenhof (Laubach-Gonterskirchen), Kreilings Sommergarten (Bad Vilbel), Landhaus Fürstengarten Stornfels (Nidda-Stornfels), Landhaus Klosterwald (Lich-Arnsburg), Restaurant Bürgerhaus Butzbach (Butzbach), Restaurant Kochschule Cafe Bankett Schlosshotel Gedern (Gedern), Restaurant Neidharts Küche (Karben), Restaurant und Biergarten Hof Grass (Hungen), Wirtshaus Cafe Uhrnstubb (Nidda- Wallernhausen), Wohlfühlrestaurant Gud´Stubb (Münzenberg), Zum Gerippte® (Friedberg-Ockstadt), Zum Heiligen Stein (Lich-Muschenheim)

Butchers/direct marketers „Wetterauer Lamm- und Landgenuss":
Die Limes-Metzger (Hungen), Fleischerei Kirchhof (Nidda/Ober-Schmitten), farm shop of family Antony (Rockenberg), Margarethenhof (Family Kliem) (Karben Kloppenheim), Metzgerei Marco Fischer (Nidda Unter-Schmitten), Metzgerei Norbert Philippi (Wölfersheim), Schäferei Langsdorf (Reiskirchen), Winter's Hofladdchen (Friedberg-Bruchenbrücken)

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2013: Excursion to the Thuringian shepherds and the LIFE project "steppe grass„ . Image: Christian Sperling

2014: Opening of the exhibition "Sheltered pastures „in the circle house of the district of Gießen. Image: Ingrid Schick

2012: Hygiene training within the framework of the LIFE project. Image: Christian Sperling

2013: Chainsaw training as part of the LIFE project. Image: Christian Sperling

2013: Presentation of the grazing concept at the meeting of the shepherds. Image: Christian Sperling

2013: Feedback session after the completion of the Wetterau lamb and country pleasure in the cheese barn in Hungen. Image: Christian Sperling

2012: Training of restaurateurs on the Hutung the "Traiser Steinberg". Image: Kerstin Bär

2014: Final Conference "Without sheep no Magerrasen". Image: Marion Löhr-Böger

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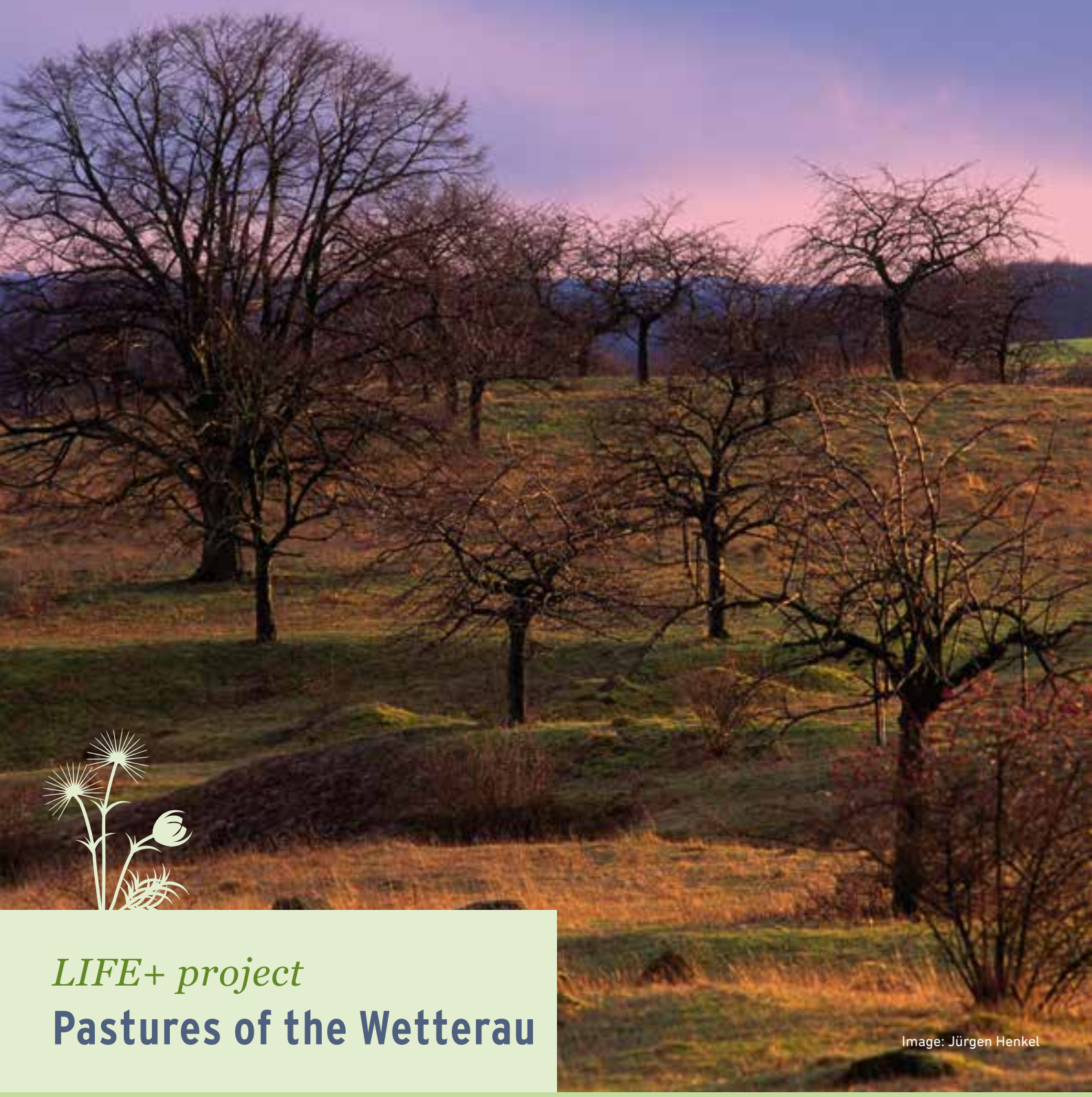

Image: Jürgen Henkel

LIFE+ project

Pastures of the Wetterau

Project data

Budget: approximately €4,100,000, half of which came from the EU
Length: five years, from 2010 to 2014
Project management: Hessian Ministry of the Environment, Climate Protection, Agriculture and Consumer Protection (HMUKLV)
Project partners: Cities of Hungen and Nidda, Wetterau district
Internet: www.wetterauer-hutungen.de

Supporters:

Communities: Fernwald, Glauburg, Rockenberg, Ober-Mörlen, Ranstadts. **Cities:** Butzbach, Laubach, Lich, Münzenberg, Ortenbergs **Organizations within the Wetterau region:** Naturschutzfonds Wetterau e. V., nature protection advisory council, lower nature conversation authority, regional agricultural comitee. **Associations:** Nature and bird protection group Feuerbach and Ober-Schmitten, nature protection groups Unter-Schmitten and Ober-Mörlen, BVNH, NABU Langd, NABU Hirzenhain, protection association German Forest. **Clubs:** Shepherding club Hessen-Nassau, history club Glauburg, orcharding & gardening club Ober-Widdersheim, Weidewelt e.V. **Additional supporters:** Hungener Käsescheune, Glauberg Celtic site, regional authorities for heritage conservation, regional management Oberhessen, nature protection acadamy Hesse, national park Hoher Vogelsberg, region Vogelsberg tourism, German volcanic society. **Sponsors:** OVAG, Sparkassenstiftung Oberhessen, Sparkassenstiftung Laubach-Hungen. Our sponsors supported the project by donating a total of €45,000.