



# Report for the Periodic Review of Rhön UNESCO Biosphere Reserve 2013

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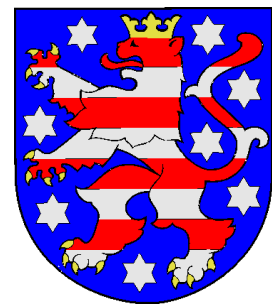
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# 1 PREFACE

The Rhön Biosphere Reserve is a typical example of the landscape of the low mountain ranges in central Germany, with beech forests, upland meadows, and oligotrophic and semi-dry grasslands. It is located in the triangle formed by the federal states (Länder) of Bavaria, Hesse and Thuringia and has a total area of 186 543 hectares (ha).

This Report for the Periodic Review of the Rhön Biosphere Reserve describes the present situation (marked in the text by the keyword Status) and developments during the years from 2003 to 2012 (keyword Review), as compared with the first periodic review in 2003. It also looks ahead and describes the development goals set by the Biosphere Reserve administrations for the next 10 years (keyword Goals). For information about the general parameters, which are unvarying, attention is drawn to the report for the 2003 periodic review.

The recommendations made by the International Co-ordinating Council (ICC) of the Man and the Biosphere (MAB) Programme in September 2004 and the German MAB National Committee in March 2004 were implemented during the reporting period, or are progressing towards implementation, with a focus on the following priorities:

- a review of zonation, increasing the core areas to the required minimum 3 % and the core area and buffer zone jointly to 20 % (near completion);
- updating of the framework concept, the first step being to prepare an outlook paper with broad public participation (completed); the framework concept itself will be produced once zonation is complete;
- strengthening of local ownership, by all relevant stakeholder groups, institutions and authorities, of sustainable development in the Biosphere Reserve, and implementation of the Madrid Action Plan, inter alia through more intensive inter-Länder cooperation within the Rhön Regional Working Group (ARGE Rhön) and the Biosphere Reserve's Advisory Board (completed), the establishment and continued expansion of the Rhön label as a regional brand (achieved, but ongoing), and efforts to improve cooperation in (and with) the tourism sector (achieved, but ongoing);
- an increase in the proportion of agricultural land being farmed organically (achieved; further expansion planned).

Further priorities in the work of the administration units, together with other stakeholders, included the development of premium hiking trails (DER HOCHRHÖNER), nature conservation-compatible use of grasslands, mapping of springs, and the protection of the Black Grouse and Wildcat as important target species.

Despite the efforts made in this regard, it was not possible to fulfil the MAB National Committee's urgent recommendation, after the last periodic review, for greater involvement of the other Land government departments in the inter-Länder cooperation pertaining to the Biosphere Reserve in addition to the three lead Ministries of the Environment. Cooperation among the latter, however, was further intensified.

Work began on implementing a number of the targets set in the Madrid Action Plan for the World Network of Biosphere Reserves, particularly on actions to update zonation, participatory procedures and processes, cooperative conservation and development strategies, site-based policy-relevant research programmes, contributions to the UN Decade of Education for Sustainable Development, exchange within the World Network of Biosphere Reserves, improved generation of profits and livelihood benefits through sustainable production, processing and marketing of biosphere reserve products, partnerships with businesses, and exchanges between biosphere reserves.

## 2 PHYSICAL CHARACTERISTICS OF THE BIOSPHERE RESERVE / CHANGES

### 2.1 Brief description of abiotic features

As part of the German Mittelgebirge (Central Upland) range (see location map in Annex 1), the Rhön Biosphere Reserve encompasses uplands ranging from 250 m to 950 m above mean sea level. High ground, often unforested and used as grassland, is a key characteristic of this “land of open vistas”. The Biosphere Reserve has a subatlantic climate with (sub-)continental influences. Annual precipitation varies between 500 mm on the lee side and 1 050 mm on the highest peak, the Wasserkuppe (950 m above mean sea level, mean annual temperature here 5.1 °C, annual average vegetation period 183 days; see climate diagram in Annex 2). Characteristic geomorphological features are undulating high plateaus, rugged cones, domes and ridges and broad valley meadows. The surface geology is dominated by bunter sandstone, muschelkalk limestone, Keuper and tertiary volcanic rock (see map in Annex 3). The Rhön was not glaciated during the Ice Ages, but was strongly affected by periglacial processes.

### 2.2 Habitat types

A comparative analysis of color-infrared (CIR) aerial photographs from 1993 and 2006 covering the entire area of the Biosphere Reserve shows the main habitats and their dynamics (for information about changes, please refer to Section 4.2.1).

The Biosphere Reserve contains a large number of valuable habitats, evident from the existence of 26 habitat types listed in Annex I of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) (Annex 4), including nine priority types. All are listed in Germany's Red List of Threatened Habitat Types. The following habitat types are particularly relevant to the site: mountain hay meadows (6520), species-rich *Nardus* grasslands (\*6230), semi-natural dry grasslands and scrubland facies on calcareous substrates (\*6210) and beech forests (9110, 9130, 9150).

**Table 1: Results of the comparison of CIR aerial photos taken in 2003 and 2006 and covering the entire area of the Rhön Biosphere Reserve (in ha)**

Habitat type	1993 [ha]	2006 [ha]	change [ha]	Anteil 2006 [%]	relative change [%]
Forest	74 929	75 685	+ 756	40,9	+ 1,0
Grassland	59 093	60 921	+ 1 828	32,9	+ 3,1
Arable land	33 019	29 873	- 3 146	16,1	- 9,5
Settlement/infrastructure	7 219	7 573	+ 354	4,1	+ 4,9
Other (incl. small structures)	10 963	11 172	+ 208	6,0	+ 1,9

73 611 hectares (39.7 % of the total area) in the Rhön have been notified under the EU Birds Directive, forming three Special Protection Areas (SPAs) known as the Bayerische Hohe Rhön, Hessische Rhön and Thüringer Rhön (see Annex 5; EU Habitats Directive sites and Special Protection Areas under the EU Birds Directive). These SPAs are examples of richly structured, sparsely populated cultural landscapes with extensive upland meadows and pastures, species-rich *Nardus* grasslands, calcareous oligotrophic grasslands, bogs and spring mires, rocky ground and block scree, hedge areas, (mixed) deciduous forests and near-natural streams. Among Germany's National Natural

Landscapes, the German Federal Agency for Nature Conservation (Bundesamt für Naturschutz) assigns the Rhön particular responsibility for the conservation of mountain hay meadows and species-rich *Nardus* grasslands. The Rhön is significant for the occurrence of the Red Kite (*Milvus milvus*) and as a transregional migration corridor for the Wildcat (*Felis silvestris*), and also as an area with a natural night sky, with a well below average level of light pollution. In 2011, the Rhön was selected as one of 30 biodiversity hotspots in Germany within the framework of the Federal Biological Diversity Programme, and in 2010, it was designated an area of national significance for biotope connectivity.

## 2.3 Biological diversity and measures for its conservation and development

**Status** The German Federal Agency for Nature Conservation (Bundesamt für Naturschutz) assigns the Rhön a particular responsibility for the conservation of the following species (SCHERFOSE & RIECKEN 2012) for which, according to the National Strategy on Biological Diversity (Target B 1.1.2: Species diversity), the aim is to achieve viable population sizes in Germany by 2020:

- ▶ Clouded Apollo (*Parnassius mnemosyne* ssp. *hassicus*): particular German responsibility for the species' global conservation; German Red List, Category 1;
- ▶ Marsh Fritillary (*Euphydryas aurinia*), high conservation responsibility, Red List, Category 2;
- ▶ Krauss's Bush-cricket (*Isophya kraussii*), particular responsibility;
- ▶ Black Grouse (*Lyrurus tetrix*), responsibility unclear, Red List, Category 2.

As endemic species, the small freshwater snail Rhön-Quellschnecke (*Bythinella compressa*, Red List, Category 2) and the Alpine Shrew (*Sorex alpinus*, Red List, Category 2) are valuable in terms of nature conservation.

The Botanic Target Species Conservation Concept for the Rhön Biosphere Reserve (Botanisches Artenschutzkonzept für das Biosphärenreservat Rhön) (BARTH 2004) assigns the Rhön particular responsibility for the conservation of the following plant species: Pyrenean Scurvygrass (*Cochlearia pyrenaica*), Northern Hawk's-beard (*Crepis mollis*), Green Hound's-tongue (*Cynoglossum germanicum*), Cheddar Pink (*Dianthus gratianopolitanus*), Belgian Gagea (*Gagea spathacea*) and the mosses *Brachythecium geheebii* and *Gymnomitrium* spp. Other species of importance for species conservation that occur here are the target species of flora and fauna and those listed in Annexes 6 and 7. The Rhön has nationwide significance as a site for meadow breeding birds, particularly the Common Snipe (*Gallinago gallinago*), Corn Crake (*Crex crex*), Whinchat (*Saxicola rubetra*) and Meadow Pipit (*Anthus pratensis*) (in the "Lange Rhön", the Common Snipe (*Gallinago gallinago*) achieves probably its highest population density in the whole of Bavaria). It is also a floral biodiversity hotspot. This rich biodiversity crucially depends on the continuation of extensive agriculture, as does the large number of Natura 2000 species and habitat types (see Section 4.2.1).

**Review** To date, a full and systematic survey of flora and fauna has not been carried out, and there is also a shortage of time series to track population trends for individual species. The existing financial and personnel capacities are not sufficient for this purpose. Exceptions are the Black Grouse (*Tetrao tetrix*; Figure 1) and meadow breeding birds in the "Lange Rhön" nature conservation area. Despite comprehensive habitat enhancement measures, hunting of predators (fox, wild boar, weasel family (*Mustelidae*)) and repopulation with released individuals of wild origin from Sweden (32 ♂♂, 8 ♀♀) in 2010-2012, only 8 cocks and 3 hens were spotted during the 2012

Spring count.

Various species conservation projects have achieved a number of individual successes (please refer to Box for examples). However, there are ongoing deficits in relation to biodiversity conservation, caused, for example, by leisure- and recreation-related disturbance in the nesting areas of the Black Stork (*Ciconia nigra*) and other species that are sensitive to disturbance, gradual species impoverishment in grasslands (e.g. Globe Flower – *Trollius europaeus*), the eutrophying and species-displacing effect of the Large-leaved Lupin (*Lupinus polyphyllus*), still inadequate or ineffective conservation measures for the above-

mentioned species for which the Biosphere Reserve bears responsibility, structural impoverishment in the farmed transition area, and only partially effective implementation of old growth and deadwood strategies in forests and woodland.

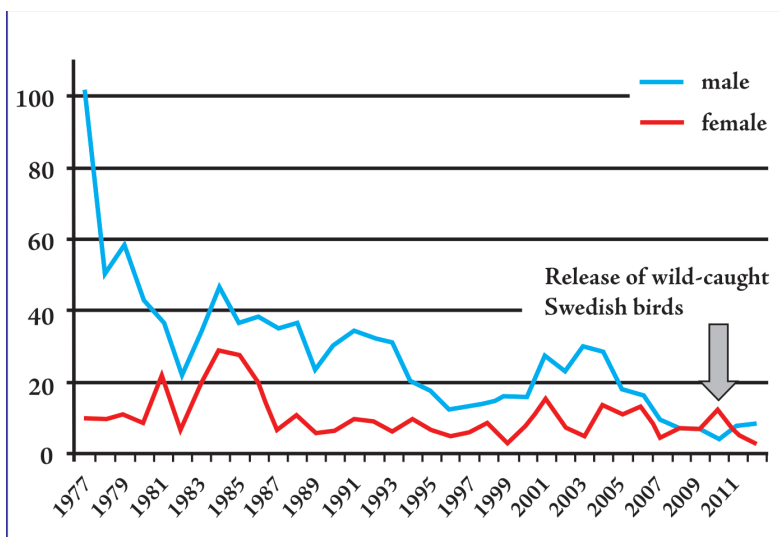


Figure 1: Population trend for the Black Grouse in the "Lange Rhön" (Spring count) (Data: Wildland GmbH).

## Species conservation projects (examples)

- **Wildcat** (*Felis silvestris*): In 2007, an inter-Länder project by the Rhön nature conservation association RhönNatur e.V. provided firm genetic evidence of the presence of the Wildcat, which until then had been overlooked or was thought to have died out in the area. Together with the Allianz Umweltstiftung – Allianz Foundation for Sustainability, Frankfurt Zoological Society, the Biosphere Reserve's administration units, forestry offices, BUND/Friends of the Earth Germany and other stakeholders, the intensive use of lure sticks resulted in the identification of a total of 26 individuals in the Biosphere Reserve by November 2012. They were found to be genetically distinct from the Wildcat populations in adjacent areas. Obstacles to proliferation were identified and countermeasures taken, including the construction of three "green bridges" (wildlife crossings) and habitat enhancement measures.

- **Noble Crayfish** (*Astacus astacus*): The German Noble Crayfish project started in 2000. After mapping the occurrence of competing species of aquarium crayfish of American origin and assessing the water bodies' suitability in terms of water quality and structure, the project carried out stocking measures annually along 14 sections of 10 streams from 2004 to 2010. The presence of offspring was first confirmed in 2008. In Thuringia, stocking first took place in 2010 and will continue until 2014. The administration units and crayfish conservation volunteers from local angling clubs are involved in crayfish monitoring within the framework of the Rhön Watercourses Working Group (AK Rhöner Fließgewässer), a voluntary initiative.

- **Spirlin** (*Alburnoides bipunctatus*): After the last confirmed sighting of this small freshwater fish in the River Ulster in Thuringia in 1985, the spirlin – a species typically found in the grayling region of rivers – was thought to have since died out in the Rhön. After restoration of watercourse connectivity along the Ulster and measures to improve the physical structure of the watercourse, 1,700 juveniles were released near Tann-Günthers in 2012. The project will initially run for three years, with two further releases planned. Downstream in the Green Belt, a 500 m stretch of the River Ulster, which had been straightened and reinforced, will be restored to its original bed in 2013.

➔ **NB: An overview of larger-scale projects implemented in the fields of bio- and geodiversity, climate and regional development since 2003 can be found in Annex 8.**



**Goals** Over the next 10 years, the administration units aim to implement the biodiversity strategies of the Länder in an exemplary manner in accordance with the following priorities:

1. A key frame of reference is the **target species conservation concept**, which will be revised and updated as part of the new framework concept and will define an effective biotope network as a key element of a strategy for adaptation to climate change (in accordance with the Madrid Action Plan). The **Green Belt** – the border strip along the former Iron Curtain – will be the main connectivity axis in this context, and the lessons learned from the **Wildcat** project will be utilised for developing connected corridors. Inter-Länder **biodiversity monitoring** will also be introduced.
2. The **Red Kite** (*Milvus milvus*) will play a key role in the implementation of the relevant measures. This European migratory bird of prey, for which Germany bears particular responsibility, occurs with above-average frequency in the Rhön. A conservation project implemented within the framework of the Federal Biological Diversity Programme will survey the territories and nesting sites of the Red Kite in all five rural districts in the Rhön, prepare a conservation and development strategy, improve the availability of breeding sites, and develop foraging habitats through contractual agreements with farmers. Aligning land use more closely to nature conservation goals is the key to success in the conservation of species and biotopes.
3. The dramatic proliferation of the neophyte **Large-leaved Lupin** (*Lupinus polyphyllus*) must be halted and reversed. Various measures (also relating to its utilisation for energy purposes) are required, accompanied by intensive monitoring, in order to curb the development of lupin stocks more effectively.

### 3 ZONATION

#### 3.1 Names and functions of the areas

The Biosphere Reserve is divided into the core area, buffer zone and transition area. Annex 9 lists the names of the individual core areas (in some cases provisionally due to ongoing selection processes).

No economic activities are carried out in the core areas, which mainly consist of semi-natural deciduous forests and bogs, as well as succession areas. Traditional pathways through **core areas** have been preserved, but strict conditions apply to their use (hiking on trails only). This allows a limited amount of environmental education and “soft” tourism to continue.

The Rhön’s value in conservation, and its appearance and assets, are inseparably linked with, and largely depend on, human use. In the Rhön Biosphere Reserve, therefore, the main focus of efforts to conserve biodiversity is on the **buffer zone**. This zone comprises areas which have developed over centuries as a result of traditional agriculture and forestry, and whose value in nature conservation can be maintained only through continuation of such uses. In the Hessian part of the Rhön, a further differentiation is made, with spatial subdivision of the buffer zone according to landscape features. **Buffer zone A** contains the most valuable sites with regard to species and biotope conservation and has the highest priority for conservation and support measures (landscape management); in **buffer zone B**, agriculture and forestry uses of the equally valuable cultural landscapes play a greater role.

The **transition area** is the most important area of the Biosphere Reserve for economic development. The areas used for farming and forestry, settlements, and commerce and industry are located here.

At the **last periodic review**, as of **June 2003**, the Biosphere Reserve had a total area of 185 939 ha,

with the core area accounting for 1.95 %, the buffer zone 27.22 %, the transition area 67.75 %, and areas not zoned 3.08 % (Wildflecken military training grounds).

### 3.2 Issues and current procedural status

The Rhön is one of the largest biosphere reserves in Germany. The sizes, percentage shares and distribution of the zones are listed in Annex 10. In recent years, intensive efforts were made to expand the unused core areas of the Biosphere Reserve to the minimum 3 % stipulated in the national criteria for Germany. At the time of the 2003 periodic review, the core area accounted for only 1.95 % of the total area. The current figure, as of 1 March 2013, is 3.43 %. The recommendations made after the 2003 periodic review, which called for an increase in the core areas on buntsandstein, have been fulfilled.

*Table 2: Sizes and percentage shares of the zones, projected to 1 March 2013. The figures for Bavaria are those applicable within the current boundaries and are therefore provisional.*

	Bavaria		Hesse		Thuringia		Total	
	ha	%	ha	%	ha	%	ha	%
Core area	2 852,56	3,92	2 082	3,21	1 467	3,0	6 401,56	3,43
Buffer zone	21 429,26	29,44	23 440	36,16	4 492	9,2	49 361,26	26,46
Transition area	48 520,18	66,64	39 309	60,63	42 951	87,8	130 780,18	70,11
<b>Total</b>	<b>72 802</b>		<b>64 831</b>		<b>48 910</b>		<b>186 543</b>	

- **Zonation – Bavarian Rhön:** In Bavaria, the issue of how to remedy the core area deficit is inseparably linked with the debate about the enlargement of the Biosphere Reserve, initiated by the Bavarian district commissioners as early as 2002, within the framework of the existing boundaries of the Bayerische Rhön Nature Park, but also including Wildflecken military training grounds. The negotiations on the enlargement of the natural forest reserves with the Bavarian State Ministry of Food, Agriculture and Forestry (StMELF), as the ministry responsible for the Bavarian state forests, which were announced in the progress report of the Länder to the MAB National Committee of 16 February 2005, and the discussions with the Federal Defence Minister on the zonation of the Wildflecken military training grounds, therefore could not be completed as planned. On 7 July 2010, the Bavarian Council of Ministers decided, firstly, that tracts of the Bavarian state forest should be incorporated in order to make good the shortfall in the core area, and secondly, that negotiations should commence with the municipalities affected by an enlargement of the Biosphere Reserve and with the Federal Government on appropriate contributions to remedying the core area deficit. The final council meetings in the affected municipalities took place in January/February 2013. The negotiations with the Federal Government on the integration of core areas located in Wildflecken military training grounds were also brought to a conclusion in February 2013. The Bavarian Council of Ministers is expected to make a final decision on the integration of core areas from the state forest in March 2013. However, the relevant legislation establishing the protection regime for all the new core areas is unlikely to be in place before the submission of this report to UNESCO, as the requisite legal procedures will, in all probability, not be completed before the end of 2014. For the new core areas, the list of individual core areas contained in the Annex therefore merely contains a sample ordinance on nature conservation areas, which was the subject of negotiations with the municipalities and StMELF / Bavaria



State Forest Enterprise (Bayerische Staatsforsten AöR) and will serve as the basis for the legal procedures. The changed layout of the buffer zone is justified from a nature conservation perspective and reflects the designation, in the interim, of large areas of the Rhön cultural landscape as Natura 2000 sites. Whereas parts of the buffer zone do not have protected status as nature conservation areas, the buffer zone as a whole lies in the Bayerische Rhön Nature Park landscape protection area (Landschaftsschutzgebiet – LSG), which covers most of the transition area as well.

- ▶ **Zonation – Hessian Rhön:** Until 2003, Hesse's core areas amounted to almost 4%, but as a result of a judicial review procedure brought by the Federal Government, it was forced to repeal the ordinance on the Haderwald core area. Under a subsequent contractual agreement with the Federal Government, the original core area was reduced from 1 400 ha to 575 ha, thus decreasing Hesse's core area share to 2.4 %. During the last periodic review, the National Committee accepted the procedure and welcomed the agreement between the Federal Government and the State of Hesse to safeguard part of the core area. In August 2010, the Hessian Environment Ministry decided to designate further core areas, amounting to 180 ha, mainly in Hesse's state forest. Their legal designation as nature conservation areas took place over the following months. Since 2011, the remaining areas needed to remedy the deficit, amounting to 210 hectares, have been identified. As a parcel exchange is required between privately owned and state forest, the designation procedure is unlikely to take place before the completion of the periodic review. The efforts to reach a compromise with relevant associations have led to further delays. However, a decision on which tracts of state forest should go towards meeting the 3 % target will certainly be taken before completion of the periodic review.
- ▶ **Zonation – Thuringian Rhön:** The sites for the enlargement of the core area in the Thuringian part of the Rhön were conclusively identified in early 2013. These sites, all of which are publicly owned, will then no longer be used for economic activities. This means that the core area in the Thuringian part of the Rhön will meet the required 3 % in early 2013.

## Consultation process on the enlargement of the core areas and buffer zones in the Thuringian Rhön

In order to reach agreement among all stakeholders on the planned enlargement of the core area and buffer zone in the Thuringian Rhön, a consultation process was launched in November 2011, which was to take place with broad public participation and was therefore facilitated by an external consultancy. At public discussion forums focusing on the various areas of use – forestry, agriculture, and infrastructure/tourism – it became apparent that many people in the region were not adequately informed about the provisions of the Biosphere Reserve Ordinance applicable to the various forms of use in the existing buffer zones. This resulted in uncertainty and misunderstandings as to which rules (restrictions) would apply to the planned buffer zone – with the result that there was massive opposition to the planned change in zonation.

It also became apparent at many of the sessions that local people wished to engage in discussions directly with the Thuringian biosphere reserve administration, and that farmers in particular were keen to hold individual talks with a view to reaching agreement on the planned enlargement sites. At two events chaired by Minister Jürgen Reinholz, it was therefore agreed that the consultation process should continue without the assistance of an external consultancy, that talks with the farming community should begin and that regional discussion sessions on forestry, tourism and infrastructure would then be held with a view to achieving consensus-based solutions here as well. As a consequence, the consultation process took more time than originally planned. In the interests of achieving a high level of acceptance for the planned designation of the buffer zones, however, this extra investment of time was considered acceptable.

### 3.3 Protection regime

A biosphere reserve ordinance applicable to all zones exists only for the Thuringian part of the Biosphere Reserve. The legal designation of the newly identified core areas and buffer zones requires amendment of this ordinance. The designation procedure will commence once the consultation process on the enlargement of the buffer zone has been completed (probably in 2013).

In the Bavarian and the Hessian parts of the Rhön, the protection regime for the Biosphere Reserve comprises several different ordinances on the conservation of protected areas, rather than a single comprehensive ordinance. This is considered to be sufficient for the fulfilment of conservation goals. Indeed, the adoption of a single biosphere reserve ordinance is not legally possible in Bavaria and Hesse. Article 14 of the Bavarian Nature Conservation Act (Bayerisches Naturschutzgesetz) derogates from Section 25 of the German Federal Nature Conservation Act (Bundesnaturschutzgesetz) in that it states that biosphere reserves are set up by way of declaration, in the form of a general decree. The declaration must define the boundaries and purpose of the biosphere reserve, but does not affect designated protected areas within the biosphere reserve. No such declaration exists as yet for the Bavarian part of the Rhön Biosphere Reserve, but this deficit will be remedied as soon as the current efforts to enlarge the core zones have been completed. The Hessian Nature Conservation Act (Hessisches Naturschutzgesetz) does not derogate in any of its provisions from the German Federal Natural Conservation Act. The situation can be summed up as follows:

- ▶ **Core areas** are, or will be, fully protected as nature conservation areas in the Bavarian and Hessian parts of the Rhön; in Thuringia, they are designated as core areas pursuant to the Rhön Biosphere Reserve Ordinance (Biosphärenreservatsverordnung – ThürBR-VO Rhön) of April 2006 and therefore enjoy the level of protection granted to nature conservation areas. The new core areas will be granted similar legal protection once the enlargement process is complete.
- ▶ **Buffer zones** in the Bavarian and Hessian parts of the Rhön are protected as nature conservation areas (in the majority of cases) or as landscape protection areas and/or as part of Natura 2000 sites (in some cases, multiple protection regimes are in place). In Thuringia, the buffer zones are designated as such pursuant to the Rhön Biosphere Reserve Ordinance (Biosphärenreservatsverordnung – ThürBR-VO Rhön) of April 2006 and thus enjoy the level of protection granted to nature conservation areas.
- ▶ **Transition areas** in the Bavarian and Hessian parts of the Rhön are designated as nature parks or landscape protection areas. In Thuringia, the entire transition area is designated as such by ordinance and thus enjoys the level of protection granted to landscape protection areas. In Hesse, landscape protection areas cover around 80 % of the transition area, while in Bavaria, the “Bayerische Rhön” landscape protection area extends far beyond the boundaries of the Biosphere Reserve and covers 76 % of the Bavarian part of the Biosphere Reserve in total. (Settlements etc. are excluded but form part of the transition area.)

71 nature conservation areas cover 8.0 % of the area of the entire Biosphere Reserve; 22 natural forest reserves/cells cover 0.6 %, 124 EU Habitats Directive sites cover 25 % and Special Protection Areas (SPAs) under the EU Birds Directive 43 %. If overlaps between the various protected areas are excluded, this means that the net area covered by the types of protected area mentioned above is **46 %** (all figures were valid as of the end of 2005 and are derived from the Environmental Report; no significant changes have taken place since then; cf. map in Annex 5). If landscape

protection areas are included, 80 % – i.e. by far the major share – of the total area of the Biosphere Reserve is legally protected, i.e. covered by a protection regime.

## 4 HUMAN ACTIVITIES

### 4.1 Preliminary remarks: demographic change

**Status and review** As of 31 December 2010, a total of **135 285 people** resided in the Rhön Biosphere Reserve's **66 municipalities** (Annex 11; small parts of an additional 20 municipalities lie within the Rhön Biosphere Reserve. These were not included in the current assessment, however). Annex 12 shows the individual municipalities and rural districts, Annex 13 shows the population trend for each municipality, and Annex 14 illustrates the changes cartographically. Overall, the **population has decreased by 6.6 % since 2001 and by 6.1 % since 1991**. Whereas the population was still increasing, by 0.5 % (762 inhabitants), from 1991 to 2001, the number of inhabitants has fallen by 9 504 since 2001. The largest population decline has occurred in the Thuringian part of the Rhön, with the smallest decrease occurring in the Hessian part. Population density averages 71.6 inhabitants/km<sup>2</sup> (national average: 228.9 inhabitants/km<sup>2</sup> as of 31 December 2010).

With the aim of counteracting demographic change, particular efforts have been made over the past 10 years to secure and create jobs. Examples are given in the subsections of Chapter 4.

**Goals** In the next 10 years, addressing demographic change will be a key area of work for the administration units. In this context, they see their role primarily as being to provide examples of best practice to inspire the main stakeholders (above all the municipalities) and show how they can mitigate the effects of demographic change, in order to motivate them to take action and facilitate development processes. The overarching goal is maintaining quality of life, e.g. through voluntary initiatives, the retention of local talent, experts and skilled workers, and projects aimed at safeguarding the delivery of joint, inter-municipal, transboundary general interest services. Key measures include strengthening the Bavarian health region and securing local healthcare provision, promoting environmentally compatible mobility (local public transport, electromobility, online car-share booking service), organising the structured “shrinkage” of the settlement structure (where necessary) while strengthening local centres, promoting training alliances, and intensifying intergenerational networks. To that end, various offers are being developed for the Rhön as a whole, along with best-practice municipalities to serve as positive models.

### 4.2 Land-use change

Land use in the Rhön Biosphere Reserve is affected by highly dynamic processes, as the following subsections on agriculture, forestry and traces of early cultures show. More extensive basic data can be found in the Annex, but the most important and relevant statistics in each case are stated in the text:

- ▶ Annex 15: Land-use changes, 2001-2011;
- ▶ Annex 16: Analysis of color-infrared (CIR) aerial photographs taken in 1993 and 2006, with changes in more than 900 different habitats/types of use.
- ▶ Annex 17: Regional distribution of open landscape, forested and settlement areas.

#### 4.2.1 Agriculture

**Status** Agriculture has always been a predominant form of land use in the Rhön and has clearly influenced the development of its cultural landscape, as a “land of open vistas”, over the course of history (Annex 18).

Today, however, only about 1 % of the population is employed full-time in agriculture.

The management and conservation of the extensive grassland, hedgerow and mixed orchard landscapes are crucially dependent on public funding via agri-environmental measures. By contrast, some parts of the agricultural landscape at lower to medium altitudes are significantly lacking in structural diversity (hedges, margins, rock fragment piles, individual trees) and species, and offer virtually no habitats for pollinators, for example. With its intensive use of fertilisers, limited crop sequences, maize cultivation, and increased frequency of meadow mowing, farming here is hardly different from that taking place elsewhere in any central upland landscape outside the Biosphere Reserve.

**Review** Following the first periodic review, the MAB National Committee recommended a substantial increase in the share of **organic farming**, which at that time stood at < 10 %. Here, a positive development can be observed, with an increase in the proportion of agricultural land being farmed organically from around 1 % in 1991 to 9.1 % in 2003 and 14.2 % in 2010 (Table 3) (national average in 2010: 5.9 %).

**Table 3: Organic farms and farmland, September 2003 and 2010.**

	Bavaria		Hesse*		Thuringia		Total	
	2003	2010	2003	2010	2003	2010	2003	2010
Number of organic farms [n]	5	53	200	142	6	18	211	213
Farmland in ha	455	3 543	4 600	4 586	3 316	5 075	8 371	13 204
Landwirtschaftsfläche [ha]	27 001**	26 471	30 829	32 667	34 073**	34 149	91 903	93 287
% of total agricultural area	1,7	13,4	14,9	14,0	9,7	14,9	9,1	14,2

\* Current figure for the Hessian Rhön (August 2012): 180 farms and 5 253 ha

\*\* Land-use statistics for 2004 (no figures available for 2003)

During the reporting period, very noticeable changes occurred in various other structural parameters in the agricultural sector:

The Biosphere Reserve contains a large number of valuable habitats, evident from the existence of 26 habitat types listed in Annex I of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) (Annex 4), including nine priority types. All are listed in Germany's Red List of Threatened Habitat Types. The following types are particularly relevant to the site: mountain hay meadows (6520), species-rich *Nardus* grasslands (\*6230), semi-natural dry grasslands and scrubland facies on calcareous substrates (\*6210) and beech forests (9110, 9130, 9150).

- The analysis of the colour-infrared- aerial photos of 1993/2006 (Table 1) shows a decrease in 1,318 ha (1.4%) of the total arable and grassland area. However, whereas cropland has decreased by 9.5%, grassland has increased by 3.1%.

- ▶ In total, there were 1 555 **agricultural enterprises** operating in the Biosphere Reserve in 2010, compared with 2 979 in 1999. Since then, the number has decreased by 47.8 % (Annex 19) – an even higher figure than the national average (- 36.9 %).
- ▶ In **livestock farming**, there was a 5.5 % decrease in the number of cattle, to 66 602, from 1999 to 2010. The number of pigs decreased by 2.7 % to 40 319. However, there are substantial differences between the three state sections of the Rhön Biosphere Reserve. Herds are now concentrated in the hands of a much smaller number of farmers (Annex 20).

At the last periodic review, the MAB National Committee defined the goal of maintaining an open landscape as a priority. Due to the funding conditions in place at the time, however, there was a risk that grassland use, which is so important for maintaining landscape appearance and biodiversity, might be discontinued at the sites of greatest nature conservation value. This scenario has not yet become a reality, however. Promoting and developing forms of grassland use which are both economically viable and appropriate for achieving nature conservation goals (particularly grazing) was therefore a particular priority during this reporting period as well (see Box).

## Nature conservation and agricultural projects

- **Common grazing areas in the Thuringian Rhön** (Thüringer Rhönhutungen): This large-scale conservation project will run from 2005 to 2015 and has a total grant amount of € 5.3 million. The entity responsible for the project is the BR Thuringian Rhön Landscape Conservation Association (Landschaftspflegeverband "BR Thüringische Rhön" e.V.). Within the framework of the project, brush is being cleared at eight sites in the Vorderrhön, comprising a total core area of 3 474 ha, in order to conserve or restore the unique calcareous oligotrophic grasslands, calcareous fens and wetland areas and make them suitable for grazing. The sheep-farming infrastructure is also being developed and expanded (herd expansion, sheepfold construction, installation of watering trough systems, restoration of drovers' roads). The project also includes a publicity/awareness-raising component ([www.thueringer-rhoenhutungen.de](http://www.thueringer-rhoenhutungen.de)).

- **Rhön Grassland Project**: In the "Conservation of Grassland and Landscape Development by Large-area Pasturing" project, a total of 32 large-area, extensive grazing lands were created on 847 ha from 2005 to 2009 in order to trial (more) viable ways of maintaining an open landscape for the future. On the basis of the advice provided, model solutions were developed and implemented, accompanied by marketing of produce and nature conservation-related and socioeconomic monitoring. All 18 farms and 11 grazing communities, some of which were formed specifically for the project, continued to use the grazing lands beyond the duration of the project.

- **Landschaftspflege-Agrarhöfe Kaltensundheim (LPA)**: This enterprise group, comprising Kaltensundheimer Öko-Landhöfe (ÖLH), ÖLV Rhönhöfe and HDK Handels- und Dienstleistungsgesellschaft in Kaltensundheim, is an example of a successful organic farming business. The agricultural enterprise has practised organic farming since 1991, with 59 employees and 10-12 trainees in agriculture and business. LPA and ÖLH farm a total area of 2 934 ha, of which 1 764 ha is grassland, and have 2 105 cattle (including 850 dairy cows) and 1 120 ewes. ÖLV Rhönhöfe runs a farm shop with 11 employees, supplies milk direct to 1 200 households, and sells 7.5-8 tonnes of home-reared trout annually. HDK employs a further 18 staff in sales and servicing of farm machinery, supply of livestock sheds, biogas systems and slurry storage facilities, vehicle maintenance, petrol station, etc.

- **Biosphere Reserve Beef**: The Biosphere Reserve Cattle Association (Verein „Rhöner Biosphärenrind e.V."), established in 1998, comprises 80 agricultural enterprises from all three state sections of the Rhön. It cooperates very successfully with the tegut chain of supermarkets and sold around 1,000 cattle in 2012 ([www.r-br.de](http://www.r-br.de)).



- **Elderberry cultivation:** In order to promote local production of raw materials, Bionade GmbH in Ostheim launched the Rhön Organic Farming Project (Bio-Landbau Rhön) in 2005. With this alliance of organic farmers, the goal is to ensure that organic raw materials, such as organic elderberries and organic malting barley, can be procured from the Rhön region over the long term. 20 producers now have around 90 ha of elderberries under cultivation. This is a completely new crop, and also a new market, in the Biosphere Reserve. Bionade requires 250 ha of elderberries in total. Participating farmers are also exploring other marketing opportunities for elderberries.

- **GMO-Free Region:** Since 2001, the district farmers' associations have been working on an inter-Länder basis throughout the Rhön towards a voluntary commitment by farmers to remain GMO-free, with the Rhön declaring itself a "GMO-Free Region" in 2004. In the rural district of Fulda, a total of 1 250 farmers (60 %) with around 38 600 ha of land are operating under a voluntary commitment to remain GMO-free (March 2012).

Agriculture in the wider sense also makes use of native plant and animal species, including traditional breeds and varieties that are typical of the region. Examples are fruit trees (> 170 apple varieties, 38 pear varieties and 7 plum varieties have been reliably identified, with around 230 other varieties requiring further research), Yellow Franconian Cattle, German Red Hill Cattle, Rhön sheep and Thuringian Forest Goat (see Annex 21).

**Goals** In the buffer zone and transition area of the Biosphere Reserve, agriculture is the key factor in the preservation and development of the area's characteristic cultural landscape ("land of open vistas"). However, the substantial decrease in grazing stock – if it continues unabated – will put a question mark over the continued existence of this landscape in the medium term. **Preserving the open nature of the countryside** through appropriate, economically viable forms of use is therefore one of the main objectives; increased **provision of ecosystem services** by extensive farming with a high level of structural diversity, especially in the buffer zone and transition area, is the other. It is essential, therefore, to work towards **appropriate adaptation of agriculture in the Biosphere Reserve** towards becoming a well-functioning model region for sustainable development, but this will depend on external factors, specifically those relating to agricultural support. The administration units will therefore pursue the following goals as a priority:

1. The priority in buffer zone B (in Hesse), but also in the transition area, will be to establish, with the aid of intensive **advisory services, an agricultural sector that is stable and sustainable** (also in an economic sense) while securing and creating jobs, especially in the upstream and downstream sectors. This includes developing and marketing high-quality local products whose production is compatible with nature and the environment (particularly organic products processed in the region), forage-based milk production, landscape management based on animal husbandry, production-based nature conservation measures, and the further development of the Rhön as a GMO-free agricultural region. Particular support should be given to the diversification of farm businesses and the implementation of joint projects involving a number of farms.
2. A further aim is to increase the proportion of **agricultural land being farmed organically** from 14.2 % (2010) to at **least 20 %** in the next 10 years. Additional marketing support via the Rhön brand name should increase farmers' willingness to convert to organic production.
3. In the **grasslands**, large-area extensive grazing systems (including sheep pastures) and extensive hay meadows (Natura 2000 habitat types) are best able to promote biodiversity. The former should therefore be expanded, and the latter should, at the least, be conserved. To that end, the support level for agri-environmental measures must

be maintained or increased, and sites must be eligible for funding under the first pillar.

4. In **arable land** (which accounts for around 50 % of agricultural land in the transition area), the diversity of crop species and cultivars must be promoted, crop sequences enriched, and new landscape structures for pollinators and structure-dependent plant and animal species created. Marketing incentives have a role to play here (e.g. the Rhön brand name, the planned “Rhönwiese” regional brand, and, if appropriate, the “Organic Products from Biosphere Reserves” (Bio-Produkte aus Biosphärenreservaten) label, together with support from agri-environmental schemes (if these are sufficiently financially attractive).
5. **Livestock farming** should continue to be land-related and should be developed, as far as possible, in closed regional substance cycles. Herds should be maintained at their current levels, non-land-related intensification should be avoided, and grazing should be expanded.

#### 4.2.2 Forestry

**Status** Beech-dominated deciduous mixed forest is the potential natural vegetation throughout nearly the entire area of the Rhön Biosphere Reserve. In reality, however, only 40.9 % of the Biosphere Reserve is forested, due to forest clearance in the past (this figure is based on data from the analysis of color-infrared (CIR) aerial photographs in 2006)\*. This is a well-below-average forest cover percentage for a central European upland region and is a key characteristic of the Rhön as a “land of open vistas”.

Almost the entire forested area in the Rhön Biosphere Reserve (in the Hessian part > 98 %) is certified in accordance with the criteria established by the Programme for the Endorsement of Forest Certification (PEFC). This is an above-average percentage of certified forested area compared with the rest of Germany. However, the MAB National Committee takes the view that as a matter of principle, state forests should be models of best practice and should therefore be certified in accordance with the more stringent standards set by the Forest Stewardship Council (FSC). Researching the data on tree species distribution is a laborious process as the forestry offices/enterprises and the Biosphere Reserve are completely separate and distinct entities. The data from the Environmental Report are based on the 2001/2002 National Forest Inventory (NFI) (Bundeswaldinventur) but are somewhat imprecise due to the small number of samples taken at the regional level (Figure 2): beech and Norway spruce are the most common tree species, accounting for 29 % and 26 % respectively. Spruce, Douglas fir (4 %) and larch (3 %) are allochthonous species which were introduced by the forestry industry; pine (10 %) was largely developed by the forestry industry. As has occurred everywhere in the German central uplands, deciduous forests that had been devastated during centuries of use were often replanted with conifers, mainly spruce, as regulated forestry gained ground. A key characteristic of the Rhön, however, is the continued predominance of mixed forests with a high percentage of deciduous trees. Beech occurs twice as frequently here compared with the national average, and the same applies to spruce and oak. The occurrence of long-lived deciduous species is more than twice the national average due to the Rhön’s physiographic conditions (mixed mountain forests, ravine forests). Douglas fir is mainly found in afforestations.

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\* In the official land-use statistics, a much lower figure – just 34.3 % – is given for the forested area as Wildflecken military training grounds are listed under “other uses”.

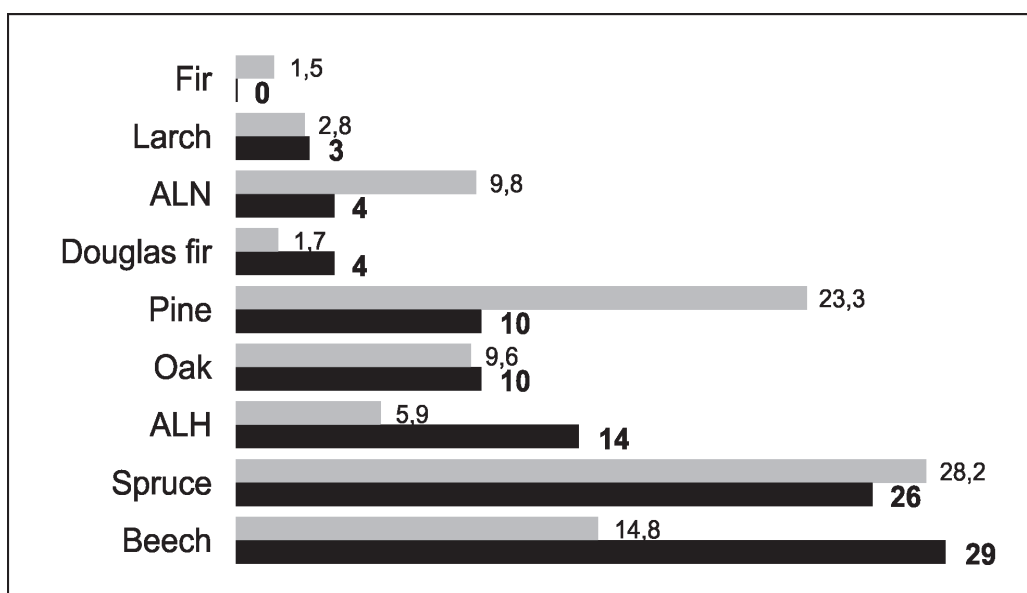


Figure 2: Tree species distribution in the Rhön Biosphere Reserve (black) and the national average (grey) according to the 2001/2002 National Forest Inventory (NFI). ALH = Long-lived deciduous species (e.g. ash, sycamore maple, Norway maple and field maple, lime (linden), elm, cherry); ALN = short-lived deciduous species (e.g. birch, alder, poplar, willow and rowan).

**Review** The analyses of color-infrared (CIR) aerial photographs show that changes in the tree species groups occurred from 1993 to 2006 (see Annex 16): the area covered by purely deciduous woodland remained almost unchanged (- 0.1 %), pure conifer stands decreased by - 3.4 %, mixed forest dominated by deciduous woodland increased by + 16.5 %, mixed forest dominated by coniferous stands increased by + 6.3 %, deciduous mixed forest by + 10.2 %, and mixed coniferous woodland by + 0.7 %. The increases result primarily from a reduction in the areas affected by clear-cutting, windthrow and snow-caused breakage (- 72.0 %) and active introduction, or creation of favourable conditions for, deciduous woodland in former conifer stands. Spruce plantations have been removed during implementation of management and development plans (e.g. in the “Lange Rhön” and “Rotes Moor” nature conservation areas).

Many spruce stands have proven to be unstable and threatened by windthrow, snow-caused breakage and bark-beetle outbreaks. For this reason, naturally oriented or semi-natural forest management, which aims to produce semi-natural, stable and (wherever possible) mixed forests and considers the need for adaptation to climate change (in accordance with Target A.1 of the Madrid Action Plan) is now increasingly carried out in forest and woodland under all types of ownership in the Biosphere Reserve. The trend, therefore, is towards a significant increase in beech and other deciduous species at the expense of spruce, whose role in silvicultural operations will further decrease in light of climate change.

Generally, forestry in the Biosphere Reserve is no different from that taking place beyond its boundaries, apart from the above-average proportion of protected areas where restrictions are in place.

## Forestry and wood projects

- **Use of wood for energy production:** In the Hessian part of the Rhön in particular, a growing share of the heating energy requirement is met from wood chips and wood pellets. Examples are: (a) a local heating network operated by Andreas Klüber GmbH & Co. KG in Ebersburg-Weyhers (220 kW, heating for 20 buildings in the local centre, with a plant oil combined heat and power plant to deliver a reserve supply); (b) Hofbieber local heating network (840 kW, supplies municipal buildings); (c) pellet heating system at Hofbieber-

Schwarzbach primary school (30 kW); (d) 400 kW wood chip system combined with a local heating network (1 900 m) and a 190 kW biogas plant in Rasdorf-Grüsselbach (aim: to establish one single heating system for the entire village), ([www.nahwaerme-gruesselbach.de](http://www.nahwaerme-gruesselbach.de)); (e) a local heating network in Poppenhausen is planned (wood chip + existing biogas plant); (f) Sieblos Bioenergy Village – see next indent; six other funded wood chip/pellet heating systems.

- **Sieblos Bioenergy Village:** In a partnership between the Sieblos Forest Owners' Association (Siebloser Waldbesitzergemeinschaft) and the newly established Wood Heating Association (Hackgutheizungs-GbR) in Poppenhausen-Sieblos, a central wood-fired heating plant (3 x 130 kW) has been in operation since 2008, utilising wood harvested from around 70 ha of forest owned by the Forest Owners' Association. A district heating network supplies 54 out of 57 households in the village, which has 114 residents. The project won the GenoPortal Energy Award in 2009. The German Federal Ministry of Food, Agriculture and Consumer Protection (BMELV) has identified Sieblos as a best-practice energy village ([www.wege-zum-bioenergiedorf.de](http://www.wege-zum-bioenergiedorf.de)).

**Goals** The expansion of forested areas is not one of the goals set for the Biosphere Reserve, as this would run counter to the vision of a “landscape of open vistas”, which must be preserved now and in future.

The administration units have identified the following priority goals for the next 10 years:

1. In the newly designated **core areas**, wherever necessary on nature conservation grounds, **forest conversion** will take place for a maximum of 10 years by means of succession and harvesting of non-site-typical species, in order to achieve the goal of semi-natural deciduous forest stands as soon as possible.
2. In the buffer zone/transition area, efforts will be made to establish/intensify partnership-based cooperation with the forest administrations and, taking account of the findings of climate impact research, to convert non-site-appropriate and unstable **forest stands more quickly** and **promote best practice in meeting nature conservation needs** (tree species selection, target species conservation, deadwood connectivity, protection of springs and watercourses, nest site protection for the Black Stork (*Ciconia nigra*), Red Kite (*Milvus milvus*), etc.). The **target species conservation concept**, which needs to be revised and updated, will serve as a planning and monitoring tool. The aim is to ensure that the administration units are involved in forest management planning on a voluntary basis.
3. In the interests of increased and efficient **use of local timber**, awareness-raising activities are carried out to support the state forests' sustainable development strategy. Initiatives such as “Rhönholzveredler” (local wood processing industry) will receive ongoing support and will be integrated into other projects (e.g. the Rhön brand name).

#### 4.2.3 Traces of early cultures

**Review** A number of important Germanic and Celtic sites found in the Rhön area attest to its long history of settlement. The religion of the Rhön area is predominantly Roman Catholic. As well as churches, many chapels, wayside crosses and shrines, abbeys and pilgrimage sites feature in today's cultural landscape and bear witness to this tradition, which is still very much alive today. Mapping of historical elements of the cultural landscape has taken place in the area around Fladungen, in the “Rhöner Walddörfer” (consisting of Sandberg and its surrounding villages), and in the upper Sinn Valley (Riedenberg and Wildflecken municipalities). Three publications describe the physiographic region and the history of its towns and villages, rulers and churches, its traditional settlement, agricultural and usage structures, animal husbandry, trade, transport and industry, and recreation, with reference to the landscape. Rock fragment walls are a typical feature of high-elevation sites (e.g. the Lange Rhön); these walls,

which were built by prisoners of war, still characterise the landscape's appearance and provide important habitats. From the end of the Second World War until 1990, the division of Germany precluded any joint development of this physiogeographic region. Even today, the agricultural structure varies considerably, with two extremes: small-scale structures in the Bavarian Rhön created by the Franconian system of *Realerbteilung*, or field splitting (the practice of dividing land among heirs, resulting in ever smaller parcels over generations), and large-area land-use units which are the legacy of the former agricultural cooperatives for collective production (LPGs) in the Thuringian part of the Rhön. The Green Belt is being developed as a biotope connectivity axis with cultural and historical significance.

**Goals** The administration units are working to ensure that the traces of earlier cultures in the landscape are conserved to the optimum extent. To that end, they aim to extend the preparation of inventories of cultural landscape elements, which began in the Bavarian municipalities, on a progressive basis to the Rhön as a whole (to one-fifth of Rhön municipalities within 10 years). The results achieved so far are already being integrated into education for sustainable development and will serve as a basis for local planning processes. Economically viable management strategies will be developed and implemented for small-scale agricultural landscapes that are bounded by hedges and/or rock fragment walls, such as the hedgerow landscape around Bischofsheim.

### 4.3 Commerce and industry

**Status** Manufacturing industry provides more than half the jobs for employees paying compulsory social insurance contributions at the job location (Table 4). "Other services" rank second, with commerce, transport and the hospitality industry in third place.

**Table 4: Number of employees paying compulsory social insurance contributions at the job location, by sector, as of 30 June 2010. Comparative data for 2000 are not available due to changes in the classification system.**

Sector	Bavaria	Hesse	Thuringia	Total
Agriculture, forestry, fisheries	18	67	95	180
Manufacturing	3 326	4 287	2 435	10 048
Commerce, transport, hospitality	841	1 169	668	2 678
Other services	2 768	2 171	1 476	6 415
<i>Sub-total*</i>	6 953	7 694	4 674	19 321
<b>Employees – total</b>	<b>9 954</b>	<b>8 507</b>	<b>7 931</b>	<b>26 392</b>
Commuter balance**	- 6 229	- 7 080	?	

\* The sub-total is lower than the total number of employees due to the primary and secondary confidentiality rules in force in the municipalities surveyed.

\*\* To calculate the commuter balance, the number of out-commuters is deducted from the number of in-commuters. If this results in a negative figure, there is an out-commuter surplus.



Like other rural regions in Germany, the Rhön is experiencing structural problems, such as out-migration and the loss of jobs for skilled workers, although there is a skills shortage in some sectors (e.g. the food industry, hotels and restaurants). A high percentage of persons employed in the service sector and manufacturing commute to the region's main employment centres in Fulda, Meiningen, Bad Neustadt/Saale and Schweinfurt, but also to Frankfurt am Main; some even travel as far as Erlangen/Fürth/Nuremberg (please refer to the commuter balance in Table 4). The local economy is currently structured as follows:

- ▶ There is a general predominance of small and medium-sized enterprises (SMEs). Exceptions are a paper processing factory, an automotive component supplier, a manufacturer of prefabricated houses, and an industrial bakery.
- ▶ In the manufacturing sector, metalworking, mechanical engineering and wood processing (sawmills, manufacturers of prefabricated houses, carpentry and wood-working firms, including fitters of interiors, wood-carving, organ-building) predominate; for reasons of quality, however, most of the timber (softwoods) is sourced from outside the Rhön. Artisanal food production, including mineral springs, breweries and soft drinks production, is also well-represented.
- ▶ In trade, transport and the hospitality industry, smaller companies predominate.
- ▶ In the service industry, the main sectors are health and tourism.
- ▶ Agriculture continues to be relevant, mainly in the agricultural cooperatives which evolved from the former LPGs (collective farms). Overall, however, the number of socially insured jobs provided by this sector is relatively small.
- ▶ With the University of Applied Sciences Schmalkalden and Schmalkalden/Dernbach Technology and New Business Centre, the conditions are in place for the development of innovative high-tech branches of industry.

**Review** Commerce and industry play more of an indirect role in the work of the administration units through their active involvement in the work of the Leader regions (see Section 4.10). For the Hessian administration unit, which also hosts the secretariat of the Local Action Group (LAG), supporting business start-ups has been a particular priority in this context over the last 10 years. However, the Rhön brand name initiative is the primary vehicle for promoting commerce and industry (see Section 4.11), especially in the tourism sector.

### Commerce and industry projects (excluding the Rhön brand name initiative)

- **Wood-Processing and Metalworking Clusters:** In the Hessian Rhön, small craft enterprises predominate –approximately 1 500 of the 1 619 enterprises registered in the regional development concept employ up to nine staff. The Wood-Processing Cluster currently consists of 31 sawmills and carpentry firms, 107 wood-working companies and 14 specialised firms (pallet manufacturing, shop-fitting, wood chips). Via the Cluster, funding is currently provided for two wood chip heating systems based at wood processing firms, a business start-up (wood-working) and, in the near future, a wood-carving workshop. Since 2008, the Metalworking Cluster has provided subsidies totalling around € 200 000 for six business start-ups under the Leader initiative and has thus created new jobs and training places.

- **Rhön shop:** The “Rhön-Dorf” in Tann-Wendershausen was set up to showcase local products. Located on a federal highway (the B 278), this 600 m<sup>2</sup> store stocks more than 2 000 products that are typical of the region and made by local producers, including sheep milk soap, berry wine, lamb and game sausage, honey soaps and cosmetic/beauty products, pottery and hand-made wooden items. An advertising pillar and open-air seating area provide information about the Biosphere Reserve. There is also an online shop which currently stocks 79 local products ([www.rhoen-dorf.de](http://www.rhoen-dorf.de)).

- **Regional markets:** The Rhön Sausage Market is a biennial event in Ostheim and was held for the sixth time in 2012. It attracts around 20 000 visitors ([www.rhoener-wurstmarkt.de](http://www.rhoener-wurstmarkt.de)). In Poppenhausen, the Rhön Bread and Beer Market, showcasing 10 bakeries and eight local breweries, took place in 2011 for the second time. The Rhönklub – the Rhön's hiking and heritage association – organises the annual Rhön Hiking Day (Rhöner Wandertag), together with a regional market. The event was held for the first time in 2010, and the 2012 event attracted 10 000 visitors. Celebrations to mark the 20th anniversary of the Biosphere Reserve in 2011 were held in Gersfeld and included a "Rhön Ideas Market" (Markt der Rhöner Ideen) and a "Taste of Rhön" market (Genussmarkt).

- **Mobile cheesemaking:** Since 2011, "Cheese on Wheels" has visited (currently) seven farms in the Hessian part and one farm in the Thuringian part of the Rhön every five weeks and uses the milk produced on these farms to make cheese on site: a hard cheese, known as Bergkäse, and a semi-hard cheese (Schnittkäse). Other farms in all three state sections of the Rhön have shown interest in joining the project but the cheese-makers are already operating at full capacity. The service is currently run by a company in Siegerland. However, there are plans to expand the project in future and set up a business in the Rhön.

**Goals** In order to promote commerce and industry, the administration units are attempting to increase support for regional initiatives by acting as a multiplier for good projects and helping to close regional economic cycles, mainly via an approach organised on cooperative lines. The Biosphere Reserve provides impetus and acts as an initiator. Appropriate targets will be defined and implemented within the framework of the expected new priority theme, namely the promotion of small and medium-sized enterprises (SMEs), for the new Leader funding period. The problem of the skills shortage must be addressed in this context. The Hessian part of the Rhön is planning a "Handwerkersommer" (a project to familiarise young people with the training opportunities available in the craft sector in the region), with work placements for school students in craft enterprises, and training networks to foster young talent for the artisanal food industry. Firms will also be sensitised to the social aspects of sustainable development.

#### 4.4 Building development and transport

**Status** The Biosphere Reserve is located in a rural area and has a low population density, so private transport is by far the most important form of mobility. Several federal highways serve as the main transport routes (Annex 22). The area is surrounded by a network of motorways linking towns and cities. The only railway line now operating within the Rhön is the Fulda–Gersfeld line. A number of older lines have been converted to cycle paths.

**Review** Within the 10 years from 2001 to 2011, buildings and undeveloped land increased in area by 496 ha (8.9 %). The area covered by the transport infrastructure increased by 302 ha (3.6 %), and the agricultural area in use increased by 85 ha (16.1 %; figures from the Land Statistical Offices). These statistics show that despite the decrease in population numbers, land-take resulting from overbuilding (buildings, roads, etc.) is still increasing. This is borne out by the example of a Rhön municipality which has designated a new building zone despite being one of the municipalities with the largest population decline in the Biosphere Reserve.

In order to minimise the fragmentation effects of the federal motorways (A7, A71 and A4) which surround the Biosphere Reserve, the motorways were equipped with five "green bridges" during the period 2000-2012, in order to make them passable for local wildlife, including larger species such as Wildcat (*Felis silvestris*), Eurasian Lynx (*Lynx lynx*) and Red Deer (*Cervus elaphus*).

Bad Neustadt/Saale, a major town located outside the Biosphere Reserve on its periphery, has been designated a “model city” for electromobility.

## Settlement and transport projects

- **Register of vacant plots and properties:** A new Leader project, “Inner Urban Development Management in the Rural District of Bad Kissingen” (Innenentwicklungsmanagement Landkreis Bad Kissingen) was launched in 2012 (project term: to 2014, budget: € 101 000). The aim is to address the problem of the growing number of vacant properties and enhance the attractiveness of the town centres. As the starting point, a survey of vacant plots and properties was undertaken, along with a demand forecast. A project manager provides municipalities and developers with information, advice and examples of potential schemes. A network and a training strategy are intended to assist municipal stakeholders to develop schemes to bring these properties back into use. A district-wide access point for information on vacant plots and properties is also planned.

- **Online car-share booking service:** The launch of the online car-share booking service in August 2010, at the initiative of the administration units, marked a new departure for the Rhön Biosphere Reserve ([www.mitfahrzentrale-rhoen.de](http://www.mitfahrzentrale-rhoen.de)). With an average of 812 visitors and 5 915 page views per month (average for July 2011 to June 2012), this innovative service is proving very popular.

- **E-bike hire:** Electric bike (e-bike) hire has been introduced in the Bavarian and Thuringian parts of the Rhön. Charging stations are located at information centres, cafés and restaurants, and other outlets.

- Goals**
1. Inter-municipal **management of vacant plots and properties** is to be implemented for the entire Biosphere Reserve. The municipalities, as the statutory planning authorities, will be advised and encouraged to prioritise **inner urban development**. The administration units will publicise and facilitate this approach. The aim is to reduce the annual land-take for new buildings and development by at least half over the next 10 years, the baseline being the figures from the Land Statistical Offices.
  2. **Road building** should, in future, generally be confined to maintenance and, where necessary, careful expansion of the existing road network and construction of ring-roads. “Connect” bus services for walkers, cyclists and winter sportspeople could solve the parking problems at major events and tourism hotspots.
  3. The further development of **local public transport** by the rural districts, which are not yet sufficiently attuned to the needs of the region as a whole, remains a key task. Transregional connections are needed, especially in the Fulda – Meiningen – Bad Neustadt – Bad Kissingen quadrilateral. An application should be submitted to Deutsche Bahn (= German Railways) for the inclusion of the Rhön Biosphere Reserve in the “Destination Nature” (Fahrtziel Natur) scheme.

These topics must be a particular focus of attention in the new framework concept.

## 4.5 Hunting and fishing

**Status** Hunting, mainly for hoofed game, is carried out to the usual extent in hunting grounds, in order to facilitate mainly natural forest regeneration in woodland. Game management is necessary to ensure that natural dynamic succession processes can take place in the core areas of the Biosphere Reserve; if hunting were to stop completely, the damage caused by browsing game animals would impact on the species composition that would otherwise occur naturally.

The Biosphere Reserve has a significant Brown Trout (*Salmo trutta f. fario*) fishery. As the area’s streams cannot produce enough of this edible fish to meet demand, it is reared in pond aquaculture and is often marketed as “Rhön Brook Trout” (“Rhöner Bachforelle”, the species’ German name).

**Review** In the habitats of the Black Grouse (*Lyrurus tetrix*), there is intensive hunting of predators – Red Fox (*Vulpes vulpes*), Wild Boar (*Sus scrofa*) and the weasel family (*Mustelidae*) – in order to achieve nature conservation goals and protect the species, which is critically endangered in the Rhön. To that end, a hunting strategy was developed jointly by hunting and nature conservation stakeholders in the “Lange Rhön”, and a strategy is also being produced for the Hessian part of the Rhön. After years of (unsuccessful) attempts, inter-company marketing of game was introduced in the Bavarian Rhön under the Rhön brand name in 2012.

**Goals** No changes are planned for hunting and fishing. A marketing initiative has been launched to develop value chains for game from the Rhön and this will be extended to the entire Biosphere Reserve.

#### 4.6 Water resources management

**Status** Management plans have been established as part of the process to implement the EU Water Framework Directive (2000/60/EC). As a rule, however, they do not define any measures for spring-fed streams, of which there is a broad network in the Rhön.

The municipalities’ drinking water supply is derived entirely from local groundwater and spring water resources. In the Bavarian part of the Rhön, around 37 % of the 4.2 million m<sup>3</sup> extracted was exported; in the Hessian part of the Rhön, exports accounted for 20 % of the 5.7 million m<sup>3</sup> extracted. Per capita water consumption in the Bavarian and Hessian parts of the Rhön amounted to 153 and 165 l/day respectively (close to the national average), whereas per capita consumption in the Thuringian Rhön is much lower, at less than 100 l/day. Hotels and spa facilities account for the above-average water consumption figures.

In the Bavarian and Hessian parts of the Rhön, almost all the wastewater is purified in municipal treatment plants. In the Thuringian Rhön, the sewerage system connection rate in 1990 was less than 15 %. This has now increased to around 35 %. This connection rate, which is low compared with other regions in Thuringia, demonstrates that there is an ongoing and substantial need for upgrading, in order to establish properly regulated wastewater treatment systems which comply with statutory water industry standards.

**Review** A unique feature of the Rhön compared with the rest of Germany is the scope of the spring mapping taking place here, which is described in the Box below. Various projects have also been implemented to revitalise springs and watercourses.

#### Watercourse conservation projects

- **Spring mapping:** Since 2005, the Land Association for Cave and Karst Landscape Research (Landesverband für Höhlen- und Karstforschung) in Hesse, with support from the administration units, has mapped 1 882 springs (out of an estimated 8 000-10 000) in the Biosphere Reserve, together with their abiotic characteristics, flora and fauna. To date (January 2013), 1 671 animal species have been identified. Impairments have also been mapped. Various conservation and development measures have been implemented. Intensive awareness-raising has sensitised the general public to issues relating to the protection of springs and, more generally, watercourses, and has also resulted in greater awareness on the part of stakeholders such as farmers, the forestry sector, and the Rhönklub.

- **Revitalisation of watercourses:** Several projects have been implemented to restore connectivity along various stretches of river (Ulster, Brend), with measures to improve water structures implemented in some cases (especially along the River Ulster and, since 2012, the Streu). Immigrating beavers are contributing to the revitalisation of watercourses and alluvial zones in some localities. On the River Sinn near Eckarts, the watercourses have been integrated into large-area extensive grazing across the entire alluvial zone.

**Goals** The administration units have set the following priorities for their work with the relevant stakeholders for the next 10 years:

1. **Mapping of springs** and implementation of the necessary conservation and development measures will continue and will be extended across the Rhön. A monitoring system will also be established to determine the chemical and biological status of groundwater and surface water and, among other things, to identify the impacts of climate change (with reference to the targets set in the Madrid Action Plan).
2. The Bavarian Rhön will apply for a **large-scale conservation project, supported by the Federal Government**, for the semi-natural development of spring-fed streams (Brend, Sinn, Schondra, Schmalwasser and Premich). This project will add to and enhance the implementation of the EU Water Framework Directive in the source regions.
3. Existing **hydro-power plants** will be safeguarded and their negative impacts on watercourse connectivity will be reduced; there is scope to increase the output of these plants by 30 % in the Hessian Rhön at the same time. For reasons of water ecology, no new construction of hydro-power plants is planned.
4. The rate of connection to **municipal sewage treatment plants** in the Thuringian Rhön should be increased to nearly 100 %; the municipalities must be encouraged to move towards this goal.

#### 4.7 Tourism

**Status** The Rhön has been well-known for its spas and the health-enhancing quality of its environment for around 400 years. In the past 20 years, the region has undergone a radical structural transformation whose impacts have mainly been felt in the tourism industry. In the 1990s, the withdrawal of the military resulted in a massive loss of purchasing power, and the 1997 health reform led to a major decline in the hospitality industry, especially in the Bavarian part of the Rhön. Since reunification in 1990, the former exclusion zone has been transformed into the Green Belt and has emerged as one of the major dividends of German unity in terms of both nature conservation and tourism. The Rhön's unique cultural landscape is increasingly becoming a driver for the development of tourism. The biosphere reserve "brand" has been a useful tool in promoting the unique attractions of the Rhön both locally and externally and in supporting the expansion of the tourism infrastructure.

1997 marked a turning point for tourism in the Rhön: since that date, the decrease in the number of visitors to health spas has been offset by growth in tourism as a whole. Guest arrivals have almost doubled in around 15 years, and in 2012, the number of overnight stays will finally recover to the healthy levels achieved soon after reunification. Based on figures from the Land Statistical Offices, Rhön Marketing GbR – the main marketing organisation for the Rhön – reported a 4 % increase in the number of overnight stays, to 4.973 million, for 2011 compared with the previous year for the Rhön as a whole (of which the Biosphere Reserve occupies around 40 %), and this increase was sustained in 2012. In addition, some visitors stay overnight in smaller, non-commercial-type tourist accommodation



establishments. These overnight stays do not appear in the statistics, but account for a further 17.5 %, bringing the total to **5.843 million overnight stays**. The number of guest arrivals reached 1.437 million – the highest level since statistical record-keeping began in the early 1990s, and 5.7 % more than the previous year. However, the average duration of stay has fallen from a good six days in the 1990s to 3.4 days in 2011. A survey conducted by the Tourist Board of Franconia (Tourismusverband Franken) estimates a figure of 3.25 million overnight stays and 5.5 million day visitors in 2011 for the Bavarian Rhön alone (comprising the rural districts of Rhön-Grabfeld and Bad Kissingen). Since 2010, the University of Würzburg has conducted an empirical study of the regional economic effects of tourism within the Biosphere Reserve. Some of its preliminary findings are summarised in the Box above.

As regards the thematic focus of tourism in the Rhön region as a whole, the following segments are particularly significant: health-related tourism (50 %), nature-based activities (30 %), business travel (12.5 %), and culture and events (7.5 %). 60 % of tourists in the narrower sense (excluding visitors to spas) and the overwhelming majority of day visitors come to the Rhön in order to engage in nature-based activities: hiking, cycle touring, mountain biking, riding, gliding, hang-gliding, paragliding, and flying of model aircraft are the most important activities, with cross-country and downhill skiing, sledging, snow-kiting and winter hiking on specially prepared trails during the winter. Often, these activities are linked with rural tourism offers such as farm holidays. However, an increasingly strong emphasis on regionality (i.e. local foods and beverages) and the use of direct marketing (farm shops, etc.) also play a key role for this segment of landscape-based tourism.

## Review

With the aim of ensuring that as a tourism destination, the Rhön “speaks with one voice” and develops its full potential, intensive work has been undertaken to develop a joint, inter-Länder tourism organisation covering all three state sections of the Biosphere Reserve. As an interim step, Rhön Marketing GbR was established as a forum for cooperation between tourism organisations from the three parts of the Rhön: the partners are Tourismus GmbH Bayerische Rhön (Bavaria), Rhön Tourismus & Service GmbH (for the rural district of Fulda in the Hessian part of the Rhön), Rhönforum e.V. (in Geisa – Thuringian part of the Rhön), and Dachmarke Rhön GmbH (which deals with the Rhön brand in all three state sections) ([www.rhoen.de](http://www.rhoen.de)). Rhön Marketing GbR is funded by the five Rhön rural districts that are members of the Rhön Regional Working Group (ARGE Rhön). Brochures and the website are developed jointly. However, the structures are not yet sufficiently effective and at present are merely the “lowest common denominator” in sometimes divergent activities.

A comparative representative survey of residents of the Biosphere Reserve by TNS TNS Infratest in 2002 and 2010

## Annual economic effects of tourism in the Biosphere Reserve

x	<b>6,37 mill. visitors in total:</b>
	- 4.335 mill. day visitors (68.1 %)
	- 2.035 mill. overnight guests (31.9 %)
x	<b>€ 185,6 mill. gross revenue:</b>
	- € 68 mill. from day visitors (€15.80 pp/day)
	- € 117 mill. from overnight guests (€57.60 pp/day)
x	<b>€ 94.5 mill. income effect in the Biosphere Reserve (direct and indirect)</b>
x	<b>4 786 income equivalents</b> (based on average regional primary income of €19 762 per capita)

revealed that there is a strong sense of community in the area, that this has increased, and that it transcends the borders between the three state sections: 78 % consider that the Biosphere Reserve has “tended to promote” a sense of community – a significantly higher percentage than the 62 % recorded in 2002. 89 % of the respondents agreed with the statement: “The Biosphere Reserve has made the Rhön more interesting to many people who otherwise would not come here”, compared with 84 % in 2002 (Annex 23). 40 % of respondents with at least a general awareness of the Biosphere Reserve were of the opinion that the Biosphere Reserve has “done much to support tourism” (compared with a significantly lower figure – 29 % – in 2002). This attests to the substantially increased role of the Biosphere Reserve in the valorisation of tourism in the Rhön, to which the following successful projects have contributed.

## Tourism sector projects

- **DER HOCHRHÖNER:** Walk the “land of open vistas” – DER HOCHRHÖNER, which opened in 2006, is a 175 km inter-Länder premium hiking trail certified by the German Hiking Institute (Deutsches Wanderinstitut). It stretches from Bad Kissingen to Bad Salzungen, taking in the highest elevations in the Rhön, including the Wasserkuppe, Kreuzberg and Ellenbogen. To the west, the trail traverses the basalt cones of the Kuppenrhön; to the east, it leads across the plateau of the “Lange Rhön”. It is divided into 11 sections, each of which can be walked in a single day, allowing hikes to be planned for all or part of the trail. Directions, a description of the route and elevations, and GPS tracking (free of charge) are provided for all the sections. In addition, there are 20 certified day-long hikes around the Hochrhöner and a good network of circular walks.
- **Milseburgweg:** The 74 km Milseburgweg crosses the Rhön along its west-east axis and links the towns of Fulda (Hesse) and Meiningen (Thuringia). It was certified by the German Hiking Association (Deutscher Wanderverband) as a “Qualitätsweg” (a quality trail for hiking in Germany) in 2012.
- **Dark-Sky Park (Sternenpark):** The Rhön Dark-Sky Park Project, which is working towards recognition by the International Dark-Sky Association (IDA), links aspects of energy saving, species conservation, education, tourism and astronomy. Measurements of light pollution show that the “Lange Rhön” in particular, with the Wasserkuppe, Hohe Geba and Schwarze Berge, has potential to become a dark-sky park. As well as offering an experience of the night skies, the project aims to stop light pollution and energy waste and also protect the climate. The project began in 2010 as a student initiative at Fulda University of Applied Sciences.

The efforts, ongoing since 1980, to defuse conflicts between nature conservation and leisure use by means of visitor management and dialogue have continued. Despite some successes, a number of issues have yet to be resolved, e.g. in relation to recreational aviation and winter sports, mountain biking, riding, geocaching, motor sport and major events. In parallel to the regulatory provisions contained in the various protected area ordinances, creating attractive offers with an appropriate infrastructure is a key instrument in visitor management. In winter in particular, optimum preparation of cross-country ski trails and, above all, intensive monitoring of these trails by rangers have an important role to play.

**Goals** The administration units regard tourism as the key to the regional development of the Biosphere Reserve, especially in securing and creating jobs. Over the next 10 years, the following priorities will be addressed:

1. **More professional organisational arrangements:** The integration of the destination marketing of the Rhön, including the Biosphere Reserve, into Dachmarke Rhön GmbH – the organisation responsible for the Rhön brand – is seen as offering the greatest potential for creating synergies. The administration units are supporting the relevant stakeholders in this context. Both pillars – marketing of local products, and services such as those provided by tourism – must be significantly strengthened in order to boost the Rhön’s profile nationwide. The preparation of print products and the presence at markets and trade fairs would be more effective and targeted

through a joint approach. By combining the currently separate budgets of Rhön Marketing GbR, the Rhön Regional Working Group (ARGE Rhön) (see Section 7.2) and Dachmarke Rhön GmbH (Section 7.11) and placing activities such as the website, social media, brochure production, presence at trade fairs, etc. and staffing in the hands of a single employer (e.g. Dachmarke), the merger can be achieved in a cost-neutral manner. ARGE Rhön's coordinating committee acts as an advisory body to Dachmarke and the supervisory board is formed of the five Rhön district commissioners and five business representatives.

2. **Tourism framework concept and an improved offer:** Efforts are under way to ascertain whether the existing tourism framework concept for the Rhön can be revised or updated as a key element of the Biosphere Reserve's new framework concept. Quality controls would help to improve the tourism offer, as would upgrading the tourism infrastructure (especially guesthouses, mountain chalets, bed and breakfast accommodation and farm holidays; professional advice would be useful here), the establishment of the Dark-Sky Park, and low-impact, "soft" tourism offers, e.g. for ramblers and more intrepid hikers. Improving the food and regional product offer would increase day visitors' "spend".
3. **Closer linkage between the Biosphere Reserve and tourism:** The Biosphere Reserve consolidates and enhances the potential for generating value-added through tourism. For that reason, even closer cooperation should be established with a view to developing packages of services, e.g. in combination with environmental education and education for sustainable development (target groups: adults and families), the use of the [www.rhoen.de](http://www.rhoen.de) website as a source of target-group-specific information about the natural environment, and offers in the Bavarian spas and health resorts and in the towns of Fulda and Meiningen with a focus on the Biosphere Reserve. In accordance with the Madrid Action Plan, revenue generated from tourism should contribute to funding the maintenance of natural areas (in this case the semi-natural cultural landscape) in the Biosphere Reserve.

#### 4.8 Mineral extraction

**Goals** Near-surface deposits, mainly basalt, phonolite and muschelkalk limestone, are mined at various sites. Conflicts with nature and landscape, especially on the Rhön area's higher elevations which have great landscape value (basalt), are resolved by means of planning instruments such as environmental impact assessments and regulations on impact mitigation. In Thuringia's part of the Rhön area, the establishment of new quarries has been prohibited since 1990.

The administration units take the view that there should be no further expansion of quarries beyond those that already exist or have been approved.

#### 4.9 Energy and climate

**Status** In the past, the energy sector relied primarily on fossil energy imports to meet the energy demand in the Biosphere Reserve. In recent years, intensive efforts have been made to facilitate the transition to renewable energies. An inter-Länder survey of energy carriers has not been carried out. Seven electricity companies operate in the Rhön: three are transregional suppliers (E.ON Bayern, E.ON Mitte and E.ON Thüringer Energie AG), and four are regional suppliers (Überlandwerk Rhön, ÜW Fulda AG, Stadtwerke Hünfeld GmbH and Stadtwerke Bad Brückenau GmbH). 100% of the latter's supply area is located in the Biosphere Reserve; the figure for Überlandwerk Rhön is 66 %.

**Review** Progress on renewables expansion is described in the Box below. There is now a stronger focus on protecting the climate, due primarily to the participation of the Bavarian and Hessian parts of the Rhön in the R&D demonstration project “Biosphere Reserves as Model Regions for Climate Protection and Adaptation to Climate Change” (Biosphärenreservate als Modellregionen für Klimaschutz und Klimaanpassung) (for further projects, please refer to Annex 8).

The Rhön-Grabfeld district branch of the Bavarian Farmers’ Association (Bayerischer Bauernverband) and its subsidiary Agrokraft GmbH, together with Friedrich-Wilhelm Raiffeisen Energie e.G., are prioritising the development of energy cooperatives (see Box). The Hessian administration unit promotes energy efficiency and renewable energies as a thematic priority in its information and public relations activities. In 2012, the Rhön Fuelwood, Solar and Thermal Insulation Day (Rhöner Brennholz-, Solar und Wärmedämmtag) took place for the 8th time in Poppenhausen; this regional trade fair attracted 45 exhibitors. Oberelsbach and Oberthulba host “Wood and Energy Days” (Holz- und Energietage) with a similar focus every two years. The district group of Friends of the Earth Germany (Bund Naturschutz e.V.) has used thermal imaging as the basis for advising more than 1,000 homeowners in the rural district of Bad Kissingen – partly within the Biosphere Reserve – on thermal insulation. At the initiative of the biosphere reserve administration in Thuringia, a model project on fossil fuel saving is in preparation for 2013. The partners are local energy advisors and municipalities.

## Renewable energy and cooperatives

- **Biogas:** Biogas plants have been set up at 19 sites, producing a total output of 10 115 kW, with heat generation taking place in at least of two of these plants (as at March 2012). In Bavaria and Hesse, the main feedstock for the biogas plants is maize. In the Thuringian part of the Rhön, with its animal husbandry, at least 70 % of the feedstock consists of cattle slurry, solid manure and other agricultural by-products.
- **Wood chips:** A large number of wood chip heating systems have been set up, partly in conjunction with local heating networks, e.g. by agricultural enterprises, forestry units and citizens’ cooperatives (please refer to Section 4.2.2).
- **Solar energy:** Solar thermal and photovoltaics have been expanded on a decentralised basis. At present, there are no free-standing systems in open spaces in the Biosphere Reserve. It is not possible to provide any statistical data. Since 2003, the Fulda-Hünfeld District Farmers’ Association (Kreisbauernverband Fulda-Hünfeld e.V.) has promoted the installation of photovoltaic systems by providing advice to agricultural enterprises in the Hessian part of the Rhön. Increasingly, roof-mounted photovoltaic systems are being installed by major farm enterprises in Thuringia.
- **Windpower:** The expansion of windpower is a controversial and intensely debated issue. At present, there are no wind turbines in the Biosphere Reserve. Given the importance of preserving the landscape appearance (“land of open vistas”), especially for generating value-added from tourism, and preventing damage to the habitats of sensitive bat and bird species, particularly the Red Kite (*Milvus milvus*) and Black Stork (*Ciconia nigra*), windpower is viewed critically.
- **Citizens’ cooperatives:** In line with Friedrich-Wilhelm Raiffeisen’s maxim that “the village’s money should remain in the village”, the formation of local FWR energy cooperatives is being vigorously promoted. They enable citizens to participate in energy system transformation even with small amounts of money, and implement projects with lasting value for their community. In the Biosphere Reserve, one FWR energy cooperative has been set up to date, in Stadtlengsfeld-Gehaus, but there are many others in the vicinity of the Biosphere Reserve. 23 farmers are participating in the bioenergy enterprise Bioenergie Ostheim GmbH & Co. KG. Two other examples of cooperatives in Sieblos and Grüsselbach are described in the Box in Section 4.2.2.



- **Hydropower:** Hydropower is utilised almost to its full potential along various watercourses where mill rights and suitable sites exist. There is limited potential for expansion.

**Goals** One of the key issues which the administration units wish to address in the coming years in dialogue with stakeholders in the Rhön is how the Biosphere Reserve, as a model region, should approach the task of energy system transformation. The following elements are priorities:

- ▶ **100 % renewable, energy-self-sufficient, and carbon-neutral:** Fulfilment of these criteria is the vision to be realised within two decades. As the Biosphere Reserve's natural attributes (biodiversity, landscape appearance and its importance for generating value-added through tourism) mean that there are particular difficulties for renewables expansion here, the area around the Biosphere Reserve, i.e. all parts of the five Rhön rural districts that are members of the Rhön Regional Working Group (ARGE Rhön), should be integrated into a new **concept, followed by project implementation**, also as an element of the new framework concept. A suitable project agency is the Rhön Regional Working Group (ARGE Rhön) (see Section 7.2). The municipalities and regional energy suppliers should be involved as key stakeholders. The position paper on the use of windpower and biomass in biosphere reserves, published by the MAB National Committee in 2012, provides guidance here.
- ▶ **Mix of decentralised plants and energy saving:** Wind farms alter the sensitive landscape appearance in a permanent and dramatic manner and adversely impact on areas with extensive designated Natura 2000 sites that are highly valuable in terms of nature conservation. Windpower could, at most, be deployed in the transition area, after detailed nature conservation impact assessments. The Rhön Biosphere Reserve Ordinance (Biosphärenreservatsverordnung – ThürBR-VO Rhön) in force in the Thuringian part of the Rhön does not permit the construction of tall structures that impair landscape appearance. Smaller biogas plants, such as those now being established in the Hessian part of the Rhön, which use solid manure, grass, alfalfa and grass ley from farms' own organic production, are good models. Local heating networks which run on wood chips (including hedge trimmings) should be expanded. Work on energy saving and energy efficiency will also be intensified, with advice being provided to the municipalities on setting frameworks through area development planning.
- ▶ **Involvement of citizens through cooperatives:** The establishment of cooperatives, outlined above, as a vehicle for citizens to play an active role in energy system transformation should be encouraged throughout the area.
- ▶ **Network expansion outside the Biosphere Reserve:** Based on the present status of the 2012 Network Development Plan and the associated draft environmental report, it seems that the Biosphere Reserve will be affected, at the least, by Measure No. 74 (Mecklar – Grafenrheinfeld) with the construction of a new 380 kV power line. Further measures are still very general in scope, so their relevance for the Rhön is unclear. Both an overhead power line with 60 m masts and 30 m cross-arms and a 50 m wide route to be kept open for underground cables would have a major fragmentation effect and a highly adverse impact on landscape appearance. Running the power line along the A7 motorway corridor would be the best option. If this is not possible, the power lines should be routed around the core areas, buffer zones and Natura 2000 sites, with underground cables then being laid in the surrounding areas, with due regard for conservation goals. The Rhön Biosphere Reserve Ordinance (Biosphärenreservatsverordnung – ThürBR-VO Rhön) in force in the Thuringian part of the Rhön does not permit the construction of tall structures that impair landscape appearance.



- **Dark-Sky Park:** Recognition of a Rhön Dark-Sky Park will lead to measurable energy savings (please see Box in Section 4.7).

#### 4.10 Regional development

**Status** Regional development forms an integral part of the work of the administration units in cooperation with many other stakeholders in a wide range of fields. Above all, EU funding via Leader+/the Leader axis of the European Agricultural Fund for Rural Development (EAFRD) has leveraged many millions of euros of investment, primarily in tourism, marketing and services. It is not possible to provide a detailed financial breakdown, as the Leader regions in Bavaria and Thuringia cover the entire rural districts of Bad Kissingen, Rhön-Grabfeld, Schmalkalden-Meiningen and Wartburgkreis. It is only in Hesse that the Leader region is largely congruent with the Biosphere Reserve.

**Review** During the EU's 2000-2006 programming period, the Leader region in the Hessian part of the Rhön received funding for Leader+, self-sustaining rural development and quality of life, and rural tourism projects amounting to € 2.24 million (including an estimated € 1.1 million since 2003). During the current programming period 2007-2013, investments of around € 1.6 million are planned under Leader and around € 5 million for renovation and development of villages. Since 1991, more than € 10 million in Leader funding has been invested in some 400 projects in the Hessian part of the Rhön.

Some of the Leader and other regional development projects are described in Sections 4.2.1 (GMO-free region, Landschaftspflege-Agrarhöfe Kaltensundheim, Rhön beef, elderberry cultivation), 4.3 (Metalworking Cluster, Rhön shop, sausage and other markets, mobile cheesemaking) and 4.4 (register of vacant plots and properties). Regional development priorities are tourism (Section 4.7) and the establishment and roll-out of the Rhön brand (Section 4.11).

Many successful projects initiated in the first 10 years after the Biosphere Reserve's designation are now well-established: Rhön sheep farms, Rhön pasture-fed oxen ([www.r-br.de](http://www.r-br.de)) and Rhöner Durchblick e.V., a regional association of farm businesses, food producers and restaurants which markets local products via farm shops and a regional shop at the Wasserkuppe. In the Bavarian Rhön, around 15 businesses are known to be using direct marketing (including small distilleries), and there are four farm bakeries, two EU-certified butcheries and 17 farms offering holiday accommodation. In the Hessian part, at least 29 enterprises sell through direct marketing (including four fish farms and four cheese marketers), and there are at least four farm butchers, at least five farm bakers, and at least 29 farm holiday providers. In the Thuringian Rhön, several farm businesses use direct marketing, including the Rhön Agricultural Cooperative (Rhönland-Agrargenossenschaft e.G.) in Dermbach. Other regional development projects are listed in Annex 8.

**Goals** Regional development via the various sectors – agriculture and forestry, commerce and industry, settlement and transport, hunting and fishing, tourism, and energy and climate – remains a key field of action for the Biosphere Reserve's administration units. They play an active role through their work on Leader, also in the new programming period, and in the development of the Rhön brand (Section 4.11). The various goals and work priorities are described in the relevant chapters.

#### 4.11 Cooperation with regional and transregional companies / the Rhön brand

**Status** The Biosphere Reserve cooperates with many different companies. Some examples are listed in the Box below.

##### Cooperation with businesses – examples

- **tegut:** The Fulda-based tegut subsidiaries Kurhessische Fleischwaren GmbH (meat products) and Herzberger Bäckerei GmbH (organic bakery) purchase organic beef, lamb and goat's meat, apple products, honey and cereals. In 2012, Herzberger produced the "Rhönlerche" – a wholegrain loaf made from traditional spelt varieties grown in the Rhön – for a limited promotional period, with part of the profits being channelled back into projects to promote species diversity in arable farming. Although the operations of the commercial division of Tegut have now been taken over by the Swiss retailer Migros Zurich Cooperative, the various partnerships will continue ([www.tegut.com](http://www.tegut.com)).

- **Rhönbrauerei Dittmar GmbH:** Wherever possible, this brewing company, based in Kaltennordheim, works with local firms and uses locally grown raw materials. It is also involved in various forums and associations in the Rhön. Most of the malting barley is grown by local agricultural cooperatives and malted in Mellrichstadt. The water comes from the brewery's own deep well in the Biosphere Reserve. The company is IFS-certified ([www.rhoenbrauerei.de](http://www.rhoenbrauerei.de)).

- **Hochstiftliches Brauhaus Fulda GmbH:** The brewing company Hochstiftliches Brauhaus and its sister company Will Bräu are users of the Rhön brand name and display the Quality Seal on their beers. The company has also provided sponsorship for conservation measures at springs in the Rhön. Environmentally compatible production is a priority ([www.hochstift.de](http://www.hochstift.de)).

- **Bionade GmbH:** Ostheim-based Bionade produces organic soft drinks and is well-known throughout Germany. In order to ensure that organic raw materials can be procured locally, especially from the Rhön region, over the long term and to guarantee the traceability and quality of these raw materials, Bionade GmbH, working with an organic farmer, Martin Ritter from Ostheim, launched the Rhön Organic Farming Project (Bio-Landbau Rhön) in Autumn 2005. Bionade GmbH promises all organic farmers participating in the initiative that it will purchase 100 % of their harvests of organic elderberries and malting barley (please refer to the information on elderberry cultivation in the Box in Section 4.2.1). Bionade also supports environmental, youth and health projects, and is a member of various Biosphere Reserve bodies (e.g. the Advisory Board) as well as the Business and Biodiversity Initiative launched by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU). Although Bionade has now been taken over by Radeberger Gruppe, regionality and sustainability continue to be priorities ([www.bionade.de](http://www.bionade.de)).

- **Kelterei Elm:** This drinks manufacturer (SME) in Flieden has developed numerous new products based on local fruits, 70 % of them to organic standards. It processes around 7 500 t fruit annually, mainly from the Rhön and Vogelsberg, turning the fruit into more than 600 products. Elm supports the Biosphere Reserve, utilising the "Rhön Bio Seal" of organic quality, and is a member of the Rhön Nature and Habitats Association (Verein Natur- und Lebensraum Rhön e.V.). Together with the Rhöner Schaukelterei in Ehrenberg-Seiferts (Rhönschaf-Hotel Krone) and Kelterei Wolfgang Söder in Sandberg, Elm processes the harvest of the 3 000 or so members of the Rhön Apple Initiative (Rhöner Apfelinitiative e.V.) ([www.rhoenapfel.de](http://www.rhoenapfel.de)).

- **Förstina Sprudel:** The mineral water company Förstina (whose advertising slogan is "Förstina. The Treasure of the Rhön (Förstina. Der Schatz der Rhön)) is based at Eichenzell at the edge of the Biosphere Reserve. The company has supported the Rhön Nature and Habitats Association (Verein Natur- und Lebensraum Rhön e.V.) (also as a member) and the Hessian administration unit since 1993; it is also a user of the Rhön label. With its "Under the Apple Tree" (Unterm Apfelbaum) product range produced in cooperation with Kelterei Elm, Förstina guarantees to support local mixed orchard landscapes with fair prices for fruit growers and a transparent manufacturing process ([www.foerstina.com](http://www.foerstina.com)).

- **Rhönsprudel:** The drinks manufacturer from Ebersburg-Weyhers uses the Biosphere Reserve pro-actively in its advertising. It is a member of the Rhön Nature and Habitats Association (Verein Natur- und Lebensraum Rhön e.V.) and displays the Rhön Quality Seal. On its website, the company promotes its "water, fresh from the Biosphere Reserve". One of its products – an organic sparkling apple drink, launched in 2007 – is called

“biosfere”. Organic lemonade, orangeade and colas are marketed under the product name “Bio-Rhöni”. The company is fully committed to the environment: for example, it has set up groundwater monitoring stations, biological wastewater treatment systems, water recycling and its own combined heat and power plants, etc. Rhönsprudel has run a “Biosphere Camp” for children in the 10-12 age group every year since 2009 in cooperation with the Hessian administration unit and the rural district of Fulda ([www.rhoensprudel.de](http://www.rhoensprudel.de)).

**Review** At the last periodic review, the MAB National Committee was impressed by the various regional and direct marketing initiatives and welcomed the efforts to introduce a regional brand. During the reporting period, the administration units’ work, as regards cooperation with businesses and the promotion of regional development, therefore focused on developing the Rhön brand (Dachmarke).



**Figure 3: Labels awarded under the Rhön brand name (from left): the Identity Mark, the Bio Seal, and the Quality Seal.**

The brand ([www.rhoen.info/dachmarke](http://www.rhoen.info/dachmarke)) has created a distinct identity for the Biosphere Reserve locally and is widely recognised further afield. The holder of the brand, Dachmarke Rhön GmbH, was set up by the Rhön Brand Name Association (Verein Dachmarke Rhön e.V., founded in 2008) and has three staff (2.08 full-time equivalents), based at Oberelsbach Management Centre, who are responsible for managing and marketing the brand. Three labels are awarded under the scheme: the **Rhön Identity Mark**, whose slogan is “The Rhön – Simply Uplifting” (Identitätszeichen Rhön – “Die Rhön – einfach erhehend”); the **Rhön Quality Seal** (Qualitätssiegel Rhön) for products and services guaranteed to be of high quality and local origin, with verified compliance with predefined criteria being a prerequisite for the award of the seal, and the **Rhön Bio Seal** (Biosiegel Rhön), which guarantees not only that the products are of outstanding quality but that organic regional raw materials were used in compliance with the EU Regulation on organic production and labelling of organic products (Figure 3).

The scheme currently has 259 members, including 184 brand users (= partner companies) (January 2013; Figure 5). Specific quality criteria have now been defined for almost all the sectors listed (30 sectors).

An additional certification scheme was established in 2007 for restaurants, which are awarded one, two or three “silver thistles” depending on the amount of locally-grown ingredients they use (30, 40 or 60 %) (Figure 4). A 196-page guide (Genussführer), published by Dachmarke in 2012, profiles 91 partner companies belonging to the brand in what it describes as a “Taste of the Rhön Tour” (“Genuss-Tour”). The guide lists 55 food producers and 36 producers of non-food items.

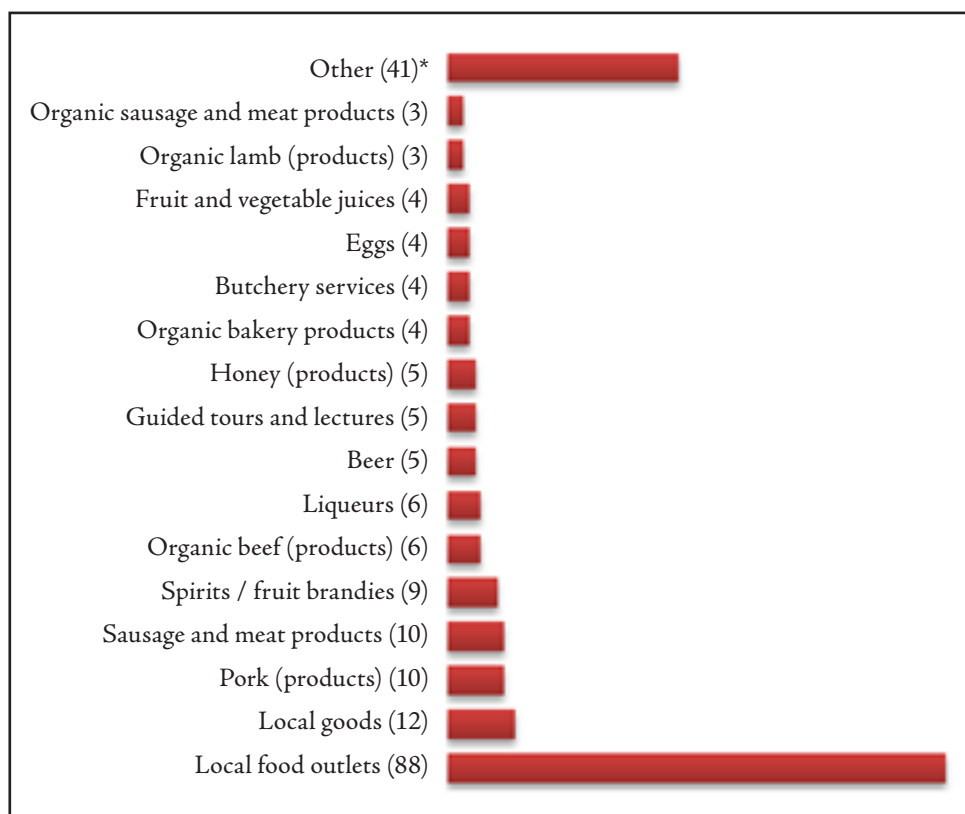
85 partner companies currently sell their products online via a joint website: [www.marktplatzrhoen.de](http://www.marktplatzrhoen.de). Products are also sold through direct marketing and are retailed at currently four (soon to be at least seven) outlets via Regionalregal Rhön



**Figure 4: Certificate with three carline thistles for employing at least 60% regional products**

(Rhön Regional Showcase), introduced in 2011, with food retailers presenting a selection, chosen from at least 80 local products, to uniform and attractive standards.

Key partners are the projects 'From the Rhön – for the Rhön' ("Aus der Rhön – für die Rhön"); this involves cooperation between food outlets and agriculture through the promotion of regional dishes and products in restaurants (14 firms; [www.adr-fdr.de](http://www.adr-fdr.de)); and Charming Rhön (Rhöner Charme), a collaborative initiative by restaurateurs and farmers from the Hessian, Bavarian and Thuringian parts of the Rhön region (48 businesses; [www.rhoener-charme.de](http://www.rhoener-charme.de)).



**Figure 5: Number of Rhön brand partner companies (label users), as at: January 2013. n = 213 (due to multiple inclusions)**

\* Other: two firms each: soft drinks, bakery products, organic beer, organic fruit juices, organic poultry (products), organic vegetables, wood and timber products, mineral water, fruit and vegetables, oilseeds, plant products (pestos, creams, etc.), game; one firm each:

organic fruit spreads/syrups, organic cereals, organic honey, organic milk/dairy products, organic oilseeds, organic pork (products), organic wine, farmed-reared organic game (products), organic goat meat, (products), organic goat milk products, heating/plumbing services, fruit spreads/syrups, poultry, confectionery, regional catering services, beef (products), ice cream

**Goals** In their cooperation with businesses, the administration units will continue to focus on developing the Rhön regional brand and will also expand bilateral partnerships with companies:

- 4. Establish Dachmarke as a joint marketing organisation:** Dachmarke is central to improved external marketing, communication and awareness-raising/publicity and should therefore be developed into a joint marketing organisation for regional high-quality products and services. Integrating "classic" tourism marketing into its organisational structures will be the most challenging task in the coming years in this context.
- 5. Create the "Rhönwiese" label:** In order to further increase commercial interest in the Rhön's quality products, a regional brand, known as "Rhönwiese" ("Rhön Meadow"), will be created as part of the brand, with a clear corporate design and labelling suitable for corporate use. The name is intended to evoke the Rhön's typical species-rich meadows (biodiversity). The existing Quality Seal or Bio Seal will be incorporated into the brand.
- 6. Increase regional value chains:** The criteria for restaurants are currently being revised so that more certified products must be used on a systematic basis in order to qualify for two or three "silver thistles". The establishment of a further value chain for bread (in addition to home-produced sausage) from farmer to mill to bakery is also



planned.

7. **Strengthen and expand the product supplier base:** Since demand for regional quality produce is no longer the main problem, the focus must now shift to professional development measures for producers and the recruitment of other producers and processing companies to the scheme.

## 5 RESEARCH AND MONITORING PROGRAMMES

**Status** With very few exceptions, the Biosphere Reserve's administration units do not themselves carry out research projects; instead, they coordinate research projects by third parties as far as possible. Within their annual budget framework, the administration units also commission researchers to undertake scientific studies on a case-by-case basis. The Bavarian administration unit collates all the research projects from all three state sections of the Biosphere Reserve and produces a set of potential project outlines on the – currently 40 – research topics of relevance to the Biosphere Reserve and circulates it to universities and students as suggested subjects for study (research framework plan).

The administration units identify a need for improvement in the following areas:

- ▶ There is a major **shortage of systematic surveys of nature conservation relevance**. Biodiversity monitoring focuses on the core areas and, to some extent, the buffer zones and generally on a small number of species (e.g. Black Grouse (*Tetrao tetrix*), Black Stork (*Ciconia nigra*), Red Kite (*Milvus milvus*), Western Jackdaw (*Corvus monedula*), bats, and orchids).
- ▶ For a full and systematic survey of the Rhön Biosphere Reserve, **sustainability monitoring** (based on the federal socioeconomic monitoring programmes) should be established, with social and economic indicators being integrated to a greater extent than at present.
- ▶ Although there is high **research intensity**, the supervision, coordination, **collation and evaluation of results**, which are both desirable and necessary in order to channel the findings into the practical work of the Biosphere Reserve and its stakeholders, cannot be undertaken due to a lack of staff and financial resources in the administrations. Furthermore, more intensive inter-Länder coordination of research would signal greater ownership and thus motivate universities and scientific institutions to focus their own and third-party funded research projects on topics of relevance to the Biosphere Reserve and to support these projects on an ongoing basis.

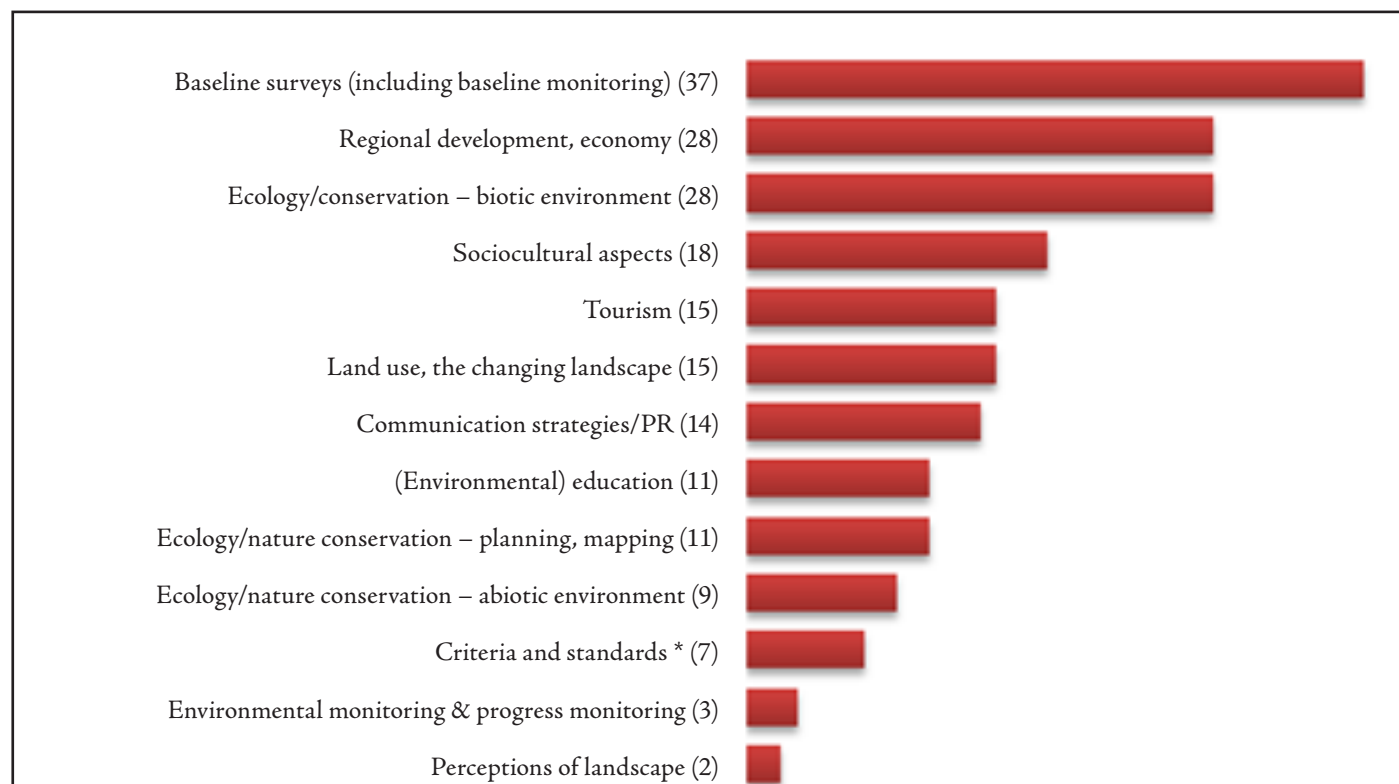
**Review** After the last periodic review, the MAB National Committee paid tribute to the activities being undertaken in the field of research and monitoring, especially the R&D project on Integrated Environmental Monitoring (IEM) and the research framework plan as a step towards a more systematic and coordinated approach. However, it was critical of the fact that socioeconomic research plays a subordinate role. Due to a lack of suitably qualified staff in the administration units, however, it has not been possible to remedy this deficit to any significant extent.

Research activities continued during the reporting period. As monitoring in the Biosphere Reserve is undertaken mainly by third parties (state (Land) agencies and offices) under state-wide programmes, its findings were evaluated



in the first Integrated Environmental Report for the Biosphere Reserve in 2008 (based on data to November 2006). The supervision of scientific studies conducted by third parties continued. Since 2003, a total of 208 completed or ongoing studies have been carried out in the various research areas and, to a lesser extent, monitoring (for a list, please refer to Annex 24): 77 final-year projects (diploma, Master's or Bachelor's theses), 21 student research projects and professional assignments, 9 Ph.D. projects, 35 externally and 42 internally funded research projects and 26 monitoring projects, and 11 GIS projects (multiple inclusions in some cases). Thematically, they cover a broad range of abiotic, biotic and socioeconomic topics (Figure 6). The majority of studies – 61 % – were funded by third parties or were undertaken as students' final-year projects and were therefore cost-neutral.

In all, institutes from at least 50 universities and institutions of higher education and seven schools have participated in the research in the Biosphere Reserve (Annex 25). It is estimated that more than 300 scientists participated in the above-mentioned 208 research projects over the last 10 years. A Geographic Information System (GIS) has been set up in the Thuringian administration unit to facilitate joint centralised data processing.



**Figure 6: Main areas of research in the 208 research projects since 2003 (multiple inclusions in some cases)**

139 completed studies are available in the administration units' reference libraries. An online library offers an overview of the library stocks held decentrally. In 2004, cooperation arrangements were established with the Research Library and Archive for the Rhön Biosphere Reserve (Rhön Collection) at Fulda University of Applied Sciences. The collection is housed at the University and State Library of Fulda and materials can be taken out on loan (including inter-library loans; [www.rhoenprojekt.de](http://www.rhoenprojekt.de)).

Inter-Länder landscape monitoring, first carried out in 1993, was repeated in 2006, based on remote sensing data (CIR). As a result, key data are available about landscape dynamics (please refer to Annex 16).

**Goals** More professional and targeted support should be provided for research and monitoring over the next 10 years:

1. **Revise the framework concept:** As part of the revision of the framework concept, a new research framework plan and monitoring strategy based on priorities will be developed for all three dimensions of sustainability. The recommendations made in the R&D project “Indikatoren für ein integratives Monitoring in deutschen Großschutzgebieten” (“Indicators for Integrated Monitoring in German Large-scale Conservation Areas”) (KOWATSCH et al. 2011, BfN-Skripten 302) should be implemented in this context as far as financial and personnel capacities permit.
2. **Biodiversity monitoring:** The strategy for biodiversity monitoring in the core areas, buffer zones and transition areas will be linked in with the target species concept, by utilising the target species as key indicators.
3. **Expand the Environmental Report:** The landmark Environmental Report published in 2006 will be expanded into a Sustainability Report and updated every 10 years.
4. **Expand the archive:** The Rhön Collection at Fulda University of Applied Sciences will be maintained and expanded as a central archive.

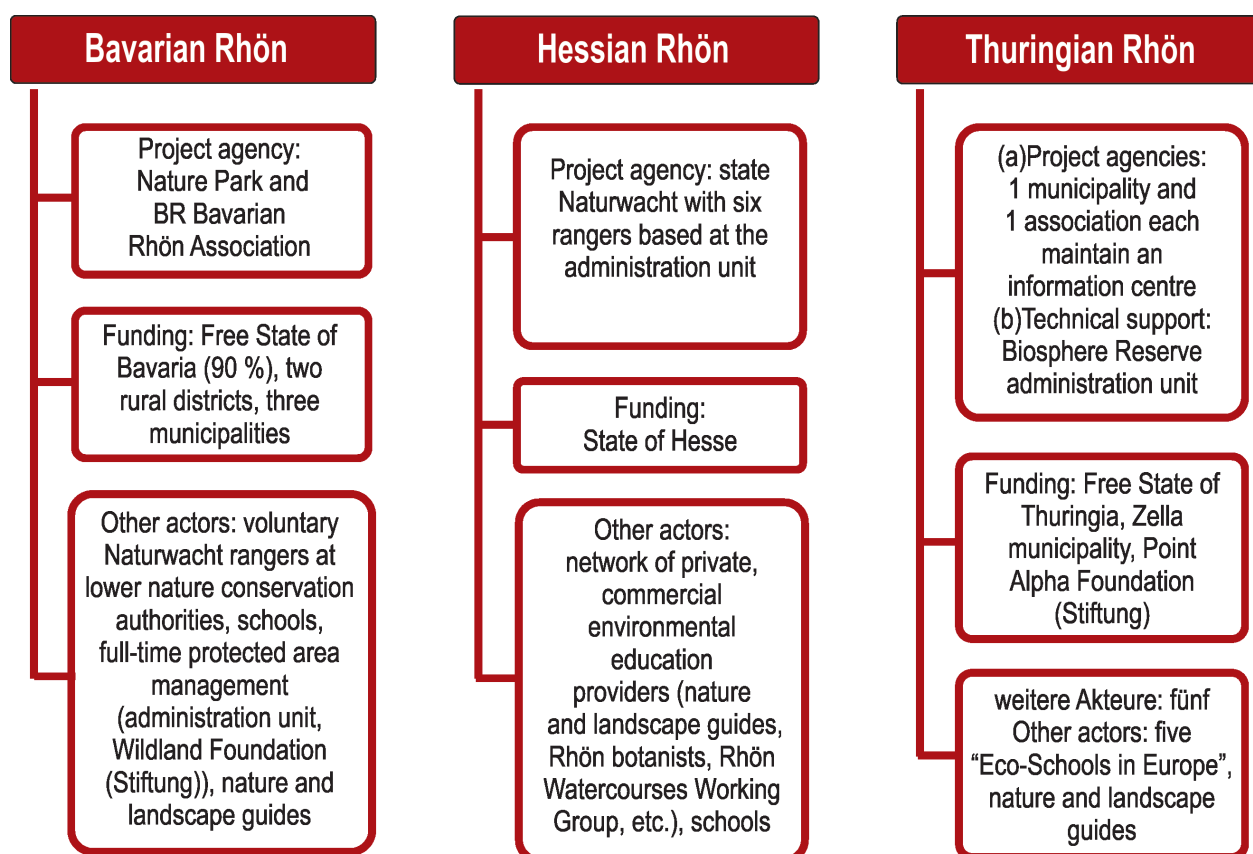
## 6 EDUCATION FOR SUSTAINABLE DEVELOPMENT AND COMMUNICATION

### 6.1 Education centres

**Status** (Out-of-school) education and information are organised differently in each of the three Länder parts of the Biosphere Reserve (Figure 7).

In all, there are seven visitor centres and information centres in the Biosphere Reserve: “Haus der Schwarzen Berge” in Wildflecken-Oberbach, “Haus der Langen Rhön” in Oberelsbach, “Schwarzes Moor” Information Centre in Fladungen (Bavaria); Groenhoff-Haus Wasserkuppe and “Haus am Roten Moor” (Hesse); and “Propstei Zella” and “Haus auf der Grenze”, Geisa (Thuringia). The Biosphere Reserve also cooperates with the “Thüringische Rhön” Youth Education Centre (Schafhausen Schools’ Field Centre – Schullandheim) and the “Schule im Grünen” Schools’ Field Centre in Fischbach (thematic priorities: water, forest and meadow habitats, the sheep and its products, apples, Rhön crafts, healthy living, etc.). Educational activities are also a focus of the cooperation with the youth hostels in Gersfeld, Oberbernshards, Simmershausen (in Hümpfershausen) and Wildflecken and with the Wasserkuppe Youth Education Centre and other private education providers (e.g. the Biological Environmental Network (Biologisches Umweltnetzwerk) with its RUMpeL eco-mobile (Umweltmobil RUMpeL)). More than 20 nature trails, as well as forest worker vehicles converted into mobile information units, complete the educational infrastructure.

The visitor numbers achieved in 2011 by the centres mentioned above are shown in Table 5 below. The figures do not include visitors to trade fairs; these numbers vary from year to year according to the resources allocated to this area of activity.



**Figure 7: Structure and financing of educational activities in the three state sections of the Rhön Biosphere Reserve (excluding schools' field centres and youth hostels).**

**Table 5: Number of visitors utilising the various environmental education offers: example – 2011.**

	Bavaria	Hesse	Thuringia	Total
Information centres	29 700	70 000	51 000*	150 700
Guided tours, lectures, seminars	5 700	7 068	5 700	18 468
Nature and landscape guides	1 000	34 000**	2 500	37 500
Mobile information units	6 800	-	3 936	10 736

\* Estimated figure, based on 94 000 visitors to Point Alpha and Zella; it is estimated that 50 % of visitors to Point Alpha visit the Biosphere Reserve exhibition in the upper storey

\*\* Guided tours, lectures, coach tours and farm visits outside the nature and landscape guides' core area of deployment; around 1 200 events organised by 39 providers.

The 2011 annual programme of events for the Bavarian Rhön was well-attended, with 18 100 participant hours. The Thuringian administration unit ran an average of 115 events per year from 2004 to 2011 and reached 12 500 people on average (including exhibitions and trade fairs).

There are a number of active local youth groups, such as the "Wanderratten" in Bavaria and the Junior Rangers in Hesse and Thuringia, and there is regular contact between them, with a total of 67 children and teenagers in seven groups (Bavarian Rhön 15, Hessian Rhön 34, Thuringian Rhön 18). In 2007, the national Junior Rangers meeting

took place in the Hessian Rhön (Ehrenberg-Wüstensachsen). At “Erlebniswelt Rhönwald” – an outdoor activity centre offering “Discover Nature”-type events for families – the Thuringian Junior Rangers are designing a log cabin as a basis and starting point for future activities. Together with Rhönsprudel, a Rhön brand partner company, a “Biosphere Camp” is held in Hesse every year for 10-12-year-olds.

**Review** After the last evaluation, the MAB National Committee particularly emphasised the multi-functional work of the education centres, with tourism offers linked to information about the Biosphere Reserve. This starting point has been further improved as the “Status” section above shows. A milestone was the opening, in June 2012, of the Environmental Education Centre in Oberelsbach (Bavaria), which was funded by the Federal Government’s second economic stimulus package and the Free State of Bavaria (total expenditure: € 5.3 million). Thematic priorities are: people in the cultural landscape, sustainable use, and life in rural regions, with a focus on the environmental, economic and social dimensions. The Centre is one of three facilities that cooperate in the “Rhöniversum” ([www.rhoeniversum.de](http://www.rhoeniversum.de)) network, the others being Bauersberg Schools’ Field Centre in Bischofsheim (geology and water) and “Thüringer Hütte” in Sondheim (energy and creation). In recent years, a total of 56 nature and landscape guides have been certified in accordance with the criteria established by the National Working Group of State-funded Education Sites for Nature Conservation and Environmental Protection (Bundesweiter Arbeitskreis der staatlich getragenen Bildungsstätten im Natur- und Umweltschutz – BANU). The guides operate on a private basis and provide environmental education in addition to the centres mentioned above (there are 16 guides in Bavaria and 10 in Thuringia; in Hesse, there are 39 guides who, due to a high level of specialisation and fluctuation, operate without certification, but with close supervision by the administration unit).

**Goals** The number of centres and the extent of the education infrastructure have now reached a stage at which, from the current perspective, no further expansion is required; it is simply a matter of safeguarding the infrastructure at the present level. Due to the high visitor numbers (a total of around 1 million visitors to the Wasserkuppe per year), the information centre at the Wasserkuppe in Hesse should be modernised and, if possible, restructured. More generally, however, the personnel capacities of the education providers must be increased substantially as the demand still cannot be met in full and further target groups should be reached, at least on a regional basis. The latter applies particularly to adults, in order to create even more synergies between a more attractive tourism offer and education, especially education for sustainable development, and partnerships with universities.

## 6.2 Environmental education and education for sustainable development (ESD): thematic content

**Status** Regional and healthy foods are currently a thematic priority in education activities in the Bavarian Rhön. These topics have been addressed with children and teenagers in projects such as “A Nose for ...” (“Der Nase nach”), “Bread and Butter” (“Brot und Butter”) and “Breakfast: healthy – regional – sustainable!” (“Frühstücken: gesund – regional – nachhaltig”). Three projects implemented by the Nature Park and BR Bavarian Rhön Association (Verein Naturpark und Biosphärenreservat Bayerische Rhön e.V.) have been awarded the title of “Official German Project of the UN Decade of Education for Sustainable Development” (see Box). A further offer

is the annual “Experience Nature” Camp (NaturErlebnisCamp) for 35 children.

Thematically, most of the current offer consists of “classic” environmental education. The new Oberelsbach Environmental Education Centre has introduced a new thematic focus into the offer.

In the Hessian Rhön, the main topics addressed are: natural science (biodiversity), generally focusing on current projects; renewable energies (lectures, energy “round tables” for SMEs, site visits); agricultural topics (sheep farming, grassland management); sustainable regional development (importance of regional economic cycles, mobile cheesemaking, use of regionally sourced inputs), climate protection (lectures, presentation of research findings, exhibition) and demographic change (public awareness-raising, e.g. 2013 workshop with the Bertelsmann Foundation). The educational activities undertaken by the Thuringian administration unit focus mainly on species and habitat conservation, local history, education for sustainable development, and monitoring.

## Education for sustainable development (ESD) – projects

**Breakfast: healthy – regional – sustainable! (Frühstücken: gesund – regional – nachhaltig):** The “Breakfast Weeks”, launched in 2006, are an interdisciplinary education initiative for school students from the third grade to upper secondary level. The children prepare and eat breakfast together and learn the value of healthy eating for their own well-being. They find out about the ingredients and origins of various foods, regional economic cycles and the importance of securing jobs, and gain an awareness of the environmental impacts of the foods we eat.

**“... and what do you consume?” (“... und was konsumierst Du?”):** Teaching units for all types of school (excluding vocational schools) and classes are designed to encourage environmentally aware and sustainable consumer behaviour. By working on topics such as textiles, food and energy, the students address the issue of sustainability and identify alternatives for consumers. Teachers are trained to become multipliers and are supported during the first few teaching sessions. Action days for students of all ages on topics such as clothing or waste introduce the topics into schools’ daily life. From 2009 to 2011, the project reached some 3 000 students and 200 teachers in a total of eight schools.

**Shoe size XXL (Schuhgröße XXL):** How much land consumption are we causing through our lifestyles, and what are the factors influencing our “ecological footprint”? These issues are explored in an economic planning game involving various groups (countries) with different starting conditions as regards raw materials, production facilities and know-how. The aim is to earn as much money as possible by selling the manufactured goods on the “world market”. External events and the feeling of having been treated unfairly lead the players to the topics of global justice, equality and the ecological footprint. The planning game puts much of the class in the role of countries with very limited economic opportunities. No matter how hard they try, these students cannot compete with the better equipped “industrial countries”. In this way, the students are encouraged to look critically at their own lifestyles.

**Goals** Over the next 10 years, the administration units wish to change the thematic focus of educational activities as follows:

1. **Education concept:** An inter-Länder education concept will be prepared as an element of the new framework concept for the Biosphere Reserve. This will involve all the state sections of the Biosphere Reserve and apply a differentiated approach to all relevant target groups, with intensive integration of tourism and a stronger focus on education for sustainable development. Business stakeholders will be approached to a greater extent with a view to developing individual capacities.



- 2. Stakeholders:** Although the education providers' permanent professional staff members in the Biosphere Reserve are the core team, other stakeholders should be integrated to a greater extent into practical education activities. This will require an increase in the number of certified nature and landscape guides and volunteers. The "Ehrensache Natur" volunteer project should be continued.
- 3. External marketing:** Successful environmental education and education for sustainable development should be utilised to a greater extent for professional joint inter-Länder external marketing of the Biosphere Reserve. The Biosphere Reserve brand (Dachmarke) and the tourism industry are key partners here.

### 6.3 Public awareness

**Status** In its activities to raise public awareness, the Biosphere Reserve makes use of the following communication tools:

- ▶ **Press/media relations:** Together, the three administration units publicise the Biosphere Reserve intensively through the media, firstly through their own regular inter-Länder newsletter (Mediendienst), which is issued at least 12 times a year and contains reports and announcements about the Biosphere Reserve, and secondly, via a large number of other press releases of their own.
- ▶ **Media monitoring:** The local press in particular is intensively monitored and documented so that current developments and discussions can be addressed and, if necessary, responded to through the Biosphere Reserve's own media activities.
- ▶ **Publications:** A total of 53 brochures and flyers published by the administration units or with contributions from them are currently available for download (Annex 26); other publications are also available, but only as print editions.
- ▶ **Organisation of events:** Please refer to Sections 6.1/6.2 and Table 5.
- ▶ **Online PR:** The website [www.brrhoen.de](http://www.brrhoen.de), which is managed jointly by the administration units, attracted a total of 62 476 visitors and 236 188 page views (excluding the Bavarian association's webpage at [www.naturpark-rhoen.de](http://www.naturpark-rhoen.de)) within the 12-month period from July 2011 to June 2012. By contrast, social media still play a relatively minor role in the work of the administrations, but are already being used by visitors.

**Goals** The public relations activities described above will continue, with no reduction, and will be enhanced through the additional use of social media, mainly in conjunction with tourism (see Section 4.7). In terms of content, the main priority is to reinforce aspects of education for sustainable development.

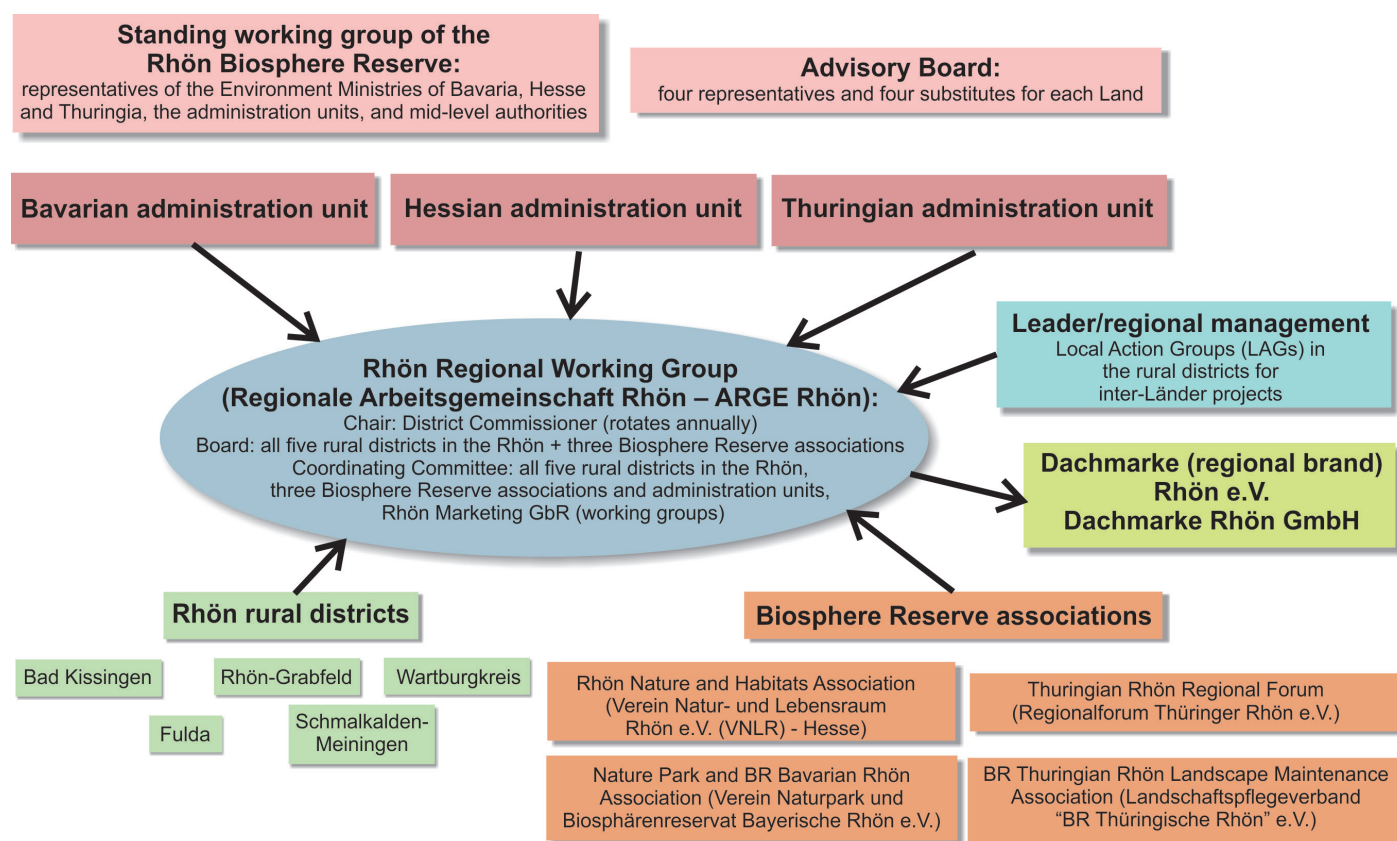
## 7 INSTITUTIONAL ASPECTS

### 7.1 Administration and coordination

#### Status and review

Figure 8 summarises the administrative cooperation. An administration unit exists in each of the three Länder (a). Inter-Länder cooperation takes place primarily through the Rhön Regional Working Group (ARGE Rhön) (b) in which the administration units, the Rhön area's five rural districts and the three main Rhön associations (c) work together. An inter-Länder advisory board (d) advises the administration units of the Biosphere Reserve. Other forms of inter-Länder coordination are dealt with elsewhere in this report; please refer to the sections on tourism (Section 4.7) and the Rhön brand (4.11).

The **framework concept** adopted in 1994 is intended to provide the overall frame of reference for the work of the Biosphere Reserve, but is now outdated and in urgent need of revision. The preparation of a new version will therefore take place after completion of the periodic review and the planned enlargement in the Bavarian part of the Biosphere Reserve. A summarised update is provided in an **outlook paper** (Annex 30) presented at a regional conference in Gersfeld in 2011. More recent data and recommendations for action are contained in the first integrated inter-Länder **Environmental Report**, which presents data up to November 2006. **Management plans** have been developed for part of the Natura 2000 network of protected areas. The existing management plans for protected areas, mainly nature conservation areas, are implemented on an ongoing basis. In the agricultural sector, the EU's **agri-environmental schemes**, which are cofinanced by the relevant Länder, play a key role in achieving nature conservation goals in an economically viable manner.



**Figure 8: Coordinating structure – state and non-state agencies at regional level in the Rhön Biosphere Reserve (POKORNY 2010, amended).**

**(a) Administration units:** The Biosphere Reserve's administration units pursue a participatory approach and work closely and cooperatively with the municipalities, authorities, associations, land users and private citizens. They are actively involved in third party projects, providing logistical and in some cases financial support, especially for Leader (EAFRD), the further development of the Rhön brand, and ARGE Rhön projects, and are engaged in intensive PR activities.

Together, the three administration units currently employ 26 full-time-equivalent staff (broken down as follows: Bavaria: 5.7; Hesse: 11.1; Thuringia: 8.3). The allocation of employees to the various task areas and staff development and training are shown in Annex 27. The various fields of work differ considerably: the Bavarian and Hessian administration units, which in organisational terms are subdivisions of the government of Lower Franconia / the rural district of Fulda respectively, are not equipped with any powers as public authorities, and therefore act as advisors, facilitators and service providers. However, the Thuringian administration unit is a subdivision of the Thuringian Ministry of the Environment and therefore exercises various powers as a public authority. There is close cooperation with the BR Thuringian Rhön Landscape Conservation Association (Landschaftspflegeverband "BR Thüringische Rhön" e.V.) and the Rhönforum.

The Hessian administration unit and the Rhön Nature and Habitats Association (Verein Natur- und Lebensraum Rhön e.V. – VNLR), as the regional forum and project agency for Leader (EAGFL), maintain a shared office, which also includes the administration of the Hessische Rhön Nature Park. The Bavarian administration unit cooperates intensively with the Nature Park and BR Bavarian Rhön Association (Verein Naturpark und Biosphärenreservat Bayerische Rhön e.V.) (see Section c).

Figures from 2012 are given here to illustrate the Biosphere Reserve's financial position. Budgets for the administration units for the performance of specialist tasks (excluding staffing and running costs) were as follows: Bavaria € 140 000 + € 1.08 million for environmental education and information (this includes staffing costs, disbursed through the aforementioned association); Hesse € 108 779; Thuringia € 160 000. Under the administrative agreement between the three Länder, there is an additional budget of € 150 000 for inter-Länder tasks. Additional financial resources are generated from various funding schemes (Annex 8).

The competent authorities are listed in Annex 28. The administration unit in Thuringia assists the higher nature conservation authority by submitting opinions on matters relating to prohibitions and exemptions and other planning issues. A standing inter-Länder working group comprises representatives of the Environment Ministries of the three Länder, the administration units of the Rhön Biosphere Reserve and representatives of relevant mid-level authorities. On an informal level, a species conservation working group has been set up and meets two to three times a year.

The thematic areas of research and environmental education are coordinated by working groups on research and environmental education set up by the three administration units, and are dealt with on an inter-Länder project-specific basis.

**(b) Rhön Regional Working Group (Regionale Arbeitsgemeinschaft Rhön – ARGE Rhön):** Since 2000, the institutions shown in Figure 8 have cooperated within the Rhön Regional Working Group (ARGE Rhön) ([www.rhoen.info](http://www.rhoen.info)). The aim is to intensify inter-Länder cooperation on the sustainable development of the Rhön as a shared economic, cultural and natural space. In addition to promoting nature and landscape conservation and

well-performing agricultural and forestry sectors, ARGE Rhön aims to support economic, transport and tourism development as the basis for securing and creating jobs, and improve cooperation in the cultural and social spheres in the Rhön.

**(c) Non-profit governing associations:** A Rhön association exists in each of the three Länder and cooperates with the administration units.

- ▶ **Bavaria:** The Nature Park and BR Bavarian Rhön Association (Verein Naturpark und Biosphärenreservat Bayerische Rhön e.V. – NBR e.V.), [www.naturpark-rhoen.de](http://www.naturpark-rhoen.de)) is supported by the rural districts of Rhön-Grabfeld and Bad Kissingen, the town of Bad Kissingen, 40 Rhön municipalities, and four recognised nature conservation associations. The Association evolved from the Nature Park Special Purpose Association of Communes (Naturpark-Zweckverband) in 1997. Its tasks include education and information for sustainable development, regional development (regional identity), and the maintenance of leisure and recreational facilities.
- ▶ **Hesse:** Since the Biosphere Reserve was designated in 1991, the Rhön Nature and Habitats Association (Verein Natur- und Lebensraum Rhön e.V. – VNLR; <http://biosphaerenreservat-rhoen.de/de/54-vnlr>) has acted as a sponsoring and governing association, project agency and Local Action Group for the implementation of EU-funded regional development under the Leader initiative. Its 172 members include the State of Hesse, the Hessian Rhön municipalities, the two rural districts, the Chamber of Industry and Commerce, the Rhön Apple Initiative (Rhöner Apfelinitiative e.V.), the Hessian Hydro-Power Stations Working Group (AG Hessischer Wasserkraftwerke), small businesses and private citizens. A total of 60 members of the Association sit on the Board or are engaged in specialist forums on the following topics: Wood Cluster and Energy Network; nature conservation and the cultural landscape; demographic change; economic development and tourism.
- ▶ **Thuringia:** The Landscape Conservation Association (Landschaftspflegeverband e.V., [www.thueringer-rhoenhutungen.de](http://www.thueringer-rhoenhutungen.de)) was set up in 1991 to implement conservation and development projects in the Thuringian part of the Rhön. Farmers, nature conservation agencies and the municipalities are represented on the basis of one-third parity. The Association is the entity responsible for the federally funded project “Common Grazing Areas in the Thuringian Rhön” (Thüringer Rhönhutungen). The founding of the Thuringian Rhön Regional Forum (Regionalforum Thüringer Rhön) as an association (known since the end of 2008 as Rhönforum e.V.; [www.thueringerrhoen.de](http://www.thueringerrhoen.de)) and the integration of regional management tasks into this Association realised one of the projects identified in the regional development concept for the Thuringian Rhön (REK Thüringer Rhön). The aims are to pool and concentrate financial, technical and organisational resources in support of regional development. In early 2007, the Association also took on responsibility for tourism-related tasks in the region.

**(d) Advisory Board of the Rhön Biosphere Reserve:** In order to implement the administrative agreement concluded in 2002 defining future cooperation between the three Länder, an intra-Länder advisory board was established whose purpose is to advise the administration units. It has 24 members, including representatives of universities, local authorities, associations and foundations, and meets twice a year.

**Goals** The main goal for the administration units for the next 10 years is to continue and intensify inter-Länder cooperation. Securing and increasing **staffing levels** is another important objective.

Further staff training should be provided with a view to enhancing quality. A staff exchange between UNESCO biosphere reserves at both national and international level would also be desirable for this purpose.

## 7.2 Cooperative activities with other biosphere reserves

**(a) Cooperation agreements, MoUs:** A Memorandum of Understanding (MoU) between the Bavarian administration unit and the Kruger to Canyons (K2C) Biosphere Reserve, South Africa, has been in place since 2008. To date, this has resulted in the following projects, focusing on education for sustainable development (ESD): (i) a school partnership between two schools, with a student exchange programme and learning opportunities for students and teachers; (ii) exchange of young professionals/students, with plans to extend this in future to include the provision of training places in the Rhön for applicants from K2C; (iii) recognition by the German Federal Ministry for Family Affairs, Senior Citizens, Women and Youth (BMFSFJ) of one International Youth Voluntary Service (IJFD) post in K2C, with a volunteer from the Rhön to be deployed for the first time in 2012/2013; (iv) a workshop in the Rhön, entitled “Opening a window to K2C”, for regional stakeholders from the two biosphere reserves; (v) advice on renewable energies. There is regular and close contact between the two biosphere reserves’ management teams. The Hessian administration unit maintains close links to three large protected areas: Kiskunsági Nemzeti Park Igazgatóság (Kiskunság National Park, Hungary), the Carpathian Biosphere Reserve and National Park (Ukraine), and Mount Pietrosul Mare Biosphere Reserve and National Park in the Rodna Massif, Maramures, Romania. A declaration for cooperation between the Central Balkan National Park and the Rhön Biosphere Reserve was signed by Hesse and Bulgaria.

### Kiskunsági Nemzeti Park Igazgatóság (Kiskunság National Park, Hungary):

An intensive exchange with this region in the Great Hungarian Plain has been under way since 2004, with exchange visits by various groups organised every year. In April this year, the Biosphere Reserve Cattle Association (Verein Rhön Biosphärenrind e.V.) will visit the Hungarian steppe (puszta). As in the Rhön, priorities here are the protection of ground-nesting birds; in Hungary, the focus is on the Great Bustard (*Otis tarda*), and in the Rhön, it is the Black Grouse (*Tetrao tetrix*). The good ecological status of the Hungarian steppe and the Rhön’s uplands meadows can only be maintained by means of economically viable management strategies based on grazing by herbivores. Herd management and marketing of organic meat are important topics. The Hungarian cattle breeders have therefore modelled their meat marketing on tegut, a chain of quality regional supermarkets based in Fulda.

### Carpathian Biosphere Reserve (Ukraine):

The extensive primeval beech forests of the Carpathians in Ukraine were inscribed as a World Natural Heritage Site in 2012. In 2001, the Hessian administration unit hosted a visit by a Ukrainian delegation to the Rhön and signed a partnership agreement as the basis for submitting an application to the EU for a project to research the last remaining major primeval beech forests. Unfortunately, due to a lack of own funds, the Ukrainian partner has not yet submitted an application. The third partner is the Swiss Federal Institute for Forest, Snow and Landscape Research (WSL), which has already identified a research site in the virgin forests of Mala Uholka. A Ukrainian scientist from the CBR has already made a one-month study visit to the Hessian administration unit.

### Central Balkan National Park (Bulgaria):

The Hessian Minister for the Environment, Wilhelm Dietzel, signed a declaration for cooperation in 2004. In 2006, Land Hesse sent an advisor to support the establishment of the local administration. This was followed by exchange visits. No joint projects have been undertaken as yet.

With support from the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety



(BMU), the Thuringian administration unit has concluded a partnership agreement with three Canadian biosphere reserves: Georgian Bay, Redberry Lake and Charlevoix. Priorities for cooperation are sustainable tourism, quality management and product labelling, conservation of the natural and cultural landscape, agriculture, organic farming, marketing, development within the network of biosphere reserves, monitoring and GIS.

**b) Regular or multiple exchanges with or without agreements:** Multiple exchanges have taken place over the past 10 years with partners from large protected areas in Austria, Canada, France, Hungary, Romania, Slovakia, South Korea, Switzerland and Ukraine.

**c) Sporadic/one-off meetings with/visits by international experts:** Between 2003 and 2011, international experts from 51 countries visited the Biosphere Reserve and were informed about its projects, including representatives of around 25 existing or planned biosphere reserves. At the international level, numerous effective contributions to the network of biosphere reserves were made on an ongoing basis by the Bavarian administration unit (Annex 29). Furthermore, in 2009-2011, the Biosphere Reserve participated in an international networking project for grassland conservation initiatives. In 2012, the Rhön Biosphere Reserve acted as host for a two-week in-depth training course on tourism marketing and biodiversity organised by the World Tourism Organization (UNWTO). The course was attended by government and tourism representatives from 19 countries.

**d) International visits by MAB National Committee members:** Delegations from Canada, China, Japan, Kenya, Korea, Macedonia, Russia and Vietnam were welcomed to the Biosphere Reserve.

e) Visits by the Biosphere Reserve's own staff (in an advisory capacity by invitation) took place in Australia, Austria, Canada, China, Cyprus, Czech Republic, England, Estonia, Finland, Hungary, Israel, Italy, Poland, Romania, Russia, Scotland, Slovakia, South Korea, Spain, Sweden, Switzerland, Turkey, Ukraine and Wales. The Thuringian administration attended several working meetings of all the Canadian biosphere reserves. Within Germany and Austria, groups of visitors from other biosphere reserves were hosted and lectures given at existing and planned sites. There was intensive and regular exchange at the national level in the EUROPARC working groups and in the Permanent Working Group of the German Biosphere Reserves (Ständige Arbeitsgruppe der Biosphärenreservate in Deutschland – AGR), and at international level via EUROPARC and EuroMAB.

**Goals** The current partnerships should be maintained, with no reduction, and intensified. In addition, the Hessian administration unit is planning to establish a partnership with the new inter-province "Salzburger Lungau und Kärntner Nockberge" Biosphere Reserve in Austria.

## 8 CONCLUSIONS, EVALUATIONS, OUTLOOK

The review of the last 10 years shows that it has been possible to implement a number of important projects, such as the establishment and development of the Rhön brand, the conservation of key habitats, e.g. grasslands and watercourses, the launch of the online car-share booking service, and the establishment and expansion of information centres as a key element of the Biosphere Reserve's public relations activities and education for sustainable development.

Increasing the core area to the required percentage of the total site was another important milestone. However, difficulties continue to affect the conservation of endangered species (e.g. Black Grouse (*Tetrao tetrix*)) and the maintenance of an open landscape due to an increase in land-take (e.g. land sealing) and more intensive forms of use. Overall, the development of the Biosphere Reserve has been positive:

### STATUS:

*What is the administration units' assessment of the current status of the Rhön Biosphere Reserve?*

1. The Rhön Biosphere Reserve's capital lies primarily in the diversity, uniqueness and beauty of its central upland **cultural** landscape and its outstanding biodiversity. 43.3 % of the area belongs to the Natura 2000 network. The Biosphere Reserve has national responsibility for mountain hay meadows and species-rich *Nardus* grasslands. However, a systematic survey of flora and fauna, with time series to track population trends for indicator species, has not been carried out in most cases, making it impossible to arrive at a comprehensive assessment of the quality of conservation and landscape development.
2. The required zonation, with the core area comprising at least 3 % and the core areas and buffer zones comprising 20 % of the total area, will be achieved in the near future; its legal status will then be secure.
3. Tourism generates around 4 800 income equivalents within the Biosphere Reserve. However, despite the Biosphere Reserve's major significance for the regional economy here, some of the potential for improved inter-Länder cooperation and partnership in the Rhön's tourism sector generally, and between the Biosphere Reserve and the tourism industry in particular, remains untapped; this applies especially to education and the marketing of high-quality regional products.
4. Demographic change, out-migration and the decrease in the number of jobs for skilled workers point to worrying times ahead, in the long term, for the regional labour market.
5. Environmental education and education for sustainable development reach more than 210 000 people annually. There is potential for development in relation to content (more education for sustainable development) and for reaching further target groups, and this potential should be tapped.

### REVIEW:

*How has the Biosphere Reserve developed in the second decade of its existence?*

1. Demographic change is a reality, with a 6.6 % decrease in population since 2001. Nonetheless, land consumption has increased.
2. A highly dynamic process of land-use change is under way: arable land use is decreasing ( - 9.3 % from 1993 to 2006) in favour of settlements/infrastructure (+4.9 %), grassland (+ 3.1 %) and forest and woodland (+ 1.0 %). The number of agricultural enterprises decreased by 47.8 % (1999 to 2010), without any increase in fallow land.

3. The proportion of agricultural land being farmed organically has increased from 9.1 % to 14.2 % (2010).
4. Despite considerable efforts, the population of the Black Grouse (*Tetrao tetrix*) has continued to decline. On the other hand, the Wildcat (*Felis silvestris*) is occurring more frequently than before.
5. Mapping of springs in the Biosphere Reserve is an example of best practice for Germany as a whole. To date, 1 882 springs in the Biosphere Reserve have been surveyed, and various projects for watercourse revitalisation have also been implemented.
6. In forestry, almost the entire forested area in the Rhön Biosphere Reserve is now certified in accordance with the criteria established by the Programme for the Endorsement of Forest Certification (PEFC), and the proportion of mixed forests has increased. Alongside the industrial use of timber, residual forest timber is becoming increasingly important in heat generation.
7. Renewable energies were promoted. A local initiative based on citizens' energy cooperatives was implemented successfully.
8. Inter-Länder cooperation in the tourism industry was restructured, with the founding of Rhön Marketing GbR. The sense of community among residents of the Rhön increased significantly. With the certification of the DER HOCHRHÖNER, Milseburgweg and four cycle routes, some important tourism projects have been implemented.
9. The Rhön regional brand has been introduced and has 258 members and 178 partner companies, with quality criteria established in 30 sectors. An additional certification scheme was established for restaurants, which are awarded "silver thistles" depending on the amount of locally-grown ingredients they use. Projects such as the Rhön shop, the sausage, bread and beer markets, and mobile cheese-making are boosting production, commerce and industry.
10. The new Oberelsbach Environmental Education Centre has created additional capacities for educational activities. In terms of content, "classic" environmental education prevails, compared with education for sustainable development (ESD); this is determined by demand.
11. The three administration units have 26 full-time employee equivalents and a total annual budget (excluding personnel costs and, in Bavaria, education costs) of almost € 560 000. There were no significant changes.

#### **GOALS:**

*Which work priorities do the administrations want to set for the third decade?*

In an outlook paper issued in 2011, the joint working group of the administration units in the Rhön Biosphere Reserve and the Advisory Board identified a set of principles for the further development of the Biosphere Reserve over the next 10 years. The paper was discussed on 28 August 2011 at a regional conference in Gersfeld which marked the 20th anniversary of the Biosphere Reserve (Annex 30). On this basis, the administration units wish to focus on the following

priorities for the next 10 years:

1. A new framework concept should be developed with the various Biosphere Reserve stakeholders, and up-to-date development guidelines identified, with target-group-specific recommendations for action. Key elements (new/ updated) include a target species concept (including a biotope network, Green Belt), and a concept for each of the following sectors: energy, tourism, monitoring and education, as well as a research framework plan.

2. The biodiversity strategies adopted by the Länder and the Federal Government will be implemented on the basis of best practice, with a focus on the Red Kite (*Milvus milvus*) and the Wildcat (*Felis silvestris*) as target species. The proliferation of the Large-leaved Lupin (*Lupinus polyphyllus*) must be halted and reversed.
3. Mitigating the impacts of demographic change is a key task. The administration units will provide the municipalities with examples of best practice to inspire them and encourage them to take action. Key measures include strengthening the Bavarian health region and securing local healthcare provision, promoting environmentally compatible mobility, organising the structured “shrinkage” of the settlement structure while strengthening local centres, and promoting training alliances and intergenerational networks.
4. In the Biosphere Reserve, the economic viability of agriculture should be safeguarded and ecosystem services improved. Through intensive advice, efforts should be made to increase the proportion of agricultural land being farmed organically to at least 20 %. Open grazing lands will be conserved, structural diversity in arable land increased, and land-related animal husbandry secured/achieved. The administration units can provide ideas and advice here and help to secure project funding.
5. In commerce and industry, the administration units will support regional initiatives, as multipliers for good projects, to an even greater extent. Citizens’ cooperatives boost regional economic cycles and local participation.
6. Inter-Länder organisation of tourism should be further professionalised, the offer improved, and networking intensified between the Biosphere Reserve and the tourism industry.
7. In the energy sector, making the region 100 % renewable, energy-self-sufficient, and carbon-neutral is the vision being pursued. This will require a mix of decentralised systems and energy saving, with active participation by citizens.
8. As the central element of more effective external marketing, the Rhön brand will be expanded for agriculture and forestry, hunting and fishing, commerce and industry, food production and restaurants, and tourism. The “Rhönwiese” own regional brand, combined with the Quality Seal or Bio Seal, will increase companies’ revenue from the Rhön’s high-quality products.
9. The Environmental Report will be developed as an integrated sustainability report and regularly updated.
10. Environmental education will continue, with the administration units and their partners placing a stronger emphasis on education for sustainable development.
11. In order to fulfil the tasks and priorities outlined above, the capacities of the administration units must be safeguarded and further strengthened. There is also a need for more intensive participation by the general public, the municipalities and all the local institutions, organisations and associations. The existing voluntary activities should be increased and the recruitment and supervision of volunteers expanded.

## Contacts

Under the administrative agreement, the Thuringian administration unit is currently the lead agency (2011–2014) and is therefore the contact address for official correspondence.

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Further Internet links to the Biosphere Reserve are listed in Annex 32



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