

Periodic Review Report of the Swabian Alb Biosphere Reserve (2009-2018)



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Summary

As a model region for sustainable development, the UNESCO Biosphere Reserve Swabian Alb pursues the overriding goal of uniting environmental, economic and social interests under the guiding principle of nature conservation-oriented and sustainable regional development. This integrated approach is underpinned by the committed involvement of the state of Baden-Württemberg, municipalities, specialist authorities, the Institute for Federal Real Estate, associations, companies, research and education institutions and the public. The Biosphere Reserve (BR) Administration coordinates the implementation. In the reporting period, projects and measures focussed on nature conservation, sustainable tourism, agriculture and marketing of regional products, Education for Sustainable Development (ESD), historical and cultural heritage as well as marketing and public relations. In addition, intensive work was done in the areas of mobility, forestry and hunting, climate, research and monitoring. The need to set priorities means that structures and projects in the fields of municipal development, international cooperation, social sustainability and environmental protection have not yet been implemented to the desired extent. However, these areas are currently being implemented at municipal level, by the LEADER¹ Mittlere Alb region and other support instruments.

The structure and form of this periodic review complies with the UNESCO criteria and is the main element of the evaluation. Quite apart from the reporting obligation, the review was seen by the players and stakeholders in the BR as an opportunity to take stock and further optimise the work. The aim was an objective assessment which reflects the key trends and challenges of the past years, describes implemented measures and projects and considers potential for improvement. Stakeholder groups were able to express their views through a representative population survey, qualitative interviews, expert surveys, an evaluation workshop and surveys in the administrations, districts and municipalities in the BR. The BR bodies (steering group, management board, advisory board and members' assembly of the BR association Verein Biosphärengebiet Schwäbische Alb e. V.) also contributed to the review.

In summary, the following ecological characteristics of the BR stand out:

- High diversity of species-rich habitats, including structurally rich calcareous oligotrophic grasslands and meadows, meadow orchards and slope and ravine forests.

¹ Liaison Entre Actions de **Développement de l'Économie Rurale** – European Union support programme for rural development (programming period 2014-2020).

- Comprehensive nature conservation strategies with initial measures implemented.
- A nature conservation-oriented, sustainable regional development approach which unites environmental, economic and social concerns.
- Ecological monitoring in the core areas.

Economic characteristics:

- Availability of adequate funding (€ 16.0 million since 2008).
- An autonomous support programme, which to date has supported 435 model projects with funds of € 3.76 million.
- Substantial rise in visitor arrivals (+32%; 2009-2017) and overnight stays (+17%), and the award for the most sustainable tourist destination 2016/17.
- Successful management due to the high level of organisation in the BR Administration and its bodies, with motivated, competent staff.
- Many innovative regional products and a nature conservation-friendly regional brand.
- Extensive and effective public relations work.

Social characteristics:

- Very high level of acceptance among stakeholder groups and the local community (only 2% of the population reject the BR).
- Very high level of recognition (91% of the population).
- Active involvement and say in decision-making by stakeholder groups, e.g. through the BR association Verein Biosphärengebiet Schwäbische Alb e. V. which consists of 135 members from societies and associations, institutions, districts, municipalities, churches and businesses.
- Excellent, close cooperation with the state of Baden-Württemberg, administrative districts, cities and municipalities, and with other stakeholder groups, including 112 certified partner companies and service providers.
- Successful Education for Sustainable Development activities, including a main information centre and 18 local information centres with an average of 600,000 visitors each year.
- High number of dedicated players committed to the objectives of the BR and who contribute to meeting them with creative and innovative ideas.

- Expansion of existing structures of the successful PLENUM² and Regionen Aktiv³ programmes.

² Projekt des Landes Baden-Württemberg zur Erhaltung und Entwicklung von Natur und Umwelt (Project of the state of Baden-Württemberg to conserve and develop nature and environment in close cooperation with the community; duration 2001-2013).

³ Support programme for the development of rural areas and linking up of urban and rural areas in the Alb foreland and central Swabian Alb in the Reutlingen district (duration 2002-2007).

PART I: Summary

- a) Name of the Biosphere Reserve: Swabian Alb Biosphere Reserve
- b) Country: Federal Republic of Germany
- c) Year designated: 2008; year of UNESCO recognition: 2009
- d) Years with periodic reviews: No previous reviews
- e) Previous recommendation(s) made by the International Co-ordinating Council (MAB-ICC): No recommendations made to date.
- f) Completed follow-up actions and justification for non-implementation

Not applicable.

- g) Status of implementation of measures to achieve the objectives of the biosphere reserve

The measures and objectives of the BR were defined in the 2012 framework concept drawn up with regional stakeholders in a participative process (cf. 7.7). The jointly developed lead projects are described under the various areas of action in the relevant sections. Half of the 28 lead projects are intentionally designed to be long-term (> 10 years), for instance in the fields of nature conservation and sustainable regional development. Some of these projects are in the launch phase, others at a more advanced stage of implementation. Of the 19 projects of medium-term duration, five have already been concluded. These include the successful market introduction of the regional brand Albgemacht and conclusion of the lead projects for preserving historical cultural heritage. In addition, important progress has been made in the fields of sustainable tourism, gastronomy, regional value chains, ESD and public relations. In two areas of action, – "municipal development, planning and transport" and "environmental protection and climate action" –, it has only been possible to implement a few projects thus far, due to staff shortages and the need to prioritise.

- h) Brief description of the process used to conduct the current periodic review

The review process aims to present developments in the BR objectively. To this end, the review prepared sociological surveys, drew on expertise and data gathered over the past few years and researched 43 indicator sets covering all areas of action (Annex III 7.10). All the bodies of the BR were involved in the process. (cf. 1.5).

- i) Area and spatial configuration

There were minor changes to the borders and zonation between submission of the application for UNESCO designation in 2007 and the entry into force of the Biosphere

Reserve Ordinance in 2008 (Table 1). These were due to adjustments to the zonation to reflect the actual boundaries of the land parcels and to the addition of small areas in the participating municipalities and towns of the BR.

Table 1: Zonation of the biosphere reserve

Zonation	Area 2007 (ha) ¹	Percentage of total area 2007 ¹	Area 2018 (ha)	Percentage of total area 2018
Core areas	2,685	3.2	2,645	3.1
Buffer zones	35,122	41.5	35,383	41.5
Transition areas	46,718	55.3	47,241	55.4
Total	84,525	100.0	85,269	100.0

¹ Data from the application for UNESCO designation

j) Human population of the biosphere reserve

Table 2: Number of inhabitants in the biosphere reserve in 2009 and 2016

Zonation	Inhabitants within the biosphere reserve (calculated at cadastral district level)		
	2009	2016	Change 2009-2016 (%)
Core areas	0	0	0.00
Buffer zones	1,000 ¹	1000 ¹	0.00
Transition areas	145,122	145,063	-0.04
Total	146,122	146,063	-0.04

¹ Estimate, farmers and their families

k) Budget

The total budget of the BR Administration rose from € 0.67 million in 2008 to € 2.02 million in 2018 (including third-party funding; cf. 2.3.2).

l) Contribution of the biosphere reserve to the implementation of multilateral agreements

The work of the BR Administration is primarily based on the Lima Action Plan (Annex III 7.11) and the Statutory Framework of the World Network of Biosphere Reserves (WNBR). In this way, the BR contributes to the implementation of the United Nations 2030 Agenda and the Sustainable Development Goals. At national level, the work of the BR is geared to the requirements of the German MAB National Committee and the decisions of the Federal Government/Länder Working Party on Nature Conservation, Landscape Management and Recreation (LANA). In addition, there is well-established close cooperation between the BR Administration and other UNESCO-designated facilities such as the UNESCO Global Geopark Swabian Alb, UNESCO world heritage site Caves and Ice Age Art in the Swabian Jura and the UNESCO world heritage site Upper Germanic-Rhetian Limes.

PART II: Periodic review report

1. Biosphere reserve



View from the Swabian Alb plateau to the castle ruin Hohenneuffen and the Alb foreland (Photo: Franziska Wenger)

1.1 Year of designation

The BR was designated by Baden-Württemberg state ordinance in 2008 and accepted by UNESCO in 2009.

1.2 Year of the first periodic review

This is the first review.

1.3 Implementation of recommendations from previous reviews

Not applicable.

1.4 Other observations or comments on the above.

None

1.5 Process for conducting the periodic review

1.5.1 Which stakeholder groups were involved?

A broad spectrum of stakeholder groups were involved in the review, either directly through their participation in five sociological surveys, or through selected representatives (Table 3).

Table 3: Studies carried out for the UNESCO periodic review.

	Evaluation workshop	Stakeholder interviews	Population survey	Evaluation of areas of action	Survey of municipal initiatives
Goals	Assessment of management effectiveness in the BR	Perception and assessment of bio-sphere reserve	Acceptance of, involvement in and identification with the BR	Assessment of trends, strengths and weaknesses	Description of implemented initiatives to promote the objectives of the BR
Methods (number of participants)	A moderated workshop (nine participants)	Qualitative interviews (35 participants)	Representative postal survey (1,170 participants)	Seven online surveys relating to specific areas of action (60 participants)	Questions via email (24 participating municipalities)
Stakeholder groups	BR Administration	Members of the steering group, management board and mayors	Local population	Experts, primarily from the working groups	Municipalities, towns and districts
Year of survey	2018	2018	2018	2018	2018
Implementation	University of Greifswald (Runst & Stoll-Kleemann 2018)		Dialog N GmbH (von Lindern & Knoth 2019)	BR Administration	

The state of Baden-Württemberg was represented in the stakeholder groups by the Ministry of the Environment, Climate Protection and the Energy Sector Baden-Württemberg, alongside staff of the Regional Commissioners' Offices of Tübingen and Stuttgart, representatives from the three districts Alb-Donau, Esslingen and Reutlingen and from the 29 towns and municipalities in the BR. Specialist authorities, the Institute for Federal Real

Estate (BlmA), associations, educational and research institutes, companies and the local population were also involved in the review. The BR Administration coordinated the entire review process, with a temporary post established for this purpose.

1.5.2 Methodology to involve stakeholders in the process

The respondents were involved in the process through five surveys, including a representative public survey with 1,170 participants and 35 qualitative interviews with stakeholders (Table 3). In addition, 60 experts gave their opinions (primarily experts from the BR working groups), and initiatives for the BR were requested from all 29 municipalities and the three districts. An externally moderated evaluation workshop involving nine staff members from the BR Administration was also carried out. Moreover, from 2017 the periodic review was on the agenda of all meetings of the steering group (five meetings), management board (two meetings), advisory board (three meetings) and the members' assembly (two meetings) of the Swabian Alb biosphere association Verein Biosphärengebiet Schwäbische Alb e. V. and of the working groups (between four and six meetings each). The draft report was finalised in consultation with the steering group.

1.5.3 Number of meetings, workshops etc. occurring during the review process

See 1.5.2 and Table 3.

1.5.4 Was there full and balanced representation of stakeholder groups?

1.5.1 and 1.5.2 describe how the stakeholders were comprehensively involved in the process, demonstrating that representative participation can be assumed.

2. Significant changes in the biosphere reserve



Sheep farming on the former military training ground (Photo: BR Administration)

2.1 Changes in habitat use and landscape

The most significant changes to area sizes arose from the development of land for settlements and transport (+5.3%; 2009-2017), primarily at the expense of meadows (-1.7%) and arable land (-0.5%; Table 4). The increase in land use for settlement and transport can be attributed to economic growth in Baden-Württemberg as a whole, particularly in view of the location of the BR, which borders the thriving metropolitan region of Stuttgart. These interventions in nature and landscape were offset with compensation or substitution measures pursuant to Section 15 of the Federal Nature Conservation Act.

Table 4: Trends in land use in the biosphere reserve from 2009 to 2017, based on an aerial photo analysis (digital landscape model LUBW 2018, cf. Annex III 2).

Category	Biosphere Reserve Swabian Alb				Baden-Württemberg ¹
	Area 2009 (ha)	Area 2017 (ha)	Share of area 2017 (%)	Change 2009-2017 (%)	Change 2009-2017 (%)
Settlement and transport	5,890.2	6,327.3	7.4	+5.3	+3.4
Grassland/meadows	17,401.9	17,105.8	20.1	-1.7	+0.7
Meadow orchards	5,220.9	5,186.6	6.1	-0.7	-0.9
Heath	4,794.5	4,790.8	5.6	-0.1	+1.3
Woodland	1,305.6	1,319.8	1.5	+1.1	+10.0
Arable land	15,806.1	15,721.0	18.4	-0.5	-2.2
Forest	34,349.5	34,353.3	40.3	0.0	0.0
Vineyards	80.8	80.9	0.1	+0.1	2.9
Other ²	420.1	384.0	0.5	-8.6	1.4
Total	85,269.4	85,269.4	100.0	0.0	0.0

¹Source: Land Statistical Office Baden-Württemberg 2018

²Including non-vegetated areas, quarries, water bodies

Organically farmed grassland rose by 35% (to 1,992 ha) and organically farmed arable land by 37% (to 1,812 ha; 2010-2017; MLR⁴ 2018). The total share of organic farming in 2017 thus corresponded to 9.5% of agricultural land in the BR (compared to 9.3% in the whole of Baden-Württemberg and 8.2% nationwide; Land Statistical Office BW 2018, DESTATIS 2018). In addition to the land already being farmed organically, there was a dramatic rise – by 149% (to 2,625 ha) – in arable and grassland areas where farmers had opted not to use synthetic pesticides and fertilizers (2000-2017; MLR 2018). The growing interest of agricultural businesses in organic farming reflects, firstly the high demand for organic produce, and secondly the support for organic farming under Baden-Württemberg's agri-environmental programme. The BR also promotes this trend by offering advisory services (primarily via the district agricultural offices), marketing and funding. Niche products such as the "Alb-Leisa" (lentils) are also proving successful. The total number of crop species has increased, and now include flax, caraway, buckwheat, spelt and emmer

⁴ MLR = Ministry for Rural Regions and Consumer Protection Baden-Württemberg. The data gathered for the agri-environmental programmes FAKT (from 2015) and MEKA (up to 2015) refer to the areas in the 29 municipalities and towns in the biosphere reserve.

wheat. One negative development from the point of view of nature conservation is the substantial rise, by 975 ha, in silage maize (2010-2016), which now accounts for 10.1% of arable land (compared to 2016 figures of 16.4% in the whole of Baden-Württemberg and 18.2% nationwide; Land Statistical Office BW 2018, DESTATIS 2018). Other intensively used biomass cultures in the form of whole crop silage are increasing too. Most of the meadows and arable land are located in the transition area of the BR.

Heaths, (oligotrophic grasslands in the broader sense), which are valuable for nature conservation, declined slightly in area (-0.1%) to 4,791 ha (Table 4; compared to +1.3% in Baden-Württemberg as a whole). This was largely due to woodland succession (+1.1% in total; Table 4; compared to 10.0% in whole of Baden-Württemberg; Land Statistical Office BW 2018). Protected heath biotopes cover a total area of 1,162 ha, comprising 341 ha juniper heath and 763 ha other calcareous oligotrophic grasslands (Schlager et al. 2015). Sheep farming, which is important because grazing keeps the heaths clear and preserves biodiversity, is still economically precarious. The workload is heavy, revenues from the sale of meat are low and there is barely a market for sheep wool. Between 2010 and 2016, the number of sheep farms fell by 13.1%, to 126 farms (Land Statistical Office BW 2018⁵). In the same period, the number of sheep declined by 19.5% to 13,617 animals (ibid.). Sheep are generally kept on open land and are tended by shepherds (Hütehaltung). A further 20,000 to 30,000 sheep from outside the BR are put to graze there each year. The woodland succession makes regular maintenance mowing and grazing necessary, or in the long-term entails high investment in the mechanical clearance of the heaths. Nearly all the heath landscapes are in the buffer zones.

The meadow orchards declined in area by 0.7% to 5,187 ha (2009-2017; Table 4). The reasons for this are the lack of vital but expensive maintenance, the obsolescence of the fruit trees and the lack of new plantings. 18% of those managing the orchards use pesticides, especially for cherries (Schwäbisches Streuobstparadies e. V. 2017). Around half the pesticides are not permitted in organic farming and are considered harmful from a nature conservation point of view. However, there are no pesticides available for cherry trees which are permitted in organic farming. One encouraging aspect is the fact that the agri-environmental measures to promote the preservation of fruit trees in the BR has led to a rise in the number of trees to 59,786 (2010-2017, MLR 2018). The Baden-Württemberg support programme for pruning helps preserve the meadow orchards. The meadow orchards are located in the buffer zone and transition areas.

⁵ Unless otherwise indicated, the data from the Land Statistical Office Baden-Württemberg are aggregated on the level of the 29 municipalities and towns in the biosphere reserve.

Vineyards account for only 81 ha in the BR. In the reporting period this rose slightly by 0.1% (Table 4). The vineyards are located in the transition area.

The forest area remained much the same size during the reporting period at 34,353 ha (Table 4). All public and many private forestries have PEFC certification (Programme for the Endorsement of Forest Certification). In addition, the areas certified by the Forest Stewardship Council (FSC) increased sharply in the BR, from 1,208 ha (2009) to 22,348 ha (2018; 65% of the forest area; compared to 27% in the whole of Baden-Württemberg and 11% nationwide; FSC 2018). This was achieved through the FSC certification of the entire state-owned forest in Baden-Württemberg. In 2011 the forest on the former military training ground (nearly 2,500 ha) was given **"natural forest"**⁶ designation by the Nature and Biodiversity Conservation Union (NABU). Complementing this, a mature and dead wood strategy (ForstBW 2016) provides legal protection for natural processes on a steadily increasing area (2018: 1.6% of forest in the BR; compared to 1.5% of forest in the whole of Baden-Württemberg). Along with the core areas, this meant that, as of 2018, natural processes are legally protected in 9.2% of the BR total forest area.

The BR is primarily characterised by a karst landscape, with water bodies (mostly rivers) playing a smaller role in terms of area.

The BR is countering the negative trends in land use through eight central tasks: (1) Supporting value creation and marketing of regional products with a view to a nature conservation-oriented and sustainable regional development, (2) support for sustainable model projects, (3) nature conservation surveys and measures based on the survey results, (4) networking of relevant stakeholders, (5) advisory services, (6) public relations, (7) educational activities, (8) implementation of the lead projects set out in the framework concept. Biodiversity benefits from more and more initiatives in the BR, bolstered by successful economic activities, model projects, nature conservation measures and funding programmes (cf. 4.1 and 4.2).

2.2 Updated background information about the biosphere reserve

2.2.1 Updated coordinates

There were no changes to the coordinates. There are plans to extend the BR from 2020, with the goal of ensuring that sustainable development projects can be implemented in cooperation with a broader group of stakeholders and be effective on a wider scale.

⁶ No clear cutting, priority given to natural regeneration, no chemical pesticides, gentle management methods, game density that is compatible with forest ecology; cf. <https://baden-wuerttemberg.nabu.de/natur-und-landschaft/wald-wild-jagd/18887.html>

Furthermore, the boundaries of the BR will be redrawn in order to improve the pursuit of its objectives and to comply with the wish of many surrounding communities to become a part of the BR (requests from 44 municipalities in seven districts). Feedback from UNESCO on the periodic review will also be implemented in the context of the extension of the biosphere reserve.

2.2.2 Updated map

There were no changes to the map. Figure 1 shows the location of the BR in Germany.



Figure 1: Location of the biosphere reserve in Germany (see Annex III 1 and 2).

2.2.3 Changes in the human population of the biosphere reserve

The population of the BR remained largely constant (-0.04%; 2009-2016) comprising 146,063 persons in 2016 (cf. Part I j). The population density in 2016 was 171 inhabitants per square kilometre. The population survey showed that 79% of the BR residents considered their quality of life to be *rather high* or *very high* (von Lindern & Knoth 2019).

2.2.4 Update on the conservation function including main changes (cf. Section 4)

Following the designation of the core areas and buffer zones in 2008, the status of the broader categories of areas protected under nature conservation law in the BR remained unchanged. The BR Administration drew up the "biodiversity checks for municipalities", thus providing a systematic concept for nature conservation throughout the entire BR (cf. 4.2). The resulting measures are already being implemented by the BR Administration and other competent authorities. The conservation function is moreover reinforced through the programmes to support sustainable land management and establish regional value chains, including the Biosphere Reserve Support Programme (cf. 5.4 and Infobox 1).

2.2.5 Update on the development function including main changes (cf. Section 5)

A key focus of the BR is the integration of nature conservation into regional development and the creation of win-win situations for nature conservation and the use of the cultivated landscapes. The Biosphere Reserve Support Programme has helped achieve this by providing funding of at least € 200,000 per year for sustainable model projects (Infobox 1). A major milestone was reached in 2017 with the founding of the nature conservation-oriented regional brand, "Albgemacht" (cf. 5.4). The Partner Initiative now comprises 112 partner companies and plays a key role in the development of sustainable tourism (cf. 5.7, example project 1). A major success for the BR was its recognition as a sustainable tourism destination with an award in a federal competition in 2017 (cf. 5.5).

Infobox 1: Biosphere Reserve Support Programme and PLENUM

Since 2008, the state of Baden-Württemberg, the districts and the municipalities have provided at least € 200,000 per year for the BR Support Programme. Until 2013, additional funding of around € 200,000 per year was available for the entire BR area from the PLENUM programme. The goal of both programmes is to support model projects in the BR with a view to nature conservation-oriented and sustainable regional development. One of the approval criteria is that the project must contribute to nature conservation. Projects with permanent costs are not supported. The economic continuation of the projects is assisted, for instance, through advisory services of the BR Administration, economic feasibility assessments in the application phase, inclusion of projects in the business activities and networks in the BR and promotion by the BR. Since 2008, 435 projects have been supported with a total of € 3.76 million (cf. Annex III 7.5, Tables 5 and 6). Taking self-funding by the projects into account, total investment in the region stands at around € 7.91 million. All stakeholders and private individuals in the BR can apply for project funding. Among the main applicants are associations, which received 41% of the total approved funds (2008-2018), followed by companies (30%) and municipalities (22%; Annex III 7.5, Table 6). In this way the projects also help stimulate activities by associations. The BR Support Programme is complementary to other funding programmes. The BR Administration advises applicants on alternative financing options. "Classic" nature conservation projects are generally referred to other available funding programmes. Most funds were invested in the areas "sustainable tourism" and "agriculture and nature conservation" (Figure 2).

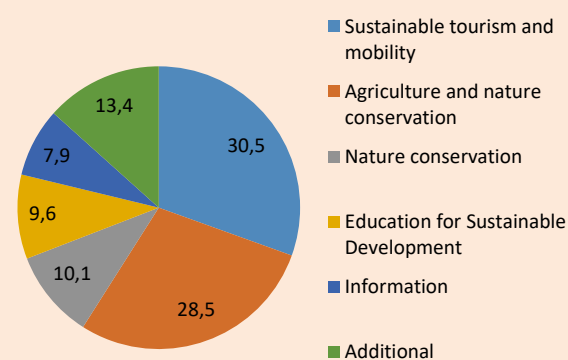


Figure 2: Portion of approved support funds by area (Annex III 7.5, Table 6).

2.2.6 Update on logistic support function, including main changes (cf. Section 6)

A main information centre and 18 local information centres were set up or expanded (cf. 6.4). In cooperation with the BR Administration, 42 nature and sociological research projects were implemented and 43 student theses completed (cf. 6.2). These include e.g. sociological surveys for this UNESCO periodic review and core area monitoring. All developments and

measures in the BR are accompanied by comprehensive public relations work, such as the annual Biosphere Week (cf. 6.5).

Example project 1: Partner Initiative

There are currently 112 certified partner companies. In addition to the minimum requirements for partners of the National Natural Landscapes initiative, the BR partners must meet further criteria, also in the field of nature conservation. These include criteria relating to the sale or use of regional products and production standards. The criteria for partner companies are often underpinned by official certification schemes (EMAS, Services Q, QZ BW, Wanderbares Deutschland etc). Sector-specific criteria currently exist for companies in hotel and gastronomy (25 partner companies), holiday accommodation (6), nature and landscape guides (38), extracurricular education (3), information centres (17), mobile information and education services (1), processing businesses (artisanal bakeries and breweries, pasta production and fruit, fur and wool processing (18) and information points for tourists (4). Unannounced checks are carried out each year in around 10% of the companies to verify that the criteria are being met. Two promotional videos were made for the Partner Initiative:

<https://www.youtube.com/watch?v=x6vhmnC---s&t=3s>

<https://www.youtube.com/watch?v=qUhnKxu9vNk>



Figure 3: The Hofgut Hopfenburg is one of 112 partners of the biosphere reserve (Hofgut Hopfenburg).

2.2.7 Update on governance management and coordination, including main changes (see Section 7).

The two support programmes *Regionen Aktiv* and *PLENUM* made a valuable contribution to the success of the BR, as they built up networks and trust in the region with similar goals in mind. The BR Administration took on and fleshed out their activities in the fields of nature conservation, education, tourism, marketing of regional products, agriculture and forestry. The BR Administration also took over the *PLENUM* support programme. Offers for participation of stakeholders and the local public were maintained and expanded. In 2013 the association "*PLENUM Schwäbische Alb e. V.*" became the Association of the Swabian Alb Biosphere Region (*Verein Biosphärengebiet Schwäbische Alb e. V.*). In addition, eight thematic working groups and eight partner networks were maintained or established (cf. 2.3.4).

2.3 Authorities in charge of managing/coordinating the biosphere reserve

The main decision-maker for strategic and financial planning of the BR and for staffing issues in the BR Administration is a steering group (16 persons; Figure 4; Annex III 7.3). The steering group is comprised of representatives from the regional administrative bodies, including the state of Baden-Württemberg, two Regional Commissioner's Offices, three districts and five of the 29 towns and municipalities. Representatives of associations from the three dimensions of sustainability (environmental, economic, social), the Institute for

Federal Real Estate⁷ and the head of the BR Administration all participate in an advisory capacity.

The BR Administration is a unit attached to the Department of Environment at the Tübingen Regional Commissioner's Office. It has four main tasks: (1) implementing and coordinating the projects set out in the framework concept, (2) monitoring the projects of the BR Support Programme, (3) promoting information exchange with stakeholder groups and the public, (4) networking stakeholder groups. The BR Administration is also the contact point on all matters relating to the BR. After the designation of the BR, sovereign functions remained with the relevant administrative and specialist authorities, which, however, work closely with the BR Administration. The BR Administration is a public agency⁸ and participates in planning and approval procedures.

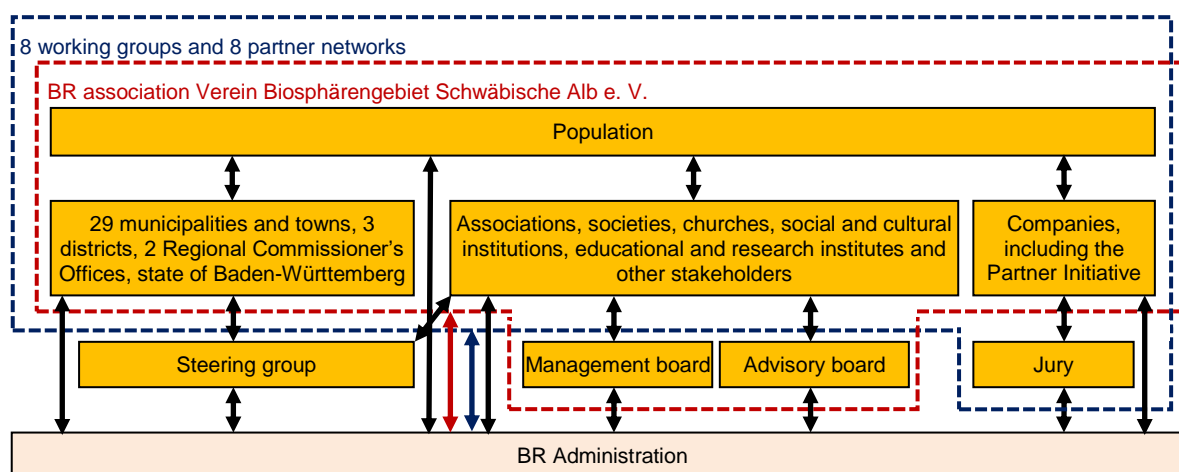


Figure 4: Stakeholders, committees and options for participation with the biosphere reserve.

2.3.1 Updates to framework concept

See 7.7.1.

2.3.2 Budget and staff support

Staffing and funding levels enable the BR to make an effective contribution to achieving the goals of the 2030 Agenda (cf. Lima Action Plan A1.1 and A3.2). During the reporting period, the number of staff in the BR Administration was gradually raised to 21.1 posts (full-time equivalent); of these, 19.6 are permanent posts, including 3.6 posts for visitor management in the Swabian Alb Biosphere Centre (Figure 5). Each year the BR Administration is supported by one person on a voluntary ecological year, one person on a voluntary social year

⁷ As the owner of the former military training ground, which, at 6,463 ha, covers a large central area of the biosphere reserve.

⁸ Träger öffentlicher Belange: Administrative bodies of public issues which deal with matters of public interest and which by law must be consulted on and involved in certain projects.

(since 2018), and at least four interns. In the areas highlighted in yellow, additional support for the BR Administration or participating districts taking on tasks (Figure 5) would be appropriate, in order to fulfil the goals and implement lead projects defined in the framework concept.

Head of Management		1.0						
Deputy Management		0.2						
Education for Sustainable Development and Biosphere Centre		Sustainable Regional Development		Protected Area Management and Research		Administration and Public Relations (PR)		
Coordination ESD, Info Centres	0.2	Coordination Regional Development	0.2	Coordination Area Management	0.2	Coordination Administration and PR	0.2	
Management Biosphere Centre	0.6	Allianz Environmental foundation projects*	0.5	Nature Conservation and Visitor Management	0.8	Administrative Office	0.7	
Administration Biosphere Centre	0.3	Tourism, gastronomy, Info Centres	1.5	Nature Conservation and GIS	1.0	Press and Public Relations	0.8	
Education Biosphere Centre	1.0	Historical and Cultural Heritage	0.1	Area Protection, Rangers	2.0	Marketing, Partner Initiative	1.0	
Exhibition and Visitor Support	3.6	Marketing of Regional Products, Land Use I	1.0	Research and Monitoring **	1.0	Secretary's Office	1.0	
ESD	1.0	Marketing of Regional Products, Land Use II	0.8					
		Forestry and Hunting	0.2					
		Climate Protection and Mobility	0.2					
						Current staff level insufficient		
						Current staff level sufficient		

Figure 5: Organizational chart with allotment of positions (*currently financed by the Allianz Environmental Foundation, ** limited until 2022; as of October 2018). Areas highlighted in yellow indicate that current staff levels are insufficient to satisfy the objectives and lead projects defined in the framework concept.

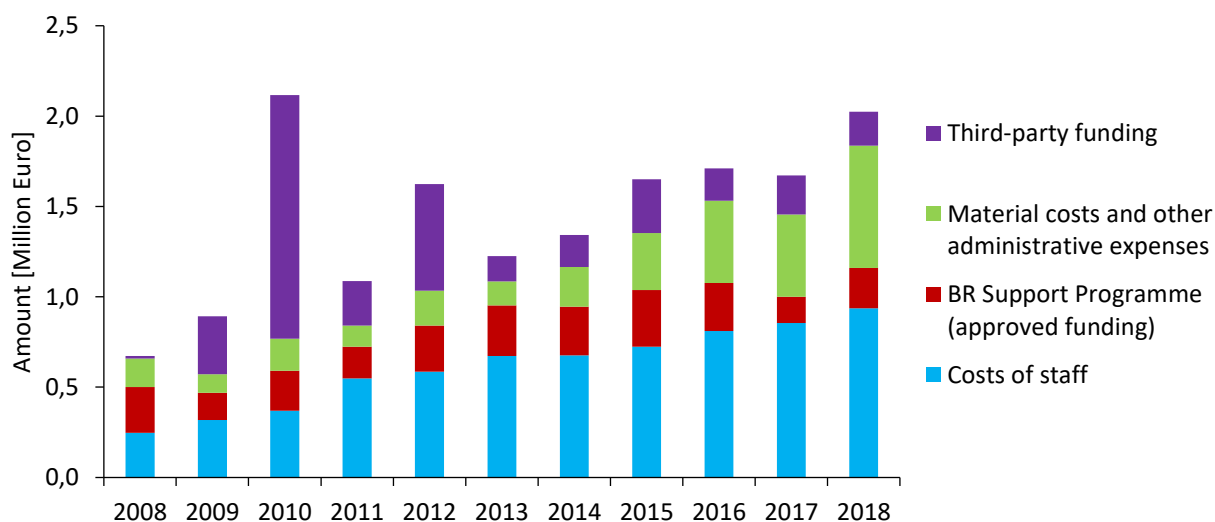


Figure 6: Share of staff, Biosphere Reserve Support Programme, material costs and third-party funding sources within the overall budget of the BR Administration from 2008 to 2018.

The annual budget rose steadily from € 0.67 million in 2008 to € 2.02 million in 2018 (Figure 6). From 2008 to 2018, a total of € 16.02 million was invested, including € 6.74 million for staff, € 2.55 million for the BR Support Programme and € 3.01 million for material costs and other administrative expenses. In addition, from 2008 to 2017 the BR received third-party funding totalling € 3.72 million through the foundations Allianz Umweltstiftung, Baden-

Württemberg Stiftung and Stiftung Naturschutzfonds Baden-Württemberg. Since 2011, the costs for staff, BR Support Programme and material costs have been divided 70:30 between the state of Baden-Württemberg and the districts and municipalities. Thus, from 2011, the districts and municipalities contributed € 219,000 annually. In 2018 this contribution was adjusted upwards to € 411,000 to take account of cost increases.

2.3.3 Communications strategy for the biosphere reserve

In 2013 a communications strategy was drawn up with the participation of regional stakeholders (cf. Lima Action Plan A2.4, D2.2, D3.1). The main target groups were identified for the following areas of action: Tourism, marketing of regional products and services and education. To achieve the goals, a mix of communication methods is used, covering corporate identity and corporate design, sales promotion through cooperative projects, advertising, public relations, online offers, social media, events and trade fairs (cf. 6.5.1).

2.3.4 Strategies for fostering networks of cooperation

Maintaining and further developing cooperation networks is a key approach of the BR Administration. Stakeholder groups are networked and updated by the following bodies, and in this way are involved in the development of the BR (cf. Lima Action Plan A1.3, A2.2, A2.3, A4.5):

The BR association Verein Biosphärengebiet Schwäbische Alb e. V. has 135 members and meets once a year. The members are comprised of representatives from associations, institutions, districts, municipalities, churches and companies. The association's management board (13 members) advises the BR Administration, and runs the association in accordance with the decisions of the members' assembly. The advisory board (32 persons) recommends projects for funding under the BR Support Programme (to be approved by the Tübingen Regional Commissioner's Office). Both the management board and the advisory board are made up of representatives from the regional governments and stakeholder groups, including nature conservation associations.

The seven working groups (totalling 191 persons) meet twice a year, covering the action areas (1) ESD, (2) nature conservation, (3) agriculture, (4) mobility, (5) sheep farming, (6) historical and cultural heritage, (7) hunting. In addition, the Reutlingen district forestry office Organises a "forest and biosphere" working group. The BR Administration also participates in 37 other regional and national bodies. Under the Partner Initiative umbrella (example project 1, p. 11), eight partner networks cover the fields (1) extra-curricular education partners, (2) information centres, (3) nature and landscape guides, (4) mobile information and education services, (5) holiday accommodation, (6) hotel and gastronomy,

(7) tourist information centres and (8) processing businesses. The Partner Initiative Jury advises the eight networks, awards or withdraws partnership certification and decides on the criteria for recognition.

Other networks are established for individual projects (e.g. projects by the BR Support Programme). In this context, the BR Administration ensures that all stakeholders and representatives of the three dimensions of sustainability are involved. Joint projects with the BR Administration also increase the motivation for stakeholders to become even more involved in the networks and bodies of the BR.

2.3.5 Visions and approaches for addressing the socio-cultural context

Table 5: Objectives and status of implementation of lead projects in the area of historical and cultural heritage.

Lead projects	Objectives	Status of implementation					
		Not yet commenced	Commenced	Advanced	Almost completed	Completed	Permanent task
1) Pre-Roman era – from the Stone Age up to the Celts	Conservation, research, share of information and touristic valorisation of relics from pre-Roman times found in the BR.						
2) Man and the landscape	Collect and share information with regard to the interactions between nature, the cultivated landscape and people (agriculture and forestry as well as the impacts on industry and crafts).						
3) Castles and rulers	Collect and share information with regard to castles located in the BR (Infobox 2).						

From a cultural and historical point of view, the Swabian Alb Biosphere Reserve is one of Europe's most important sites. In the area of **historical and cultural heritage**, the topics "pre-Roman era", "man and the landscape", and "castles and rulers" (Infobox 2) have been selected for lead projects (Table 5). These projects were consistently implemented.

New ground was broken with the work on the Heidengraben, one of the largest Celtic fortified settlements in Central Europe (Figure 8). 18 local BR information centres present the history of the region (cf. 6.4). A focus on sustainability in tourism aims to preserve historical and cultural heritage while supporting sustainable development. From 2008 to 2018, 26 projects dealing with historical and cultural heritage received € 151,319 in funding from PLENUM and the BR Support Programme (total project costs € 270,815; Annex III 7.5, Tables 5 and 6). LEADER provides further support for historical and cultural heritage (Annex III 7.6, Table 9).

Infobox 2: Castles and signposting

The BR has a wealth of castles, with more than 150 fortified settlements to be found there. Research, public relations and sustainable tourism have been at the forefront of the work over the past few years. The latest findings were presented and discussed at an "Albsymposium" in Bad Urach under the heading "Burgen und Herrschaft" (castles and rulers).



Figure 7: Castle ruin Hohenurach (Kurverwaltung Bad Urach).

2.3.6 Use of traditional and local knowledge

Traditional and local knowledge informs the management of the historical cultivated landscape. The re-introduction of old farming methods and the revival of historical land use forms help preserve the cultivated landscape. Local and traditional knowledge is also incorporated into the working groups, exhibitions and activities.



Figure 8: Heidengraben – Draft of the new information centre (Municipalities of Grabenstetten, Erkenbrechtsweiler and Hülben).



Figure 9: First Albsymposium on the topic „History in the Biosphere Reserve“ with 300 participants (BR Administration).



Figure 10: Archaeological investigation of castle ruins in the biosphere reserve (C. Morrissey).

2.3.7 Community cultural development initiatives

The information centres in the BR work alongside other stakeholders to promote cultural heritage (cf. 2.3.5). To date, the working group on historical and cultural heritage has organised three multi-day conferences, known as the Albsymposions (Figure 9), and launched research projects, e.g. archaeological studies of castles in the region (Figure 10). Historical and cultural heritage is further bolstered by festivals such as the Krämerfest in Eningen unter Achalm, the Kartoffelfest (potato festival), the Schäferlauf fair in Bad Urach (which has applied for UNESCO cultural heritage status) and the Schafauftrieb fair in Münsingen. There is also an information centre in Germany's oldest state stud farm in Marbach.

2.3.8 Number of spoken and written languages in the biosphere reserve

German is the only official language in the BR.

2.3.9 Management effectiveness and functional processes

As the BR Administration is attached to the Tübingen Regional Commissioners's Office, it is efficiently anchored in the public administration of the state of Baden-Württemberg and receives excellent support. The cooperation with municipal administrations is rated positively, although there is room for some of the municipalities to step up their commitment to the objectives of the BR, especially for the conservation function. The evaluation workshop found that, from the point of view of the BR Administration, most of the municipalities, towns and districts *actively* or *occasionally* support the BR (Annex III 7.2.3). While the framework concept was the product of a participatory process, it is not an ordinance and has no binding effect. This can make it difficult to implement the BR's objectives. The voluntary principle does, however, have a positive impact on the commitment of stakeholders and on the level of acceptance of the BR. The fact that the BR Administration has no sovereign tasks gives it, on the one hand, the advantage of being able to take an impartial position, while on the other hand, it has the drawback of restricting the role of the BR Administration in decision-making processes to its function as a public agency and the contacts it has in administrations. Nevertheless, cooperation with competent authorities is generally smooth. The interests of the BR are addressed and implemented.

2.4 Matters of special interest with regard to the biosphere reserve

2.4.1 Planning documents addressing the biosphere reserve

The BR is taken into account in framework landscape plans, landscape plans and regional plans that were drawn up or revised after 2008 (Annex III 4).

2.4.2 Outcomes of management/cooperation plans of government agencies and other organisations

Government agencies take the BR into consideration in the plans indicated in 2.4.1.

2.4.3 Continued involvement of local people

See 7.5.

2.4.4 Role of women in organisations and decision-making processes

The equal rights of men and women are legally enshrined in the Basic Law of the Federal Republic of Germany. All authorities have equal opportunities officers. Women make up 56% of the staff in the BR Administration, 19% in the steering group, 8% in the management board and 22% in the advisory board.

2.4.5 Changes in the main protection regime of the core areas and buffer zones

The protection regime is laid down in the Biosphere Reserve Ordinance and has remained unchanged since the ordinance entered into force on 31 January 2008.

2.4.6 Research and monitoring activities

See 6.1 and 6.2.

2.4.7 Strengthening collective capacities for the overall governance of the biosphere reserve

Governance of the BR continues to be effective through the Biosphere Reserve Ordinance, the agreement between Baden-Württemberg, the districts and the municipalities, the steering group as the decision-making body and the affiliation of the BR Administration with the Tübingen Regional Commissioner's Office.

2.4.8. Additional information on the interaction between the three zones

The structure of the cultivated landscape, which developed over time and consists of small parcels, was influenced by the low mountain range topography and the anticipated division of inherited land. It was instrumental in determining the zonation of the BR. The core area is primarily made up of slope and ravine forests. It is distributed across 44 sites which are combined in 25 core area clusters in close geographic proximity (Annex III 7.9). The high number of core area sites is due to the heavy fragmentation of suitable forest habitats, land ownership (only public ownership was considered) and to the participatory designation process in the BR. Nearly all municipalities and towns in the BR contributed core area sites. 84.7% of the core area margins are adjacent to buffer zones (Annex III 7.9). These sites meet stringent nature conservation requirements. 13.0% of the core area margins are next to transition areas and 2.3% adjoin the outer boundary of the BR. Although these sites are not designated buffer zones, nearly all of them act as ecological buffers which support undisturbed natural development in the core areas and protect against adverse impacts. 9.5% of the 15.3% of core area margins which do not adjoin a buffer zone are effectively buffered, since they adjoin forests, woodland and heaths or habitats protected under the Habitats Directive, forest reserves, protected forests or legally protected biotopes. If other protected areas with a somewhat weaker degree of protection (further Natura 2000 sites, landscape and water protection areas) as well as the currently extensively used arable and grassland are also included, this equates to an almost total blanketing of the core areas with sites that provide buffering either by buffer zones, an effective buffering outside the buffer zone,

protected areas or extensive land use. A detailed description and evaluation of the core area buffering is given in Annex III 7.9.

The intention is to enhance the buffering of the core areas in accordance with the Statutory Framework and the guidelines of the German MAB National Committee (MAB 2017). As there would be a lot of work involved in the agreements needed for this and for the amendment to the Biosphere Reserve Ordinance, this issue will be addressed in conjunction with the planned extension to the BR from 2020.

The activities in the buffer zone are important for the conservation of the species-rich cultivated landscape. The legal and actual protection of the buffer zone through protected area designation such as that provided under the Habitats Directive or as nature reserves is underpinned by the Biosphere Reserve Ordinance and support programmes for sustainable management. The transition area serves the development, testing and implementation of sustainable model projects in all areas of action according to the guiding principle of nature conservation-centred sustainable regional development (cf. Section 5).

2.4.9 Participation of young people in the biosphere reserve

Young people were indirectly involved in the development of the framework concept through art, writing and film competitions. Young people's needs and interests are taken as a basis for shaping the activities on offer in the area of ESD (cf. 6.4). For instance, the Biosphere Centre's educational activities for school classes, as well as the Junior Ranger Programme and the biosphere schools concept are aimed at promoting a better understanding of the goals of sustainable development and raising awareness of our responsibility to act sustainably in our daily life and personal environment (cf. 6.4). Students working on their theses are mentored. In addition, the LEADER programme funds cultural and social projects for young people in the BR, for instance a mobile youth church and a mobile youth department.

3. Ecosystem services



View inside a core area (Photo: BR Administration)

3.1 Ecosystem services and their beneficiaries

The three dominant ecosystems in terms of area are forest, grassland and arable land. These can be further differentiated according to the type and intensity of their use (Annex III 7.4, Table 3). Section 2.1 describes the development of the ecosystems in more detail. The beneficiaries of the services in the various ecosystems are divided into five groups (Annex III 7.4, Table 3). They are described in more depth in the relevant sections, and include consumers and farmers (cf. 2.1 and 5.4), tourism and leisure industry stakeholders (cf. 5.2) and education and research (cf. 6.2 and 6.4).

3.2 Indicators of ecosystem services

The ecosystem services in each ecosystem were assessed⁹ and weighted according to the size of the ecosystems in the BR (Annex III 7.4, Table 3). Thus, for instance, the dominance of conventionally used forest areas, grassland and arable land in the BR leads to a high primary production output of energy sources and foods for humans and livestock, but only average pollination and recreation services.

3.3 Ecosystem services and biodiversity

The ecosystems in the BR which are the main providers of services crucial to the conservation and protection of biodiversity (pollination, preservation of genetic diversity and habitat formation) are extensive grassland (including oligotrophic grassland, juniper heaths and meadow orchards) and the core areas, open canopy forests and landscape elements such as hedges, tree groves, meadow margins and structurally diverse, species-rich arable fields.

3.4 Assessment of the ecosystem services and relevance for management

To a large extent, the services for the conservation and protection of biodiversity overlap with cultural services (Annex III 7.4, Table 3). For instance, species-rich habitats like juniper heaths, meadow orchards and structurally diverse forests offer recreation, beauty and aesthetics. By contrast, areas dominated by agricultural primary production (conventionally farmed arable and grasslands) are to some extent less valuable in terms of their cultural and ecological services.

At landscape level, the widespread high clay and humus content of the soils has a positive impact on the hydrological and nutrient balance, climate change mitigation, protection

⁹ On the basis of opinions of nature conservation experts of the Tübingen Regional Commissioner's Office and Professor Eckhard Jedicke (University of Geisenheim).

against erosion and on the pollutant filter and buffer functions. At the same time, the widespread low soil thickness means the overall value of these ecosystem services is limited. The areas of action defined in the framework concept (especially nature conservation, sustainable tourism, agriculture and forestry) are aimed at the long-term support of the ecosystem services in the BR.

4. The conservation function



Black woodpecker in front of tree hollow (Photo: Dietmar Nill, www.dietmar-nill.de)

4.1 Changes in habitat types, ecosystems and species

To date, the first assessments¹⁰ of the conservation status of habitat types across the BR have been carried out for six of the 14 areas and all species-rich hay meadow sites protected under the Habitats Directive when the management plans pursuant to the directive were being drawn up (Annex III 7.4, Table 4). Management plans for the remaining Habitats Directive sites will be completed by 2020. The habitat types most relevant for the conservation function in the open countryside include the lowland species-rich hay meadows (some cultivated as meadow orchards; *unfavourable-inadequate* conservation status), mountain species-rich hay meadows (*unfavourable-bad*), juniper heaths (*favourable*) and calcareous grasslands¹¹ (*unfavourable-inadequate*). Among the most important forest habitat types are the *Asperulo-Fagetum* and *Cephalanthero-Fagion* beech forests (both *favourable*) and forests of slopes, screes and ravines (*unfavourable-inadequate*). The overall situation of habitat types in the BR is slightly better compared to the status for the whole of Baden-Württemberg (Annex III 7.4, Table 4).

The protected areas¹² within the BR have not changed in size since the designation, and comprise 59% of the total area, 92% of the buffer zone and 33% of the transition area. Remapping of the legally protected biotopes in 2013 increased their area by 926 ha to 5,534 ha. The only sites to record a decrease in size were the – ecologically very valuable – extensively used hay meadows protected under the Habitats Directive, which declined by 14 % to 2,068 ha (2003-2017; LUBW 2018). The BR Administration responded to this with advisory projects and measures to restore hay meadows (cf. 4.2).

The main pillar of the nature conservation strategy pursued by the BR Administration consists of measures for target species, which include not only those in Annexes II and IV of the Habitats Directive (BfN 2016), but also those listed in the Baden-Württemberg target species plan (LUBW 2009) and in the Red List of the state's endangered species (LUBW, no year). The nature conservation strategy follows the approach of the target species plan, in which development measures for very vulnerable species (umbrella species) also support many other, less vulnerable, species in the same habitat (knock-on effect). Table 6 presents threat levels, population trends and conservation measures for 10 selected target species for which the BR Administration is implementing conservation and development measures.

¹⁰ There is an earlier assessment, from 2006, of the habitat types of all sites protected under the Habitats Directive, but it is based on an estimate and a comparison with the survey data would not give reliable results.

¹¹ To allow comparison with the whole of Baden-Württemberg, which has four sub-types of this habitat, the calcareous grasslands have been evaluated as a single habitat type.

¹² Core areas, nature, forest and landscape protected areas, legally protected biotopes, Natura 2000 sites, large-scale natural landmarks.

Table 6: Conservation status, population trends, factors in species decline and measures for conservation of selected endangered species in the Swabian Alb Biosphere Reserve (HD = EU Habitats Directive)

Species targeted for measures	Threat category	Population trend	Threat factors	BR Administration species conservation projects ² (Annex III 7.5, Table 7)
Large blue (<i>Maculinea arion</i>)	State species group B (Red List Baden-Württemberg 2, HD Annex IV)	Severe decline (BR evidently has the largest population in Baden-Württemberg)	Succession, shading, under grazing of calcareous oligotrophic grasslands	Biotope network projects in Münsingen, Gomadingen and Schelklingen
Apollo (<i>Parnassius apollo</i>)	State species group A ZIA (Red List Baden-Württemberg 1, HD Annex IV)	Severe decline	Decline in the caterpillar food plant white stonecrop (<i>Sedum album</i>) caused by too little grazing and shading of rock ledges	Creation of a 0.7 ha larvae habitat in a quarry in the Alb-Donau-District
Clouded apollo (<i>Parnassius mnemosyne</i> ; Figure 12)	State species group A, ZIA (Red List Baden-Württemberg 1!, HD Annex IV)	Severe decline over the past ten years, since 2016 increasing locally following measures	Lack of open canopy forest structures / clear cutting in current forest management	Project to support Clouded apollo implemented in Schmiechtal
<i>Zygaena elegans burnet moth</i> (<i>Zygaena elegans</i>)	State species group A, ZIA (Red List Baden-Württemberg 2!)	Unchanged	Lack of open canopy forest structures / clear cutting in current forest management	Project to support open canopy species implemented in Esslingen district. Launch 2018
<i>Zygaena fausta burnet moth</i> (<i>Zygaena fausta</i>)	State species group B, ZIA (Red List Baden-Württemberg 3!)	Unchanged	Lack of open to sparsely wooded rocky areas	
Western Bonelli's warbler (<i>Phylloscopus bonelli</i>)	State species group A, ZIA (Red List Baden-Württemberg 1)	Dramatic decline (in Esslingen district)	Lack of open to sparsely wooded rocky areas	
Bull bush cricket (<i>Polysarcus denticauda</i>)	State species group B, ZIA (Red List Baden-Württemberg 3!)	Decline. Only three range areas remain in Germany, one of which is in central and western Swabian Alb	Intensification of meadow use	Survey/monitoring as a basis for adapted use of extensive meadows (e.g. contract-based nature conservation)
Rosalia longicorn beetle (<i>Rosalia alpina</i>)	State species group B, ZIA (Red List Baden-Württemberg 2!, HD Annex IV)	On the study sites significant increase primarily due to mature and dead wood being left in place.	Removal of mature and dead wood	Designation of core areas
Black woodpecker (<i>Dryocopus martius</i>)	Red List Baden-Württemberg of least concern	Unchanged	Growth of saplings in front of tree hollows leads to black woodpeckers abandoning the hollows	Permanent marking of nesting hollow trees led to the hollows being preserved by forest users
Red kite (<i>Milvus milvus</i>)	N (Red List Baden-Württemberg of least concern)	Unchanged or localised increase (approx. 6 % of global population and 9 % of Germany's population breeds in Baden-Württemberg)	Needs varied cultivated landscape, potentially threatened by wind turbines	Mapping of species vulnerable to wind turbines, and of the seasonal bird migrations as part of municipal wind power planning

¹Threat categories:

State species group A (LA): Species threatened with extinction and species with primarily isolated and unstable or critically threatened populations, for which immediate species support measures are needed.

State species group B (LB): Species with several or stable occurrences in a significant part of the relevant reference habitats under the ZAK (target species concept) and state species for which a population assessment is not currently possible and for which a need for immediate special measures cannot be inferred.

Targeted indicator species (ZIA): Target species (especially state species) with a particular indicator function for certain habitat types, for which the goal should generally be a significant increase in occurrences. As representatives of key deficiency factors in today's cultivated landscape, the expansion of their populations promises to have significant knock-on effects for many other species in need of protection.

Nature space species (N): Target species with special regional significance and high state-wide priority for protection

²Project implementing agency: BR Administration, in cooperation with the competent authorities and other project participants.

4.2 Description of the main conservation programmes

The key goal in the area of **nature conservation** is the preservation of landscapes, ecosystems, species and genetic diversity (lead project 1; Table 7; cf. Lima Action Plan A1.2). One project undertook "biodiversity checks" of municipalities (Figure 13) to identify rare, endangered and vulnerable species and their habitats throughout the BR (phase 1). On the basis of the findings, recommendations tailored to the needs of each site were drawn up or are currently being formulated (phase 2). The biodiversity checks are also intended to facilitate precautionary nature conservation planning for municipalities. For the former military training ground in Münsingen, the management plan under the Habitats Directive was supplemented with an action plan for target species and habitats, e.g. measures to increase sheep grazing or to protect the natterjack toad (*Bufo calamita*). Initial conservation measures have already been put in place for all plans.

Table 7: Objectives and status of implementation of lead projects in the area of nature conservation.

Lead projects	Objectives	Status of implementation					
		Not yet commenced	Commenced	Advanced	Almost completed	Completed	Permanent task
1) Maintain and support our natural treasures	Permanent preservation of typical species.						
2) Promote nature conservation in our cultivated landscape	Maintain the extensive use of species-rich and typical habitats within the BR.						
3) Establish biotope networks	Improve the exchange of animal and plant species by networking habitats within the BR (example project 2).						

The second nature conservation goal is the protection of species-rich, typical habitats of the cultivated landscape (lead project 2; Table 7). Here, the approach is to promote extensive land use, such as juniper heath grazing, to maintain existing meadow orchards and the use of flower-rich hay meadows, and to create further species-rich, typical habitats by switching to an extensive use of previously intensively farmed land. The model project "Gesamtbetriebliche Beratung für die Bewirtschaftung von FFH-Mähwiesen im Biosphärengebiet Schwäbische Alb", which offers advice for managing hay meadows protected under the Habitats Directive, was set up for this purpose, and entails measures such as establishing test sites for studying the impacts of the various meadow uses on biodiversity.

The third focus is on biotope networks (lead project 3; Table 7). Core sites in the biotope network of calcareous oligotrophic grasslands and their network function are being improved (example project 2).

Example project 2: Biotope network – calcareous oligotrophic meadows

The aim is to enhance and link up the calcareous oligotrophic meadows as habitats for typical animal and plant species, and improve flock management for shepherds. This is achieved by measures such as initial maintenance on overgrown juniper heaths under the model project "biotope network – calcareous oligotrophic meadows" (Biotopverbund Kalkmagerrasen) in the municipalities Münsingen, Gomadingen and Schelklingen (20 ha cleared to date), and upgrading or creating stepping stone biotopes in the surrounding area, such as clearings in forest margins and open stone cairns. Around **€ 500,000 is earmarked** for the project (duration 2017-2020).



Figure 11: Juniper heath Buttenhausener Eichhalde: One important site for the biotope network in the Große Lauter valley (T. Kuss).

In addition, over the past few years, other projects have been implemented, for instance, supporting open canopy forest species, the elaboration of a best practice procedure for nature-friendly rock face stabilisation along roads (Figure 14), support of urban biodiversity on municipal land and company sites and flanking the expansion of wind power with surveys to identify vulnerable bird species and chart seasonal bird migrations and a comprehensive landscape assessment (Annex III 7.5, Table 7). Overall, surveys and measures in 15 major projects (total volume approx. € 1.5 million; Annex III 7.5, Table 7) and 62 smaller projects with a total volume of € 646, 779 (€ 380,933 funding) were supported by PLENUM and the BR Support Programme (Annex III 7.5, Tables 5 and 6).



Figure 12: Clouded apollo: Target species for the development of open canopy forest structures (Gabriel Hermann).

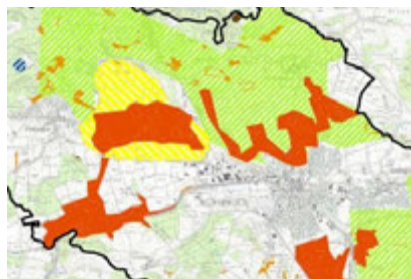


Figure 13: Biodiversity-Check for the city of Münsingen: Example of a map indicating priority measure areas (BR Administration).

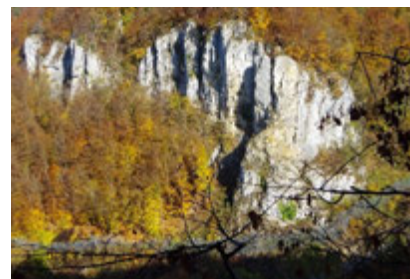


Figure 14: Example for nature-friendly rock face stabilization along roads (Deutscher Alpenverein e. V.).

All nature conservation projects are carried out in close cooperation between the BR Administration, municipalities, nature conservation, forestry and agriculture authorities, landscape preservation associations, nature conservation associations and land managers. Specialist authorities carry out numerous measures in protected areas within the BR independently of the BR Administration. Examples are drawing up management plans for the Habitats Directive sites, measures for species protection and maintenance activities, and the purchase of land for nature conservation purposes. Funding through Baden-Württemberg's Landscape Management Guidance (Landschaftspflegerichtlinie), provided

by the three subordinate nature conservation authorities participating in the BR and by the landscape preservation associations, rose steadily from an annual € 0.71 million in 2009 to € 2.52 million in 2017. The funds support extensive land use, species conservation and biotope and landscape management. The Tübingen and Stuttgart Regional Commissioner's Offices supported further surveys and management measures in protected areas within the BR, also through the Landscape Management Guidance (€ 2.98 million from 2009 to 2017; Tübingen Regional Commissioner's Office). From 2009 to 2017 a total of € 1.15 million was invested in water body renaturation in the BR, via the Funding Guidelines for Water Management and funds from the lottery Glückspirale (Annex III 7.6, Table 10).

The mature trees and dead wood strategy (Alt- und Totholzkonzept) establishes stepping stone habitats with no forestry use into the state and municipal forests as part of regular management practice. These habitats take the form e.g. of groups of habitat trees and forest refuges (cf. 2.1). The site selection is based on known occurrences of rare species protected under Annex IV of the Habitats Directive, or of European bird species.

Nature conservation associations are also very active in the BR. Assisted with state funding, they purchase land for conservation purposes, carry out surveys and landscape management tasks, implement conservation measures, publish opinions and organise conferences and information events.

4.3 Integration of conservation activities in sustainable development issues

The BR Administration is committed to the protection of species-rich cultivated landscape in ways that reconcile economic and social interests. With a view to nature conservation-oriented and sustainable regional development, nature conservation concerns are firmly anchored in the economic and social development of the region. This is achieved, for example, through the regional brand Albgemacht, the promotion of regional products, which also help protect the cultivated landscape, and using the criteria of the Partner Initiative (cf. 5.4 and example project 1, p. 12). One criterion for all projects funded through the BR Support Programme is to contribute to the conservation function (Infobox 1, p. 11). The nature conservation surveys such as the biodiversity checks, facilitate the recommendation of systematic nature conservation measures, which comprise adapted use and suitable management for conserving biological diversity or set out special species protection measures. This leads to synergies between conservation and use; for instance, measures to support biotope networks benefit not only biodiversity but also sheep farming, as removing succession growth makes it easier to herd the flocks through the heaths and improves the tracks. Measures to preserve and manage cultivated landscapes are particularly beneficial to areas in the buffer zone. The buffer zone thus plays the part of mediator between

conservation and development, in line with the principle "protect through use" which applies particularly to the buffer zone and aims to conserve habitats and their species through adapted and, wherever possible, economically viable use. In the transition area, on the other hand, the focus is on generating regional value added and a consumption geared to nature conservation-based products. Moreover, throughout the BR, tourism profits from the improved landscape appearance, while local communities benefit from the sense of identity fostered by the restoration of characteristic landscape elements such as juniper heaths and meadow orchards.

In addition, links between conservation and development measures are forged by programmes and certification schemes such as the agri-environmental programme and Landscape Management Guidance in the agricultural sector, and the mature trees and dead wood strategy, the nature conservation programme of the forestry authority in Baden-Württemberg (ForstBW 2015), the designation as a natural forest, FSC and PEFC certification in the forestry sector and Partner Initiative's tourism certification scheme.

4.4 Effectiveness of measures or applied strategies

A general picture of how the effectiveness of nature conservation measures is perceived was built up through surveys of experts and the public. Participants in the nature conservation working group found that, in terms of nature conservation the BR fulfils its role as a model region for sustainable development *well* and that the BR is *significantly more sustainable* in terms of nature conservation than the surrounding region (n=11; Annex III 7.2.1, Figures 1 and 2). A clear majority (64%) of the public agreed with the statement "the BR protects nature and landscapes in my region". Only 11% rejected this statement (Annex III 7.2.2, Figure 3).

Model projects and management measures showed tangible achievements, for instance the biotope network project for calcareous grasslands, which so far has upgraded habitats on 20 ha of land (cf. 4.2). The establishment of the core areas and implementation of the mature trees and dead wood strategy in 2010 and by the Federal Forestries in 2011 led to a rise in numbers of rosalia longicorn beetle (*Rosalia alpina*). Monitoring showed a significant increase in the number of burrows on four out of six sites studied, the two remaining sites recording little or no increase.

Measures to protect the clouded apollo butterfly (*Parnassius mnemosyne*) led to an increase in the population from two (2015) to 52 individuals (2018) on one site where the measures were implemented. Two further sites are currently being upgraded. As part of the project "Valorisation of climate and nature conservation measures in national natural landscapes" (Inwertsetzung von Klima- und Naturschutzmaßnahmen in den Nationalen

Naturlandschaften), multi-annual nature conservation measures are being carried out in meadow orchards on 12 project sites covering a total area of 1.2 ha (cf. example project 7, p. 35). The model project to develop a best practice procedure for an optimised nature-friendly design, planning and implementation of rock-face stabilisation on roads ensures practical relevance by involving the roadworks authorities as a partner in the project.

4.5 Factors that have influenced conservation efforts (positively or negatively)

Factors influencing the success of conservation measures are (1) availability of sites, (2) the funding and implementation of nature conservation measures by nature conservation authorities, landscape preservation associations and/or the BR Administration, where possible including follow-up measures, (3) making the measures economically viable for the long term and (4) the existence of an established and effective legal protection. The main factors which positively influenced projects and measures in all three functions are described in Section 5.11.

Outlook: As the biodiversity checks for municipalities are now more or less drawn up and one additional full-time position in the field of nature conservation plus two ranger positions are available, in future the BR Administration will be able to work more intensively with the competent players on implementing the nature conservation plans. An invitation to tender for the implementation of a large-scale nature conservation project is envisaged.

The habitats in the BR that are important for nature conservation are the product of historical cultivated landscapes and hence consist primarily of biotopes that are dependent on use and management. For that reason, future work will continue to focus on long-term, targeted and economically viable use, or, where use is not viable, on management.

It is also considered important to continue to increase the demand for regional products, as this helps maintain the cultivated landscape. One proposed means of achieving this is to build on existing nature conservation reporting, for instance with regular columns in local newspapers describing typical animal and plant species in the BR and the measures being undertaken to support them.

4.6 Other comments/observations from a biosphere reserve perspective

Giving targeted support to the nature conservation services of agriculture beyond the existing support options under the EU agricultural policy is necessary for maintaining diversity in the cultivated landscape.

5. The development function



Hikers at an escarpment of the Swabian Alb (Photo: Angela Hammer)

5.1 Brief description of the prevailing trends in the main sectors

Overall, the general economic development is positive, although the reporting period began in 2009, a low point arising from the economic and financial crisis of 2008. The greater allocation of land for settlement in rural areas (+4.5%; 2009-2017) compared to urban areas (+2.7%) increased the interlinking of rural and urban areas, leading in particular to an increase in commuter traffic to the population centres (Land Statistical Office BW 2018).

Between 2009 and 2016 the share of agriculture, forestry and fishery in gross value added declined from 0.41% to 0.32% in the three administrative districts of the BR (compared to a decline from 0.51% to 0.38% in the whole of Baden-Württemberg; stable nationwide at 0.74 %; Land Statistical Office BW 2018, DESTATIS 2018). In 2017 1,882 people were employed in primary sector jobs subject to compulsory social insurance (+46% compared to 2009 figures for the three districts; compared to +30% for the whole of Baden-Württemberg; Land Statistical Office BW 2018). While larger agricultural holdings continue to grow, the closure of smaller farms is becoming more frequent. In 2016, 1,142 agricultural businesses were still in existence (-6% since 2010; compared to -9% in the whole of Baden-Württemberg; *ibid.*). The average size of a farm rose to 43.3 ha in 2016 (+13% since 2010; compared to +10% in the whole of Baden-Württemberg; *ibid.*). Changes in land use are examined in Section 2.1. Projects relating to agriculture and forestry are presented in Section 5.4.

Between 2009 and 2016 the share of the producing industries in gross value added in the three administrative districts of the BR rose from 32% to 37% (and from 30% to 35% in the whole of Baden-Württemberg; 44% to 49% nationwide; Land Statistical Office BW 2018, DESTATIS 2018). In the secondary sector, the BR mainly cooperates with processing companies. By processing produce from the cultivated landscape, these businesses support the conservation of biodiversity and comply with environmental standards. Eighteen processors are certified partners, including noodle producers, bakers, breweries, wool processors, and processors of fruits from meadow orchards (cf. 5.7). In addition, businesses actively pursue the objectives of the BR through the regional brand Albgemacht (cf. 5.4), biosphere products (cf. 5.4) and as cooperation partners (cf. 5.7). There was very close cooperation with wood processing companies on the "beech red heartwood" marketing campaign (Vermarktungsoffensive rotkerniges Buchenholz, cf. 5.4).

Until 2011, the use of biomass for energy generation in the three administrative districts increased dramatically (to 188,552 kWh; DGS 2016) due to financial incentives, and has remained stable since then. Wind energy is concentrated on three sites in the transition area

(in line with the MAB National Committee's 2012 position paper), with a total of 15 turbines in use (14,613 kWh, 2015; LUBW 2018).

Table 8: Objectives and status of implementation of lead projects in the area of environmental protection and climate action.

Lead projects	Objectives	Status of implementation					
		Not yet commenced	Commenced	Advanced	Almost completed	Completed	Permanent task
1) Energy efficiency and conservation	Promote energy conservation and increase energy efficiency (example project 3).						
2) "Citizen energy" together with researchers and crafters	Develop decentralized citizen energy generation models as well as techniques and approaches for energy generation, storage, distribution and efficient use.						
3) Environmental protection and climate action – experience it, understand it, act on it	Experience projects and measures in the area of environmental protection and climate action and make them accessible (see 6.4).						

A large-scale project in the area of **environmental protection and climate action** was "Energy efficiency region Swabian Alb Biosphere Reserve" (Energieeffizienzregion Biosphärengebiet Schwäbische Alb; example project 3; lead project 1, Table 8).

Example project 3: Energy efficiency region Swabian Alb Biosphere Reserve

This project aimed to improve both the environmental and the economic aspects of energy efficiency. Energy consultations in 300 households and 782 heating pump checks achieved CO₂ emissions savings of between 80 and 120 tonnes. The project ran from 2014 to 2017 and was implemented by Friends of the Earth Germany (Bund für Umwelt und Naturschutz Deutschland e. V., BUND), with support from the state of Baden-Württemberg and the BR Administration (costs: € 550,000).



Figure 15: Meeting of the "Energy efficiency region Swabian Alb Biosphere Reserve" (BR Administration).

In addition, all the administrative districts in the BR operate climate or energy agencies which support climate action with consultations, further training, projects and public relations work. Lead project 2 (Table 8) has not yet been launched due to regional priorities and a lack of staff. Lead project 3 is being implemented as part of the ESD programme (cf. 6.4). Thirty one companies in the BR have demonstrated their commitment to the environment and climate action by obtaining EMAS certification (Eco-Management and Audit Scheme; as at 2018; Figure 16). The district and town of Reutlingen and the Alb-Donau district were presented with the European Energy Award for their integration of energy efficiency and climate measures into their administration (Figure 17). In the field of environmental protection and climate action, PLENUM and the BR Support Programme

provided 13 projects with overall funding of € 60,750 (total costs € 92,854; 2008-2018; Annex III 7.5, Tables 5 and 6)



Figure 16: Handing over EMAS-certificates 2013 (BR Administration).



Figure 17: European Energy-Award 2018 for the district of Reutlingen (District of Reutlingen).

In the tertiary sector, the work of the BR Administration focuses on trade, services and mobility, predominantly in relation to the tourism industry (cf. 5.2).

5.2 Description of the tourism industry in the biosphere reserve

Table 9: Objectives and status of implementation of lead projects in the area of sustainable tourism.

Lead projects	Objectives	Status of implementation					
		Not yet commenced	Commenced	Advanced	Almost completed	Completed	Permanent task
1) Visitor guidance and management	Create and implement a visitor management strategy. Increase the presence of the BR on site, protect endangered habitats from the negative effects of tourism, and improve the provision of information for citizens and visitors.						
2) Expand the Partner Initiative: Qualification and quality campaign	Increase the number of touristic service providers by expanding the Partner Initiative and thereby raise awareness about the BR as a quality region (example project 1)						
3) Create a marketing concept with guidelines for new touristic services and eliminate structural deficits.	Create and implement a tourist marketing concept.						

In the area of **sustainable tourism** the BR Administration focused primarily on hiking, cycling, gastronomy and nature observation. It was supported in its work by tourism associations and the district, city and municipal administrations. Activities were flanked with measures on visitor management and the development of the Partner Initiative. In 2017, the number of people in the three administrative districts of the BR employed in the hospitality industry in jobs subject to compulsory social insurance stood at 8,877 (+32% against 2009, compared to +35% in the whole of Baden-Württemberg; Land Statistical Office BW 2018). Between 2009 and 2017, visitor arrivals in the towns and municipalities of the BR rose by

32% (+35% in the whole of Baden-Württemberg), with overnight stays climbing by 17% (+25% in the whole of Baden-Württemberg; *ibid.*).

The network of cycling and hiking trails is currently undergoing modification throughout the BR (lead project 3; Table 9). This is aimed at streamlining the offer while improving the quality, e.g. by developing 21 recognised quality hiking trails (Prädikatswanderwege), as part of the "hochgehberge" concept (Figure 19) to supplement the eight existing quality hiking trails and the themed cycle trails in the BR. The trails are linked up with sustainable tourism service providers, local public transport, partner companies and vendors of regional products. Hiking trails are developed in close cooperation with the nature conservation and forestry authorities, the Swabian Alb Association and regional tourism organisations.

Activities offered for experiencing nature were increased significantly, e.g. the nature and landscape tour guide services (Figure 20). The regional diversity of traditional dishes, produce and recipes makes gastronomy particularly suited to valorising tourism. Partner businesses in the catering sector offer dishes made from ingredients which support biodiversity and promote regional value added (lead project 2; Table 9). The partners have 150 products to work with which meet these criteria. In 2010, the BR Administration joined with 21 hotel and catering businesses to form the tourism body Biosphärengastgeber GmbH (Figure 21). In a nationwide comparison, these BR hosts fulfil strict sustainability criteria¹³. They have positioned themselves successfully on the tourism market and benefit from local networking and cooperation. Most of the members of Biosphärengastgeber GmbH also belong to the Partner Initiative, which include 27 companies in the food and hospitality sector. Moreover, the BR Administration is endeavouring to incorporate mobility service providers more firmly in tourism development.

Example project 4: "Der Weg ist das Ziel" (the path is the goal)

In this project, under the auspices of the environmental foundation Allianz-Umweltstiftung and in cooperation with social services providers, people with physical disabilities and mental health challenges becomes sponsors of quality hiking trails by carrying out nature conservation measures. Nature becomes both a project and a therapeutic space and shows that inclusion can be an integral aspect of sustainable use.



Figure 18: Project demonstration „Der Weg ist das Ziel“ (BR Administration).

¹³ For instance, alongside certification schemes such as EMAS, Schmeck den Süden and ServiceQualität Deutschland, member companies of Biosphärengastgeber GmbH are also expected to offer a range of regional products that contribute to the conservation of the cultivated landscape, provide information on sustainable mobility possibilities and raise donations to nature conservation measures in the biosphere reserve (www.biosphaerengastgeber.de).

Accessible activities are offered by 11 “biosphere ambassadors” for people with disabilities, and these will be further expanded. The partially accessible offers for tourists with restricted mobility and wheelchair users are described in the brochure “Erfahrbar – Biosphärengebiet Schwäbische Alb, Reutlingen, Zollernalb”. Another flagship social project is “Der Weg ist das Ziel” (example project 4).

To ensure that tourism is nature-friendly, in 2009 a visitor management strategy for the whole of the BR was developed in a broad participatory process (lead project 1; Table 9). This identified 20 sites where problems were experienced due to over-use by tourists. Examples include noise, trampling damage and the disturbance of breeding sites. The measures outlined will be implemented gradually. Legislation on climbing and canoeing was updated and regulations on entering core areas introduced. A bus, offering cyclists transport to bicycle trails, was introduced at the weekends to ease traffic congestion in the valley Lenninger Tal and to make the former military training site more accessible for tourists. Noise pollution caused by motorcycles in the valley Großes Lauertal was alleviated by a new speed limit. Furthermore, since October 2018 two rangers have been employed by the BR Administration with the task of raising visitor awareness of responsible interaction with nature. Rangers also work in the district of Esslingen and on the former military training ground.

Between 2008 and 2018, 78 projects in the field of sustainable tourism and mobility were supported by PLENUM and the BR Support Programme with € 1.15 million (total project costs: € 2.07 million; Annex III 7.5, Tables 5 and 6). Further funding was obtained from other support programmes (cf. 5.6).



Figure 19: The hiking concept „hochgehberge“ enriches the sustainable hiking offer of the BR (Angela Hammer).



Figure 20: Nature and landscape tour guides offer a high quality programme in the BR (BR Administration).



Figure 21: Biosphäregastgeber GmbH: 21 hotel and gastronomy businesses jointly market regional products on their menus (BR Administration).

The area of **mobility** is a particular challenge (lead project 2; Table 13; p. 49). The secluded locations of some parts of the BR and the limited public transport options mean that private vehicles are the dominant form of mobility among visitors, with around 85% (Job et al. unpublished). In order to promote car-free travel to the BR, the BR Administration produced information materials, coordinated funding for sustainable mobility projects and in 2013

established the working group on mobility. In this group, districts, transport authorities, major and regional transport companies and nature and environment associations work to improve leisure mobility options. In 2016 a "Mobility Action Day" was held across the BR to inform the public about the challenges and solutions and to discuss these issues (Figure 23). The electric mobility centre (E-Mobilitätszentrum) also opened in Münsingen in 2016 (example project 5).

Example project 5: Electric mobility centre (E-Mobilitätszentrum)

The electric mobility centre in Münsingen was designated as lead project in the framework concept as an intermodal mobility hub. It opened in 2016 in Münsingen railway station. The project, supported by the BR, focused on leisure mobility. Today, it rents out pedelec bikes equipped with satnav tours. The product has been well-received and gives many more people an environmentally friendly means of exploring the BR.



Figure 22: Electric mobility centre Münsingen (BR Administration).

Public transport in the BR is provided by the naldo¹⁴-Freizeit-Netz, the seasonal bus and rail network of the Neckar-Alb-Donau transport authority (an extension of the Swabian Alb leisure network). Examples are the Swabian Alb railway, the biosphere bus (Figure 24), the Lautertal leisure buses and the bicycle buses which bring cyclists from the Alb foreland to the high plateau. For the Albbahn railway, the BR Support Programme funded the dining waggon "Juniper Bar" (Wacholderbar), which offers products from the juniper heaths during the journey (Figure 25).



Figure 23: Mobility action day 2016: Throughout the BR people were informed and sensitised for mobility topics (BR Administration).



Figure 24: The biosphere bus extends the public transport offer on Sundays and holydays (T. Clement).



Figure 25: The dining waggon "Juniper Bar" for mobile product marketing is being constructed (BR Administration).

Outlook: The area of **sustainable tourism** continues to focus primarily on increasing the range and quality of sustainable tourism activities, with a secondary goal of boosting visitor numbers. Increasing the number of overnight stays, particularly on week nights, is another aim. In future, partnerships and cooperation with tourism operators will be intensified with

¹⁴ Neckar-Alb-Donau transport association

a view to further enhancing identification with the BR. Existing parallel structures will be consolidated in order to bundle and efficiently use resources. A uniform tourism strategy for the whole of the BR is to be drawn up.

The medium-term goal for **mobility** is to elaborate a mobility strategy. The introduction of a tourist ticket (Albcard) for overnight visitors which allows the free use of public transport and specified leisure activities (e.g. free admission to castles, museums and caves), including some outside the BR, is envisaged for 2020. The Albcard is the initiative of the Swabian Alb tourism association, and will be financed by a surcharge on overnight stays. At district level, extensive plans are underway to improve public transport in the BR. The re-opening of the decommissioned rail link between Engstingen and Gammertingen, the expansion of the regional urban railway (Ermstalbahn) and a new station on the ICE route at Merklingen (Alb-Donau district) will improve rail transport in the BR. From September 2019 there will be a new bus connection between Bad Urach and Münsingen.

5.3 Description of other key sectors and uses

See 5.1 and 5.2.

5.4 Economic activities which benefit local communities

Table 10: Objectives and status of implementation of lead projects in the area of agriculture and marketing of regional products.

Lead projects	Objectives	Status of implementation					
		Not yet commenced	Commenced	Advanced	Almost completed	Completed	Permanent task
1) Development of new “biosphere products”	Support the development of new products based on regional raw materials that are created and processed sustainably.						
2) Designing logistics for regional products from the BR	Establish a logistics concept for regional products from the entire agricultural production chain that allow producers and manufacturers to sell these products at centralised sales locations collectively.						
3) Bringing the “biosphere products” all under one roof	Join together “biosphere products” with a uniform appearance (Albgemacht). This project creates a common framework for all lead projects in the area of agriculture (example project 6).						
4) Establishing meadow orchard service centres	Develop 3 or 4 model service centres for meadow orchards with the aim of supporting farmers with know-how and services related to sustainable farming.						
5) The sheep of the Swabian Alb – wool, landscape preservation and additional products – getting to know, working alongside and taking a hands-on approach	Settlement of commercial enterprises in the BR that take care of all processing steps related to wool (washing, carding, coloring and spinning) and offer touristic and educational services (transparent production).						

The following looks at agriculture and forestry, regional value added and hunting. The local communities which benefit from tourism and mobility are referred to in 5.2.

One of the key objectives of the BR is to support sociocultural and environmentally sustainable economic and human development. Economic activities advance the creation of a sustainable value added for the local population and regional companies by promoting nature conservation-oriented and sustainable regional development, raising regional value added, marketing high-quality regional products and by safeguarding or creating jobs.

In the area of **agriculture and marketing of regional products** this goal is advanced by supporting farmers with model projects and biodiversity consultations. The BR Administration organises the working group on agriculture, which is also tasked with fostering cooperation between stakeholders in conventional and organic agriculture. In the area of agriculture, the BR Support Programme and PLENUM supported 118 nature conservation projects with funding of € 1.07 million (total investment € 3.02 million; 2008-2018; Annex III 7.5, Tables 5 and 6).



Figure 26: Information stand during the Kartoffelfest 2014 (BR Administration).



Figure 27: Shelf with regional products in the Biosphere Centre (BR Administration).



Figure 28: Innovative regional products (Agentur Maichle-Schmitt).

Example project 6: Regional brand Albgemacht

In a cooperative marketing strategy, Albgemacht brings together regional agricultural products from producers who have made a binding commitment to production methods that help conserve biological diversity. Fairness and animal welfare are further criteria, and all Albgemacht products must be GMO-free. Both organic and conventional farmers can obtain Albgemacht certification for their products. The criteria are reviewed annually by an external auditor. The brand was set up and operated by farmers, processors and vendors in the region, joining together in November 2017 as association Albgemacht e. V. At present, eight active members operate the brand. The BR Administration supports activities with marketing materials, including a promotional video (www.albgemacht.de). The sale of products began in November 2018.



Figure 29: Assortment of the regional brand Albgemacht (BR Administration).

Demand for regional products (lead project 1, Table 10) experienced a positive trend. This is apparent from the great interest expressed by visitors to regional markets in the BR (Figure 26), and from the regional products sold in shops in the BR (approx. € 44,000 annual

turnover; Figure 27) and by certified partner businesses and information centres. Around 150 regional producers and processing businesses are on the list of regional and nature-conservation friendly BR products (Figure 28). The certified partner businesses pledge to offer regional products in their product range or on their menus. A milestone was reached in 2017 with the establishment of the conservation-friendly brand Albgemacht (example project 6; lead project 3; Table 10).

In the area of **meadow orchards**, the activities of the BR Administration revolve around the preservation and management of the meadow orchards in a way that ensures high-quality nature conservation. This is implemented in projects such as the "valorisation of climate and nature conservation measures in national natural landscapes" (Inwertsetzung von Klima- und Naturschutzmaßnahmen in den nationalen Naturlandschaften, example project 7).

Example project 7: Valorisation of climate and nature conservation measures in national natural landscapes

The planning and implementation of nature conservation measures are financed by the sale of nature conservation certificates to companies (Annex III 7.5, Table 7). Project participants are EUROPARC Germany, Schwäbisches Streuobstparadies e. V. and the BR Administration. The programme of measures drawn up envisages long-term undergrowth management and nature conservation-centred tree cutting. ViO/Coca Cola has pledged funding through EUROPARC Germany. Initial measures were implemented on a 1.2 ha area in autumn 2018.



Figure 30: Demonstration of traditional mowing with a scythe (BR Administration).

The BR also supports the preservation of meadow orchards with funding e.g. for the purchase of fruit processing machines. PLENUM and the BR Support Programme provided € 569,919 in funding for 73 projects in a range of areas which are relevant to meadow orchard conservation (total investment € 1.50 million; 2008-2018; Annex III 7.5, Tables 5 and 6). Six fruit processing businesses are certified partner companies. A state-wide project on four large-scale conservation areas, implemented in cooperation with the certified partner Brennscheuer Strasser, successfully established BIRNOH on the market, an aperitif made from old pear varieties (Figure 31). The BR Administration also actively supported the setting up of the association Schwäbisches Streuobstparadies e. V. in 2012, aimed at promoting the nature conservation-centred development of the region's valuable meadow orchards (Figure 32). The lead projects "establishing of meadow orchard service centres" and "designing logistics for regional products" have not yet been launched due to lack of demand among the stakeholders (Table 10).

The small size of wine growing areas in the BR means that **wine production** plays a less important role. However, efforts were made to make viticulture more nature-friendly, with

renaturing programmes such as the construction of cairns on vine cultivation areas (Figure 33).



Figure 31: Agricultural award 2017 for entrepreneurial innovations for the Birnoh-Team (**L•U•I**).



Figure 32: Founding assembly of the Schwäbische Streuobstparadies e. V. (District of Esslingen).



Figure 33: Several cairns were constructed in the mountainous vineyards of Metzingen in 2018 (Weingärtnergenossenschaft Metzingen-Neuhausen eG).

Activities of the BR Administration in the field of **sheep farming** are aimed at maintaining sheep farms and the number of animals, e.g. by supporting value creation and the regional sale of wool and skin products, mutton and lamb. One important project was the first international sheep farmers' congress which was held in the BR in 2017 (example project 8).

Example project 8: First international sheep farmers' congress

Today, sheep farming is caught between the conflicting priorities of market economy competition and landscape management. In 2017, this prompted the BR Administration to join with Bioland e. V. and the sheep breeders' association Landesschafzuchtverband Baden-Württemberg e. V. to hold the first international sheep farmers' congress in the BR. Around 120 stakeholders attended the three-day event, which had the theme "preserving tradition – shaping the future" (Tradition bewahren – Zukunft gestalten), to share information, discuss current challenges and solutions and generate ideas for moving forward both individually and jointly. The positive feedback has led to a second congress being planned for 2020.



Figure 34: International sheep farmers' congress (BR Administration).

Since 2015 the BR Administration has assisted and supported the interest group Wollwerk, which networks stakeholders in sheep farming, wool and skin processing and highlights BR wool and skin products made in transparent production processes (Figure 35; lead project 5; Table 10). In 2018 the project "Nature conservation-centred structural analysis of sheep farming in the biosphere reserve" (Naturschutzorientierte Strukturanalyse der Schäferei im Biosphärenreservat) was launched (Figure 36). This develops and implements model solutions to the challenges facing the owners and farmers of pasture land which is valuable for nature conservation. A three-year study looked into northern raven attacks on sheep and highlighted possibilities for minimising them (Figure 37). The BR Support Programme and

PLENUM provided € 114,818 in funding for 26 projects with relevance to sheep farming in a range of areas (total investment € 272,595; 2008-2018; Annex III 7.5, Tables 5 and 6).



Figure 35: Stakeholders in the area of sheep farming are networked through the interest group Wollwerk (C. Bischoff).



Figure 36: Discussion of the project „nature conservation-centred structural analysis“ through the working group sheep farming (BR Administration).



Figure 37: Northern ravens and sheep – not always a peaceful coexistence (Veit Hennig).

Outlook: Model projects, support programmes and economic successes in the area of **agriculture and marketing of regional products** reduced negative trends such as intensification of agriculture and farm closures. The proven approaches of the BR will be continued in future.

Table 11: Objectives and status of implementation of lead projects in the area of forestry and hunting.

Lead projects	Objectives of lead projects	Status of implementation					
		Not yet commenced	Commenced	Advanced	Almost completed	Completed	Permanent task
1) Biosphere forest inventory – the basis for making decisions concerning the forest in the BR.	Creating a forest inventory using all forest data on public forests from the federal government, states and municipalities.						
2) Establishing basics and instruments for nature conservation-friendly forestry in the BR: “Guidelines for nature conservation-friendly management in the buffer zone”	Develop a pool of forestry measures for the voluntary implementation of nature conservation measures. This lead project builds upon lead project 1.						
3) Develop, create and market biosphere wood collections.	Develop and market new regional “biosphere wood products” that fulfil nature conservation criteria.						
4 (1): Game (research) sub-project 1: Management concept for game animals with special attention paid to avoidance of damages caused by game animals in the BR.	Investigate the impact of core areas as retreat zones for the spatial and time behaviour of game animals over several years.						
4 (2): Game (research) sub-project 2: Verify and derive measures to make the BR useful as a retreat zone and ecological stepping stone for the formerly endemic species of red deer, lynx and wildcat.	Investigate areas within the BR and the migration corridor and verify the suitability of the BR as a habitat or migration zone for, e.g., the red deer.						

One of the most important projects in the area of **forestry** was the marketing campaign for beech red heartwood (example project 9). The biosphere forestry inventory (lead project 1; Table 11), which is intended to act as the basis for discussions on sustainable and nature conservation-centred forest management (lead project 2; Table 11), will be completed

shortly. The working group on “forests and the biosphere” is especially active in the core areas, undertaking surveys, signposting, visitor management and information services (Figure 39).

Example project 9: Marketing campaign beech red heartwood

The interest group Kerniges Holz e. V. was founded to promote the marketing of coloured heartwood from regional beech, ash and maple. Trees only develop coloured heartwood as they age. Improving the marketing options for coloured heartwood makes it easier for forestry operations to allow trees to mature and hence be more valuable ecologically. The campaign was supplemented with designs for furniture made from coloured heartwood. Today, there are few difficulties in selling coloured heartwood and the interest group was therefore dissolved.



Figure 38: Marketing campaign for beech red heartwood (BR Administration).

The main player for advancing solutions in the area of **hunting** is the local hunting group (Lokale Gruppe Jagd). This group comprises stakeholders from hunting, nature conservation, agriculture and forestry, the municipalities and the BR Administration. When the core areas were established, there were fears that damage to agriculture from wildlife could increase. This was investigated as part of a research project (Figure 40; lead project 4; Table 11). Other activities include the "wild weeks" (Wilde Wochen) organised by the district hunting associations of Reutlingen and Münsingen, various restaurant proprietors and the administrative district of Reutlingen. The goal is to promote the consumption of local game in the autumn season. In the municipality of Pfullingen a sustainable game management plan was drawn up and implemented with assistance from the BR Support Programme. The plan included a new leasing and hunting system. In the areas of forestry and hunting, the BR Support Programme and PLENUM provided funds of € 62,941 for eight projects (total investment € 102,879; 2008-2018; Annex III 7.5, Tables 5 and 6).



Figure 39: Signposting in the core area Mörikefels (BR Administration).

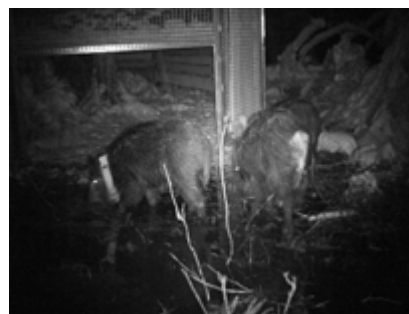


Figure 40: Telemetry and camera traps for game research (Wildforschungsstelle Aulendorf).

Outlook: In the area of **forestry**, measure for sustainable forestry will be developed by 2020 (lead project 2; Table 11). The goal is to use these measures as a basis for further

developing and marketing wood products which meet nature conservation criteria (lead project 3; Table 11).

5.5 Effectiveness of applied actions and strategies

A public survey indicated that over the past years some of the population have made a conscious move towards sustainable development in aspects of their daily life (von Lindern & Knoth 2019): Of those questioned, 18.3% stated that they buy more regional and seasonal foods, and 16.7% stated that they make greater efforts to lower their energy consumption. In the survey, respondents assessed the areas of action of the BR by stating to what extent they agreed with the statements in Table 12:

Table 12: Assessment of the areas of action by residents of the biosphere reserve (Annex III 7.2.2, Figure 3; von Lindern & Knoth 2019)

Statement	Agree ¹	Dis-agree ²
The biosphere reserve...		
"improves the region's image"	78%	4%
"promotes the marketing of regional products"	72%	19%
"boosts the hotel and gastronomy sector"	66%	9%
"promotes sustainable tourism and gastronomy"	62%	11%
"promotes sustainable municipal development, planning and transport (e.g. public transport)"	25%	43%
"promotes sustainable agriculture and forestry"	50%	18%

¹ The value represents the sum of the assessment categories "yes I agree" and "I tend to agree" (Annex III 7.2.2, Figure 3)

² The value represents the sum of the assessment categories "I tend to disagree" and "No I disagree" (Annex III 7.2.2, Figure 3)

Infobox 3: Most sustainable tourism destination award 2016/17

The BR was the winner of the national competition "Sustainable Tourism Destination" for 2016/17. This award from the Federal Environment Ministry confirms the effectiveness of the many years of work by the BR to advance sustainable tourism.



Figure 41: Handing over the certificate for the most sustainable tourism destination (BR Administration).

The experts questioned judged that, as a model region for sustainable development, the BR performs its function *well* in the areas of tourism and agriculture, and *moderately well* in the areas of mobility and forestry (Annex III 7.2.1, Figure 1). In addition, the experts judged

that compared to the surrounding region, the BR is *much more sustainable* in tourism, *significantly more sustainable* in agriculture and *somewhat more sustainable* in mobility and forestry (Annex III 7.2.1, Figure 2).

Achievements in the area of sustainable tourism are highlighted by Job et al. (unpublished): 15% of visitors (1.1 million persons) choose the region because of the BR. These BR tourists are characterised by higher spending and more overnight stays than other visitors. In all, BR tourism creates value of € 16 million in the region. This corresponds to 534 full-time income equivalents. The BR's success in the tourism sector was underscored by the federal award for the most sustainable tourism destination 2016/17 (Infobox 3).

5.6 Community economic development initiatives

Table 13: Objectives and status of implementation of lead projects in the area of municipal development, planning and transport.

Lead projects	Objectives	Status of implementation					
		Not yet commenced	Commenced	Advanced	Almost completed	Completed	Permanent task
1) "Mom and pop's kids": biosphere service and supply centres.	Revival and establishment of decentralized food supply and service offerings in municipal districts. This lead project was initiated through the establishment of regional shelves for assortments of regional products at info centres and vending machines (see point 5.4).						
2) Mobile in the BR (accessibility and networking)	Improve the structure and services of public transportation systems, bicycle traffic and the development and implementation of electro-mobility options (Pedelec and e-mobility), e.g., charging stations (see point 5.2).						
3) Network sustainable biosphere communes	Reduce surface sealing - better than the state average.						

In the area of **municipal development** groundwork was laid through programmes to support sustainable regional development. Of particular note are the BR Support Programme and PLENUM, which ended in 2013 (Infobox 1, p. 11; Annex III 7.5, Tables 5 and 6). LEADER primarily supports projects relating to the social dimension of sustainability, including village development, daily mobility, start-up businesses and cultural and social initiatives. In all, LEADER supported 17 projects in the BR with funding of € 1.45 million (2016-2018; Annex III 7.6, Table 9). LEADER is the main executing agency of lead project 1 (Table 13), which is also implemented directly via the product ranges of partner retail businesses (cf. 5.4). Mobility (lead project 2; Table 13) is covered in Section 5.2. The districts and municipalities are in charge of lead project 3 (Table 13).

The tourism infrastructure programme supported nine projects in the BR with € 3.40 million (2008-2018; Annex III 7.6, Table 11). Projects in the BR are prioritised for support under the Baden-Württemberg programme for rural development.

The survey of municipal initiatives relating to the areas of action of the BR produced 317 initiatives, with the city of Münsingen topping the list with projects in all areas of action. In addition, the municipalities contribute to sustainable development in the region by applying for funding from the above support programmes. In the reporting period, municipalities received an average funding of € 85,007 per year from the BR Support Programme and PLENUM. Municipal infrastructures further benefited from tourism (village shops, leisure facilities and restaurants).

5.7 Other economic initiatives aimed at sustainability

The broadest option for companies to cooperate with the BR is the Partner Initiative (example project 1, p.12; cf. Lima Action Plan A1.5). Another possibility is to carry out joint projects. A core component of this form of cooperation is the project's added value for nature conservation and sustainability. In return, the companies benefit from advertising and consultation services, and the use of the BR logo. The first project of this type was the "Bienenstrom" (bee power) project (example project 10).

Example project 10: Bienenstrom (bee power)

Bienenstrom, a joint project between the utility Stadtwerke Nürtingen GmbH and the BR, was launched in 2018 and is now marketed nationwide (www.bienenstrom.de). The aim, in line with the MAB National Committee's position paper (2012), is to replace maize fields and other intensively cultivated biomass crops with multi-annual blossoming energy plants for use in biogas installations for electricity generation. The Bienenstrom is the first electricity product that combines the generation of environmentally friendly electricity with funding for species-rich flowering meadows. Each kilowatt hour of Bienenstrom sold contributes 1 cent to support flowering plants on the participating farms. This compensates for some of the higher cultivation costs and/or reduction in yields compared to those of the energy crop maize. In 2018, 14 ha were supported under this project.



Figure 42: Plot of the Bienenstrom project (BR Administration).

Another cooperation option are donations to the biosphere association Verein Biosphärengebiet Schwäbische Alb e.V. A guideline for action which describes all cooperation options for businesses was compiled.

5.8 Main changes in terms of cultural and other values

The BR has a very valuable historical and cultural heritage, both material and intangible (cf. 2.3.5 – 2.3.7).

5.9 Community support facilities and services (professional training, health and social services and social justice)

ESD activities are aimed at motivating young people to consider "green jobs" and to raise their awareness of sustainability issues in daily life, for instance as regards consumption and social justice (cf. 6.4). With consultations and facilitation, the BR Administration gives solid support to local community initiatives. Consultations on funding open up ways to implement these initiatives, and help to network the stakeholders and get them involved in the development of the BR. Health and social issues are addressed, for example, in model projects by the district of Reutlingen such as the inclusion conference, which aims to implement the UN Convention on the Rights of Persons with Disabilities at municipal level, and the municipal health conference, which focuses on improving health care in rural areas.

5.10 Indicators to assess the effectiveness of measures

See 1, 5.2, 5.4 and 5.5.

5.11 Factors that influenced the success of development efforts

The success of projects and measures is primarily due to the factors set out in Infobox 4 (Runst & Stoll-Kleemann 2018). Negative influences result from the sometimes high bureaucratic requirements, which complicate the implementation of measures.

Infobox 4: Factors for success in the BR (Runst & Stoll-Kleemann 2018):

- Availability of well-developed participatory options and decision-making opportunities for stakeholders in the form of the steering group, BR association, working groups, networks and surveys.
- Availability of adequate funding.
- Implementation of practical model projects which provide solutions to stakeholders' problems and deliver high-quality results: Success in solving problems fosters enthusiasm and generates momentum for further projects.
- The setting up of the BR's own support programme to fund sustainable model projects.
- The high level of organisation in the BR Administration, with motivated and competent staff.
- Many dedicated stakeholders who contribute to meeting the objectives of the BR with creative and innovative ideas.
- The nature conservation-oriented and sustainable regional development approach, which successfully combines environmental, economic and social interests.



Figure 43: Member assembly of the BR association Verein Biosphärengebiet Schwäbische Alb 2017 (BR Administration).

- The voluntary basis for participation in the BR and its projects.
- The previous work by the PLENUM and Regionen Aktiv programmes which pursued similar goals and built up networks and trust in the region.
- The role of the BR as a platform for networking stakeholder groups.
- The excellent and close cooperation with the state of Baden-Württemberg, districts, municipalities and other stakeholders.
- The effective participation of the districts and municipalities, which pay a financial contribution and have a say in developments.
- The close interlinking of urban and rural areas. The BR benefits both from being an accessible destination for day trippers, and from the availability of markets for its regional products.
- The location of the BR Administration in Münsingen, which makes it accessible for all stakeholders.

6. The logistic function



Junior rangers discover the biosphere reserve (Photo: BR Administration)

6.1 Institutions conducting research or monitoring in the biosphere reserve

The BR Administration works closely with a range of universities and research institutes. The main partners are presented in Annex III 7.7 (cf. Lima Action Plan A4.1). The most important cooperation on fundamental research involves the Biodiversity Exploratories¹⁵ (Figure 45). Since 2017 there has been close collaboration in research and monitoring with the Black Forest National Park and the Black Forest Biosphere Reserve.

6.2 Research and monitoring themes

The main goal in the area of **research and monitoring** is to carry out and coordinate applied research and environment observation in the context of local, regional, national and global aspects of conservation and sustainable development. From 2009 to 2018, the BR Administration oversaw the work of 42 research and monitoring projects, and provided € 647,346 in support (Annex III 7.5, Table 8; cf. Lima Action Plan A4.3). Core area monitoring accounted for just over half of these funds (€ 341,860; Annex III 7.5, Table 8).

Example project 11: Core area monitoring

In 2016, 200 plots were laid out in the core areas and adjacent forests to study the development of forest structures, vascular plants, mosses, fungi, beetles and gastropods. In 2017, the avifauna was surveyed in nine core areas and three reference sites in the managed forest. Core area monitoring is coordinated with the environment observation programmes and strategies of Baden-Württemberg, the Federal Government and the European Union.

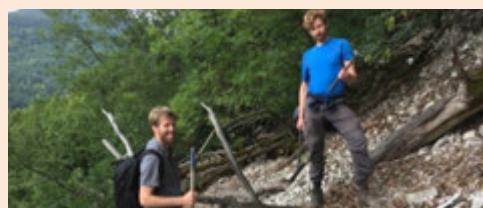


Figure 44: Demarcation of core area monitoring plots (BR Administration).

Another focus, with 24 projects (€ 146,803), is on species protection. Examples include the consultation and restoration project for hay meadows protected under the Habitats Directive, the management and monitoring of the clouded apollo butterfly (*parnassius mnemosyne*) and the voluntary monitoring of raptor nesting trees under a citizen science project. In 2015, a biosphere-wide survey of biotopes and land use derived from remote sensing data was published as a basis for landscape monitoring (Schlager et al. 2015). In addition, numerous interdisciplinary and transdisciplinary research projects were overseen, including studies on ecosystem services (Reidl et al. 2017), wild boars and ravens (cf. 5.4). Other projects studied historical and cultural aspects of the cultivated landscapes and castles in the BR (cf. 2.3.5).

Since 2017, sociological monitoring has been gaining importance. Studies include an initial survey of the regional economic effects of tourism in the BR (Figure 46; Job et al.,

¹⁵ Joint project on functional biodiversity research with study sites in the Schorfheide-Chorin Biosphere Reserve, the Hainich National Park and the Swabian Alb Biosphere Reserve.

unpublished), as well as the public surveys and stakeholder interviews conducted as part of the UNESCO periodic review (Figure 47). The intention is to repeat these surveys at 10-year intervals. The BR also takes part in integrated monitoring of large-scale protected areas in Germany. Since 2009, a total of 43 student theses covering all areas of research have been produced in cooperation with the BR Administration.



Figure 45: Ecologic research in the Biodiversity Exploratories (Hailer).



Figure 46: Districts, municipalities and tourism experts discuss the results of the survey of the regional economic effects of tourism (BR Administration).



Figure 47: Intern and a participant of the voluntary ecological year help coping with the high number of questionnaires from the population survey (BR Administration).

6.3 Collection and dissemination of knowledge from management practice

Experiences and findings from practice, including best-practice examples, are communicated in the form of final project reports, press releases, presentations and workshops. The data collected are made available free of charge on request after a project has been concluded. Moreover, the BR Administration organises the multi-day, interdisciplinary Alb Symposium series of conferences (cf. 2.3.7). Research results inform exhibitions and ESD programmes. Materials on the BR are made available on the state educational server. Since September 2018, the findings of the study on the regional economic effects of tourism in the BR (Job et al., unpublished) have been used in upper secondary level geography lessons.

6.4 Education for Sustainable Development

The area of **ESD** aims to raise awareness of the links between nature and environment, economic practices, social and cultural issues and our daily thinking and actions (MAB National Committee 2014). Regional and global challenges are critically examined. In line with this, during the reporting period existing activities were upgraded and new activities devised (cf. Lima Action Plan A4.2). In 2010 the Biosphere Reserve Centre opened as the main information centre (example project 12). Further 18 local information centres are situated at popular tourist spots (Annex III, 7.8, Table 13, Figure 7).

Table 14: Objectives and status of implementation of lead projects in the area of Education for Sustainable Development.

Lead projects	Objectives	Status of implementation					
		Not yet commenced	Commenced	Advanced	Almost completed	Completed	Permanent task
1) Network stakeholders and offerings related to the main topics – using the example of cultural techniques for (independently) supplying food products	Create stronger networks between stakeholders from the environmental education network and the ESD working group with key cooperation partners, amongst others with the main topic of “cultural techniques for (independently) supplying food products” .						
2) Biosphere academy	Create a virtual academy that progressively presents the existing ESD offers.						
3) Swabian Alb educational portal – the access point to ESD offers and informational material in the BR.	Set up an educational portal on the Internet that presents the ESD topics, offers and actors in a bundled manner.						

Example project 12: Biosphere Centre and local information centres

The Biosphere Centre's main exhibition and the temporary exhibitions (27 to date) are visited by around 20,000 people each year. The local information centres average 588,000 visitors. The Biosphere Centre has developed into an ESD competence centre and also serves as an information centre for the UNESCO Swabian Alb Geopark. Of the 18 local



Figure 48: Biosphere Centre (left) and the nature conservation centre Schopflocher Alb (right), as example for a local information centre (BR Administration).

information centres, six were completely new. The remaining 12 were existing facilities which were enhanced with additional exhibits and staff training. Each information centre addresses specific topics, which highlight the links between individual local attractions and the objectives of the BR. The Biosphere Centre and the local information centres were funded with around € 1 million from the foundation Baden-Württemberg Stiftung and € 91,946 by the BR Support Programme and PLENUM.

Cooperation and networking between school-based and extra-curricular education partners are a focus of all ESD activities and primarily coordinated by the working group on ESD (lead project 1; Table 14). A first step towards establishing a biosphere academy (lead project 2; Table 14) was the 2017 summer academy, organised by Nürtingen-Geislingen University and BUND Youth. In this programme, pupils and students were introduced to challenges and solutions in the BR through excursions, presentations and experiencing nature at first hand. The former "nature achievement badge" (Leistungsabzeichen Natur) was transferred to the Junior Ranger programme (Figure 49), in which 3,500 children participate each year. The BR Administration offers an average of 45 educational events each year (presentations, excursions and courses), which attract around 1,200 participants. On average, 35 school classes a year participate in the diverse education programme.

At present, the BR is participating at state and federal level in drawing up certification criteria for biosphere schools, i.e. schools which integrate ESD and the BR objectives into their curricula and regular school day. Seven pilot schools have been gaining experiences with the concept since September 2018 (Figure 50).

Ninety nature and landscape guides were trained as biosphere ambassadors, 36 are currently certified under the Partner Initiative. In addition, cooperation has been established with three extra-curricular education partners. ESD activities are supplemented by the NABU biosphere mobile, which attends around 40 events at markets, fairs and schools each year.



Figure 49: Junior-Rangers experience the BR (Koch).



Figure 50: Excursion with schoolchildren (BR Administration).



Figure 51: Project example „Churches in the biosphere reserve“ (Baumann).

Many higher education institutions organise excursions to the BR. The BR Administration furthermore works closely with the 10 adult education centres (Volkshochschulen) in the BR. The BR Support Programme and PLENUM provide funding of € 362,916 for ESD activities in 47 projects (2008-2018; total investment € 615,748; Annexes III 7.5, Tables 5 and 6). Examples include the project "churches in the biosphere reserve – spaces for people and nature to develop" (Kirchen im Biosphärengebiet – Entwicklungsräume für Mensch und Natur) which is run in cooperation with nature association NABU-Landesverband Baden-Württemberg and the Protestant district church. The project supports church congregations in measures for conserving biodiversity and promoting nature experiences (Figure 51).

6.5 Effectiveness of actions and strategies

The participant and visitor figures given in 6.4 show that the ESD activities are very well-received and in high demand. For instance, the concept of the Alb Guides (group within the biosphere ambassadors) has been taken up by several initiatives across Baden-Württemberg (e.g. Black Forest Guides, Schönbuch Guides). 47% of the population agreed with the statement that the BR "expands public knowledge of nature and environmental issues". 15% disagreed with the statement (Annex III 7.2.2, Figure 3; von Lindern & Knoth 2019).

6.5.1 Internal and external communication

Table 15: Objectives and status of implementation of lead projects in the area of marketing and public relations.

Lead project	Objectives	Status of implementation					
		Not yet commenced	Commenced	Advanced	Almost completed	Completed	Permanent task
1) Collectively and professionally market and promote the BR internally and externally	Create and apply a communication and marketing strategy focusing on the areas of the Partner Initiative, tourism, regional products and the Biosphere Centre.						

The area of **marketing and public relations** is described in a communication and marketing strategy (lead project 1; Table 15) which includes a communication plan specifying target groups and media (cf. 2.3.3). Networks, working groups and events in which the BR Administration plays an active role are important for external communication in the region. Each year, the BR Administration organises a major series of events – the Biosphere Week (example project 13). The BR is also showcased on around ten information stands at events and one to two trade fairs each year (Figure 53). Flyers and brochures with a print run of approximately 120,000 are distributed, and around 60 press releases and 20 short statements for local newsletters are published each year. Every year, seven to ten invitations to events are sent to the press, radio and television media and two to three tours are organised for media representatives in the BR. The BR Administration commissioned several commercials, e.g. for the conservation-friendly regional brand Albgemacht. The spot for the Partner Initiative won the fourth place in the category "promotional film by business" at the German Industrial Film Awards (Figure 54). In addition to the measures carried out by the BR Administration, many other stakeholders (e.g. participants in the Partner Initiative) represent the BR at events, trade fairs and meetings. Over the years, the UNESCO designation has enabled the BR to become a strong brand with a high level of recognition, and this has been successfully exploited in marketing strategies (Runst & Stoll-Kleemann 2018).

Example project 13: Biosphere Week

The yearly Biosphere Week aims to bring the BR closer to people and make it a hands-on experience. The Biosphere Week consists of around 70 events including markets and festivals, food fairs, tours, cultural activities, sport and presentations. It involves numerous external stakeholders throughout the BR.

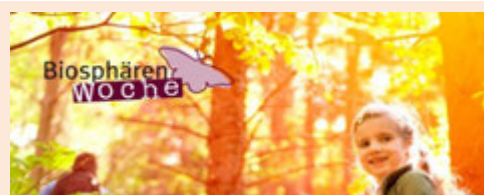


Figure 52: Poster for the eighth Biosphere Week 2018 (BR Administration).

The BR Support Programme and PLENUM funded 18 marketing and public relations projects with € 135,405 (2008-2018; total investment € 344,807; Annex III 7.5, Tables 5 and 6). Membership of the National Natural Landscapes is communicated by the corporate design which is used on all printed materials, online products, signage (Figure 55) and nature trails. 55% of the population gave their level of satisfaction with the information provided on the BR as *very good* or *rather good*, 10% found it *rather bad* and 2% *very bad* (Annex III 7.2.2, Figure 5; von Lindern & Knoth 2019).



Figure 53: Joint information stand with the Biosphere Reserve Black Forest on the CMT fair 2018 (BR Administration).



Figure 54: Frozen image of the advertising spot of the Partner Initiative (BR Administration).



Figure 55: Sign of the visitor guidance concept (BR Administration).

Communication within the BR Administration is intensive, taking place in individual conversations and regular staff meetings.

Communication with authorities, districts, municipalities and other stakeholders is carried out in particular by the bodies of the BR (steering group, association, working groups and partner networks). In these meetings there are continuous updates and discussions concerning developments in the BR.

6.5.2 Biosphere reserve website

The website <http://www.biosphaerengebiet-alb.de> has around 55,000 visitors each year. The contact details of the BR Administration staff can be found on the website.

6.5.3 Newsletter

A quarterly newsletter is sent to around 1,150 subscribers (as at May 2018) and posted on the website.

6.5.4 Social media

The BR's Facebook profile at <https://www.facebook.com/Biosphaerengebiet> has 3,978 followers (as at June 2019). The number of users varies depending on the theme (the Albgemacht promotional video had over 20,000 hits).

6.5.5 Other internal communication systems

A centralised storage system for files, contact data and meeting minutes, and a joint calendar optimise the efficiency of the BR Administration.

6.6 Contribution to the World Network of Biosphere Reserves

6.6.1 Collaboration with existing biosphere reserves

A strategic decision was made to focus on the region itself for the first decade, but there is some cooperation at international level. One example is the population survey conducted for the UNESCO review. This was designed and carried out together with three biosphere reserves in Austria and two each in Switzerland and Germany. In 2011, EUROPARC held an international conference in the BR. Many delegations visited the BR, for instance from Mongolia, South Korea and Sweden.

At national level, cooperation has been fostered with other BRs and national parks, e.g. participation in the permanent working group of German biosphere reserves, and involvement in the bodies and working groups of EUROPARC Deutschland e. V. A EUROPARC project is being implemented together with the Rhön and Thuringian Forest biosphere reserves (example project 7, p. 31). There is intensive cross-cutting exchange with the Black Forest Biosphere Reserve and the Berchtesgaden Biosphere Region.

6.6.2 Benefits of international cooperation for the biosphere reserve

In many fields the regional and global challenges are the same, for instance biodiversity loss, climate change, the wealth gap, mobility and inclusion. The range of solutions to the global and local challenges is increased through international cooperation, and in this way the BR meets its responsibilities in the WNBR.

6.6.3 Future contributions to the WNBR and to the Regional and Thematic Networks

Strengthening international cooperation is a strategic goal agreed on by the steering group for the next seven years. The plan is to become more active internationally, primarily through projects in areas of action addressing common challenges, and to build international partnerships in the WNBR with biosphere reserves in other countries.

6.7 Factors that have influenced measures (positively or negatively)

Factors that have positively influenced measures in the area of **research and monitoring** are the good contacts and in-depth regional knowledge of the BR Administration and its bridge-building efforts between researchers and stakeholders. It is important for the regional

stakeholders that research projects specifically address regional challenges of social interest and communicate the final results in a comprehensible form.

In the area of **ESD** the following factors had a positive impact: ESD activities are based on an innovative concept and are relevant to the lives of the participants. One factor for their success is the fact that the BR Administration ESD team acts as coordinator, multiplier and developer. Involving external experts has also proven successful. Care is moreover taken to minimise the effort and costs for participants, in order to make ESD activities as accessible as possible. Negative impacts on the ESD activities arise from the poor public transport links to the Biosphere Centre and the fact that many people are unwilling to spend a lot of money on educational offers. This means that the income of extra-curricular education partners is generally low, prompting many to decide against the self-employment route. For this reason, the number of people working in education programmes is not as high as could be wished.

In the area of **marketing and public relations** the excellent networking with districts, cities and municipalities in the biosphere and with all cooperation partners is a significant factor for success. Many stakeholders are involved in representing the BR, and this greatly increases the reach of all the various measures. Examples are the distribution of flyers at trade fairs and announcements of events in newsletters.

Outlook: In the area of **research and monitoring** the goal is to intensify cooperation with research institutes. A research framework plan is to be drawn up by 2020. Further research will be carried out, with a focus on applied, cross-disciplinary and inter-disciplinary research and monitoring projects geared to the challenges of the BR and its stakeholders. Linking model projects more closely to systematic accompanying research is also planned, as a means of documenting the challenges and impacts of projects and making the data available to other regions.

In the area of **ESD** the aim is to make more funds available in order to enhance the BR activities with external speakers and educational partners. An ESD strategy for the BR and the creation of an education portal (lead project 3, Table 14) are also planned. In addition, BR schools will be established, building on a 2018 concept. This will anchor ESD more firmly in interested institutions. An education centre for schools will be set up opposite the Biosphere Centre.

In the area of **marketing and public relations** the goal is to further raise the BR's profile at local level, and to make greater use of social and digital media. A staff position was filled for this purpose in 2018.

7. Governance, biosphere reserve management and coordination

7.1 Technical and logistical resources

Important technical and logistical resources of the BR Administration are fast internet connections, offices and conference rooms equipped with modern technology (laptops, projectors etc.), staff access to official vehicles and teleworking options.

7.2 Overall framework for governance

The governance structures are defined in the Biosphere Reserve Ordinance of the Ministry for Food and Rural Regions (2008) and in the Agreement between the state of Baden-Württemberg, the 29 municipalities and towns and the three administrative districts (cf. 2.3).

7.3 Support for indigenous/local rights and cultural initiatives

Not relevant.

7.4 Main conflicts and solutions in relation to the biosphere reserve

Conflicts within the BR are similar to those outside the BR. They generally concern conflicting aims of (sustainable) land development and the conservation of nature and landscape. Examples are extremely intensive farming practices, the expansion of wind energy and rock face stabilisation along roads.

Acceptance of the BR is very high: the population survey found that if a vote on the issue took place on the following Sunday, 70% would definitely support the continued existence of the BR (von Lindern & Knoth 2019), 16% would agree to it under one condition and only 2% would definitely vote against its continued existence (the remainder would abstain). The main criticisms were "too many individual vehicles", "too many bans on trail use" and "too much noise from motor cycles".

The BR Administration considers it to be one of its tasks to address the criticisms with model projects and measures in collaboration with the competent players.

7.4.1 Main conflicts relating to access to or use of resources in the area

None known.

7.4.2 Conflicts between the different administrative authorities

Conflicts between the BR Administration, the administrative authorities and the specialist authorities do not generally go beyond some differences in prioritisation among the various specialist areas. The BR Administration feels that some administrative authorities could be more active in supporting the BR's objectives. However, decision-making processes are increasingly pursued with a view to the goals of the BR.

7.4.3 Means used to resolve these conflicts

The BR Administration endeavours to resolve conflicts at an early stage through talks with the authorities and parties affected (cf. 5.11). A balanced participation of authorities and key stakeholders in the bodies and working groups, and in the drawing up of the framework concept, also helps to anchor the objectives of the BR in the region. Where conflict continues despite these approaches, competences are clarified and common ground established to bring the disputing parties together.

7.5 Representation of local communities and their participation in the daily life of the biosphere reserve

7.5.1 Type of representation of local people in planning and management

Extensive and balanced participation of locals and stakeholders is a key consideration in the planning of projects and measures in the BR. Elected representatives of the local communities participate in the steering group, the BR association Verein Biosphärengebiet Schwäbische Alb e. V. and in the working groups (cf. 2.3.4; Annex III 7.3). All interested individuals may join the Verein Biosphärengebiet Schwäbische Alb e. V. and the working groups.

The stakeholder interviews revealed a very high level of satisfaction with the participation opportunities (Runst & Stoll-Kleemann 2018). Surveys of the BR population, on the other hand, found opinions on the opportunities for involvement in the BR to be divided equally, with 49% acceptance and 51% rejection (Annex III 7.2.2, Figure 5). This may be due to the fact that the possibilities for involvement which are taken up are often not associated with the BR, and that the direct options for participation are too little known (e.g. involvement in an environmental or nature conservation association; Annex III 7.2.2, Figure 5).

The level of recognition of the BR among the population is very high (91%; von Lindern & Knoth 2019). Furthermore, only 19% of the public state that they know little or nothing about the tasks of the BR.

7.5.2 What form does the representation take? Associations, environmental groups?

See 2.3.4, 7.5.1 and Annex III 7.3.

7.5.3 Procedures for integrating local bodies

The composition of the management board and the advisory board of the association Biosphärengebiet Schwäbische Alb e.V, and of the steering group is in line with their charters (cf. 2.3, Annex III 3).

7.5.4 Continuity of the consultation mechanism

The local communities are involved both in specific projects, e.g. the drawing up of the framework concept and this periodic review, and on an ongoing basis through the steering group, BR association, working groups, networks and projects.

7.5.5 Impacts of the consultations on the decision-making process

In the steering group, management board and advisory board, decisions are taken democratically or in consensus. The BR Administration sees its role as providing a service to the public. The expectations and opinions of the local communities are taken up and implemented in the lead projects identified in the framework concept.

7.5.6 At which stage in the existence of the biosphere reserve was the population involved?

The participatory process for drawing up the framework concept meant that the population was involved very early in the strategic planning of the BR. The framework concept was compiled with the extensive participation of the population, authorities, districts, municipalities, associations and societies. Three competitions were organised for different target groups. An internet discussion platform, two stakeholder events and five themed events facilitated dialogue between the interest groups. Contributions on the main themes, goals and lead projects were gathered in nine working groups. The inclusion of the population in the current periodic review is described in Section 1.5.

7.6 Current details of management and coordination structure

7.6.1 Administrative authorities that have competence for the zones of the biosphere reserve

The competences of the administrative authorities do not follow the zonation, but operate in line with the divisions of the regional administrative bodies. There were no changes in their competences.

7.6.2 Management of the biosphere reserve including designation procedures

Under the agreement between the state, districts and municipalities, the chair of the steering group is the regional commissioner of Tübingen (Klaus Tappeser). The Reutlingen district commissioner (Thomas Reumann) was elected chair of the BR association Verein Biosphärengebiet Schwäbische Alb e. V. Like all its staff, the head of the BR Administration (Achim Nagel) was appointed by the Regional Commissioner's Office after a public, nationwide tender. The districts and municipalities are represented and eligible to vote in the appointment procedure for the head of the BR Administration.

7.6.3 Changes with regard to the coordination structure of the biosphere reserve

There were no changes in the coordination structure of the BR.

7.6.4 Adaptation of management /coordination of the biosphere reserve to the local situation

The various regional interests are taken into account in coordination processes by the equal representation of the regional administrative bodies in the steering group, the advisory board and the management board of the BR association, and by the fact that the representatives of the three dimensions of sustainability also play a part in decision-making (Annex III 7.3). The head of the BR Administration is represented in the bodies.

7.6.5 Evaluation of the effectiveness of management/coordination

In the evaluation workshop, the BR Administration assessed the management effectiveness as *solid* (Annex III 7.2.3)¹⁶. In certain areas effectiveness could be further increased, e.g. through additional staff and further measures focussing on mobility and social issues (Runst & Stoll-Kleemann 2018).

7.7 Update on the framework plan

7.7.1 Changes in the involvement of stakeholder groups with regard to the framework concept

The framework concept was elaborated between 2010 and 2012 and applies until 2022. In a few isolated cases, new findings obtained during project implementation have led to minor

¹⁶ On a scale of 0 to 1 the biosphere reserve was put at 0.72. This is higher than the average management effectiveness in conservation areas worldwide (0.53; n=4,151), in Europe (0.57; n= 794) and in Germany (0.69; n=4).

changes in approaches and objectives (cf. 7.7.5). The framework concept will be updated in 2022.

7.7.2 Content, binding nature and basis for decision-making of the framework concept

The framework concept identifies the challenges, main themes, objectives and 28 lead projects for the BR and classifies them in 12 areas of action (cf. previous sections). The lead projects act as a planning basis for activities of the BR Administration. The framework concept is not legally binding, but it was developed in a comprehensive participatory process and adopted in consensus.

7.7.3 Role of the authorities in charge of implementation of the framework concept

The BR Administration implements the framework concept with the relevant parties by initiating and coordinating strategies, measures and projects. Various authorities and institutions support the implementation.

7.7.4 How the framework concept addresses the objectives of the biosphere reserve

The framework concept builds on the goals of the 2008 application for designation, fleshes them out and tailors them to the regional situation. Alongside the framework concept, the coming years will place greater focus on social sustainability.

7.7.5 Progress with regard to the guidelines of the framework concept

See 1 g) and the sections relating to the areas of action.

7.7.6 Factors influencing the implementation of the framework concept

For some areas of action, the gradual development and initial lack of staff proved to be obstacles to the implementation of the framework concept, both for the BR Administration and the participating authorities. Long authorisation processes, a partial lack of players and the coordination requirements at political level have prevented the implementation of some lead projects. Positive factors were the funding options through the BR Support Programme and access to financial resources from foundations and other support schemes. Good political and public support and the successful work of the bodies of the BR have been very positive for implementing the goals of the framework concept.

7.7.7 Integration of the biosphere reserve in regional and national strategies

See 2.4.1.

8. Criteria and progress made

1. "Encompass a mosaic of ecological systems representative of major **biogeographic region(s), including a gradation of human interventions [...]**"

The areas of the representative ecosystems were largely maintained (cf. 2.1). Some habitats were ecologically upgraded by model projects. This will be continued in future in line with the guiding principle of nature conservation-oriented and sustainable regional development (cf. 4.2. and 5.4).

2. "Be of significance for biological diversity conservation"

Measures to conserve endangered species in the diverse habitat types of the structurally rich cultivated landscape will be continued in future (cf. 4.1 and 4.2).

3. "Provide an opportunity to explore and demonstrate approaches to sustainable development on a regional scale."

With the successful implementation of the lead projects of the framework concept, the projects of the BR Support Programme and research projects, the BR is "...without doubt a success story and – unlike other areas – can certainly be seen as a model region for sustainable development" (Runst & Stoll-Kleemann 2018).

4. "Have an appropriate size to serve the three functions of biosphere reserves"

The size of the BR is sufficient to serve these functions.

5. "Have appropriate zonation to serve the three functions."

The zonation allows all functions to be served (cf. 2.4.8).

6. "Organisational arrangements should be provided for the involvement and participation of a suitable range of ...[interest groups]...in the design and the carrying out of the functions of the biosphere reserve."

Long-term participation opportunities relating to specific projects were and will continue to be strongly supported in order to ensure broad involvement of interest groups (cf. 7.5; Runst & Stoll-Kleemann 2018).

7. Mechanisms of implementation

a) Mechanisms to manage human use and activities

- Regulatory steering mechanisms such as nature conservation legislation and the Biosphere Reserve Ordinance.
- Incentive-based steering mechanisms, such as the BR Support Programme, PLENUM, and the state of Baden-Württemberg agri-environmental programme.
- Cooperative, persuasive steering mechanisms, e.g. public relations work and marketing, consultation services, project-based nature conservation and regional development.
- Integrated steering mechanisms, e.g. the framework concept

b) Management strategy or plan:

A framework concept entered into force in 2012 (cf. 7.7).

c) Authority or mechanism to implement the framework concept:

The BR Administration implements the framework concept together with the competent players (cf. 2.3).

d) Programmes for research, monitoring, education and training:

The BR Administration implements relevant programmes (cf. 6.2 and 6.4).

Cooperative activities with other biosphere reserves

At national level:

Cooperation takes place in projects and under the auspices of national bodies (cf. 6.6.1).

At regional level:

Most cooperative activities are carried out with the nearest BRs (cf. 6.6.1).

Twinning and /or transboundary biosphere reserves:

To date, cooperation has primarily been project-based (cf. 6.6.1). The BR is aiming to establish an international partnership.

Within the World Network:

To date, the focus has been on mutual exchange and project-related cooperation (e.g. population survey; cf. 6.6.1). International cooperation will be built up in the coming years.

Obstacles encountered, measures to be taken and, if appropriate, assistance expected from the Secretariat:

None.

Main objectives of the biosphere reserve

The main objectives of the BR are to harmonise nature conservation with economic and social development in the region, and to serve as a model region for sustainable development.

9. Supporting documents

- Updated location and zonation map with coordinates
- Updated vegetation map or land cover map
- Updated list of legal documents
- Updated list of land use and management / cooperation plans
- Updated species list
- Updated list of main bibliographic references
- Further supporting documents

10. Addresses

10.1 Contact address of the biosphere reserve:

Name: Geschäftsstelle Biosphärengebiet Schwäbische Alb
(Biosphere Reserve Administration)

Street: Biosphärenallee 2 - 4

City & post code: 72525 Münsingen-Auingen

Country: Germany

Telephone: +49 (0) 7381 932938-0

E-mail: achim.nagel@rpt.bwl.de

Website: <http://biosphaerengebiet-alb.de>

10.2. Administering entity of the core area(s):

There is only one administering entity (BR Administration) for all areas/zones. See contact address of the BR.

10.3 Administering entity of the buffer zone(s):

See contact address of the BR.

10.4. Administering entity of the transition area(s):

See contact address of the BR.

Outlook

Overall, the BR is on a very good track. Tried and tested approaches and measures will be continued in future in all areas of action, in order to meet the goals defined in the framework concept. In addition, the following strategic goals were laid down for the coming years:

- The sense of "us" among all stakeholders will be reinforced and cooperation among all stakeholders further optimised, with improved structures and less bureaucracy.
- The biosphere reserve's communication with target groups will be further improved.
- All parties involved will live the idea of sustainability even more directly, and will fulfil a model function.
- The BR Administration will be strengthened, e.g. with additional ranger positions and by securing the posts for the Partner Initiative and research and monitoring.
- Collaborations with stakeholders will be further intensified, including more cooperation with social service providers, schools, churches and sports clubs. The BR shall become a household name throughout the local communities.
- Cooperation with companies will be further expanded.
- The social dimension of sustainability will be given greater consideration in all areas of action.
- International cooperation will be intensified.
- The area of the BR will be enlarged, and the quality of the core areas and their protection through buffer zones improved.
- Opportunities for larger-scale biodiversity conservation projects will be sought.

Among stakeholders and citizens there is already a very marked sense of identification with the BR and commitment to its values. In their daily lives, people are increasingly aware of the sustainability goals and the relevance of local action for global challenges. Over the coming years, the BR will build on this positive and pioneering mood, working with everyone concerned to advance sustainable development in all economic areas and every aspect of life.

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Annex I: MABnet Directory of the Biosphere Reserves

Administrative details

Country:	Federal Republic of Germany
Name of biosphere reserve:	UNESCO Biosphere Reserve Swabian Alb
Year designated:	2009
Administrative authorities:	Geschäftsstelle Biosphärengebiet Schwäbische Alb
Name Contact:	Achim Nagel
Contact address:	Geschäftsstelle Biosphärengebiet Schwäbische Alb Biosphärenallee 2 – 4 72525 Münsingen-Auingen Germany +49 (0) 7381 932938 0 achim.nagel@rpt.bwl.de
Related links:	https://www.biosphaerengebiet-alb.de
Social media (6.5.4):	https://www.facebook.com/Biosphaerengebiet/biosphaerengebiet_alb (Instagram)

Description

The Swabian Alb is part of the European Jura and represents an undulating landscape. The Swabian Alb is a low mountain range and the biggest coherent karst area of Germany with more than 200 km in length. Different geological conditions, different bio-geographical regions and the activity of humans have developed various types of habitats. It is characterised by four geologic formations. The northeastern border of the area is characterised by the so-called “**Albtrauf**” - a step in the terrain, which is up to 400 m high. **North of this rim, the foreland of the Swabian Alb (“Albvorland”) is the place where most of the settlements in the region are located and beech forests are typical. Wine is produced in this part. The northwestern border of this area is characterised by widespread traditionally meadow orchards (“Streuobstwiesen”), which are of high biological value, because of the habitat they provide for many species and the fruits they produce. The “Albtrauf” steep terrain is known for its beech forests, which are situated on hillsides and inside of canyons, being exposed to special conditions.**

Behind the steep rim the following high plateau of the Swabian Alb is characterised by the so-called “**Kuppenalb**”, with its bumpy relief with different kinds of beechforests interspersed with pine and spruce forests and grassland. In a south-eastern direction the high plateau becomes more level. This part is called “**Flächenalb**” and is used for agronomic farming.

The 25 core area clusters of the Biosphere Reserve Swabian Alb with a total area of 2.645 hectares guarantee long-term protection and natural development of the forests in these areas.

For the bordering congested European Metropolitan region of Stuttgart the Swabian Alb is a popular recreation area. Under these basic conditions the biosphere concept is a model for other regions aiming for sustainable development in densely populated areas. About 146.000 inhabitants constantly live in the biosphere reserve.

Not less noteworthy, also in the international context, are the habitats of the cultivated landscapes. The former training area in Münsingen offers special biologic conditions, because it was used for military purposes only for more than 100 years. Hence this area has developed a special biodiversity. Another typical landscape is the extensive meadows, representing the result of grazing sheep, which kept this area free of bushes and trees during the last centuries.

Major ecosystem type: Temperate broad-leaf forest and woodlands

Major habitats & land cover types:

Forests (40%): Natural sub-montane and colline broadleaf deciduous forests with beech (*Fagus sylvatica*), oak (*Quercus petraea*, *Quercus robur*, *Quercus pubescens*), hornbeam (*Carpinus betulus*), ash (*Fraxinus excelsior*), great maple (*Acer pseudoplatanus*)

Cultivated landscapes (51%): dominated by meadows, grassland, acre and meadow orchards

Bioclimatic zone: Temperate oceanic (Rivas Martínez et al. 2004)

Location (latitude & longitude; ETRS 1989):

Northern point:	32U 541054 5386502
Southern point:	32U 533259 5339542
Eastern point:	32U 554601 5359991
Western point:	32U 508766 5363660

Total: 85.269 ha

Core areas: 2.645 ha

Buffer zones: 35.383 ha

Transition areas: 47.241 ha

Different existing zonation: Same zonation on national and international level

Altitudinal range (metres above sea level): 329 meters to 872 meters

Maps of zonation: See annex III 1 and 2

Main objectives of the biosphere reserve

The main objective of the biosphere reserve is to harmonise nature conservation with the economic and social development of the region, and to serve as a model region for sustainable development.

Research

Research projects primarily cover applied interdisciplinary and cross-disciplinary issues. These include surveys of endangered species, habitats, ecosystem services, wild boar in the core areas, management of hay meadows protected under the Habitats Directive, ravens and their impact on sheep farming, historical and cultural studies and the valorisation of climate and nature conservation measures.

Monitoring

Monitoring projects cover biodiversity in the core areas, development of regional value added, acceptance, stakeholder and local community commitment to and identification with the biosphere reserve. Trends in selected species, habitats and land use are being studied, and the biosphere reserve also participates in the integrated monitoring of large-scale protected areas in Germany.

Specific variables

Abiotic		Biodiversity	
Abiotic factors	X	Afforestation/Reforestation	X
Acidic deposition/Atmospheric factors	X	Algae	
Air quality	X	Alien and/or invasive species	X
Air temperature	X	Amphibians	X
Climate, climatology		Arid and semi-arid systems	
Contaminants		Autoecology	X
Drought	X	Beach/soft bottom systems	
Erosion	X	Benthos	
Geology	X	Biodiversity aspects	X
Geomorphology	X	Biogeography	X
Geophysics		Biology	X
Glaciology		Biotechnology	
Global change	X	Birds	X
Groundwater	X	Boreal forest systems	
Habitat issues	X	Breeding	
Heavy metals		Coastal/marine systems	
Hydrology	X	Community studies	X
Indicators	X	Conservation	X

Meteorology		Coral reefs	
Modeling	X	Degraded areas	X
Monitoring/methodologies	X	Desertification	
Nutrients	X	Dune systems	
Physical oceanography		Ecology	X
Pollution, pollutants		Ecosystem assessment	X
Siltation/sedimentation		Ecosystem functioning/structure	X
Soil	X	Ecotones	X
Speleology	X	Endemic species	X
Topography	X	Ethology	
Toxicology		Evapotranspiration	
UV radiation		Evolutionary studies/Palaeoecology	
		Fauna	X
		Fires/fire ecology	
		Fishes	
		Flora	X
		Forest systems	X
		Freshwater systems	X
		Fungi	X
		Genetic resources	X
		Genetically modified organisms	
		Home gardens	
		Indicators	X
		Invertebrates	X
		Island systems/studies	
		Lagoon systems	
		Lichens	
		Mammals	X
		Mangrove systems	
		Mediterranean type systems	
		Microorganisms	X
		Migrating populations	
		Modeling	X
		Monitoring/methodologies	X
		Mountain and highland systems	
		Natural and other resources	X
		Natural medicinal products	
		Perturbations and resilience	X
		Pests/Diseases	X
		Phenology	X
		Phytosociology/Succession	X
		Plankton	
		Plants	X
		Polar systems	
		Pollination	X
		Population genetics/dynamics	X
		Productivity	X
		Rare/Endangered species	X
		Reptiles	
		Restoration/Rehabilitation	X
		Species (re) introduction	
		Species inventorying	X
		Sub-tropical and temperate rainforest systems	

		Taxonomy	X
		Temperate forest systems	X
		Temperate grassland systems	X
		Tropical dry forest systems	
		Tropical grassland and savannah systems	
		Tropical humid forest systems	
		Tundra systems	
		Vegetation studies	X
		Volcanic/Geothermal systems	X
		Wetland systems	
		Wildlife	X

Socio-economic		Integrated monitoring	
Agriculture/Other production systems	X	Biogeochemical studies	X
Agroforestry	X	Carrying capacity	X
Anthropological studies	X	Conflict analysis/resolution	X
Aquaculture		Ecosystem approach	X
Archaeology	X	Education and public awareness	X
Bioprospecting		Environmental changes	X
Capacity building	X	Geographic Information System (GIS)	X
Cottage (home-based) industry		Impact and risk studies	X
Cultural aspects	X	Indicators	X
Demography	X	Indicators of environmental quality	X
Economic studies	X	Infrastructure development	X
Economically important species	X	Institutional and legal aspects	X
Energy production systems	X	Integrated studies	X
Ethnology/traditional practices/knowledge	X	Interdisciplinary studies	X
Firewood cutting		Land tenure	X
Fishery		Land use/Land cover	X
Forestry	X	Landscape inventorying/monitoring	X
Human health	X	Management issues	X
Human migration	X	Mapping	X
Hunting	X	Modeling	X
Indicators	X	Monitoring/methodologies	X
Indicators of sustainability	X	Planning and zoning measures	X
Indigenous people's issues		Policy issues	X
Industry	X	Remote sensing	X
Livelihood measures	X	Rural systems	X
Livestock and related impacts	X	Sustainable development/use	X
Local participation	X	Transboundary issues/measures	
Micro-credits		Urban systems	X
Mining		Watershed studies/monitoring	X
Modeling	X		
Monitoring/methodologies	X		
Natural hazards			
Non-timber forest products			
Pastoralism	X		
People-Nature relations	X		
Poverty			
Quality economies/marketing	X		
Recreation	X		
Resource use	X		
Role of women			
Sacred sites			

Small business initiatives	X		
Social/Socio-economic aspects	X		
Stakeholders' interests	X		
Tourism	X		
Transports	X		

Annex II: Promotion and Communication Materials for the biosphere reserve

See attached DVD and printouts.

UNESCO Photo Library

Bureau of Public Information

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Reference:

1. a) I the undersigned, copyright-holder of the above mentioned photo(s) hereby grant to UNESCO free of charge the non-exclusive right to exploit, publish, reproduce, diffuse, communicate to the public in any form and on any support, including digital, all or part of the photograph(s) and to licence these rights to third parties on the basis of the rights herein vested in UNESCO

b) These rights are granted to UNESCO for the legal term of copyright throughout the world.

c) The name of the photographer will be cited alongside UNESCO's whenever his/her work is used in any form.

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b) The photo(s) is/are in no way whatever a violation or an infringement of any existing copyright or licence, and contain(s) nothing obscene, libellous or defamatory.

Name and Address

Achim Nagel

Geschäftsstelle Biosphärengebiet Schwäbische Alb

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72525 Münsingen-Auingen

Germany

Signature:

Date:

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b) These rights are granted to UNESCO for the legal term of copyright throughout the world.

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72525 Münsingen-Auingen

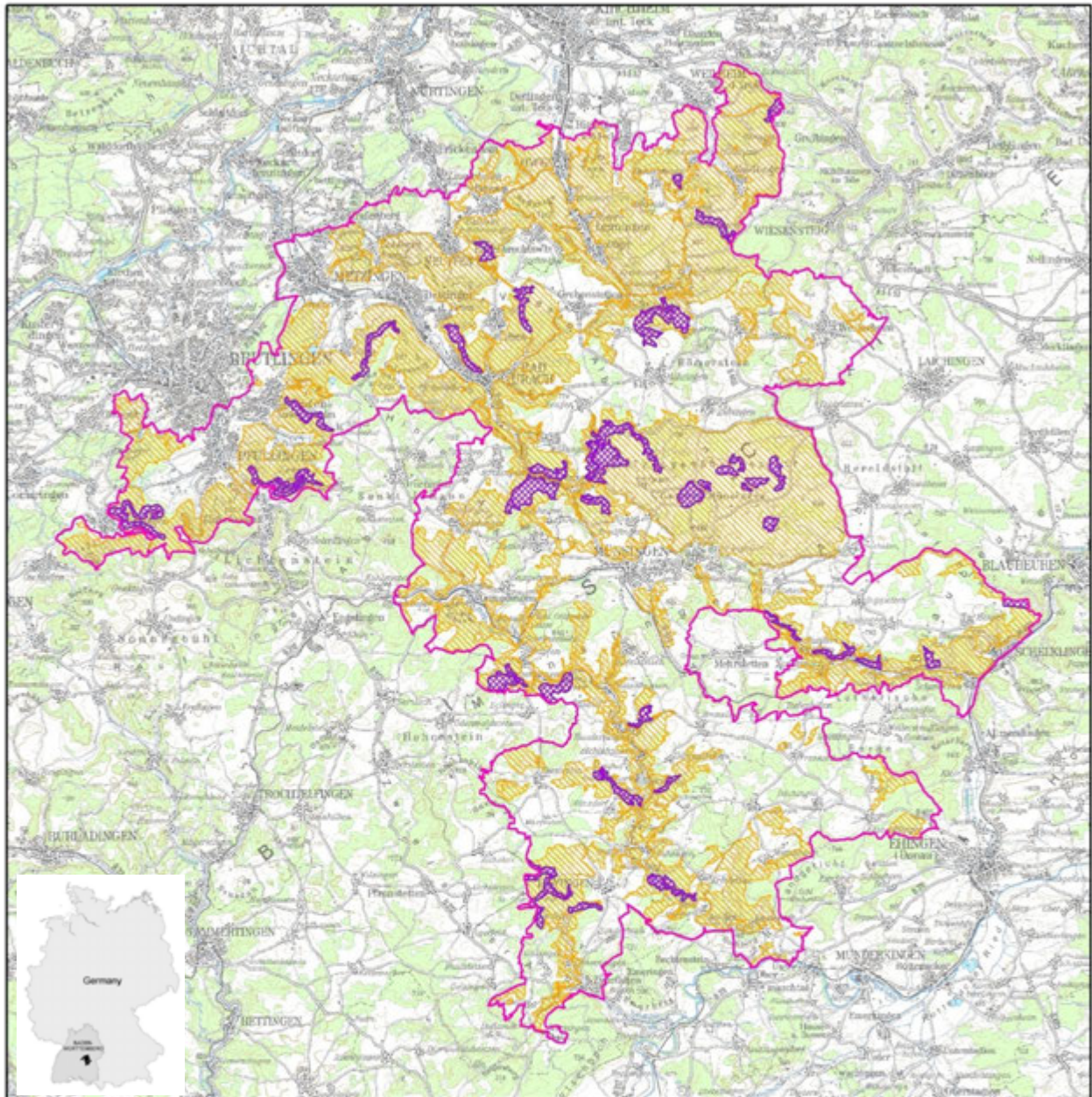
Germany

Signature:

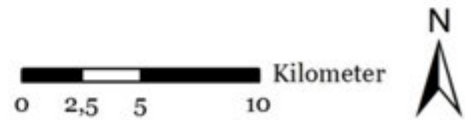
Date:

Annex III: Supporting documents





1. Updated location and zonation map

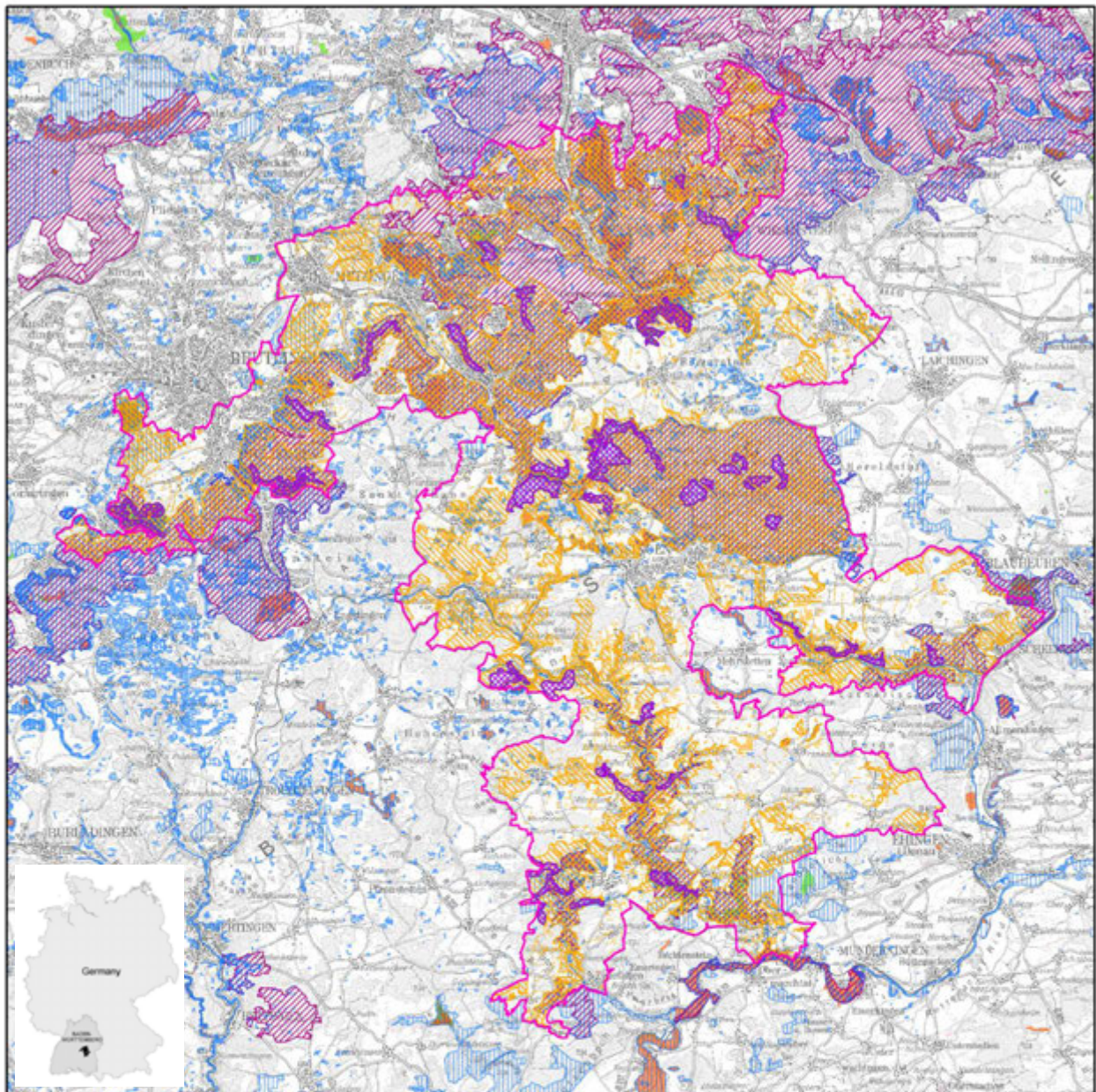


Biosphere Reserve Swabian Alb Zonation and topography

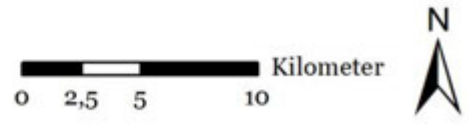


Legend













-  Biosphere Reserve border
-  Core area
-  Buffer zone
-  Transition area



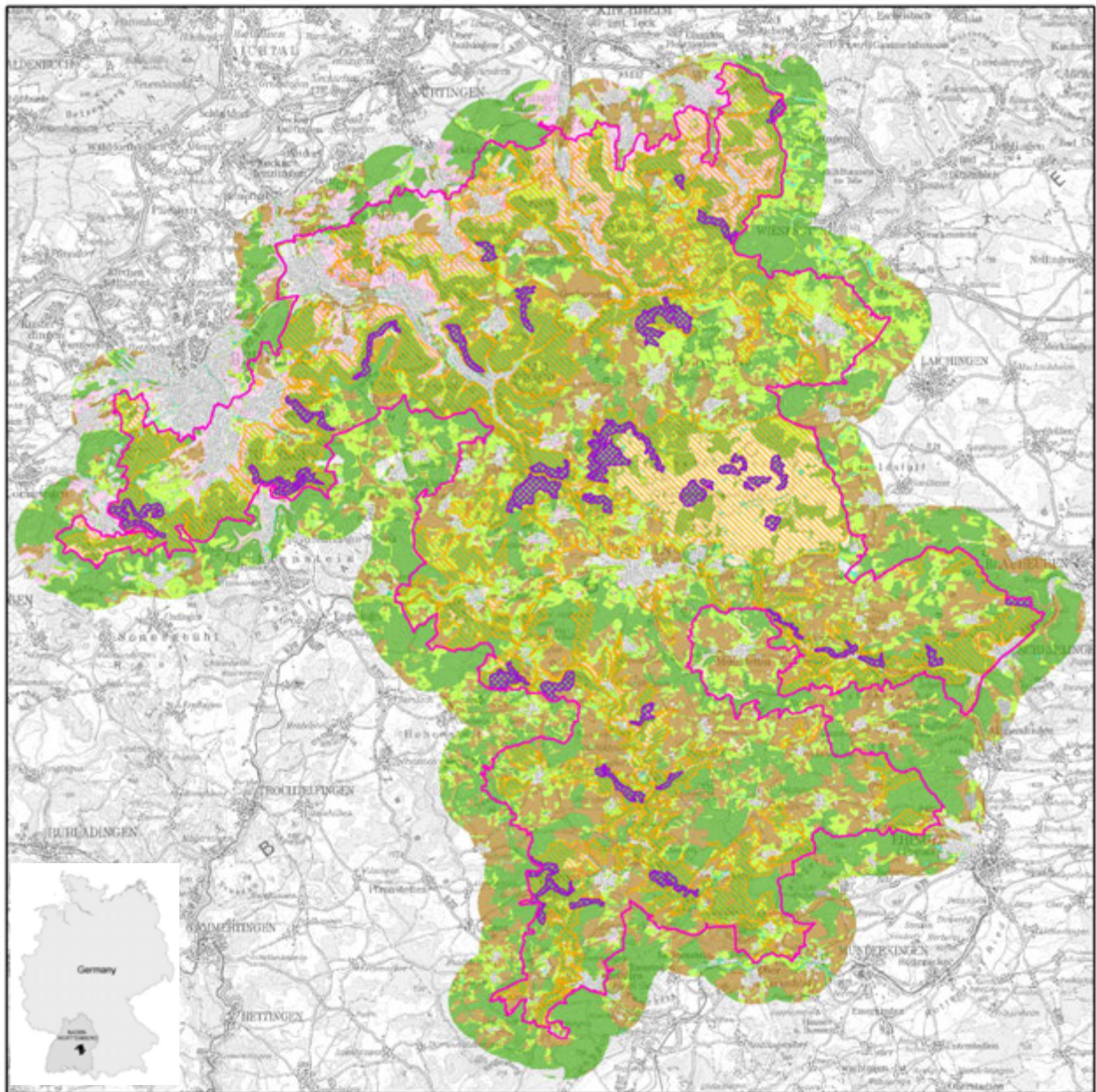
Biosphere Reserve Swabian Alb Protected areas



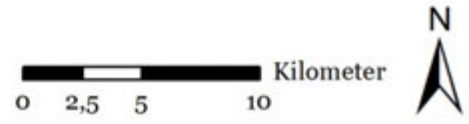
Legend

- | | |
|--|--|
|  Biosphere Reserve |  Area protected under the Birds Directive |
|  Core area |  Protected biotope |
|  Buffer zone |  Nature reserve |
|  Transition area |  Large-scale natural landmark |
|  Area protected under the Habitats Directive (HD) |  Forest reserve |
|  Species-rich hay meadow protected under the HD |  Protected forest |

2. Updated vegetation map or land cover map



Biosphere Reserve Swabian Alb Land cover map



Legend

- | | |
|------------------------|--------------------------|
| Biosphere Reserve | Arable land |
| Core area | Vineyard |
| Buffer zone | Woodland |
| Transition area | Forest |
| Land cover 2017 | |
| Heath | Water body |
| Meadow orchard | Settlement and transport |
| Grassland | Other |

3. Updated list of legal documents

1. Biosphere reserve ordinance: Ordinance issued by the Ministry for Nutrition and Rural Areas concerning the Biosphere Reserve Swabian Alb (31.01.2008; English)
2. Agreement between the state and the partizipating districts and municipalities of the Swabian Alb Biosphere Reserve (08.11.2011; German)
3. Statute of the BR association Verein Biosphärengebiet Schwäbische Alb e.V. (14.02.2018; German)
4. Ordinance of **the Regional Commissioner's Office** of Tübingen and the District Office of Reutlingen to the revision of the ordinance of the **Regional Commissioner's Office** of Tübingen and the District Office of Reutlingen regarding the access on the former military training site Münsingen (16.12.2009; German)
5. General decree of the **Regional Commissioner's Office** of Tübingen for hunting in the core areas of the Swabian Alb Biosphere Reserve (Stand 20.05.2010; German)

4. Updated list of land use and management / cooperation plans

Planning documents	Jahr
State development plan	
No update since 2008	
Framework landscape plans	
Region Neckar-Alb	2011
Landscape plans	
No update since 2008	
Regional plans	
Region Donau-Iller – 5th partly revision: Use of wind energy	2015
Region Neckar-Alb	2013
Region Neckar-Alb – 1st change of the regional plan	2017
Region Neckar-Alb – environmental report on the 1st change of the regional plan	2017
Region Neckar-Alb – 2 nd change of the regional plan	2017
Region Neckar-Alb - environmental report on the 2 nd change of the regional plan	2017
Verband Region Stuttgart	2009
Natura 2000 management plans (various areas protected under the Habitats Directive) ¹	
Alb zwischen Jusi und Teck (FFH 7422-311)	2017
Albtrauf zwischen Mössingen und Gönningen (FFH 7620-343)	2008
Donau zwischen Munderkingen und Riedlingen (FFH 7823-341)	2017
Kuppenalb bei Laichingen und Lonetal (FFH 7425-311)	2015
Münsinger Alb (FFH 7523-311)	2015
Uracher Talspinne (FFH 7522-341)	2017

¹ Management plans for the eight further areas protected under the Habitats Directive will be established until 2020.

5. Updated species list

5.1 List of plant species in the biosphere reserve

Taxonomic name	Red list Baden-Württemberg	Red list Natural Region Swabian Alb
<i>Aceras anthropophorum</i>	2	2
<i>Acer campestre</i>		
<i>Acer platanoides</i>		
<i>Acer pseudoplatanus</i>		
<i>Achillea millefolium</i>		
<i>Acinos arvensis</i>		
<i>Aconitum lycoctonum</i> subsp. <i>vulparia</i>		
<i>Actaea spicata</i>		
<i>Adonis aestivalis</i>	3	3
<i>Adoxa moschatellina</i>		
<i>Aethusa cynapium</i> subsp. <i>cynapium</i>		
<i>Agrimonia eupatoria</i>		
<i>Agrostis capillaris</i>		
<i>Agrostis stolonifera</i>		
<i>Agrostemma githago</i>	1	1
<i>Ajuga genevensis</i>		
<i>Ajuga reptans</i>		
<i>Alchemilla monticola</i>		
<i>Alchemilla xanthochlora</i>		
<i>Alchemilla vulgaris</i> agg.		
<i>Alisma plantago-aquatica</i>		
<i>Alliaria petiolata</i>		
<i>Allium carinatum</i>	3	2
<i>Allium oleraceum</i>		
<i>Allium senescens</i> subsp. <i>montanum</i>	3	V
<i>Allium ursinum</i>		
<i>Alnus glutinosa</i>		
<i>Alnus incana</i>		
<i>Alopecurus aequalis</i>		V
<i>Alopecurus myosuroides</i>		
<i>Alopecurus pratensis</i>		
<i>Alyssum alyssoides</i>	3	V
<i>Alyssum montanum</i> subsp. <i>montanum</i>	V	V
<i>Amelanchier ovalis</i> subsp. <i>embergeri</i>		
<i>Anacamptis pyramidalis</i>	3	3
<i>Anagallis arvensis</i>		
<i>Anagallis foemina</i>	3	3
<i>Anemone nemorosa</i>		
<i>Anemone ranunculoides</i>		
<i>Angelica sylvestris</i>		
<i>Antennaria dioica</i>	2	3
<i>Anthemis tinctoria</i>	3	3
<i>Anthericum ramosum</i>	V	
<i>Anthoxanthum odoratum</i>		
<i>Anthriscus nitidus</i>		
<i>Anthriscus sylvestris</i> subsp. <i>sylvestris</i>		
<i>Anthriscus sylvestris</i> subsp. <i>stenophyllus</i>	R!	R
<i>Anthyllis vulneraria</i> subsp. <i>carpatica</i>	V	
<i>Apera spica-venti</i>		
<i>Aphanes arvensis</i>		
<i>Aquilegia vulgaris</i>	V	
<i>Arabidopsis thaliana</i>		
<i>Arabis glabra</i>		
<i>Arabis hirsuta</i>		
<i>Arctium lappa</i>		
<i>Arctium minus</i>		
<i>Arctium tomentosum</i>		
<i>Arenaria serpyllifolia</i>		
<i>Arrhenatherum elatius</i>		
<i>Artemisia absinthium</i>		
<i>Artemisia vulgaris</i>		
<i>Arum maculatum</i>		
<i>Aruncus dioicus</i>		
<i>Asarum europaeum</i>		
<i>Asperugo procumbens</i>	2	2
<i>Asperula cynanchica</i>		
<i>Asplenium ruta-muraria</i>		

Taxonomic name	Red list Baden-Württemberg	Red list Natural Region Swabian Alb
<i>Asplenium scolopendrium</i>		
<i>Asplenium trichomanes</i>		
<i>Asplenium viride</i>		
<i>Aster amellus</i>	V	V
<i>Astragalus glycyphyllos</i>		
<i>Astrantia major</i>		
<i>Athamantha cretensis</i>	2!	2
<i>Athyrium filix-femina</i>		
<i>Atriplex patula</i>		
<i>Atropa bella-donna</i>		
<i>Avena fatua</i>		
<i>Avena sativa</i>		
<i>Bellis perennis</i>		
<i>Berberis vulgaris</i>		
<i>Berula erecta</i>		
<i>Betonica officinalis</i>		
<i>Betula pendula</i>		
<i>Botrychium lunaria</i>	2	2
<i>Brachypodium pinnatum</i>		
<i>Brachypodium sylvaticum</i>		
<i>Briza media</i>		
<i>Bromus benekenii</i>		
<i>Bromus commutatus</i>		d
<i>Bromus erectus</i>		
<i>Bromus grossus</i>	2	2
<i>Bromus hordeaceus</i>		
<i>Bromus inermis</i>		
<i>Bromus sterilis</i>		
<i>Bupthalmum salicifolium</i>	V	V
<i>Calamagrostis arundinacea</i>		
<i>Calamagrostis epigeios</i>		
<i>Calamagrostis varia</i>		
<i>Callitriche cophocarpa</i>		
<i>Calluna vulgaris</i>		
<i>Caltha palustris</i>		
<i>Campanula glomerata</i>	V	
<i>Campanula patula</i>		
<i>Campanula persicifolia</i>		
<i>Campanula rapunculoides</i>		
<i>Campanula rapunculus</i>		
<i>Campanula rotundifolia</i>		
<i>Campanula trachelium</i>		
<i>Capsella bursa-pastoris</i>		
<i>Cardamine amara</i>		
<i>Cardamine bulbifera</i>		
<i>Cardamine impatiens</i>		
<i>Cardamine pratensis</i>		
<i>Cardaminopsis arenosa</i> subsp. <i>borbasii</i>		
<i>Carduus crispus</i>		
<i>Carduus defloratus</i>	V	V
<i>Carduus nutans</i>		
<i>Carex acutiformis</i>		
<i>Carex alba</i>		
<i>Carex caryophyllea</i>		
<i>Carex digitata</i>		
<i>Carex divulsa</i>		
<i>Carex flacca</i>		
<i>Carex hirta</i>		
<i>Carex humilis</i>	V	
<i>Carex montana</i>		
<i>Carex muricata</i> agg.		
<i>Carex nigra</i>		
<i>Carex ornithopoda</i>		
<i>Carex ovalis</i>		
<i>Carex pallescens</i>		
<i>Carex panicea</i>		
<i>Carex paniculata</i>		
<i>Carex remota</i>		
<i>Carex riparia</i>		
<i>Carex rostrata</i>		
<i>Carex sylvatica</i>		
<i>Carex vesicaria</i>		
<i>Carlina acaulis</i> subsp. <i>caulescens</i>	V	

Taxonomic name	Red list Baden-Württemberg	Red list Natural Region Swabian Alb
<i>Carlina vulgaris</i>		
<i>Carpinus betulus</i>		
<i>Carum carvi</i>		
<i>Caucalis platycarpos</i>	2	2
<i>Centaurea cyanus</i>		
<i>Centaurea jacea</i>		
<i>Centaurea montana</i>		
<i>Centaurea scabiosa</i>		
<i>Cephalanthera damasonium</i>		
<i>Cephalanthera longifolia</i>	V	V
<i>Cephalanthera rubra</i>	V	
<i>Cerastium arvense</i>		
<i>Cerastium glutinosum</i>		
<i>Cerastium holosteoides</i> subsp. <i>vulgare</i>		
<i>Chaenorhinum minus</i>		
<i>Chaerophyllum aureum</i>		
<i>Chaerophyllum bulbosum</i>		
<i>Chaerophyllum temulum</i>		
<i>Chelidonium majus</i>		
<i>Chenopodium album</i>		
<i>Chenopodium bonus-henricus</i>		
<i>Chenopodium polyspermum</i>		
<i>Chrysosplenium alternifolium</i>		
<i>Cichorium intybus</i>		
<i>Circaea lutetiana</i>		
<i>Cirsium acaule</i>	V	V
<i>Cirsium arvense</i>		
<i>Cirsium eriophorum</i>		
<i>Cirsium oleraceum</i>		
<i>Cirsium palustre</i>		
<i>Cirsium rivulare</i>		
<i>Cirsium tuberosum</i>	3	3
<i>Cirsium vulgare</i>		
<i>Clematis vitalba</i>		
<i>Clinopodium vulgare</i>		
<i>Colchicum autumnale</i>		
<i>Conringia orientalis</i>	1	1
<i>Consolida regalis</i>	V	3
<i>Convallaria majalis</i>		
<i>Convolvulus arvensis</i>		
<i>Conyza canadensis</i>		
<i>Corallorhiza trifida</i>	V	V
<i>Cornus sanguinea</i>		
<i>Coronilla coronata</i>	V	V
<i>Coronilla vaginalis</i>	3	3
<i>Corydalis cava</i>		
<i>Corydalis intermedia</i>	V	V
<i>Corylus avellana</i>		
<i>Cotoneaster integerrimus</i>		
<i>Crataegus laevigata</i>		
<i>Crataegus monogyna</i>		
<i>Crepis alpestris</i>	3	3
<i>Crepis biennis</i>		
<i>Crepis capillaris</i>		
<i>Crepis mollis</i>	3	3
<i>Crepis paludosa</i>		
<i>Cruciata laevipes</i>		
<i>Cuscuta europaea</i>		
<i>Cynoglossum germanicum</i>	3	3
<i>Cynoglossum officinale</i>		
<i>Cynosurus cristatus</i>		
<i>Cypripedium calceolus</i>	3	3
<i>Cystopteris fragilis</i>		
<i>Cytisus nigricans</i>	V	V
<i>Cytisus scoparius</i>		
<i>Dactylis glomerata</i>		
<i>Dactylis polygama</i>		
<i>Dactylorhiza incarnata</i>	3	3
<i>Dactylorhiza maculata</i>		
<i>Daphne mezereum</i>		
<i>Daucus carota</i>		
<i>Deschampsia cespitosa</i>		
<i>Deschampsia flexuosa</i>		

Taxonomic name	Red list Baden-Württemberg	Red list Natural Region Swabian Alb
<i>Dianthus carthusianorum</i>	V	V
<i>Dianthus deltoides</i>	3	2
<i>Dianthus gratianopolitanus</i>	3!	3
<i>Digitalis grandiflora</i>	V	
<i>Digitalis lutea</i>	V	3
<i>Dipsacus fullonum</i>		
<i>Draba aizoides</i>	3	3
<i>Dryopteris carthusiana</i>		
<i>Dryopteris dilatata</i>		
<i>Dryopteris filix-mas</i>		
<i>Echinochloa crus-galli</i>		
<i>Echium vulgare</i>		
<i>Eleocharis palustris</i>		
<i>Elymus caninus</i>		
<i>Elymus repens</i>		
<i>Epilobium angustifolium</i>		
<i>Epilobium hirsutum</i>		
<i>Epilobium montanum</i>		
<i>Epilobium palustre</i>	V	V
<i>Epilobium parviflorum</i>		
<i>Epilobium roseum</i>		
<i>Epilobium tetragonum</i>		
<i>Epipactis atrorubens</i>	V	V
<i>Epipactis helleborine</i>		
<i>Epipactis leptochila</i>		
<i>Epipactis muelleri</i>	V	V
<i>Epipactis palustris</i>	3	3
<i>Epipactis purpurata</i>		
<i>Equisetum arvense</i>		
<i>Equisetum palustre</i>		
<i>Erigeron acris</i>		
<i>Erodium cicutarium</i>		
<i>Erophila verna</i>		
<i>Euonymus europaeus</i>		
<i>Eupatorium cannabinum</i>		
<i>Euphorbia amygdaloides</i>		
<i>Euphorbia brittingeri</i>		
<i>Euphorbia cyparissias</i>		
<i>Euphorbia exigua</i>		
<i>Euphorbia helioscopia</i>		
<i>Euphorbia platyphyllos</i>	V	
<i>Euphrasia nemorosa</i>		
<i>Euphrasia rostkoviana</i>		
<i>Euphrasia stricta</i>		
<i>Fagus sylvatica</i>		
<i>Fallopia convolvulus</i>		
<i>Festuca gigantea</i>		
<i>Festuca guestfalica</i>		
<i>Festuca heterophylla</i>		
<i>Festuca ovina</i> -agg.		
<i>Festuca pallens</i>		
<i>Festuca pratensis</i>		
<i>Festuca rubra</i>		
<i>Filipendula ulmaria</i>		
<i>Filipendula vulgaris</i>	3	3
<i>Fragaria vesca</i>		
<i>Fragaria viridis</i>		
<i>Frangula alnus</i>		
<i>Fraxinus excelsior</i>		
<i>Fumaria officinalis</i> subsp. <i>officinalis</i>		
<i>Fumaria vaillantii</i>		
<i>Gagea lutea</i>		
<i>Galeopsis angustifolia</i>		
<i>Galeopsis tetrahit</i>		
<i>Galinsoga parviflora</i>		
<i>Galium album</i>		
<i>Galium aparine</i>		
<i>Galium boreale</i>	3	V
<i>Galium glaucum</i>	V	V
<i>Galium odoratum</i>		
<i>Galium palustre</i>		
<i>Galium pumilum</i>	V	
<i>Galium rotundifolium</i>		

Taxonomic name	Red list Baden-Württemberg	Red list Natural Region Swabian Alb
<i>Galium sylvaticum</i>		
<i>Galium tricornutum</i>	2	2
<i>Galium verum</i>		
<i>Genista germanica</i>	3	3
<i>Genista sagittalis</i>		
<i>Gentiana cruciata</i>	2	3
<i>Gentiana lutea</i>	V	V
<i>Gentiana verna</i>	2	3
<i>Gentianella ciliata</i>	V	
<i>Gentianella germanica</i>	V	
<i>Geranium columbinum</i>		
<i>Geranium dissectum</i>		
<i>Geranium molle</i>		
<i>Geranium palustre</i>		
<i>Geranium pratense</i>		
<i>Geranium pusillum</i>		
<i>Geranium pyrenaicum</i>		
<i>Geranium robertianum</i>		
<i>Geranium sanguineum</i>		
<i>Geranium sylvaticum</i>		
<i>Geum rivale</i>		
<i>Geum urbanum</i>		
<i>Glechoma hederacea</i>		
<i>Globularia punctata</i>	3	3
<i>Glyceria fluitans</i>		
<i>Glyceria notata</i>		
<i>Goodyera repens</i>	V	V
<i>Gymnadenia conopsea</i>	V	
<i>Gymnadenia odoratissima</i>	3	3
<i>Gymnocarpium robertianum</i>		
<i>Hedera helix</i>		
<i>Helianthemum ovatum</i>		
<i>Helictotrichon pratense</i>	V	
<i>Helictotrichon pubescens</i>		
<i>Helleborus foetidus</i>		
<i>Heracleum sphondylium</i> subsp. <i>sphondylium</i>		
<i>Herminium monorchis</i>	2	2
<i>Hesperis matronalis</i>		
<i>Hieracium bifidum</i>	3	V
<i>Hieracium bupleuroides</i>	3	3
<i>Hieracium cottetii</i>	2	2
<i>Hieracium franconicum</i>	2!	2
<i>Hieracium glaucinum</i>		
<i>Hieracium humile</i>	V	V
<i>Hieracium lachenalii</i>		
<i>Hieracium lycopifolium</i>	3	R
<i>Hieracium maculatum</i>		
<i>Hieracium murorum</i>		
<i>Hieracium oxyodon</i>	1	1
<i>Hieracium pilosella</i>		
<i>Hieracium piloselloides</i>		
<i>Hieracium sabaudum</i>		
<i>Hieracium umbellatum</i>		
<i>Hieracium wiesbaurianum</i>	3	3
<i>Himantoglossum hircinum</i>	3	3
<i>Hippocrepis comosa</i>		
<i>Holcus lanatus</i>		
<i>Hordelymus europaeus</i>		
<i>Hypericum hirsutum</i>		
<i>Hypericum montanum</i>		
<i>Hypericum perforatum</i>		
<i>Hypochaeris maculata</i>	2	2
<i>Hypochaeris radicata</i>		
<i>Impatiens noli-tangere</i>		
<i>Impatiens parviflora</i>		
<i>Inula conyzae</i>		
<i>Inula salicina</i>		
<i>Iris pseudacorus</i>		
<i>Juncus articulatus</i>		
<i>Juncus bufonius</i>		
<i>Juncus effusus</i>		
<i>Juncus inflexus</i>		
<i>Juncus tenuis</i>		

Taxonomic name	Red list Baden-Württemberg	Red list Natural Region Swabian Alb
<i>Juniperus communis</i>		
<i>Kernera saxatilis</i>	3!	3
<i>Kickxia spuria</i>		3
<i>Knautia arvensis</i>		
<i>Knautia maxima</i>		
<i>Koeleria pyramidata</i>		
<i>Lactuca perennis</i>	V	3
<i>Lactuca serriola</i>		
<i>Lamium album</i>		
<i>Lamium amplexicaule</i>		
<i>Lamium maculatum</i>		
<i>Lamium montanum</i>		
<i>Lamium purpureum</i>		
<i>Lapsana communis</i>		
<i>Larix decidua</i>		
<i>Laserpitium latifolium</i>		
<i>Lathraea squamaria</i>		
<i>Lathyrus nissolia</i>	2	3
<i>Lathyrus linifolius</i>		
<i>Lathyrus pratensis</i>		
<i>Lathyrus sylvestris</i>		
<i>Lathyrus tuberosus</i>		
<i>Lathyrus vernus</i>		
<i>Legousia hybrida</i>	1	1
<i>Lemna minor</i>		
<i>Leontodon autumnalis</i>		
<i>Leontodon hispidus</i>		
<i>Leucanthemum adustum</i>		
<i>Tanacetum corymbosum</i>		
<i>Leontodon autumnalis</i>		
<i>Leontodon hispidus</i>		
<i>Leucanthemum ircutianum</i>		
<i>Leucojum vernum</i>	V	V
<i>Ligustrum vulgare</i>		
<i>Lilium martagon</i>		
<i>Linaria vulgaris</i>		
<i>Linum catharticum</i>		
<i>Listera cordata</i>		V
<i>Listera ovata</i>		
<i>Lithospermum officinale</i>	V	V
<i>Lithospermum arvense</i>	V	V
<i>Lolium multiflorum</i>		
<i>Lolium perenne</i>		
<i>Lonicera xylosteum</i>		
<i>Lotus corniculatus</i>		
<i>Lunaria rediviva</i>		
<i>Luzula campestris</i>		
<i>Luzula luzuloides</i>		
<i>Luzula pilosa</i>		
<i>Lychnis flos-cuculi</i>		
<i>Lysimachia nummularia</i>		
<i>Lythrum salicaria</i>		
<i>Maianthemum bifolium</i>		
<i>Malus domestica</i>		
<i>Malus sylvestris</i>	3	3
<i>Malva alcea</i>		
<i>Malva neglecta</i>		
<i>Malva sylvestris</i>		
<i>Matricaria discoidea</i>		
<i>Matricaria recutita</i>		
<i>Medicago × varia</i>		
<i>Medicago falcata</i>		
<i>Medicago lupulina</i>		
<i>Medicago sativa</i>		
<i>Melampyrum arvense</i>	V	V
<i>Melampyrum cristatum</i>	3	3
<i>Melampyrum pratense</i>		
<i>Melica ciliata</i>	V	V
<i>Melica nutans</i>		
<i>Melica transsylvanica</i>	V	V
<i>Melilotus albus</i>		
<i>Melilotus officinalis</i>		
<i>Melittis melissophyllum</i>		

Taxonomic name	Red list Baden-Württemberg	Red list Natural Region Swabian Alb
<i>Mentha aquatica</i>		
<i>Mentha longifolia</i>		
<i>Mercurialis perennis</i>		
<i>Milium effusum</i>		
<i>Moehringia trinervia</i>		
<i>Moneses uniflora</i>	3	3
<i>Monotropa hypophegea</i>	d	d
<i>Monotropa hypopitys</i>	d	d
<i>Muscari botryoides</i>	3	3
<i>Mycelis muralis</i>		
<i>Myosotis arvensis</i>		
<i>Myosotis scorpioides</i>		
<i>Myosotis sylvatica</i>		
<i>Nasturtium officinale</i>		
<i>Neottia nidus-avis</i>		
<i>Neslia paniculata</i>	3	V
<i>Odontites vulgaris</i>		
<i>Oenothera biennis</i>		
<i>Onobrychis viciifolia</i>		
<i>Ononis repens</i>		
<i>Ononis spinosa</i>		
<i>Ophrys apifera</i>	V	V
<i>Ophrys araneola</i>	2	1
<i>Ophrys holoserica</i> subsp. <i>holoserica</i>	3	3
<i>Ophrys insectifera</i>	3	V
<i>Ophrys sphegodes</i>	2	2
<i>Orchis mascula</i>	V	
<i>Orchis militaris</i>	V	V
<i>Orchis morio</i>	3	3
<i>Orchis pallens</i>	3!	V
<i>Orchis ustulata</i>	2	2
<i>Origanum vulgare</i>		
<i>Orobanche caryophyllacea</i>	3	V
<i>Orobanche lutea</i>	3	3
<i>Orobanche purpurea</i>	2	2
<i>Orobanche teucritii</i>	3	V
<i>Orthilia secunda</i>	V	V
<i>Oxalis acetosella</i>		
<i>Papaver dubium</i>	V	V
<i>Papaver rhoeas</i>		
<i>Paris quadrifolia</i>		
<i>Parnassia palustris</i>	3	3
<i>Pastinaca sativa</i>		
<i>Persicaria bistorta</i>		
<i>Persicaria lapathifolia</i>		
<i>Persicaria maculosa</i>		
<i>Petrorhagia prolifera</i>	V	V
<i>Petasites hybridus</i>		
<i>Peucedanum cervaria</i>	V	V
<i>Phalaris arundinacea</i>		
<i>Phleum phleoides</i>	3	3
<i>Phleum pratense</i>		
<i>Phragmites australis</i>		
<i>Phyteuma orbiculare</i> subsp. <i>orbiculare</i>	3	2
<i>Phyteuma spicatum</i>		
<i>Picea abies</i>		
<i>Picris hieracioides</i>		
<i>Pimpinella major</i>		
<i>Pimpinella saxifraga</i>		
<i>Pinus sylvestris</i>		
<i>Plantago lanceolata</i>		
<i>Plantago major</i>		
<i>Plantago media</i>		
<i>Plantago uliginosa</i>		
<i>Platanthera bifolia</i>	V	
<i>Platanthera chlorantha</i>	V	V
<i>Poa angustifolia</i>		
<i>Poa annua</i>		
<i>Poa chaixii</i>		
<i>Poa compressa</i>		
<i>Poa nemoralis</i>		
<i>Poa pratensis</i>		
<i>Poa trivialis</i>		

Taxonomic name	Red list Baden-Württemberg	Red list Natural Region Swabian Alb
<i>Polemonium caeruleum</i>	V	V
<i>Polygala amarella</i>	V	
<i>Polygala comosa</i>		
<i>Polygala vulgaris</i>		
<i>Polygonatum multiflorum</i>		
<i>Polygonatum odoratum</i>		
<i>Polygonatum verticillatum</i>		
<i>Polygonum aviculare</i>		
<i>Populus tremula</i>		
<i>Potamogeton natans</i>		
<i>Potentilla alba</i>	2	2
<i>Potentilla anserina</i>		
<i>Potentilla erecta</i>		
<i>Potentilla heptaphylla</i>		
<i>Potentilla neumanniana</i>		
<i>Potentilla recta</i>		
<i>Potentilla reptans</i>		
<i>Potentilla sterilis</i>		
<i>Prenanthes purpurea</i>		
<i>Primula elatior</i>		
<i>Primula veris</i> subsp. <i>suaveolens</i>		
<i>Primula veris</i> subsp. <i>veris</i>	V	
<i>Prunella grandiflora</i>	V	V
<i>Prunella vulgaris</i>		
<i>Prunus avium</i>		
<i>Prunus domestica</i>		
<i>Prunus padus</i> subsp. <i>padus</i>		
<i>Prunus spinosa</i>		
<i>Pseudotsuga menziesii</i>		
<i>Puccinellia distans</i>		
<i>Pulmonaria obscura</i>		
<i>Pulsatilla vulgaris</i>	3	V
<i>Pyrus pyraeaster</i>	V	V
<i>Quercus petraea</i>		
<i>Quercus pubescens</i>	V	V
<i>Quercus robur</i>		
<i>Ranunculus acris</i> subsp. <i>acris</i>		
<i>Ranunculus arvensis</i>	3	3
<i>Ranunculus auricomus</i> s.l.		
<i>Ranunculus breyninus</i>	3	3
<i>Ranunculus bulbosus</i>		
<i>Ranunculus carinthiacus</i>	2	2
<i>Ranunculus ficaria</i> subsp. <i>bulbilifer</i>		
<i>Ranunculus lanuginosus</i>		
<i>Ranunculus platanifolius</i>	V	V
<i>Ranunculus polyanthemus</i> subsp. <i>nemorosus</i>	V	V
<i>Ranunculus repens</i>		
<i>Ranunculus trichophyllus</i>		
<i>Raphanus raphanistrum</i>		
<i>Reseda lutea</i>		
<i>Rhamnus cathartica</i>		
<i>Rhinanthus alectorolophus</i>		
<i>Rhinanthus glacialis</i>	V	V
<i>Rhinanthus minor</i>		
<i>Ribes alpinum</i>		
<i>Ribes uva-crispa</i>		
<i>Rosa agrestis</i>	3	3
<i>Rosa arvensis</i>		
<i>Rosa caesia</i>	3	3
<i>Rosa canina</i>		
<i>Rosa corymbifera</i>		
<i>Rosa elliptica</i>	2	3
<i>Rosa glauca</i>	3	3
<i>Rosa micrantha</i>	3	3
<i>Rosa pimpinellifolia</i>	V	V
<i>Rosa rubiginosa</i>		
<i>Rosa rugosa</i>		
<i>Rosa subcanina</i>		
<i>Rosa tomentella</i>	V	V
<i>Rosa tomentosa</i>		
<i>Rosa vosagiaca</i>		
<i>Rubus caesius</i>		
<i>Rubus fruticosus</i> s. l.		

Taxonomic name	Red list Baden-Württemberg	Red list Natural Region Swabian Alb
Rubus idaeus		
Rubus saxatilis		
Rumex acetosa		
Rumex conglomeratus		
Rumex crispus		
Rumex obtusifolius		
Rumex scutatus		
Sagina procumbens		
Salix alba		
Salix caprea		
Salix purpurea		
Salix rubens		
Salix viminalis		
Salvia pratensis		
Salvia verticillata		
Sambucus ebulus		
Sambucus nigra		
Sambucus racemosa		
Sanguisorba minor		
Sanguisorba officinalis		
Sanicula europaea		
Saxifraga paniculata	V	V
Saxifraga tridactylites		
Scabiosa columbaria		
Scirpus sylvaticus		
Scrophularia nodosa		
Scrophularia umbrosa		
Securigera varia		
Sedum acre		
Sedum album		
Sedum dasyphyllum	3	3
Sedum sexangulare		
Sedum spurium		
Sedum telephium		
Senecio jacobaea		
Senecio jacobaea		
Senecio ovatus		
Senecio vulgaris		
Seseli libanotis	V	V
Sesleria albicans		
Sherardia arvensis		
Silene dioica		
Silene latifolia subsp. alba		
Silene noctiflora		
Silene nutans		
Silene vulgaris		
Sinapis alba		
Sinapis arvensis		
Sisymbrium austriacum	V	V
Solidago gigantea		
Solidago virgaurea		
Sonchus arvensis		
Sonchus asper		
Sonchus oleraceus		
Sorbus aria		
Sorbus aucuparia		
Sorbus torminalis		
Stachys alpina		
Stachys germanica	V	V
Stachys palustris		
Stachys recta		
Stachys sylvatica		
Stellaria graminea		
Stellaria holostea		
Stellaria media		
Stellaria nemorum		
Syringa vulgaris		
Tanacetum corymbosum		
Taraxacum sectio Erythrosperma	d	d
Taraxacum sectio Palustria	2	2
Taraxacum sectio Ruderalia		
Taxus baccata	3	3
Tephrosieris helenites	2	2

Taxonomic name	Red list Baden-Württemberg	Red list Natural Region Swabian Alb
<i>Teucrium botrys</i>	V	V
<i>Teucrium chamaedrys</i>		
<i>Teucrium montanum</i>	3	V
<i>Thalictrum aquilegifolium</i>	V	V
<i>Thalictrum minus</i>	3	3
<i>Thalictrum simplex</i> subsp. <i>galioides</i>	2	2
<i>Thesium bavarum</i>	V	
<i>Thesium pyrenaicum</i>	3	3
<i>Thlaspi arvense</i>		
<i>Thlaspi montanum</i>		
<i>Thlaspi perfoliatum</i>		
<i>Thymelaea passerina</i>	2	3
<i>Thymus pulegioides</i>		
<i>Thymus pulegioides</i> subsp. <i>carniolicus</i>		
<i>Tilia cordata</i>		
<i>Tilia platyphyllos</i>		
<i>Tofieldia calyculata</i>	3	2
<i>Torilis japonica</i>		
<i>Tragopogon orientalis</i>		
<i>Tragopogon pratensis</i>		
<i>Traunsteinera globosa</i>	1	1
<i>Trifolium alpestre</i>	V	3
<i>Trifolium campestre</i>		
<i>Trifolium dubium</i>		
<i>Trifolium hybridum</i>		
<i>Trifolium medium</i>		
<i>Trifolium montanum</i>	3	V
<i>Trifolium pratense</i>		
<i>Trifolium repens</i>		
<i>Trifolium rubens</i>	3	3
<i>Tripleurospermum perforatum</i>		
<i>Trisetum flavescens</i>		
<i>Trollius europaeus</i>	3	3
<i>Tussilago farfara</i>		
<i>Typha latifolia</i>		
<i>Ulmus glabra</i>		
<i>Urtica dioica</i>		
<i>Valeriana dioica</i>		
<i>Valeriana officinalis</i> subsp. <i>tenuifolia</i>		
<i>Valeriana officinalis</i> subsp. <i>excelsa</i>		
<i>Valeriana tripteris</i>		
<i>Valerianella dentata</i>		
<i>Valerianella locusta</i>		
<i>Verbascum densiflorum</i>		
<i>Verbascum lychnitis</i>		
<i>Verbascum nigrum</i>		
<i>Verbascum thapsus</i>		
<i>Veronica anagallis-aquatica</i>		
<i>Veronica arvensis</i>		
<i>Veronica beccabunga</i>		
<i>Veronica chamaedrys</i>		
<i>Veronica hederifolia</i>		
<i>Veronica officinalis</i>		
<i>Veronica persica</i>		
<i>Veronica polita</i>		
<i>Veronica teucrium</i>		
<i>Viburnum lantana</i>		
<i>Viburnum opulus</i>		
<i>Vicia angustifolia</i>		
<i>Vicia cracca</i>		
<i>Vicia dumetorum</i>		
<i>Vicia hirsuta</i>		
<i>Vicia sepium</i>		
<i>Vicia sylvatica</i>		
<i>Vicia tetrasperma</i>		
<i>Vinca minor</i>		
<i>Vincetoxicum hirundinaria</i>		
<i>Viola arvensis</i>		
<i>Viola hirta</i>		
<i>Viola mirabilis</i>		
<i>Viola reichenbachiana</i>		
<i>Viola riviniana</i>		

Red List endangerment categories:

- 0 Extinct or lost
- 1 Threatened by extinction
- 2 Critically endangered
- 3 Endangered
- V Near threatened
- G Endangered, level of endangerment not clarified
- R Extremely rare
- NT Clan in Near-Threatened List
- d Data insufficient
- ! Baden-Württemberg bears a special responsibility for the protection of the clan

Nomenclature and Red List according to BREUNIG et al. (1999); compilation: Michael Koltzenburg

5.2 List of breeding birds in the biosphere reserve

Taxonomic name	Red list Baden-Württemberg ¹	Red list Germany ²	EU Birds Directive
Accipiter gentilis			
Accipiter nisus			
Acrocephalus palustris	V		
Acrocephalus scirpaceus			
Aegithalos caudatus			
Aegolius funereus	V		Annex 1
Alauda arvensis	3	V	
Alcedo atthis	V	V	Annex 1
Anthus trivialis	3	V	
Anas platyrhynchos			
Apus apus	3	V	
Ardea cinerea			
Asio otus			
Bubo bubo		3	Annex 1
Buteo buteo			
Certhia brachydactyla			
Certhia familiaris			
Dendrocopos major			
Dendrocopos medius	V	V	Annex 1
Carduelis cannabina	V	V	
Carduelis carduelis			
Carduelis chloris			
Carduelis spinus			
Cinclus cinclus			
Coccothraustes coccothraustes			
Columba oenas	V		
Columba palumbus			
Corvus monedula	2		
Corvus corax			
Corvus corone			
Coturnix coturnix			
Crex crex	1	2	Annex 1
Cuculus canorus	3	V	
Delichon urbica	3	V	
Dryocopus martius			Annex 1
Emberiza citrinella	V		
Emberiza schoeniclus	V		
Erithacus rubecula			
Falco peregrinus		3	Annex 1
Falco subbuteo	3	3	
Falco tinnunculus	V		
Ficedula albicollis	3	1	Annex 1
Ficedula hypoleuca	V		
Fringilla coelebs			
Gallinula chloropus	3	V	
Garrulus glandarius			
Hirundo rustica	3	V	
Jynx torquilla	2	3	
Lanius collurio	V		Annex 1
Locustella naevia	V		
Loxia recurvirostra			
Lullula arborea	1	3	Annex 1
Milvus milvus		V	Annex 1
Milvus migrans			Annex 1
Motacilla alba			
Motacilla cinerea			
Muscicapa striata	V		
Nucifraga caryocatactes			

Taxonomic name	Red list Baden-Württemberg ¹	Red list Germany ²	EU Birds Directive
Oenanthe oenanthe	1	2	
Oriolus oriolus	V	V	
Parus ater			
Parus caeruleus			
Parus cristatus			
Parus major			
Parus montanus	V		
Parus palustris			
Passer domesticus	V	V	
Passer montanus	V	V	
Pernis apivorus	3		Annex 1
Perdix perdix	2	2	
Philoscopus collybita			
Philoscopus trochilus	V		
Phoenicurus ochruros			
Phoenicurus phoenicurus	V	V	
Phylloscopus bonelli	1		
Phylloscopus sibilatrix	2		
Pica pica			
Picoides minor	3		
Picus canus	V	V	Annex 1
Picus viridis		V	
Prunella modularis			
Pyrrhula pyrrhula	V		
Rallus aquaticus	2		
Regulus ignicapillus			
Regulus regulus			
Saxicola rubetra	2	3	
Saxicola torquata			
Serinus serinus	V		
Sitta europaea			
Streptopelia decaocto	V	V	
Strix aluco			
Sturnus vulgaris	V		
Sylvia atricapilla			
Sylvia borin			
Sylvia communis	V		
Sylvia curruca	V		
Troglodytes troglodytes			
Turdus merula			
Turdus pilaris	V		
Turdus philomelos			
Turdus viscivorus			
Tyto alba			

¹ according to Hölzinger et al. (2007)

² according to Bauer et al. (2002)

5.3 List of bats in the biosphere reserve

Taxonomic name	Red list Baden-Württemberg ¹	Red list Germany ²	EU Habitats Directive
Barbastella barbastellus	1	1	II, IV
Eptesicus nilsonii	2	2	IV
Eptesicus serotinus	3	V	IV
Myotis myotis	2	3	II, IV
Myotis bechsteinii	2	3	II, IV
Myotis nattereri	2	3	IV
Myotis emarginatus	R	1	II, IV
Myotis mystacinus	3	3	IV
Myotis brandtii	1	2	IV
Myotis daubentonii	3		IV
Nyctalus leisleri	2	G	IV
Nyctalus noctula	1	3	IV
Pipistrellus pipistrellus	3		IV
Plecotus auritus	3	V	IV
Plecotus austriacus	1	2	IV
Rhinolophus ferrugineum	1	1	II, IV

¹ according to Braun et al. (2003)

² according to Boye et al. (1998)

5.4 List of amphibians in the biosphere reserve

Taxonomic name	Red list Baden-Württemberg ¹	Red list Germany ²	EU Habitats Directive
<i>Bombina variegata</i>	2	2	II, IV
<i>Bufo bufo</i>	V		
<i>Bufo calamita</i>	2	3	IV
<i>Bufo viridis</i>	2	3	IV
<i>Hyla arborea</i>	2	2	IV
<i>Salamandra salamandra</i>	3	V	
<i>Rana esculenta</i>	D		
<i>Rana temporaria</i>	V	V	
<i>Triturus alpestris</i>			
<i>Triturus cristatus</i>	2	3	II, IV
<i>Triturus helveticus</i>			
<i>Triturus vulgaris</i>			

¹ according to Lauffer (1999)

² according to Beutler et al. (1998)

5.5 List of reptiles in the biosphere reserve

Taxonomic name	Red list Baden-Württemberg ¹	Red list Germany ²	EU Habitats Directive
<i>Anguis fragilis</i>			
<i>Coronella austriaca</i>	3	2	IV
<i>Lacerta agilis</i>	V	3	IV
<i>Natrix natrix</i>	3	3	
<i>Vipera berus</i>	2	2	
<i>Zootoca vivipara</i>			

¹ according to Lauffer (1999)

² according to Beutler et al. (1998)

5.6 List of butterflies and Zigaenidae moths in the biosphere reserve

Taxonomic name	Red list Baden-Württemberg ¹	Red list Germany ²
Butterflies		
<i>Aglais urticae</i>		
<i>Agrodiaetus damon</i>	1	1
<i>Anthocharis cardamines</i>		
<i>Apatura iris</i>	V	V
<i>Aphantopus hyperantus</i>		
<i>Araschnia levana</i>		
<i>Argynnis paphia</i>		
<i>Aricia artaxerxes</i>	V	V
<i>Brenthis ino</i>	V	V
<i>Callophrys rubi</i>	V	V
<i>Carterocephalus palaemon</i>	V	V
<i>Celastrina argiolus</i>		
<i>Clossiana dia</i>	V	3
<i>Clossiana euphrosyne</i>	3	3
<i>Coenonympha arcania</i>	V	V
<i>Coenonympha glycerion</i>	3	
<i>Coenonympha pamphilus</i>		
<i>Colias australis</i>	V	V
<i>Cupido minimus</i>	V	V
<i>Cyaniris semiargus</i>	V	V
<i>Cynthia cardui</i>		
<i>Erebia aethiops</i>	3	
<i>Erebia ligea</i>	V	V
<i>Erebia medusa</i>	V	V
<i>Erynnis tages</i>	V	V
<i>Eumedonia eumedon</i>	3	2
<i>Fabriciana adippe</i>	3	3
<i>Fixsenia pruni</i>		
<i>Gonepteryx rhamni</i>		
<i>Hamearis lucina</i>	3	3
<i>Hesperia comma</i>	3	3
<i>Inachis io</i>		
<i>Issoria lathonia</i>	V	
<i>Lasiommata maera</i>	3	V
<i>Leptidea sinapis</i>	V	V

Taxonomic name	Red list Baden-Württemberg ¹	Red list Germany ²
<i>Limenitis camilla</i>		3
<i>Limenitis populi</i>	1	2
<i>Limenitis reducta</i>	2!	2
<i>Lycaena hippothoe</i>	3	2
<i>Lycaena phlaeas</i>	V	
<i>Lycaena tityrus</i>	V	
<i>Lysandra bellargus</i>	3	3
<i>Lysandra coridon</i>	V	
<i>Maculinea arion</i>	2	2
<i>Maculinea rebeli</i>	2	2
<i>Maniola jurtina</i>		
<i>Melanargia galathea</i>		
<i>Mellicta athalia</i>	3	3
<i>Mellicta aurelia</i>	3	3
<i>Mellicta britomartis</i>	3	3
<i>Melitaea cinxia</i>	2	2
<i>Melitaea didyma</i>	3	2
<i>Mesoacidalia aglaja</i>	V	V
<i>Nymphalis polychloros</i>	2	3
<i>Ochlodes venatus</i>		
<i>Parnassius mnemosyne</i>	1	1
<i>Papilio machaon</i>		V
<i>Pararge aegeria</i>		
<i>Pieris brassicae</i>		
<i>Pieris napi</i>		
<i>Pieris rapae</i>		
<i>Plebejus argus</i>	V	3
<i>Plebicula dorylas</i>	1	2
<i>Polygonia c-album</i>		
<i>Polyommatus icarus</i>		
<i>Procllossiana eunomia</i>	3	2
<i>Pseudophilotes baton</i>	2	2
<i>Pyrgus malvae</i>	V	V
<i>Pyrgus serratulae</i>	2	2
<i>Satyrium acaciae</i>	3	2
<i>Satyrium spini</i>	3	3
<i>Satyrium w-album</i>	V	3
<i>Spialia sertorius</i>	V	V
<i>Thymelicus acteon</i>	V	3
<i>Thymelicus lineolus</i>		
<i>Thymelicus sylvestris</i>		
<i>Vanessa atalanta</i>		
Zigaenidae		
<i>Zygaena angelicae</i>	2	1
<i>Zygaena carniolica</i>	3	3
<i>Zygaena fausta</i>	3	2
<i>Zygaena filipendulae</i>		
<i>Zygaena lonicerae</i>	V	V
<i>Zygaena loti</i>	V	3
<i>Zygaena minos</i>	3	3
<i>Zygaena osterodensis</i>	2	2
<i>Zygaena purpuralis</i>	3	3
<i>Zygaena transalpina</i>	3	3
<i>Zygaena viciae</i>	V	V

¹ according to Ebert et al. (2005)

² according to Pretschner (1998)

5.7 Species of grasshoppers, locusts, crickets and katydids in the biosphere reserve

Taxonomic name	Red list Baden-Württemberg ¹	Red list Germany ²
<i>Barbitistes serricauda</i>		
<i>Chorthippus albomarginatus</i>		
<i>Chorthippus biguttulus</i>		
<i>Chorthippus brunneus</i>		
<i>Chorthippus dorsatus</i>	V	
<i>Chorthippus montanus</i>	3	3
<i>Chorthippus parallelus</i>		
<i>Chrysochraon dispar</i>		3
<i>Conocephalus discolor</i>		
<i>Decticus verrucivorus</i>	2	3
<i>Euthystira brachyptera</i>	V	

Taxonomic name	Red list Baden-Württemberg ¹	Red list Germany ²
Gomphocerippus rufus		
Gryllotalpa gryllotalpa	V	V
Gryllus campestris	V	3
Isophya kraussii	V	
Meconema thalassinum		
Metrioptera roeselii		
Metrioptera bicolor	V	
Metrioptera brachyptera	V	
Myrmeleotettix maculatus	3	
Nemobius sylvestris		
Oedipoda caerulescens	3	3
Omocestus viridulus	V	
Phaneroptera falcata		
Platycleis albopunctata	3	3
Pholidoptera griseoptera		
Polysarcus denticauda	3	2
Psophus stridulus	2	2
Stenobothrus lineatus	3	
Stauroderus scalaris	3	3
Stenobothrus stigmaticus	2	3
Tettigonia cantans		
Tettigonia viridissima		
Tetrix bipunctata	3	
Tetrix subulata		
Tetrix tenuicornis		
Tetrix undulata		

¹ according to Detzel & Wancura (1998)

² according to Ingrisch & Köhler (1998)

5.8 List of bees in the biosphere reserve

Taxonomic name	Red list Baden-Württemberg ¹	Red list Germany ²
Andrena bicolor	-	-
Andrena bucephala	3	3
Andrena curvungula	3	3
Andrena flavipes	-	-
Andrena fulva	-	-
Andrena fulvata	-	-
Andrena haemorrhoea	-	-
Andrena humilis	V	V
Andrena labialis	V	V
Andrena mitis	V	-
Andrena nigroaenea	-	-
Andrena nitida	-	-
Andrena pandellei	3	3
Andrena praecox	-	-
Andrena scotica	-	-
Andrena vaga	-	-
Andrena ventralis	-	-
Andrena viridescens	-	V
Anthidium byssinum	3	3
Anthidium manicatum	-	-
Anthidium oblongatum	-	V
Anthidium punctatum	3	3
Anthidium strigatum	V	V
Anthophora furcata	3	V
Anthophora plumipes	-	-
Anthophora retusa	3	3
Bombus barbutellus	-	-
Bombus campestris	-	-
Bombus hortorum	-	-
Bombus humilis	V	V
Bombus hypnorum	-	-
Bombus lucorum	-	-
Bombus lapidarius	-	-
Bombus pascuorum	-	-
Bombus pratorum	-	-
Bombus rupestris	-	-
Bombus sorooensis	V	V
Bombus sylvarum	V	V
Bombus sylvestris	-	-

Taxonomic name	Red list Baden-Württemberg ¹	Red list Germany ²
<i>Bombus wurflenii</i>	3	V
<i>Coelioxys rufescens</i>	3	3
<i>Colletes cunicularius</i>	-	-
<i>Colletes daviesanus</i>	-	-
<i>Colletes similis</i>	V	-
<i>Eucera nigrescens</i>	-	-
<i>Halictus maculatus</i>	-	-
<i>Halictus rubicundus</i>	-	-
<i>Halictus simplex</i>	-	-
<i>Halictus tumulorum</i>	-	-
<i>Hylaeus communis</i>	-	-
<i>Hylaeus confusus</i>	-	-
<i>Hylaeus signatus</i>	-	-
<i>Lasioglossum calceatum</i>	-	-
<i>Lasioglossum fulvicorne</i>	-	-
<i>Lasioglossum interruptum</i>	3	3
<i>Lasioglossum laevigatum</i>	2	3
<i>Lasioglossum minutulum</i>	2	3
<i>Lasioglossum morio</i>	-	-
<i>Lasioglossum pauxillum</i>	-	-
<i>Lasioglossum puncticolle</i>	2	2
<i>Lasioglossum rufitarse</i>	-	-
<i>Lasioglossum villosulum</i>	-	-
<i>Lasioglossum xanthopus</i>	V	V
<i>Megachile alpicola</i>	-	-
<i>Megachile circumcincta</i>	-	-
<i>Megachile ericetorum</i>	-	V
<i>Megachile ligniseca</i>	2	3
<i>Megachile versicolor</i>	-	-
<i>Megachile willughbiella</i>	-	-
<i>Melitta haemorrhoidalis</i>	-	-
<i>Melitta tricincta</i>	V	3
<i>Nomada atroscutellaris</i>	-	-
<i>Nomada fabriciana</i>	-	-
<i>Nomada flavopicta</i>	V	-
<i>Nomada goodeniana</i>	-	-
<i>Nomada kohli</i>	2	2
<i>Osmia adunca</i>	V	V
<i>Osmia andrenoides</i>	2	2
<i>Osmia aurulenta</i>	-	-
<i>Osmia bicolor</i>	-	-
<i>Osmia bicornis</i>	-	-
<i>Osmia campanularum</i>	-	-
<i>Osmia florisomnis</i>	-	-
<i>Osmia parietina</i>	3	3
<i>Osmia ravouxi</i>	2	2
<i>Osmia rufohirta</i>	3	3
<i>Osmia spinulosa</i>	3	3
<i>Osmia tridentata</i>	3	3
<i>Osmia villosa</i>	2	2
<i>Osmia xanthomelana</i>	2	2
<i>Sphecodes crassus</i>	-	-
<i>Sphecodes hyalinatus</i>	-	-
<i>Sphecodes monilicornis</i>	-	-
<i>Sphecodes scabricollis</i>	-	G
<i>Stelis signata</i>	3	V

¹ according to Westrich et al. (2000)

² according to Westrich et al. (1998)

5.9 List of other characteristic species in the biosphere reserve

Taxonomic name	Red list Baden-Württemberg ¹	Red list Germany ²
Longhorned beetles		
<i>Rosalia alpina</i>	2	2
Jewel beetles		
<i>Scintillatrix rutilans</i>	2	2
Scarabaeid beetles		
<i>Osmodera eremita</i>	2	2
Ground beetles		
<i>Carabus convexus</i>	3	3
<i>Cymindis humeralis</i>	3	3
<i>Leistus montanus</i>	2	D

Licinus depressus	2	3
Oreonebria castanea	-	R

¹ according to Braun et al. (2003)

² according to Boye et al. (1998)

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7. Further supporting documents

7.1 List of abbreviations

BR	Biosphere reserve
BUND	Bund für Umwelt- und Naturschutz Deutschland e. V. (Friends of the Earth Germany)
ESD	Education for Sustainable Development
HD	EU Habitats Directive
LEADER	Liaison Entre Actions de Développement de l'Économie Rurale (European Union support programme for rural development)
MAB	UNESCO Man and the Biosphere Programme
NABU	Naturschutzbund Deutschland e. V. (Nature and Biodiversity Conservation Union; German Birdlife partner)
PLENUM	Projekt des Landes zur Erhaltung und Entwicklung von Natur und Umwelt (Project of the Land of Baden-Württemberg to conserve and develop nature and environment in close cooperation with the community)
UNESCO	United Nations Educational, Scientific and Cultural Organization
WNBR	World Network of Biosphere Reserves

7.2 Results from the sociological surveys on occasion of this report

7.2.1 Results of the expert evaluation of areas of action

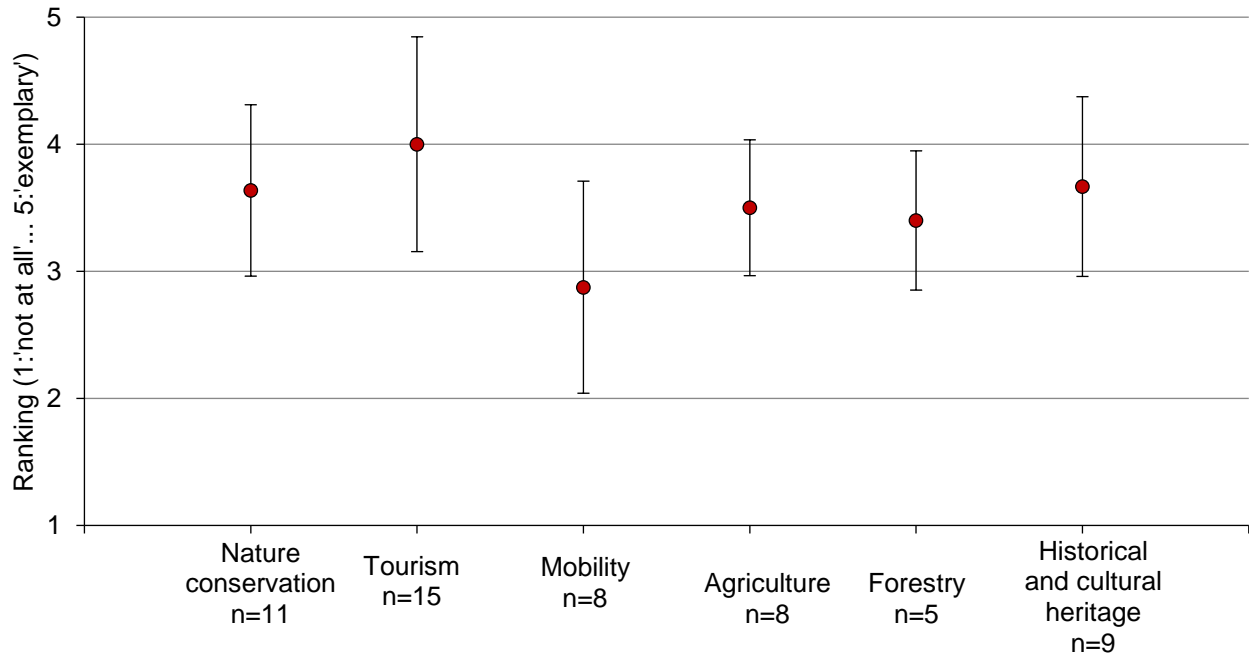


Figure 1: **Expert evaluations responding to the question: “In very general terms, how would you evaluate developments in the area of [category] in the biosphere reserve ever since it was recognized by UNESCO? – The biosphere reserve fulfils its role as a sustainable model region in this area (1) ‘not at all’ to (5) ‘exemplary’”** (means ± standard deviations; for additional details, see 1.5.1).

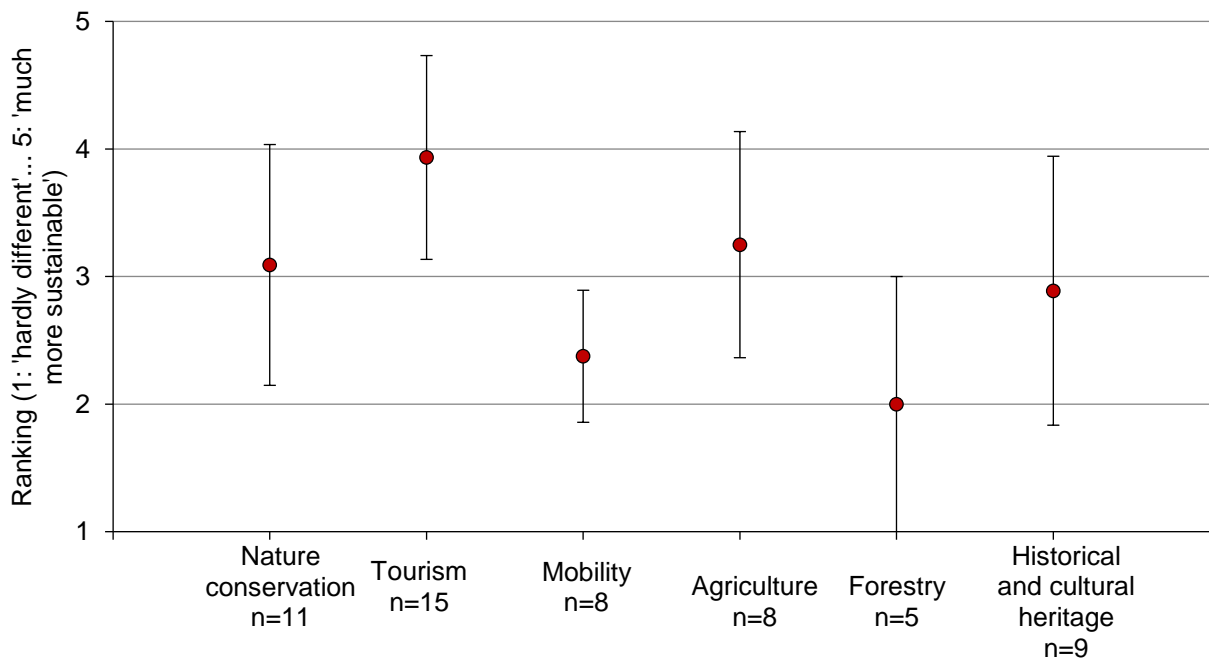


Figure 2: **Expert evaluations responding to the question: “How would you evaluate developments in the area of [category] in the biosphere reserve as compared to the adjacent regions of the biosphere reserve? – Compared to the adjacent regions, the biosphere reserve is (1) ‘hardly different’ to (5) ‘much more sustainable’ in this area (means ± standard deviations; for additional details, see 1.5.1).”**

7.2.2 Results of the population survey

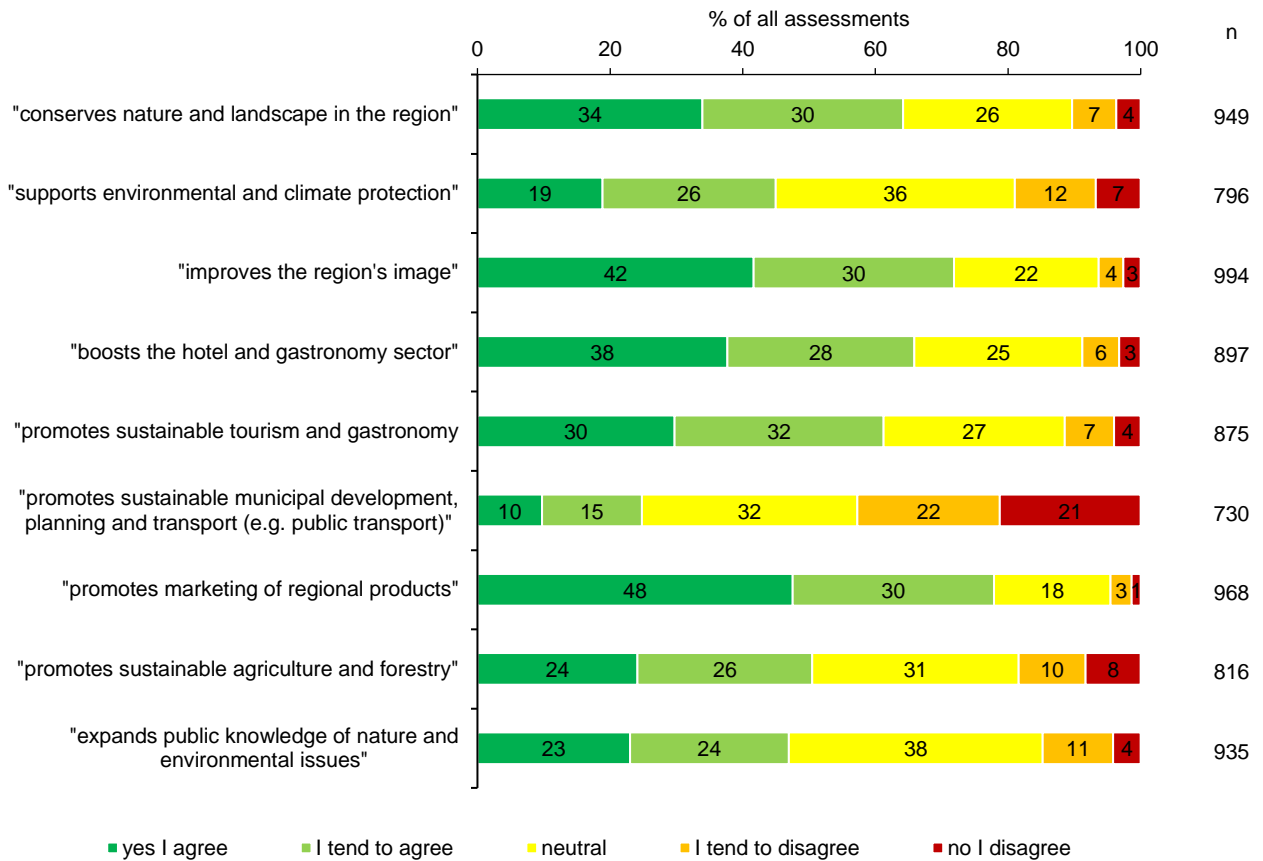


Figure 3: Responses from citizens to the question: “Do you agree with this statement? The biosphere reserve...” (see chapter 1.5; Lindern & Knoth 2019).

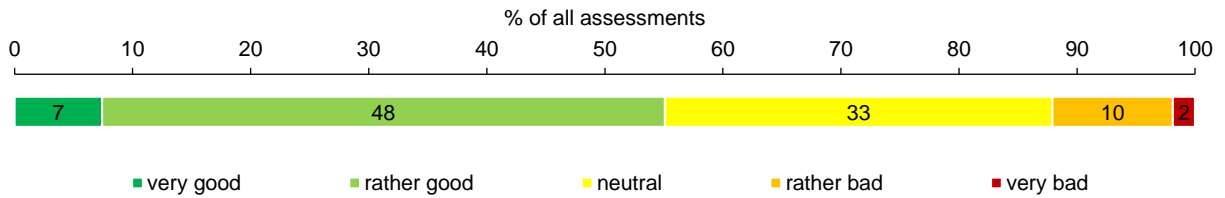


Figure 4: Responses from citizens to the question: “How satisfied are you with the information you received” in the area of public relations (n=1,011; see chapter 1.5; by Lindern & Knoth 2019).

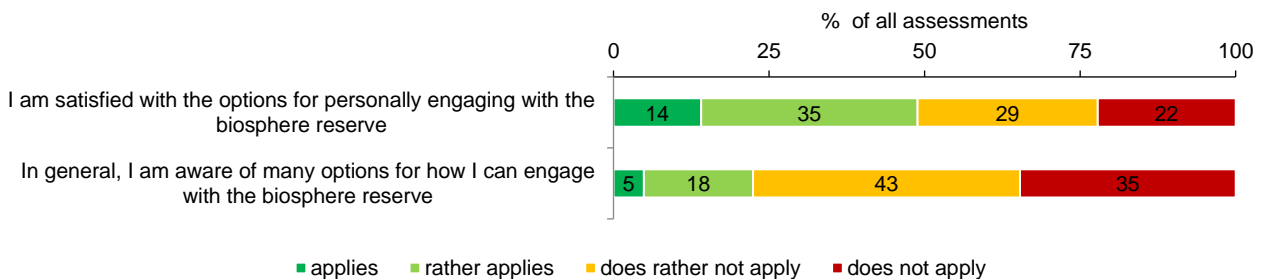


Figure 5: Values for level of agreement among citizens in response to the question: “I am satisfied with the options for personally engaging with the biosphere reserve” (n=532) and: “In general, I am aware of many options for how I can engage with the biosphere reserve” (n=857; see chapter 1.5; by Lindern & Knoth 2019).

7.2.3 Results of the evaluation workshop on management effectiveness in the biosphere reserve

Table 1: Results of the evaluation workshop on management effectiveness in the biosphere reserve.

Overall indicator	Partial indicator	Strengths	Potential for optimization	Value ¹
Management phase: "Context"				
Risks and limitations	Assessment of strengths and mid-level risks	<ul style="list-style-type: none"> Survey of 50 risks, such as the intensity of agricultural uses (did not enter into this assessment) 	<ul style="list-style-type: none"> Some negative impacts on nature conservation caused by overall agricultural policies at the EU level 	-
	Limitations and support provided by the external social and policy context	<ul style="list-style-type: none"> Good cooperation partnerships and committees at the federal level Very good support provided by the state government 		0.70
Average				0.70
Management phase: "Planning"				
Setting up and establishing the protected area	Designation of the protected area	<ul style="list-style-type: none"> Legally protection of natural processes in the core areas 	<ul style="list-style-type: none"> Protection of buffer zone and transition area primarily provided by underlying protected area regulations 	0.39
	Suitable size of the protected area	<ul style="list-style-type: none"> The majority of the core areas border buffer zones 	<ul style="list-style-type: none"> Large number of small sized core areas Core areas that border farmland, settlement and traffic areas in small parts (see 2.4.8) 	0.56
	Demarkation of protected area borders	<ul style="list-style-type: none"> Clear designation of protected area borders 		1.00
	Appropriateness of protected area laws	<ul style="list-style-type: none"> BR Support Program Role of BR administration as a supporter for public concerns 	<ul style="list-style-type: none"> Optimizable regulations in the area of land use 	0.42
Management planning	Management planning	<ul style="list-style-type: none"> Framework concept created through a participative approach is in place 	<ul style="list-style-type: none"> Framework concept is not legally binding 	0.27
Average				0.53
Management phase: "Implementation of funds and personnel"				
Management resources	Appropriateness of financing	<ul style="list-style-type: none"> Sufficient financial resources 		1.00
	Security and stability of financing	<ul style="list-style-type: none"> High degree of security and stability 		1.00
	Appropriateness of materials and equipment	<ul style="list-style-type: none"> Sufficient material and equipment 		1.00
	Appropriateness of protected area staff members	<ul style="list-style-type: none"> Sufficient personnel for numerous areas 	<ul style="list-style-type: none"> Lack of personnel in individual areas impede implementation of some lead projects 	0.67
Basis of information	Appropriateness of relevant available information for the management	<ul style="list-style-type: none"> Information is appropriate and available. If it is not available, sufficient means exist for collecting information. 		1.00
Average				0.93
Management phase: "Management process"				
Internal management systems and processes	Effectiveness of administration including financial management	<ul style="list-style-type: none"> Very high level of effectiveness of the BR administration and financial management Good flow of information inside the BR Administration 		1.00

Overall indicator	Partial indicator	Strengths	Potential for optimization	Value ¹
	Evaluations performed on management effectiveness	<ul style="list-style-type: none"> Evaluation of numerous projects, of the management and of the BR are generally taking place 	<ul style="list-style-type: none"> Not every project is being evaluated Some results from the evaluations are not making their way into the management 	0.67
	Appropriateness of the devices and facilities, as well as their maintenance	<ul style="list-style-type: none"> In very good condition Regularly performed maintenance of facilities and devices 		1.00
	Qualifications of staff members	<ul style="list-style-type: none"> Staff members are highly qualified, very well linked and flexible 		1.00
	Appropriateness of continuing education and professional training opportunities for staff	<ul style="list-style-type: none"> Very good offering of continuing education and professional training 		1.00
Visitor management and educational offerings	Appropriateness of visitor facilities	<ul style="list-style-type: none"> Very good visitor facilities 	<ul style="list-style-type: none"> Some potential for improving the content of the facilities 	0.67
	Appropriateness of the educational offerings	<ul style="list-style-type: none"> Very good educational offerings Very well linked with ESD actors 		1.00
Management system for natural and cultural resources	Measures for protecting natural and cultural resources	<ul style="list-style-type: none"> A lot has already been achieved in the areas of nature conservation, protection of the cultivated landscape, sustainable tourism, mobility and visitor guidance, sustainable regional development, research and monitoring, protection of cultural heritage, public relations and ESD Activities of nature conservation authorities 	<ul style="list-style-type: none"> “Social” dimension has hardly been addressed up to now Area of mobility can be expanded Area of research and monitoring can be expanded (e.g. an overall research plan is not yet in place) 	0.59
	Sustainable resource use – management and auditing	<ul style="list-style-type: none"> Control mechanisms for access to and use of resources in the BR function well The BR Support Programme and additional support programs create financial incentives for the sustainable use of natural resources 	<ul style="list-style-type: none"> Not all the required resource-management measures can be executed 	0.89
	Research for BR management	<ul style="list-style-type: none"> Some research projects are being conducted that are oriented in line with the needs of the management 	<ul style="list-style-type: none"> Many questions from the region have not yet been addressed 	0.67
Stakeholder relations	Public Relations	<ul style="list-style-type: none"> Very good public relations work, goal-oriented and based on a fundamental concept 		1.00
	Inclusion of general population and stakeholders	<ul style="list-style-type: none"> The degree of inclusion of the general population is very high (bringing in ideas, participation in events, participation in surveys, execution of joint projects) The management of the biosphere reserve is based on effective committees and it allows for wide-ranging participation of stakeholders (steering group, biosphere reserve association with advisory and management board as well as the Partner Initiative jury, see 2.3.4) 	<ul style="list-style-type: none"> Citizens hardly have direct influence on the management but mainly via democratically legitimized representatives. Communication with individual association members can be improved 	0.80

Overall indicator	Partial indicator	Strengths	Potential for optimization	Value ¹
		<ul style="list-style-type: none"> Cooperation with stakeholders (e.g., municipalities and tourism service providers) is very good 		
Law enforcement	Appropriateness of law enforcement capacities	<ul style="list-style-type: none"> Sovereign tasks are regulated independently of the biosphere reserve 		-
Global network of biosphere reserves	Participation in the WNBR	<ul style="list-style-type: none"> Numerous cooperation programs with biosphere reserves all across Germany Individual cooperation initiatives with biosphere reserves in neighbouring countries 	<ul style="list-style-type: none"> Cooperation initiatives with biosphere reserves within the WNBR can be expanded 	0.50
Average				0.83
Management phase: "Outcomes of measures"				
Implementation of the working plan	Implementation of the working plan	<ul style="list-style-type: none"> The result (0.69) reflects the degree of implementation of the lead projects within the framework concept. 		0.67
	Results and output	<ul style="list-style-type: none"> Lead projects that were previously concluded achieved very good results 		1.00
Average				0.84
Management phase: "Impacts and changes"				
Impacts for nature conservation	Maintaining natural objects for protection	<ul style="list-style-type: none"> A few surveys and measures in the area of nature conservation were executed Returns of individual rare species have been recorded Many improvements were made in individual areas 	<ul style="list-style-type: none"> Additional measures for improving habitats and for increasing the populations of rare species are necessary Particularly in the area of farming, intensification at the cost of biodiversity can be observed in some parts 	0.50
Cultural impacts	Maintaining cultural objects for protection	<ul style="list-style-type: none"> Strong identification with the region can be observed among citizens Awareness is rising for historical and cultural heritage and the heritage is being touristically valorised 	<ul style="list-style-type: none"> Individual traditions and customs are at the risk of be forgotten 	0.75
Economic impacts	Economics changes	<ul style="list-style-type: none"> Initial approaches for nature conservation oriented and sustainable regional development (e.g. regional markets have been created) are very promising Numerous economically viable projects have been implemented 	<ul style="list-style-type: none"> The positive ecological effects of nature conservation oriented and sustainable regional development seem to have predominantly small-scale effects 	0.33
Effects on the local population	Effects of the protected area on the local population	<ul style="list-style-type: none"> High level of acceptance and awareness for the biosphere reserve Stakeholders do not perceive any disadvantages on account of the BR 	<ul style="list-style-type: none"> In some areas, support from individual municipalities and cities can be optimized Optimizable participation of the general populace 	0.63
Average				0.55
Overall average				0.73

¹Value between 0 (unfavourable) and 1 (best grade)

7.3 Composition of the biosphere reserve committees

Table 2: Committees in the biosphere reserve, their composition and responsibilities.

Group	Steering Committee	BR association Verein Biosphärengebiet Schwäbische Alb e.V.		
		Board of Directors	Advisory Board	Members
		Number of individuals		
Federal policy/administration	1	0	0	1
State policy/administration	5	2	3	4
Municipal policy/administration	8	6	14	34
Private individuals/citizens	0	0	1	3
Youth groups	0	0	0	0
Culture, education and social issues	1	0	1	18
Nature conservation and nature groups	1	2	5	21
Agriculture, forestry and water management	1	2	4	14
Hunting	0	0	0	5
Business development	0	0	0	2
Tourism	0	1	4	16
Science	0	1	1	2
Businesses	0	0	0	15
Total number of people	17	14	33	135
number with voting rights	13	13	32	129
Number of meetings per year	2	1	1	1
Responsibilities				
Consulting functions	Yes	Yes	Yes	Yes
Co-determination/veto rights	Yes	Yes	Yes	Yes
Right of instruction	Yes	No	No	No

7.4 Assessment of ecosystem services and habitats in the biosphere reserve

Table 3: Evaluation of ecosystem services as well as their beneficiaries, categorized by conventional and extensively used grassland and farmland as well as forest areas (source: methodology and evaluation by nature conservation experts, see 3.2).

Ecosystems	Conventional grassland	Conventional farmland	Forest areas	Extensive grassland	Ecologically used farmland	Forest areas without forestry use	Overall evaluation
Basis for area data (cf. 2.1)	Grasslands, minus organic farming	Arable land, minus organic farming, renunciation of herbicide, renunciation of plant protection products and fertilizers	Forests and woodland, minus core areas and areas of the mature wood and deadwood strategy	Heath, organic farming, meadow orchards	Organic farming, renunciation of herbicide, renunciation of plant protection products and fertilizers	Core areas and areas of the mature wood and deadwood strategy	<i>(Respective individual assessment*area) / total area</i>
Area (ha)	15.114	11.265	32.578	12.823	4.456	3.092	79.327
Supply services							
Biomass primary production	3	5	5	1	2	0	3,6
Feed and food production	5	5	1	4	4	1	3,0
Regulation services							
Pollination services	3	1	2	5	2	2	2,5
Habitat development	2	1	3	4	2	5	2,7
Genetic variability	2	1	3	5	3	5	2,9
Regulation of water balance	2	3	4	1	3	4	2,9
Erosion protection	5	3	5	5	3	5	4,6
Filter and buffer function for protection against pollutants in the water ¹	1	3	1	1	3	1	1,4
Equalized nutrient balance/closed nutrient cycle	1	1	4	4	3	5	3,0
Climate protection via carbon sequestration in the soil and vegetation	4	1	5	4	1	5	3,9
Storm protection	1	1	5	1	1	5	2,8
Air pollution control	1	1	5	1	1	5	2,8
Regulation of temperature, humidity and precipitation	1	1	5	1	1	5	2,8
Photosynthesis services	4	4	5	3	3	5	4,2
Cultural services							
Recreation	2	1	4	5	2	5	3,3
Spiritual home	1	1	4	5	5	5	3,3
Jobs	5	5	5	4	4	1	4,6
Beauty and aesthetics	2	1	4	5	2	5	3,3
Beneficiaries							
Farmers and foresters	5	5	5	5	5	0	4,8

Ecosystems	Conventional grassland	Conventional farmland	Forest areas	Extensive grassland	Ecologically used farmland	Forest areas without forestry use	Overall evaluation
Tourists and individuals seeking recreation	2	1	3	5	4	4	2,9
Consumers	5	5	5	5	5	0	4,8
Educators	2	2	2	3	3	3	2,3
Researchers	2	2	2	4	3	5	2,5

Table 4: Comparison of the level of preservation of habitat types protected under the Habitats Directive in the biosphere reserve with the preliminary state-wide classification from 2018 (except for forest habitat types: there 2013) in accordance with unpublished data from the Baden-Württemberg Regional Office for the Environment.

No.	Habitat	Evaluation of the conservation status ¹		
		Evaluated area ² (ha)	Biosphere reserve	Baden-Württemberg
Forest habitats				
9130	<i>Asperulo-Fagetum</i> beech forests	7,131.0	favourable	favourable
9150	Medio-European limestone beech forests of the <i>Cephalanthero-Fagion</i>	234.5	favourable	favourable
9160	Sub-Atlantic and medio-European oak or oak-hornbeam forests of the <i>Carpinion betuli</i>	2.3	unfavourable-inadequate	unfavourable-inadequate
9170	Galio-Carpinetum oak-hornbeam forests	20.0	unfavourable-inadequate	favourable
9180*	<i>Tilio-Acerion</i> forests of slopes, screes and ravines	366.4	unfavourable-inadequate	favourable
91E0*	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i>	5.6	unfavourable-inadequate	unfavourable-inadequate
Grassland habitats				
5130	<i>Juniperus communis</i> formations on heaths or calcareous grasslands	37.7	favourable	unfavourable-inadequate
6110*	Rupicolous calcareous or basophilic grasslands of the <i>Alysso-Sedion albi</i>	0.6	unfavourable-inadequate	unfavourable-inadequate
6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates	52.0	unfavourable-inadequate	unfavourable-bad
6212		930.7	unfavourable-inadequate	
6212*		93.0	favourable	
6213		0.2	unfavourable-inadequate	
6230*	Species-rich <i>Nardus</i> grasslands	1.5	unfavourable-inadequate	unfavourable-bad
6431	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	7.8	favourable	unfavourable-inadequate
6510	Lowland hay meadows	552.9	unfavourable-inadequate	unfavourable-bad
6520	Mountain hay-meadows	25.4	unfavourable-bad	unfavourable-bad
Geomorphic habitats				
7220*	Petrifying springs with tufa formation	3.1	unfavourable-inadequate	favourable
8160*	Medio-European calcareous scree of hill and montane levels	9.1	favourable	favourable
8210	Calcareous rocky slopes with chasmophytic vegetation	86.9	favourable	favourable
8310	Caves not open to the public	0.4	favourable	favourable
Freshwater habitats				
3140	Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp.	0.9	unfavourable-bad	favourable
3150	Natural eutrophic lakes with	1.7	unfavourable-bad	favourable
3260	Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation	5.8	favourable	unfavourable-inadequate
Fen habitats				
7230	Alkaline fens	0.1	unfavourable-inadequate	unfavourable-bad

*Priority habitat types

¹In accordance with the handbook for creating management plans (LUBW 2014), the evaluation represents the conservation status with the largest portion of the respective habitat in the BR.

²Indicated is only the area which to date is evaluated. The total area of the habitat type inside the BR is greater than the evaluated area to date. So far, only six of 14 areas protected under the Habitats Directive are assessed. Hay meadows are entirely assessed.

7.5 Model projects initiated, coordinated or supported by the BR Administration

Table 5: Approved funding amounts, total project costs, number of projects and portion of total funding of BR Support Programme and PLENUM (2008-2018), categorized by area and functions (summary of Table 6).

Primary area	Total funding amount (Euro)	Total project costs (Euro)	Number of projects	Portion of total funding (%)
Conservation function				
Nature conservation	311.224	548.398	49	8,3
Environmental protection and climate action	45.358	70.212	11	1,2
Total	356.582	618.610	60	9,5
Development function				
Agriculture and nature conservation	1.072.283	3.018.979	118	28,5
Sustainable tourism and mobility	1.147.277	2.068.629	78	30,5
Forestry, hunting and nature conservation	45.697	78.245	7	1,2
Historical and cultural heritage	102.779	186.753	18	2,7
Total	2.368.037	5.352.607	221	62,9
Logistic function				
Research - nature conservation	69.709	101.381	13	1,9
Research - environmental protection and climate action	15.392	22.642	2	0,4
Research - forestry	17.244	24.634	1	0,5
Research – historical and cultural heritage	48.540	84.062	8	1,3
Information centres	91.946	175.890	8	2,4
ESD	362.916	615.748	47	9,6
Information	296.048	572.045	57	7,9
Public Relations	135.405	344.807	18	3,6
Total	1.037.200	1.941.209	154	27,6
Overall total	3.761.819	7.912.425	435	100,0

Table 6: Funded projects for the BR Support Programm and PLENUM (2008-2018), categorized by area (table in German).

No	Project	Year of the grant	Amount of funding (Euro)	Total project costs (Euro)	Main applicant	Funding programme
ESD						
1	Albkultour mit GPS - Entdeckungsreise im Biosphärengebiet	2008	2.945	4.207	Volkshochschule Münsingen e.V.	BR
2	Erweiterung des Angebots des Umweltbildungszentrums Listhof (Wassererlebnisgarten, Bauerngarten und Umweltwerkstatt)	2008	21.077	42.153	Trägerverein Umweltbildungszentrum Listhof e.V.	BR
3	Lehrerfortbildung - Jagd und Kulturlandschaft im Wandel der Zeit	2008	1.825	3.650	Unternehmen / Privat	BR
4	Beschilderung des Kräuterpfad Münsingen	2008	785	1.569	Kommune	BR
5	Birnenerlebnisweg am Obstbaumuseum Glems	2009	2.683	5.365	Förderverein Obstbaumuseum Glems e.V.	BR
6	Erlebnisführungen für Menschen mit Handicap im Freilichtmuseum Beuren	2009	6.015	12.030	Kommune	BR
7	Natura Trails im Biosphärengebiet	2009	6.688	9.554	NaturFreunde Württemberg Landesverband	BR
8	Mobile Veranstaltungsstation mit Verkostungsmöglichkeit	2009	7.014	20.039	Unternehmen / Privat	BR
9	Investition in Steinbackofen und Teigknetmaschine für Backveranstaltungen mit Bildungscharakter	2009	1.803	5.152	Unternehmen / Privat	BR
10	Kunst- und Sinnespfad Eningen	2009	10.252	20.504	Kommune	BR
11	Konzeption eines Lehr- und Erlebnispfads entlang der Großen Lauter	2010	4.998	9.996	Kommune	BR
12	Museumskatalog und Internetauftritt Weinbaumuseum Metzinger	2010	12.320	17.600	Förderkreis Metzinger Keltern e.V.	BR
13	Geschichtshaus Owen - Umsetzung einer Ausstellung zur Kulturlandschaft, zum Naturschutz und zum nachhaltigen Tourismus des Teckberges	2010	18.669	37.339	Kommune	BR
14	Bildungsveranstaltung Rennofen auf der Schwäbischen Alb	2010	1.560	3.120	Kommune	BR
15	"Natura Trails" im Biosphärengebiet, Teil II	2010	8.230	11.757	NaturFreunde Württemberg Landesverband e.V.	BR
16	Landwirtschaft heute - Anschaffung von Materialien zur Verbesserung des Bildungsangebots	2010	1.076	3.074	Unternehmen / Privat	BR
17	Ausbau von Bildungsveranstaltungen bei der AlbhofTour - Anschaffung von Nudelmaschinen, Elektro-Steinbackofen und Teigknetmaschine	2010	2.254	6.439	Unternehmen / Privat	BR
18	Ausbau einer vorhandenen Töpfer-Werkstatt zu einem Raum für Kursangebote mit landschaftlichen, landwirtschaftlichen und kulturellen Besonderheiten	2010	11.722	33.491	Unternehmen / Privat	BR
19	Erweiterung des Bildungsprogramms durch Anlage eines Schulteichs	2011	4.947	7.067	Schule / Kindergarten	BR
20	Betrieb eines Holzbackofens als Schul- und Stadtteilprojekt	2011	4.325	6.178	Schule / Kindergarten	BR
21	„Natura Trails“ im Biosphärengebiet, Teil III, Bad Urach	2011	3.002	4.288	NaturFreunde Württemberg Landesverband e.V.	BR
22	Ausbau des Technikmuseums "Alte Säge" Mundingen als außerschulischer Bildungsort	2011	14.106	20.151	Unternehmen / Privat	BR
23	Neukonzeption Weinerlebnispfad Metzinger	2012	8.381	16.763	Förderkreis Metzinger Keltern e.V.	BR
24	Ausstellungskonzeption und Umsetzung des Keltenmuseums Heidengraben	2012	8.578	17.156	Kommune	BR
25	Praxis-Handbuch "Bildung für nachhaltige Entwicklung" für das Biosphärengebiet	2012	2.100	4.200	Trägerverein Umweltbildungszentrum Listhof e.V.	BR
26	Aktions- und Kunstpfad Randecker Maar	2012	15.735	31.470	Ziegelhütte Ochsenwang e.V., Jugendhilfeeinrichtung	BR
27	„Arche-Ranger“ Schwäbische Alb (Arbeitstitel) - Netzwerkgründung und Bildungsangebote zu alten Haustierrassen und zur Wollverarbeitung im Biosphärengebiet	2013	2.966	4.237	Unternehmen / Privat	BR
28	Der Sternenhimmel über dem Biosphärengebiet Schwäbische Alb	2013	3.607	5.120	Interessensgemeinschaft	BR
29	Partnerschaft zwischen dem evangelischen Kindergarten und dem Eichberghof Münsingen - Erlebnis Streuobstwiese	2013	3.802	5.432	Schule / Kindergarten	BR
30	Praxis-Handbuch "Bildung für nachhaltige Entwicklung" für das Biosphärengebiet - Umsetzung	2013	15.954	22.792	Trägerverein Umweltbildungszentrum Listhof e.V.	BR
31	Informationstafeln für den Kirschmuttergarten Neidlingen	2014	2.515	3.400	Obst- und Gartenbauverein Neidlingen e.V.	BR

No	Project	Year of the grant	Amount of funding (Euro)	Total project costs (Euro)	Main applicant	Funding programme
32	Lernen im Freien – Stark machen für mehr Bewegung und nachhaltige Naturerlebnisse	2014	3.815	5.450	Heimat- und Wanderakademie Baden-Württemberg im Schwäbischen Albverein e.V. und Schwarzwaldverein e.V.	BR
33	Neudruck und Neukonzeption Broschüre "Erfahrbar"	2014	6.810	9.193	Reutlinger Computer Oldies e.V.	BR
34	Streuobst-Erlebnispark Metzingen-Glems	2014	8.967	14.572	Förderverein Obstbaumuseum Glems e.V.	BR
35	Unterbringung von Junior Rangern auf Entdeckerreise in Schäferwagen	2014	20.256	28.938	Trägerverein Umweltbildungszentrum Listhof e.V.	BR
36	Lehrerfortbildung zu BNE im Biosphärengebiet Schwäbische Alb	2015	12.191	17.415	Interessensgemeinschaft	BR
37	Neukonzeption für das stadtgeschichtliche Museum Pfullingen im Sinne einer Bildung für Nachhaltigen Entwicklung (BNE)	2015	7.725	10.542	Geschichtsverein Pfullingen e.V.	BR
38	Pädagogische Konzeptionierung und Durchführung von spezialisierten Bildungsangeboten in Gruorn	2015	1.239	1.631	Komitee zur Erhaltung der Kirche in Gruorn e.V.	BR
39	Schulwandern, nachhaltige Entwicklung und Biodiversität	2015	1.267	1.810	Heimat- und Wanderakademie Baden-Württemberg im Schwäbischen Albverein e.V. und Schwarzwaldverein e.V.	BR
40	Theaterprojekt mit Menschen mit Behinderung "Mein Koffer ist gepackt - Heimat haben, verlieren und finden"	2015	2.098	2.960	Komitee zur Erhaltung der Kirche in Gruorn e.V.	BR
41	"Hecken entdecken" - Heckenerlebnispfad in Apfelstetten	2016	20.416	24.560	Interessensgemeinschaft	BR
42	Einrichtung einer Spiel- und Lernscheune	2016	6.010	8.586	Unternehmen / Privat	BR
43	Lernerlebnis Natur: Schulwandern, nachhaltige Entwicklung und Biodiversität	2016	4.624	6.065	Heimat- und Wanderakademie Baden-Württemberg im Schwäbischen Albverein e.V. und Schwarzwaldverein e.V.	BR
44	Kirchen im Biosphärengebiet - Entwicklungsräume für Mensch und Natur	2017	32.901	47.000	NABU-Landesverband Baden-Württemberg	BR
45	Nisthilfenlehrpfad beim Informationszentrum Lauterach	2017	3.211	6.068	Interessensgemeinschaft	BR
46	Bienenerlebnispfad bei Ehingen-Altsteußlingen	2018	13.473	23.704	Imkerverein Ehingen e.V.	BR
47	Heckenerlebnispfad in Münsingen-Apfelstetten	2018	5.980	11.960	Interessensgemeinschaft	BR
Forestry, hunting and nature conservation						
1	Erfassen von Schwarzspecht-Höhlenbäumen im Biosphärengebiet Schwäbische Alb	2008	10.684	17.807	Deutsche Wildtierstiftung e.V.	PLENUM
2	Interkommunales Projekt zur Wiederaufnahme der Mittelwaldbewirtschaftung im Gebiet des Schonwalds "Hofwald"	2008	4.976	9.951	Kommune	PLENUM
3	Elsbeerförderung im Stadtwald Schelklingen	2010	1.698	2.426	Schutzgemeinschaft Deutscher Wald - Kreisverband Alb-Donau-Ulm	PLENUM
4	Entwicklung von Biosphärenmöbeln	2014	2.689	3.842	Interessensgemeinschaft	BR
5	Entwicklung und Umsetzung eines Wildtiermanagementkonzepts auf der Gemarkung der Stadt Pfullingen	2015	10.359	20.718	Kommune	BR
6	Suche und Lokalisierung von Schwarzspechthöhlen - Ausdehnung auf neue Waldflächen der Pflegezonen	2018	13.745	19.635	Deutsche Wildtier Stiftung e.V.	BR
7	Anschaffung einer CNC Fräse zur Herstellung von Wacholderbrillen	2018	1.546	3.866	Unternehmen / Privat	BR
Research - forestry						
1	Folge-Untersuchung Schwarzspechthöhlen im Biosphärengebiet	2016	17.244	24.634	Deutsche Wildtierstiftung e.V.	BR
Historical and cultural heritage						
1	Feinkonzeption Museumsausstellung Klarissenkloster	2008	13.145	26.290	Kommune	BR
2	Betriebskonzept zur nachhaltigen Sicherung von Natur- und Kulturdenkmälern anhand des Beispiels der Burgruine Hohen-Gundelfingen	2008	8.163	11.662	Dorothee Römer-Stiftung	BR
3	Burgen und Burgstellen am Nordrand des Biosphärengebiets	2008	6.545	13.090	Kommune	BR
4	Burgen und Burgstellen am Nordrand des Biosphärengebietes (Teil II)	2009	7.967	15.933	Kommune	BR

No	Project	Year of the grant	Amount of funding (Euro)	Total project costs (Euro)	Main applicant	Funding programme
5	Verzeichnis zur bäuerlichen Kulturlandschaft des Biosphärengebiets	2009	5.278	10.555	Kommune	BR
6	Burgen und Burgstellen am Nordrand des Biosphärengebiets Schwäbische Alb - Teil III	2010	7.872	15.744	Kommune	BR
7	Burgen im Landkreis Esslingen - Druckvorstufe für Erstellung eines Burgenführers	2011	8.250	16.500	Kommune	BR
8	Fortschreibung des Konzeptes für ein „HeidengrabenCentrum“	2011	2.108	4.216	Kommune	BR
9	Informationstafeln über die Geschichte der Albsteige Oberlenningen	2012	2.019	4.037	Kommune	BR
10	„Burgen und Herrschaft“ im Biosphärengebiet Schwäbische Alb - Internetportal und Informationsfaltblatt	2013	6.535	9.336	Gesellschaft für Archäologie in Württemberg und Hohenzollern e.V.	BR
11	Albsymposion 3 - Burgen und Herrschaft im Biosphärengebiet Schwäbische Alb	2015	6.903	9.862	Verein der Freunde und Förderer des Instituts für Geschichtliche Landeskunde e.V.	BR
12	Broschüre "Kulturlandschaftselemente im Biosphärengebiet"	2015	2.840	5.680	Kommune	BR
13	Erneuerung Informationsschilder Burgen im Biosphärengebiet	2016	911	1.821	Kommune	BR
14	Historische Wasserwirtschaft der Echaz in Pfullingen: Wasserwiesen, Trinkwasser, Wasserkraft.	2017	11.910	22.829	Geschichtsverein Pfullingen e.V.	BR
15	Modellprojekt historische Kulturlandschaft - Gebietsuntersuchung in Eningen u. Achalm	2017	4.757	6.795	Hochschule	BR
16	Erwerb und Aufstellung Informationstafel Wallfahrtskapelle Engelberg	2018	1.431	2.862	Kommune	BR
17	Modellprojekt historische Kulturlandschaftselemente im Biosphärengebiet Schwäbische Alb, Referenzgebiet NSG-Listhof (Reutlingen)	2018	4.813	6.875	Hochschule	BR
18	Erneuerung von Burgen-Informationsschildern im Biosphärengebiet	2018	1.333	2.666	Kommune	BR
Research – historical and cultural heritage						
1	Historische Analyse der umliegenden Kulturlandschaft des ehemaligen Dorfes Gruorn	2009	2.450	3.500	Geschichtsverein Münsingen e.V.	BR
2	Historische Analyse der umliegenden Kulturlandschaft des ehemaligen Dofes Gruorn - Teil II	2010	2.415	3.450	Geschichtsverein Münsingen e. V.	BR
3	Historische Analyse des Münsinger Harts - Zeugnisse zu früherer (vormilitärzeitlicher) Landnutzung und Geschichte eines Sonderbezirks	2011	2.538	6.345	Geschichtsverein Münsingen e.V.	BR
4	Analyse der Natur- und Kulturlandschaft auf dem Gelände des Freilichtmuseums Beuren	2011	5.875	11.750	Kommune	BR
5	Historische Analyse der Randbereiche des ehemaligen Truppenübungsplatzes Münsingen - Zeugnisse früherer (vormilitärzeitlicher) Landnutzung und Geschichte eines Sonderbezirks Teil III	2012	5.500	11.000	Kommune	BR
6	Untersuchung der historischen Topographie der Burgruine Achalm	2014	13.650	25.000	Reutlinger Geschichtsverein e.V.	BR
7	Archäologisch-topographische Untersuchung von Burgen im Bereich des Großen Lautertals	2017	8.177	11.682	Verein zur Förderung der Archäologie des Mittelalters Schloss Hohentübingen e.V.	BR
8	Archäologisch-topographische Untersuchung von Burgen im Bereich des Großen Lautertals – Teil 2 (Folgeprojekt)	2018	7.935	11.335	Verein zur Förderung der Archäologie des Mittelalters Schloss Hohentübingen e.V.	BR
Information						
1	Lehrgarten "Unterwuchsnutzung auf der Streuobstwiese im Rahmen der Erweiterung des Ermstal-Obst-Radweges "Unterer Galgenberg"	2008	4.244	7.074	Obst- und Gartenbauverein Bad Urach	PLENUM
2	Grünes Klassenzimmer auf der Streuobstwiese	2008	6.233	10.389	Verein zur Förderung von Kindern u. Jugdl. Bad Urach e.V.	PLENUM
3	Erweiterung des Ermstal-Obst-Radweges: Walnuss- und Haselnussortenpflanzung in der ehemaligen Obstanlage "Unterer Galgenberg"	2008	4.567	9.134	Kommune	PLENUM
4	Rahmenkonzept zur Wiederbelebung des historischen Streuobstgürtels bei Dächingen- Bildung, Tourismus, Vermarktung regionaler Produkte	2008	4.734	9.467	Kommune	PLENUM

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5	Machbarkeitsstudie zur Umnutzung des ehemaligen Schulhauses in Seeburg in ein interaktives Bildungszentrum	2008	4.512	9.023	Kommune	PLENUM
6	Skulpturen auf dem Albreilief des Kräuterpfades Münsingen	2008	1.932	3.864	Hochschule	PLENUM
7	schön & gut - Die Messe rund um Essen, Trinken, Wohnen & Lifestyle	2008	17.505	35.009	Unternehmen / Privat	PLENUM
8	Produktinformationsflyer und Etiketten für eine Kräuterschokolade	2008	1.859	3.718	Unternehmen / Privat	PLENUM
9	Gläserner Schweinestall - Investition und Infolyer	2008	23.615	66.356	Unternehmen / Privat	PLENUM
10	Blühende Landschaft II: Anlegen einer Blütenhecke	2008	3.681	5.258	Mellifera e.V.	PLENUM
11	Blühende Landschaft II: Schulprojekt - Ausarbeitung von Handreichungen	2008	1.834	2.620	Mellifera e.V.	PLENUM
12	Wanderausstellung Blumenwiesen-Alb mit Begleitbroschüre	2008	6.229	10.382	KBV/NABU/Schwäbischer Albverein	PLENUM
13	Neustrukturierung der Obstanlage am Unteren Galgenberg, 2. Abschnitt	2009	3.884	7.767	Kommune	PLENUM
14	Unterwuchsnutzung auf der Streuobstwiese im Rahmen der Erweiterung des Ermtal-Obst-Radwegs Unterer Galgenberg	2009	11.827	19.711	OGV Bad Urach	PLENUM
15	Schafhaltung ohne Moderhinke	2009	6.273	8.962	Landesschafzuchtverband e.V.	PLENUM
16	Die Alblinse: Geschichte und Wiederentdeckung, Foto- und Interviewdokumentation zur OA für eine alte Kulturpflanze	2009	11.370	18.950	Interessensgemeinschaft	PLENUM
17	Frühstück mal regional - mit PLENUM auf dem Bauernhof-Bruch	2009	1.621	2.315	Landfrauenverband im Kreisbauernverband e.V.	PLENUM
18	Weinbau am Georgenberg	2009	10.000	20.800	Kommune	PLENUM
19	Ackerschilder zur Information an "Alb-Leisa Feldern"	2009	802	1.145	Unternehmen / Privat	PLENUM
20	Umsetzung Museumsausstellung Weinbaumuseum Metzigen	2009	9.128	18.255	Förderkreis Metzinger Keltern e.V.	PLENUM
21	Infotafeln für das Projekt "Feines von Reutlinger Streuobstwiesen"	2009	1.976	3.293	Trägerverein Umweltbildungszentrum Listhof e.V.	PLENUM
22	Flyer zum Theaterstück "Der Schäfer von Hayingen"	2009	2.489	3.556	Interessensgemeinschaft	PLENUM
23	150 Jahre Pomologisches Institut	2010	22.312	31.875	Kreisverb. Obst- u. Gartenbauvereine Reutlingen	PLENUM
24	Zelt zur Überdachung des Präsentationsstandes "Feines von Reutlinger Streuobstwiesen"	2010	1.681	3.362	NABU Gruppe in der Projektgruppe	PLENUM
25	Neustrukturierung der Obstanlage am Unteren Galgenberg, 3. und letzter Abschnitt	2010	1.759	3.518	Kommune	PLENUM
26	Infosystem für die vereinseigene Schul- und Musterstreuobstwiese	2010	1.587	2.267	Obst- und Gartenbauverein Altenburg e.V.	PLENUM
27	Anlage eines Streuobstareboretums an der geplanten Ferienanlage Hopfenburg	2010	8.305	11.864	Förderverein Hopfenburg e.V. Münsingen	PLENUM
28	Neustrukturierung der Obstanlage am Unteren Galgenberg, 3. und letzter Abschnitt	2010	14.269	25.943	OGV Bad Urach	PLENUM
29	Schafhaltung ohne Moderhinke - Teil 3	2010	6.764	11.274	Landesschafzuchtverband e.V.	PLENUM
30	Nachhaltige Wildbretvermarktung	2010	4.899	8.165	Unternehmen / Privat	PLENUM
31	Infotafeln "Landwirtschaft im Biosphärengebiet"	2010	963	1.375	Obstbauverein Bernloch	PLENUM
32	Beschaffung von Informationsmaterial für die Öffentlichkeitsarbeit	2010	1.046	2.091	Interessensgemeinschaft	PLENUM
33	Zerlegekurse für Weiderindfleisch	2010	3.341	8.995	Unternehmen / Privat	PLENUM
34	Kutschfahrten im PLENUM-Gebiet	2010	3.358	11.194	Unternehmen / Privat	PLENUM
35	Unterstützung der Marketingaktivitäten Verein Blumenwiesen-Alb e.V.	2010	1.802	3.004	Verein Blumenwiesen-Alb e.V.	PLENUM
36	Naturbeobachtungsstand Seebachtal	2010	2.356	3.927	NABU, Ortsgruppe Reutlingen	PLENUM
37	Öffentlichkeitsarbeit für Naturerlebnis-Kutschfahrten	2010	642	1.284	Unternehmen / Privat	PLENUM
38	Schüler legen eine Streuobstwiese an - von der Pflanzung bis zur Ernte	2011	2.623	5.245	Kommune	PLENUM
39	Streuobstlehrpfad Grabenstetten	2011	2.973	4.247	Obst- und Gartenbauverein Grabenstetten	PLENUM
40	Flyer "Streuobstbau, Brennerei, Vermarktung"	2011	1.428	2.856	Unternehmen / Privat	PLENUM
41	Aktualisierung des Flyers für ebbes Guad's	2011	1.085	2.170	Unternehmen / Privat	PLENUM
42	Klausurtagung der AlbhofTour - Betriebe	2011	575	821	LandFrauenverband im Kreisbauernverband Reutlingen e.V.	PLENUM
43	Erarbeitung von Sachinformationen zu Landschafts-Highlights auf der Sonnenalb	2011	2.700	5.400	Toursimusverein Sonnenalb e.V.	PLENUM

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44	Zwiefalter Vespermarkt	2011	3.718	7.436	Kommune	PLENUM
45	Frühstück mal regional - mit PLENUM auf dem Bauernhof-Brunch	2011	1.711	2.444	Landfrauenverband im Kreisbauernverband e.V.	PLENUM
46	Wildobst und Wildbienen	2011	2.276	3.794	Verein zur Förderung von Kindern und Jugendlichen e.V., Bad Urach	PLENUM
47	Lehr- und Schautafel für Wildbienenstadt im Altsortenmuttergarten	2011	2.459	3.513	OGV Bissingen an der Teck e.V.	PLENUM
48	Mittelalterlicher Klostergarten	2011	5.851	9.751	Museumsverein Klosterkirche Offenhausen e.V.	PLENUM
49	Konzeption für einen Broterlebnispfad	2011	2.304	4.608	Unternehmen / Privat	PLENUM
50	Errichtung eines Lehrbienenstandes mit Bienenlehrpfad	2011	10.672	15.246	Bezirksimkerverein Metzingen e.V.	PLENUM
51	Expedition Landwirtschaft - Koordination und Aufbau von Bildungsangeboten auf dem Bauernhof	2011	1.540	2.200	LandFrauenverband und Kreisbauernverband Reutlingen	PLENUM
52	Umsetzung der Konzeption zur Besucherlenkung und Öffentlichkeitsarbeit im FFH- und Landschaftsschutzgebiet auf der Achalm	2011	7.116	14.232	Kommune	PLENUM
53	Informationstafel und Sortenbeschilderung im Obstsortenmuseum	2012	1.384	2.768	Kommune	PLENUM
54	Einrichtung eines Arbeitskreises und Vermittlung von Fachkenntnissen zur naturschutzfachlichen Pflege von Streuobstwiesen	2012	3.058	7.646	Kommune	PLENUM
55	Schüler legen eine Streuobstwiese an - von der Pflanzung bis zur Ernte (Fortführung)	2012	2.491	4.152	Förderverein der Geschwister-Scholl-Realschule Bad Urach e.V.	PLENUM
56	"Ausemländle"	2012	18.697	51.354	Unternehmen / Privat	PLENUM
57	Informationsveranstaltungen und Schulungen im Rahmen des Landschaftsentwicklungskonzepts Pfullingen	2012	5.990	14.976	Kommune	PLENUM
Agriculture and nature conservation						
1	Streuobstbau erleben - Konzept für Kelter und Brennerei der Gemeinde	2008	3.092	6.184	Kommune	PLENUM
2	Anschaffung einer Bag-in-Box Abfüllanlage zur Erweiterung der ebbes Guad's Produktpalette	2008	9.522	45.360	Unternehmen / Privat	PLENUM
3	2. Dettinger Kirschenfest	2008	11.054	27.635	Kommune	PLENUM
4	Schafhaltung ohne Moderhinke	2008	5.587	7.982	Landesschafzuchtverband e.V.	PLENUM
5	Anschaffung einer transparenten Honigschleuder	2008	1.120	1.600	Imkerverein Ehingen	PLENUM
6	4. PLENUM-Brunch	2008	2.145	3.064	Kreisbauernverband, Landfrauen	PLENUM
7	Erster Biosphärenmarkt in Münsingen vom 3. - 5. Oktober 2008	2008	14.588	29.175	Pro Münsingen e.V.	PLENUM
8	Verarbeitungsküche und Verkaufsraum für biologische Convenience-Produkte aus dem PLENUM-Gebiet	2008	81.506	232.872	Unternehmen / Privat	PLENUM
9	Aufbau einer Alb-Angus-Vermarktung im PLENUM-Gebiet	2008	3.160	7.900	Unternehmen / Privat	PLENUM
10	"Marieles Freund": Entwicklung von Keksen aus Emmer, Einkorn und Dinkel	2008	642	1.604	Unternehmen / Privat	PLENUM
11	Reinigungsanlage für die "Alb-Leisa"	2008	31.262	89.318	Unternehmen / Privat	PLENUM
12	Konzipierung eines Internetauftritts für die Bio-Vollkornbäckerei Berger und ihre regionalen Erzeuger	2008	1.763	3.525	Unternehmen / Privat	PLENUM
13	Erstellung und Umsetzung eines Marketingkonzepts für den Vertrieb von biologisch-regionalen Fertigprodukten	2008	36.560	91.400	Unternehmen / Privat	PLENUM
14	Anschaffung von Gerätschaften zur Herstellung eines Schwäbische Alb-Dinkel-Whisky	2008	38.719	110.626	Unternehmen / Privat	PLENUM
15	Umbau Maschinenschuppen zur Herstellung des Schwäbischen Alb-Dinkel Whiskys	2009	20.351	105.073	Unternehmen / Privat	PLENUM
16	Anschaffung einer Bag-in-Box Abfüllanlage	2009	5.832	29.160	Unternehmen / Privat	PLENUM
17	Anschaffung einer Bag-in-Box Abfüllanlage	2009	7.683	38.417	Unternehmen / Privat	PLENUM
18	Teilsanierung Mosterei, Lagerraumerstellung, Erneuerung Packpressanlage incl. Anschaffung Bag-in-Box Anlage	2009	10.576	52.879	Unternehmen / Privat	PLENUM
19	Anschaffung einer Bag-in-Box Anlage	2009	3.879	19.397	Unternehmen / Privat	PLENUM

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20	Anschaffung einer Bag-in-Box Anlage	2009	7.639	21.825	Förderverein Obstbaumuseum Glems e.V.	PLENUM
21	Kundeninformationsmaterialien für die Produktpalette von "ebbes Guad's"	2009	1.653	3.305	Unternehmen / Privat	PLENUM
22	Anschaffung einer mobile Klauenbehandlungsanlage zur Bekämpfung der Moderhinke bei Schafen	2009	1.193	2.983	Unternehmen / Privat	PLENUM
23	Anschaffung von mobilen Klauenbehandlungsanlagen zur Bekämpfung der Moderhinke bei Schafen	2009	262	654	Unternehmen / Privat	PLENUM
24	Garnentwicklung aus Biosphärenwolle	2009	7.025	28.100	Unternehmen / Privat	PLENUM
25	Erweiterung der Trocknungs- und Reinigungskapazitäten für die Alb-Leisa	2009	9.917	28.333	Unternehmen / Privat	PLENUM
26	Erweiterung der Trocknungs- und Reinigungskapazitäten für die Alb-Leisa	2009	16.687	47.676	Unternehmen / Privat	PLENUM
27	Erweiterung der Trocknungs- und Reinigungskapazitäten für die Alb-Leisa	2009	6.438	18.395	Unternehmen / Privat	PLENUM
28	Konzeption für Hofladen und Schaubäckerei	2009	5.083	10.165	Unternehmen / Privat	PLENUM
29	schön & gut - Die Messe rund um Essen, Trinken, Wohnen & Lifestyle	2009	15.222	38.054	Unternehmen / Privat	PLENUM
30	Zweiter Biosphärenmarkt in Münsingen am 3. und 4. Oktober 2009	2009	15.559	38.898	Pro Münsingen e.V.	PLENUM
31	Anschaffung eines Verkaufswagens zur Vermarktung von Bio-Fleisch aus dem PLENUM-Gebiet, insbesondere Kaninchen-, Lamm- und Geflügelfleisch	2009	3.799	18.995	Unternehmen / Privat	PLENUM
32	Neupflanzung eines Teils des historischen Streuobstgürtels auf der Ehinger Alb	2010	3.796	6.326	Interessensgemeinschaft	PLENUM
33	Obstauflesemaschine, Anhänger, Obstschüttler	2010	13.074	37.354	Unternehmen / Privat	PLENUM
34	Neue Zwetschgenprodukte unter der Marke "ebbes Guad's"	2010	931	1.861	Unternehmen / Privat	PLENUM
35	Verbesserung der Garnqualität aus Biosphärenwolle - Albmerino	2010	5.331	13.328	Unternehmen / Privat	PLENUM
36	Erstellen eines Zauns zur Landschaftspflege mit Welsh Black-Rindern	2010	1.198	2.994	Unternehmen / Privat	PLENUM
37	Erweiterung der Linsenreinigungsanlage	2010	17.253	49.295	Unternehmen / Privat	PLENUM
38	Einrichtung eines Schulungs-Backraums/Vermarktung von Fruchtschalenmehl	2010	7.318	20.908	Unternehmen / Privat	PLENUM
39	Aufbau einer Zwergzebu-Zucht in Römerstein und deren Vermarktung	2010	9.460	22.650	Unternehmen / Privat	PLENUM
40	Zwergzebu: Produktentwicklung Zebuleder	2010	15.288	38.220	Unternehmen / Privat	PLENUM
41	Bau einer Brennerei für Hafer	2010	15.607	44.592	Unternehmen / Privat	PLENUM
42	Nähmaschine zur Verarbeitung von Albbüffelleder	2010	2.299	6.569	Unternehmen / Privat	PLENUM
43	Dritter Biosphärenmarkt in Münsingen am 2. Und 3. Oktober	2010	11.749	39.163	Pro Münsingen e.V.	PLENUM
44	Frühstück mal regional - mit PLENUM auf dem Bauernhof-Brunch	2010	1.888	2.697	Landfrauenverband im Kreisbauernverband e.V.	PLENUM
45	Eröffnung eine Tante-Emma-Ladens mit regionalen Produkten	2010	2.687	3.963	Unternehmen / Privat	PLENUM
46	Metzinger Kontor - Verkauf regionaler Produkte in der Metzinger Innenstadt	2010	3.850	7.700	Kommune	PLENUM
47	Gourmetkontor Metzinger: Einrichtung eines Ladens für den Verkauf regionaler Produkte in der Metzinger Innenstadt	2010	17.902	44.756	Kommune	PLENUM
48	Obstauflesemaschine	2011	6.873	19.637	Unternehmen / Privat	PLENUM
49	Kirschartenbestimmung in der Dettinger Kirschenheimat im Jahr 2011	2011	740	1.480	Kommune	PLENUM
50	Bag-in-Box Abfüllanlage	2011	2.490	12.450	Unternehmen / Privat	PLENUM
51	Obstauflesemaschine	2011	8.000	20.000	Obst- und Gartenbauverein Neidlingen e.V.	PLENUM
52	Obstauflesemaschine	2011	3.730	10.656	Unternehmen / Privat	PLENUM
53	Umbau eines Gebäudes zur Nutzung als Mosterei	2011	6.711	33.553	Unternehmen / Privat	PLENUM
54	Maschinen zur Herstellung von Obstdestillaten aus Neidlinger Streuobstwiesen	2011	5.960	17.028	Unternehmen / Privat	PLENUM
55	Anschaffung einer Obstbrennerei	2011	24.128	68.936	Unternehmen / Privat	PLENUM
56	Schafzaun	2011	530	1.325	Unternehmen / Privat	PLENUM
57	Schafzaun	2011	305	761	Unternehmen / Privat	PLENUM
58	Klauenbad zur Moderhinkebekämpfung	2011	312	780	Unternehmen / Privat	PLENUM
59	Errichtung eines Getreidelagers für Dinkel und Emmer mit Dinelschäler	2011	48.883	139.667	Unternehmen / Privat	PLENUM
60	Neubau eines Lagerschuppens zur Lagerung landwirtschaftlicher Geräte in einer Gemeinschaftsschuppenanlage	2011	17.360	49.600	Obst- und Gartenbauverein Dettingen e.V.	PLENUM

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61	Ziegenstall und Heulager	2011	25.164	100.656	Unternehmen / Privat	PLENUM
62	Anschaffung eines Zauns zur landschaftspflege mit Welsh Black-Rindern	2011	542	1.354	Unternehmen / Privat	PLENUM
63	Einrichtung eines "Regionalen Regals" im Naturschutzzentrum Schopfloch	2011	3.469	8.673	Kommune	PLENUM
64	Erweiterung der Trocknungsanlage für das Linsen-Getreide-Gemenge	2011	1.226	3.503	Unternehmen / Privat	PLENUM
65	Kühlanhänger zur Direktvermarktung von Fleisch	2011	2.022	5.778	Unternehmen / Privat	PLENUM
66	Optimierung der Erhitzungsanlage	2011	6.740	19.257	Förderverein Obstbaumuseum Glems	PLENUM
67	Machbarkeitsstudie Wollwäscherei	2011	7.997	11.424	Unternehmen / Privat	PLENUM
68	Anschaffung gemeinschaftlich nutzbarer Gerätschaften zur Streuobstwiesenpflege	2012	1.552	2.586	Förderverein Obstbaumuseum Glems e.V.	PLENUM
69	Ergänzung des Apfel- und Kirschsensortiments sowie Anschaffung von Gerätschaften zur Streuobstwiesenpflege um Unteren Galgenberg	2012	3.180	6.360	Obst- und Gartenbauverein Bad Urach e.V.	PLENUM
70	Umbaumaßnahme zur Erweiterung der Mostproduktion	2012	10.515	52.575	Unternehmen / Privat	PLENUM
71	Anschaffung einer Verschlußbrennerei	2012	19.553	78.211	Unternehmen / Privat	PLENUM
72	Ausbau einer Mosterei mit Bag-in-Box-Anlage	2012	1.559	7.797	Unternehmen / Privat	PLENUM
73	Entwicklung einer Gestaltungsrichtlinie (Corporate Design) für die Produktpalette von "ebbes Guad's"	2012	4.300	8.600	Unternehmen / Privat	PLENUM
74	Bau eines Geräteschuppens zur Lagerung landwirtschaftlicher Geräte in einer Gemeinschaftsschuppenanlage	2012	18.668	93.338	Kommune	PLENUM
75	Umsetzung "Brotweg"	2012	12.167	40.558	Unternehmen / Privat	PLENUM
76	Einrichtungsgegenstände zur Verkaufsförderung regionaler Produkte im Hofladen	2012	1.810	5.170	Unternehmen / Privat	PLENUM
77	Frühstück mal regional - Bauernhof-Brunch	2012	1.189	1.698	Landfrauenverband Reutlingen	PLENUM
78	Anschaffung einer Obstauflesemaschine	2013	8.771	25.059	Unternehmen / Privat	BR
79	Bauernhofbrunch im Biosphärengebiet	2013	1.166	1.666	Kreisbauernverband Reutlingen e.V. und Landfrauenverband Reutlingen	BR
80	Erweiterung einer Bag-in-Box Abfüllanlage	2013	3.158	15.792	Unternehmen / Privat	BR
81	Machbarkeitsstudie „Regionale Lieferkette Weizen“	2013	3.250	6.500	Unternehmen / Privat	BR
82	Mobile Entsteinungsmaschine für Kirschen und Zwetschgen	2013	1.914	4.786	Unternehmen / Privat	BR
83	Neuanschaffung einer Brennereianlage	2013	16.151	46.147	Unternehmen / Privat	BR
84	Anschaffung einer gemeinsamen Sämaschine mit innovativer Sätechnik	2014	15.843	45.267	Unternehmen / Privat	BR
85	Bauernhofbrunch im Biosphärengebiet	2014	994	1.529	LandFrauenverband Reutlingen e.V. und Kreisbauernverband Reutlingen	BR
86	Projekt "Bio-Alblinsenschwein": Logo-, Faltblatt- und Plakatentwicklung	2014	2.116	4.231	Unternehmen / Privat	BR
87	Projekt "Bio-Alblinsenschwein": Weidezaun und Elektrozaengerät	2014	407	1.163	Unternehmen / Privat	BR
88	Regionales Biosphärenfrühstück mit Verena Bentele	2014	2.869	4.055	LandFrauenverband Reutlingen e.V.	BR
89	Viehtransportanhänger für die Landschaftspflege (Ziegen und Schafe)	2014	1.096	2.739	Unternehmen / Privat	BR
90	Anschaffung einer mobilen Wollpresse	2015	3.182	7.955	Baden-Württembergische Wollerzeugergemeinschaft e.V.	BR
91	Anschaffung eines traktorbetriebenes Erdbohrgerätes	2015	4.954	7.077	Obst- und Gartenbauverein Unterlenningen 1928 e.V.	BR
92	Bauernhofbrunch im Biosphärengebiet	2015	868	1.240	Kreisbauernverband Reutlingen und Landfrauenverband Reutlingen	BR
93	Erneuerung einer Bag in Box Anlage	2015	17.238	43.096	Unternehmen / Privat	BR
94	Erneuerung einer Brennereianlage	2015	15.860	39.650	Unternehmen / Privat	BR
95	Produktentwicklung "Mostkäse"	2015	8.655	17.167	Unternehmen / Privat	BR
96	Wiesenmeisterschaft - Wertschätzung für die Zukunft	2015	5.558	6.176	Blumenwiese-Alb e.V.	BR
97	Anschaffung einer Ölmühle	2016	8.217	17.719	Unternehmen / Privat	BR
98	Anschaffung einer Pelletiermaschine	2016	21.637	54.093	Unternehmen / Privat	BR
99	Erneuerung einer Brennereianlage	2016	18.841	47.102	Unternehmen / Privat	BR

No	Project	Year of the grant	Amount of funding (Euro)	Total project costs (Euro)	Main applicant	Funding programme
100	Maßnahmenkonzept zur naturschutzfachlichen Aufwertung der Metzinger Weinberge im Biosphärengebiet Schwäbische Alb.	2016	6.162	6.847	Förderkreis Metzinger Keltern e.V.	BR
101	Regionales Biosphärenfrühstück	2016	1.491	2.007	LandFrauenverband Reutlingen e.V.	BR
102	Strategiekonzept: Erhalt und Förderung der Nutzpflanzenvielfalt im Biosphärengebiet Schwäbische Alb	2016	7.000	10.000	Alblinsen-Förderverein, 1. Vorsitzender Woldemar Mammel	BR
103	Anschaffung einer Obstauflesemaschine	2017	12.313	24.625	Unternehmen / Privat	BR
104	Anschaffung eines Verkaufsautomaten	2017	6.271	15.678	Unternehmen / Privat	BR
105	Erneuerung einer Brenneiereanlage	2017	15.200	38.000	Unternehmen / Privat	BR
106	Erstellung einer Internetseite	2017	3.249	4.641	Unternehmen / Privat	BR
107	Imagefilm für die Hofmolkerei Schmid	2017	5.530	7.900	Unternehmen / Privat	BR
108	Maßnahmenkonzept zur naturschutzfachlichen Aufwertung der Weinberge der Mitgliedsgemeinden der Weingärtnergenossenschaft Hohenneuffen-Teck eG	2017	4.850	6.928	Unternehmen / Privat	BR
109	Trocknungsgerät für Apfeltrester - Folgeantrag zum Förderprojekt "Anschaffung einer Pelletiermaschine" 2016	2017	11.212	28.029	Unternehmen / Privat	BR
110	Anschaffung einer Entstein-Passier-Maschine	2018	2.260	5.650	Unternehmen / Privat	BR
111	Anschaffung einer Obstwasch- und Mahlanlage	2018	8.956	22.390	Unternehmen / Privat	BR
112	Nussbaumweg in Lichtenstein - Öffentlichkeitsarbeit	2018	16.178	28.935	Obst- und Gartenbauverein Lichtenstein	BR
113	Anschaffung einer Wiegeeinrichtung zur Selektion und Zucht von Schafen für extensive Weidegebiete	2018	9.317	17.434	Unternehmen / Privat	BR
114	Erstellung von Öffentlichkeitsmaterialien und einer Internetseite für "Wollwerk"	2018	10.556	15.080	Interessensgemeinschaft	BR
115	3. Regionales Biosphärenfrühstück	2018	2.025	3.487	LandFrauenverband Reutlingen e.V.	BR
116	Maßnahmen zur naturschutzfachlichen Aufwertung der Metzinger Weinberge im Biosphärengebiet Schwäbische Alb	2018	9.293	20.003	Förderkreis Metzinger Keltern e.V.	BR
117	Markenauftritt der Regionalmarke ALBGEMACHT	2018	16.189	23.128	ALBGEMACHT e.V.	BR
118	Anschaffung eines fahrbaren Milchtanks - ein Kooperationsprojekt von zwei kleinen landwirtschaftlichen Betrieben	2018	4.667	11.668	Unternehmen / Privat	BR
Sustainable tourism and mobility						
1	Besucherlenkungskonzept Biosphärengebiet Schwäbische Alb	2008	33.784	39.746	"Interessengemeinschaft Besucherlenkung", Verein für Naherholung Esslingen e.V.	BR
2	Optimierung der Besucherlenkung für den ehemaligen Truppenübungsplatz Münsingen	2008	15.919	31.837	Bund	BR
3	Wacholderbar im "Württembergischer Zug"	2008	24.664	61.659	Schwäbische Albbahn e.V.	BR
4	Broschüre zur Reaktivierung des Güterverkehrs auf der Schwäbischen Albbahn	2008	3.155	4.507	Schwäbische Albbahn e.V.	BR
5	Potenzialanalyse "Heidengraben"	2008	9.354	18.707	Kommune	BR
6	Konzeption Besinnungsweg Ehinger Alb - Qualitätswanderweg	2009	6.714	13.428	Kommune	BR
7	Fahrradanhänger für neue Buslinie Lenningen-Römerstein	2009	6.430	16.074	Kommune	BR
8	KlimaCard Biosphärengebiet Schwäbische Alb - Machbarkeitsstudie	2009	7.600	15.200	Fremdenverkehrsgemeinschaft Schwäbische Alb und Albvorland im Landkreis Reutlingen e.V.	BR
9	Konzeption zur Besucherlenkung und -information der Gemeinde Beuren	2009	6.562	13.123	Kommune	BR
10	Besucherlenkung ehemaliger Truppenübungsplatz - Inwertsetzung ehemaliges Maschinenhaus und Kalkofen	2009	7.324	14.648	Bund	BR
11	Machbarkeitsstudie "Obststraße" (Arbeitstitel)	2010	27.728	39.611	Verkehrsverein Teck-Neuffen e.V., Fremdenverkehrsgemeinschaft Schwäbische Alb und Albvorland im Landkreis Reutlingen e.V.	BR
12	Projektumsetzung "Wege zur Einkehr und Besinnung auf der Ehinger Alb"	2010	21.590	43.180	Kommune	BR
13	Aufbau eines Gastronomie- und Hotelverbundes im Biosphärengebiet	2010	24.396	48.790	Interessensgemeinschaft	BR

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14	Umsetzung der Konzeption zu den Erlebnisplattformen „Kalkofen“ und „Maschinenhaus“ auf dem ehemaligen Truppenübungsplatz	2010	845	1.690	Bund	BR
15	Umsetzung Besucherlenkungs-konzept - Beschilderung Landkreis Esslingen	2010	24.463	48.926	Verein für Naherholung im Bereich „Schwäbische Alb des Landkreises Esslingen“ e.V.	BR
16	Umsetzung Besucherlenkungs-konzept: Wander- und Radwege Weilheim/ Teck	2010	11.752	23.504	Kommune	BR
17	Zugtouren im naldoland - die Ermstalbahn	2010	3.057	7.642	Unternehmen / Privat	BR
18	Informationssystem Beuren	2011	12.110	24.220	Kommune	BR
19	Naturschutzorientiertes Wanderwegkonzept und Premiumwanderweg Bad Urach	2011	12.732	25.464	Kommune	BR
20	Faltblatt "Klettern im Biosphärengebiet Schwäbische Alb"	2011	4.188	5.983	Deutscher Alpenverein - Landesverband Baden-Württemberg	BR
21	Historischer Rundweg in der ehemaligen Ortschaft Gruorn auf dem ehemaligen Truppenübungsplatz Münsingen	2011	19.163	27.375	Komitee zur Erhaltung der Kirche in Gruorn e.V.	BR
22	Ausbau des Hotel- und Gastronomieverbundes - Konzept	2011	18.516	41.902	0	BR
23	Neueröffnung eines „Biosphärencafés“ in Neidlingen - Schild	2011	3.346	6.995	0	BR
24	Fertigstellung „Wege zur Einkehr und Besinnung“	2011	16.155	32.309	Förderverein Besinnungsweg Ehinger Alb im Biosphärengebiet e.V	BR
25	Modellhafte Einführung einer elektronischen Gästeführung – „I-ALB“	2011	17.826	35.652	Kommune	BR
26	Sanierung der Holzkabinen zweier Aussichtstürme auf dem ehemaligen Truppenübungsplatz Münsingen - degressiv	2011	15.370	34.156	Schwäbischer Albverein e.V.	BR
27	Konzeption Bahn-Rad-Wanderweg Gomadingen-Münsingen-Schelklingen	2011	2.213	4.426	Kommune	BR
28	Organisationsentwicklung Obststrasse	2011	5.600	8.000	Tourismusverbände	BR
29	Schwäbischer Whisky Walk - Marketing	2012	7.055	14.930	Unternehmen / Privat	BR
30	Kirschcafé "Alte Kass" - Erstellung von Marketingmaterialien	2012	1.640	4.100	Unternehmen / Privat	BR
31	Expedition Biosphärengebiet Schwäbische Alb	2012	36.269	51.814	Schwäbischer Albverein e.V. Projektgruppe Expedition	BR
32	Gustav-Strömfeld-Weg: Eine Reise durch die Geschichte der Landschaft	2012	22.416	44.832	Schwäbischer Albverein e.V., Ermsgau	BR
33	Umsetzung Besucherlenkungs-konzept für das Biosphärengebiet Schwäbische Alb - Wanderparkplatzbeschilderung im Landkreis Reutlingen	2012	59.140	118.281	Tourismusgemeinschaft Mythos Schwäbische Alb e.V.	BR
34	Werbematerialien für Veranstaltung „Entlang der blauen Mauer“	2012	4.939	9.877	Kommune	BR
35	Konzeption zur Besucherlenkung in der Stadt Neuffen	2012	4.357	8.713	Kommune	BR
36	Autofreie Ausflugstipps im Biosphärengebiet Schwäbische Alb	2012	13.384	19.120	Pro Münsingen e.V., Schwäbische Alb-Bahn e.V., Förderverein Hopfenburg e.V.	BR
37	Weiterentwicklung Biosphäregastgeber - Marketingmaterialien	2012	15.110	41.114	Unternehmen / Privat	BR
38	Umsetzung Konzeption Bahn-Rad-Wanderweg Gomadingen-Münsingen-Schelklingen	2012	19.920	39.840	Kommune	BR
39	Gesamtentwicklungskonzeption für den geschützten Grünbestand und das Naherholungsgebiet Beutenlay	2012	13.617	34.043	Kommune	BR
40	Gestütsradweg Haupt- und Landgestüt Marbach	2013	19.430	27.757	Museumsverein Klosterkirche Offenhausen e.V., Mythos Schwäbische Alb e.V.	BR
41	Gustav-Strömfeld-Weg - Eine Reise durch die Landschaftsgeschichte Teil II: Beschilderung und Informationstafeln	2013	16.181	30.870	Schwäbischer Albverein e.V. - Ortsgruppe Metzingen	BR
42	Keltenfest am Heidengraben - Öffentlichkeitsarbeit, Zangentor und Shuttlebus	2013	18.952	27074	FAKT - Förderverein für Archäologie, Kultur und Tourismus e.V.	BR
43	Machbarkeitsstudie zur Schienenanbindung des Alten Lagers	2013	9.450	13.500	Schwäbische Alb-Bahn e.V.	BR
44	Nutzung eines originellen Bauernhauses als Kulturbetrieb unter Einbezug von behinderten Menschen	2013	14.610	20.100	Unternehmen / Privat	BR
45	Planung von Mehrtageswanderungen im Biosphärengebiet Schwäbische Alb	2013	21.815	31.164	Schwäbische Alb Tourismusverband e.V. (SAT)	BR

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46	Schwäbisches Streuobstparadies - Erarbeitung von Marketingmaterialien und Ausarbeitung touristischer Streuobstrouten	2013	37.760	75.520	Schwäbisches Streuobstparadies e.V.	BR
47	Umsetzung Besucherlenkungskonzept für das Biosphärengebiet Schwäbische Alb - Einrichtung von Infostationen	2013	11.292	22.584	Kommune	BR
48	Umsetzung Besucherlenkungskonzept für das Biosphärengebiet Schwäbische Alb - Wanderparkplatzbeschilderung in der Gemeinde Westerheim	2013	5.549	11.097	Kommune	BR
49	Werbe- und Marketingkonzept für Themenfahrten mit Pferd und Wagen im Biosphärengebiet Schwäbische Alb	2013	3.334	6.668	Unternehmen / Privat	BR
50	AlbhofTour - Internetauftritt	2014	4.597	6.567	LandFrauenverband Reutlingen e.V.	BR
51	BSG-App - Ausweitung auf weitere Gemeinden im Biosphärengebiet	2014	13.770	30.601	Kommune	BR
52	Expedition Biosphärengebiet Schwäbische Alb	2014	16.636	23.765	Schwäbischer Albverein e.V., Projektgruppe Expedition	BR
53	Gestütsradweg Haupt- und Landgestüt Marbach - Umsetzung	2014	42.720	85.440	Kommune	BR
54	Gustav-Ströhmfeld-Weg - Informationsfaltblatt mit Rundwanderwegen	2014	3.304	5.506	Schwäbischer Albverein e.V. - Ortsgruppe Metzingen	BR
55	Kulturbetrieb "Schaffwerk" - Öffentlichkeitswirksame Maßnahmen	2014	14.334	23.919	Unternehmen / Privat	BR
56	Öffentlichkeitsarbeit Schopflocher Scheunensommer 2014	2014	1.160	1.657	Interessensgemeinschaft	BR
57	s'Biosphärenblöckle - Das Gutscheinbuch zum Essen und Erleben in der Biosphäre	2014	4.532	9.064	Unternehmen / Privat	BR
58	Stadt Pfullingen - Infoleitsystem	2014	3.779	8.354	Kommune	BR
59	Umsetzung Neukonzeption Weinerlebnispfad Metzingen	2014	8.565	20.210	Förderkreis Metzinger Keltern e.V.	BR
60	Fertigung Weinerlebnispfad Metzingen	2015	11.312	19.864	Förderkreis Metzinger Keltern e.V.	BR
61	MarktHaus, Gastronomiebetrieb im Herzen von Weilheim/Teck – Entwicklung äußeres Erscheinungsbild und Marketingmaterialien	2015	7.328	11.435	Unternehmen / Privat	BR
62	ÖPNV-Anbindung beim Kartoffelfest 2015	2015	400	800	Unternehmen / Privat	BR
63	Schopflocher Scheunensommer 2015 - Öffentlichkeitsarbeit	2015	3.616	5.165	Interessensgemeinschaft	BR
64	Wanderkonzeption Mittlere Alb, Albtrauf und Biosphärengebiet – Erstellung eines Handlungsleitfadens für Kommunen und Verbände	2015	68.093	97.275	Verkehrsverein Teck-Neuffen e.V., Tourismusgemeinschaft Mythos Schwäbische Alb im Landkreis Reutlingen e.V.	BR
65	Weiterentwicklung und Ausbau der Biosphäregastgeber	2015	37.944	54.205	Unternehmen / Privat	BR
66	Zentrum für nachhaltige Mobilität Münsingen - Konzeption	2015	12.852	25.704	Kommune	BR
67	LED Beleuchtung für die Schertelshöhle Westerheim	2016	32.851	46.930	Höhlenverein e.V. Westerheim	BR
68	Marketingkonzeption und Maßnahmen für die Marke Böhringer	2016	11.776	18.880	Unternehmen / Privat	BR
69	ÖPNV Anbindung Messe schön&gut	2016	1.435	2.050	Unternehmen / Privat	BR
70	ÖPNV-Anbindung beim Kartoffelfest 2016	2016	599	856	Unternehmen / Privat	BR
71	Planung Kelten-Erlebnispfad	2016	47.530	95.060	Kommune	BR
72	Radanhänger Blaue Mauer	2016	7.830	15.660	Kommune	BR
73	Touristische Maßnahmenplanung Römerstein	2016	13.328	19.040	Gewerbe- und Tourismusverein Römerstein e.V.	BR
74	Besucherlenkungskonzeption für die Gemeinde Zwiefalten	2017	5.855	11.710	Kommune	BR
75	Zwei Aussichtsfernrohre im Biosphärengebiet Schwäbische Alb	2017	8.655	17.310	Kommune	BR
76	Mehrtagestouren im Biosphärengebiet („Rulaman-Touren“)	2018	30.730	43.900	Unternehmen / Privat	BR
77	Wanderkarte Neidlingen	2018	1.375	2.750	Kommune	BR
78	Umsetzungskonzeption Erlebnisplattformen ehemaliger Truppenübungsplatz Münsingen	2018	11.600	23.200	Bund	BR
Nature conservation						
1	Neuaufgabe Informationsfaltblatt ehemaliger Truppenübungsplatz Münsingen	2008	2.895	5.789	Bund	BR
2	Umgestaltung der Hofanlage zu einem „Biosphären-Bauerngarten“	2008	4.265	12.187	Unternehmen / Privat	BR
3	"Leih-a-Schaf" - Konzept für ein Pflegemanagement von Streuobstwiesen und Grünland mit gefährdeten Schafrassen am Beispiel Gönningen	2008	4.678	9.356	Kommune	PLENUM
4	Schwarzwildkonzept der Stadt Münsingen	2009	12.480	24.960	Kommune	BR

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5	Aufbau eines Geräteparks zur Förderung des Steuobstbaus	2010	4.877	8.128	Obst- und Gartenbauverein Altenburg e.V.	PLENUM
6	Beweidungskonzeption für den Sellenberg	2010	1.879	3.757	Kommune	PLENUM
7	Erweiterung eines Schafstalls zur Landschaftspflege	2010	900	4.500	Unternehmen / Privat	PLENUM
8	Bau eines Ziegenzauns zur Pflege des Kalkmagerrasens	2010	1.694	4.235	Schwäbischer Albverein e.V., OG Gundelfingen	PLENUM
9	Zaubau zur Landschaftspflege mit Ziegen	2010	866	2.165	Kommune	PLENUM
10	Ziegenzaun zur extensiven Beweidung von Wacholderheiden und Flyer zur Öffentlichkeitsarbeit	2010	934	2.200	Unternehmen / Privat	PLENUM
11	Stallbau am Florian zur Unterbringung von Ziegen	2010	3.989	9.972	Schwäbischer Albverein OG Kohlberg/Kappishäusern	PLENUM
12	Wiederanlage des historischen Streuobstgürtels am Ortsrand von Altsteußlingen, Briel, Granheim und Mundingen	2011	4.726	7.877	Interessensgemeinschaft	PLENUM
13	Weiterentwicklung des Sortenerhaltungsgartens Kirschenheimat	2011	3.509	7.017	Kommune	PLENUM
14	Zaun zur Koppelbeweidung mit Schafen	2011	762	1.906	Unternehmen / Privat	PLENUM
15	Schaf- und Ziegenzaun	2011	1.484	3.710	Unternehmen / Privat	PLENUM
16	Haltung von Neckarschnucken zur Landschaftspflege	2011	1.120	2.799	Neckarschnucken e.V., Mittelstadt	PLENUM
17	Zaubau am Florianberg zur Ziegenbeweidung, Metzingen	2011			Schwäbischer Albverein OG Kohlberg/Kappishäusern	PLENUM
18	Abenteuer Greifvogelbeobachtung - unter Einbeziehung moderner Beobachtungstechniken - Konzeption und Vorbereitung	2012	4.355	6.222	NABU Landesverband Baden-Württemberg e.V.	BR
19	Tag der offenen Tür der Forschungsstation Randecker Maar in Kooperation mit der Geschäftsstelle Biosphärengebiet Schwäbische Alb	2012	1.666	2.380	Forschungsstation Randecker Maar e.V.	BR
20	Reparatur von Stationsunterkünften der Forschungsstation Randecker Maar	2012	3.110	4.443	Forschungsstation Randecker Maar e.V.	BR
21	Wiederanlage und Neupflanzung eines Teils des hist. Streuobstgürtels am Ortsrand von Altsteußlingen, Briel, Granheim, Erbsetten u. Frankenhofen	2012	1.387	2.774	Interessensgemeinschaft	PLENUM
22	Anbau an den gemeindeeigenen Schafstall zur Unterstützung der extensiven Beweidung naturschutzrelevanter Flächen	2012	41.245	117.844	Kommune	PLENUM
23	Behandlungsanlage zur Bekämpfung von Moderhinke	2012	1.125	2.812	Unternehmen / Privat	PLENUM
24	Behandlungsanlage zur Bekämpfung von Moderhinke	2012	1.049	2.623	Unternehmen / Privat	PLENUM
25	Anschaffung eines Schafzaunes	2012	310	776	Unternehmen / Privat	PLENUM
26	Anschaffung eines Klauenbad zur Bekämpfung der Moderhinke	2012	448	1.120	Unternehmen / Privat	PLENUM
27	Anschaffung eines Schafzauns	2012	239	597	Unternehmen / Privat	PLENUM
28	Bau von Nisthilfen für Wildbienen	2012	1.651	2.359	NABU Hülben e.V.	PLENUM
29	Aufbau von Blumenwiesen-Patenschaften	2012	2.219	3.170	Verein Blumenwiesen-Alb e.V.	PLENUM
30	Zaubau zur Landschaftspflege mit Ziegen	2012	3.301	8.252	Interessensgemeinschaft	PLENUM
31	Erstellen einer Wanderwegkonzeption für das Gebiet der Gemeinde Sonnenbühl	2012	7.385	14.770	Kommune	PLENUM
32	Artenschutzprojekt Kleineulen (Sperlingskauz)	2013	7.155	10.222	Bund Naturschutz Alb Neckar e.V. (BNAN)	BR
33	Unternehmen und Biologische Vielfalt im Biosphärengebiet	2013	13.020	18.600	Hochschule	BR
34	Digitaler Felslehrpfad (App)	2014	7.515	10.735	Landesverband Baden-Württemberg des Deutschen Alpenvereins (DAV)	BR
35	Landschaftspflege- und Land(wirtschafts)entwicklungskonzeption am Albrauf von Reutlingen	2014	11.981	23.961	Kommune	BR
36	Materialkauf für die Forschungsstation Randecker Maar	2014	1.110	1.585	Forschungsstation Randecker Maar e.V.	BR
37	Perlen im Biosphärengebiet Schwäbische Alb: Naturschutz- und Pflegekonzept für das Gebiet „Hirnkopf/Baach“	2014	9.007	12.867	Bund Naturschutz Alb Neckar e.V. (BNAN)	BR
38	Unternehmen und Biologische Vielfalt im Biosphärengebiet – Teil 2	2014	13.000	20.000	Hochschule	BR
39	Leitfaden Biologische Vielfalt durch Gestaltung von Betriebsflächen	2015	13.361	19.087	Hochschule	BR
40	Perlen im Biosphärengebiet Schwäbische Alb: Naturschutz- und Pflegekonzept für das Gebiet „Wätzenried / Halde“	2015	18.043	20.036	Bund Naturschutz Alb-Neckar e.V. (BNAN)	BR
41	Wiederansiedlung des Wiedehopfs	2015	4.752	6.116	NABU Neuffen-Beuren e.V.	BR

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42	Wiederherstellung artenreicher Wiesen auf der Schwäbischen Alb	2015	20.165	22.406	Blumenwiesen-Alb e.V.	BR
43	Biologische Vielfalt auf kommunalen Grünflächen	2016	13.960	19.943	Hochschule	BR
44	Entwicklung einer Blümmischung aus dem Biosphärengebiet für das Biosphärengebiet	2016	1.890	2.700	Unternehmen / Privat	BR
45	Pflege- und Nutzungskonzeption für den Bereich des Wildgeheges und seiner Umgebung im Markwasen, Stadt Reutlingen	2016	11.517	20.474	Kommune	BR
46	Kommunen & Biologische Vielfalt: Exemplarische Umsetzung von Naturschutzmaßnahmen mit begleitender Öffentlichkeitsarbeit in der Stadt Metzingen	2017	1.392	2.784	Kommune	BR
47	Kommunen & Biologische Vielfalt: Exemplarische Umsetzung von Naturschutzmaßnahmen mit begleitender Öffentlichkeitsarbeit in der Stadt Münsingen	2017	4.669	9.337	Kommune	BR
48	Kommunen & Biologische Vielfalt: Exemplarische Umsetzung von Naturschutzmaßnahmen mit begleitender Öffentlichkeitsarbeit in der Stadt Reutlingen	2017	5.025	10.050	Kommune	BR
49	Konzept zur Habitatverbesserung der Kreuzotter im NSG Schopflocher Moor und im Oberen Filstal	2018	24.296	26.995	Kommune	BR
50	Schutz- und Entwicklungskonzept für Raubwürger-Winterreviere	2018	8.820	9.800	Bund Naturschutz Alb Neckar e.V.	BR
Research – nature conservation						
1	Digitale Erfassung von Zugvogelbeobachtungsdaten am Randecker Maar	2008	6.648	9.497	Forschungsstation Randecker Maar e.V.	BR
2	Untersuchung der Ameisenfauna im Münsinger Hardt	2008	4.410	6.300	Bund Naturschutz Alb-Neckar e.V.	BR
3	Horstbaum- und Greifvogelerfassung in Kern- und Pflegezonen des Biosphärengebiets Schwäbische Alb	2008	14.722	21.031	NABU Landesverband Baden-Württemberg e.V.	BR
4	Wildbienen des ehemaligen Truppenübungsplatzes Münsingen - Verbreitung, Gefährdung und Schutz (Teil II)	2009	7.133	10.190	BUND Regionalverband Neckar-Alb	BR
5	Horstbaumerfassung im Biosphärengebiet Schwäbische Alb - Verstetigung des Monitorings unter Mitarbeit von Ehrenamtlichen	2010	2.374	2.967	NABU Landesverband Baden-Württemberg e. V	BR
6	Untersuchung der Ameisenfauna auf dem ehemaligen Truppenübungsplatz Münsingen - Teil II	2010	4.844	6.920	Bund Naturschutz Alb-Neckar e. V. (BNAN)	BR
7	Untersuchung der Schneckenfauna in naturnah bewirtschafteten Waldflächen um Pfullingen	2010	4.434	4.927	NABU Gruppe Pfullingen	BR
8	Qualitative Untersuchung der Ameisenfauna im NSG Listhof und Einbeziehung der Ergebnisse in das Bildungsprogramm des UBZ Listhof	2012	3.200	4.000	Trägerverein Umweltbildungszentrum Listhof e.V. (UBZ), Bund Naturschutz Alb-Neckar (BNAN)	BR
9	Biotopvernetzungs-konzept für die Gelbbauchunke im Reutlinger Stadtwald und exemplarische Umsetzung von Habitatentwicklungsmaßnahmen	2013	2.475	4.950	Kommune	BR
10	Erfassung der Holzkäferfauna im Reutlinger Wildgehege	2013	5.876	11.752	Kommune	BR
11	Fortführung und Abschluss der qualitativen Untersuchung der Ameisenfauna im NSG Listhof insb. im Hinblick auf naturschutzrelevante Arten	2013	3.200	4.000	Bund Naturschutz Alb-Neckar (BNAN)	BR
12	Monitoring der Vegetationsstruktur an Felsbiotopen im Biosphärengebiet	2013	3.177	4.538	Landesverband Baden-Württemberg des Deutschen Alpenvereins e.V	BR
13	Monitoring von Wanderfalken und Uhus im Biosphärengebiet	2014	7.216	10.309	Arbeitsgemeinschaft Wanderfalkenschutz (AGW) im NABU	BR
Information centres						
1	Feinkonzeption Museumsausstellung Weinbaumuseum Metzingen	2008	12.507	25.014	Förderverein Metzinger Keltern e.V.	BR
2	Wanderausstellung "Kalk und Karst im Biosphärengebiet Schwäbische Alb"	2008	6.997	13.994	Kommune	BR
3	Einführung von Audio-Guides im Freilichtmuseum Beuren	2008	9.379	18.759	Kommune	BR
4	Informationsbeschilderung "Schutz von Wildbienen"	2008	1.275	2.550	Kommune	BR

No	Project	Year of the grant	Amount of funding (Euro)	Total project costs (Euro)	Main applicant	Funding programme
5	Umsetzung Museumsausstellung Weinbaumuseum Metzingen	2009	38.852	77.704	Förderkreis Metzinger Keltern e.V.	BR
6	Geschichtshaus Owen - Konzeption einer Ausstellung zur Kulturlandschaft, zum Naturschutz und zum nachhaltigen Tourismus des Teckberges	2009	6.950	13.900	Kommune	BR
7	Praktische Darstellung des „Lebensraum Zaun“ auf dem Gelände des Umweltbildungszentrums	2010	1.980	3.960	Trägerverein Umweltbildungszentrum Listhof e.V.	BR
8	Machbarkeitsstudie zur Einrichtung eines „Kleinlebewesen- und Insektenhauses“	2010	14.006	20.009	Trägerverein Umweltbildungszentrum Listhof e.V.	BR
Public relations						
1	CMT 2009 - Biosphärengebiets-Lounge	2008	16.660	33.320	Kommune	BR
2	Biosphärenwege in der Stadt - Heimattage 2009	2008	30.990	154.951	Kommune	BR
3	„Biosphärengebietsverträglich feiern“ - Tipps zur Planung von Festen und Events im Biosphärengebiet Schwäbische Alb	2013	1.821	2.602	BUND Regionalverband Neckar-Alb	BR
4	Erstellung einer Werbebroschüre für den Biosphärenbus	2013	625	1.249	Kommune	BR
5	Informationsbroschüre der im Biosphärengebiet tätigen Naturschutzverbände	2013	10.499	14.838	Schwäbischer Albverein e.V.	BR
6	Stickeralbum Tiere und Pflanzen des Biosphärengebiets Schwäbische Alb	2013	7.128	10.183	NABU Landesverband Baden-Württemberg e.V.	BR
7	„Biosphärisch feiern“ - Tipps zur Planung von Festen und Events im Biosphärengebiet Schwäbische Alb	2014	2.750	3.929	BUND Regionalverband Neckar-Alb	BR
8	Erstellung einer Werbebroschüre für den Biosphärenbus (Neuaufgabe)	2014	522	1.160	Kommune	BR
9	Kommunikationskonzept der Stadt Reutlingen zum Biosphärengebiet Schwäbische Alb	2014	6.521	13.042	Kommune	BR
10	Kunst- und Aktionspfad am Randecker Maar (2015)	2014	15.836	35.191	Ziegelhütte Ochsenwang e.V.	BR
11	Erstellung einer Werbebroschüre für den Biosphärenbus	2015	889	1.777	Kommune	BR
12	Tierisches Nachtleben im Biosphärengebiet	2015	8.531	12.166	AG Fledermausschutz BW e.V. und Förderverein Hopfenburg e.V.	BR
13	Umsetzung Kampagne „Nähe“ des Kommunikationskonzepts Biosphärengebiet Schwäbische Alb	2015	5.394	10.787	Kommune	BR
14	Webcams im Biosphärengebiet Schwäbische Alb	2016	9.740	19.480	Kommune	BR
15	Webcams im Biosphärengebiet Schwäbische Alb	2018	3.570	7.140	Kommune	BR
16	Webcams im Biosphärengebiet Schwäbische Alb	2018	5.583	7.976	Schwäbischer Albverein Betreuungsverein Wanderheim Burg Derneck e.V.	BR
17	Umsetzung der Maßnahme "Buswerbung" des Kommunikationskonzeptes Biosphärengebiet Schwäbische Alb der Stadt Reutlingen	2018	5.412	10.823	Kommune	BR
18	Landwirtschaftliches Hauptfest 2018	2018	2.935	4.193	Kreisbauernverband Reutlingen e.V.	BR
Environmental protection and climate action						
1	Energie-Erfahrungs-Radl	2008	1.166	2.916	Kommune	BR
2	Erstellung und Durchführung eines Veranstaltungsprogramms zum Thema Klimaschutz im Biosphären- und PLENUM-Gebiet Schwäbische Alb	2010	3.844	5.491	BUND Regionalverbände Neckar-Alb und Donau-Iller	BR
3	Konzeption einer Energie-Lehr- und Erlebnis-Tour	2010	3.915	7.830	Kommune	BR
4	Erstellung und Durchführung eines Veranstaltungsprogramms zum Thema Klimaschutz im Biosphären- und PLENUM-Gebiet Schwäbische Alb, Fortführung	2011	2.620	3.743	BUND Regionalverbände Neckar-Alb und Donau-Iller	BR
5	Anbau von Blümmischungen als Alternative zu Mais in Biogasanlagen	2011	3.627	4.534	Interessensgemeinschaft	PLENUM
6	Beratung zur Gründung einer Heupellet-Erzeugergemeinschaft	2011	9.253	13.218	Interessensgemeinschaft	PLENUM
7	Vorbereitende Arbeiten für eine Antragstellung beim Bundesamt für Naturschutz zum Thema Organisation und Umsetzung einer Heupellet-Vermarktung	2011	3.868	7.735	Kommune	PLENUM
8	Erstellung und Durchführung eines Veranstaltungsprogramms zum Thema Klimaschutz im Biosphären- und PLENUM-Gebiet Schwäbische Alb, Fortführung	2012	2.072	2.960	BUND Regionalverbände Neckar-Alb und Donau-Iller	BR
9	Alternativen zum Maisanbau für Biogasanlagen: Versuchsanbau von Silphie	2012	3.040	3.800	Unternehmen / Privat	PLENUM

No	Project	Year of the grant	Amount of funding (Euro)	Total project costs (Euro)	Main applicant	Funding programme
10	Anbau von Blühmischungen als Alternative zu Mais in Biogasanlagen	2012	4.649	5.811	Kreisbauernverband Reutlingen	PLENUM
11	Gründung einer Biomasse-Pellets-Erzeugergemeinschaft	2012	7.304	12.174	Interessensgemeinschaft	PLENUM
Research - environmental protection and climate action						
1	Alternativen zum Maisanbau in Biogasanlagen: Versuchsanbau von Silphie	2011	3.600	4.500	Unternehmen / Privat	PLENUM
2	Studie zur Ermittlung des Potentials energetisch nutzbarer Resthölzer aus der Landschaftspflege im PLENUM-Gebiet	2008	11.792	18.142	BUND - Regionalverbände Donau-Iller und Neckar-Alb	PLENUM

¹BR: Biosphere Reserve Support Programme

Table 7: List of nature conservation projects and measures coordinated by the BR Administration.

No	Projects and measures	Description	Status	Total project costs (Euro)
1	Biosphere-wide survey of biotopes and land use derived from remote sensing data	Basis for a longterm landscape monitoring	Completed	51.100
2	„Biodiversity checks for municipalities“ Phase I	Systematic approach to identify nature conservation priorities: Target species, useful measures and suitable habitat areas	Completed	241.552
3	„Biodiversity checks for municipalities“ Phase II District of Esslingen <ul style="list-style-type: none"> • Conservation concept oligotrophic meadows • Conservation concept bull bush cricket / species rich hay meadows protected under the HD • Conservation concept Binsenlache • Conservation concept former quarry Jusenberg District of Reutlingen <ul style="list-style-type: none"> • Conservation concept for <i>chorthippus apricarius</i> and large blue • Conservation concept Steighof and surrounding areas 	Detailed survey in partial areas of Phase I to concretise the measure concept	In progress and implementation	99.539
4	Biotope network of calcareous oligotrophic meadows in the biosphere reserve <ul style="list-style-type: none"> • Biotope network project Münsingen • Biotope network project Gomadingen • Biotope network project Schelklingen 	Conceptionalisation and implementation of maintenance measures on juniper heaths and measures to improve the biotope network	In progress	513.000
5	Implementation of the conservation concept on open canopy forest species in the district of Esslingen	Detailed planning and implementation of measures for endangered open canopy forest species	In progress	165.000
6	Management concept and measures for the apollo and clouded apollo	Surveys on habitat development measures and on strenghtening and extension of the population	In progress with first measures implemented	25.988
7	Action plan for target species and habitats on the former military training ground in Münsingen	As supplement to the management plan under the Habitats Directive further valuable species and habitats are covered	In progress with first measures implemented	104.702
8	Flanking the expansion of wind power in the biosphere reserve <ul style="list-style-type: none"> • survey to identify vulnerable bird species • chart seasonal bird migrations • comprehensive landscape assessment 	Implementation of high planning and control quality standards regarding the expansion of wind power in biosphere reserves according to the MAB National Committee's 2012 position paper	Completed	191.273
9	Model project “Advice for managing species rich hay meadows protected under the Habitats Directive in the Swabian Alb Biosphere Reserve”	Advisory service for farmers for an efficient management of species rich hay meadows protected under the HD	Initial advisory service completed, monitoring in progress	55.570
10	Restoration of species rich hay meadows	Practical testing of various methods to increase biodiversits on hay meadows	Setup of trial sites completed, monitoring in progress	externally funded
11	Valorisation of climate and nature conservation measures in national natural landscapes of Germany (sub project meadow orchards)	Funding of longer term conservation measures in meadow orchards through selling nature conservation certificates to companies	In progress	externally funded
12	Research on the problems with northern ravens in sheep farming	Analysis of the reasons for the attacks of northern ravens on sheep and research of measures for the avoidance / minimisation of the attacks	Completed	50.160
13	Model project “Nature-friendly rock face stabilisation along roads”	Elaboration of a best practice procedure for nature-friendly rock face stabilisation along roads	In progress	65.806
14	Transfer- and communication project regarding the treatment of large predators in Baden Württemberg	Preparation of stakeholders for the return of wolf and lynx	In progress	externally funded
15	Problems with game around protected areas	Analysis of the impact of core areas as retreat zones for game	In progress	

No	Projects and measures	Description	Status	Total project costs (Euro)
		and potential agricultural damages caused by game		

Table 8: Research and monitoring projects in the BR and share of financial commitment by the BR administration 2008-2018 (table in German).

No.	Time-frame	Project	Invested funding (Euro)	Funding programme
Species protection				
1	2008	Digitale Erfassung von Zugvogelbeobachtungsdaten am Randecker Maar	6.648	BSG
2	2008	Untersuchung der Ameisenfauna im Münsinger Hardt	4.410	BSG
3	2008	Horstbaum- und Greifvogelerfassung in Kern- und Pflegezonen des Biosphärengebiets Schwäbische Alb	14.722	BSG
4	2008	Studie zur Ermittlung des Potentials energetisch nutzbarer Resthölzer aus der Landschaftspflege im PLENUM-Gebiet	11.792	PLENUM
5	2009	Wildbienen des ehemaligen Truppenübungsplatzes Münsingen - Verbreitung, Gefährdung und Schutz (Teil II)	7.133	BSG
6	2010	Horstbaumerfassung im Biosphärengebiet Schwäbische Alb - Verstetigung des Monitorings unter Mitarbeit von Ehrenamtlichen	2.374	BSG
7	2010	Untersuchung der Ameisenfauna auf dem ehemaligen Truppenübungsplatz Münsingen - Teil II	4.844	BSG
8	2010	Untersuchung der Schneckenfauna in naturnah bewirtschafteten Waldflächen um Pfullingen	4.434	BSG
9	2010-2014	Flächendeckende Biotop- und Nutzungstypenkartierung im Biosphärengebiet Schwäbische Alb mittels Fernerkundungsdaten als Basis für ein Landschaftsmonitoring	6.000	
10	2011	Alternativen zum Maisanbau in Biogasanlagen: Versuchsanbau von Silphie	3.600	PLENUM
11	2012	Qualitative Untersuchung der Ameisenfauna im NSG Listhof und Einbeziehung der Ergebnisse in das Bildungsprogramm des UBZ Listhof	3.200	BSG
12	2013	Biotopvernetzungs-konzept für die Gelbbauchunke im Reutlinger Stadtwald und exemplarische Umsetzung von Habitatentwicklungsmaßnahmen	2.475	BSG
13	2013	Erfassung der Holzkäferfauna im Reutlinger Wildgehege	5.876	BSG
14	2013	Fortführung und Abschluss der qualitativen Untersuchung der Ameisenfauna im NSG Listhof insb. im Hinblick auf naturschutzrelevante Arten	3.200	BSG
15	2013	Monitoring der Vegetationsstruktur an Felsbiotopen im Biosphärengebiet	3.177	BSG
16	2014	Monitoring von Wanderfalken und Uhus im Biosphärengebiet	7.216	BSG
17	2014_2016	Ehrenamtliches Horstbaummonitoring	4.147	
18	2016	Folge-Untersuchung Schwarzspechthöhlen im Biosphärengebiet	17.244	BSG
19	2016	Monitoring Schwarzer Apollo-Falter	3.960	
20	2016	Monitoring Wantschrecke Truppenübungsplatz Münsingen	1.589	
21	2016	Monitoring FFH-Mähwiesen	4.784	
22	2016	Folgeuntersuchung Schwarzspechthöhlen	17.244	
23	2017	Monitoring Schwarzer Apollo: 2017	3.286	
24	2017	Kartierung Riesenbärenklau in Kernzone Werfental	3.449	
		Summe	146.803	
Historical and cultural heritage				
1	2009	Historische Analyse der umliegenden Kulturlandschaft des ehemaligen Dorfes Gruorn	2.450	BSG
2	2010	Historische Analyse der umliegenden Kulturlandschaft des ehemaligen Dorfes Gruorn - Teil II	2.415	BSG
3	2011	Historische Analyse des Münsinger Harts - Zeugnisse zu früherer (vormilitärzeitlicher) Landnutzung und Geschichte eines Sonderbezirks	2.538	BSG
4	2011	Analyse der Natur- und Kulturlandschaft auf dem Gelände des Freilichtmuseums Beuren	5.875	BSG
5	2012	Historische Analyse der Randbereiche des ehemaligen Truppenübungsplatzes Münsingen - Zeugnisse früherer (vormilitärzeitlicher) Landnutzung und Geschichte eines Sonderbezirks Teil III	5.500	BSG
6	2014	Untersuchung der historischen Topographie der Burgruine Achalm	13.650	BSG
7	2017	Archäologisch-topographische Untersuchung von Burgen im Bereich des Großen Lautertals	8.177	BSG
8	2018	Archäologisch-topographische Untersuchung von Burgen im Bereich des Großen Lautertals – Teil 2 (Folgeprojekt)	7.935	BSG
		Summe	48.540	
Core area monitoring				
1	2014_2015	Konzeption (Workshops, etc.)	7.097	
2	2016	Auswahl Probeflächen	66.573	
3	2016	Waldstrukturaufnahme	42.944	
4	2017_2018	Erfassung Gefäßvegetation und Moose	94.774,28	
5	2017	Erfassung Vögel	81.175,26	
6	2018	Erfassung Pilze	49.296	
		Summe	341.860	
Socio-economic research				

No.	Time-frame	Project	Invested funding (Euro)	Funding programme
1	2016-2017	Regionalökonomische Effekte des Tourismus in Biosphärenreservaten	0	
2	2018	Bevölkerungsumfrage	27.650	
3	2018	Akteurs-Interviews und Evaluierungsworkshop GS	0	
		Summe	27.650	
Inter- / transdisciplinary research				
1	2012-2015	Forum Großraubtiere: Transfer- und Kommunikationsprojekt zum Umgang mit Großraubtieren in Baden-Württemberg	0	
2	2013-2017	Schwarzwildproblematik im Umfeld von Schutzgebieten	0	
3	2014-2020	Gesamtbetriebliche Beratung für die Bewirtschaftung von FFH-Mähwiesen im Biosphärengebiet Schwäbische Alb	32.334	
4	2014-2017	Untersuchung zur Problematik von Kolkkraben in der Schafhaltung	50.160	
5	2014-2017	Biologische Vielfalt und Ökosystemdienstleistungen in Agrarökosystemen des Biosphärengebietes Schwäbische Alb	0	
6	2015-2019	Inwertsetzung von Klima und Naturschutzmaßnahmen in den Nationalen Naturlandschaften	0	
		Summe	82.494	
		Gesamtsumme	647.346	

7.6 Additional funding programmes in the biosphere reserve

Table 9: Projects in the biosphere reserve funded by LEADER (2016-2018; LEADER Central Alb Action Group; table in German).

No.	Project	Year of approval	Granted EU funds (Euro)	Granted funds from state (Euro)
1.				
1	Mobile Jugendkirche/ Mobiles Jugendreferat	2016		
2	Interkommunales Entwicklungskonzept für den Gemeindeverwaltungsverband Zwiefalten-Hayingen	2016		
	Sum		49.140	0
2.				
3	Hülbener Dorfladen	2016		
	Sum		13.968	9.312
3.				
4	Dobel-SpATZ – Spiel, Abenteuer, Treffpunkt, Zwiefalten	2017		
5	Backkultur aus Liebe zur Heimat	2017		
6	Kultur-Religion-Zusammen(Leben)	2017		
7	Vernetzen und publizieren der Kulturszene Mittlere Alb	2017		
	Sum		217.176	105.664
4.				
8	“Mobilitätsbänke” als Beitrag vierer Kommunen zur nachhaltigen Mobilitätsstärkung	2017		
9	Umgestaltung Naturtheater Hayingen (TRAFO)	2017		
	Sum		181.503	0
5.				
10	KULTURHAUS	2018		
11	Umbau und Erweiterung Bike Park Münsingen	2018		
12	Gasthof Rössle - Alles nur nicht Käse	2018		
13	Manufakturen und Café im Albgut Münsingen	2018		
14	Alb Brut	2018		
15	Netz-Werk-Orchester: Live-Streaming von Orchesterproben	2018		
	Sum		267.060	254.369
6.				
16	Kelten-Erlebnis-Pfad	2018		
17	Dottingen aktiv - Sommer wie Winter	2018		
	Sum		305.862	40.688
	Sum total		1.034.709	410.033

Table 10: Projects in the biosphere reserve supported by the funding guidelines for the water balance and funds from Glücksspirale (lottery) for awareness raising activities (2009-2017; Tübingen and Stuttgart regional councils; table in German).

No.	Action/measure	Place	Year	Funding amount (Euro)	Funding programme *
1	Rauhe Rampen in der Lauter im Bereich des "Berger-Areals"	Dettingen / Teck	2009	64.900	1
2	Verbesserung der Durchwanderbarkeit von ausgebauten Gewässern	Reutlingen	2009	15.400	2
3	Ufersanierung und naturnahe Gewässergestaltung des innerörtlichen Seebachs	Neidlingen	2010	148.600	1
4	Ökologische Verbesserung des Saulbachs	Dettingen / Erms	2010	77.000	1
5	Gewässerlehrpfad an der Großen Lauter	Lauterach	2010	50.000	2
6	Umgestaltung Außenanlagen Infozentrum Wasser	Lauterach	2010	100.000	2
7	Naturnaher Ausbau des Wiesenbachs in Reutlingen-Rommelsbach	Reutlingen	2011	69.369	1
8	Offenlegung des Nottenbachs im Bereich URACA	Bad Urach	2011	283.889	1
9	Bau von 2 rauen Rampen in der Lauter bei Hunderingen und Bichshausen	Münsingen	2011	40.383	1
10	Renaturierung des Breitenbachs in Reutlingen-Betzingen	Reutlingen	2012	15.096	1
11	Ökologische Verbesserung des Sulzbachs auf Grundstück Nr. 7693	Dettingen / Erms	2012	17.043	1
12	Fischaufstieganlagen im Bereich der Autobahn 8 in Dettingen unter Teck	Dettingen / Teck	2013	35.100	1
13	Ökologische Verbesserung der Wiesaz im Bereich des Feuerwehrhauses Gönningen	Reutlingen	2013	41.629	1
14	Naturnahe Umgestaltung der Echaz oberhalb Hohe Straße	Pfullingen	2013	20.000	1
15	Wassererlebnisplatz an der Lauter	Gomadingen	2014	25.050	2
16	Ökologische Aufwertung des Gewässerrandstreifens der Echaz in Pfullingen (Klemmenstraße 4-6) durch Rückbau der Ufermauer	Pfullingen	2016	67.200	1
17	Herstellung der Durchgängigkeit am Rat'schen Wehr	Reutlingen	2017	84.100	1
	Sum			1.154.758	

*1=Förderrichtlinie Wasserwirtschaft; 2=Mittel der Glücksspirale zur Bewusstseinsbildung

Table 11: Projects in the biosphere reserve supported by the tourism infrastructure program (2009-2017; Tübingen and Stuttgart regional councils; table in German).

No.	Applicant municipality	Project	Year	Funding amount (Euro)
1	Beuren	Modernisierung der PanoramaTherme	2008	440.000
2	Beuren	Neubau Verwaltungsräume mit Erweiterung der Saunaanlage und umfangreiche Maßnahmen zur Energieeinsparung	2009	1.062.750
3	Bad Urach	Schaffung von Premiumwanderwegen	2013	40.000
4	Beuren	Barrierefreier Umbau des Eingangsbereichs der PanoramaTherme	2013	1.095.197
5	Landkreis Reutlingen	Beschilderung von touristischen Wanderwegen, Mittlere Schwäbische Alb	2014	31.535
6	Beuren	Umbau des Gastronomiebereichs der PanoramaTherme und Neugestaltung des Zugangsbereichs	2016	215.891
7	Landkreis Reutlingen	Beschilderung, Zertifizierung, Möblierung von 23 Wanderwegen i.R. der Wanderkonzeption Mittlere Alb, Albtrauf, Biosphärenreservat	2017	249.073
8	Bad Urach	Erweiterung des Ruhebereichs in der Sauna	2018	67.500
9	Gomadingen	Energetische Sanierung Sternberghallenbad	2018	196.650
		Summe		3.398.596

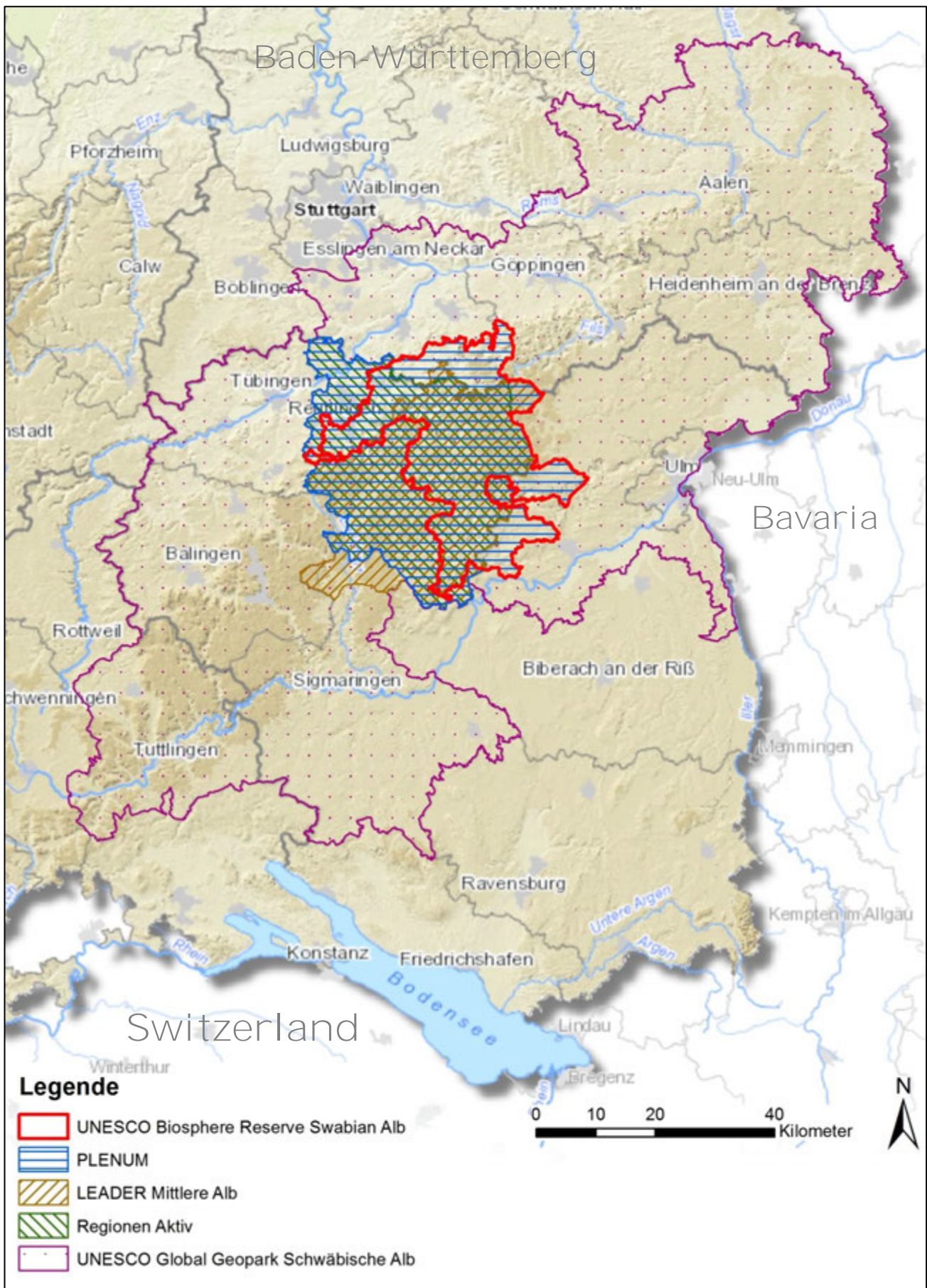


Figure 6: Location of the programme areas mentioned in the review.

7.7 Key research partners of the BR Administration

Table 12: Key research partners of the BR administration (table in German).

University	Cooperation
Universität Hohenheim	jeweils mehrere Arbeitsgruppen im Bereich angewandter Ökologie, Ökonomie und Sozialwissenschaften
Hochschule Rottenburg	
Hochschule für Wirtschaft und Umwelt Nürtingen-Geislingen	
Eberhard-Karls-Universität Tübingen	Forschungsbereiche Geographie, Archäologie und historische Landeskunde
Universität Würzburg	Lehrstuhl für Geographie und Regionalforschung
Ernst-Moritz-Universität Greifswald	Lehrstuhl für Nachhaltigkeitswissenschaften und angewandte Geographie
Universität Stuttgart	Institut für Landschaftsplanung und Ökologie, Institut für Geographie (wurde 2010 geschlossen)
Universität Ulm	Biodiversitäts-Exploratorien
Forstliche Forschungs- und Versuchsanstalt Freiburg	Bannwaldforschung

7.8 Details about the information centres in the biosphere reserve

Table 13: Details about the 19 information centres. The locations are presented in chap. 6.4.

1. Swabian Alb Biosphere centre	
Sponsor	State of Baden-Württemberg
Annual visitors	20,000
In-depth topics	Various forms of land use, former military training area, geology, sustainable lifestyles
Type of biosphere exhibition	Interactive hands-on stations, audio and video stations, information boards, outside area
Opening year	2010
2. Entdeckerwelt Bad Urach	
Sponsor	City of Bad Urach
Annual visitors	10,000
In-depth topics	Environmental and climate protection, regional raw materials and products, geology, plant and animal world
Type of biosphere exhibition	Digital scavenger hunt using tablet PCs, outdoor tours in the forest and in the city, inside tour through the permanent exhibition at Entdeckerwelt
Opening year	2015
3. Beuren Open-air Museum	
Sponsor	District of Esslingen
Annual visitors	65,000
In-depth topics	Agricultural (farming) history, historical crafts, historical agriculture
Type of biosphere exhibition	Thematic board path on the museum grounds, information terminal in the outside area
Opening year	2012
4. Stud Museum Offenhausen	
Sponsor	Stud Association of Offenhausen
Annual visitors	5,000
In-depth topics	Historical and current information about the equine industry, medieval monastery life
Type of biosphere exhibition	Exhibits, information boards: these are not, however, about the biosphere reserve but part of an older exhibit. There is now a new concept in place for the complete restructuring
Opening year	2013
5. Main and Country Stud Marbach	
Sponsor	State of Baden-Württemberg
Annual visitors	400,000
In-depth topics	Equine industry, horse breeding
Type of biosphere exhibition	A hands-on module in the outside area, LED TV for film and image presentations, information terminal in the outside area
Opening year	2012
6. Ehinger Alb Information Centre	
Sponsor	City of Ehingen
Annual visitors	3,000
In-depth topics	Contemplation, winding down, beauty and cultural landscape
Type of biosphere exhibition	Film presentations and graphic boards, information terminals in the outside area, 360-degree monitor
Opening year	2012
7. Lauterach Information Centre	
Sponsor	City of Lauterach
Annual visitors	9,000
In-depth topics	Water as a habitat
Type of biosphere exhibition	A hands-on module inside, work benches, information terminal in the outside area, 360-degree monitor
Opening year	2013
8. Schelklingen-Hütten Information Centre	
Sponsor	City of Schelklingen
Annual visitors	5,000
In-depth topics	Archaeological finds, Alb water supply, railway, nature and landscape of the Schmiech Valley.
Type of biosphere exhibition	Audio and film modules, interactive landscape map, herb garden in the outside area, kitchen, information terminal in the outside area
Opening year	2012
9. Neidlingen Pebble Mill	
Sponsor	Stefan Metzler (private person)
Annual visitors	9,000
In-depth topics	Alb marble, historical crafts
Type of biosphere exhibition	Graphic boards, LED TV for film and image presentations
Opening year	2018

10. Münsingen Train Station – Centre for Nature, the Environment and Tourism	
Sponsor	City of Münsingen
Annual visitors	15,000
In-depth topics	Habitats in the Swabian Alb, sustainable tourism
Type of biosphere exhibition	The Münsingen Train Station already has excellent exhibitions and panel exhibits, information terminal in the outside area
Opening year	2012
11. Schöpfunglocher Alb Nature Conservation Centre	
Sponsor	District of Esslingen and the State of Baden-Württemberg (co-financer)
Annual visitors	23,000
In-depth topics	Landscape and habitats in the Swabian Alb, nature conservation, ecology, biodiversity
Type of biosphere exhibition	Interactive exhibit on biological diversity, ball circuit (the path of the waters), information boards, audio guide for outdoor tours, information terminal in the outside area, 360-degree monitor
Opening year	2011
12. Glems Orchardring Museum	
Sponsor	Orcharding Association Metzingen-Glems
Annual visitors	2,000
In-depth topics	Meadow orchards, exploiting meadow orchards
Type of biosphere exhibition	The Orchardring Museum already has excellent exhibitions and panel exhibits, information terminal in the outside area
Opening year	2011
13. Peterstor Zwiefalten	
Sponsor	Zwiefalten Historical Association
Annual visitors	3,000
In-depth topics	Confessions in the Swabian Alb biosphere reserve, history of the Zwiefalten monastery
Type of biosphere exhibition	Information boards with audio presentations, multi-touch screen, planned for 2018/2019: Audio guides
Opening year	2017
14. Schertelshöhle Westerheim	
Sponsor	Schertelshöhle Association
Annual visitors	18,000
In-depth topics	Geology, caves, karst
Type of biosphere exhibition	A hands-on module in the outside area, information terminal in the outside area
Opening year	2013
15. Listhof Reutlingen Environmental Education Centre	
Sponsor	City of Reutlingen, Listhof sponsoring association
Annual visitors	10,000
In-depth topics	Education about sustainable development, biodiversity, renewable energy
Type of biosphere exhibition	Sun garden with various experimental exhibits in the outside area, LED TV for film and image presentations, information terminal in the outside area
Opening year	2012
16. Waldschulheim Indelhausen	
Sponsor	District of Reutlingen, Forst BW
Annual visitors	2,500
In-depth topics	Forest ecosystems, forestry, hunting
Type of biosphere exhibition	Individual objects: Tipi-tend, kiln, workbenches
Opening year	2012
17. Metzinger Wine-making Museum	
Sponsor	Verein Metzinger Keltern e.V.
Annual visitors	3,500
Admission fee	Yes
Type of biosphere exhibition	A hands-on module, information boards
Opening year	2012
18. Wimsener Mühle	
Sponsor	Förderkreis Wimsener Mühle e.V.
Annual visitors	9,000
In-depth topics	Mill management, water power, cave research
Type of biosphere exhibition	Audio and film modules, interactive landscape map, model mills, graphic boards, LED TV for film and image presentations, information terminal in the outside area
Opening year	2012
19. Baden-Württemberg Costume Museum, Pfullingen	
Sponsor	City of Pfullingen
Annual visitors	5,000
In-depth topics	Costumes from Württemberg, customs, mills
Type of biosphere exhibition	Audio system at various exhibits (multiple languages), information touch screen, information terminal in the outside area
Opening year	2012



Figure 7: Information centres in the BR. Additional information about the centres can be found in Annex 8.8, Table 13.

7.9 Core area buffering in the biosphere reserve

7.9.1 Core area designation

The core area of the Swabian Alb Biosphere Reserve (2,645.3 ha; 3.1 % of the overall area) is distributed across 44 sites which are combined in 25 core area clusters in close geographic proximity. Due to a number of factors, particularly the fragmented occurrence of suitable forest habitats, the ownership conditions (area with a partible land inheritance system), the dissection of the forest at the Albtrauf (north-west facing escarpment of the Swabian Alb) by a number of roads and other infrastructure facilities and the participative designation process, it was not possible to designate one large core area and instead several core area clusters were formed. Core area designation was based upon the following selection criteria:

- Forest habitats: mainly calcareous beech, ravine, boulder or colluvium forests. Slope and ravine forests as unique features were considered primarily. In addition other forest communities of the biosphere reserve were representatively recorded, including a mosaic of various forms of forest, open rock formations, taluses, woodless dry calcareous grassland near open rocks and shrubland areas.
- Ownership conditions: consideration of areas in public ownership. Designation of the core areas was impeded by the close proximity of public and private forest areas. Many forest areas are in private ownership and divided into very small plots due to the partible land inheritance system.
- Participative designation process: nearly all towns and municipalities in the biosphere reserve contributed core area sites. With a view to achieving a wide consensus over the conservation area and its zonation, besides ecological aspects both social (e.g. recreation function of individual forest areas) and economic aspects (e.g. firewood provision for the local population) were also considered in the selection.

The location and delimitation of the core area clusters reflect the natural environmental and geomorphological condition of the mainly karst landscape and the centuries of cultural landscape development. Thus the core areas in the north of the sector near the Albtrauf are naturally limited to the narrow wooded strip of Jura escarpments. In addition the Albtrauf is segmented by many deeply eroded valleys, which is another reason for the partitioning of the core areas (Figure 8). In conservation terms the core areas represent valuable forests or small-scale regions with very high development potential. Furthermore the core areas are the habitat of numerous endangered species, such as the Rosalia longicorn beetle (*Rosalia alpina*), the greater mouse-eared bat (*Myotis myotis*), **Bechstein's bat** (*Myotis bechsteini*), the wind-blown moss *Dicranum viride* and the lady's slipper orchid *Cypripedium calceolus*.

The core areas were designated in 2008 and recognised by UNESCO in 2009. They were legally protected by the Biosphere Reserve Ordinance of 22.03.2008 and dedicated to the long-term protection of natural processes. The core areas enable nature to develop largely undisturbed by humans and to preserve important ecosystems characteristic to the region.



Figure 8: Typical *Asperulo-Fagetum* beech forest (habitat type 9130) with calcareous rocky slopes (habitat type 8210) and *Tilio-Acerion* ravine forests (habitat type 9180*) in the Ermstal (“Uracher Talspinne” protected under the Habitats Directive). The slopes are in the buffer zone, the floodplains in the transition area and the forest in the background is part of the core area Föhrenberg.

7.9.2 Core area buffering

The current zonation, the conservation areas and the land use within the biosphere reserve largely ensure that an undisturbed natural development can take place in the core areas and that negative influences upon the core areas are buffered. In the following pages core area buffering will be described and evaluated for the whole biosphere reserve as well as for each core area cluster individually. In the course of GIS analyses and site inspections it was evaluated whether in areas bordering on the core area in the transition area and outside the **biosphere reserve** “only activities compatible with the conservation objectives can take place” (UNESCO 1996).

Of the 44 core areas 18 are completely surrounded by buffer zones. Overall 84.7 % of the core area boundaries are adjacent to buffer zones. 13.0 % of core area boundaries are next to transition areas and 2.3 % adjoin the outer boundary of the biosphere reserve. Most of these neighbouring areas not part of the buffer zone act as ecological buffers which support undisturbed natural development in the core areas and protect against adverse impacts.

7.9.2.1 Conservation categories in the neighbouring transition areas and areas outside the biosphere reserve

Of the 15.3 % of the core area boundaries which do not adjoin buffer zones, 13.5 % border at protected areas. Only the remaining 1.8 % of the core area boundaries adjoin areas which do not have any conservation status. Among the partly overlapping conservation categories are:

- Water Protection Areas (11.4 % see Infobox 1).
- Landscape Protection Areas (7.0 % see Infobox 2).
- Areas protected under the Habitats Directive (5.7 %) in line with Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. In addition, areas protected under the Habitats Directive (HD) are protected in Baden-Württemberg by a centralised ordinance of the Regional **Commissioner's Offices** since 2019. The natural habitats in the transition area are for the most part recorded as habitat types in line with Annex I of the Habitats Directive (HD) or the habitats of species mentioned in Annex II of the HD.
- Areas protected under the Birds Directive (4.4 %) in line with Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds. The areas protected under the Birds Directive (SPA) in the transition area are usually identical to the areas protected under the HD.
- Forest reserves (Bannwald) (0.7 %) in line with § 32 of the State Forest Act (LWaldG).
- Protected forests (Schonwald) (0.6 %) in line with § 32 of the State Forest Act (LWaldG).
- Protected biotopes (0.4 %) in line with § 30 of the Federal Nature Conservation Act (BNatSchG) and § 33 of the State Nature Conservation Act (NatSchG) and § 30a of the State Forest Act (LWaldG).

Infobox 1: Water Protection Areas (WPA)

In WPAs the Ordinance on Protected Areas and Compensation Payments (SchALVO) serves to protect untreated waters from adverse effects due to the entry of materials from farming. Depending on the protection zone different limitations apply for compliant farming, for instance in the form of bans on the application of farm slurry, liquid manure, sewage sludge and pesticides. WPAs are divided into three zones:

Zone I: Small-scale catchment area with very strict conditions

Zone II: Banned activities include the application of liquid farmyard manure of animal origin, secondary raw material fertilisers, silage effluent and similar materials, and the use of pesticides containing terbutylazine or tolylfluanide.

Zone III: The use of pesticides containing terbutylazine or tolylfluanide and the ploughing of permanent grassland are prohibited. Nitrogen leaching should be avoided as far as possible.

Infobox 2: Landscape Protection Areas (LPA)

In LPAs compliant agricultural use is generally permitted. The ordinances of the individual LPAs together generally ban changes which would distort the landscape or damage the natural environment. These include, for instance, a change of land use, the alteration of flowing waters, the erection of buildings, fences or walls, the storage of waste, the removal or alteration of significant landscape elements, particularly trees, hedges, shrubs, field and riverbank copses and the operation of machines, appliances and equipment of all kinds, if they cause noise nuisance.

7.9.2.2 Land use in the neighbouring transition areas and areas outside the biosphere reserve

Land use in the transition areas bordering the core areas and areas outside the biosphere reserve is characterised as follows (Digital Basic Landscape Model Baden-Württemberg, as at 2017). The total of the percentages (15.3 %) represents the core area boundaries which do not border on the buffer zone:

- Forest (8.8 %): Forest management in Germany represents a sustainable land use. In Baden-Württemberg it is managed near to nature and is subject to the strict stipulations for careful forest management under the State Forestry Act (e.g. limitation of clear-cutting, ban on large-scale use on stock not ready for cutting, requirement for soil protection and integrated plant protection etc.). It conforms to a high international standard and is monitored by the authorities. The areas in the state-owned forest have full PEFC and FSC certification. The municipal forests are mainly PEFC certified.
- Grassland (3.8 %): Grassland is used more or less intensively in the form of meadows or pastures.
- Arable land (2.0 %): Arable land is farmed to a greater or lesser degree of intensity.
- Woodland (0.2 %): Woodland consist mostly of field copses and field hedging (usually with stone cairns) which occur as narrow strips between areas used for agriculture or as succession zones with more or less forest-like habitats. Woodland is generally legally protected as biotope.

- Heath (0.2 %): Extensive use for sheep and goat grazing with little fertilisation and no use of sprays. Heaths are mostly protected habitats (areas protected under the HD and legally protected biotopes).
- Settlements (0.2 %): In a few places land with small-scale building border on the core areas.
- Meadow orchards (0.1 %): Meadow orchards are among the most species-rich habitats in Europe.
- Roads: Few roads border directly on core areas or transect them. On account of the rural position of the core areas in the biosphere reserve average daily traffic levels are very low and well under critical thresholds for damaging effects on the animal world, as established by, for instance, Garniel et al. (2007).

7.9.2.3 Buffer effect of the neighbouring conservation areas and land use

There is a high buffer effect if the core area is bordered by forests, woodlands, heaths and habitat types in line with Annex I of the HD or the habitats of species mentioned in Annex II of the HD, forest reserves, protected forests and legally protected biotopes. Correspondingly, at present 94.3 % of the core area boundaries border on areas which represent de facto buffers¹. If the protected areas with lower level protective status (further Natura 2000 sites, WPAs, LPAs) and the arable and grassland areas that are used extensively at the moment are also included this equates to almost total (99.6 %) bordering of core areas with areas with protected status or which represent de facto buffers.

In the pages below the core area buffering will be shown cartographically and described and evaluated individually in each case.

¹ neighbouring buffer zones plus neighbouring areas of forest, woodland, heath and areas designated as habitat types in line with Annex I of the HD or the habitats of species mentioned in Annex II of the HD, forest reserves, protected forests or legally protected biotopes

7.9.3 Description and evaluation of the individual core areas

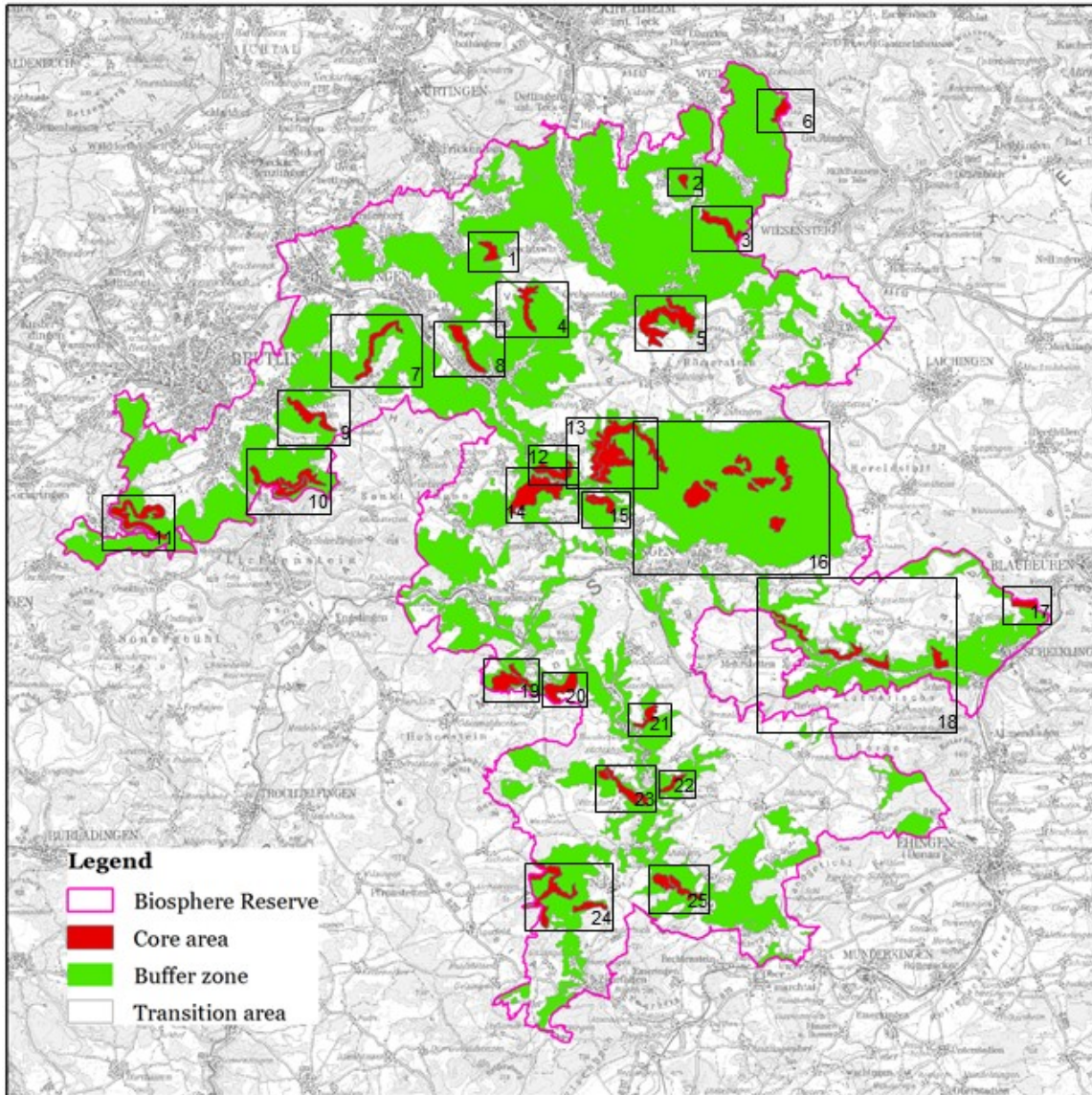
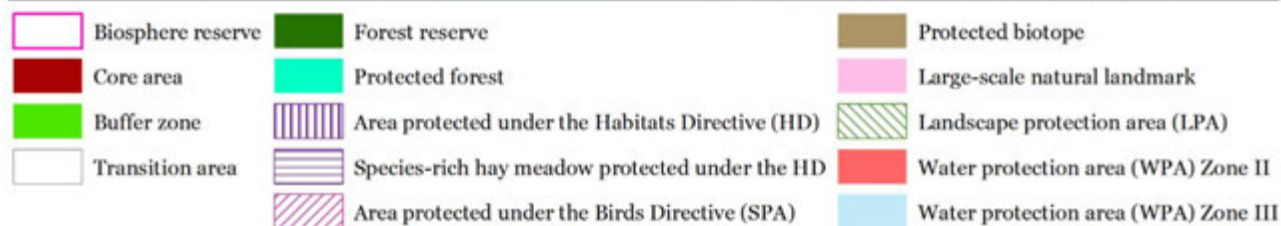
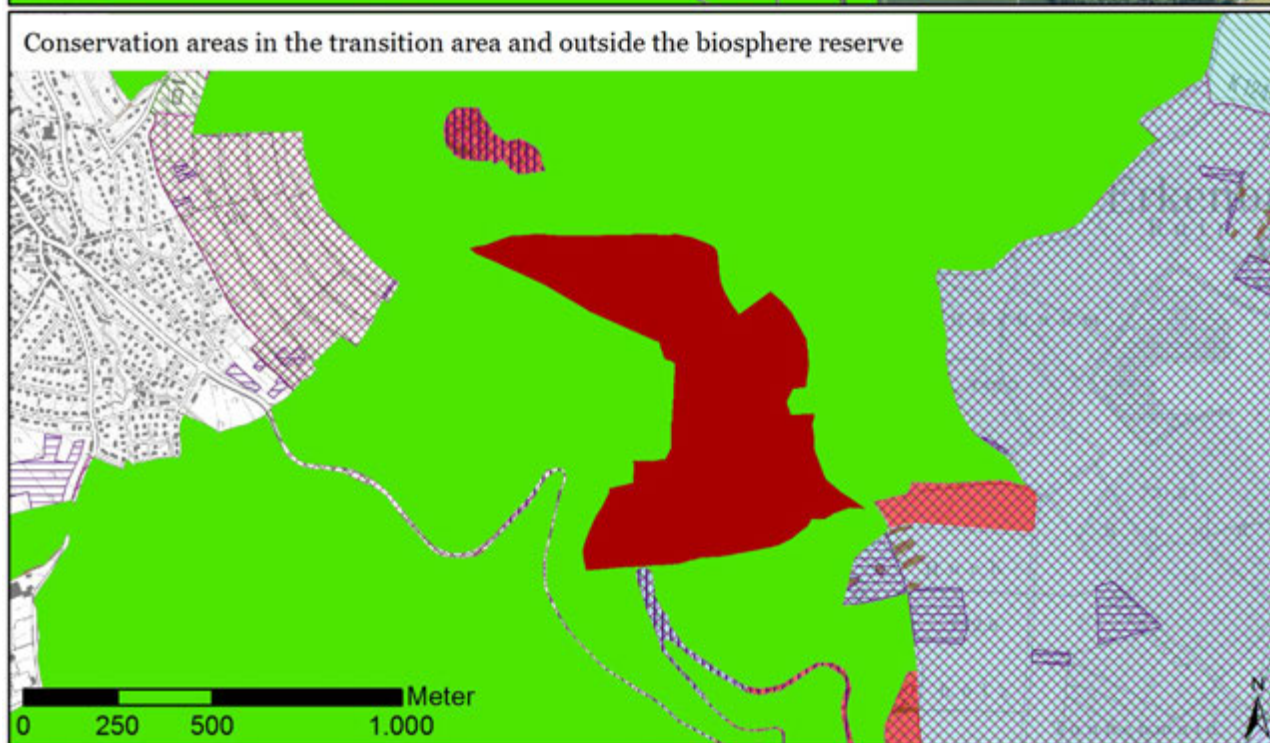
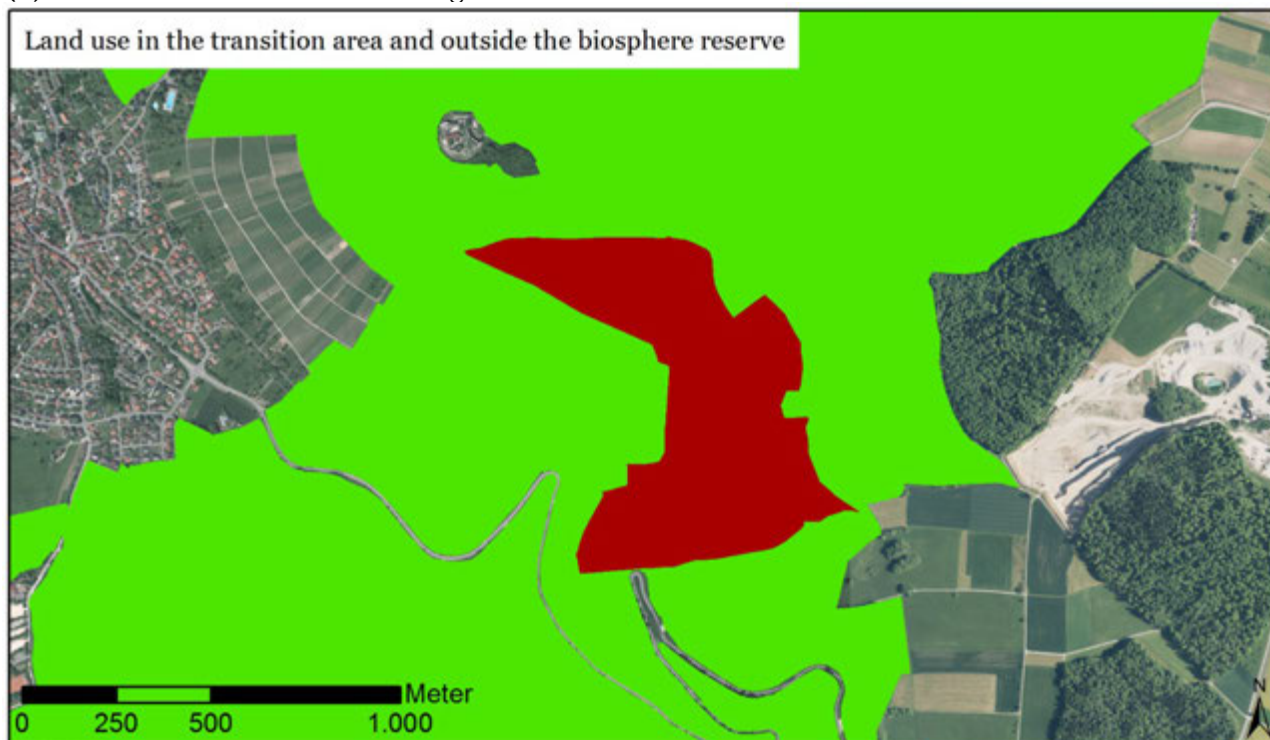


Figure 9: Outline map with numbering of core area clusters.

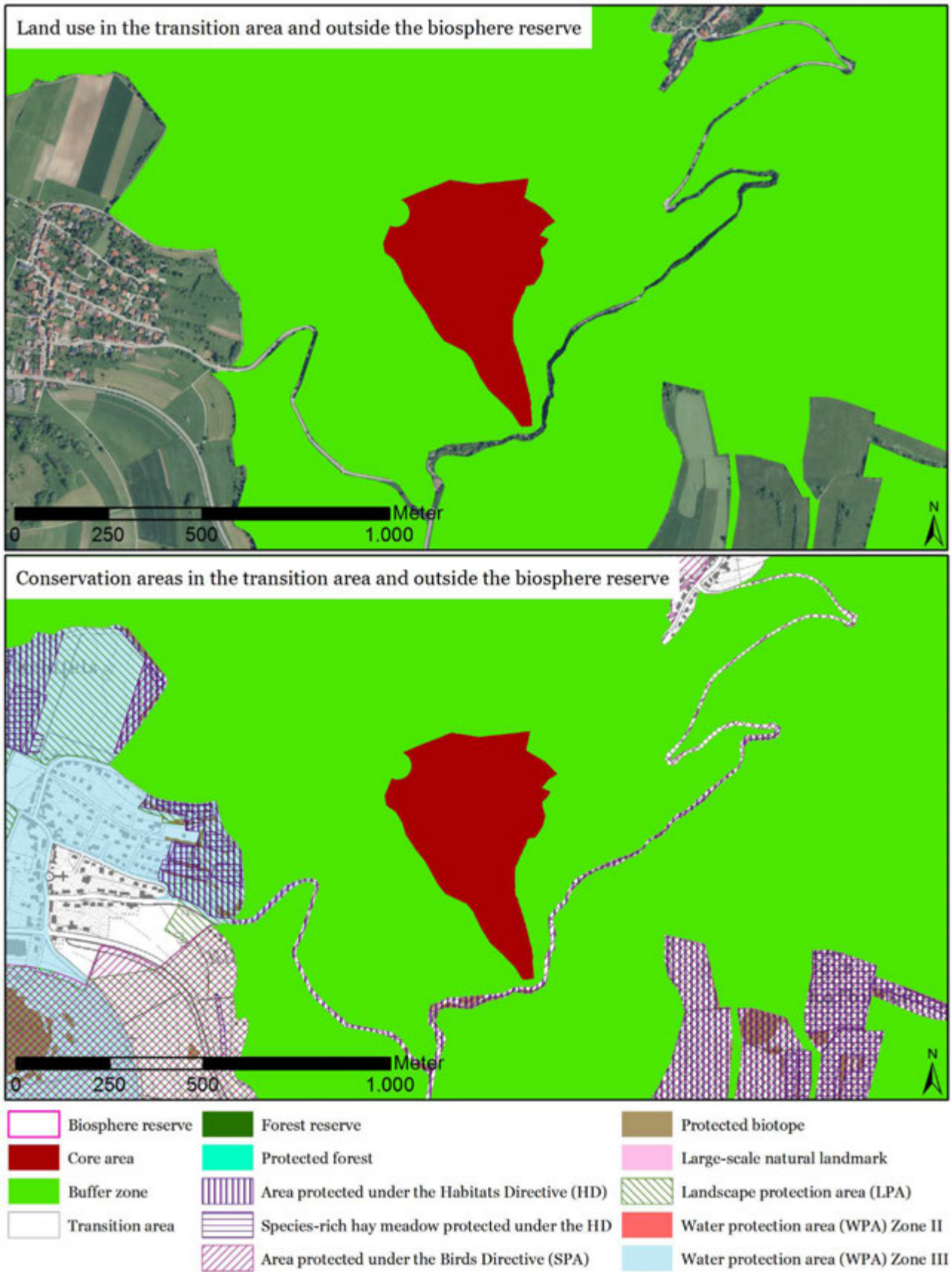
(1) Core area Bauerlochberg



Description and evaluation of core area buffering

The core area is completely surrounded by a buffer zone. The buffering of the core area is rated *very good*.

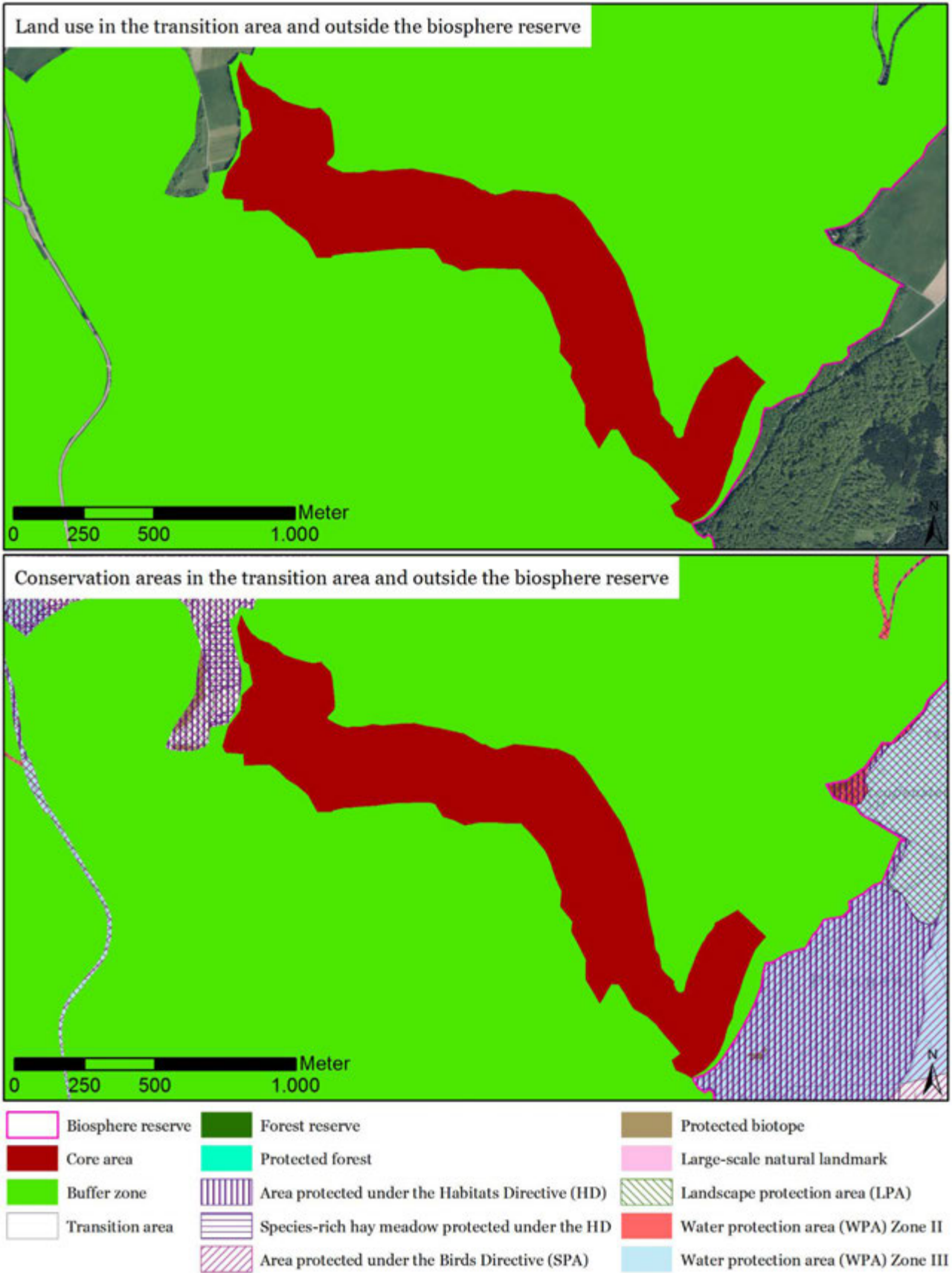
(2) Core area Mörikefels



Description and evaluation of core area buffering

The core area is completely surrounded by a buffer zone. The buffering of the core area is rated *very good*.

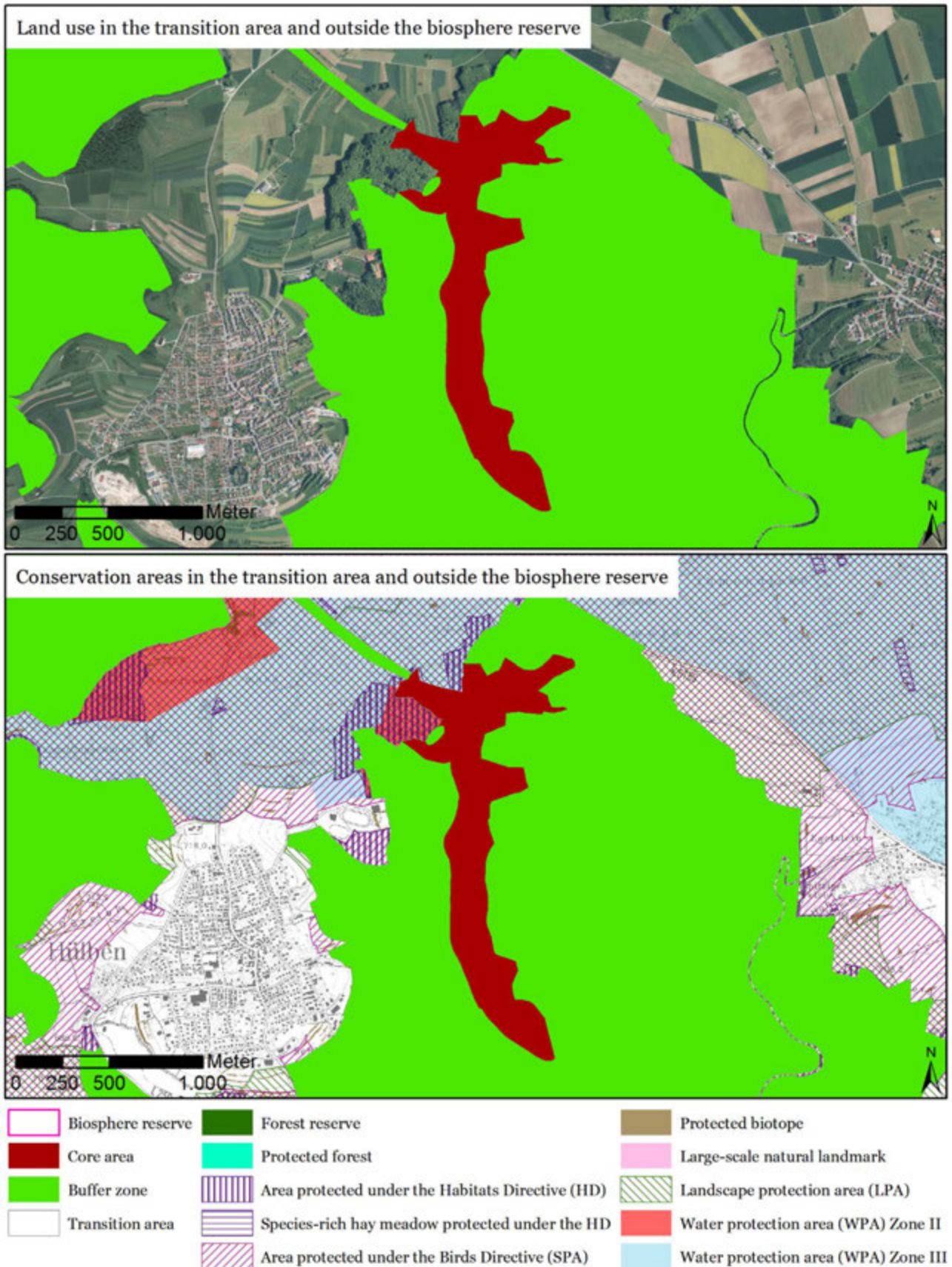
(3) Core area Pfannenberg



Description and evaluation of core area buffering

The core area is completely surrounded by a buffer zone. The core area buffering is rated *very good*.

(4) Core area Kaltental

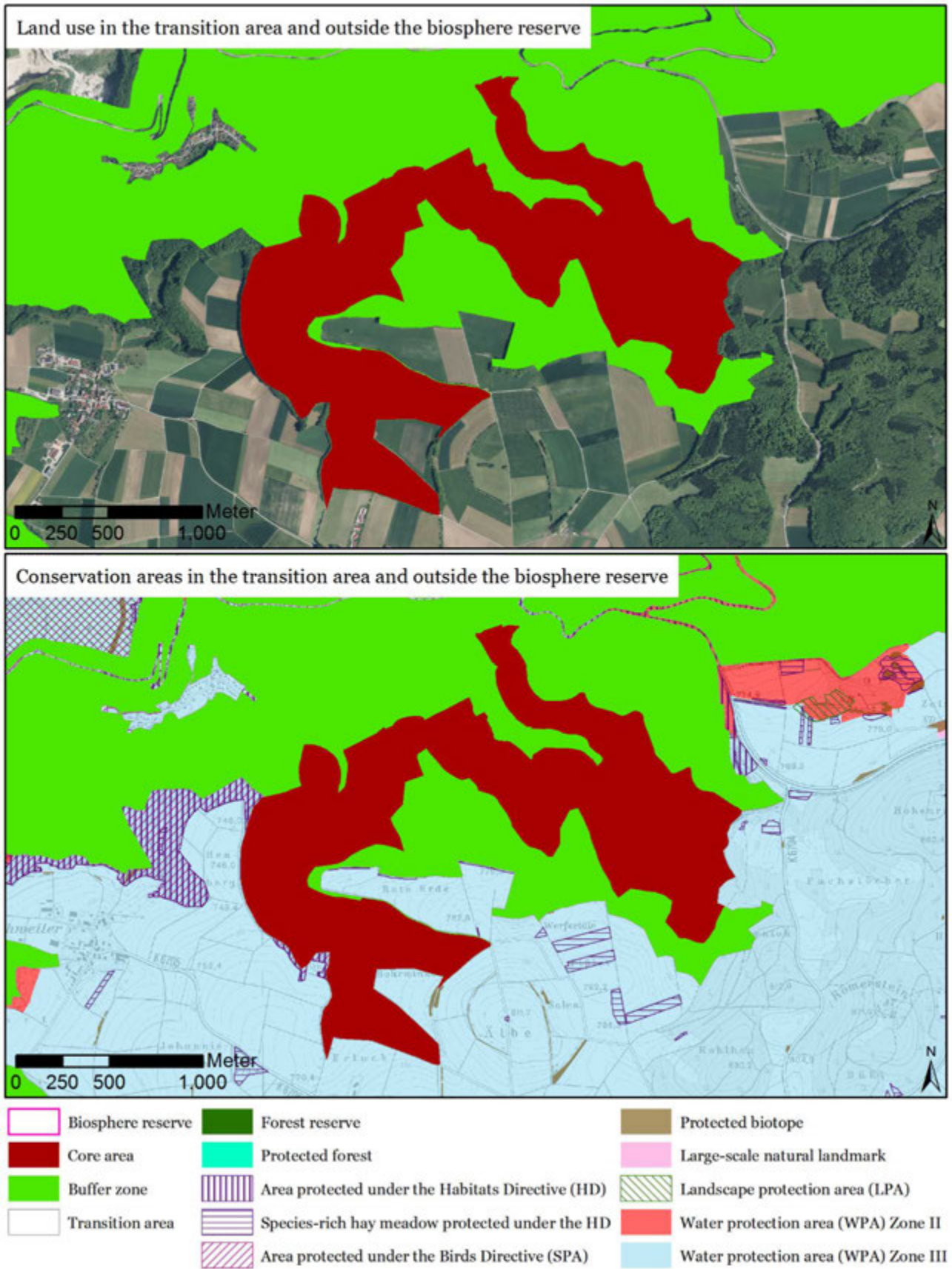


Core area borders on	Proportion [%]
Buffer zone	85
Area with de facto buffering	99

Description and evaluation of core area buffering

The core area borders to 85% a buffer zone. The areas in the buffer zone gap are largely covered by *Asperulo-Fagetum* beech forest (habitat type 9130) in a favourable condition in the HD area **“Uracher Talspinne”** and they thus contribute to effective buffering of the core area. Over a small area the core area also borders on meadows. The whole of the neighbouring transition area **is part of the SPA “Mittlere Schwäbische Alb,”** the LPA **“Reutlinger und Uracher Alb”** and the WPA **“Kaltental,”** which is designated as zone II in the southern wooded section of the transition area gap. Overall the core area is completely surrounded by areas with de facto buffering (99%) or areas which show no signs of disturbing effects on the core areas. The buffering of the core area is rated overall as *very good*.

(5) Core area Donntal



Core area borders on	Proportion [%]
Buffer zone	67
Area with de facto buffering	81

Description and evaluation of core area buffering

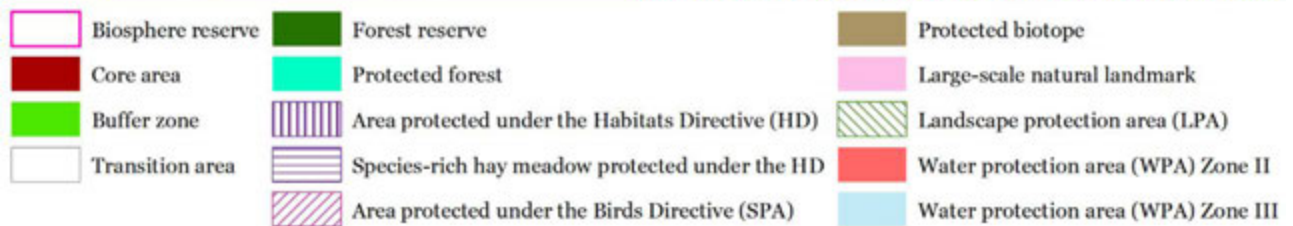
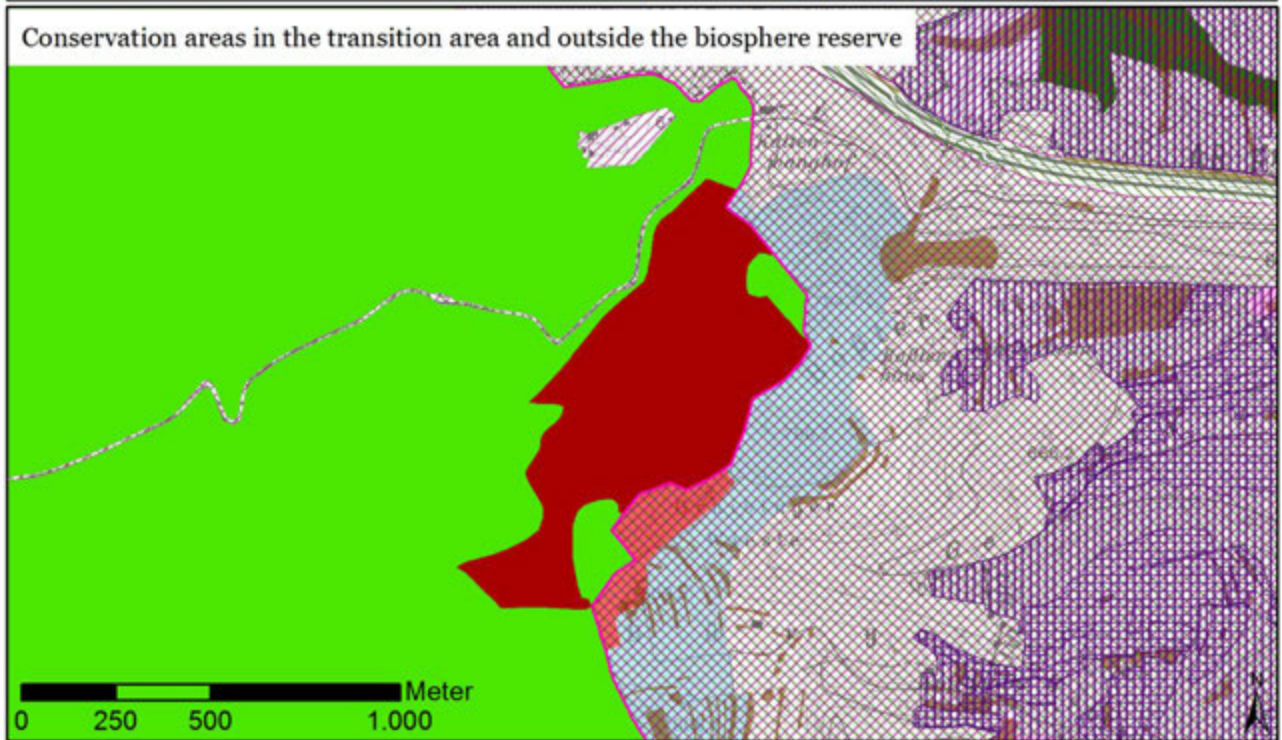
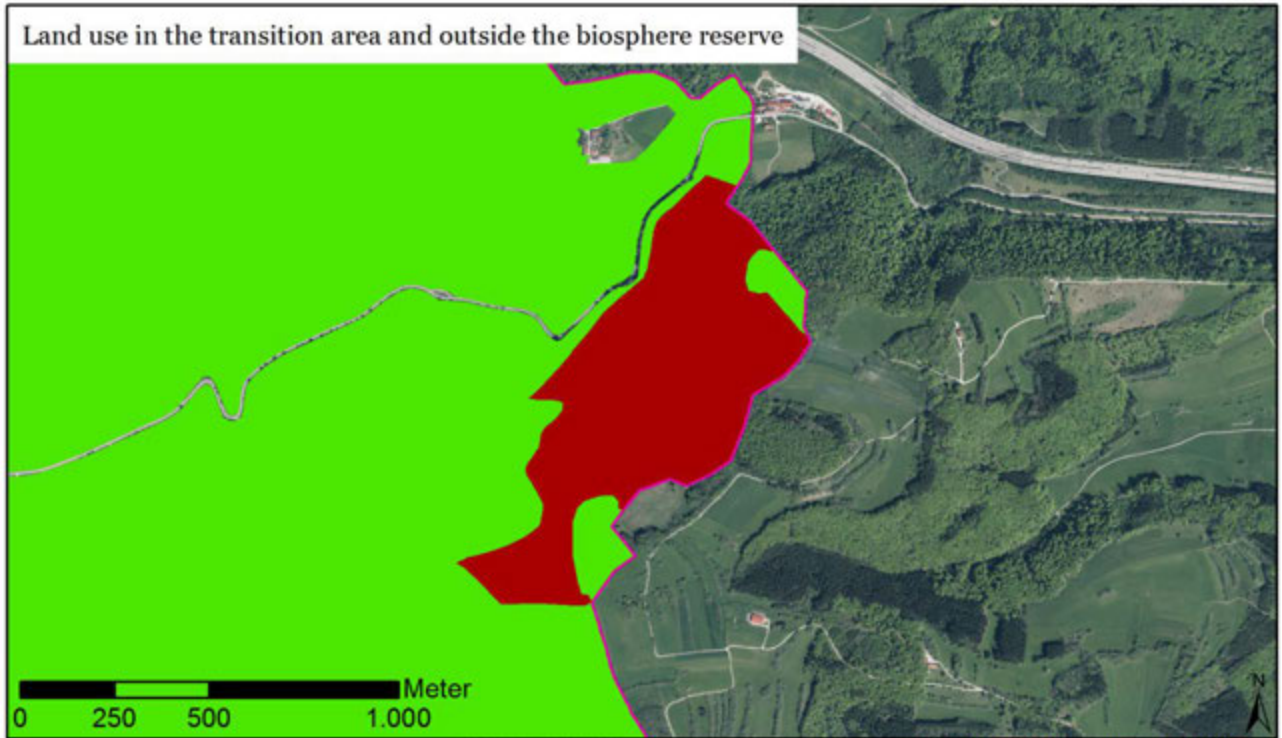
The core area borders to 67% a buffer zone. In the buffer zone gap a HD habitat type (Asperulo-Fagetum beech forest) in the HD area **“Alb zwischen Jusi und Teck”** and a field copse with a stone cairn (legally protected biotope) contribute to a very high level of core area buffering. In places a forested area supports the core area buffering. The forest community there consists of a characteristic natural deciduous slope forest which has an average age of around 90 years and is dominated by beech trees. The whole of the neighbouring transition area **also lies within the WPA “Lenninger Lauter”** (zone III).

To the west the core area borders on slightly inclined arable and grassland areas which form a small-scale mixed mosaic. Between the agricultural sectors and the core area there is an unsurfaced track and an edge strip a few metres wide in most places. A site inspection showed that there is no disturbance of the core area as a result of the agricultural sectors. Around half the neighbouring grassland is currently being used extensively which is supported under the state **government’s agri-environmental** scheme. Nutrient deposits into the core areas from the arable and grassland sectors affecting plant ecology could only be found in a few places over a small area (ca. 10 m) in the border strip at the forest edge. In the forest itself no influence was discernible.

The forest in the core area consists of closed, beech dominated slope and ravine forests with an average age of 85 years. The whole of the core area has been a forest reserve since 2004 and since 2007 has been designated as HD area **“Alb zwischen Jusi und Teck”** and as SPA **“Mittlere Schwäbische Alb”**. The majority of the core area has been protected since 1993 as the nature reserve **“Oberes Lenninger Tal mit Seitentälern”**. In accordance with the designation as nature reserve this is a landscape of great geological, patrimonial, scientific and ecological significance which is also outstanding for its diversity, individuality and natural beauty. According to the management plan of the HD area the section of the core area outside the nature reserve is shown as a habitat for the wind-blown moss *Dicranum viride* and the Rosalia longicorn beetle (*Rosalia alpina*), as part of the large hunting and roosting habitat of the greater mouse-eared bat (*Myotis myotis*), the barbastelle bat (*Barbastella barbastellus*) and Bechstein’s bat (*Myotis bechsteinii*).

Overall the core area is completely surrounded by areas with de facto buffering (81%) or areas that show no signs of disturbing effects on the core areas. The buffering of the core area is therefore rated as *good*.

(6) Core area Bossler



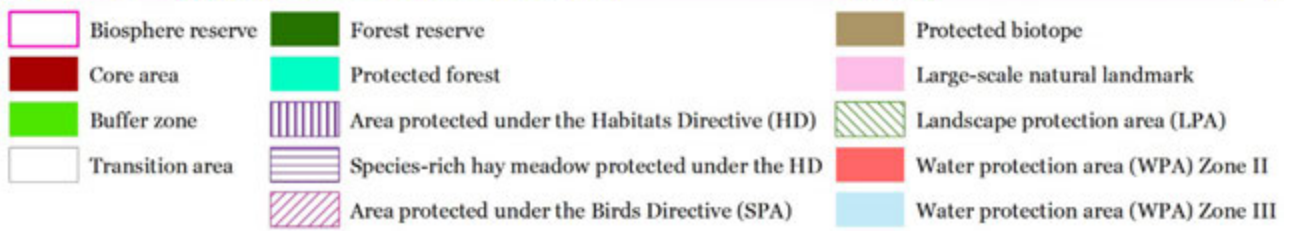
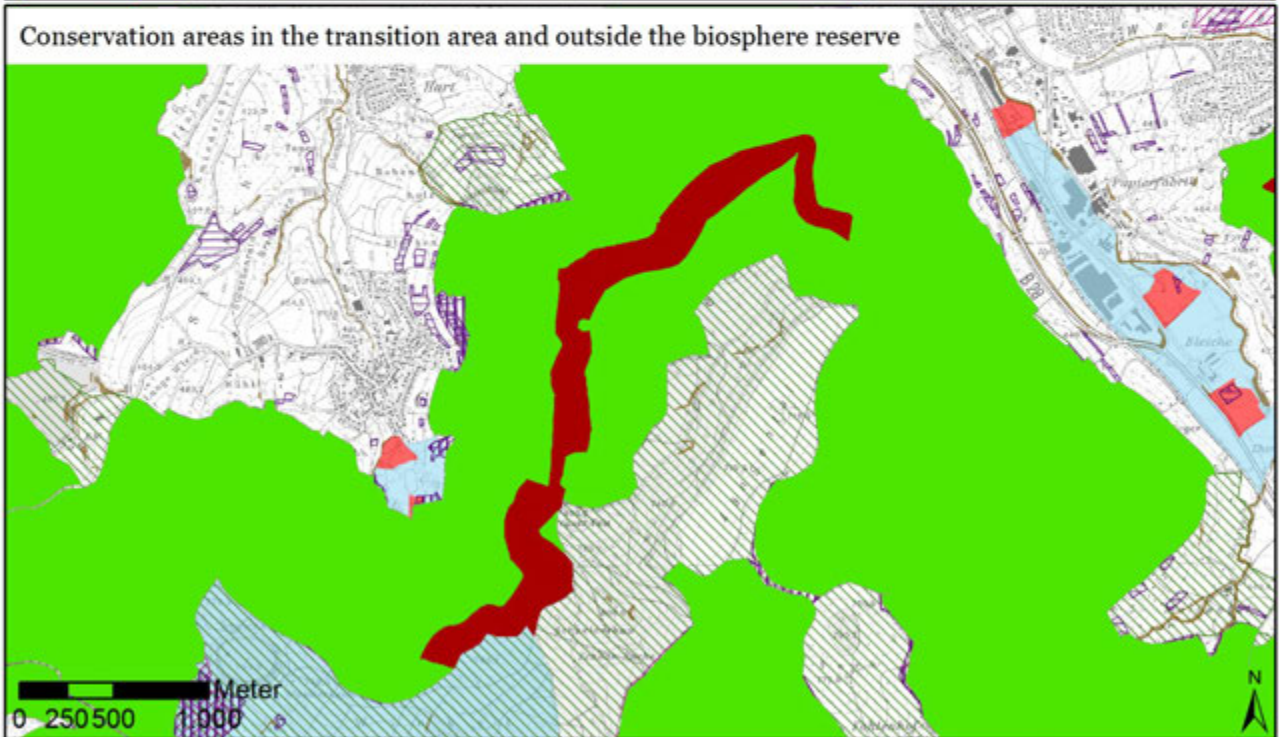
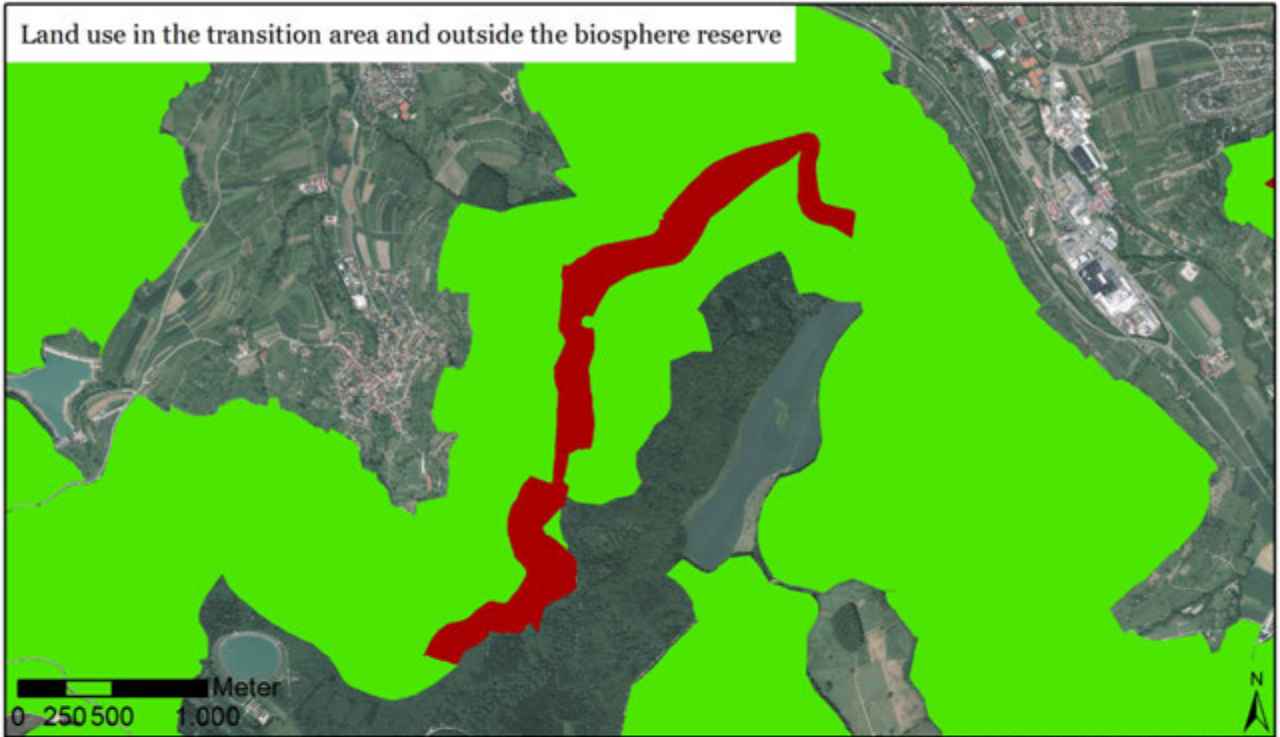
Core area borders on	Proportion [%]
Buffer zone	72
Area with de facto buffering	99

Description and evaluation of core area buffering

The core area is surrounded to 72 % by a buffer zone. The rest of the core area borders the outer boundary of the biosphere reserve (municipality of Gruibingen). Along the outer boundary forested areas support the buffering. A smaller section of the core area borders behind a narrow forested strip on grassland areas which are partly edged by field copses, hedging and stone cairns (legally protected biotopes). No disturbance of the core area could be detected. The whole section **along the outer boundary is situated in the SPA “Mittlere Schwäbische Alb,” in the WPA “Weilheim”** (zone II in the South, rest zone III) and in the LPA **“Oberes Filstal – Gemeinde Gruibingen”**. The protective purpose of the LPA is to maintain the diversity, individuality and beauty of the Alb landscape with its dramatically contrasting height profile around the municipality of Gruibingen, which is characterised by the alternation of forest, field and stream copses, hedges, heaths as well as arable land and meadows used agriculturally and which is of high ecological importance due to its floristic diversity.

Overall the core area is completely surrounded by areas with de facto buffering (99 %) or areas that show no sign of disturbing effects on the core area. The buffering of the core area is therefore rated *very good*.

(7) Core area Rossberg

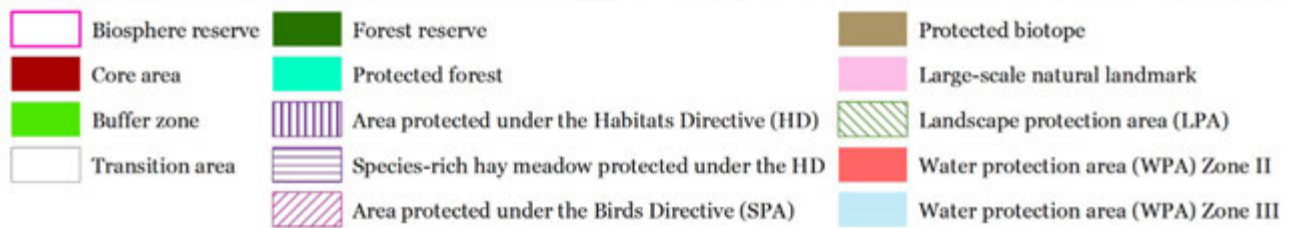
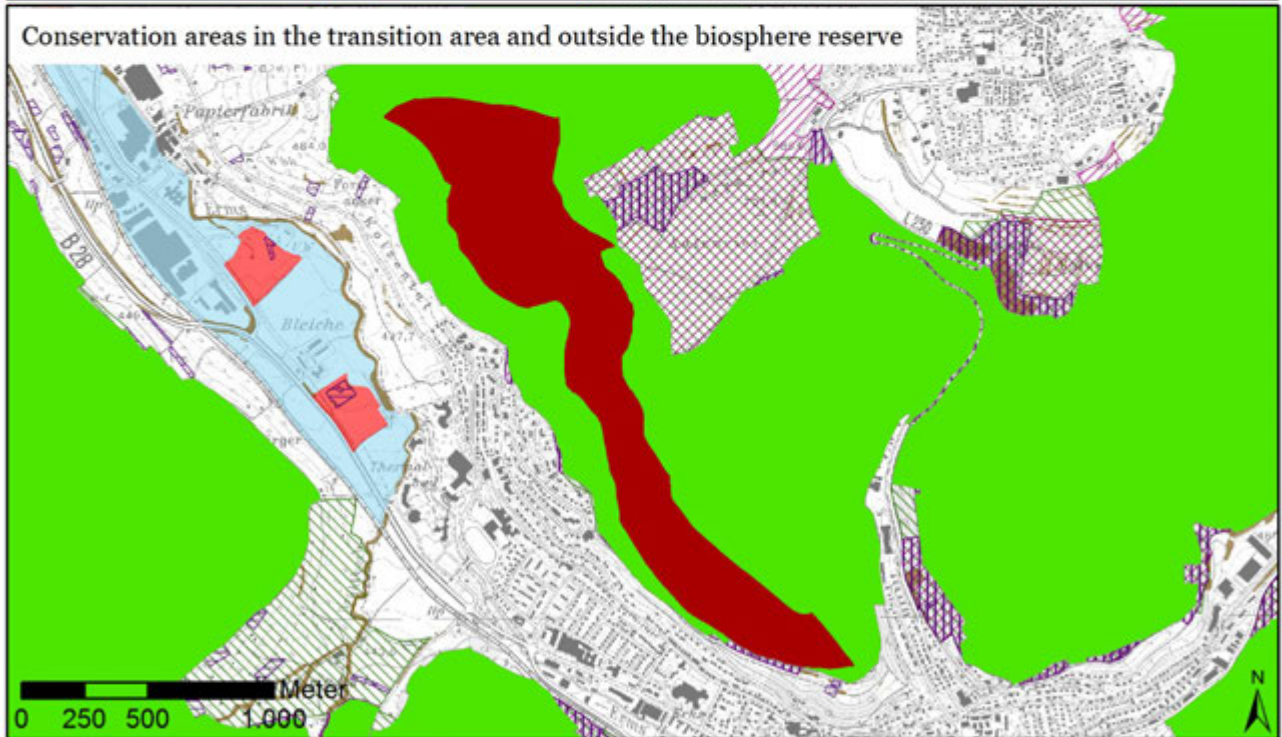
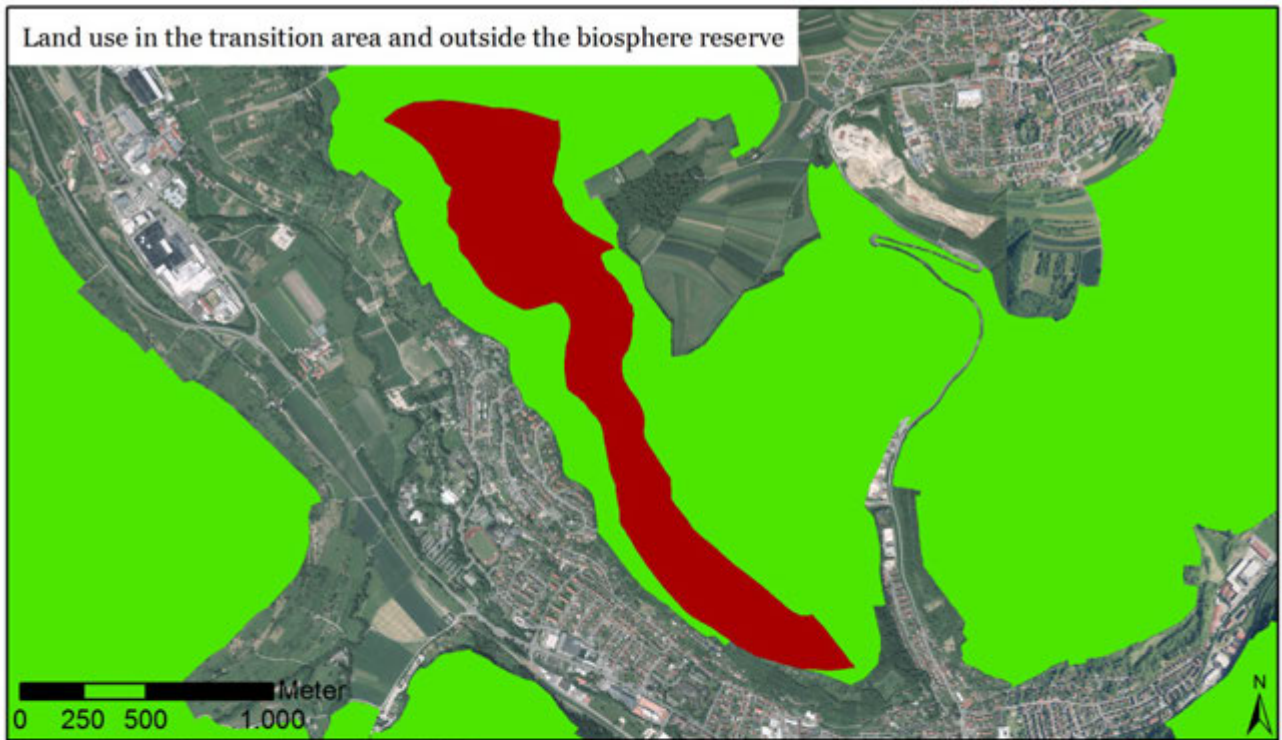


Core area borders on	Proportion [%]
Buffer zone	88
Areas with de facto buffering	100

Description and evaluation of core area buffering

The core area borders to 88% a buffer zone. The buffer zone gap is completely taken up by a mixed forest dominated by beeches, parts of which are 170 years old. This provides a high buffering effect. The area also lies completely within the LPA **“Reutlinger und Uracher Alb”** and half within the WPA **“Glemser Quellen”** (zone III). Overall the core area is thus completely surrounded by areas with de facto buffering. The buffering of the core area is rated overall as *very good*.

(8) Core area Nägelesfelsen / Eichhalde

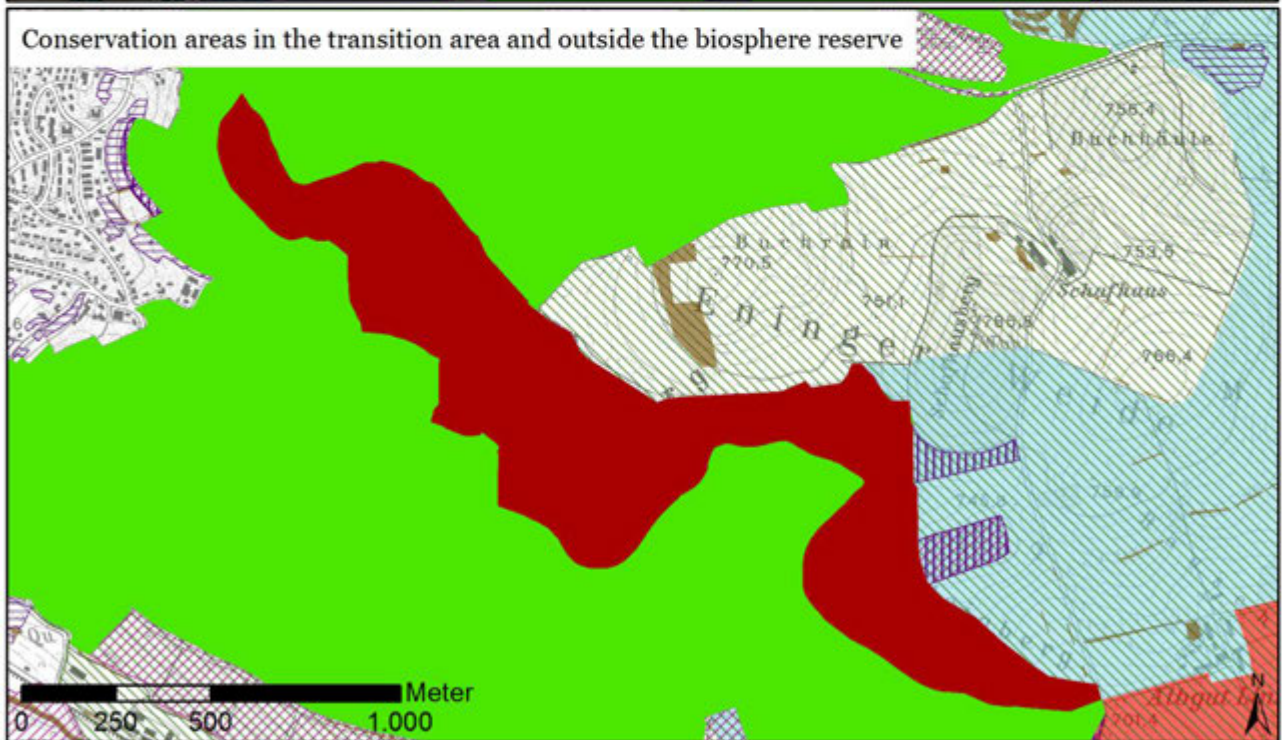


Core area borders on	Proportion [%]
Buffer zone	95
Area with de facto buffering	97

Description and evaluation of core area buffering

The core area is surrounded to 95% by a buffer zone. At the foot of the core area's escarpment in the south there is a gap in the buffer zone surround which lies within the HD area **“Uracher Talspinne” and the SPA “Mittlere Schwäbische Alb”**. The land use is half forest and half meadow orchards. In one sector field copses and oligotrophic grassland (legally protected biotope) support the buffering. Overall the core area is thus completely surrounded by areas with de facto buffering (97 %) or areas which show no sign of disturbing effects on the core area. The buffering of the core area is rated overall as *very good*.

(9) Core area Drackenberg



- | | | |
|-------------------|--|--------------------------------------|
| Biosphere reserve | Forest reserve | Protected biotope |
| Core area | Protected forest | Large-scale natural landmark |
| Buffer zone | Area protected under the Habitats Directive (HD) | Landscape protection area (LPA) |
| Transition area | Species-rich hay meadow protected under the HD | Water protection area (WPA) Zone II |
| | Area protected under the Birds Directive (SPA) | Water protection area (WPA) Zone III |

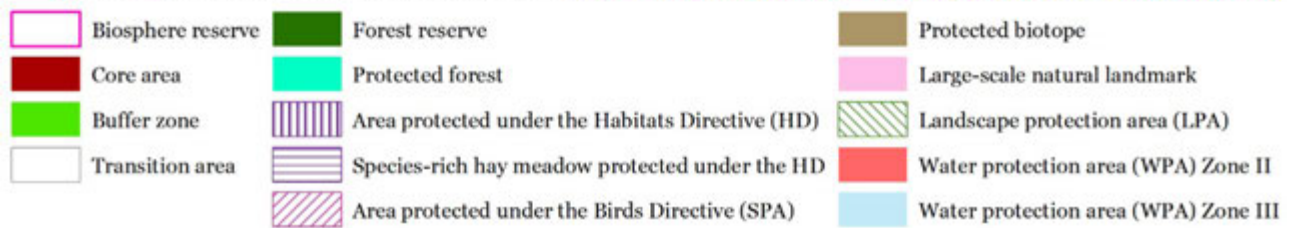
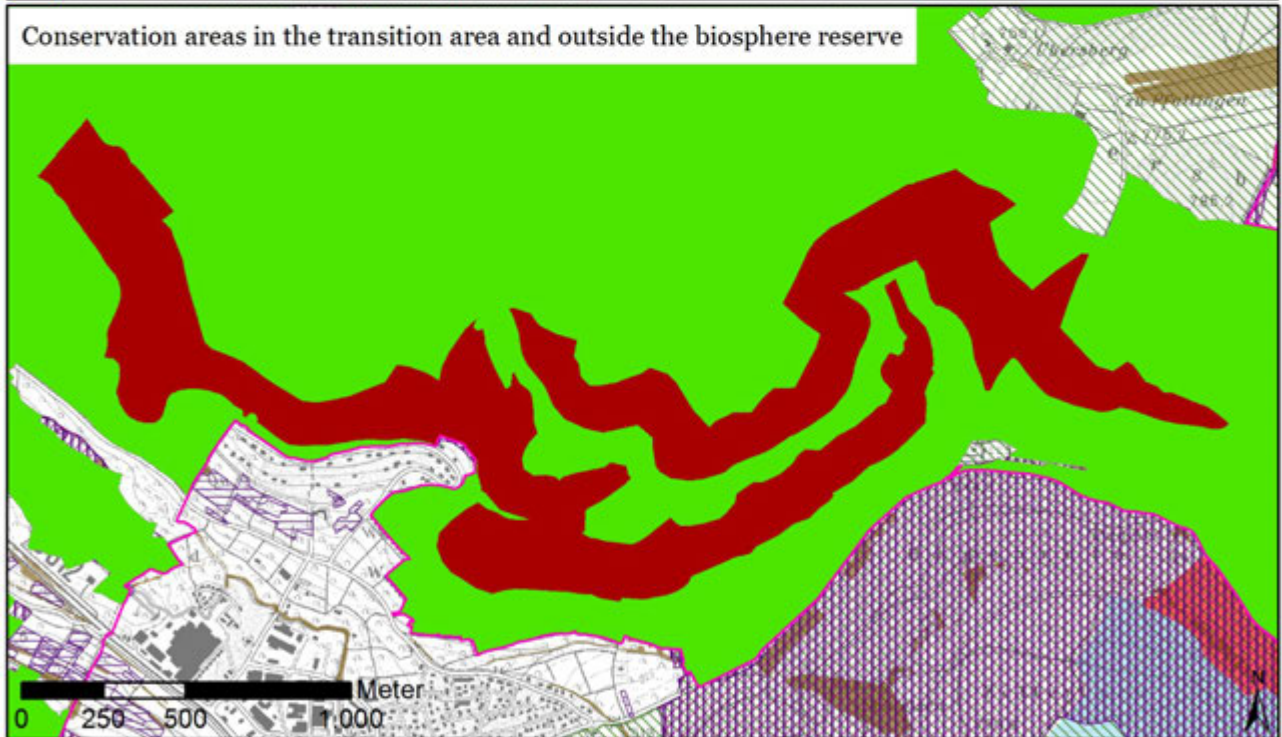
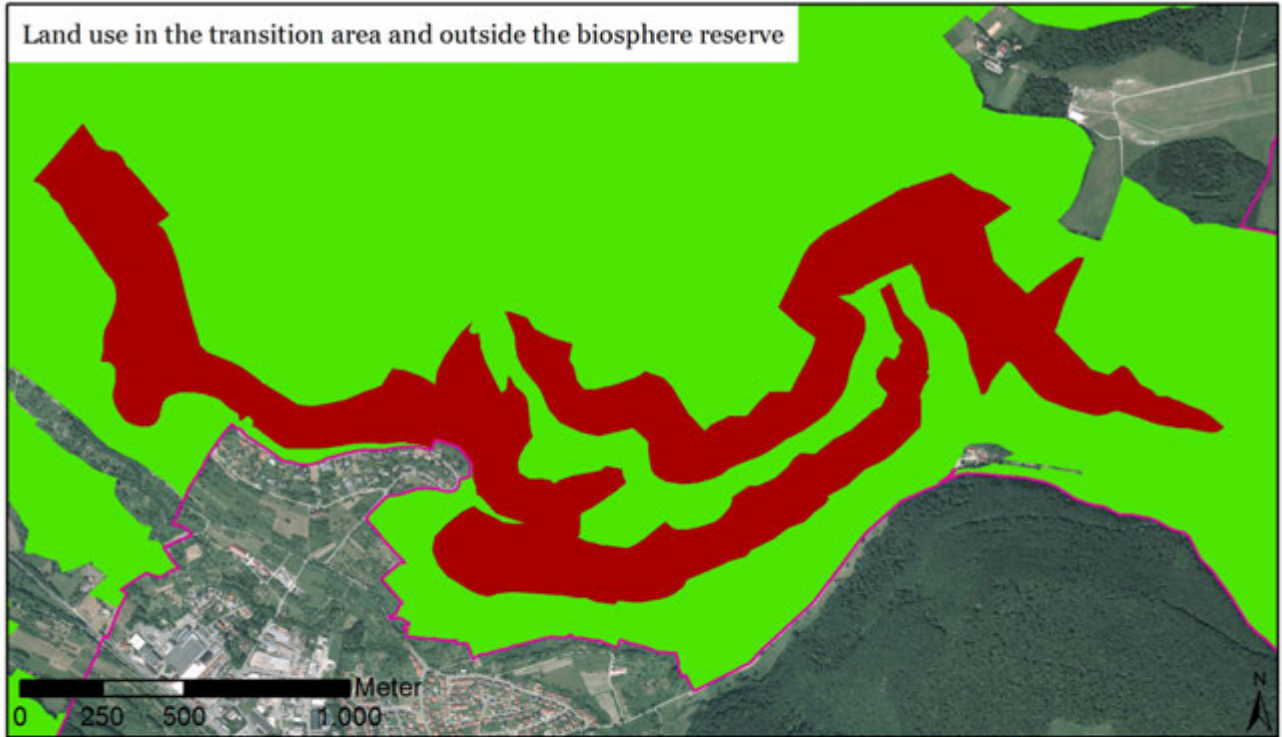
Core area borders on	Proportion [%]
Buffer zone	70
Area with de facto buffering	82

Description and evaluation of core area buffering

The core area is surrounded to 70% by a buffer zone. The land use in the buffer zone gap is partly an HD-listed Asperulo-Fagetum beech forest (habitat type 9130) in the HD area **“Albtrauf Pfullingen” which contributes to effective buffering of the** core area. The largest portion of the buffer zone gap consists of hay meadows. In the north of the buffer zone gap there is a large strawberry field. The arable field is however shielded from the core area in some parts by a section (approx. 10 m wide) which is used as a hay meadow and is part of the HD area. The whole neighbouring transition area is part of the **LPA “Reutlinger und Uracher Alb.” The** inclination is mostly flat. No disturbance of the core areas could be detected through the agricultural sectors.

Overall the core area is completely surrounded by areas with de facto buffering (82 %) or areas which show no sign of disturbing effects on the core areas. The buffering of the core area is therefore rated as *good*.

(10) Core area cluster Kugelberg / Immenberg

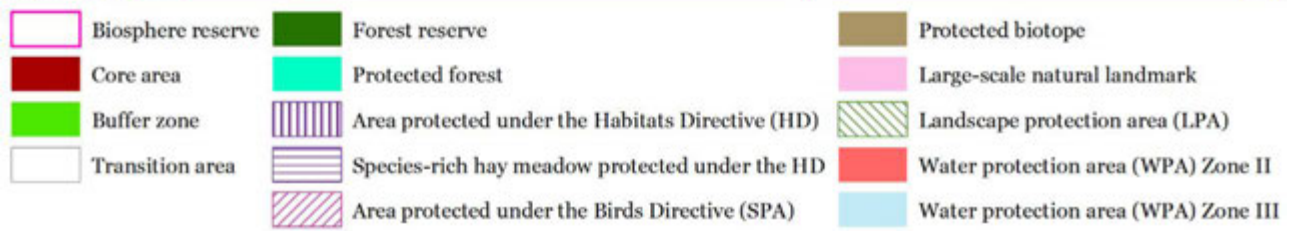
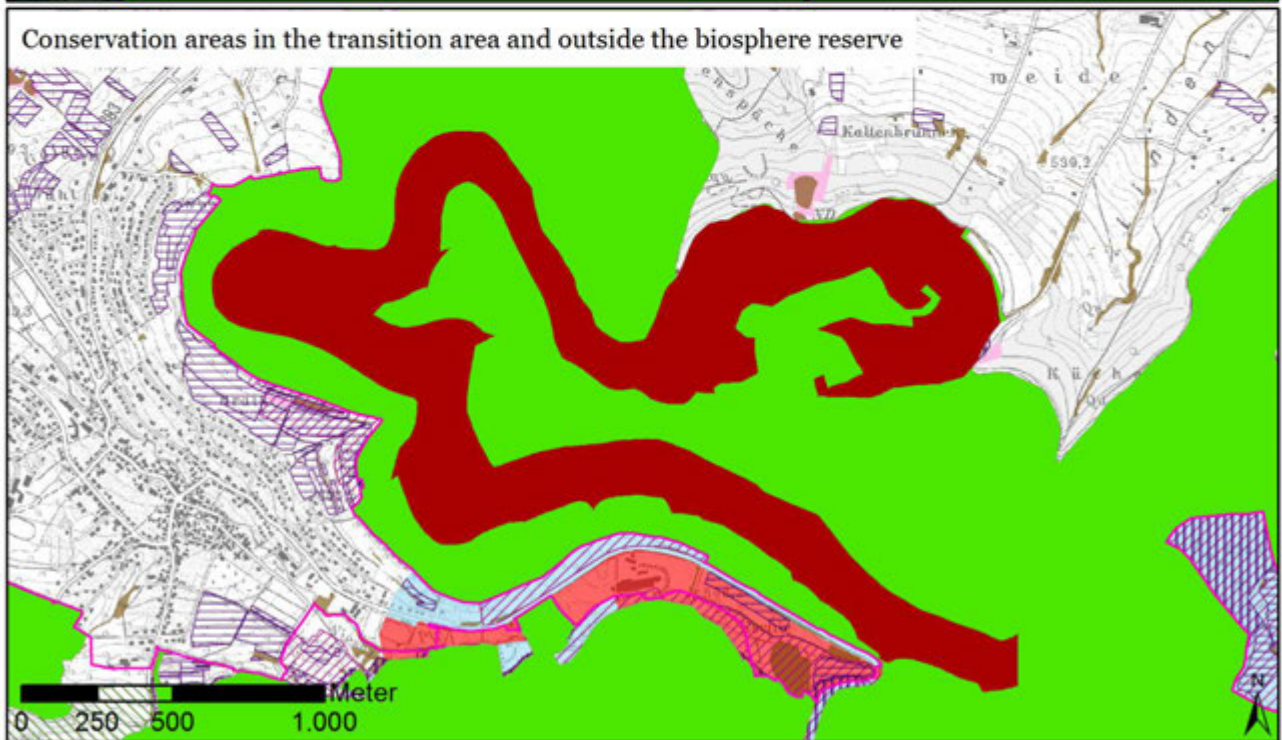
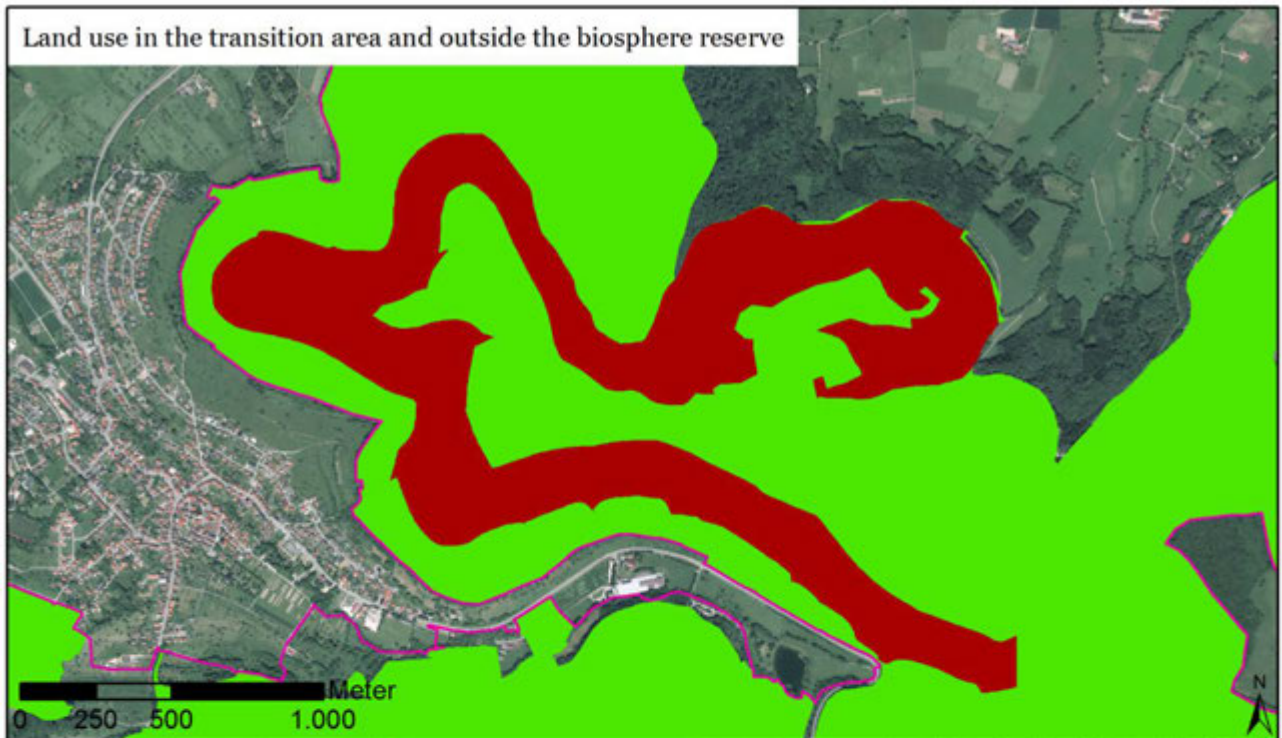


Core area borders on	Proportion [%]
Buffer zone	99
Area with de facto buffering	100

Description and evaluation of core area buffering

The core area cluster is surrounded to 99 % by a buffer zone. The outer boundary of the biosphere reserve has a minimal buffer zone gap (approx. 170 m long) in the municipality of Lichtenstein. Here the core area borders on a forested area approx. 10 m wide which is part of the HD **area “Albtrauf Pfullingen” and is recorded as the habitat** of the Rosalia longicorn beetle (*Rosalia alpina*) and the scarlet tiger moth (*Callimorpha quadripunctata*). The forested **area also belongs to the SPA “Mittlere Schwäbische Alb.”** **The** core area cluster is thus completely surrounded by areas with de facto buffering. The buffering of the core area is therefore rated as *very good*.

(11) Core area Stöffelberg / Pfullinger Berg

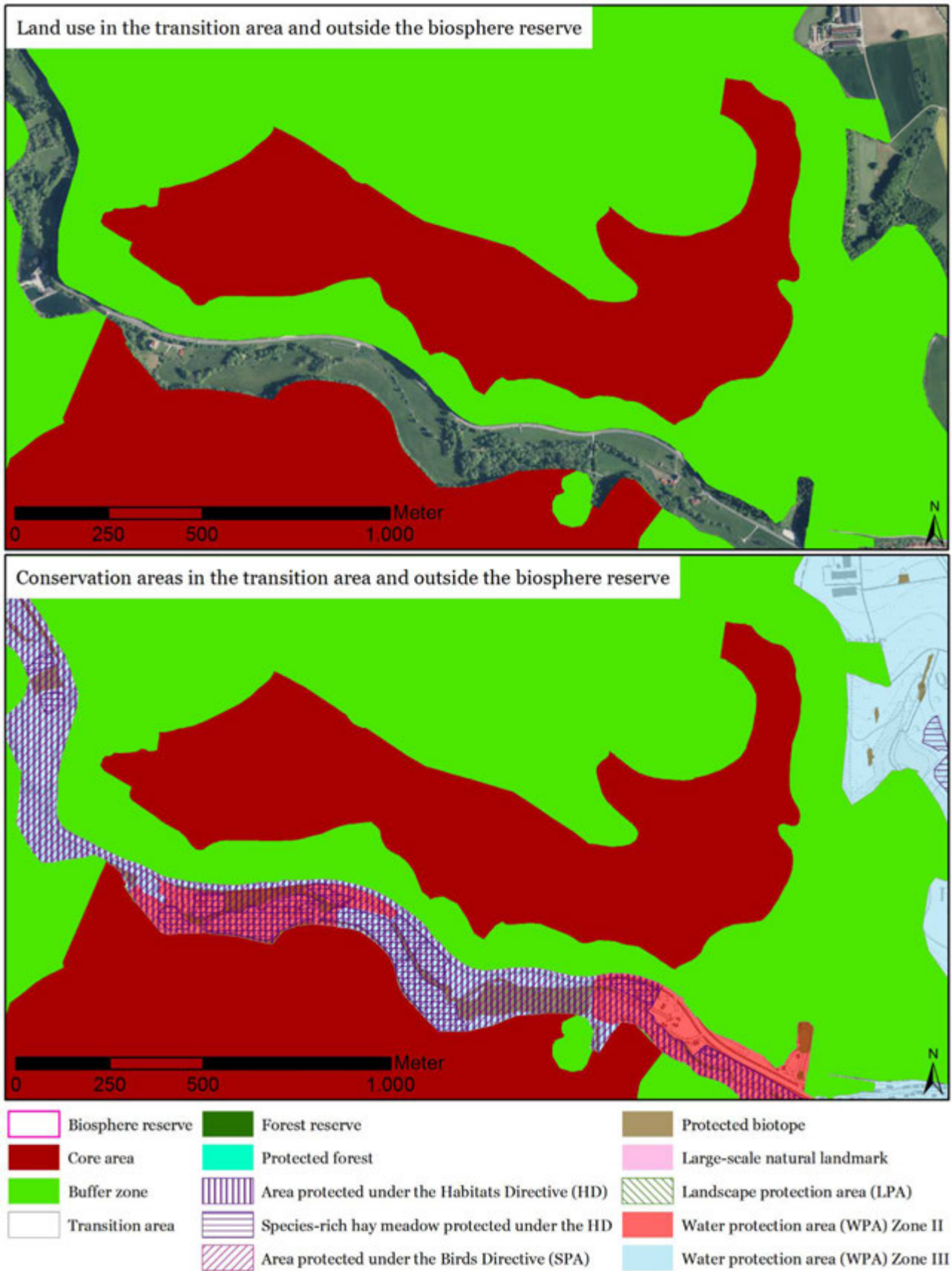


Core area borders on	Proportion [%]
Buffer zone	92
Area with de facto buffering	99

Description and evaluation of core area buffering

The core area borders to 92% a buffer zone. To the north-east the buffer zone is a few metres higher than the core area in some places since here it borders HD habitat types (Asperulo-Fagetum beech forest and priority habitat type Tilio-Acerion ravine forest) in the HD area **“Albtrauf zwischen Mössingen und Gönningen”**, legally protected forest biotopes and the SPA **“Mittlere Schwäbische Alb”**. In the buffer zone gap the land use is approx. $\frac{3}{4}$ forest. This contains additional biotopes such as a natural spring and other natural ravine, boulder and colluvium forests. Approx. $\frac{1}{4}$ borders after a narrow buffer zone strip on species-rich meadows partly edged by field copses and field hedging (legally protected as biotopes). These areas are situated at the foot of the hillside and slope away from the core area at a significant inclination. A site inspection confirmed that there is no disturbance of the core area as a result of the meadows. Overall the core area is thus completely surrounded by areas with de facto buffering (99%) or areas that show no disturbing effects. The buffering of the core area is rated overall as *very good*.

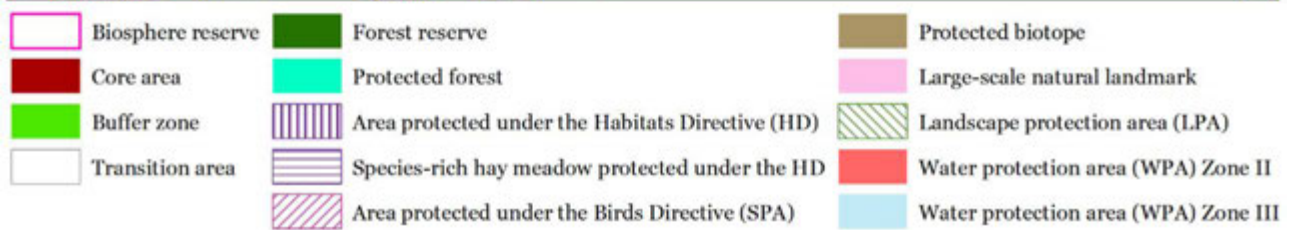
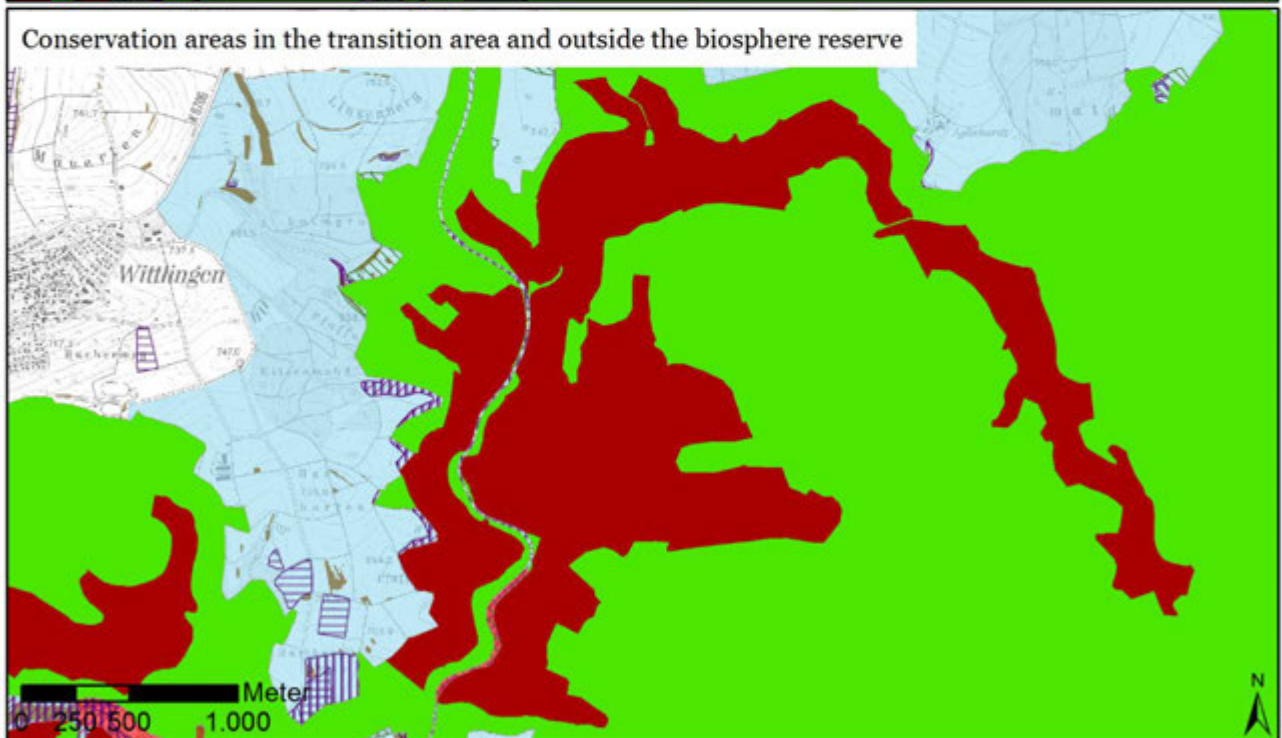
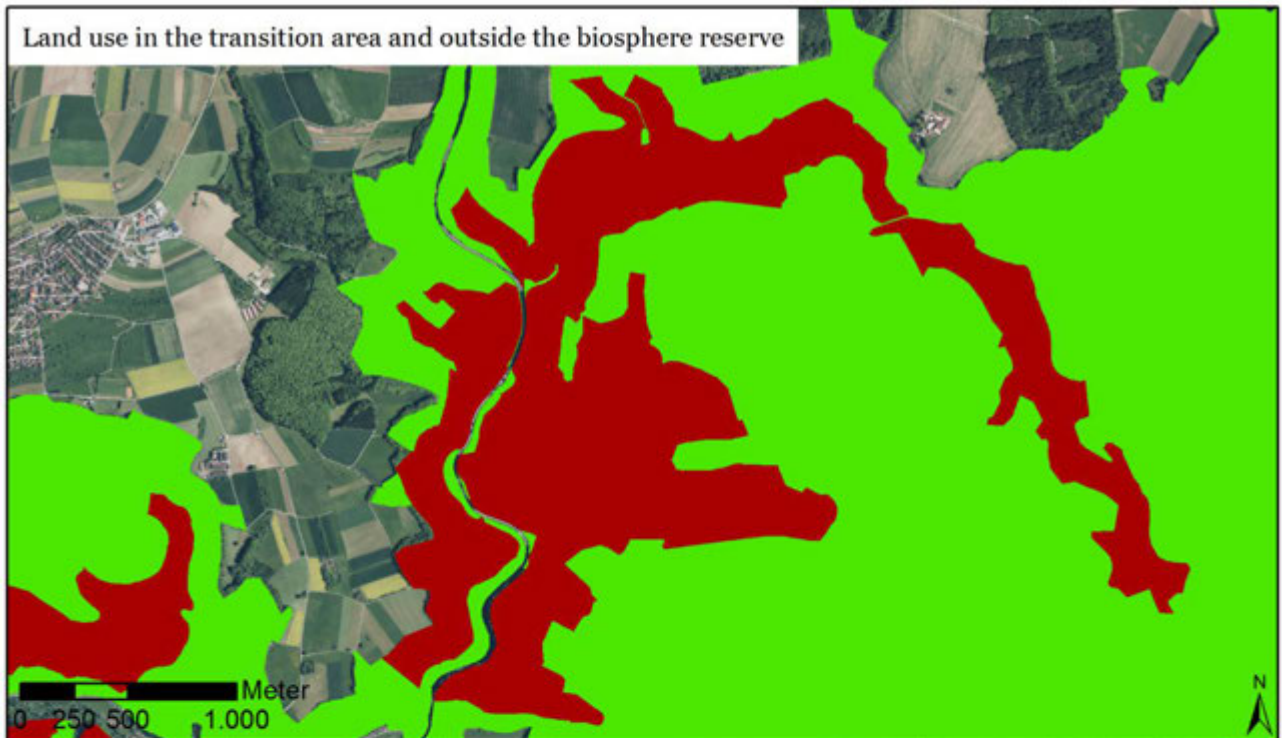
(12) Core area Baldeck



Description and evaluation of core area buffering

The core area is completely surrounded by a buffer zone. The core area buffering is rated as *very good*.

(13) Core area Fischburger Tal



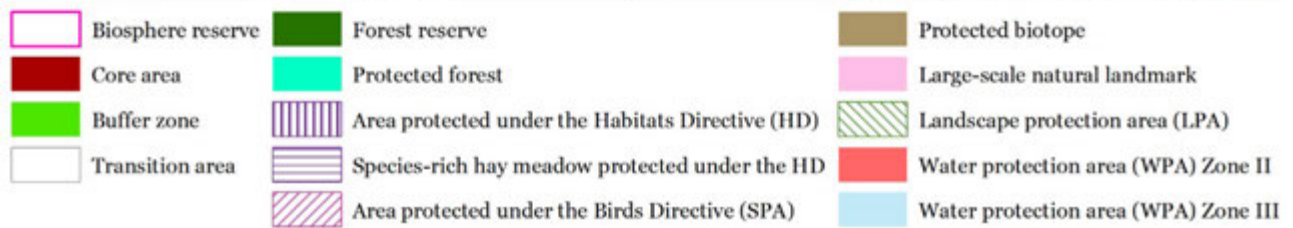
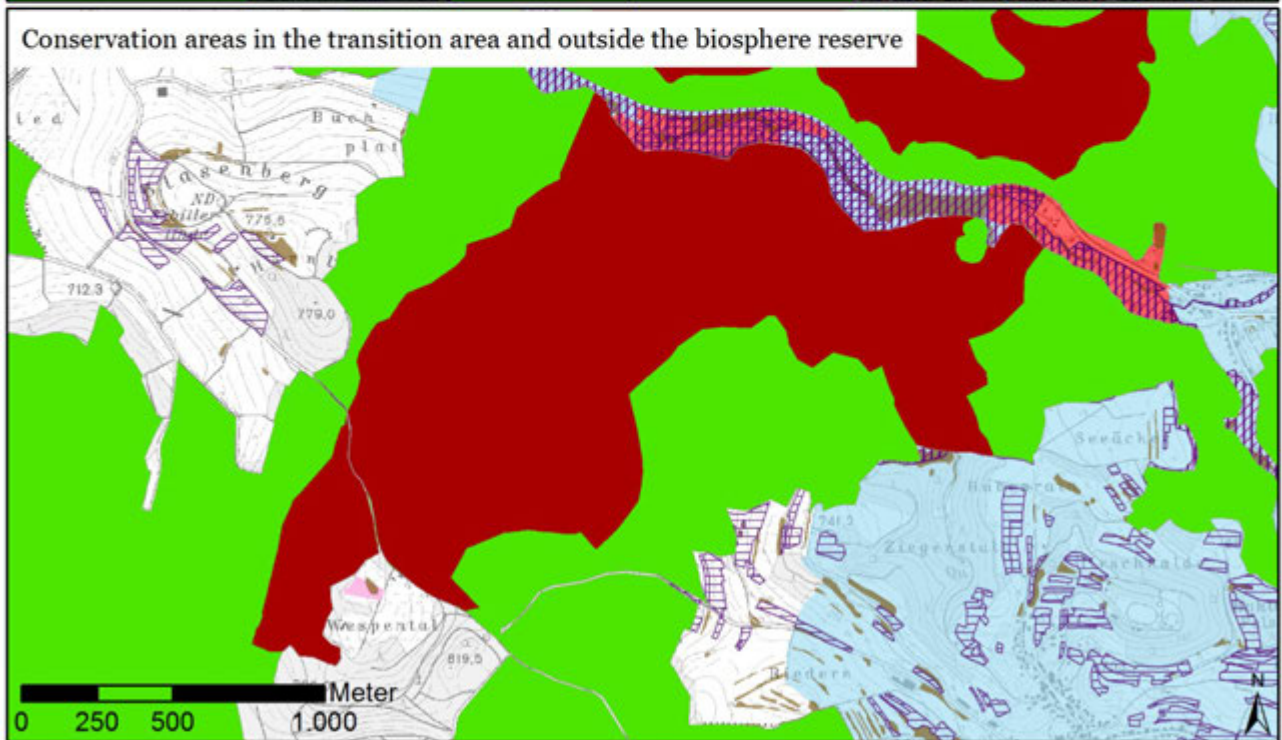
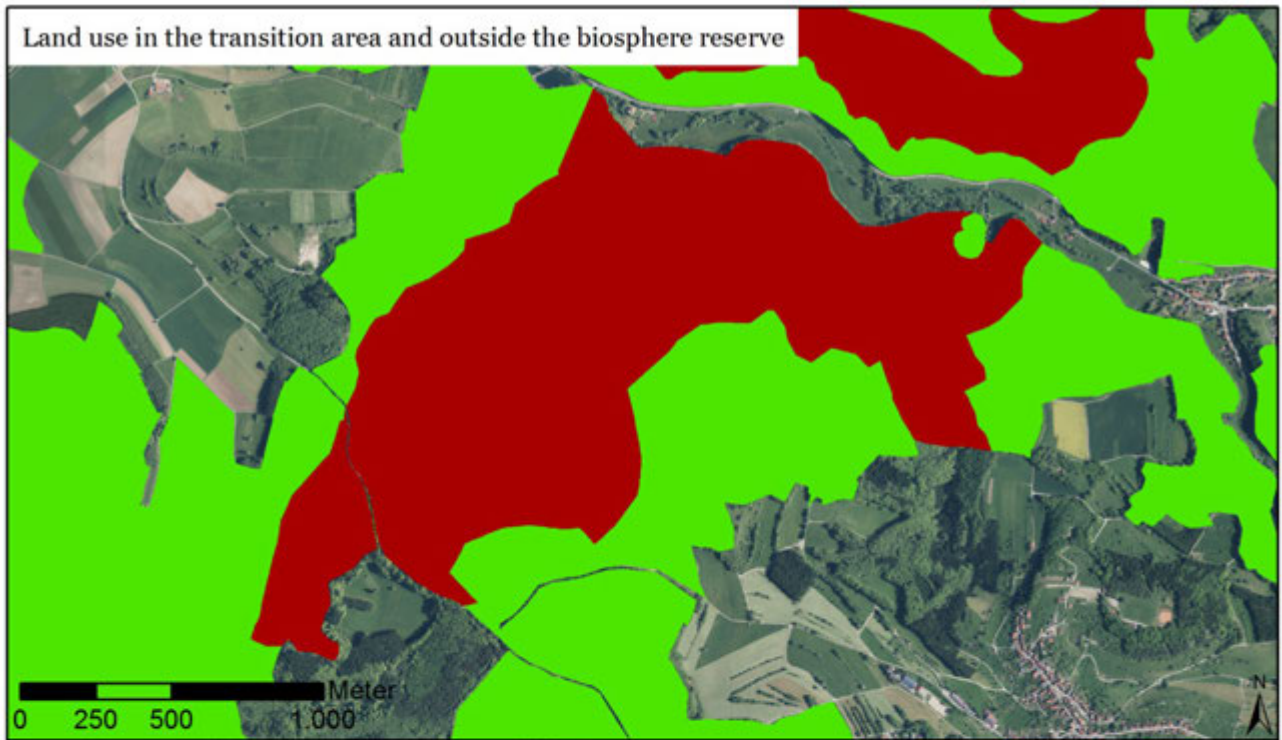
Core area borders on	Proportion [%]
Buffer zone	88
Area with de facto buffering	95

Description and evaluation of core area buffering

The core area borders to 88% a buffer zone. In the buffer zone gap to the west of the core area the border is mainly grassland which is in parts currently used extensively as species-rich grassland or pasture and **which is supported under the state government's agri-environmental scheme**. In addition there are neighbouring forested areas with a high buffering effect. These are part of the HD **area "Uracher Talspinne" and are** listed as Asperulo-Fagetum beech forest (habitat type 9130) in a favourable condition. These areas are also biotopes for the Rosalia longicorn beetle (*Rosalia alpina*), the greater mouse-eared bat (*Myotis myotis*) and Bechstein's bat (*Myotis bechsteinii*). The forested area is also part **of the SPA "Mittlere Schwäbische Alb"**. One arable field also borders on the core area, this is currently half fallow-planted with mixed blooms and is supported under the state **government's** agri-environmental scheme.

A site inspection showed that there are no disturbing effects on the core area as a result of the agricultural use. Only in one place it was possible to detect plant ecologically effects of nutrient deposition over approx. 10 metres on an edge strip in front of the core area. In the core area there were no signs of an accumulation of nutrients. Overall the core area is completely surrounded by areas with de facto buffering (95%) or areas which show no sign of disturbing effects. The buffering of the core area is therefore rated overall as *good*.

(14) Core area Föhrenberg



Core area borders on	Proportion [%]
Buffer zone	65
Area with de facto buffering	93

Description and evaluation of core area buffering

The core area Föhrenberg is the southernmost of the two core areas shown on the maps. The core area is surrounded to 65% by buffer zones. A site inspection showed that there were no disturbing effects on the core area as a result of the neighbouring transition area.

The Erms floodplain bordering to the north lies entirely within the HD area “Uracher Talspinne”. Almost the complete floodplain is taken up with the HD habitat types lowland hay meadow (habitat type 6510), Tilio-Acerion ravine forest (habitat type 9180*) and the Erms with *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation (habitat type 3260). The Tilio-Acerion ravine forest, like the whole core area, is a habitat for the Rosalia longicorn beetle (*Rosalia alpina*), greater mouse-eared bat (*Myotis myotis*) and **Bechstein’s** bat (*Myotis bechsteinii*). In addition there are natural marshland, swamp and floodplain forests along the Erms which are shown on the map as legally protected biotope types. **The area also lies entirely within the SPA “Mittlere Schwäbische Alb” and the WPA “Forstbrunnen”**, whereby around half of the floodplain is designated as WPA zone II. To the east, the floodplain valleys border privately-owned land with historic buildings, whereby the core area is screened by a meadow and the Erms from the buildings.

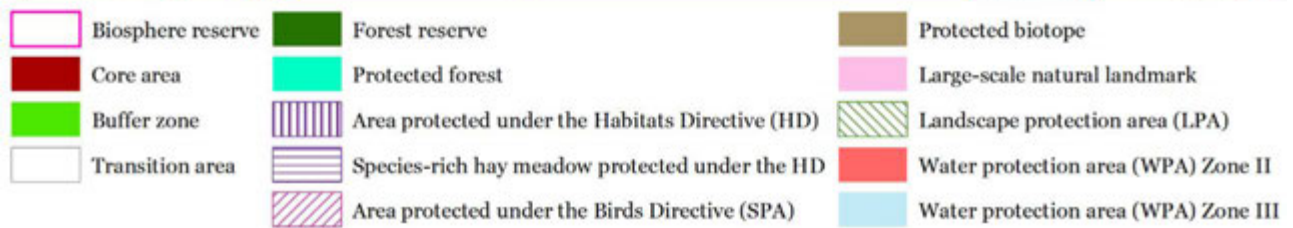
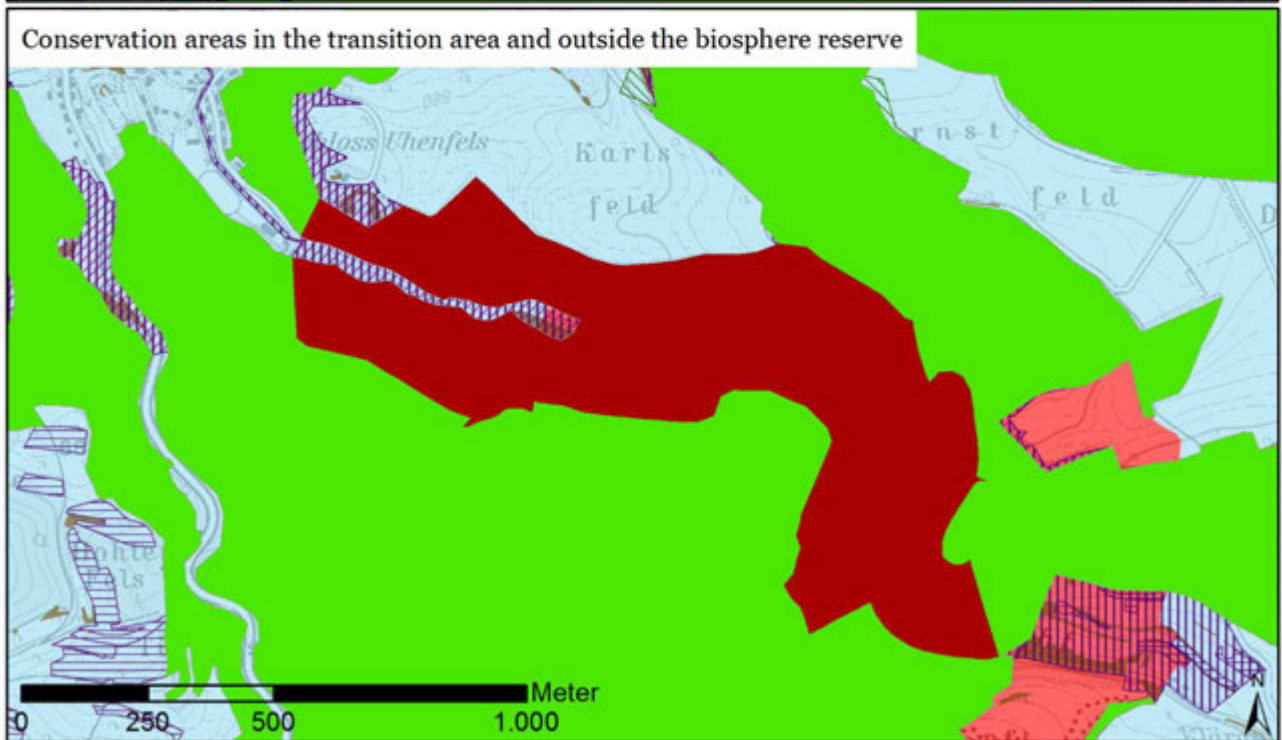
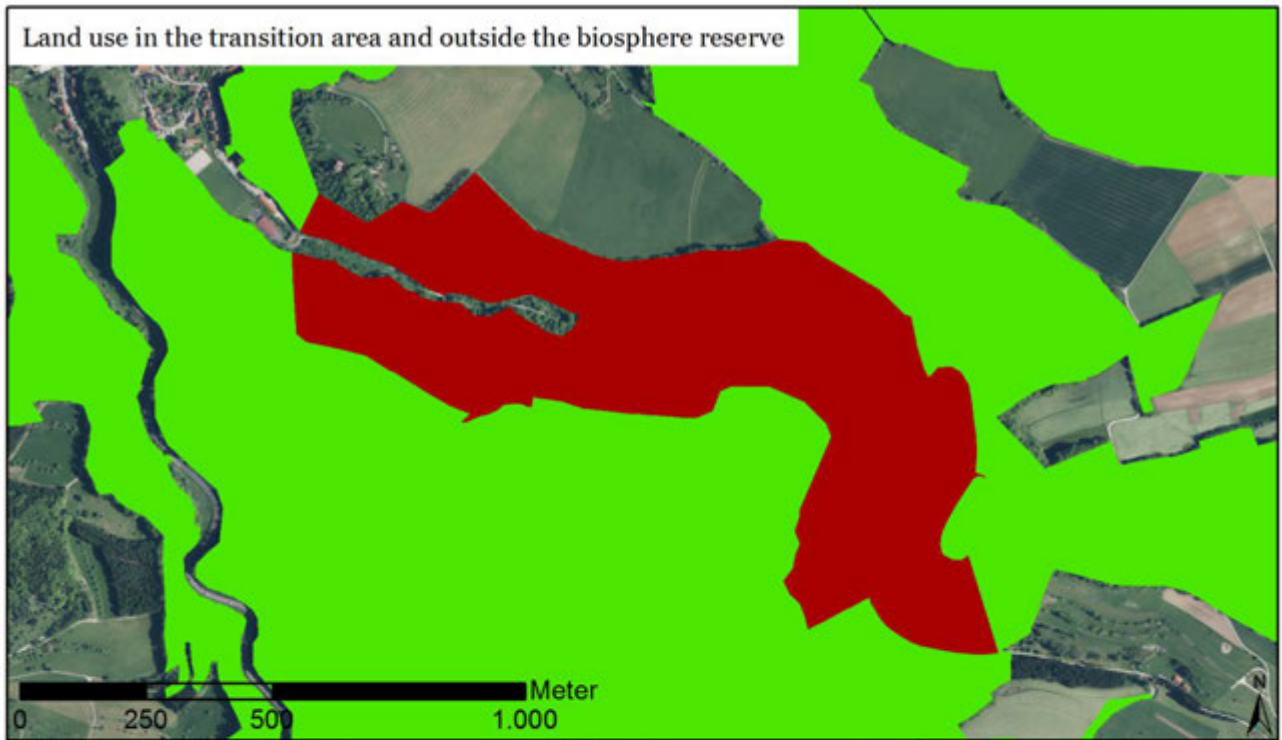
A little-used municipal lane (lowest category of publicly accessible roads) transects the south-western sector of the ecologically very valuable core area.

The buffer zone gap to the south-east is completely taken up by a beech-dominated deciduous forest with a high proportion of trees which are up to 120 years old and around half is shown on the map as natural ravine forest (legally protected biotope).

In the neighbouring transition area to the south-west there are beech-dominated deciduous forest areas. After approx. 10 m parts of the forested areas turn to meadow, which slopes away from the core area. Here the features include a wetland meadow which is designated as a legally protected biotope and a natural landmark.

Overall the core area is completely surrounded by areas with de facto buffering (93%) or areas which show no sign of disturbing effects on the core area. The buffering of the core area is therefore rated as *good*.

(15) Core area Trailfinger Schlucht



Core area borders on	Proportion [%]
Buffer zone	63
Area with de facto buffering	85

Description and evaluation of core area buffering

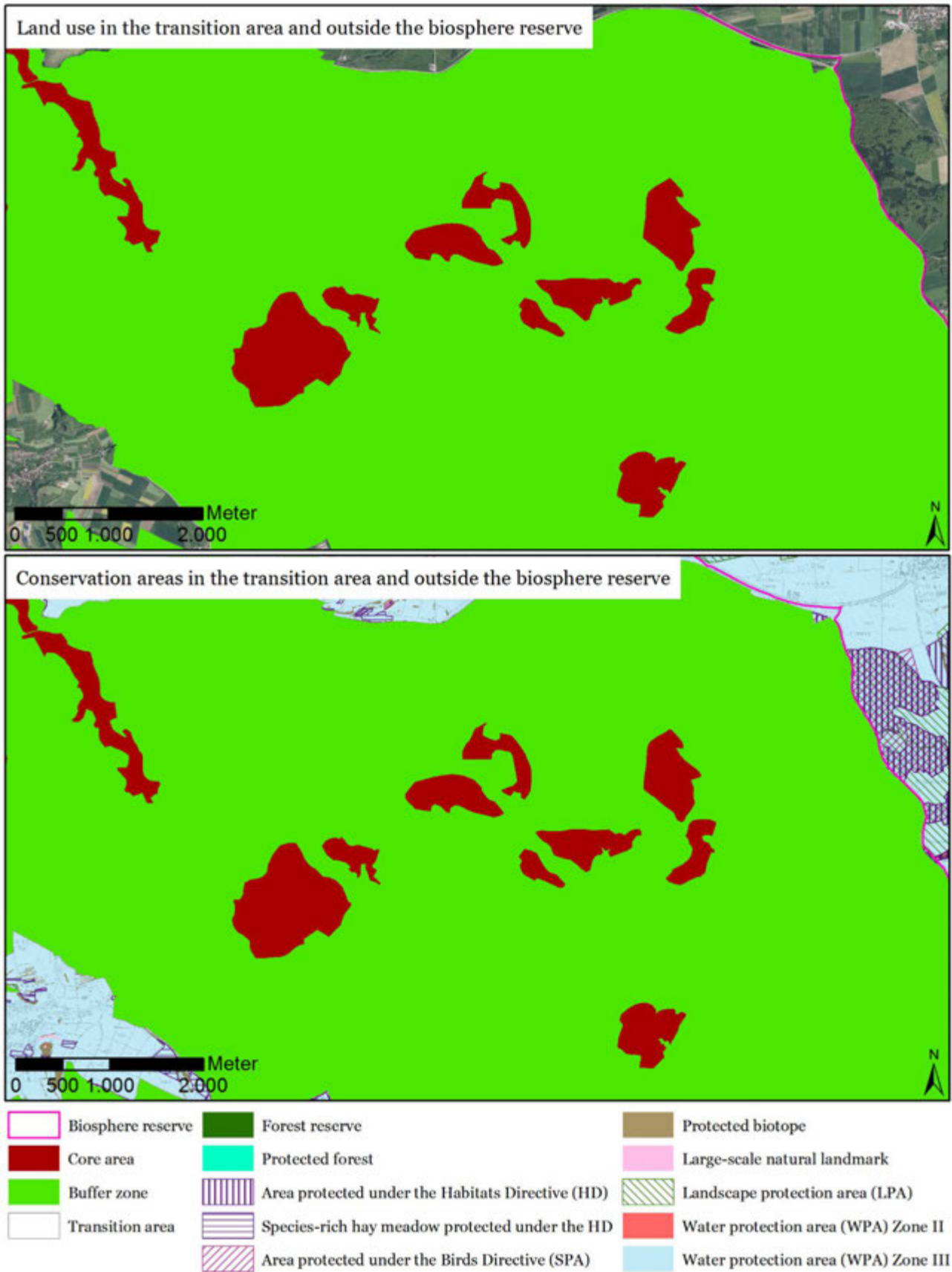
The core area borders to 63% a buffer zone. In the buffer zone gap on the Alb plateau to the north the buffering of the core area is supported in places by a deciduous forest. This lies within the HD area **“Uracher Talspinne”** and the SPA **“Mittlere Schwäbische Alb”**. This area contains the calcareous rocks typical of the region with chasmophytic vegetation (habitat type 8210). Between two rocks on a south-facing ridge an extensive species-rich calcareous dry grassland (habitat type 6210) has developed. In addition the forested area, like almost all hillside beech forests of the HD area and the beech-rich forest areas on the neighbouring Alb plateau, is a habitat of the Rosalia longicorn beetle (*Rosalia alpina*). The areas are also biotopes and possibly also the hunting grounds of the greater mouse-eared bat (*Myotis myotis*). They are seen here in both summer and winter with the HD area **“Uracher Talspinne”** representing one of the most important winter habitats of the greater mouse-eared bat. The forests of the HD areas are also the summer habitat of Bechstein's bat (*Myotis bechsteini*).

The majority of the buffer zone gap to the north of the core area is characterised by a largely flat section used as a hay meadow.

The centrally situated valley also lies within the above-mentioned HD area and SPA and on the sides of the valley also in the transition area there is the priority HD habitat type Tilio-Acerion ravine forest (habitat type 9180*). The whole of the neighbouring transition area is **situated in the WPA “Gutsbezirk”**, which is partly designated as zone II in the central valley. No disturbances of the core area could be detected.

Overall the core area is completely surrounded by areas with de facto buffering (85 %) or areas which show no sign of disturbing effects on the core area. The buffering of the core area is therefore rated as *good*.

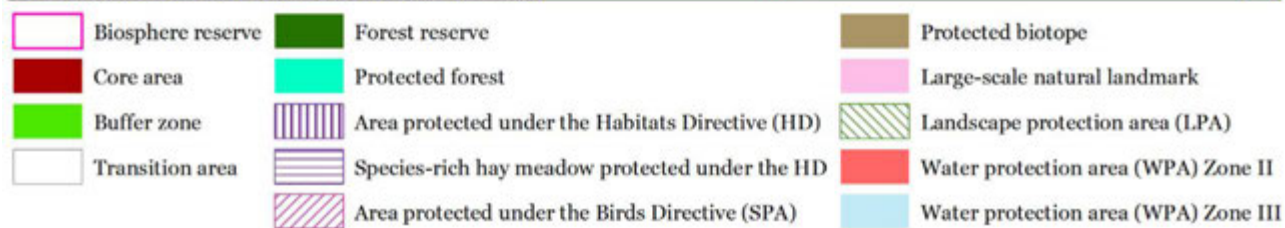
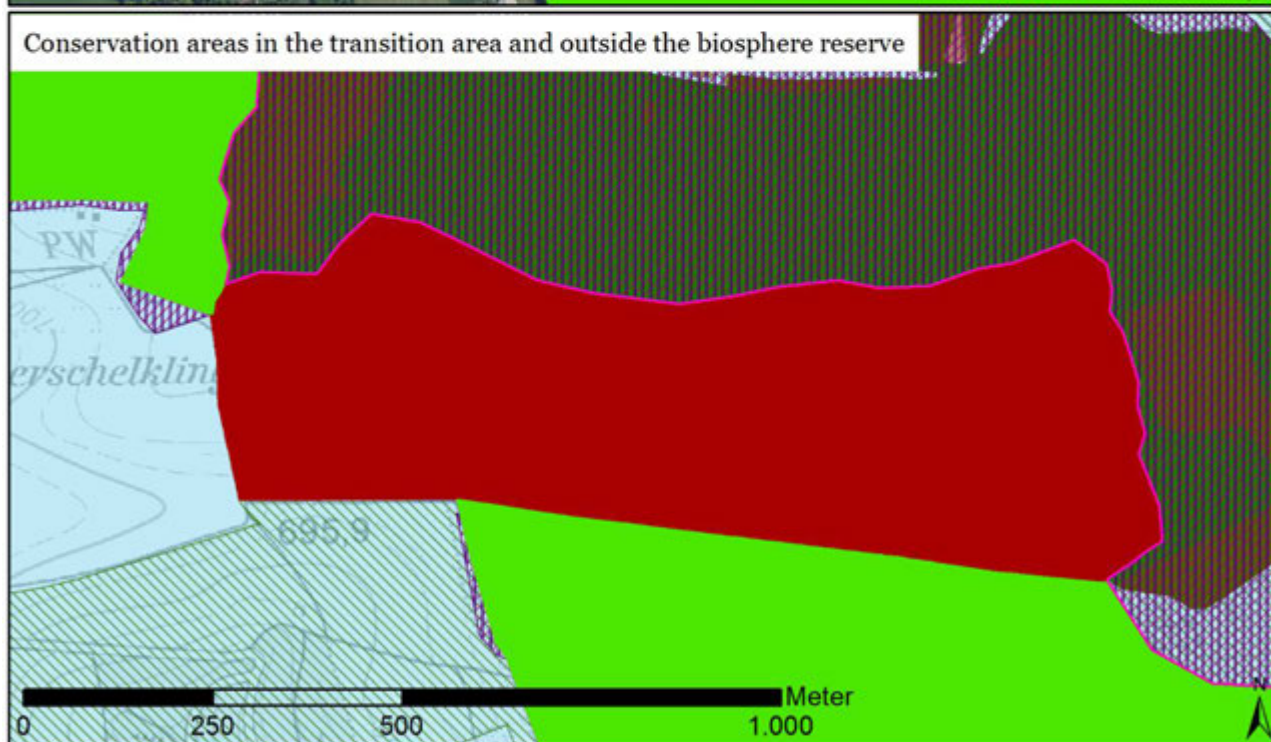
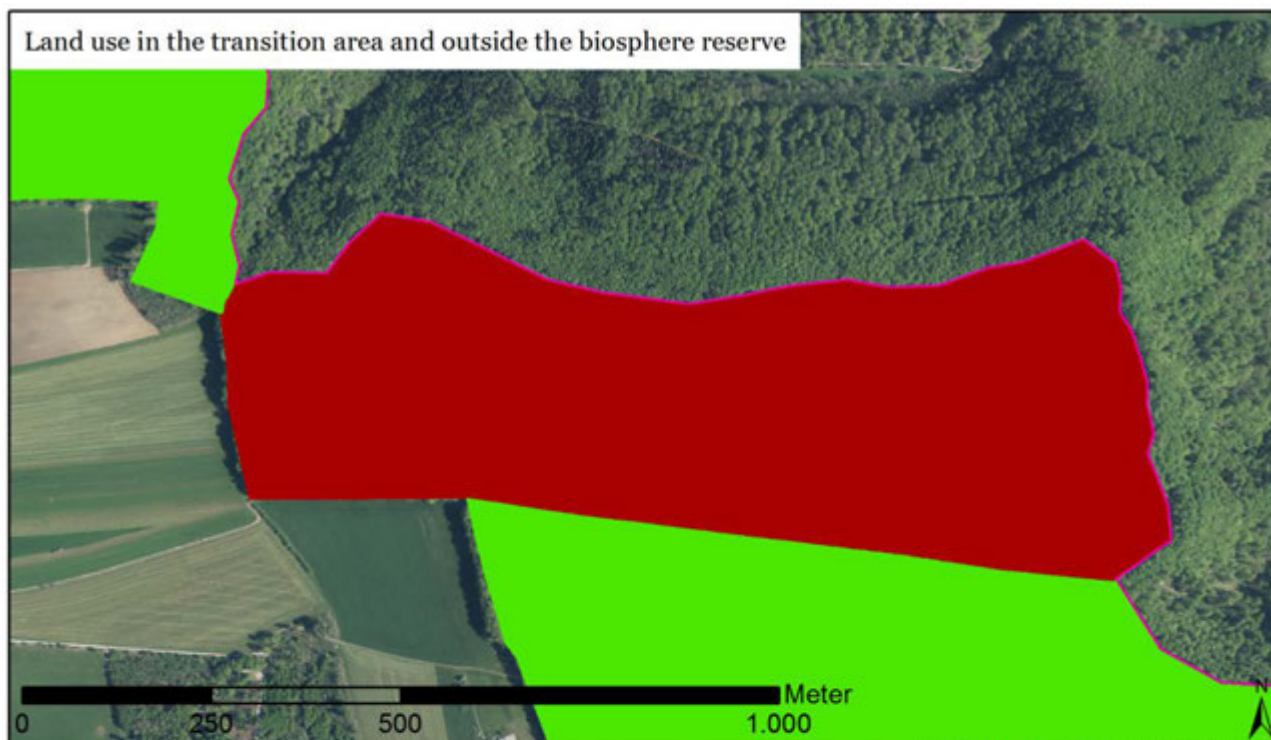
(16) Core area cluster on the former military training ground



Description and evaluation of core area buffering

The core area cluster is completely surrounded by a buffer zone. The buffering of the core areas is rated as *very good*.

(17) Core area Rabensteig



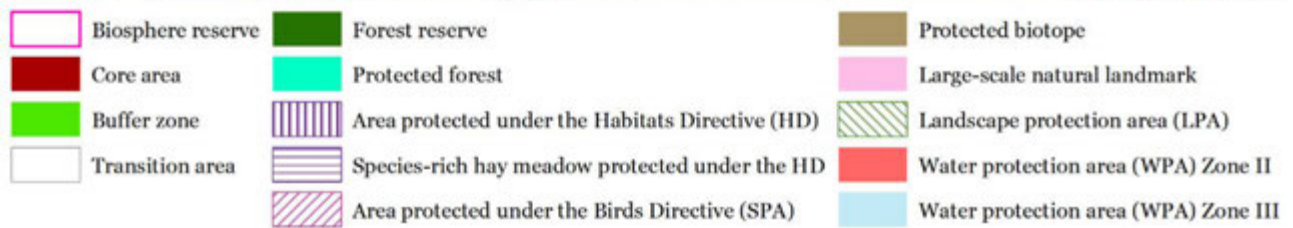
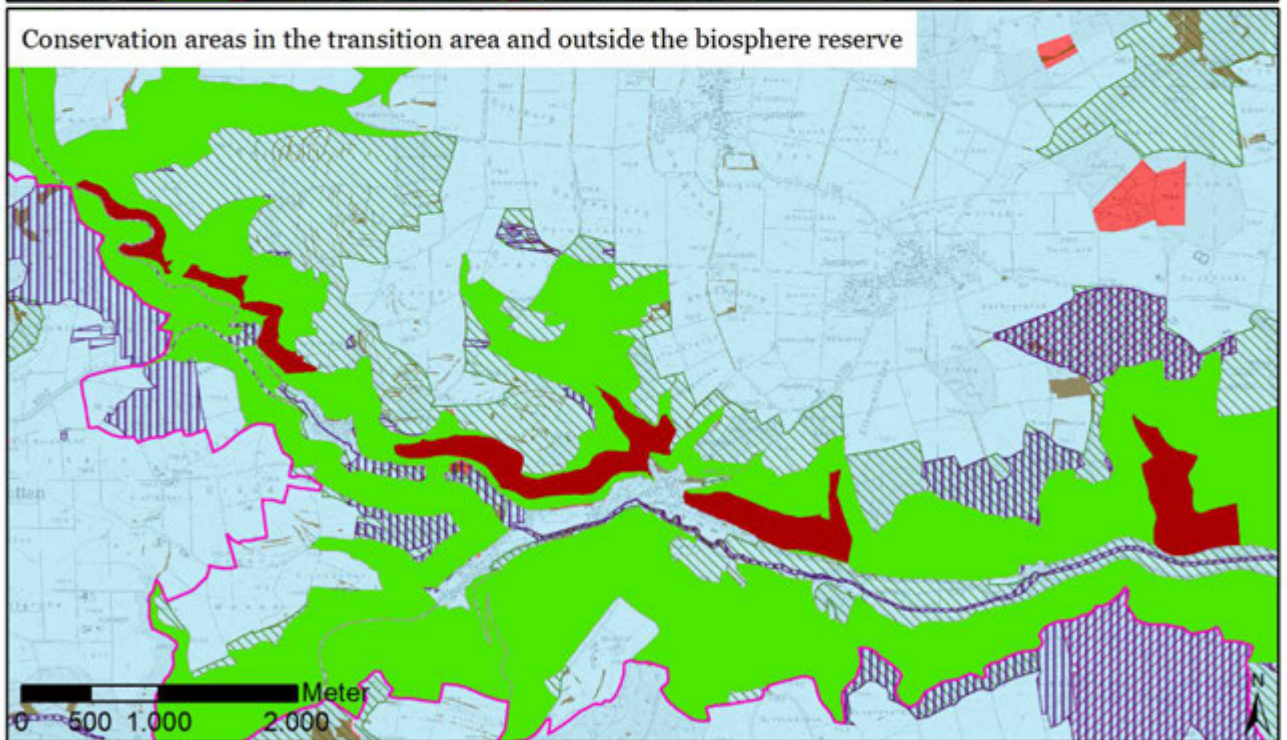
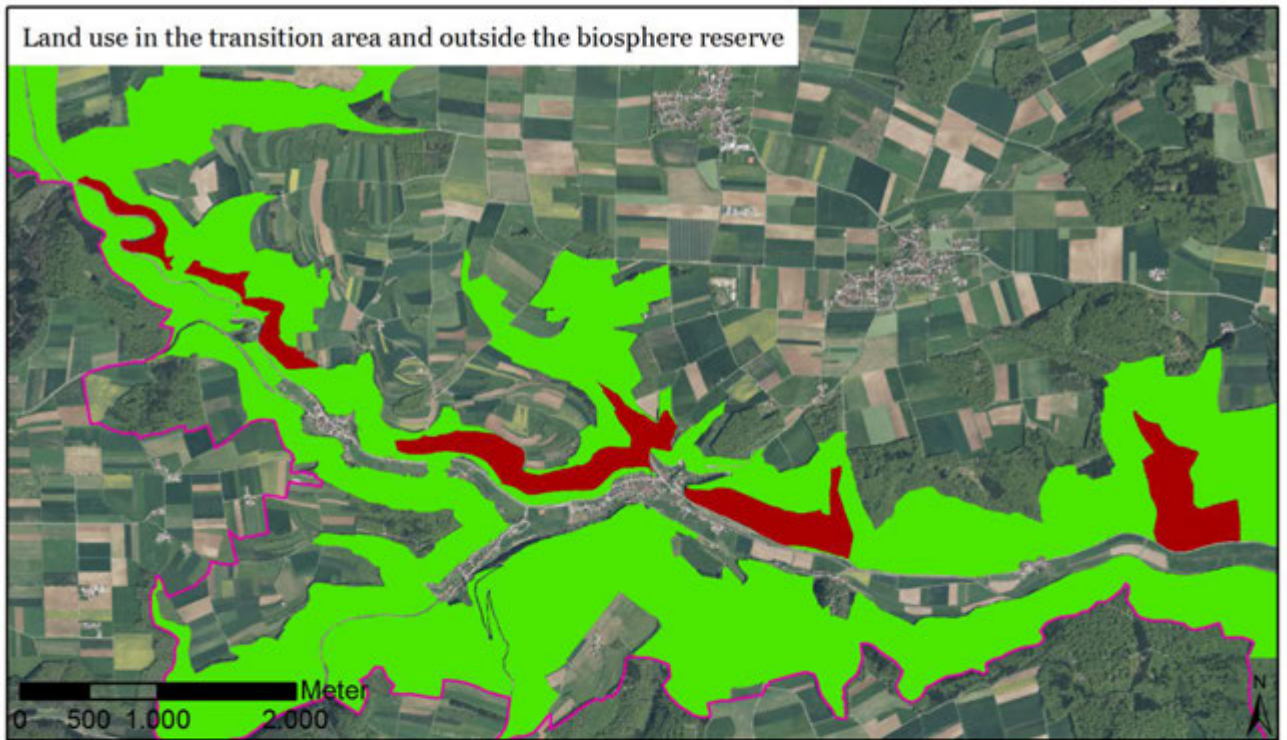
Core area borders on	Proportion [%]
Buffer zone	29
Area with de facto buffering	84

Description and evaluation of core area buffering

The core area borders to 29 % a buffer zone. However, along the whole stretch to the north-east where the core area meets the outer boundary of the biosphere reserve (54 %), there is a border with the forest reserve **“Rabensteig” which provides ideal buffering**. Process protection therefore occurs across a far larger area here than in the core area.

In the buffer zone gap to the south-west the core area borders mainly on grassland and partly forest. The grassland is partly used as hay meadow and is supported under the state **government’s agri-environmental scheme**. The forested areas are part of the HD area **“Tiefental und Schmiechtal” and the SPA “Täler der mittleren Flächenalb”**. The whole area of the **neighbouring transition area lies within the WPA “Blaubeuren/Gerhausen” (zone III)**. The sections to the south of the core area are situated within the LPA **“Schelklingen”**. No disturbances to the core area could be detected as a result of the agricultural use. Overall the core area is completely surrounded by areas with de facto buffering (84 %) or areas which show no sign of disturbing effects. The buffering of the core area is therefore rated as *good*.

(18) Core area cluster in the Schmiechtal



Core area borders on	Proportion [%]
Buffer zone	79
Area with de facto buffering	91

Description and evaluation of core area buffering

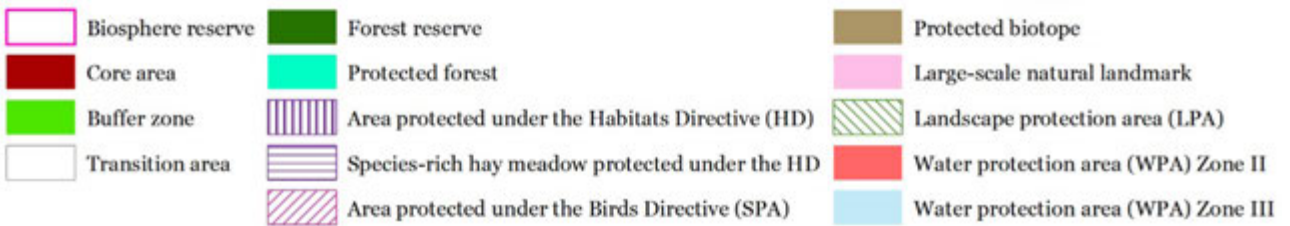
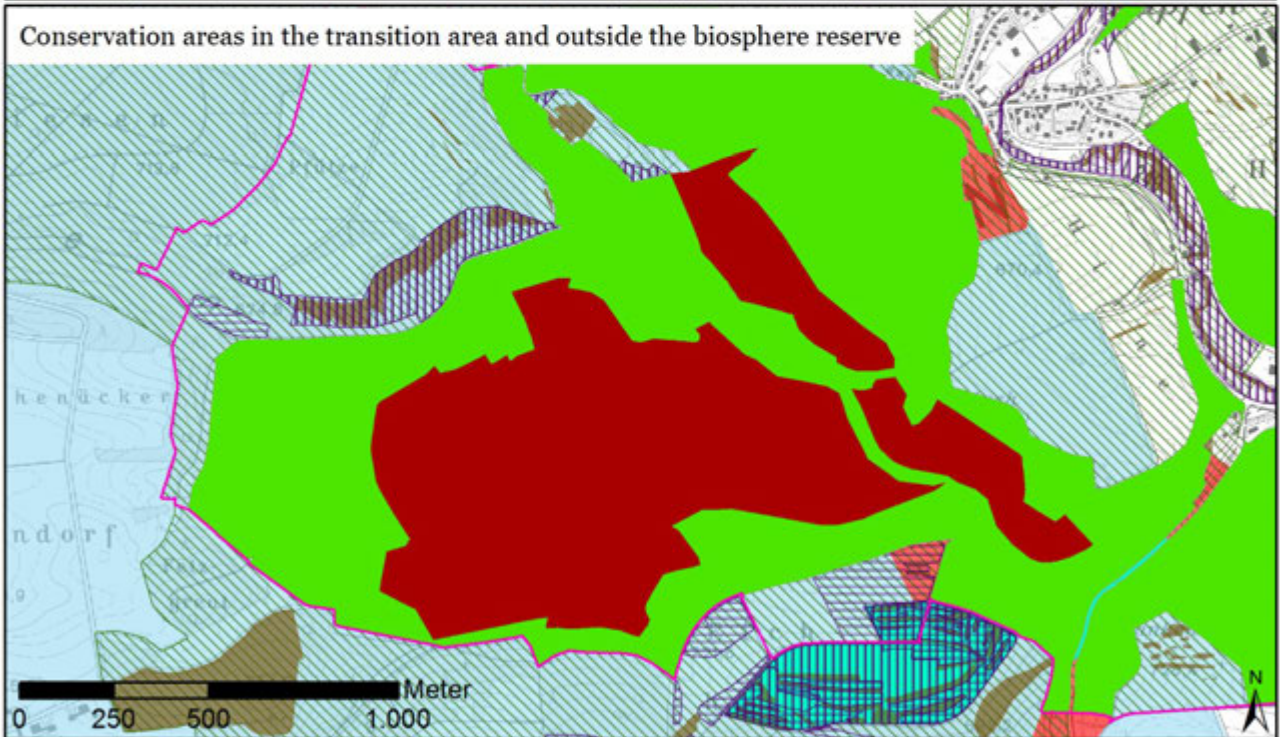
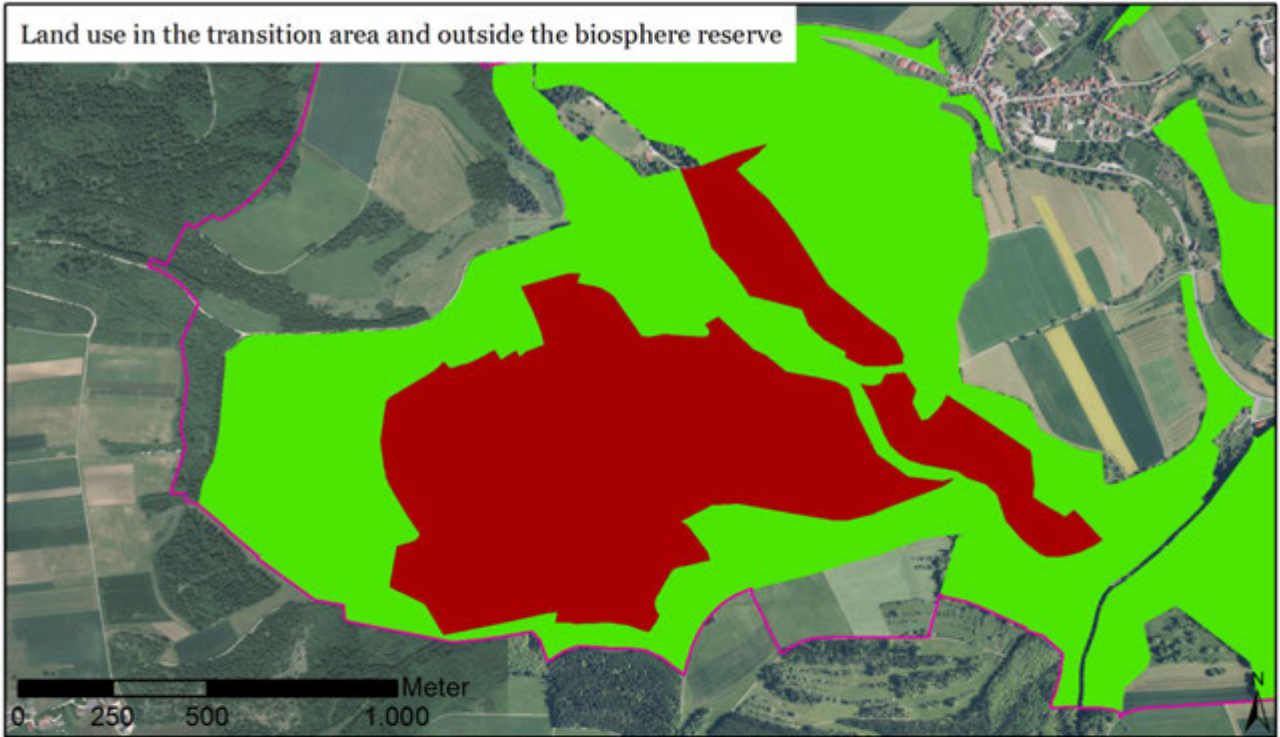
The buffer zone border within the core area cluster represents a total of 79%. In the buffer zone gaps on the Alb plateau (north of the core areas) arable and grassland areas in small-scale mixtures border the core area. A site inspection showed that no disturbing effects on the core area could be detected. Accumulations of nutrients were detected in isolated areas on the edge strips which, together with a farm track, separate the core area from the areas used mainly agriculturally. No such accumulations were found in the core area however. To the south the core area borders the valley floodplains of the river Schmiech. No disturbances to the core area could be detected here either.

Across a small area the core area borders on settlement and transport areas. The negative influences are however minimal, especially as the core areas rise steeply above the flat settlement and transport areas. The forested areas bordering directly on the core areas are very valuable from a conservation point of view. They are mostly Asperulo-Fagetum beech forests (habitat type 9130) in the HD area **“Tiefental und Schmiechtal”** and are situated in the nature reserve **“Oberes Schmiechtal”**. The core area that borders directly on the settlement of Hütten consists partly of the prioritised HD habitat type Tilio-Acerion ravine forest (habitat type 9180*), which serves as the habitat of Bechstein’s bat (*Myotis bechsteinii*), the greater mouse-eared bat (*Myotis myotis*) and the wind-blown moss *Dicranum viride*. The two core areas in the East lie within the SPA **“Täler der Mittleren Flächenalb”**.

The whole of the neighbouring transition area also lies within the WPA **“Gutsbezirk”** and **“Allmending”** (both zone III) and mostly in the LPA **“Schelklingen”**.

Overall, with the exception of the settlement and transportation areas, the core area borders on areas with de facto buffering (91 %) or on areas which show no sign of disturbing effects on the core area. The buffering of the core area is rated as *satisfactory*.

(19) Core area cluster Jörgenbühl / Geichenbuch

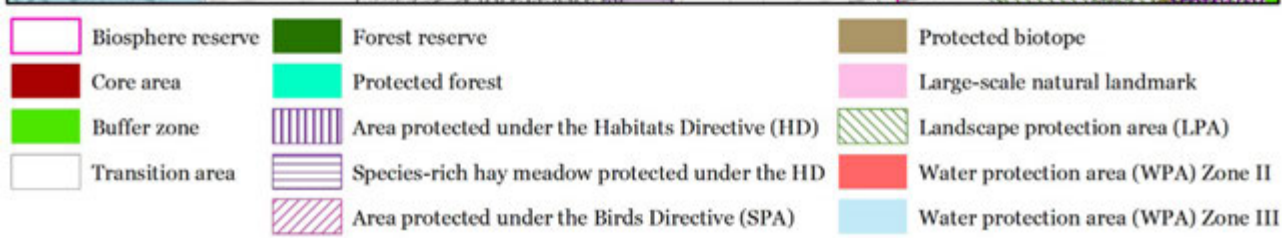
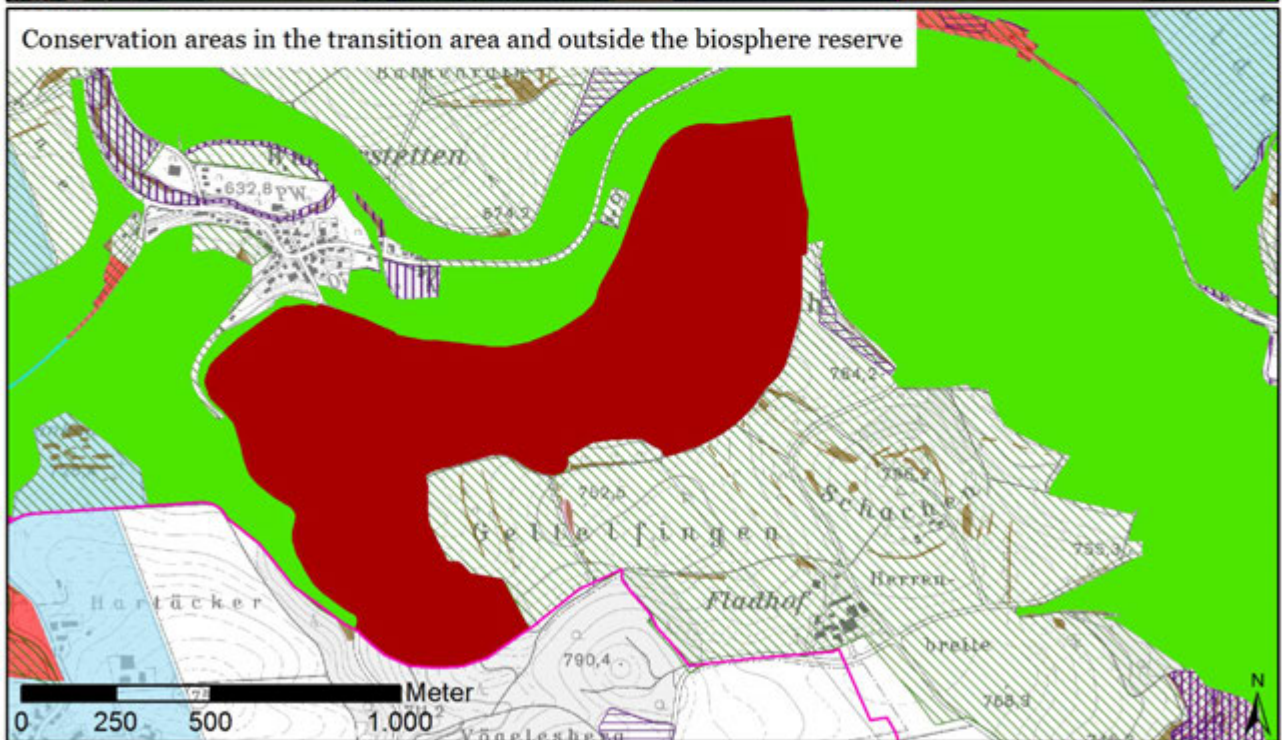
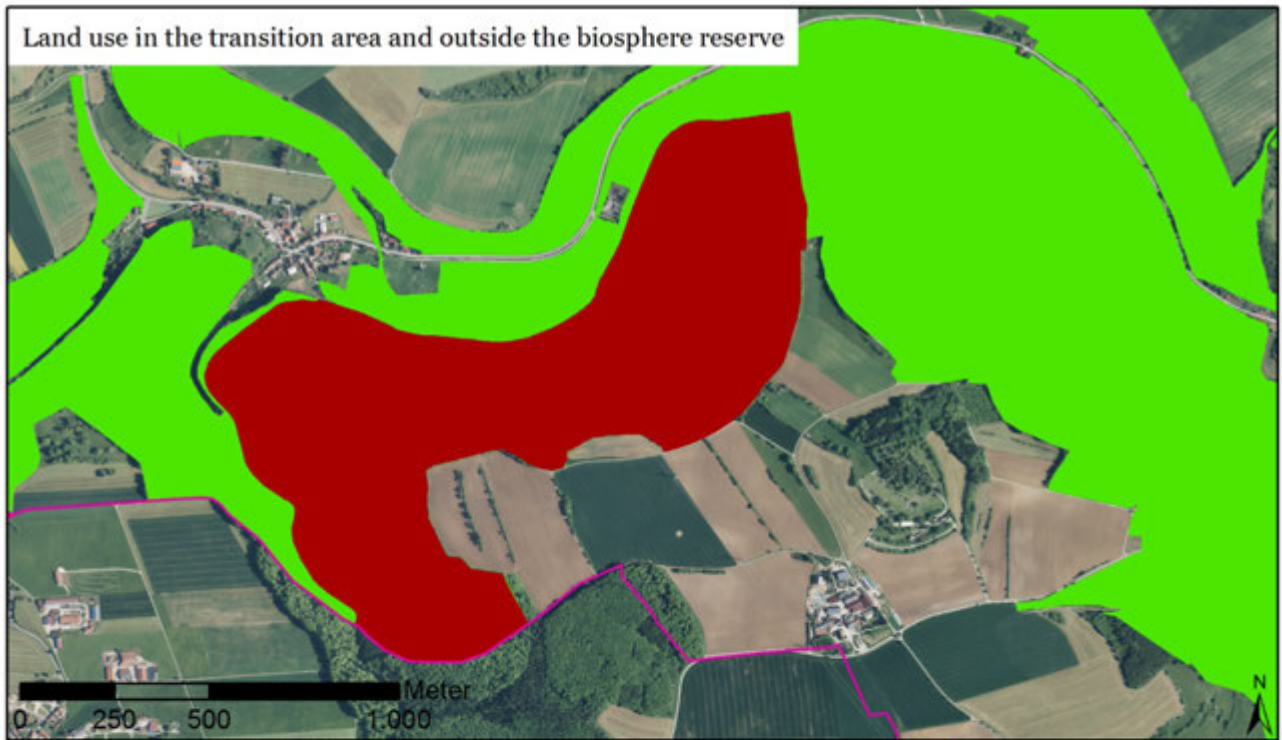


Core area borders on	Proportion [%]
Buffer zone	99
Area with de facto buffering	100

Description and evaluation of core area buffering

The core area cluster is surrounded to 99% by a buffer zone. In the minimal gap in the buffer zone surround to the north there is a forest bordering the core area which lies within both the LPA "**Großes Lautertal**" and the WPA "**Lautertal**" (zone III). Overall the core area is therefore completely surrounded by areas with de facto buffering. The buffering of the core area is rated as *very good*.

(20) Core area Hochberg / Amseltal



Core area borders on	Proportion [%]
Buffer zone	55
Area with de facto buffering	72

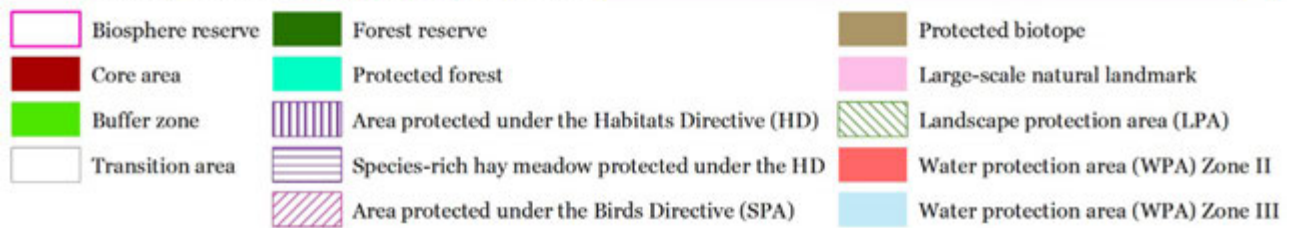
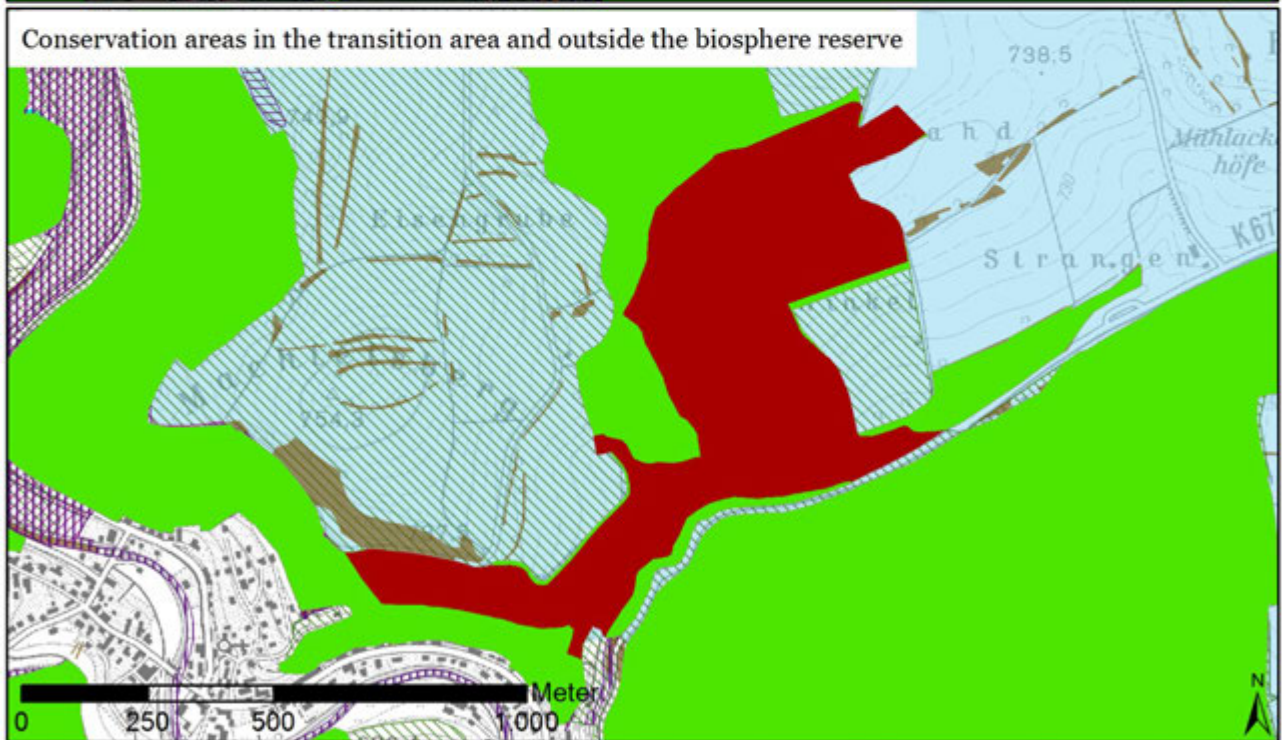
Description and evaluation of core area buffering

The core area borders a buffer zone to 55 %. Another 9 % borders on the outer boundary of the regional landscape (municipality of Hohenstein). Beyond this there are predominantly beech-dominated forests with a high buffering effect.

To the south of the core area the border is made up of arable and grasslands which are partly edged by stone cairns and field hedging (legally protected biotopes). For the most part between the core area and the agricultural sectors there is a border edge a few metres wide and an unsurfaced track. In terms of plant ecology it was possible to detect some nutrient deposits along the arable fields around the border edge, especially in the west of the arable fields. The flat trough-shaped valley that runs along here is a damp forest site dominated by ash trees. The majority of the core area consists of a natural hillside beech forest with a broad stock of various ages. The whole neighbouring transition area is part of the LPA “**Großes Lautertal**”.

All in all the core area is completely surrounded by areas with de facto buffering (72%) or areas which – with the exception of one point – show no signs of disturbing effects on the core area. The buffering of the core area is rated overall as *satisfactory*.

(21) Core area Schlosshau



Core area borders on	Proportion [%]
Buffer zone	62
Area with de facto buffering	76

Description and evaluation of core area buffering

The core area borders to 62% a buffer zone. In the neighbouring transition area to the west a legally protected biotope supports the buffering. In 2018 in the course of the model project “Biotope network – calcareous oligotrophic meadows” (see Chapter 4.2) initial transition measures were carried out in this area to upgrade the juniper heaths which were overgrown with field copses and field hedging.

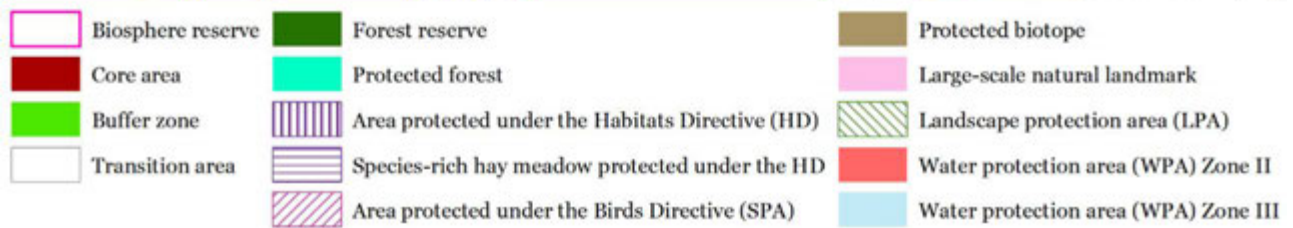
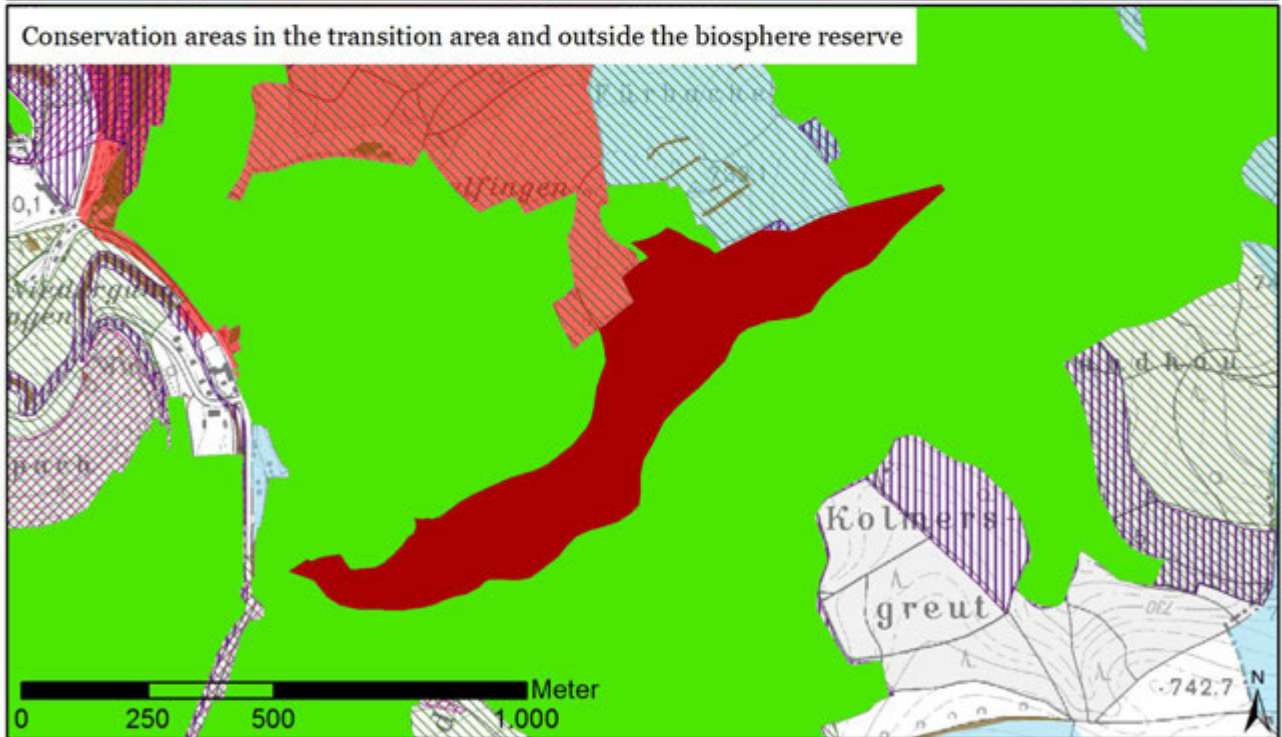
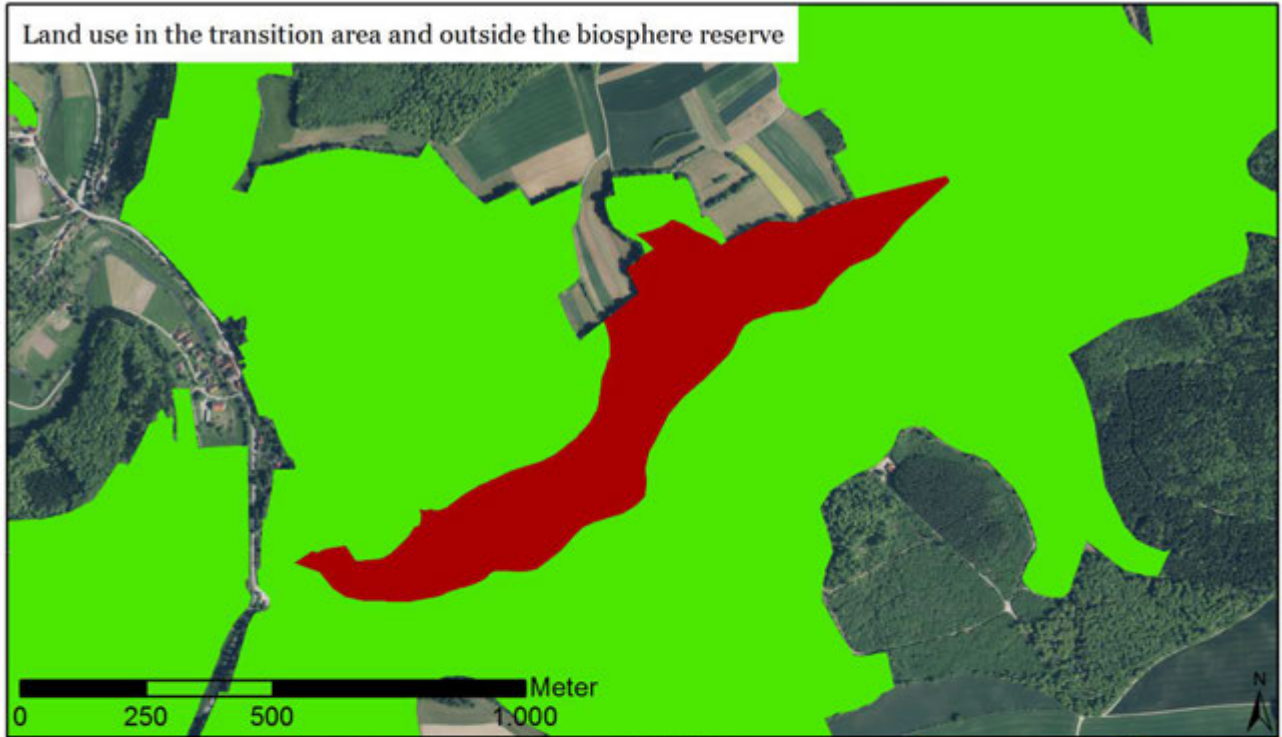
The other areas bordering the core area in the buffer zone gap are used as a small-scale mixture of grassland (including a hay meadow) and arable land. The plots are partly edged by field copses and field hedging (legally protected biotopes). A site inspection indicated no disturbance of the core area as a result of the neighbouring agricultural use. Only in two places (a few metres long) along the grassland bordering to the west did nitrophytes indicate an accumulation of nutrients around the border edge in front of the core area.

The arable fields to the east show no signs of nutrient deposits in the core area. In some places the land slopes away from the core area.

The meadows bordering the core area to the south-east are species rich. The slope of the hillside runs parallel to the core area so that no nutrient deposits are to be expected. Between the two is an area of arable land which is currently fallow-planted with mixed blooms and **supported under the state government’s agri-environmental scheme**. The majority of the neighbouring transition area is part of the LPA “**Großes Lautertal**”. The whole of the neighbouring transition area is situated within the WPA “**Obere Fischerquelle**” (zone III).

Overall the core area is completely surrounded by areas with de facto buffering (76%) or areas which show no sign of disturbing effects on the core area. The core area buffering is therefore rated as *good*.

(22) Core area Heiligental

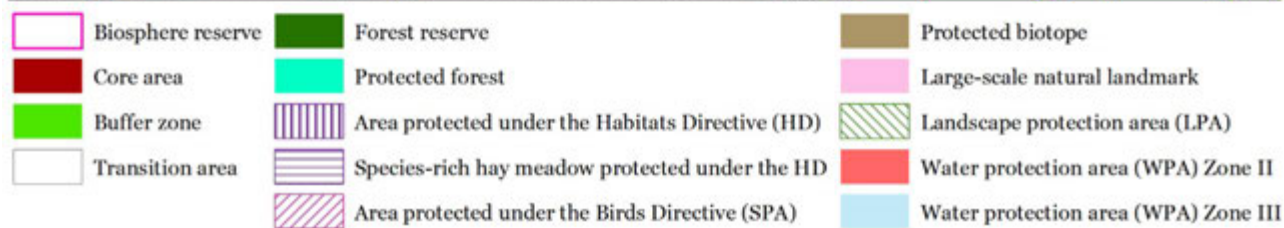
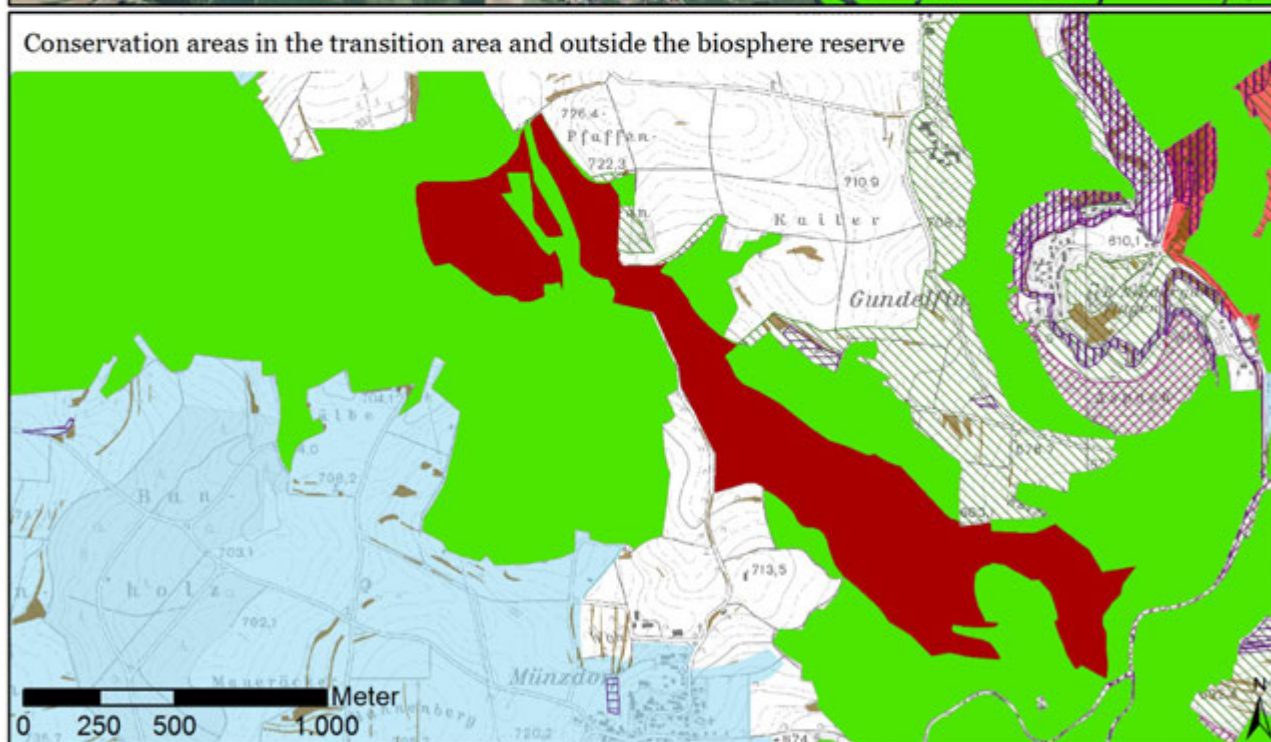
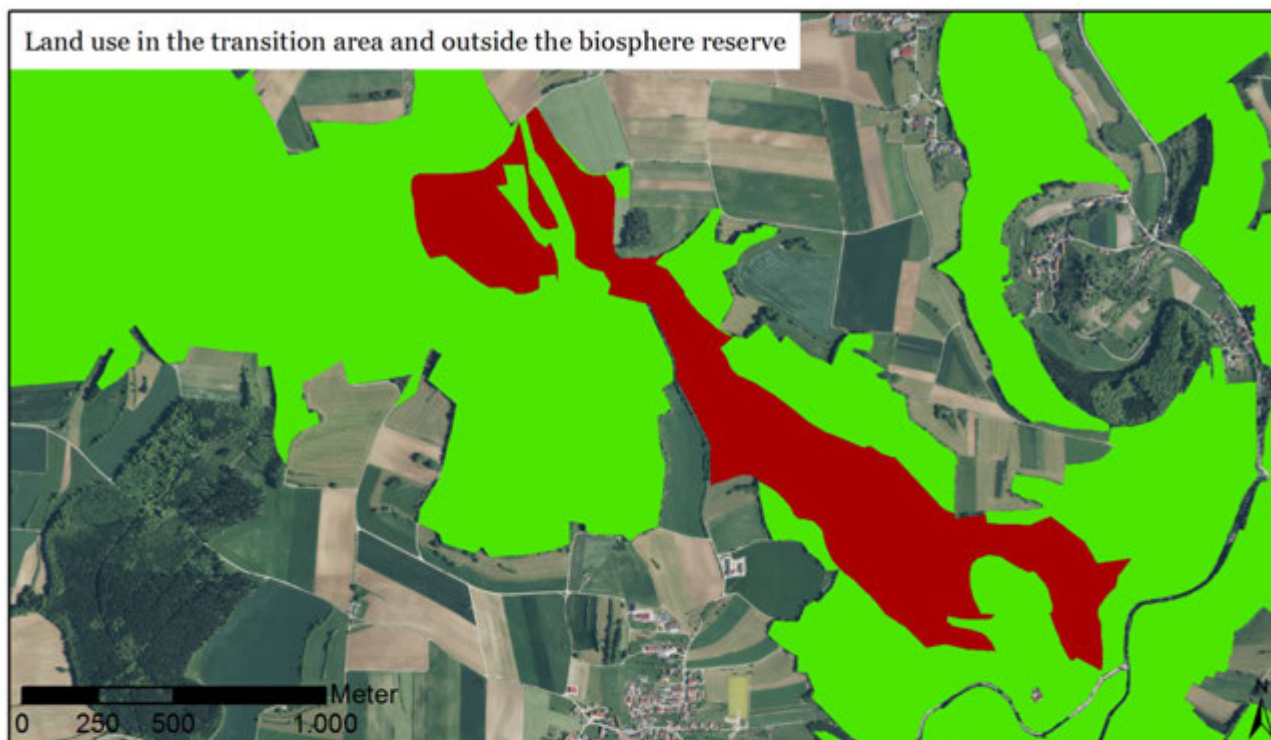


Core area borders on	Proportion [%]
Buffer zone	86
Area with de facto buffering	92

Description and evaluation of core area buffering

The core area borders to 86% a buffer zone. Land use in the buffer zone gap consists largely of meadows, some of which are extensively used as permanent species-rich grassland and **supported under the state government's agri-environmental scheme**. The neighbouring arable land is currently partly fallow-planted with mixed blooms and is also supported under the state **government's** agri-environmental scheme. Between the agricultural sectors and the core area there is also a narrow strip of forest. The whole of the neighbouring transition area **lies within the WPA "Obere Fischerquelle"**, which is designated as zone II in the westerly arable land area. In addition the whole of the neighbouring area lies within the LPA "**Großes Lautertal**". The areas are largely flat. No disturbance to the core areas could be detected by the neighbouring sectors with a small-scale mix of grasslands and arable land. Overall the core area is completely surrounded by areas with de facto buffering (92%) or by areas which show no signs of disturbing effects on the core areas. The buffering of the core area is therefore rated as *good*.

(23) Core area Tiefental



Core area bordering on	Proportion [%]
Buffer zone	84
Area with de facto buffering	91

Description and evaluation of core area buffering

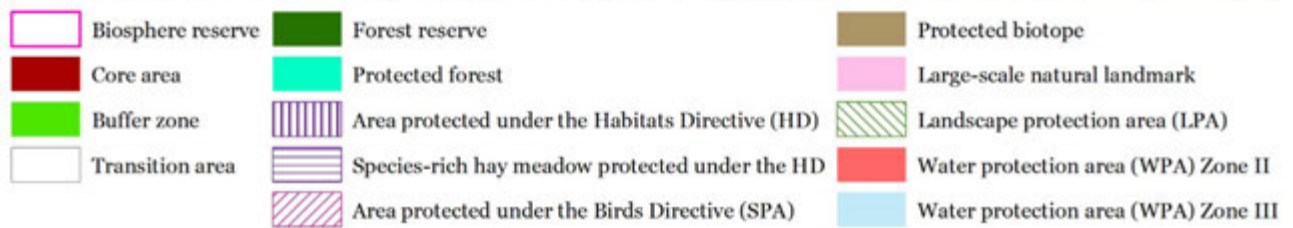
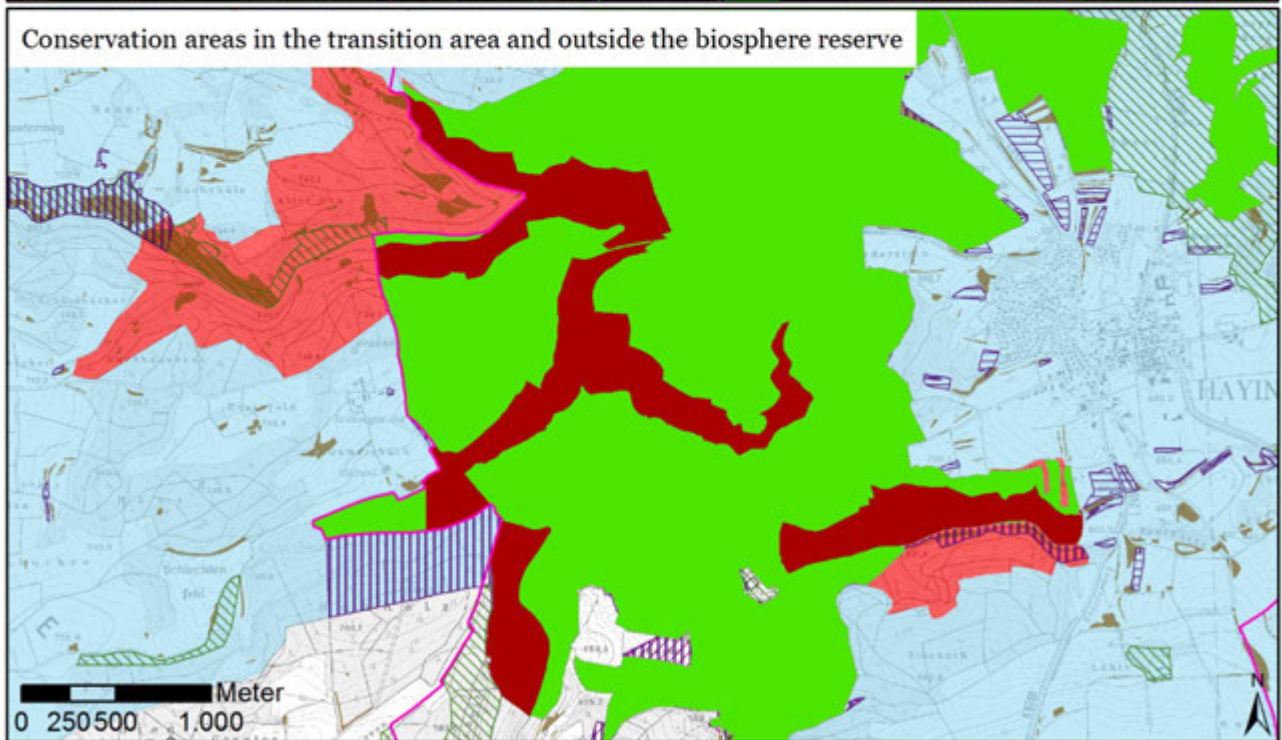
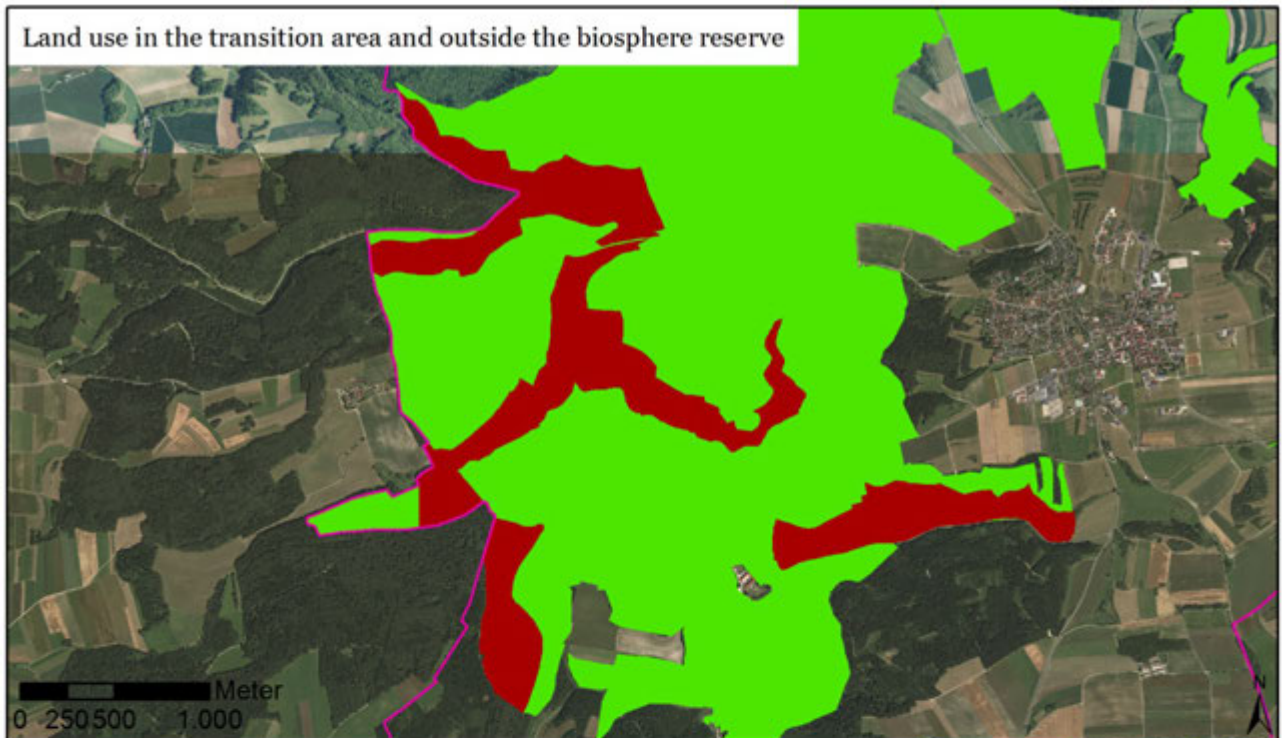
Overall the core area borders to 84% a buffer zone. In the north the core area borders arable fields and a sown meadow. One of the arable fields is managed extensively under a landscape preservation contract. The border strip between the agricultural sectors and the core area is species rich, partly with species indicating a lack of nutrients. Despite the fact that the hillside slopes towards the core area, plant ecology confirms that nutrient run-off from the arable fields can be ruled out here.

In the buffer zone gap to the mid-west the field copse edging (some as a legally protected biotope) and a surfaced track act as a buffer. However in the direction of flow along the flat dry valley towards the core area the frequency of plants indicating the presence of nitrogen increases on the border strip. This also continues into the core area for approx. 50 metres along a track that acts as a conduit. The core area here consists of natural hillside beech forest areas important in conservation terms. Further down the deep valley there are characteristic natural ravine, boulder and colluvium forests. The slopes are interspersed with conservationally significant rock formations and stone runs. The proportion of legally protected biotopes is above average. In some places there are important plant areas with spring snowflakes (*Leucojum vernalis*).

Plant ecology on the border strips and core area showed no signs of nutrient accumulation from another meadow which borders the core area to the mid-south.

All in all the core area is completely surrounded by areas with de facto buffering (91%) or areas which – with the exception of one location – show no signs of disturbing effects on the core area. The buffering of the core area is rated as *satisfactory*.

(24) Core area cluster Glastal / Werfental / Banhalde



Core area bordering on	Proportion [%]
Buffer zone	79
Area with de facto buffering	99

Description and evaluation of the core area buffering

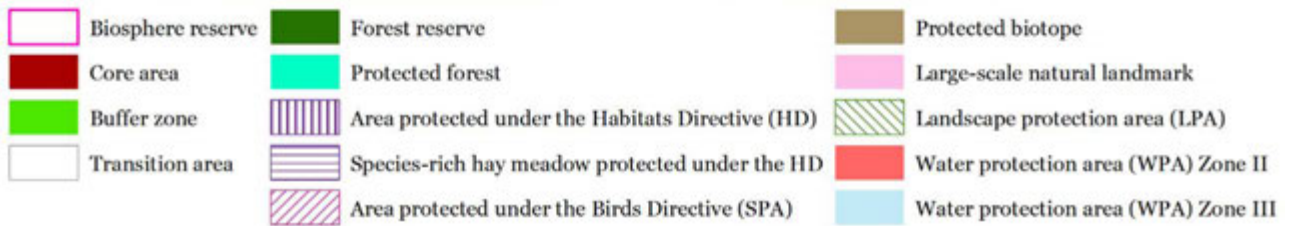
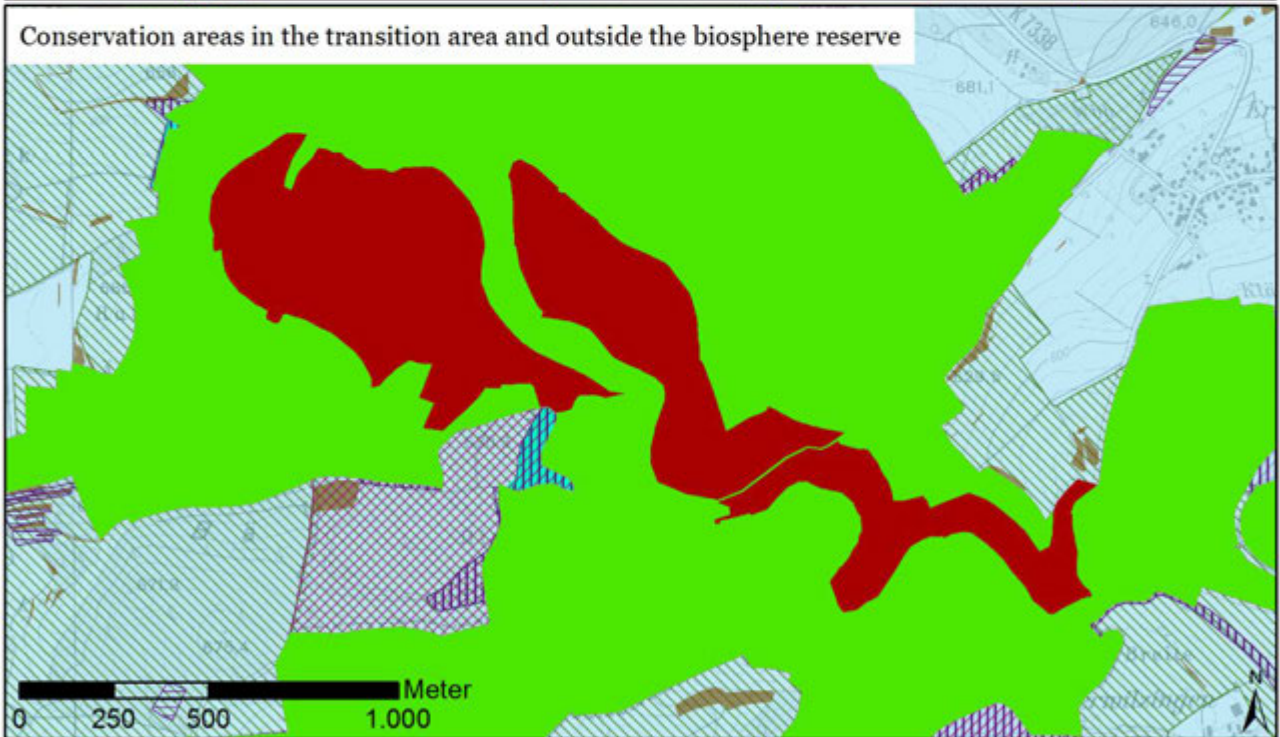
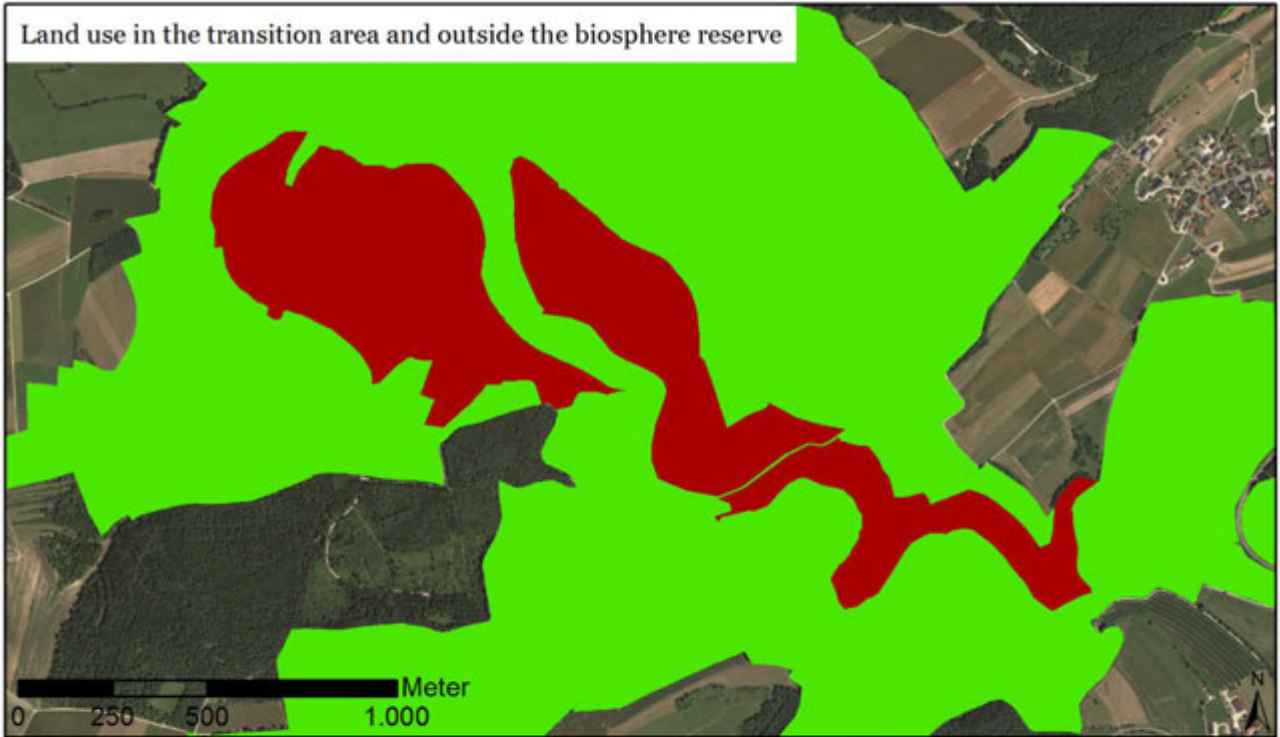
The core area cluster borders a buffer zone to 79%. A further 11% borders on the outer boundary of the biosphere reserve (municipality of Pfronstetten). Over the majority of the buffer zone gap within and outside the regional landscape mixed beech forests with isolated spruce tree stock complete the buffering. Part of the areas lie within the HD area **“Glastal, Großer Buchwald und Tautschbuch”** and have a high conservation value. The neighbouring transition area **is situated largely in the WPA “Glastal” and “Emeringen” and in the north-west and south-east of the core areas** has sectors classified as WPA zone II.

In the south-west the forested areas are situated within the LPA **“Sommerschafweide im Banholz”**.

Across a small area outside the biosphere reserve an arable field borders the core area. To the east an arable field borders the core area at the foot of the slope. In both cases no disturbances to the core area cluster could be determined. Among other things the topography prevents the deposit of nutrients through surface run-off in the core areas.

Overall the core area cluster is completely surrounded by areas with de facto buffering (99%) or areas which show no sign of disturbing effects on the core area. The buffering of the core area clusters is therefore rated as *very good*.

(25) Core area cluster Gieselwald / Heumacher



Core area neighbouring	Proportion [%]
Buffer zone	97
Area with de facto buffering	99

Description and evaluation of core area buffering

The core area cluster Gieselwald and Heumacher border a buffer zone to 97%. The minimal, centrally situated buffer zone gap is taken up by a forested area situated half in the protected forest **“Lautertal-Wolfstal”** and the HD area **“Großes Lautertal und Landgericht”** and which contributes to a very high level of buffering. The gap is also situated entirely within the SPA **“Täler der mittleren Flächenalb,”** in the LPA **“Ehingen”** and the WPA **“Emeringen”** (zone III). The gap in the transition area blanket to the east borders meadows interspersed with field copses and field hedging (legally protected biotopes) and which also lie within the LPA **“Ehingen”** and the WPA **“Wolfstal”** (zone III). The slope of the meadows is more or less parallel to the core area so that no nutrient deposits are to be expected in the core area as a result of surface run-off.

The cluster thus borders entirely on areas with de facto buffering (99%) or on areas which show no signs of disturbing effects on the core area. The buffering of the core area is rated as *very good*.

7.9.4 Conclusion on core area buffering

The core areas of the Swabian Alb Biosphere Reserve represent forests which have a high value in conservation terms or small-scale areas with a very high development potential. The zonation of the biosphere reserve is based upon the natural landscape conditions, the morphology of the terrain, the presence of suitable forest habitats, the centuries of cultural landscape development, the small-scale ownership conditions, the transection of the forests at the Albrauf by roads and infrastructure facilities and the participative designation process of the biosphere reserve. In order to achieve a consensus as broad as possible and a high level of identification with the biosphere reserve and its zonation among the population, social and economic aspects were also considered in the designation process and establishment of the zonation.

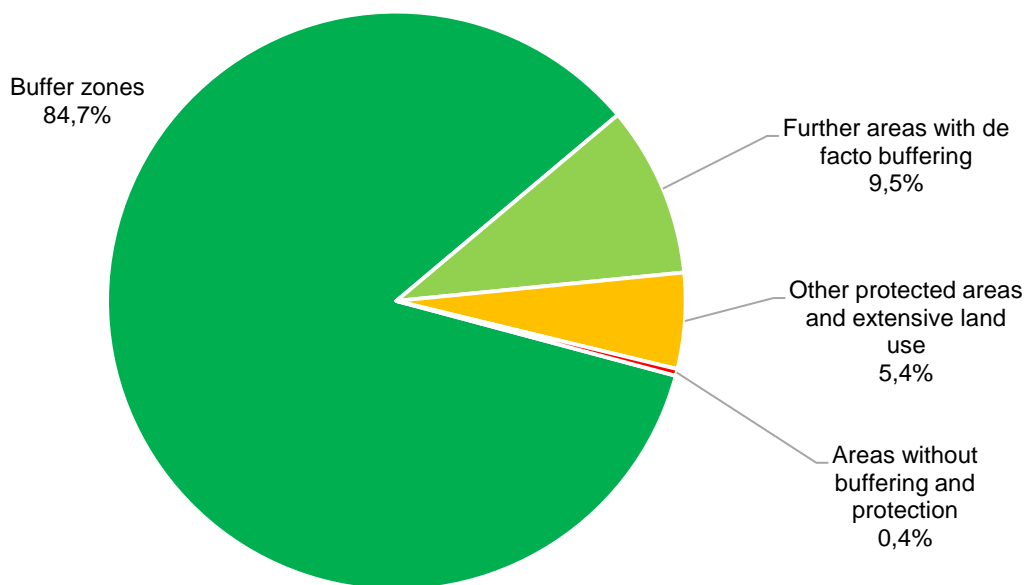


Figure 10: Buffer effect of all sectors bordering the core areas (including sectors outside the biosphere reserve)

The existing zonation largely enables the support of an undisturbed natural development in the core areas and the buffering of negative influences on the core areas. Overall core areas border the buffer zones to 84.7 % (Figure 10). Most of the areas which border the core area within the transition area or outside the biosphere reserve nevertheless fulfil a good ecological buffering function. Correspondingly, at present 94.3 % of the core area boundaries border areas which fulfil a de facto buffering function (neighbouring buffer zones plus neighbouring areas under forest, woodland, heath and areas designated as habitat types or biotopes of species in areas protected under the HD, forest reserves, protected forests or legally protected biotopes). If other protected areas (further Natura 2000 sites, WPAs, LPAs) with less robust protective status and the extensively used arable and grassland areas are also

included, this equates to an almost total blanketing (99.6 %) of the core areas with sectors which are protected or which exercise a de facto buffering function (Figure 10).

There is a plan to optimise the buffering of the core areas at the few places where there is suboptimal buffering. Examinations and further implementation of the measures will be done in the course of the planned expansion of the biosphere reserve (from 2020).

References

Garniel, A.; Daunicht, W.D.; Mierwald, U.; Ojowski, U. (2007): Vögel und Verkehrslärm. [Birds and Traffic Noise]. Abschlussbericht des FuE-Vorhaben des Bundesministeriums für Verkehr, Bau und Stadtentwicklung „Quantifizierung und Bewältigung entscheidungserheblicher Auswirkungen von Verkehrslärm auf die Avifauna“.

UNESCO (1996): Biosphere reserves: The Seville Strategy and the Statutory Framework of the World Network. UNESCO, Paris.

7.10 Indicator sets and studies used in this report

Table 14: Indicator sets and studies used in this report

No.	Indicator sets	Sub-chapter	Integrative Monitoring ¹
1	Status of lead project implementation within the framework concept	various chapters	U18
2	Residents by zone/area and population density	Part I i); 2.2.3	U37
3	Budgetary resources	Part I k); 2.3.2	U34
4	Evaluation of the management effectiveness of the biosphere reserve by the BR administration	1.5; Annex III 7.2.3; various chapters	
5	Qualitative stakeholder interviews: Perception and assessment of developments in the biosphere reserve	1.5; various chapters	
6	Representative population survey: Quantitative assessment of acceptance, areas of action, participation, level of awareness, knowledge about tasks of the biosphere reserve and quality of life	1.5; Annex III 7.2.2; various chapters	U24
7	Expert survey: Assessment of developments in the areas of action	1.5; Annex III 7.2.1; various chapters	
8	Land use	2.1	
9	State agrarian environmental measures: Biological farming on grasslands and farmland; areas refrain from using chemically synthesized plant protection products and fertilizers; conserving meadow orchards	2.1	
10	Silage maize	2.1	
11	Number of sheep and sheep farms	2.1	
12	Meadow orchard management approaches	2.1	
13	FSC certified forests	2.3	U28
14	Mature wood and deadwood strategy	2.4	
15	BR Support programme	Infobox 1	U35
16	PLENUM	Infobox 1	U35
17	Businesses and industries of the Partner Initiative	Example project 1	U41
18	Information centres	2.2.6; 6.4; Annex III 7.8	
19	Research and monitoring projects	2.2.6; 6.2; Annex III 7.5	U25, U26
20	Number of student theses	2.2.6; 6.2	
21	Administrative responsibilities within BR	2.3	U16
22	Human resources at the BR administration	2.3.2	U17
23	Committees, associations and working groups of the biosphere reserve	2.3.4; Annex III 7.3	U21
24	Core areas	2.4.7; Annex III 7.9	
25	Assessment of the ecosystem services	Chapter 3; Annex III 7.4	
26	Evaluation of habitats protected under the Habitats Directive	4.1; Annex III 7.4	U03
27	Protected areas (nature, forest and landscape protected areas, Natura 2000, legally protected biotopes)	4.1	U01
28	Hay meadows		
29	Protection status, inventory trends, risk factors and measures for conserving the selected species		U04
30	Projects in the area of nature conservation	4.2; Annex III 7.5	
31	Funding by the landscape conservation guideline	4.2; Annex III 7.5	
32	Funding by the water balance funding guidelines	4.2; Annex III 7.5	U35
33	Funding by the resources from the Glücksspirale for awareness raising	4.2; Annex III 7.5	U35
34	Changes regarding selected species and habitats due to the implementation of model projects	4.4	
35	Gross added value by economic sectors	5.1	
36	Social security obligations for employees by sector	5.1	U38
37	Number and size of agricultural enterprises	5.1	
38	Use of renewable energy	5.1	U43
39	Number of EMAS certifications	5.1	
40	Number of visitor arrivals and overnight visitors	5.2	
41	Mobility	5.2	U36
42	Regional products and brands in the biosphere reserve	5.4	U42
43	Regional economic effects caused by tourism	5.5	
44	Funding from LEADER	5.6	U35
45	Funding through the tourism infrastructure program	5.6	U35
46	Education for sustainable development (number of events, visitors etc.)	6.4	U22, U23
47	Public relations work (number of press releases, fair visits etc.)	6.5.1	U23

¹Indicator sets that are used for the Integrative Monitoring in German large-scale protected areas

7.11 Progress of the biosphere reserve in the implementation of the Lima Action Plan

Table 15: Progress of the biosphere reserve in the implementation of the Lima Action Plan

LAP Action	BR Administration has no prime responsibility for this action	Implementation progress				E: Don't know
		A: No progress	B: Limited progress	C: Good progress	D: Excellent progress	
A1.1					X	
A1.2					X	
A1.3					X	
A1.4			X			
A1.5					X	
A1.6					X	
A2.1	X					
A2.2					X	
A2.3					X	
A2.4					X	
A3.1					X	
A3.2	X					
A4.1				X		
A4.2					X	
A4.3					X	
A4.4				X		
A4.5					X	
A5.1		X				
A5.2		X				
A5.3	X					
A6.1					X	
A6.2					X	
A7.1					X	
A7.2		X				
A7.3					X	
B1.1	X					
B1.2	X					
B2.1	X					
B3.1	X					
B4.1	X					
B5.1	X					
B6.1		X				
B6.2	X					
B7.1	X					
B7.2			X			
C1.1	X					
C1.2	X					
C2.1	X					
C2.2	X					
C3.1	X					
C3.2				X		
C4.1	X					
C4.2					X	
C5.1					X	
C6.1	X					
C6.2				X		
C7.1	X					
C7.2					X	
C8.1					X	
D1.1					X	
D2.1	X					
D2.2					X	
D2.3	X					
D2.4	X					
D3.1					X	
E1.1	X					
E1.2	X					
E2.1	X					

E3.1	X					
E3.2	X					
E4.1	X					
E4.2	X					