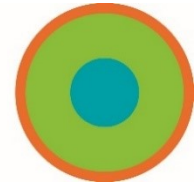


# Biosphärenreservat Schorfheide-Chorin



## Periodic review report for the Schorfheide-Chorin UNESCO Biosphere Reserve

**Review period 2013-2022**

**Main text**



View from Kleiner Rummelsberg to Wesensee and Chorin terminal moraine  
Photo: Martin Flade

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## Abbreviations

BfN	Federal Agency for Nature Conservation
BR	Biosphere Reserve
D&T	Developing and testing
ESD	Education for sustainable development

EU LIFE IP	EU LIFE Integrated Project (L'Instrument Financier pour l'Environnement). EU funding instrument for the environment and climate action
FSC	Forest Stewardship Council
HNEE	Eberswalde University for Sustainable Development
LfU	Brandenburg State Office for the Environment
MAB	Man and the Biosphere (UNESCO programme)
MLUK	Ministry of Agriculture, Environment and Climate Protection of the State of Brandenburg
NABU	Nature and Biodiversity Conservation Union
NNL e.V.	National Natural Landscapes association
R&D	Research and development
ZENAPA	Zero Emission Nature Protection Area

## FOREWORD

The Schorfheide-Chorin Biosphere Reserve (BR) has been part of UNESCO's World Network of Biosphere Reserves since 1990. There are four main habitat types in this 129,161-hectare area: dunes, freshwater habitats, grasslands and forests. The relatively sparsely populated area is home to many critically endangered species of flora and fauna that require undisturbed habitats, such as white-tailed eagles, ospreys, lesser spotted eagles, cranes, black storks, beavers and otters. In addition to the Schorfheide with its pine forests and pastoral woodland oaks the BR is home to large expanses of contiguous beech forest. In 2011, UNESCO included a section of these beech forests (the BR's largest core area) in the Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe World Heritage site, which on its serial transnational properties (photo 1).



**Photo 1:** Grumsin Beech Forest, one of the 94 components of the serial World Heritage Site. One of its unique features is how closely intertwined water and forest are. **Photo:** FairFilm Productions

Around 28,000 people live in this BR. It is close to Berlin, easy to reach and has numerous visitor attractions such as the Schorfheide game park, Kloster Chorin Abbey and the Eiszeitland am Oderrand GeoPark. That, in conjunction with the Grumsin Beech Forests World Heritage Site and attractive hiking and cycling trails, makes it a very popular tourist destination. A

successful participatory process on the topic of sustainable tourism for the entire BR, including the World Heritage Site, was carried out between 2017 and 2020 (see Info box 3).



**Photo 2:** Large fields with an abundance of segetal flora. This field of organic rye near Brodowin is typical of a new form of agricultural landscape that is without historical precedent. **Photo:** A. Prött

Sustainably managed agricultural land (organically farmed land and extensively managed grassland) is a special feature of the area, accounting for 62% of the land area. This is a consequence of the requirement that there should be a gradual conversion to organic farming, stipulated in Section 5 (1) No. 3 of the secondary legislation on the biosphere reserve passed in 1990 (see Annex III-3.2). Converting all the agricultural land in the BR to organic farming is thus specified as a long-term goal. A consequence of this provision was, for example, that the "publicly owned estates" in the north of the BR were sold to organic farmers in the 1990s by the Treuhand agency responsible for restructuring the economy of former East Germany. The biosphere reserve's cultivated landscape now has over 80 organic farms, making it Germany's leading region for organic farming. The modern, large-scale organic farming practised here, with farms of up to 4,000 hectares, has created a new form of agricultural landscape without historical precedent (photo 2). Research into objectives conflicting with nature conservation goals that arise here is an important focus of the work of the BR administration, as is designing and testing solution strategies. Other important aspects include the current generational

change taking place on the farms, with their management passing down to the next generation. This offers opportunities, including the possibility of more farms converting to organic practices. The proximity to the Berlin metropolitan region and the high demand for organic food in the city are factors here.

In the BR's forestry sector, too, procedures for integrating nature conservation goals into the management of the beech forests have been developed, tested and evaluated, and are now influencing other German states and European countries.

The BR is of outstanding importance in terms of Natura 2000 sites: between 2015 and 2020 management plans were published for 48 Special Areas of Conservation (SAC) with an area of 49,000 hectares following a public participation process involving local stakeholders. Since the BR was created, 4,000 hectares of mires have been rewetted and restored as a result of costly third-party funded projects; these include the largest spring fen renaturalisation in northern Germany (Sernitz). The BR is one of the five project areas covered by the Biosphere Reserves as Model Regions for Insect Conservation project, which is part of Germany's Federal Biological Diversity Programme.

This BR works within the framework of ZENAPA (Zero Emission Nature Protection Areas), which is an EU LIFE Integrated Project. It aims to achieve carbon neutrality by implementing climate action, nature conservation and species protection measures (see sections 5.1 and 5.7).

In addition to climate action, it is involved in other research fields relating to sustainable management of beech forests, the Biodiversity Exploratories of the Senckenberg Natural Science Society, and integrated environmental monitoring of ecosystems. The BR's main academic partners are universities and institutes of higher education in Eberswalde, Greifswald and Berlin.

The main challenge of the next few years is to take forward a number of important, future-oriented projects for which the content has already been outlined. They involve continuing to promote "green" land use, safeguarding the conservation status of Natura 2000 sites, conserving mires, expanding sustainable tourism and promoting sustainable regional development and climate change mitigation and adaptation. The aim is to implement these projects in a way that serves to stabilise and improve the staffing situation and the upcoming generational change in the biosphere reserve administration and in ranger service (Naturwacht).



## B) PART I: SUMMARY

**a) Name of the biosphere reserve:** Schorfheide-Chorin UNESCO Biosphere Reserve

**b) Country:** Federal Republic of Germany; (state of) Brandenburg

**c) Year of designation:** 1990

**d) Year(s) of periodic review(s):** 2003 and 2013

**e) Previous recommendation(s) made by the International Co-ordinating Council (MAB-ICC), if applicable:**

In 2013, the International Advisory Committee for Biosphere Reserves welcomed the second periodic review report on the BR, which was created in 1990. The Advisory Committee noted with satisfaction the promotion of sustainable organic agriculture, the establishment of a renaturalisation register and projects promoting sustainable development, labelling and scientific research studies. The Committee also noted that the Primeval Beech Forests of the Carpathians and the Ancient Beech Forests of Germany, including Grumsin Beech Forest in the Schorfheide-Chorin BR, had been inscribed on the list of World Heritage Sites in 2011. With regard to the lack of funding, it recommended that the authorities consider a participatory monitoring process. It encourages them to continue their cooperation with the World Heritage Site and to use the BR as an example of joint management of biosphere reserves and World Heritage Sites. It also calls on them to make their experience available within the World Network of Biosphere Reserves.

**f) What follow-up actions are completed and if not completed/initiated, please provide justifications.**

Section 1.3 of this report describes measures to continue to achieve the BR's objectives and its funding, along with an outline of the synergy between the BR and the World Heritage Site.

**g) Update on the implementation of measures to achieve the objectives of the biosphere reserve**

See above and Section 1.3.

**h) Briefly describe the process by which the current periodic review has been conducted:**

Members of the German MAB National Committee and representatives of the Federal Agency for Nature Conservation (BfN), the Ministry of Agriculture, Environment and Climate Protection (MLUK) of the State of Brandenburg, the Brandenburg State Office for the Environment (LfU) and the BR's administration met for several full-day meetings to prepare the periodic review.

**i) Area and spatial configuration:**

The biosphere reserve has a total area of 129,161 hectares. There have been no changes in size and zoning since the 2013 periodic review.

**Table 1:** Size of zones in the Schorfheide-Chorin BR

<b>Zone</b>	<b>Previous report (2013 periodic review)</b>	<b>Percentage share in 2013</b>	<b>Situation 2021</b>	<b>Percentage share in 2021</b>
<b>Area of terrestrial core area(s)</b>	3,901 ha	3.0%	3,901 ha	3.0%
<b>Area of terrestrial buffer zone(s)</b>	24,426 ha	18.9%	24,426 ha	18.9%
<b>Area of terrestrial transition area(s)</b>	100,834 ha	78.1%	100,834 ha	78.1%
<b>Overall area of biosphere reserve</b>	129,161 ha	100%	129,161 ha	100%
<b>N.B. There are no marine zones in the biosphere reserve</b>				

**j) Human population of the biosphere reserve:**

**Table 2:** Human population of the Schorfheide-Chorin biosphere reserve:

	<b>Previous report (2013 periodic review)</b>	<b>At present</b>
<b>Core area(s) (permanent and seasonally)</b>	0 to 4	0 to 4 seasonally (Hunting lodge in the Kienhorst core area)
<b>Buffer zone(s) (permanent and seasonally)</b>	150	170
<b>Transition area(s) (permanent and seasonally)</b>	29,000	28,000 (2014 estimate based on actual number of people living within the BR)

**k) Tables 3.1 to 3.4: Budget (main sources of funds, special capital funds) and international, regional or national relevant projects/initiatives carried out or planned**

**Table 3.1:** Biosphere Reserve Administration at the Brandenburg State Office for the Environment

Budget in the previous report (2013 periodic review – budget year: 2012)	Current budget (2020)
<ul style="list-style-type: none"> <li>• Personnel costs: €590,000</li> <li>• Material and equipment (not counting third-party funds): €420,000 of which:               <ul style="list-style-type: none"> <li>○ Contractual nature conservation: €120,000</li> <li>○ Preparing a Management and Development Plan: €116,400</li> <li>○ Business supplies/consumables: €183,600</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Personnel costs: €757,544</li> <li>• Material and equipment (not counting third-party funds): €692,000, of which:               <ul style="list-style-type: none"> <li>○ Contractual nature conservation: €468,000</li> <li>○ Public relations &amp; environmental education: €26,000</li> <li>○ Business supplies/consumables: €31,500 (not counting official vehicles)</li> <li>○ 4 official vehicles: €4,474</li> </ul> </li> </ul>

**Table 3.2:** Brandenburg state budget funds for ranger service (Naturwacht) Schorfheide-Chorin (information provided by Brandenburg Nature Conservation Fund)

	2012	2021	Comments
<b>Personnel costs</b>	€743,681	€543,600	Changes to staffing structure; 2012 22 staff equivalents, 7 of which are in partial retirement; lower pay grades, BUT higher levels within those grades; now predominantly young staff, higher pay grades, but low experience-based levels
<b>Materials and equipment</b>	€59,577	€85,604	Including overheads; there was no major purchases, such as a new vehicle, in either year

**Table 3.3:** Budget of the BR's main visitor centre, the Naturerlebniszentrum Blumberger Mühle, which is run by the Nature And Biodiversity Conservation Union (NABU) with some funding from Brandenburg state.

	2012	2021	Comments
<b>Personnel costs</b>	€172,000	€367,000	
<b>Materials and equipment</b>	€182,000	€315,000	Not counting additional projects with third-party funding

**Table 3.4:** Key projects with third-party funding with the BR administration participating or managing content, which were implemented either fully or to a substantial degree during the reporting period (N.B.: the Biodiversity Exploratories, run by the German Research Foundation, the Leibniz Society's INPEDIV project and other externally funded research projects have not been included here):

<b>No.</b>	<b>Project</b>	<b>Term</b>	<b>Total budget</b>
<b>1</b>	Preparation of management plans for 48 Special Areas of Conservation within the Schorfheide-Chorin BR (funding from the European Agricultural Fund for Rural Development)	2010-2015	€2,561,498
<b>2</b>	EU LIFE project on calcareous fens, project area: Bollwintal; executing agency: Brandenburg Nature Conservation Fund (Naturschutzfonds Brandenburg).	2010-2015	€480,000
<b>3</b>	EU LIFE project: Improvement of the breeding and feeding habitats for the lesser spotted eagle ( <i>Aquila pomarina</i> ), the corncrake and the aquatic warbler in the Schorfheide-Chorin Special Protected Area (Birds Directive); executing agency: BR administration	2012-2019	€7,840,000
<b>4</b>	EU LIFE IP ZENAPA (nationwide Zero Emission Nature Protection Areas) project: – Schorfheide-Chorin BR component	2016-2024	€1,272,902
<b>5</b>	R&D project: Implementing the National Biodiversity Strategy in forests: Studying the influence of conservation-oriented management on the degree of “naturalness” and biodiversity of lowland beech forests; executing agency: BR administration	2012-2015	€467,408
<b>6</b>	D&T project: Testing appropriate measures for re-establishing Characeae cover on the bottom of natural, calcareous lakes in the north-east German lowlands – main project; executing agency: Förderverein Feldberg-Uckermärkische Seenlandschaft e.V.	2019-2022	€2,200,000
<b>7</b>	Nationwide project: Red Kite – Land to Live On", executing agency: Landcare Germany (Deutscher Verband für Landschaftspflege), funded under the Federal Biological Diversity Programme, part within the BR	2013-2020	€622,000
<b>8</b>	BROMMI – Biosphere reserves as model landscapes for insect protection, funded under the Federal Biological Diversity Programme; executing agency: WWF Germany, part within the BR	2020-2025	€1,352,000
<b>9</b>	EAFRD project: Protecting amphibians on Seerandstraße in Parstein, Uckermark-Schorfheide Landcare Association (Landschaftspflegeverband Uckermark-Schorfheide)	2018-2022	€61,000
<b>10</b>	Mire renaturalisation at Faules Fließ; executing agency: Friends of the Earth Germany (BUND)	2014	€350,000
<b>11</b>	Mire renaturalisation at Trämmerfluß; executing agency: Friends of the Earth Germany (BUND) and Schorfheide-Chorin BR	2016-2020	€220,000
<b>12</b>	Reversal of mire drainage and raising the bed of the drainage ditches at Große Helle, Eulenberge nature conservation area; executing agency: Nature and Biodiversity Conservation Union (NABU) Templin	2015	€200,000

<b>13</b>	Water retention measures for Schorfheide: Große Lotzinsee, Große Glasowsee, Große and Kleine Döllnsee; executing agency: Friends of the Earth Germany (BUND), Uckermark-Schorfheide Landcare Association (Landschaftspflegeverband Uckermark-Schorfheide) and Schorfheide-Chorin BR	2013	€104,000
<b>14</b>	Renaturalisation of domes at Fergitz; executing agency: Brandenburg Nature Conservation Fund (Naturschutzfonds Brandenburg)	2013	€295,000
<b>15</b>	Federal project on the heritage of the built environment: Examples of the heritage of the built environment in the Schorfheide-Chorin UNESCO biosphere reserve	2017-2019	€50,000
<b>16</b>	Visitor management and information system for Brodowin eco-village (EAFRD - natural heritage); executing agency: Ökodorf Brodowin e.V.	2017-2019	€100,000
<b>17</b>	Funding projects for the operation of the Solar Explorer research vessel; executing agency Kulturlandschaft Uckermark e.V. (association supporting Uckermark's cultural landscape)	2012-2021	€347,561
<b>18</b>	Information points and car parks for Grumsin World Heritage Site in Groß-Ziethen and Altkünkendorf (German Mauerfonds and EU LEADER programmes); coordinating agencies: Joachimsthal association of municipalities and Angermünde municipality	2012-2013	€380,500
<b>19</b>	Conversion of the church tower in Altkünkendorf as a viewing point for the World Natural Heritage Site (lotto funds); executing agency: Angermünde municipality	2017-2019	€191,000
<b>20</b>	Acquisition of land in Eulenberge nature conservation area; executing agency: Brandenburg Nature Conservation Fund (Naturschutzfonds Brandenburg).	2017	€524,000
<b>21</b>	Structural improvements in Eulenberge nature conservation area; executing agency: Brandenburg Nature Conservation Fund (Naturschutzfonds Brandenburg).	2019	€340,000
<b>22</b>	Measures to protect the European pond turtle; executing agency: AGENA e.V.	2020	€306,000
<b>23</b>	Project to promote the fragrant orchid in Schorfheide-Chorin BR; executing agency: Nature and Biodiversity Conservation Union (NABU) Templin	2020	€87,000
<b>24</b>	Various smaller-scale species conservations projects for the lesser spotted eagle, Bollwinwiesen, Wrietzensee, Golzow church; executing agency: Nature and Biodiversity Conservation Union (NABU) Templin, Nature Conservation Fund (Naturschutzfonds Brandenburg), Golzow parish	2015-2020	€75,500
<b>25</b>	Restoration of kettle hole ponds in the area of Temmen; EAFRD - natural heritage; executing agency: Gut Temmen (organic farm)	2015-2019	€700,000
<b>26</b>	Restoration of a small water body in Hessenhagen; executing agency: Gerswalde association of municipalities	2018	€75,000
<b>27</b>	Restoration of a small water body at Pfingstberg; executing agency: Gerswalde association of municipalities	2020	€144,000
<b>28</b>	Restoration of a kettle hole pond near Polßen; executing agency: Landwirtschaftsbetrieb Manthe (farm)	2021	€100,000

<b>Total for projects with third-party funding</b>	<b>€21,446,369</b>
<b>Average annual budget within the reporting period for projects with third-party funding</b>	<b>€1,850,000</b>

**Totals:**

Budget for administration 2021:	€1,450,000
Budget for ranger service (Naturwacht) 2021:	€630,000
Total for administration and ranger service	<b>€2,080,000</b>
Blumberger Mühle visitor centre 2021:	€782,000
Projects with third-party funding, 10-year average	€1,816,000
Total annual budget incl. third-party funding:	<b>€4,678,000</b>

**I) International, regional, multilateral or bilateral framework of cooperation.**

Before the outbreak of the Covid-19 pandemic, the BR administration hosted numerous visiting international delegations. These visits were initiated by different federal ministries, the Federal Agency for Nature Conservation (Bundesamt für Naturschutz– BfN), the German Commission for UNESCO, the Michael Succow Foundation, the Nature and Biodiversity Conservation Union (NABU Deutschland) and Eberswalde University for Sustainable Development (HNEE).

In recent years, visitors to the BR included numerous professionals in the field, along with representatives of national governments, local governments and NGOs (see section 6.6.1).

In the context of managing the UNESCO World Heritage Site Primeval Beech Forests of the Carpathians and Other Regions of Europe – which also includes Grumsin Beech Forest, the largest core area in the BR – contacts were maintained with the other countries where the other components of this serial World Heritage Site are located (currently 94 components in 18 countries).

Under the Convention on Migratory Species, the BR is involved in the work of the Aquatic Warbler Conservation Team to protect the globally endangered aquatic warbler and its habitats (including with an EU LIFE project from 2013-2019). The team also initiated and monitored the memorandum of understanding on the protection of the species as part of the Bonn Convention.



**Photo 3:** International conference on conservation of the aquatic warbler and of fen mires as part of the EU LIFE project on the lesser spotted eagle. Forty scientists and nature conservationists from 12 European and African countries attended a conference in Brodowin in the Schorfheide-Chorin BR between 14 and 16 April 2019. **Photo:** Benjamin Herold

## C) PART II: PERIODIC REVIEW REPORT

### 1. BIOSPHERE RESERVE

1.1 Year designated: 1990

1.2 Year of first periodic review and of any following periodic review(s) (when appropriate): 2003 and 2013.

1.3 Follow-up actions taken in response to each recommendation from the previous periodic review(s) (if applicable), and if not completed/initiated, please provide justifications:

In 2013, the International Coordinating Council (ICC) of the MAB programme announced that the BR satisfied the criteria set out in the guidelines. With regard to the lack of funding, it recommended that the authorities consider a participatory monitoring scheme and that it continue the cooperation between the BR and the World Heritage Site.

Ahead of the submission of the periodic review report to UNESCO in 2012, the German MAB National Committee submitted its own comments on it, including specific recommendations.

Work on implementing them has progressed as follows:

#### **(a) Strategy for sustainable use of lakes (oligotrophic lakes):**

As part of the work to prepare management and development plans, including a management plan for the Natura 2000 sites, the lakes were analysed and conservation measures planned. Previous action strategies were outlined in detail for 50 lakes.

In an implementation-oriented testing and development project (T&D project) on re-establishing Characeae in lakes, which is funded by the Federal Agency for Nature Conservation (Bundesamt für Naturschutz– BfN) and scheduled to run until 2022, research has been carried out since 2017 in conjunction with neighbouring nature parks to establish to what extent fluctuations in populations of Characeae typical for oligotrophic lakes can be used as indicator to develop effective measures to optimise existing uses of the lakes – especially fishing. As part of the main project that has just begun, a number of measures are being tested and scientifically monitored at 13 lakes in the BR.

#### **(b) Development of a tourism model:**

In the context of the management and development planning process, a draft tourism development strategy was developed between 2011 and 2015. In 2017, a moderation process involving a mediator was carried out with the aim of involving the local population even more intensively in the process. The outcome was the present Tourism Action Framework. For more information, see section 5.2.



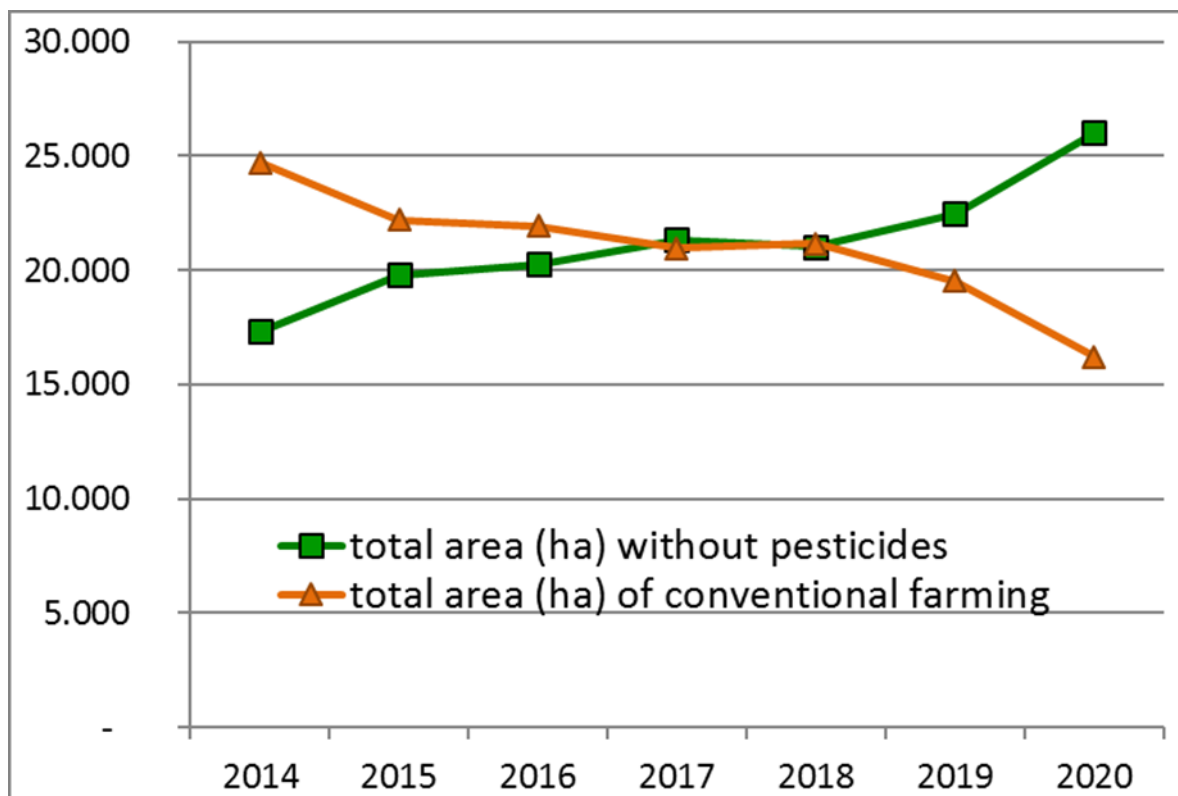
## Measures to improve the quality of the transition area

Organic farming: The percentage of land that is organically farmed or managed using other kinds of extensive farming increased considerably during the reporting period. Organically or extensively used farmland is now almost twice the size of the land which is conventionally farmed (Table 4).

**Table 4:** Type of farming practised on agricultural land in the Schorfheide-Chorin BR in 2021

Area 42,229 ha	Type of farming	Percentage share
18,371 ha	Organic farming (including converted land)	43.5%
2,662 ha	Cultivated Landscape Programme (KULAP) (EU programme in Brandenburg) Extensive permanent grassland	6.3%
251 ha	Article 30 (compensation payments for use restrictions in Special Areas of Conservation/nature conservation areas)	0.6%
1,001 ha	Ecological Focus Areas without use of pesticides	2.4%
3,721 ha	Other extensive areas without use of pesticides and mineral fertilisers	8.8%
	<b>Total percentage of area without use of pesticides/mineral fertilisers:</b>	<b>61.6%</b>
15,141 ha	Conventional farming	35.9%
1,082 ha	Other Ecological Focus Areas	2.6%
	<b>Total conventional farming:</b>	<b>38.4%</b>

Figure 1 shows the trend in organic farming in comparison to conventional farming over the past seven years.



**Figure 1:** Trends in organic farming (including extensive use of grassland in general = pesticide free) and in conventional farming in the Schorfheide-Chorin BR from 2014 to 2020. (Source: IACS/data from applications received in 2020).

Due to the high level of interest, a training event for farmers potentially willing to switch to organic practices was organised by the BR administration in 2018; 24 farmers participated. It is therefore expected that the percentage of land being organically farmed will continue to increase over the next few years. Unfortunately, no intensive advisory service on organic farming for individual farms was available in Brandenburg to date. A service of this kind is just beginning to be set up there.

Preparing management plans for areas covered by the Habitats Directive (Special Areas of Conservation): Operational plans incorporating nature conservation concerns were drawn up for 12,000 hectares of land on 16 farms and agreed with the land users. They are being implemented gradually. In 2021 and 2022, three additional nature conservation plans will be drawn up on behalf of the BR administration and at the request of the farm managers for a total of 1,920 hectares.

Beech forest management: A best-practice management concept for beech forests was developed, tested and evaluated (see section 5.3) as part of two research and development projects. The resulting recommendations for action were published in the Best Practice Handbook – Nature Conservation in Beech Forests Used for Timber (Winter et al. 2015; English

edition published in 2021). Three demonstration and training sites, known as marteloscopes, have been set up. They can be used to practise and discuss the management concept.

Conserving settlement structures and the historical built environment: Since 2017, a pilot project funded by the federal government has been carried out to look at the heritage of the built environment and tourism in the Schorfheide-Chorin UNESCO biosphere reserve. The project included 2018 different activities, such as workshops with stakeholders, surveys of skilled tradespeople, organisation of a day of extensive activities about the heritage of the built environment and the publication of a PR brochure to raise awareness for the subject (see section 2.3.5).

Climate change: Participation in ZENAPA, an EU LIFE IP project (term: 2016-2024), made it possible to recruit a "climate change manager" in the BR back in 2017. The most important areas of work currently include a green procurement policy, implementation of 10 biodiversity and climate action strategies, and running campaigns on topics such as renewable energy, sustainable mobility and climate action (see sections 5.1 and 5.7).

### **(c) Information on the proposed communications strategy**

A separate communications strategy for the BR has not yet been established (see section 2.3.3 for further details).

#### 1.4 Other observations or comments on the above:

Further details are described in this report.

#### 1.5 Describe in detail the process by which the current periodic review has been conducted:

##### *1.5.1 Which stakeholders were involved?*

During the site visit it made to evaluate the BR, the German MAB National Committee was able to ascertain the views of a wide range of stakeholders. They included councillors and representatives of municipalities, land users, trade as well as industry and nature conservation associations. A two-day meeting between the BR administration and the German MAB National Committee was held.

##### *1.5.2 What methodology was used to involve stakeholders in the process (e.g. workshops, meetings, consultation with experts)?*

The Covid-19 pandemic meant that meetings could not take place.

##### *1.5.3 How many meetings, workshops, etc. occurred throughout the process of conducting this review?*

None (see section 1.5.2 above).

*1.5.4 Were they well attended, with full and balanced representation?*

See section 1.5.2 above

## 2. SIGNIFICANT CHANGES IN THE BIOSPHERE RESERVE DURING THE PAST TEN YEARS

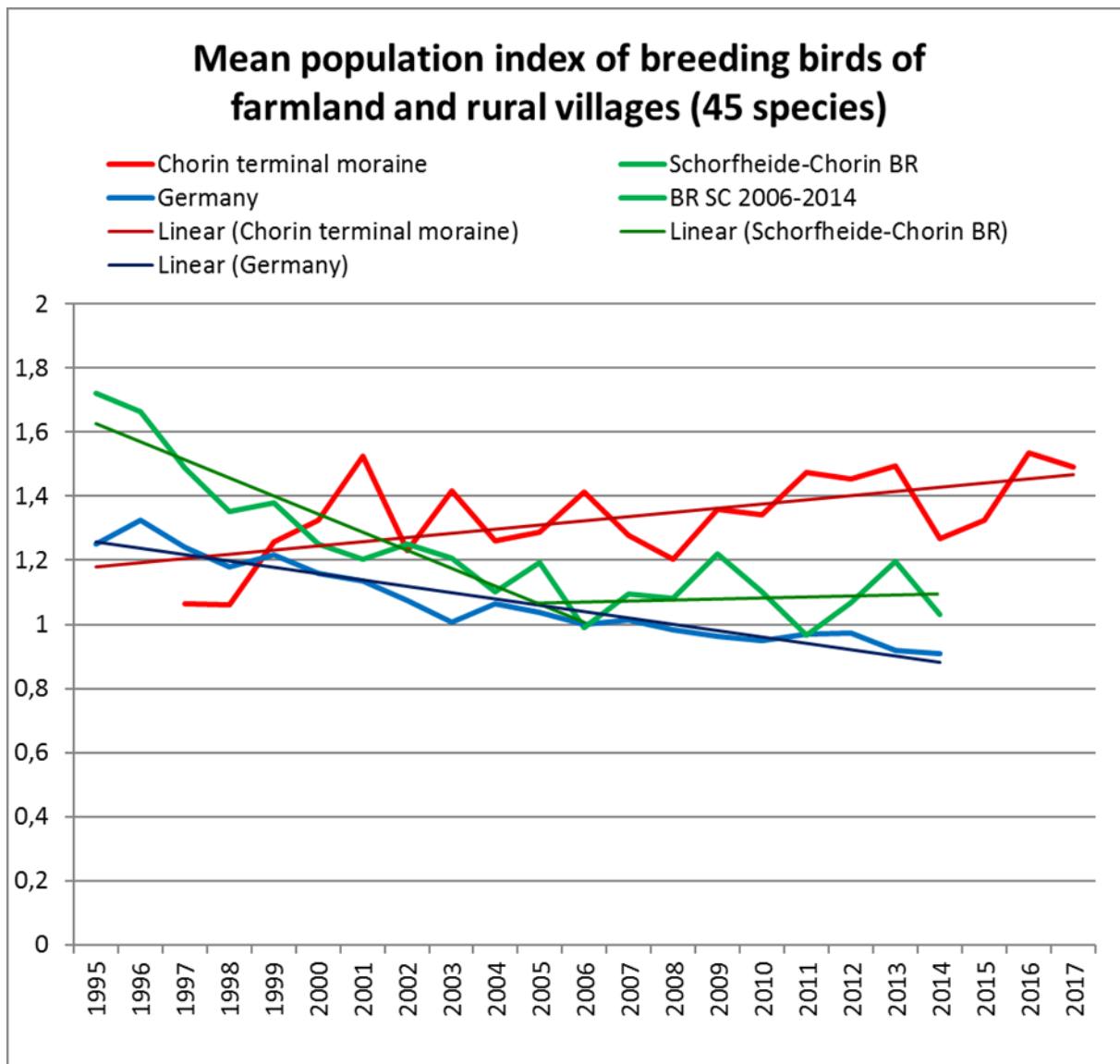
### 2.1 Brief summary overview

The typical landscape structure with its four main habitat types (corresponding to the classification of the Habitats Directive) – dunes, freshwater habitats, grassland and forests – remains largely unchanged. However, areas drying up during long periods of low rainfall (most recently 2014-2016 and 2018-2020) and intensive use of grassland in the south-east of the area are a major risk factor for habitats. It is therefore important to work on retaining water in the landscape and on smaller-scale and more extensive use of grassland.

With land organically farmed and extensive grassland comprising 62% of the area (2021) and numerous accompanying nature conservation measures, developments in the agricultural landscape where arable farming is predominant can be said to be positive. The situation in the deciduous forests, which account for over 3,000 hectares of unmanaged core areas and beech forests managed by regional or local authorities based on conservation principles, is also positive.

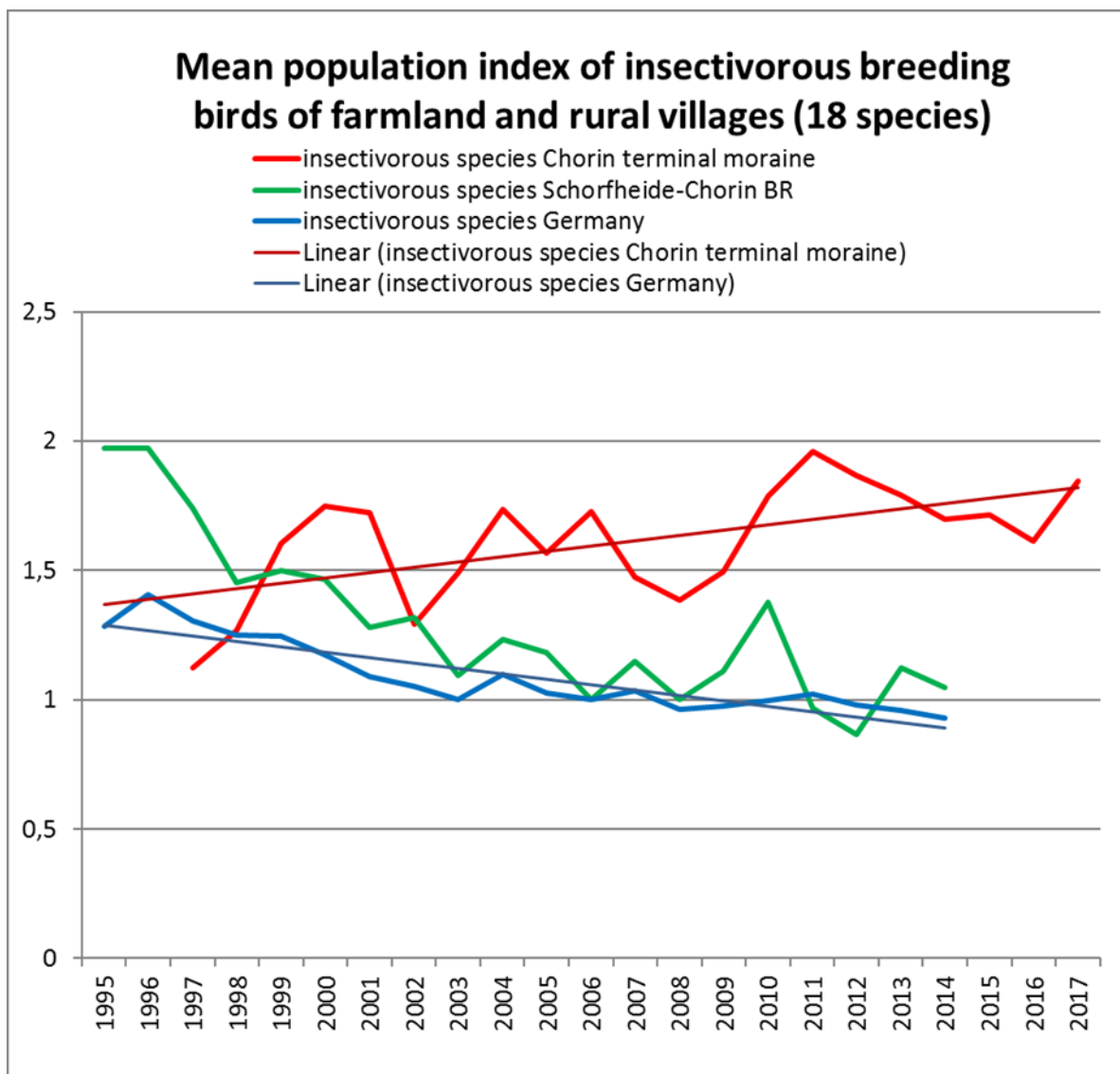
The area of restored/re-wetted peatland has increased to around 4,000 hectares as a result of the EU LIFE project on the lesser spotted eagle (2013-2019) and smaller mire restoration projects, especially in Schorfheide.

The results of the second survey of the Schorfheide-Chorin Special Protection Area (2015-2018) indicate that it has a relatively good conservation status and is one of the five key areas in Brandenburg for 33 species of breeding bird (see section 4.2). According to the survey, the conservation status for 13 species is excellent, for 22 species it is good, and it is medium to poor for only four species. The monitoring data on breeding birds clearly indicate that the species typical of the agricultural landscape in the south-east of the BR, which has been managed by organic farming since 1991, have recovered significantly, whereas they have declined continuously in Germany as a whole (see Figures 2a and 2b).



**Figure 2a:** Trends in breeding bird species in the Schorfheide-Chorin BR

The biosphere reserve is working: Mean index of 45 typical breeding bird species on agricultural landscapes and in rural villages (left) and of 18 insectivorous species within this species group (right) in the Chorin terminal moraine reference area (red), which has been organically farmed on a large scale since 1991 in the Schorfheide-Chorin BR (green), and in the whole of Germany (blue). Data taken from the monitoring programme for common breeding bird species.



**Figure 2b:** Trends in breeding bird species in the Schorfheide-Chorin BR  
 The biosphere reserve is working: Mean index of 45 typical breeding bird species on agricultural landscapes and in rural villages (left) and of 18 insectivorous species within this species group (right) in the Chorin terminal moraine reference area (red), which has been organically farmed on a large scale since 1991 in the Schorfheide-Chorin BR (green), and in the whole of Germany (blue). Data taken from the monitoring programme for common breeding bird species.

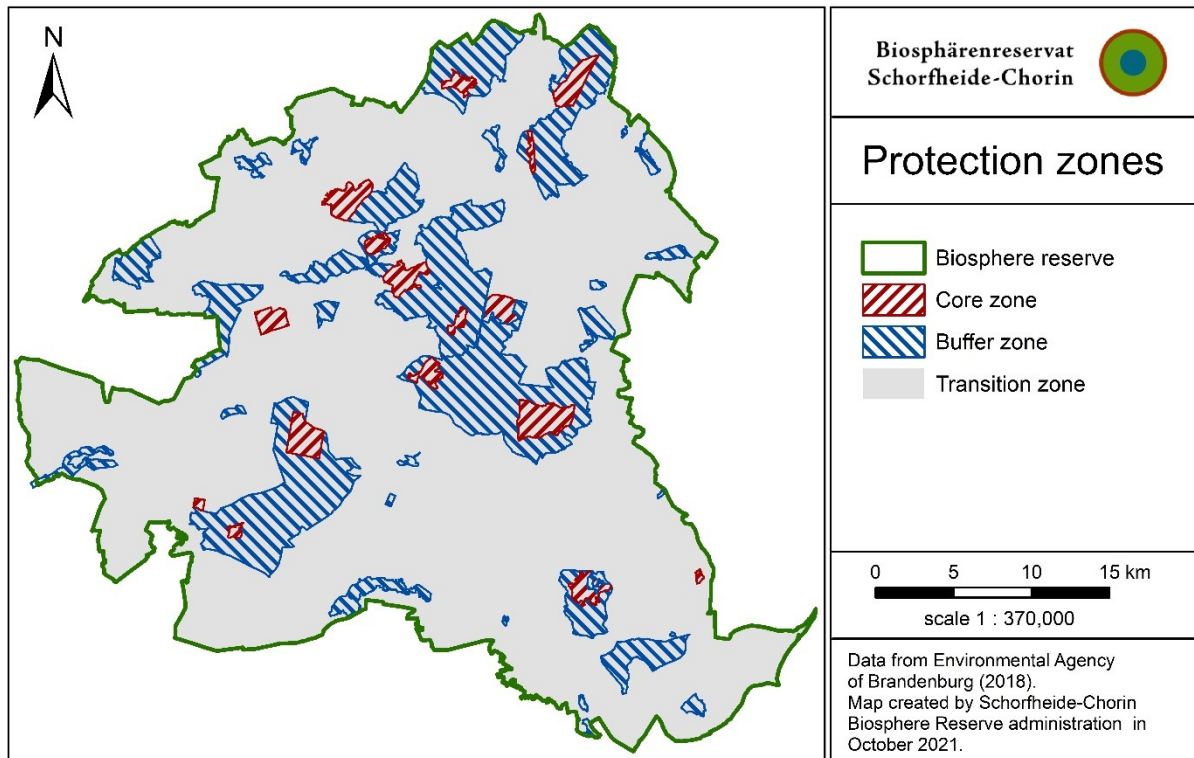
## 2.2 Updated background information about the biosphere reserve

### 2.2.1 Coordinates

Cardinal points:	Latitude	Longitude
Most central point:	52°58.953000'N	13°45.416580'E
Northernmost point:	53°13.245120'N	13°53.086380'E
Southernmost point:	52°47.791500'N	13°59.097780'E
Westernmost point:	53°0.750180'N	13°23.284920'E
Easternmost point:	52°52.805400'N	14°9.418920'E

### 2.2.2 Updated map

For information on the location of the BR, see Annex III-1.1. Figure 3 shows the BR zonation map; there have been no changes since the last periodic review report.



**Figure 3:** Overview of zonation of the Schorfheide-Chorin BR

### 2.2.3 Changes in the human population of the biosphere reserve

**Most recent census data:** The census planned for 2021 was postponed due to the Covid-19 pandemic. The figures are projections based on the 2011 census (as at 31.12.2019).

**Table 5:** Human population (inhabitants)

	Schorfheide-Chorin BR 2012	Schorfheide-Chorin BR 2019 continuous/intermittent
Core area(s)	0	0/4
Buffer zone(s)	150 (estimate)	170
Transition area(s)	29,000	28,000
Total	29,150	28,170
Population density in the BR	22 inhabitants per km <sup>2</sup>	21.6 inhabitants per km <sup>2</sup>
Population density in Brandenburg	83 inhabitants per km <sup>2</sup>	85 inhabitants per km <sup>2</sup>
Population density in Germany	231 inhabitants per km <sup>2</sup>	233 inhabitants per km <sup>2</sup>



#### *2.2.4 Update on conservation function, including main changes since last report*

Although the legally protected core areas have not changed since 2011, the BR administration estimates that a further 1,000 hectares of de-facto zero-use nature development areas have been created and will remain. This area consists of a stream valley that has been partially flooded due to beaver activity, rewet mires, an area of forest which is part of the national Natural Heritage Site that has passed into the ownership of the Brandenburg Nature Conservation Fund, a forest area in the buffer zone of Grumsin Beech Forest, which is owned by Kulturlandschaft Uckermark e.V, an association supporting the BR, and sections of the Bollwinfließ and Sernitz valley fen mires, which are owned by the Michael Succow Foundation. Now that Grumsin Beech Forest has been recognised as part of the serial beech forest World Heritage Site, higher protection requirements apply to safeguarding this core area and its buffer zone with regard to visitor management, monitoring and supervision of the area, and management of the adjacent commercial forests.

#### *2.2.5 Update on the development function*

With the involvement of the BR administration, it has been possible to expand tourist services. Since the beginning of 2017, three local businesses that identify with the BR's conservation objectives have been included in the **network of partner companies** (see section 2.3.4).

In addition, 80 local companies use the **BR Schorfheide-Chorin label**, which serves as a quality seal, certifying that a business is local and sustainable. It provides guidance for BR residents and visitors (see section 2.3.4).

As part of the preparation of the management plans for the Special Areas of Conservation (48 plans for 49,000 hectares) between 2011 and 2015, the treatment of the Brandenburg-owned forest in these Special Areas of Conservation areas was agreed with Brandenburg's forest authority, as was the forest management plan. There is a consensus that the extensive pine forests (especially in Schorfheide) should be converted rapidly to deciduous and mixed forest. The switch from conventional to organic farming continued to be supported and driven forward and 17 nature conservation plans for individual farms were also developed.

BROMMI – Biosphere reserves as model landscapes for insect protection – is a project that has been running in the Schorfheide-Chorin BR since autumn 2020 as part of the Federal Biological Diversity Programme. The project partners in the area are municipalities, road building authorities, water and soil associations and farms (see also sections 2.3.4, sections 4.2 and 5).

### *2.2.6 Update on logistic support function*

- The Biodiversity Exploratories research project, with 43 research institutes active in the BR area and a coordination office with five staff at the BR administration office in Angermünde, have no time limits and provide the long-term infrastructure for research projects on biodiversity.
- Since 2019, the BR's administration has been collaborating particularly closely with Eberswalde University for Sustainable Development on a science-based and practice-oriented master's programme on biosphere reserves management.
- Between 2012 and 2015, an R&D project on lowland beech forests was carried out by the BR administration in collaboration with Dresden University of Technology as a research partner.
- A research project by the Leibniz Association entitled Integrative Analysis of the Influence of Pesticides and Land Use on Biodiversity in Germany (INPEDIV) was carried out in the BR from 2019-2022.
- A T&D project on re-establishing Characeae cover on the bottom of natural, calcareous lakes in the north-east German lowlands is being implemented between 2017-2024.

See section 6 for more information.

### *2.2.7 Update on governance management and coordination*

The BR administration is a division in the nature conservation and Brandenburg's natural landscapes department of the Brandenburg State Office for Environment. It is responsible for administration of the BR. Brandenburg's Nature Conservation Act stipulates that the State Office for the Environment (LfU) is a sectoral authority and the higher state authority responsible for nature conservation. It reports directly to the Ministry of Agriculture, Environment and Climate Protection (MLUK) of the State of Brandenburg, which is the highest nature conservation authority. The relevant secondary legislation can be found in Annexes III-3.1 to III-3.4.

## **2.3 The authority/authorities in charge of coordinating/managing the biosphere reserve**

### *2.3.1 Updates to cooperation/management policy/plan, including vision statement, goals and objectives, either current or for the next 5-10 years*

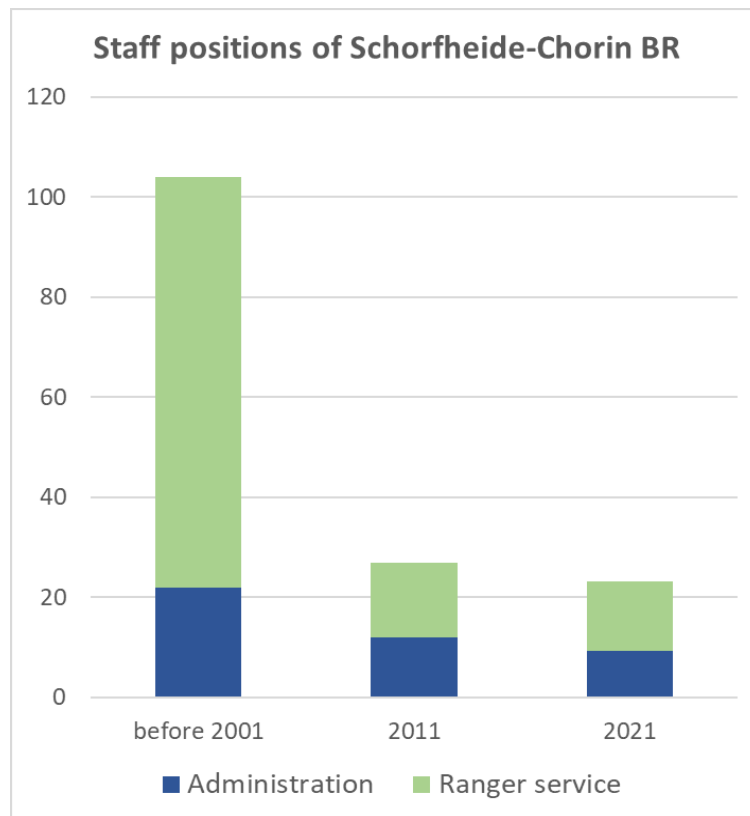
The 2003 Landscape Framework Plan is the basis for planning activities in the BR. Further plans, strategies and management plans are:

- the 1997 management and development plan and a draft update of this plan from 2015 (internal paper drawn up by the BR administration);
- management plans for 48 Special Areas of Conservation that were completed between 2015 and 2020;
- the Tourism Action Framework that was completed in 2020; and
- the visitor management and signage strategy that was also completed in 2020.

### *2.3.2 Budget and staff support*

**The staff budget** increased from €631,468 in the 2012 budget year to €757,544 in the 2021 budget year. The funds came from the state of Brandenburg.

There are a total of 9.5 permanent staff positions and one temporary position in the BR administration. There is currently a vacancy, for which the selection procedure is in progress (see Annex III-7.1). The research and monitoring field of work was strengthened by restructuring the BR's staffing levels. Additional posts provided for in the Brandenburg government's coalition agreement have not yet been implemented. As a result, the recommendations made by the German MAB National Committee in the periodic review from 10 years ago have unfortunately not yet been fully implemented. Figure 4 and Annex III-7.1 show the trends in staffing levels since 2001 (see section 5.11). Further staff changes will be made in the Brandenburg State Office for the Environment in order to achieve the handover to the next generation and to ensure priority tasks are carried out. It cannot be ruled out that this will have a direct impact on the BR.



**Figure 4:** Staffing situation in the BR's administration (blue) and ranger service (green)

The **2021 budget for materials and equipment** is €683,000, of which €468,000 will be used for contractual nature conservation (NB: This does not include funds for EU agri-environment schemes paid out by the agriculture authorities), €26,000 for public relations and environmental education, €31,000 for business supplies/consumables and €4,474 for official vehicles.

The number of staff at **ranger service** (Naturwacht), which has its offices at Naturschutzfonds Brandenburg, has increased from 12 to 14, since two positions were set up specifically to look after the Grumsin Beech Forest component of the World Heritage Site. A third position for the Grumsin Beech Forest is planned.

In 2021, the budget of the BR administration and ranger service (personnel and material resources) totalled €2.079 million (Tables 3.1 and 3.2).

Approved third-party funding projects to implement the BR's objectives, which were either requested by the BR administration or acquired with their participation, totalled €21.5 million in the reporting period (Table 3.4), an average (for the reporting period only) of €1.8 million per annum. Added to that is the budget of €682,000 in 2021 (Table 3.3) for the main Blumberger Mühle visitor centre, which is operated by NABU.

### *2.3.3 Communications strategy*

A written communications strategy has not yet been developed. However, a new visitor management and information strategy for the BR was commissioned in 2020 (awarded to BTE Tourism and Regional Consulting). It covers all external communications work (marking boundaries of protected areas, information boards, “welcome stations”, print products, website). This strategy was discussed and agreed with the relevant stakeholders in the area. Implementation will take several years and require approximately €1 million in funding.

A number of working groups dealing with specific topics and projects are responsible for communicating with bodies such as the board of trustees and the advisory board for the Grumsin World Heritage Site. They meet regularly with private forest owners, have input into the moderation process for sustainable tourism development, work on the introduction of a visitor card in the BR, and on a project on the heritage of the built environment and tourism.

In line with the BR's educational remit, further information and education opportunities will be offered in Wildpark Schorfheide (game park), which has 12 stations on biodiversity in the BR and in Brodowin eco-village (exhibition of organic farming and nature conservation). This is in addition to existing facilities such as the Blumberger Mühle visitor information centre, the town hall (with tourist office) in Joachimsthal and the Solar Explorer research vessel. There are also plans to recruit celebrity "ambassadors" to raise public awareness for the BR.

The ranger service (Naturwacht) is the local partner on the ground and communicates the regulations associated with the BR legislation.

### *2.3.4 Strategies for fostering networks of cooperation*

The existing BR cooperation network can be seen in Table 3.4, which lists approved projects with third-party funding during the reporting period.

Important instruments for cooperation networks continue to be the Schorfheide-Chorin label, which certifies sustainable businesses, and the BR partner network. Ongoing research projects and cooperation with universities also play an important role.

**The biosphere reserve label** is a cross-sectoral certificate awarded to local companies and products. It is considered to be highly effective (see section 5.5). It is intended to provide guidance to visitors and local people who value products and services that are original, local and sustainable. With this label, the BR has developed a tool that gives companies a platform to market their products and services in an attractive way. They are permitted to use the label only if they adhere to the principles of the UNESCO biosphere reserve: sustainable and

environmentally and socially sound management and effective conservation of natural resources. Members of this network contribute to preserving and maintaining the historical cultural landscape. Farmers in the BR opt not to use genetic engineering or pesticides, and those who have been awarded the label focus on conserving heritage crop varieties and thus a broad genetic basis. They use resources sparingly and strengthen local economic cycles and value chains. At the same time, new jobs are created and existing ones are safeguarded. There are currently about 80 label holders from the hospitality and related sectors, artisan food and similar sectors, trade, agriculture, horticulture, beekeeping, fisheries, tourist services and the construction trade.

The **Schorfheide-Chorin BR's partner network** of tourism providers from the region belongs to the Partners of the National Natural Landscapes initiatives, managed by the umbrella organisation Nationale Naturlandschaften e.V. (NNL). As a member of the network, the BR is committed to sustainable development of tourism and to fostering cooperation between the certified partner companies. Since the beginning of 2017, local businesses that identify with the BR's conservation objectives have been included in the **network** (see section 2.3.4). The partner network is still in its early days. There are currently three partner companies from the BR.

**In cooperative arrangements with universities**, especially Eberswalde University for Sustainable Development, Humboldt University and the University of Greifswald, including their research projects and students' theses, and a number of long-term **research projects**, data on the BR are collected and developments in the BR are monitored. The BR administration connects the different various research institutions and projects with each other and with other stakeholders in the region, notes any need for specific studies and informs appropriate research institutions (for more information, see sections 2.4.6, 6.1 and 6.2 and Annexes III-6 and III-7).

### *2.3.5 Particular vision and approaches adopted for addressing the socio-cultural context and role of the biosphere reserve*

A focus of the work of the BR administration in this context is to promote the heritage of the region's built environment and to link up tourism, energy-efficient building refurbishment and climate action (see Info box 1 and section 5).

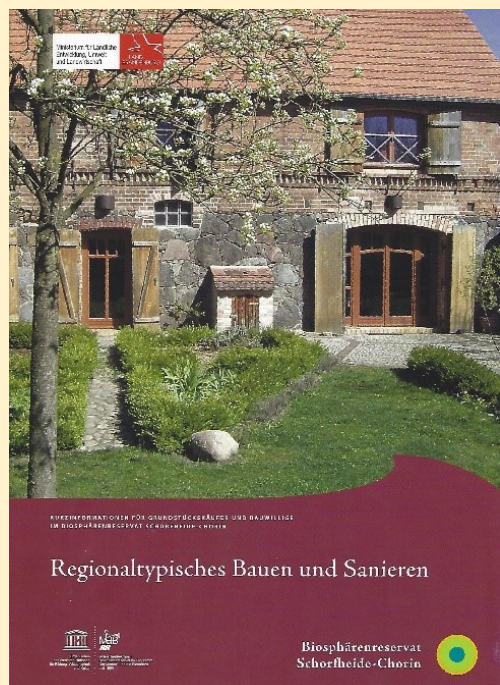
The involvement of local crafts and trades businesses that are skilled in traditional building and craft techniques plays an important role (several of these businesses are also certified under the biosphere reserve label scheme).

Another important topic is raising awareness among the local villagers about the importance of traditional cottage gardens, which can still be found in the villages. This is also linked to the collaboration with VERN e.V, an association dedicated to the conservation and recultivation of crop plants. It specifically works to stop heritage species and varieties from dying out by breeding them and actively returning them to gardens in the region (see section 2.3.7).

**Info box 1: The heritage of the built environment in the Schorfheide-Chorin BR**

Promoting building methods that are typical for the region and also climate friendly is one of the Schorfheide-Chorin BR's initiatives. Settlements, farmhouses, buildings and their typical, often historical surroundings, are a significant part of the BR's cultural landscape, which is also highly valued by visitors. To preserve this characteristic feature of the area, the BR administration, in conjunction with a number of partners, held a competition in 2014 on the heritage of the region's built environment and energy-efficient building refurbishment in the BR and its surrounding area. An information brochure on the heritage of the built environment and refurbishment, aimed at property owners and people interested in initiating construction projects in the Schorfheide-Chorin BR, was published in 2019 by the Ministry for Rural Development, Environment and Agriculture of the State of Brandenburg.

The winners of another competition on the built heritage of the region specifically for building owners were announced in the autumn of 2019. A touring exhibition and a brochure on the award-winning projects are currently being prepared. There are plans to hold this successful competition every few years.



**2.3.6 Use of traditional and local knowledge in the management of the biosphere reserve**

The heritage of the region's built environment and its cottage gardens are based on traditional knowledge and are important in boosting tourism in the region (see sectors 2.3.5).

### 2.3.7 Community cultural development initiatives

The BR administration is increasingly focusing on the cottage garden tradition, which is still very much alive in the area. These gardens include vegetables and perennial plants, orchards, and small animal livestock holdings, and feature conservation of heritage crop varieties and livestock breeds. It is seeking to promote appreciation of the cottage gardens in the villages, including their biodiversity. The publication in 2013 of the richly illustrated book "Brodowiner Bauerngarten – von Blondköpfchen, Baldrian und schneenen Liebe" (Keuler/Winter/Frehse 2013, ed. Ecodorf Brodowin e.V.) was given financial and logistical support. The book provides extensive information about the cottage garden tradition in the region, placing it in its historical context and giving fond and vivid descriptions of 33 cottage gardens and their gardeners.



**Photo 4:** Ökodorf Brodowin e.V. selling heritage vegetable varieties and traditional cottage garden perennials at the farm festival in Brodowin in 2014. **Photo:** S. Winter

### 2.3.8 Number of languages

German is spoken in the BR.



### *2.3.9 Management effectiveness*

In view of the increasing workload (Grumsin World Heritage Site, Natura 2000 management, etc.) and the current personnel situation (see Figure 4 and Annex III-7.1), the BR administration currently has only limited ability to deal with important topics such as communications/press and public relations, international cooperation, species and habitat conservation, GIS and attribute data management, and world heritage matters. We need to set clear priorities and seek additional partners to fulfil our remit.

Most of the municipalities, municipal and regional forest administrations, tourism associations, water and soil associations, the more than 80 organic farms and about 20 nature conservation foundations and associations active in the area are extremely committed to supporting the BR's objectives. However, it is important to note that it is becoming increasingly less possible for the BR administration to develop new projects and submit project proposals, which could in turn lighten its workload. The financial volume and the large number of projects and partners indicate that it is becoming an increasingly difficult problem to solve, especially since the staffing levels of the BR administration are falling.

**2.4** Comment on the following matters of special interest in regard to this biosphere reserve:

#### *2.4.1 Development plans addressing the biosphere reserve*

The planning processes, strategies and management plans mentioned in section 2.3.1 refer directly to the BR and its concerns. The BR administration makes extensive contributions to the development of these plans, which it has commissioned, and to their evaluation. They involve topics such as sustainable regional development, nature conservation, tourism, green economy, etc.

#### *2.4.2 Outcomes of management/cooperation plans of government agencies and other organizations in the biosphere reserve*

Guidelines for the Schorfheide-Chorin BR have been developed on the basis of the landscape framework plan referred to in section 2.3.1. They cover nature conservation, species and biotic communities, soil, groundwater, watercourses and standing waters, climate, the visual quality of the landscape and recreational use of the landscape. Annex III-8 presents relevant extracts from the landscape framework plan for these topics. The management plans for 48 Special Areas of Conservation totalling 49,000 hectares, which were prepared during the reporting period and completed and published following a public participation process, are,

on the one hand, the most important up-to-date documentation on the conservation status of nature, the landscape, and the flora and fauna in the BR and, on the other hand, they are the key basis for implementing measures and developing and applying for new projects. The Tourism Action Framework, which was developed on the basis of a moderation process carried out by the BR administration for the tourism sector, forms the basis for cooperation, development measures and projects in the field of tourism, recreation and infrastructure.

#### *2.4.3 Continued involvement of local people in the work of the biosphere reserve*

The **board of trustees of the biosphere reserve** (see Annex III-3.4) inputs ideas on regional development that do not impact negatively on the natural environment. Meetings are usually held twice a year (except during the Covid-19 pandemic). The 19 members are committed to their work on providing advice and mediating between the tasks of the large-scale conservation administrations, the municipalities and other regional authorities and associations. The board of trustees has made frequent use of its right to initiate action and to submit its own comments and is thus a constructive support and driving force for the work of the BR administration.

The BR receives particular support from a diverse range of local stakeholders such as foundations, associations, clubs and municipalities. There are currently about 20 nature conservation foundations and associations that own land in the BR and carry out projects here. These include the Brandenburg Nature Conservation Fund (1,050 hectares), the Michael Succow Foundation (750 hectares), the Schorfheide-Chorin Foundation (700 hectares), WWF Germany (560 hectares) and the NABU-Foundation for National Natural Heritage (300 hectares). In addition, there are numerous local associations such as Wir in der Biosphäre e.V., Kultur- und Heimatvereine, Verein Weltnaturerbe Grumsin e.V., Ökodorf Brodowin e.V., Mensch Brodowin e.V., Kranichscheune Parlow e.V., four regional NABU associations, Kulturlandschaft Uckermark e.V and others.

A selection of them are described in more detail below:

**Kulturlandschaft Uckermark e.V.** (KLU) is an association supporting the Schorfheide-Chorin UNESCO biosphere reserve. In accordance with its statutes, the association supports the funding of projects that preserve the special features of the cultural landscape in the Uckermark region and the Schorfheide-Chorin BR and develop them in a way that is environmentally and socially sustainable.

**The Uckermark-Schorfheide Landcare Association (Landschaftspflegeverband Uckermark-Schorfheide e.V.)** is a voluntary association that was set up in 1992 and is a partner that is actively committed to promoting sustainable development in the region. Its membership consists of farmers, nature conservation associations and representatives of municipalities. It is the contact for matters relating to implementation of landscape management work, devising and supporting compensation and substitution measures and implementation of management plans for Natura 2000 sites.

**The BIORAMA project** is a private initiative by businesspeople Sarah Phillips and Richard Hurding. The couple created a viewing platform on the roof of a converted water tower to be a gateway to the biosphere reserve. It gives visitors the opportunity to enjoy an all-round experience of the biosphere reserve and to experience first hand how leisure, culture, science and business are promoted in an innovative way that also creates benefits for the environment.

**The UNESCO Club Joachimsthal e.V.** supports the goals of UNESCO with voluntary activities. Its work is aimed at supporting education, culture, civic participation and communication in the Schorfheide-Chorin BR as a venue to learn about sustainable development.

#### *2.4.4 Women's roles*

A staff council, an equal opportunities officer and a representative for employees with disabilities are available within the Brandenburg State Office for the Environment (LfU). Currently, 33% of the workforce in the BR administration and 43% of ranger service's employees are women, giving an overall figure of 39%.

#### *2.4.5 Are there any changes in the main protection regime of the core area(s) and of the buffer zone(s)?*

No.

#### *2.4.6 Research and monitoring activities*

During the reporting period, the BR administration collaborated with many universities, government agencies and interest groups on topics such as restoration of the hydrological balance and vegetation of mires, use of biomass from restored peatlands, conservation-oriented forest management, basic research on biodiversity and ecosystem interactions (Biodiversity Exploratories), integrative analysis of the influence of pesticides and land use on biodiversity in Germany, acceptance and monitoring of sustainability in the tourism sector and

the effects of the BR on the local economy. Detailed information can be found in sections 6.1 and 6.2.

#### *2.4.7 Collective capacities for the overall governance of the biosphere reserve*

A particularly intense area of focus is currently the issue of climate change – not least prompted by the Madrid and Lima Action Plans. After the first successful projects, the Solar Explorer research vessel was able to conduct an education for sustainable development (ESD) pilot project looking at sustainable mobility/climate change and oligotrophic lakes/limnology. This was the first of its kind in Germany. Based on this project, a Zero Emissions Network working group was set up in 2014 and sustainable mobility strategies were developed. One of the outcomes is that the BR now has 32 free charging stations for e-bikes.

With the moderation process for sustainable tourism development and the development of the new visitor management and information system, the tourism networks were also strengthened and upgraded to a new level of quality (see section 5.2).

These and other projects (e.g. on beech forest management and oligotrophic lakes) have significantly strengthened the BR administration's professional competence and networking capacities.

#### *2.4. 8. Additional information about the interaction between the three zones*

A scientific study on buffering the BR's core areas (GIS analysis) was carried out by Humboldt University Berlin (Westphal 2020, Annex III-1.3). It established that of the 16 core areas, 12 are completely or predominantly surrounded by buffer zones (see Figure 3). In the case of the other core areas, the adjacent land is for the most part owned by the state of Brandenburg (state forest, agreement on management must be established with the BR administration) and/or are permanently managed following organic farming principles. Only three core areas are not surrounded by legally defined buffer zones, state forest or organically farmed land: Arnimswalde (10% of its area), Melzower Forst (12% of its area), and Redernswalde (22% of its area). In those areas without adjacent buffer zones, the boundaries are as a rule shared by privately owned forests (see Annex III-1.4). There are plans to redesignate a very small core area (Pimpinellenberg at Oderberg, 5.9 hectares) as a buffer zone because the original designation was evidently a technical error. It will only be possible to maintain the outstanding nature conservation value of the area by ensuring its use as a buffer zone.

#### *2.4.9 Participation of young people*

The second German MAB Youth Forum was held in the Swabian Alb BR in September 2021. Among other things, ideas on active youth participation in biospheres were compiled. Three young people from the Schorfheide-Chorin BR took part in the forum.

At the BR's Blumberger Mühle visitor information centre, young people have the opportunity to do an internship or spend a year doing voluntary environmental work. In this way they are involved in shaping the BR.

The ranger service also offers internships, during which participants can develop their own project ideas (for school students in Year 9 or above and also for adults). As part of the Freiwillig Engagiert volunteering programme, young people can support the ranger service in its work by making a practical contribution to nature conservation. The ranger service runs two or three junior ranger groups in the BR. The junior ranger programme is an after-school club for students from year 1 to year 6. The groups explore topics related to the BR, some of which they choose themselves. Previous topics included stakeholders in the BR, the wet meadow and its flora and fauna, and food (e.g. cookery book including recipes using wild herbs).

### 3. ECOSYSTEM SERVICES:

#### 3.1 Update on the ecosystem services provided by each ecosystem of the biosphere reserve and the beneficiaries of these services

Table 6 outlines the BR's key ecosystem services.

**Table 6:** The main ecosystem services provided by the Biosphere Reserve

<b>Ecosystem type</b>	<b>Regulating services</b>	<b>Provisioning services</b>	<b>Cultural services</b>	<b>Main beneficiaries</b>
<b>Freshwater habitats (natural lakes, rivers)</b>	Sedimentation area, oxygen production, water quality, defence against erosion, flood area, regulation of floodwater discharge, water filtration, nutrient retention, evaporation	Water, food, fodder	Beauty and aesthetic quality of the landscape, education, inspiration, heritage, recreation, nature tourism	Tourism, local residents, fishing, sports, business/economy
<b>Natural and near-natural grassland (sand grasslands, dry grasslands, Nardus grasslands, Molinia meadows, tall herb communities, alluvial meadows of river valleys of the Cnidion dubii, lowland hayfields)</b>	Sedimentation area, defence against erosion, flood area, flood protection, flood attenuation, pollination, climate change mitigation, photosynthesis	Building material, food (grazing animals)	Beauty and aesthetic quality of the landscape, education, inspiration, recreation,	Tourism, local residents, farming
<b>Forests</b>	Defence against erosion, regulation of floodwater discharge, water filtration, climate change mitigation, soil formation, photosynthesis, pollution control	Jobs, fuelwood, timber, health, access to clean air, recreation area	Beauty and aesthetic quality, education, inspiration, recreation, heritage	Tourism, local residents, forestry, farming
<b>Natural and near natural mires (eutrophic and mesotrophic terrestrialised fens and percolation and spring mires)</b>	Climate change mitigation, regulation of floodwater discharge, flood area, water filtration, pollution control	Jobs, food (fodder), recreation area	Beauty and aesthetic quality, education, inspiration, flood protection, archive function, research	Tourism, local residents, farming

#### 3.2 Changes regarding the indicators of ecosystem services

The BR administration has not yet used indicators to evaluate ecosystem services. However, the National Natural Landscapes association is carrying out integrative monitoring for 12 BRs in Germany; one of the main areas covered is ecosystems and biodiversity. Evaluations were carried out for the first time in 2018, but they have not yet been repeated in order to establish changes. The parameters recorded included: core area, diversity of crop species and varieties, sustainability in the secondary and tertiary sectors of the economy, local brands, protected areas, habitats in Special Areas of Conservation, species targeted for measures, voluntary

nature conservation work, public participation, education, impact on the public/acceptance, research, monitoring, mobility policies).

### 3.3 Description of biodiversity involved in the provision of ecosystems services in the biosphere reserve

The following bird species have stabilised or increased their populations: bittern, common teal, goldeneye duck, little grebe, crane, spotted crake, lapwing, common snipe, green sandpiper, Savi's warbler, sedge warbler, pond and Eurasian reed warbler, and great reed warbler. With regards to amphibians, it is predominantly the fire-bellied toad, European tree frog and moor frog that have benefited from water retention measures in the landscape and restoration of small water bodies.

The impacts of large-scale organic farming on agricultural biocoenoses and lake ecosystems are described in section 4.

### 3.4 Recent/updated ecosystem services assessment

Ecosystem services have not been assessed.

#### 4. THE CONSERVATION FUNCTION:

4.1 Significant changes (if any) in the main habitat types, ecosystems, species or varieties of traditional or economic importance identified for the biosphere reserve

About 1,350 **species of fern and flowering plant** have been identified in the BR to date, 427 of which are on the Red List, i.e. classified as endangered in Brandenburg/Germany. The BR has a special transregional responsibility for 30 species of vascular plant, including four species listed in Annex II of the EU Habitats Directive. There are predominant areas of occurrence of endangered species in the BR's mosaic of mainly small-scale **sandy xeric and steppic grasslands**, where over 100 species can be found.



**Photo 5:** Sheep grazing on the feather grass-rich steppic grasslands on Kleiner Rummelsberg.  
**Photo:** S. Winter



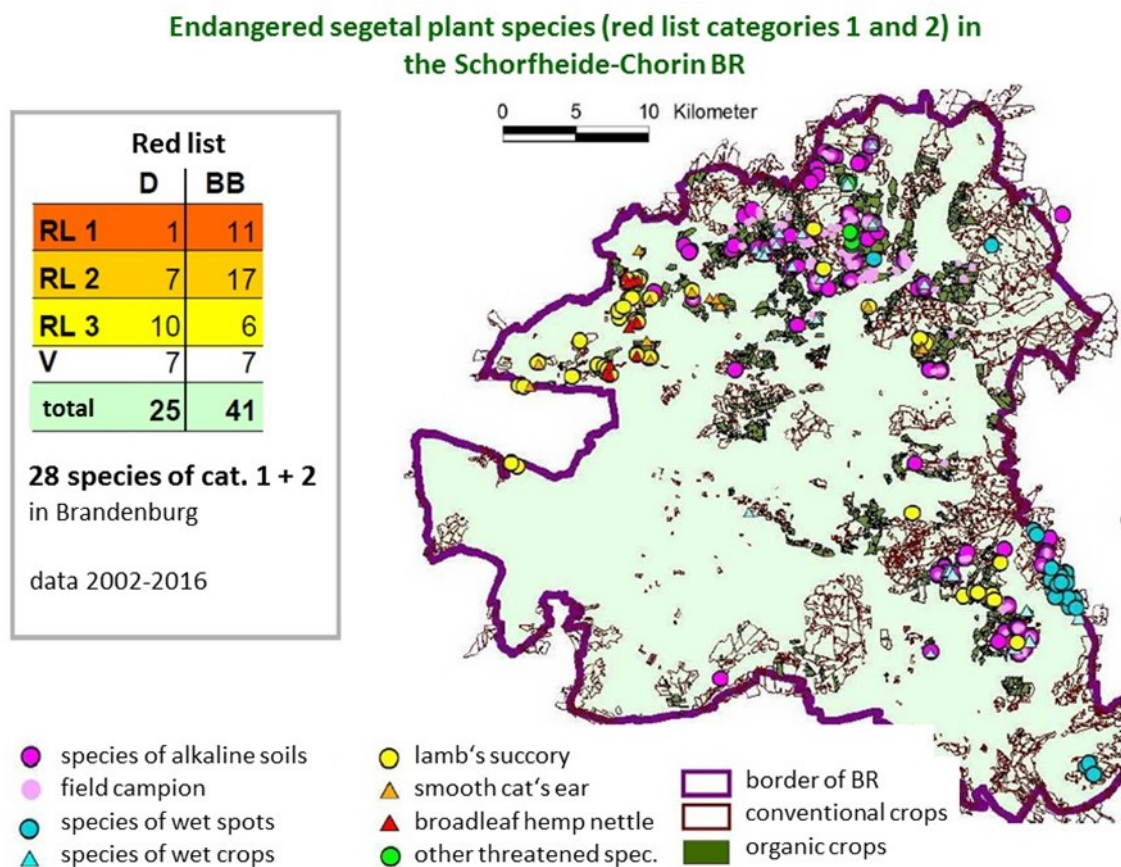


**Photo 6:** Flowering steppic grasslands on Schiefer Berg near Brodowin. **Photo:** M. Flade

Due to the large-scale organic farming and additional conservation measures for segetal species, the BR is now of outstanding significance nationwide for the **segetal flora**, which are found not only on a small scale on arable field margins or conservation fields, but also over many thousands of hectares and also in the interior of fields (Flade et al. 2020, Figure 5, Photos 6 & 7).

Throughout the BR, 47 species that are on the Red List for Brandenburg or Germany have been identified in segetal flora throughout the BR; 28 of those species belong to categories 1 and 2. As a result of organic farming becoming established on a large scale, the targeted nature conservation measures that go with it and also the fact that there is a very diverse mosaic of sites in this young moraine landscape, almost all the species that can potentially be expected in North Brandenburg can now be found here again. Several plant communities that are endangered throughout Germany are also widespread in the interior of fields (Figure 5).-The presence of the valuable segetal flora within the BR must therefore be particularly emphasised by comparison with the ongoing loss of this type of flora during the reporting period in the area surrounding the BR (Meyer & Gottwald 2020; Gottwald & Stein-Bachinger 2017).

Figure 5 shows the presence of critically endangered segetal species on virtually all organic fields in the BR.



*Natura 2000 und Artenschutz in der Agrarlandschaft, Vilim 7.-10.Nov. 2016*

*F. Gottwald: Wege im Ackerwidkrautschutz: Schutzäcker, Schonstreifen und Ökolandbau*

**Figure 5:** Endangered segetal species found in the BR

On Demeter’s Brodowin farm, which has about 1,400 hectares of agricultural land, the historical species diversity seems to have now been fully restored as a result of many years of organic farming. The difference between organically and conventionally farmed areas in the BR was studied in 2016 using the example of Temmen Estate and neighbouring farms (Gottwald & Stein-Bachinger 2017). Typical indicator species of segetal flora occurred with an average frequency of 171 individuals per 100 m<sup>2</sup> on the organically farmed land, by comparison with only 16 individuals on the same area of conventionally farmed land.



**Photos 7 and 8:** Endangered segetal species

Two critically endangered segetal species – wild fennel (*Nigella arvensis*) (left) and summer pheasant's eye (*Adonis aestivalis*) (right) are now found again en masse in a number of lime-rich fields in the BR. Photo credit: F. Gottwald, M. Flade

The outstanding significance of the **flora of intermittently wet arable land** in the BÖlkendorf-Parstein area with the widespread occurrence of pygmy rush and Nanocyperion communities, as well as extremely rare species such as *Chara baueri*, which is found in only 10 places in the world (in Germany, Poland and Kazakhstan), was recognised late.

The oligotrophic to mesotrophic **mire communities** and the inland salt marsh communities, are home to 97 endangered plant species, notably the fen orchid (*Liparis loeselii*) and creeping marshwort (*Apium repens*), which are listed in the EU Habitats Directive. The critically endangered **plant communities of the oligotrophic to mesotrophic alkaline lakes** are of outstanding significance; a decline in populations has been observed in some lakes in the BR, similar to that throughout Germany. An ongoing T&D project on Characeae in lakes is concerned with analysing and dealing with the causes of this (see section 4.2).

The EU LIFE project on the lesser spotted eagle in the Sernitz spring mire area made a contribution to the conservation and expansion of the mostly fragmentary, species-rich **wetlands** by reversing drainage and extensifying farming. A number of wet meadows, in which aspect-forming species such as the globe flower (*Trollius europeus*) and bistort (*Polygonum bistorta*) are found, are of high value. The large expanses of *Molinia* and small sedge meadows on the Klosterhalbinsel peninsula in Oberuckersee, which are grazed extensively by cattle, are of regional importance (in Brandenburg). They are home to large populations of rare species such as the spike-rush (*Eleocharis quinquefolia*) and the felwort (*Gentianella palustris*).

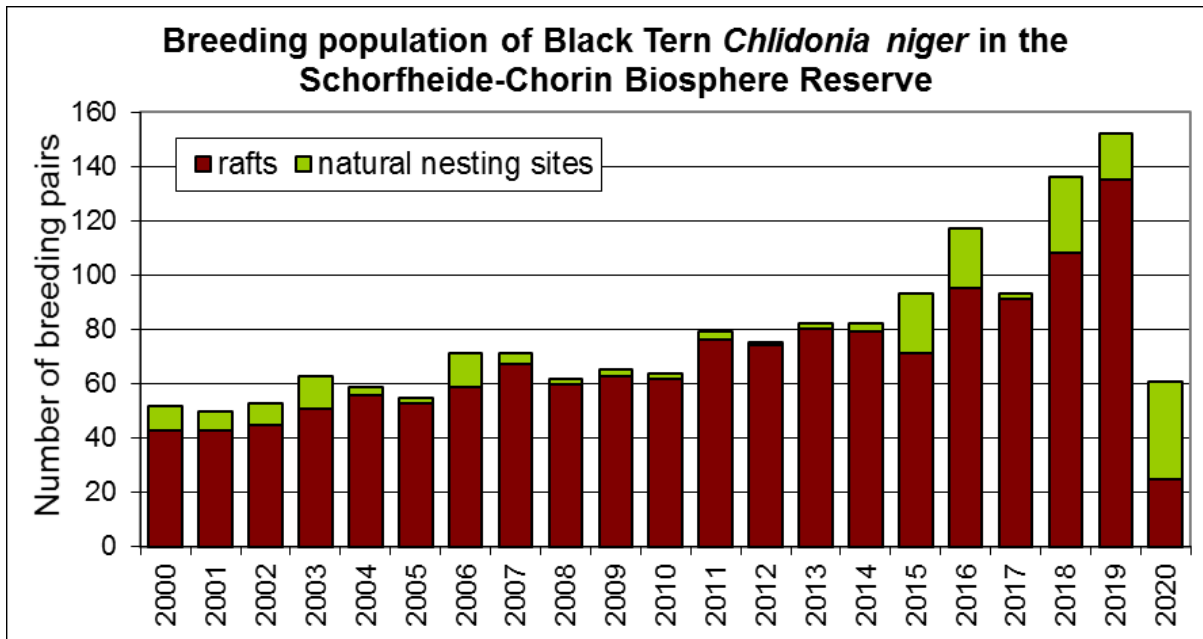
Overall, fewer endangered plant species occur in the **forests** than in open-country habitats. However, there are a number of notable rare species found in the near-natural beech forests.

They include the small-leaved helleborine (*Epipactis microphilla*) and the red helleborine (*Cephalanthera rubra*).

The BR's great variety of sites and habitats, the fact that it is sparsely populated, the often still relatively favourable conservation status of its lakes, mires and deciduous forests, and the large-scale organic farming, mean that there is an extraordinary abundance of **fauna**, including numerous endangered species. Of the 36 species of fauna listed in Annex II to the Habitats Directive that are found in Brandenburg, 25 (69%) are present in the biosphere reserve. In some cases, they are the last remaining isolated populations of these endangered species in Germany; in other cases they are core populations for Northern Germany comprising a large number of individuals.

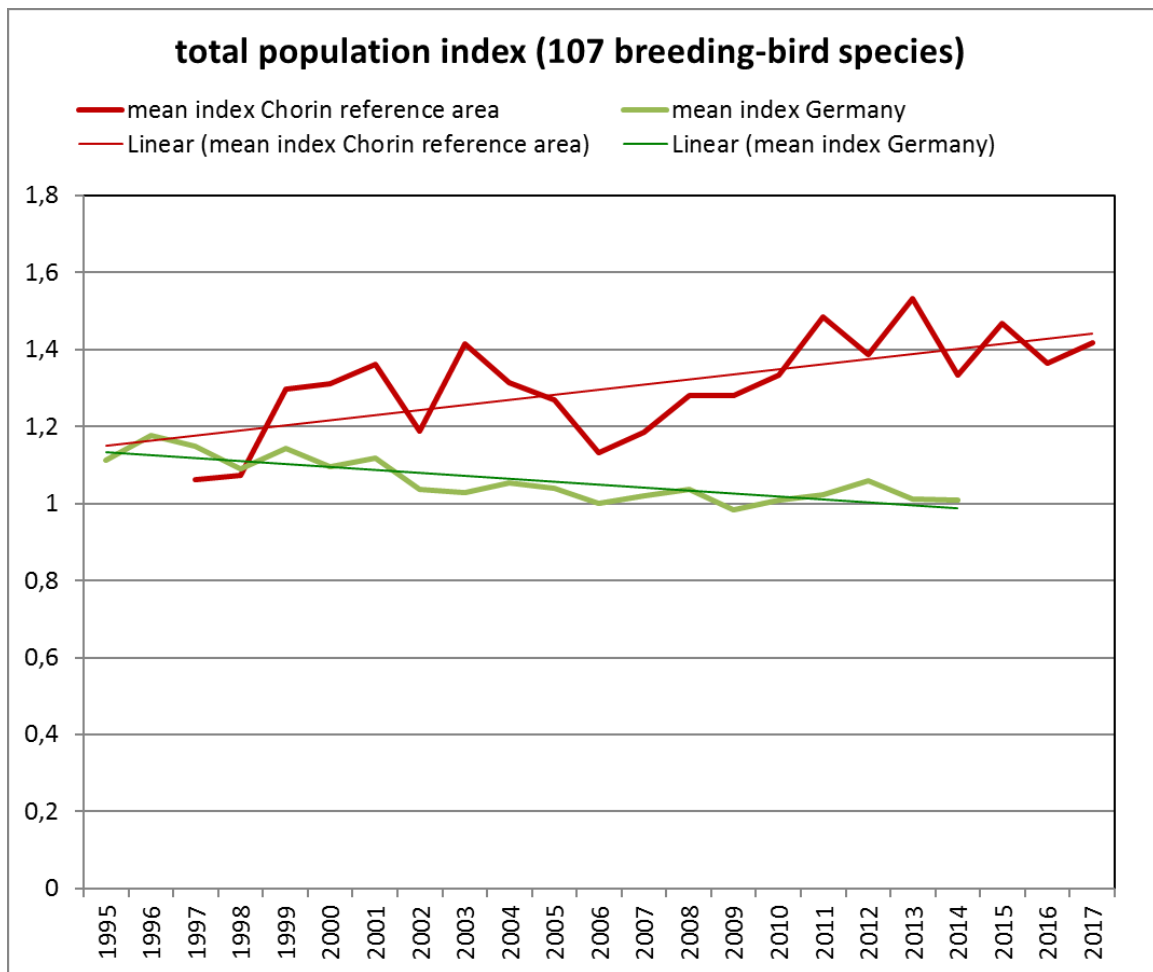
Of the 61 **mammal species** identified in the biosphere reserve, the Eurasian otter (*Lutra lutra*) and the Eurasian beaver (*Castor fiber*) have transregional significance. The wolf (*Canis lupus*) started to recolonise the area in 2010; there are currently 3-4 packs there. There is currently evidence of the presence of wild cats (*Felis silvestris*) in three forest areas.

The number of **breeding bird** species identified in the biosphere reserve increased to 168 during the reporting period. The region is also significant as a staging area and resting and overwintering ground for a further 45 species. The now high density of breeding pairs of large birds, such as the white-tailed eagle (*Haliaeetus albicilla*) and black stork (*Ciconia nigra*), is particularly noteworthy; there was a clear increase mostly during the reporting period. By contrast, the number of breeding pairs of the critically endangered lesser spotted eagle (*Aquila pomarina*) has decreased from 11 in 2002 to 6 or 7. Worthy of note are also the robust populations of some bird species associated with lakes and reedbeds, especially the black tern (*Chlidonias niger*, see Figure 6), along with strong populations of great bittern (*Botaurus stellaris*), for example, which benefited, among other things, from measures to improve the area's water table during the reporting period.



**Figure 6:** Trends in the populations of the critically endangered black tern (*Chlidonias niger*) in the Schorfheide-Chorin BR

Figure 7 shows the results of the breeding bird monitoring programme from 1995 to 2017.



**Figure 7:** The results of the breeding bird species monitoring programme in the Schorfheide-Chorin BR

Mean population index for 107 sparse to frequent species of breeding bird in the south-eastern BR (the Chorin terminal moraine reference area, 130 km<sup>2</sup>, red) compared to the mean population trends for these species throughout Germany (green).

The exceptionally high numbers of breeding pairs of character species of open farming country such as the corn bunting (*Emberiza calandra*) and red-backed shrike (*Lanius collurio*) are of significance beyond the region. These numbers have mainly been boosted by the growing percentage of organically farmed land. The good ecological quality of much of the ancient deciduous forest in the biosphere reserve is reflected, among other things, in the high population densities of middle spotted woodpecker (*Dendrocopos medius*) and black woodpecker (*Dryocopus martius*). The alder carrs and forested mires have the highest densities of breeding pairs of Eurasian crane (*Grus grus*) and green sandpiper (*Tringa ochropus*) in Germany. However, the period of drought that has persisted since 2018 has caused intermittent drying out of numerous breeding grounds.

Of the 12 **amphibian species** identified, the biosphere reserve is a core area of occurrence in Germany for the fire-bellied toad (*Bombina orientalis*), with over 2000 calling ponds. The area also has comparatively high population densities for other amphibian species such as the ridge molch (*Triturus cristatus*) and the European tree frog (*Hyla arborea*). However, following the drought years of 2018-2020, during which 60-80% of their spawning waters dried up, amphibian populations have now shrunk to a critical low. It should be stressed, however, that the BR succeeded in counteracting the effects of the climate trend by implementing water retention measures and restoring small water bodies so that in several areas of the BR larger populations of the above-mentioned species have survived the period and are now able to spread again.

Among the seven **species of reptile**, a residual population of the common European adder (*Vipera berus*) is significant for ongoing/planned projects to reintroduce these species in Northern Germany using autochthonous source material. Thanks to special conservation measures, the populations of the European pond turtle (*Emys orbicularis*), which are of outstanding importance throughout Germany, stabilised during the reporting period.

To date, more than 2,700 **insect species** have been identified in the biosphere reserve; detailed surveys of several insect groups have not yet been carried out. An R&D project on beech forests (see section 4.2) identified 649 species of saproxylic beetle in the ancient beech forest alone during the reporting period. They included 19 primary forest relict species – an extremely high number by comparison with the rest of Germany. A species of beetle believed to have been extinct in Germany – the *Synchita separanda* – was rediscovered in the forests and 25 species that are critically endangered in the whole of Germany were found.

The populations of rare **insect species in other parts of the cultivated landscape, which is mainly used for arable farming** are especially noteworthy. Current studies on butterflies and grasshoppers have shown that the organically farmed fields in the BR have a dual value: in addition to being used as habitats, many species can pass through them easily, thus contributing to the connectivity of near-natural habitats in the agricultural landscape (Flade et al. 2020). Flowering leguminoses in lucerne/clover and arable weeds are popular plants for nectar-seeking insects.

#### 4.2 The main conservation programmes that have been conducted in the biosphere reserve over the past ten years

An important milestone was the preparation of the management plans for the 48 Special Areas of Conservation in the BR (completion and online publication 2015-2020). Putting appropriate measures in place and instigating projects with third-party funding to implement these plans will be one of the BR administration's key tasks over the years to come. During the reporting period, the following projects continued to be particularly important:

- EU LIFE project on the lesser spotted eagle (2011-2019): Hydrological improvements and long-term stabilisation schemes on more than 950 hectares of peatlands. The total area impacted by the project was about 2,000 hectares. With its nature conservation measures, best practice examples of sustainable land use, environmental education, public relations work and public participation, it made an important contribution to sustainable regional development.
- EU LIFE project on calcareous fens (2010-2015): The renaturalisation of 15 hectares of percolation mires along the Bollwinfließ was part of this Brandenburg-wide project.
- R&D project on beech forests (2012-2015): Comparative study of 20 areas of beech forest areas in north-east Germany (nine of which are in the Schorfheide-Chorin BR), looking at their structure and biodiversity and drawing specific conclusions on how to integrate nature conservation objectives into the management of beech forests (see section 5.3).
- Conservation plans for farms: Based on the results of a D&T project concerned with optimisation of nature conservation in large-scale organic farming using the Demeter farm at Brodowin eco-village as an example (2000-2008) and a practical manual on nature conservation in organic farming (*Praxishandbuch Naturschutz im Ökolandbau*), which was produced as part of the project, special nature conservation plans were commissioned for individual farms whose managers had explicitly requested them. In this way, strategies were developed between 2012 and 2015 for 17 farms with about 12,000 hectares of farmland. In line with the BR's role of modelling good practice, the strategy for nature conservation plans for individual farms has now been adopted in three other large-scale protected areas in Brandenburg.
- T&D project on re-establishing Characeae cover on the bottom of natural, lime-rich lakes in the north-east German lowlands: In this project, 13 lakes in the Schorfheide-Chorin BR are being used between 2017 and 2022 to research why the status of many lime-rich,



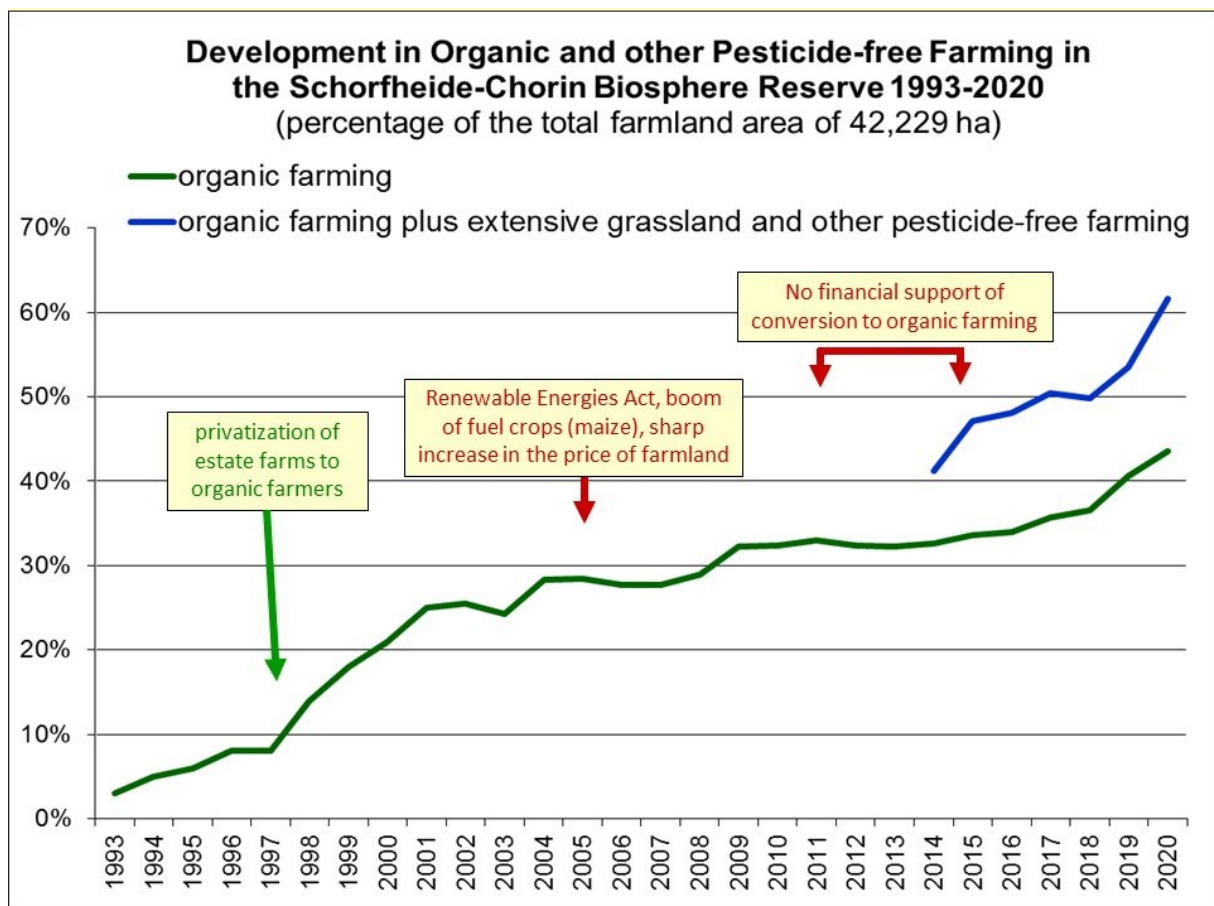
mesotrophic, oligotrophic lakes in north-east Germany has deteriorated. Experimental measures to achieve an improvement will be developed, tested and evaluated.

- Project on biosphere reserves as model landscapes for insect protection (BROMMI): This project, funded under the Federal Biological Diversity Programme, develops, tests and evaluates exemplary measures for protecting insects in five BRs in Germany, including Schorfheide-Chorin. The project's term is from 2020 to 2025.

#### 4.3 In what ways are conservation activities linked to, or integrated with, sustainable development issues?

Fortunately, organic farming and extensive grassland use increased in the entire BR between 2010 and 2020 and are now practised on 26,006 hectares (61.6% of the agricultural land area, 2021) (see Figure 8). In addition to organically farmed land, pesticide-free areas include those taking part in extensification programmes under the European Union's cultivated landscape programme in Brandenburg, along with conversion areas, Ecological Focus Areas and other areas not included in this funding that are farmed extensively/do not use pesticides.

Modern large-scale organic farming with integrated and targeted nature conservation measures (Brodowin model) has created a type of farming and agricultural landscape without historical precedent in Germany. As a result, the trend in agrobiodiversity in the BR **runs counter** to the EU-wide decline; it has significantly recovered not only in small, intensively managed protected areas, but on a large scale at landscape level. At the same time, hundreds of jobs have been created in rural areas due to the combination of labour-intensive vegetable growing, processing of produce on site (dairies and abattoirs) and direct marketing, and the growing popularity of tourism on organic farms. Although the proximity to the Berlin metropolitan region was particularly conducive to its success from the outset, this development must nevertheless be regarded as a very successful model for other BRs and rural regions in Germany.



**Figure 8:** Trends in organic farming and other pesticide-free cultivation practices in the Schorfheide-Chorin BR under the influence of the external policy environment

In the forest sector, FSC certification is also continuing to progress (12,057.85 hectares = 18.9% of the total forest area). Furthermore, 7% of the forest area is owned by nature conservation foundations and associations, and 4% is owned either by the municipality or the federal forestry authority. Only 20% of the forest area is privately owned.

#### 4.4 How do you assess the effectiveness of actions or strategies applied?

As outlined above, measures in the agricultural landscape, in forest management, in mire restoration and also in lakes have had an extremely positive impact on biodiversity trends, the conservation status of habitat types and also on the quality of water bodies. Monitoring data on the conservation status of the landscape and of the BR are available for evaluation from the following sources:

- biotope mapping as part of the management and development planning process, in particular management plans for Special Areas of Conservation (mapping 2011-2012 compared with 1993-1995);
- integrated environmental monitoring on 70 sites under permanent observation since 1998;

- data from the breeding bird monitoring programme to identify common species since 1995;
- second mapping of the Schorfheide-Chorin Special Protection Area (2016-2018);
- repeat of an intensive survey of nine areas of beech forest areas as part of the R&D projects on beech forests (2012-2015).

The large-scale switch to organic farming in line with the BR regulation was particularly effective. Added to this were carefully targeted nature conservation measures (agri-environmental measures and contractual nature conservation). This has resulted in large-scale re-establishment of segetal flora, a recovery in insect populations and, in contrast to the trend in Germany as a whole, a predominantly positive trend in populations of bird species typical for agricultural landscapes.

Restoration of over 4,000 hectares of mire and water retention measures in the landscape were implemented mainly through EU LIFE projects and numerous smaller projects by water and soil associations, the BR administration, and nature conservation associations and foundations. This has brought about an improvement in the conservation status of many wetlands and proved particularly successful during the recent years of drought.

Unlike in other regions of north-east Germany, there has not been a significant deterioration in the overall status of the oligotrophic lakes, with just a handful of exceptions.

Conservation-oriented forest management of the Brandenburg-owned beech forests has had a positive effect on their conservation status. The data from test areas managed in this way show that, for example, the volume of dead wood, microhabitats and breeding bird populations have increased significantly.

The remnants of valuable steppe grassland and *Molinia* meadows in the BR have expanded significantly in the last 10 years and their conservation status has improved. However, the use of grassland is still too intensive in some areas (in the Niederoderbruch area, for example). This has resulted in further reductions in populations of agricultural species (birds, insects, plants). There is a considerable need for action here.

The results of the second mapping of the Schorfheide-Chorin Special Protection Area between 2015 and 2018 indicate the following conservation status: excellent (A) for 13 species, good (B) for 22 species and unfavourable for only 4 species.

#### 4.5 Main factors that influenced (positively or negatively) the successes of conservation efforts in the entire biosphere reserve

See section 4.4. The large-scale switch to organic farming, plus targeted nature conservation measures, the conservation-oriented beech forest management process that has been developed, the numerous mire restoration and water retention in the landscape projects, contractual nature conservation on extensive grasslands and the networking of partner companies as part of the Schorfheide-Chorin label (see section 2.3.4) have all had a positive effect. The willingness of stakeholders in the area to work together (including Brandenburg's forest authority, water and soil associations, municipalities, nature conservation foundations and associations, organic farmers and also some conventional farmers) has increased sharply and now reached a very high level. This is an extremely positive factor. The strong civic engagement in associations and local community initiatives in the area is also very supportive. The agricultural policy framework at EU, federal and state level, such as the abolition of subsidies for fallow land, the obligation to manage the land, the temporary suspension of support for farmers switching to organic farming in Brandenburg in the reporting period, the effects of the Renewable Energies Act (maize cultivation for biogas plants), as well as the steep rise in land prices (A. Tietz, at the Thünen Institute of Rural Studies: The situation on the agricultural land market, presentation in January 2022) has a significantly negative on land use in the BR. For an example of this see Figure 8. Infrastructure projects such as road construction, mobile phone masts and overhead power lines in the area continue to impact on the landscape.

#### 4.6 Other comments/observations from a biosphere reserve perspective

None

## 5. THE DEVELOPMENT FUNCTION

### 5.1 Brief description of prevailing trends

Many jobs have been retained and new ones created, especially in **organic farming** and the **direct processing and marketing of organic produce**. For example, the agricultural business Ökodorf Brodowin, has doubled the number of permanent employees to over 200. The decisive factors in its success included the rapid establishment of its own brand – especially on the Berlin market – its labour-intensive but commercially very successful vegetable cultivation, its direct processing (dairy operations, production of ready-made meals), customer loyalty based on the nature conservation focus of its corporate image, and direct marketing through its veggie box delivery service. Because of its proximity, several local farms have also switched to the Demeter organic standard and now supply milk to Brodowin's Demeter dairy. Others have followed the Brodowin example and built up their own direct marketing operations.

**In the forestry sector**, the conservation-oriented beech forest management system developed in the BR has become established as an example of good practice and is increasingly being used in other Brandenburg forests and in other states in Germany. Its use has been mandatory for all Brandenburg-owned forests since 2015.

**In the energy sector**, the BR's declared goal is to increase the percentage of renewables in its energy mix. The focus is on photovoltaics, solar thermal energy and geothermal energy (wind turbines and ground-mounted photovoltaic systems are not permitted in the BR). The aim of the BR administration is to create further incentives for the use of photovoltaic and solar thermal with storage systems to increase self-generated energy on the many suitable but unused rooftops.



**Photo 9:** Array of roof-mounted photovoltaic panels

As here in Brodowin, arrays of photovoltaic panels are increasingly being installed on agricultural barns, machinery sheds, and stores. **Photo:** M. Flade

The ongoing EU LIFE project ZENAPA aims to achieve carbon neutrality in large-scale protected areas. In conjunction with partners from Germany and Luxembourg, the Institute for Applied Material Flow Management (Institut für angewandtes Stoffstrommanagement, IfaS) aims to instigate measures to reduce pressure on the climate during the eight-year project, and thus contribute to climate change mitigation, nature conservation and species conservation. The key requirement is to implement national and European climate targets, taking into account Germany's biodiversity and bioeconomy strategies (see Info box 2).

## Info box 2: ZENAPA in the Schorfheide-Chorin UNESCO biosphere reserve

The following measures have so far been implemented in the BR under the ZENAPA project:

- Information campaigns on roof-mounted PV systems, focusing on homeowners, municipalities and private companies. The aim was to provide basic knowledge and practical tips.
- Information campaigns on e-mobility (focusing on private charging infrastructure and micromobility), sustainable procurement (hotel and catering industry) and building insulation using natural materials (green roofs and facades).
- Pilot projects educating children and young people on climate action and adaptation, including one entitled #climate change. Your project day on the Solar Explorer. Sponsors and funding were acquired enabling 10 primary schools in the Barnim and Uckermark districts to take part in the project free of charge. (Photo 1).
- Information events for municipalities/municipal enterprises on energy efficient urban rehabilitation (KfW 432 programme). Funds are available to support municipalities in applying to KfW.
- Information events on funding opportunities, under the National Climate Initiative for example, at federal and state level.
- The project manager is involved in a number of regional working groups with the aim of communicating climate action concerns (e.g. developing and enhancing public transport, introducing a visitor card in the region).



Photo 1: ZENAPA pilot project: #Climate change: your project day on the Solar Explorer. Final report:

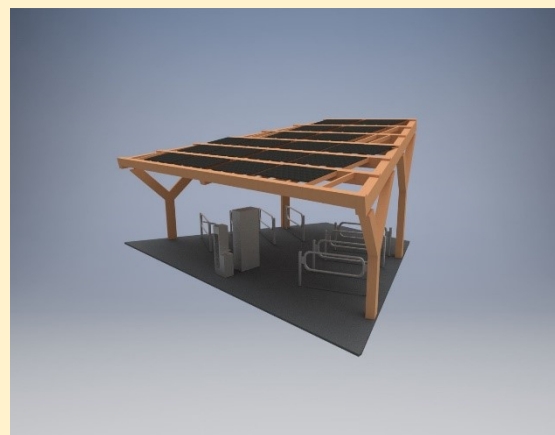


Photo 2: Service and charging station at Blumberger Mühle

- Adoption of an internal procurement guideline to integrate sustainability aspects into the day-to-day routine of the Schorfheide-Chorin BR's administration.
- Setting up a pilot to improve the service and charging infrastructure for e-bikes and pedelecs at the Blumberger Mühle visitor centre (Photo 2, completion in 2022).
- Purchase of an electric vehicle for the Schorfheide-Chorin BR's administration using funds from the ZENAPA project (completion in 2022).
- Project manager participated in setting up a community energy cooperative in the district of Barnim (two roof-mounted PV systems already in operation, another one under construction).

Development pressure has intensified in recent years **in the construction sector**, due to increased demand from the area surrounding Berlin. On a positive note, the influx of newcomers is often accompanied by refurbishment/renovation activity, which is conducive to conservation of the historic building fabric typical for the region and boosts the order books of local skilled trades businesses. The BR administration has developed the following strategies to maintain and enhance the heritage of the built environment (see also Info boxes 1 and 2):

- introduction of a quality label for the building trade (own catalogue of criteria);
- continuation of the built heritage competition (every five years);
- ongoing distribution of free brochures on the heritage of the built environment in the BR; organising events;
- continuation of collaborative project work with Uckermark and Barnim districts;
- support for the establishment of a built heritage institute for Brandenburg.

**Transport** is one of the issues that has become a growing problem in the BR. Conservation of the historical cobbled streets is a recurrent challenge. An example of this is the case of proposed road works in the village of Friedenfelde. It was only possible to reach a compromise on the road through the village, which is listed as being of historical importance, with significant finance from the BR administration's budget.

The development of a wide range of potential **services** in rural areas has so far suffered due to inadequate internet infrastructure with poor connections or none at all. The BR administration is supporting improved broadband provision and trying to identify pragmatic solutions in areas where there are clashes with nature conservation concerns. In the near future, this technology can be expected to significantly boost the number of businesses operating in the BR.

## 5.2 The tourism industry

Tourism continues to grow moderately but steadily. Three main types of tourism emerged during the reporting period:

- Cycling and hiking, which is developing predominantly along the transregional cycle and hiking routes that run through the area and around the Grumsin Beech Forest World Heritage Site (currently about 12,000 visitors/year);



- Nature and culture, which combines options to attend concerts, readings and exhibitions with walks in the countryside (focus: day trippers from Berlin). Outstanding example: Chorin Abbey and its summer music festival (Musiksommer im Kloster Chorin);
- Organic farming, which attracts consumers of organic produce to farms in the area (70,000 visitors/year to Ökodorf Brodowin farm alone).

These and other kinds of tourism were discussed as part of a moderation process held during the reporting period (see Info box 3); work on the implementation of the resulting Tourism Action Framework began in 2020.

**Info box 3: Moderation process on sustainable tourism**

A draft tourism development strategy was developed between 2011 and 2015. In 2017, a moderation process involving a mediator was carried out with the aim of involving the local population even more intensively. The outcome was the present Tourism Action Framework. It involved holding five workshops, two regional meetings and two round tables with different target groups in 2018 alone.



Values of sustainable tourism:

<b>Qualität</b> statt Quantität	<b>Natürlich</b> statt künstlich
<b>Mensch und Natur im Einklang</b> statt im Widerspruch	<b>Regionaltypisch und authentisch</b> statt beliebig und austauschbar
<b>Kooperativ</b> statt konfrontativ	<b>Modern und zukunftsorientiert</b> statt altmodisch und rückwärtsgewandt
<b>Verantwortung</b> statt Gleichgültigkeit	<b>Weltoffen und gastfreundlich</b> statt verschlossen und abweisend
<b>Nachhaltig</b> statt verschwenderisch	<b>Innovativ</b> statt einfältig

The stakeholders agreed shared values, guidelines and rafts of measures to develop sustainable tourism (Tourism Action Framework). The intensive workshops also considerably enhanced the tourism network in the BR.

The results of the moderation process were presented to the stakeholders again in 2020. They can be downloaded from the BR website. <https://www.schorfheide-chorin-biosphaerenreservat.de/unser-auftrag/projekte/moderationsprozess-tourismusedwicklung/>.

In 2018, the importance of tourism in the BR for regional value creation was impressively demonstrated by the University of Würzburg (Prof. H. Job). A total of 3.2 million overnight stays/year generated economic value of €44 million/year. A total of €90 million per year was generated by tourism, with €18 million attributable to visitors to the BR in the narrower sense. This equates to 477 income equivalents.

Through high booking levels for guest rooms and holiday apartments, local people have achieved considerable additional income from countryside tourism. Visitor numbers at tourist hotspots (Chorin Abbey, Brodowin eco-village, Blumberger Mühle, Schorfheide Game Park, Grumsin Beech Forest) demonstrate that cultural and nature tourism is developing positively without any signs that it has exceeded the carrying capacity of the countryside.

The Covid-19 pandemic has significantly increased the volume of day-trippers. Activities at tourist highlights such as the Grumsin Beech Forest World Natural Heritage Site are monitored by the BR administration (automatic visitor counting on the main hiking trails). However, due to lockdown restrictions during Covid-19, significantly lower added value is to be expected despite the higher number of visitors because overnight stays were not permitted.

An exemplary visitor management and information system was set up in 2018-2020 in the countryside around Brodowin eco village. This, along with a 160-page brochure on hiking around Brodowin ("Wandern rund um Brodowin"), was produced as a result of close collaboration between the BR and Ökodorf Brodowin e.V. (Brodowin eco-village society), local farms and the forest authority.

A further boost for sustainable tourism can be expected from the planned introduction of the Brandenburg Card offering discounts and special deals for visitors, plus a card specifically for the Uckermark region and the biosphere reserve. With the visitor card, overnight guests would have access to free services (regional transport for the whole of Brandenburg, castles, museums, etc.), which could boost sustainable tourism (travel to and within the area using free public transport). This would rely on the introduction of a tourist tax, which would have to be decided by each municipality.

### 5.3 Other key sectors and uses such as agriculture, fishing, forestry

**Agriculture:** Land prices have once again risen significantly, especially in the last five to six years. (A. Tietz, at the Thünen Institute of Rural Studies, presentation in January 2022). This makes it difficult to acquire land in areas where government agencies have the right of first refusal to purchase land for the purposes of nature conservation. However, in addition to that,

it also makes it difficult or even impossible for young farmers to establish new organic farms. On the other hand, the concentration of organic farms and the processing and marketing structures associated with them has created a certain pull that draws people and projects from this sector into the area. In addition, there is growing awareness in society of the special quality of life offered by an intact natural landscape.

**Forestry:** 19% of the BR's total forest area is FSC-certified (Landeswald-Oberförsterei Reiersdorf and Angermünder Stadtwald, a total of 12,056 hectares). The Ministry of Agriculture, Environment and Climate Protection of the State of Brandenburg (MLUK) aims to achieve FSC-certification for all the branches of Brandenburg's forest service that are responsible for forest within biosphere reserves in Brandenburg. Consequently, the Groß Schönebeck and Chorin forest services will also be FSC-certified, which means that over 70% of the forest area in the BR will have FSC certification.

Based on an initial project (2000-2003,) the research and development project on **beech forest management** (2012-2015) that was carried out in the current reporting period explored the impact of different types and intensity of management method on biodiversity in lowland beech forests. Half of the 20 research areas, most of them covering 40 hectares, were located in the Schorfheide-Chorin BR, others in neighbouring large-scale protected areas. The results of the previous research project made it possible to make meaningful comparisons 10 years later. Parameters such as population structures, volume of dead wood, microhabitats, hollow trees, fungi, microflora and microfauna were recorded; other categories such as mammals (bats, small mammals and hoofed game) were observed and comprehensive mycological studies were done. This resulted in specific recommendations for action for forest managers. The development of this conservation-oriented beech forest management process is an important contribution to Germany's National Biodiversity Strategy.

#### 5.4 How do economic activities in the biosphere benefit local communities?

Jobs in the villages have been created mainly as a result of the strong growth in organic farming (including production, farm shops, marketing, shipping, logistics) and as a result of cultural and nature tourism (more than 20 certified nature and landscape guides, ranger service). Economic activity was indirectly supported for local businesses that were awarded the Schorfheide-Chorin quality label and by the networking opportunities that offers (see section 2.3.4).

#### 5.5 How do you assess the effectiveness of actions or strategies applied?

The Schorfheide-Chorin BR label has become established over many years. It is firmly anchored in many sectors and is perceived as certifying local origin and quality both in the area around the BR and in the Berlin metropolitan region. It is generally regarded as having a powerful effect, but no academic study on the subject has been carried out to date.

#### 5.6 Community economic development initiatives

The Schorfheide-Chorin label has already been described in previous sections. The ZENAPA project (see sections 5.1 and 5.7, Info box 2) plays an important role in stimulating the sustainable economic development of local communities.

#### 5.7 Local business or other sustainable economic development initiatives

Information campaigns on sustainability and climate action issues are being carried out across regions in the BR as part of the EU LIFE ZENAPA project (see Info box 2). Regional companies, associations, cooperatives and clubs are involved in this process, which is intended to facilitate an exchange of information among different target groups, motivating them and enabling them to instigate their own climate action measures.

Furthermore, to strengthen the bottom-up approach and increase public participation in issues connected with the energy transition and climate action in the district of Barnim, a community energy cooperative – Barnimer Energiewandschaft EG – was established; it primarily implements solar energy projects. There are plans to increase its scope. Meetings involving all climate action stakeholders in the districts of Barnim and Uckermark, which usually take place on a monthly basis, also help to link up climate action activities across districts. This network focuses on creating synergies; a large number of projects have already been generated as a result.

## 5.8 Main changes in terms of cultural values and others

BR's largest core area, Grumsin Beech Forest, was recognised in 2011 along with four other forests in Germany as part of the UNESCO World Heritage Site Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe. With World Heritage status, it is possible to develop the intangible value of the mature forest site by rewilding it to become a "primeval forest second time around".

## 5.9 Community support facilities and services

The BR offers opportunities for deploying participants in the Federal Voluntary Service (two positions); one position was always filled during the reporting period. Most volunteers are university graduates, who use this placement as a transition to professional life.

## 5.10 Indicators in place to assess the effectiveness of activities aiming to foster sustainable development

The number of partners in the biosphere reserve and the number of holders of the Schorfheide-Chorin label can be taken as indicators of the effectiveness of measures (see section 2.3.4).

## 5.11 Main factors that influenced (positively or negatively) the success of development efforts in the entire biosphere reserve

The BR benefits from the experience of its highly experienced employees, most of whom have worked for it for 25-30 years. This has enabled it to establish itself as a reliable project partner, but also as an important partner in procedures involving government agencies. On the other hand, a smooth generational change with fresh ideas from young, well-trained staff is urgently needed. However, it has to date scarcely begun to be initiated since there have been constant job cuts (by 63%) in Brandenburg's public sector as a whole, including in the BR administration, since 2001 (see Figure 4).

The greatest achievements and progress in terms of content were mainly due to successfully implemented projects that had third-party funding (T&D and R&D projects, EU LIFE, etc.). They were as a rule devised and initiated by the BR administration, but the applications were submitted and the projects carried out by external agencies (see Table 3.4). The BR administration also generated other important ideas that met with a positive response in the region (e.g. built heritage competitions, advisory services on organic farming). It seems

particularly important to apply for projects with third-party funding that also hire personnel in areas that have poor staffing levels.

Regularly convening advisory committees such as the board of trustees or the advisory board for the heritage site, along with the continuous presence in many bodies of representatives from other institutions (tree inspectors, water body inspectors, tourism working groups), continue to be very important for the implementation of the BR's objectives.

## 6. THE LOGISTIC FUNCTION

### 6.1 The main institutions conducting research or monitoring in the biosphere reserve, and their programmes

A subject specialist to coordinate research and monitoring in Brandenburg's biosphere reserves (including the Spreewald Biosphere Reserve and the Elbe-Brandenburg River Landscape Biosphere Reserve) was appointed in August 2019. This has facilitated close coordination between the Brandenburg biosphere reserves and the working group on research and monitoring in large-scale conservation areas of Germany at the Federal Agency for Nature Conservation. The same applies to reporting on mandatory integrative monitoring with NNL e.V. Since the summer of 2021, the other two Brandenburg BRs have also had research and monitoring coordinators, which means that the specialist at the Schorfheide-Chorin BR can concentrate entirely on this biosphere.

A list of the scientific and academic institutions that collaborate with the BR can be found in Appendix III-6. We shall mention only the most important ones here.

- Eberswalde University for Sustainable Development (with its Biosphere Reserves Institute and biosphere center: Degree courses in forestry, international forest ecosystem management; biosphere reserves management (since 2020), conservation area management, landscape use and nature conservation, organic farming and marketing, global change management, regional development and nature conservation. Research projects and theses in the field of forestry, mire conservation, agriculture, freshwater ecology, environmental education, acceptance, tourism.
- University of Greifswald: Theses in the field of mire conservation, vegetation, acceptance.
- Humboldt University Berlin and University of Potsdam: Theses in subjects such as freshwater ecology, steppic grasslands.
- University of Würzburg: Research project on ascertaining the socio-economic effects of tourism in German UNESCO biosphere reserves (2016-2017).

Approximately 240 university degree theses were completed by students in whole or in part at the Schorfheide-Chorin BR during the reporting period (see Annex III-6).

### 6.2 The main themes of research and monitoring undertaken over the past ten years

**Integrated Environmental Monitoring (IEM)** has been running since 1998 in the three Brandenburg BRs in collaboration with HNEE. Its objectives are: (1) Documentation of ecosystem developments; (2) Contributions to assessing these developments in the areas

selected; (3) Basic information on reference areas to check the success of management measures; (4) Developing strategies from this for the future use and management of ecosystems; (5) Contributions for the validation and qualification of ecological models; (6) Contributions to environmental policy decision-making; (7) Responding to the public need for information on natural and anthropogenic changes in ecosystems/description of regional trends; and (8) Contributions to achieving compliance with international reporting obligations under the MAB programme/continuous regional environmental reporting.

The various bird monitoring programmes continued during the reporting period (implementation by nest wardens, rangers and volunteer observers) provide a great deal of information on the status of the landscape throughout the BR:

- monitoring programme for common breeding birds;
- monitoring programme for rare breeding birds and colony breeders;
- waterbird count;
- goose and crane roost counts.

During the reporting period, **the rangers** also recorded selected species of importance for the area on a number of smaller areas (orchids, charales, fire-bellied toad, European tree frog, beaver, Eurasian otter, bats at their maternity roosts and winter quarters, selected species of breeding bird).

**Biodiversity Exploratories** were set up as a research platform in the BR in 2007. Each one consists of 100 test areas in the Schorfheide-Chorin BR, Hainich National Park and the Swabian Alb BR. They are one of the largest environmental research projects in Europe: over 40 scientific institutes from Germany and Switzerland with around 250 employees are working together to study the diversity of living nature in forests and grasslands – from the genetic level and auto-ecological questions through to the ecosystem level. Systematic observation and targeted experiments are used to explore the following key aspects:

- interactions between the different components of biodiversity (e.g. plant diversity and soil organisms);
- influence of biodiversity on ecosystem processes (e.g. biomass production, carbon cycle, flower pollination, decomposition of dead wood);
- effects of the form and intensity of land use on biodiversity and ecosystem processes.

An **ecotoxicological study of the causes** of contamination with approved herbicides (pendimethalin, prosulfocarb) that are frequently used in conventional cereal cultivation,



which was commissioned by Brandenburg State Office for the Environment, concluded that even in the Schorfheide-Chorin BR, which is the largest contiguous expanse of organically farmed land in Germany, contamination with the above-mentioned active substances in herbicides is found. It is caused by drift from distant spraying (Hoffmann et al. 2015). The quantities detected in food that had actually been produced organically exceeded the permitted limits for organic marketing in some cases. The results of the study led to a Germany-wide follow-up study which produced the same result (Hoffmann et al. 2020).

### 6.3 How traditional and local knowledge and knowledge relating to management practices have been collected, synthesized and disseminated

The following topics are particularly relevant in relation to the use of traditional and local knowledge and transfer to other areas:

- Conservation plans for individual farms: The findings and practices trialled in the Naturschutzhof (conservation farm) project in Brodowin were transferred to other farms in the BR and to three other nature parks.
- Beech forest management: The results of the R&D projects were transferred to the all Brandenburg-owned forests. They have been incorporated into professional discussion and practice throughout Germany and internationally.
- Heritage of the built environment and climate action: Building and craft techniques and materials typical of the region, along with potential for energy-efficient building refurbishment, were published in guidelines, examples of best practice were awarded prizes at competitions for building owners, and suitable crafts and trades businesses were awarded the biosphere reserve label.

### 6.4 Environmental/sustainability education.

The BR does not currently have its own ESD concept. Now that an administrative assistant for this field of responsibility has been in post since 2021, there are plans to develop an ESD concept for the Grumsin Beech Forest World Natural Heritage Site in conjunction with ranger service in 2022. Based on this, the development of a concept for the entire BR is scheduled for subsequent years.

The education work at the BR is connected to UNESCO's Education for Sustainable Development 2030 programme (ESD 2030) and the Sustainable Development Goals set out in the UN's 2030 Agenda. It is also based on Brandenburg's own education for sustainable

development action plan (Landesaktionsplan Bildung für nachhaltige Entwicklung, 2013 update).

The ESD service centre, which was set up in 2019, offers training for ESD providers in Brandenburg and since 2021 also certification and a wide range of information events. The BR administration recommends the services offered by the centre, and a number of non-school actors in the education sector have already used them.

The educational work is carried out in cooperation with information centres, ranger service, forest education providers, HNEE, municipal facilities and administrations, non-profit educational institutions, tourism businesses, economic development agencies, local associations, representatives of various professional associations, other universities and local groups involved in the 2030 agenda.

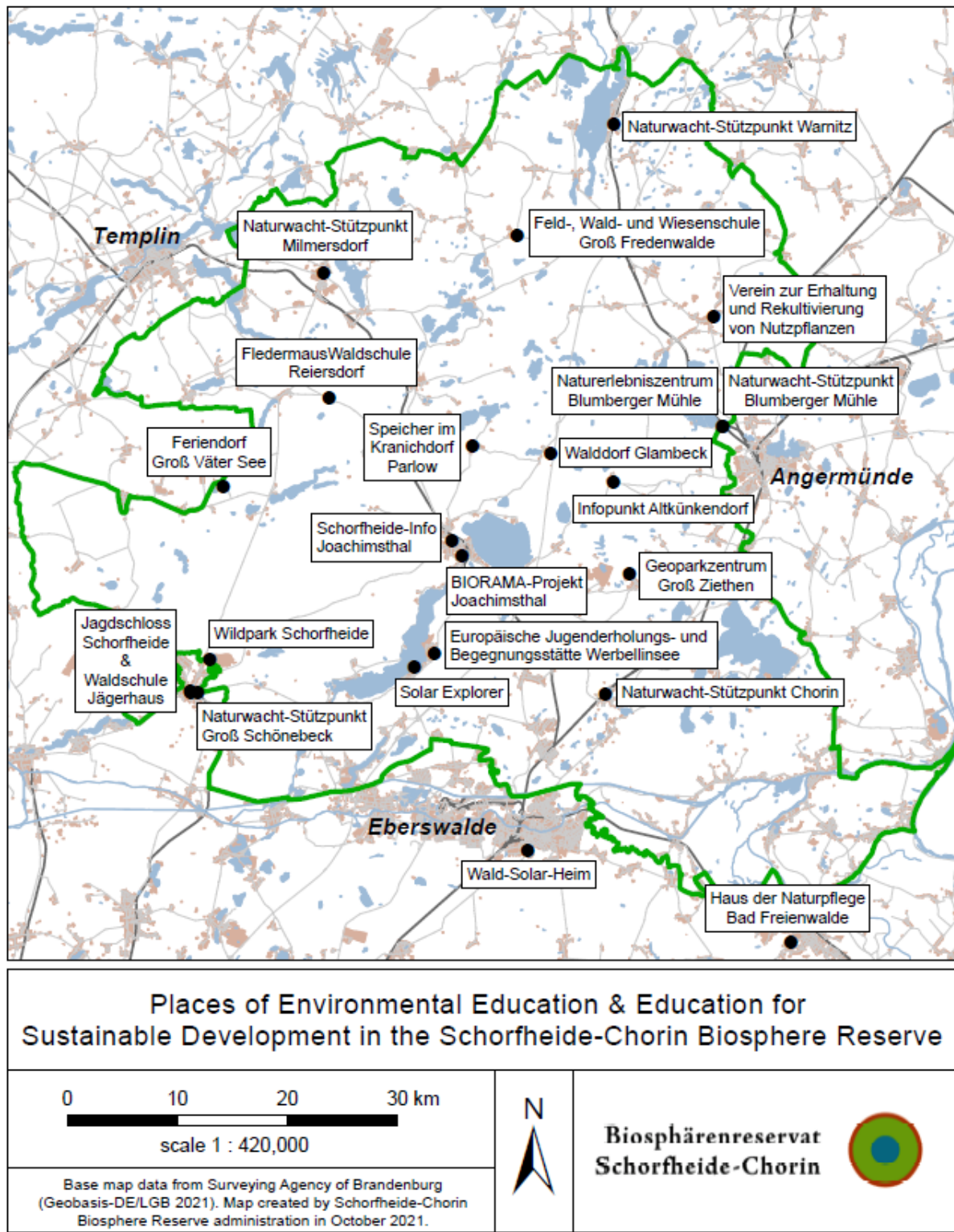
The BR administration plays a coordinating role and inputs ideas. It supports the educational work of the above-mentioned partners with its interdisciplinary expertise. This includes, for example new insights managing natural attributes, species populations and the interrelationships between climate, water and soil.

**Non-formal and informal environmental education/ESD:** Important actors include ranger service and non-school education providers, which take the form of associations or private businesses. A close partnership with them is maintained (see Figure 9 for an overview). The non-school providers' educational programmes focus on experiential learning, active participation, developing joint plans, understanding interconnections and discovering new perspectives.

#### **Formal environmental education/ESD**

Ranger service maintains cooperative agreements with a number of schools and kindergartens in the BR. Since the 2017/2018 school year, a new framework curriculum has been in force for Brandenburg schools. It defines the development of interdisciplinary skills, an example of which is sustainable development/learning in global contexts. This has created another entry point to the services offered by the non-school educational institutions in the BR. Examples of these services are educational events tailored to school classes offered by ranger service, NABU, which runs the BR's visitor centre, and the GeoPark visitor and information centre.

The most important training partners that work with the BR are presented below (for an overview, see Figure 9):



**Figure 9:** Providers of environmental education and education for sustainable development in the Schorfheide-Chorin BR.

**The Blumberger Mühle**, which is run by NABU, is the BR's visitor centre. The centre houses permanent exhibitions about mires and beech forests and has a range of information resources about the BR. Behind the building are expanses of countryside offering visitors the opportunity to experience nature at first hand and explore different cultural and natural elements of the region. The Blumberger Mühle offers a wide range of different types of guided tour and educational programme (e.g. for school classes, families with children), including the ESD programme on "the forest and me".

**Information points** with a small exhibition on the Grumsin Beech Forest World Natural Heritage Site were set up both in **Altkenkendorf** and at the **GeoPark visitor and information centre** in Groß-Ziethen to inform and guide visitors heading directly to the World Natural Heritage Site.

The **Solar Explorer** research vessel and floating classroom on Lake Werbellin which has been operating since 2012, received an award in 2019 as a special project in the context of the United Nations Decade on Biodiversity. (Since the vessel was described in the last periodic review, it is not discussed here).

**VERN e.V.** is an association based in Greiffenberg that offers advice on conservation and recultivation of heritage crop varieties. It has a seed archive with a gene bank, a temporary storage facility and a processing workshop which works mainly with local heritage crop varieties. The association's environmental education programme includes courses, teaching modules and practical exercises as well as guided tours on crop plants for individuals and groups.

**Rangers** provides insights into the special environmental, economic and social features and contexts of the landscape and encourages active participation (see also section 2.4.9).

A further course training **certified nature and landscape guides** for the BR was held in 2019. There are currently 20 certified nature and landscape guides in the BR. Four of them are authorised to offer guided tours to the core area of the Grumsin Beech Forest World Natural Heritage Site (the number of tours and number of participants are limited).

## 6.5 Effectiveness of actions or strategies applied

### 6.5.1 *The biosphere reserve's main internal and external communication mechanisms/systems*

Internal communication within the BR administration (including rangers) includes weekly minuted staff meetings, internal working groups, bilateral consultations by phone and email, participation in presentations by colleagues and annual reports (available on the BR website). Externally, the BR administration communicates by participating in numerous working groups and committees, such as the meetings of the board of trustees, consultation hours with the public, the advisory board for the heritage site, tree inspections and water body inspections. The BR administration also communicates through its website, in print materials (brochures and leaflets) and via press releases.

PR work also includes communicating information about the BR through the visitor information centre and the information points of the World Natural Heritage Site, ranger service, nature trails, information boards, and stands at markets, festivals and trade shows and the BR's own events (including two action days each year). Additional components of the BR's PR work include presentations, promotional films, TV films, moderation processes and the occasional placing of adverts and editorials in tourist magazines.

### 6.5.2 *Biosphere reserve website*

Website: <https://www.schorfheide-chorin-biosphaerenreservat.de/>

Website traffic has been recorded since 2016. A total of 539,596 visits were recorded between 2016 and 25 October 2016.

### 6.5.3 *Electronic newsletter*

Information (in German) about the ongoing work of the BR can be found on the "Meldungen" page of the website.

### 6.5.4 *Social networks*

The BR does not have a social media presence to date. This is, however, a future goal, with a view to reaching out to new target groups. The press and public relations work regarding the BR is carried out by the responsible departments at the Ministry of Agriculture, Environment and Climate Protection of the State of Brandenburg (MLUK) and the Brandenburg State Office for the Environment (LfU).

### *6.5.5 Other internal communication systems*

Regular internal meetings are held between the head of the BR and representatives of the competent authorities (MLUK and other units and departments of LfU). These include monthly meetings of the heads of the nature conservation and national natural landscapes departments at LfU and quarterly meetings of the heads of Brandenburg's large-scale conservation areas. The BR administration also meets with government agencies and with local stakeholders as and when required. Day-to-day contact is maintained by phone and email.

## 6.6 Contributions to the World Network of Biosphere Reserves

### *6.6.1 Describe any collaboration with existing biosphere reserves at national, regional, and international levels, also within regional and bilateral agreements*

At national level, the Schorfheide-Chorin BR works with other biosphere reserves within the Permanent Working Group of the German Biosphere Reserves (Ständige Arbeitsgruppe der Biosphärenreservate in Deutschland– AGBR).

At European level, the BR is informally involved in the EuroMAB group, although active participation in the last two EuroMAB conferences and in thematic working groups was not possible due to the staffing situation (see Annex III-7.1).

Within the framework of the serial beech forest World Heritage Site, the BR administration is actively involved in the steering group for the five German components and in the joint management committee for all World Heritage Sites (including other BRs, such as those in Ukraine), and in the monitoring working group.

Collaboration between the Brandenburg BRs and **Myanmar** was established in 2017 under a cooperation agreement between the Ministry of Natural Resources and Environmental Conservation of the Union of Myanmar and the Brandenburg State Office for the Environment. In implementing the objectives of the Lima Action Plan, both parties are supporting the conservation of biodiversity, the restoration of ecosystem services, the sustainable use of natural resources, ESD, climate change adaptation measures and promotion of sustainable tourism. Delegations from the two countries exchanged experience during visits to each other's BRs in 2018 and 2019. Collaboration is currently suspended due to the political situation in Myanmar.

Throughout the reporting period, visitors to the BR included numerous professionals in the field along with representatives of national governments, local governments and NGOs. The

countries represented included North Korea, South Korea, China, Viet Nam, Mongolia, Myanmar, New Zealand, Kazakhstan, Turkmenistan, Uzbekistan, Azerbaijan, Georgia, Russia, Hungary, Ukraine, Belarus, Lithuania, Belgium, France, Spain, Italy, Morocco, Senegal, Ethiopia and Costa Rica.

#### *6.6.2 Benefits of international cooperation for the biosphere reserve*

The main benefits are the opportunities to exchange experience and achieve a change of perspective. Exchanging experience allows partners to learn from each other and develop their management practices. Gaining a change of perspective is about raising awareness of global challenges and common approaches to solving them.

#### *6.6.3 Future contributions to the World Network of Biosphere Reserves and to the Regional and Thematic Networks*

Setting up collaboration with one or more BRs that work with similar landscapes and topics (e.g. beech forests) is regarded as a useful way forward. However, care should be taken to ensure that these areas can be reached in a way that is climate-friendly (without the need for air travel). Regular participation in the EuroMAB conferences could also be an option, provided the future staffing situation permits (see Annex III-7.1).

#### **6.7 The main factors that influenced (positively or negatively) the success of activities contributing to the logistic support function**

Close cooperation with universities in the area that have relevant specialisms (especially Eberswalde, Berlin, Potsdam and Greifswald) is particularly important. It would include staff from the BR administration initiating and supervising student projects and theses and running courses at the universities. It would also seem important for the BR administration to draft questions on development of the area to be explored in applied research activities and for them to participate in selected research projects. All too often, externally devised projects are not oriented toward the BR's current goals and issues and its management.

#### **6.8 Other comments/observations from a biosphere reserve perspective**

The Schorfheide-Chorin BR is an extremely attractive option for research projects, university theses, monitoring programmes and general scientific and academic questions. This means that coordinating and managing the numerous activities and partners is extremely demanding. In recent years, the BR administration has not always been able to provide satisfactory support to the diverse projects.

## 7. GOVERNANCE, BIOSPHERE RESERVE MANAGEMENT AND COORDINATION

### 7.1 Technical and logistical resources for the coordination of the biosphere reserve

Employees at the BR Office in Angermünde: 9.5 permanent staff positions, one temporary project position, two to three internships and one to two participants in the Federal Volunteer Service; ranger service: 14 positions across five sites; two WWF staff working on the BROMMI project (see section 4.2). The BR administration houses the coordination unit for biodiversity, the Biodiversity Exploratories with its five employees, the offices of the Uckermark-Schorfheide Landcare Association with two positions, and Kulturlandschaft Uckermark e.V (association supporting the biosphere reserve) with two positions (see section 2.3.2 and Annex III-7.1). Added to this is the Naturerlebniszentrum Blumberger Mühle, the BR's main visitor centre, which is run by the Nature And Biodiversity Conservation Union (NABU).

For financial resources, see Tables 3.1 to 3.3 and for project funding, see Table 3.4. Other logistical resources include official vehicles, technical equipment and the town hall (with tourist office) in Joachimsthal.



## 7.2 Overall framework for governance in the area of the biosphere reserve

<b>Steering</b>	Ministry of Agriculture, Environment and Climate Protection of the State of Brandenburg (MLUK)
<b>Higher-level authority</b>	The BR administration is a division of the Brandenburg State Office for Environment (LfU).
<b>Biosphere Reserve</b>	Schorfheide-Chorin BR's administration
<b>Advisory board</b>	Board of trustees for the Schorfheide-Chorin biosphere reserve (see Annex III-3.4); Advisory board for the Grumsin Beech Forest World Natural Heritage Site.
<b>Main cooperation partners</b>	<ul style="list-style-type: none"> <li>• Förderverein Kulturlandschaft Uckermark e.V.</li> <li>• Landschaftspflegeverband Uckermark-Schorfheide</li> <li>• Biorama project</li> <li>• UNESCO-Club Joachimsthal e.V.</li> <li>• Head office of Brandenburg forestry service and three branch offices</li> <li>• Six water and soil associations</li> <li>• Four rural districts and the municipalities (four association of municipalities and four towns)</li> <li>• Approx. 20 nature conservation associations and foundations active in the area</li> <li>• Vern e.V. (association dedicated to the conservation and recultivation of heritage crop varieties)</li> <li>• Eberswalde University for Sustainable Development</li> <li>• Deutsche Gesellschaft für Sonnenenergie Berlin-Brandenburg e.V.</li> <li>• Eight tourist information offices</li> <li>• Kloster Chorin Abbey</li> <li>• Approx. 80 holders of the Schorfheide-Chorin label, partner businesses</li> </ul>

### 7.3 Rights of indigenous and local groups

Not relevant, as there are no indigenous communities in the area.

### 7.4 Main conflicts and solutions in relation to the biosphere reserve

**Infrastructure:** The company 50 Hertz Transmission has obtained planning approval for a 380-kV overhead power line, 25 kilometres of which will run through mainly open country in the south-eastern part of the BR. This is a cause of concern in the region. Following a successful legal action brought before the Federal Administrative Court by NABU Brandenburg in conjunction with a citizens' action group in the BR (ruling made in 2015), a further legal action is ongoing against the additional planning decision made in 2020, so that construction of the overhead power line within the BR cannot start for the time being. The aim of the claimants is to ensure that the sections of the power line that pose a problem to the countryside and nature conservation are laid below ground.

The other conflicts in the BR are about transport trends, road construction, and road safety connected with loss of avenues and cobbled roads. The recently laid EUGAL natural gas pipeline intended to supply energy on a national level and the construction of mobile phone masts that do not make use of sharing options are also among the infrastructure conflicts in the BR.

**Land use:** Management of private forests that focuses primarily on hunting; intensive conventional farming with pesticide use still practised on 16,000 hectares; run-off of nutrients and pesticides from intensively farmed fields into oligotrophic lakes; continuing drainage and commercial activities on mires; small water bodies being filled in or otherwise eradicated.

**Tourism, settlements, transport:** Intensive tourist activities on Lake Werbellin as a federal waterway (speedboats, water skiing, illegal disposal of sewage, high number of houseboats, etc.); intensive use of serpentine roads by motorcyclists; high tourist numbers in the villages around the Grumsin Beech Forest World Natural Heritage Site (unmanaged car parking in the villages and on forest tracks). A further problem is the continuing transformation of rural villages (with their historical building fabric, animal husbandry and cottage gardens) into commuter satellites/dormitory villages (with ornamental gardens and new buildings). The heritage of the region's built environment is often not taken into account sufficiently, and only a few towns have binding design guidelines.

Attempts are made to influence conventional farming through advisory services, PR work and contractual nature conservation. However, the BR administration has limited scope due to staffing levels.

There is a high level of agreement with municipalities and tourism associations about the general direction of travel in terms of tourism development, settlements and transport. However, some examples of behaviour that does not stick to the rules (motor boats, motorcyclists, parking violations, etc.) are difficult to manage despite the cooperation of all parties involved. With regard to the development of settlements and villages, the BR administration is primarily trying to make a positive impact by publicising positive examples and awarding prizes (competitions) and by developing guidelines – for architects and building owners, for example.

#### *7.4.1 Main conflicts regarding access to, or the use of, resources in the area and the relevant timeframe*

The designation of the Grumsin Beech Forest as a World Natural Heritage Site was bound to cause conflicts, especially from the private owners of adjacent forest land and from local residents in the surrounding villages, who see the additional numbers of tourists to the World Heritage Site as a disturbance. Before the site was officially designated by UNESCO in 2011, the BR administration had already set up an advisory board that met regularly. Its members included representatives from the municipalities involved, rural districts, Brandenburg environment ministry, and tourism operators. Its aim was to identify conflicts, find solutions and, above all, to create synergies in the development of the tourist infrastructure. The advisory board has proved its worth over many years. In order to involve forest owners more closely in developments, the BR administration, with the agreement of the advisory board, set up a separate committee with the forest owners with the result that there is now constructive cooperation. A frequent criticism voiced by the forest owners that the visitors do not adhere to the rules on using the paths and tracks in the nature conservation area was addressed by deploying two "Grumsin rangers" and by putting up appropriate information boards at the entrances to the World Natural Heritage Site.

#### *7.4.2 Description of any conflicts in competence among the different administrative authorities involved in the management of the area comprising the biosphere reserve*

At the rural district level, there is continuous and intensive collaboration (in particular with the lower-level water and nature conservation authorities, building inspectorate, and

structural development authorities). As regulatory authorities responsible for planning approval, the districts have an important role to play in this context. The same applies to the associations of municipalities, independent municipalities and towns. There are currently no fundamental ongoing conflicts. Different goals and interests are usually clarified through a process of dialogue.

#### *7.4.3 The means used to resolve these conflicts and their effectiveness*

Mediation procedures that go beyond existing committees and participation processes are currently not considered necessary.

### 7.5 Updated information about the representation and consultation of local communities and their participation in the life of the biosphere reserve

#### *7.5.1 Description of how local people are represented in the planning and management of the biosphere reserve*

An office partnership was commissioned to develop the management plans for the 48 Special Areas of Conservation and to update the management and development plans in 2011. Public agencies and stakeholders in the affected areas were involved in a total of 24 participation meetings during the development of the management plans. The results of the meetings were incorporated into the draft plans. The revised plans were then open to public viewing, creating the opportunity for further comments. In addition, approximately 700 written comments were processed. Ultimately, the final revision of the management plans was completed between 2015 and 2020, after which the plans were published on the Brandenburg State Office for the Environment's website.

Due to the heavy workload of the BR administration and of the public agencies and local stakeholders, the management and development plans for areas outside the Special Areas of Conservation have only been completed in draft form.

The moderation process for sustainable tourism (see Info box 3) was a feasible means of including the local population in future developments in the BR.

#### *7.5.2 Form of representation of various groups*

The participation procedure for the above-mentioned management plans for the Special Areas of Conservation was organised by issuing invitations to specific groups of stakeholders. The draft plans were presented to the invited participants and explained in detail. Participants

had the opportunity to ask direct questions and have one-to-one discussions. Questions about tourism developments were dealt with in moderated workshops.

Covid-19 restrictions meant that these workshops were increasingly held online.

### *7.5.3 Procedures for integrating the representative body of local communities*

The membership of the BR's board of trustees is regulated by law (Appendix III-3.4) and represents a cross-section of society. The responsible state minister appoints the members. The chairperson is elected by the members. The board of trustees' remit is to advise the BR administration. The BR administration is responsible for management.

The advisory board of the Grumsin Beech Forest World Natural Heritage Site was set up by the BR administration, which chairs it. Members are representatives from local and regional authorities, the tourist industry, science and academia, and the Ministry of Agriculture, Environment and Climate Protection of the State of Brandenburg (MLUK).

### *7.5.4 How long-lived is the consultation mechanism?*

Both the board of trustees and the advisory board for the World Natural Heritage Site are permanent institutions that seek to consult on a twice-yearly basis. However, a number of meetings were cancelled due to Covid or were postponed until autumn 2021. Other committees/working groups meet on an ad-hoc basis (e.g. during the moderation process for sustainable tourism, management plans for the Special Areas of Conservation, world natural heritage).

### *7.5.5 Impact of this consultation on the decision-making process*

Recommendations by the board of trustees are usually implemented by the BR administration. The advisory board for the World Natural Heritage Site is informal and seeks to create synergies and thus work towards consensus. Decisions are taken into account provided they comply with the BR Regulations and do not endanger the World Natural Heritage Site.

### *7.5.6 Involvement of the population in the various stages of the biosphere reserve's existence*

Local people, or their democratically legitimated representatives, are involved in all of the BR administration's important plans. This is managed through the board of trustees and also regionally through events designed to present projects and invite discussion. The day-to-day

administrative work also includes meetings with affected parties, companies and authorities as a matter of routine.

## 7.6 Update on management and coordination structure

### *7.6.1 Changes regarding administrative authorities that have competence for each zone of the biosphere reserve*

There have been no changes to competence for the individual zones of the BR. The rural districts act as the lower-level administrative authority.

### *7.6.2 Updated information about the manager(s)/coordinator(s) of the biosphere reserve including designation procedures*

Project manager: Dr Martin Flade.

The heads of the administrative authorities are designated in accordance with the rules and procedures governing public service appointments.

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

There were no changes in this regard.

### *7.6.4 How has the management/coordination been adapted to the local situation?*

There were no changes in this regard.

### *7.6.5 Evaluation of effectiveness of management/coordination*

An external evaluation has not been carried out. In the past, a number of internal staff meetings were held to fine-tune priorities where necessary. The German MAB National Committee's evaluation offers a good opportunity for self-reflection on the work of the administration.

## 7.7 Update on the management/cooperation plan/policy

### *7.7.1 Changes with regard to the management/cooperation plan/policy and the stakeholders involved*

There were no significant changes here.

### *7.7.2 Contents of the management/cooperation plan*

There were no changes in this regard.

### *7.7.3 Describe the role of the authorities in charge of the implementation of the plan*

There were no changes in this regard.

#### *7.7.4 How the management plan addresses the objectives of the biosphere reserve*

The management plans for the Special Areas of Conservation directly address the objectives of the Schorfheide-Chorin BR. The Tourism Action Framework, which addresses developments in the region in this field, is based on the BR's sustainability policies (see also sections 5.2 and 7.7.7).

#### *7.7.5 Progress with regard to the guidelines of the management/cooperation plan/policy*

The management plans for the Special Areas of Conservation and the Tourism Action Framework were not completed until 2020. It is therefore still too soon to report on the progress of the plans.

#### *7.7.6 Factors and/or changes that impeded or helped with the implementation of the management/coordination plan/policy*

See section 7.7.5 above.

#### *7.7.7 Integration of the biosphere reserve in regional/national strategies and integration of local/municipal plans in the planning of the biosphere reserve*

The Madrid Action Plan and Lima Action Plan, which set out UNESCO's overarching objectives, provide important guidelines for action. For example, they serve to encourage the BR administration in its long-standing climate action endeavours, which is one of the most important fields of action for the future (for details of the ZENAPA project see sections 5.1 and 5.7, and Info box 2).

In the case of tourism and landscape planning at national level, the BR is involved as a division of the Brandenburg State Office for the Environment (LfU) and is able to integrate the BR's objectives into these plans. The BR has also had input at regional level through the public participation process. The BR is currently a member of the steering committees for the further development of tourism strategies in the rural districts of Barnim and Uckermark.

## 8. CRITERIA AND PROGRESS MADE

**Brief justification of the way in which the biosphere reserve fulfils each criterion of Article 4 of the Statutory Framework of the World Network of Biosphere Reserves:**

- 1. "It should encompass a mosaic of ecological systems representative of major biogeographic regions, including a gradation of human interventions."  
(The term "major biogeographic region" is not strictly defined but it would be useful to refer to the Udvardy classification system)**

Covering almost 130,000 hectares, the area comprises an extensive and representative section of the North-East German young moraine landscape. Unique features of the Biosphere Reserve are the world's largest contiguous area of Baltic beech forest, the – by nationwide comparison – very high number of mesotrophic alkaline lakes, and a high density of mires and mire forest of various types. With a significant percentage of agricultural land being organically farmed in the Biosphere Reserve and other grassland being under extensive use, farming in the BR can be said to be sustainable as set out in the Seville Strategy.

- 2. "Be of significance for biological diversity conservation"**

The outstanding importance of the BR in conserving biodiversity, endangered habitat types and ecosystems is clearly documented by the 48 Special Areas of Conservation covering 49,000 hectares and the importance and assessment of compliance with the conservation objectives of the Schorfheide-Chorin Special Protection Area (see section 4.1).

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

Examples include:

- R&D projects on beech forest management (most recently 2012-2015, currently the establishment of marteloscopes);
- Continuation of the T&D project to optimise the nature conservation aspects of modern large-scale organic farming using nature conservation plans for individual farms (2012-2020);
- T&D project on Characeae in lakes (2017-2024);
- EU LIFE IP project ZENAPA to implement climate change mitigation and adaptation measures (2016-2024);
- Projects and competitions for building owners on the heritage of the region's built environment and tourism. (Competitions 2019/14; federal project on the heritage of the built environment and tourism 2016-2019);



- Tourism moderation process: Implementation through an information policy for visitors and collaboration with tourist information offices (2017-2020).

**4. “It should have an appropriate size to serve the three functions of biosphere reserves, as set out in Article 3.”**

With a total size of 129,161 hectares, all the functions of a BR are very well covered.

**5. Appropriate zonation to serve the three functions**

The core areas and buffer zones fulfil their function and have not changed. The transition area has a high percentage of organic farms, nature-friendly tourism and lively public participation in meeting the BR's goals, resulting in it playing a pioneering role throughout Germany.

**6. “Organizational arrangements should be provided for the involvement and participation of a suitable range of inter alia public authorities, local communities and private interests in the design and the carrying out of the functions of a biosphere reserve”.**

There is appropriate involvement of all stakeholders. Depending on the size of the group, the BR administration or the visitor information centre are chosen as the venue or alternatively spaces are rented to allow guests to participate more easily. An even larger group of people can be reached by public viewings, which are advertised in official journals and the local press. An example of this was the opportunity for public viewing of the management plans in Joachimsthal town hall. The weekly consultation hours with the public in Joachimsthal are set to resume once the Covid pandemic is over. There are also plans to extend them to different locations throughout the BR. A number of online formats have been used since 2020 as a result of the Covid pandemic.

**7. Mechanisms for implementation**

- a) Mechanisms to manage human use and activities
- b) Management policy or plan
- c) Authority or mechanism to implement this policy or plan
- d) Programmes for research, monitoring, education and training

**Does the biosphere reserve have cooperative activities with other biosphere reserves (exchanges of information and staff, joint programmes, etc.)?**

The three BRs in Brandenburg actively collaborate with each other and also with the other German BRs within the Permanent Working Group of the German Biosphere Reserves. There are plans to develop the partnership with Myanmar and its BRs providing the political situation in Myanmar and the priorities in the Schorfheide-Chorin BR administration permit. There is direct cooperation with the Carpathian Biosphere Reserve in Ukraine through the serial beech forest World Heritage Site.

**Through twinning and/or transboundary biosphere reserves:**

There are also partnerships with other protected areas, for example within the framework of the five World Heritage Sites (a number of working groups), but also at BR level through the BR label, the National Natural Landscapes Partnerships and the World Heritage emblem. In addition, cooperation agreements have been set up with individual actors, such as Kloster Chorin Abbey, the Förderverein Kulturlandschaft Uckermark (association supporting the BR), and the Altkünkendorf Landschulheim (field centre for schools) as well as other agreements set up to promote specific projects.

**Within the World Network:**

The Schorfheide-Chorin BR has been an important meeting place for delegations from numerous countries worldwide for many years (see section 6.6.1).

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

There are no further aspects in this respect that have not already been described elsewhere.

There are also no new aspects.

**Main objectives of the Biosphere Reserve:**

**Description of the main objectives of the biosphere reserve integrating the three functions and the sustainable development objectives for the coming years:**

Conservation function:

- Implementation of Natura 2000 management plans. That includes initiation of a large-scale nature conservation project in the Niederoderbruch/Unteren Finowtal region, projects on small water bodies and the fire-bellied toad, and a steppic grasslands project (e.g. EU LIFE).
- Further restoration and improvement of the landscape hydrology by means of forest conversion (pine forest), water retention in the landscape, and further mire restoration activities.
- Implementation of the visitor information and management strategy to better manage visitors, and greater cooperation with the tourist industry and public order offices.
- Continuous testing, avoidance or adapted development as pilot projects, if possible, within the framework of all applications for infrastructure development and residential or commercial developments to be reviewed on an ongoing basis and either rejected or accepted with modifications and where possible trialled as model projects.

- Additional mire conservation projects as a contribution to climate action and to restoring biodiversity.

#### Development function:

- Promote public transport as an attractive option by introducing a regional visitor card (free travel for guests staying overnight in the area), upgrade railway stations as “welcome stations”, and promote tourist bus routes. This would have benefits such as making a contribution to climate action through zero-emission or low-emission mobility.
- Implementation of the newly developed visitor management and information strategy.
- Setting up information points for visitors in the Wildpark Groß Schönebeck game park (biodiversity and Natura 2000) and in the Brodowin eco-village (organic farming and nature conservation).
- Develop and improve the Blumberger Mühle in its function as the BR's main visitor centre.
- Continued expansion of organic farming and nature conservation farming (model function), and also further processing and direct marketing of produce.
- Promote the heritage of the region’s built environment, initiate binding design guidelines.
- Development and implementation of a coordinated strategy to conserve and restore avenues (their visual quality and function as a biotope network).
- Continue the ZENAPA climate project and make it a permanent part of the BR administration’s remit.

#### Logistic function:

- Taking forward the Biodiversity Exploratories.
- Continuing and intensifying cooperation with Eberswalde University for Sustainable Development and the Biosphere Reserves Institute.
- Continuous activities around the heritage of the built environment: using roll ups as a touring exhibition, printing brochures. Built heritage competition in 2024.
- Extending activities connected with the label (Schorfheide-Chorin label, partners at National Natural Landscapes, World Natural Heritage) to promote loyalty among businesses and partners to the BR's objectives.
- Targeted development of an ESD system with educational institutions and school authorities, paying particular attention to solving the problem of access.
- Continuous support for organic farming and information events to promote it.

- Marteloscopes as a way of teaching sustainable forest management.
- Initiate a project on nature conservation in privately-owned forests.

## 9. SUPPORTING DOCUMENTS (SEE APPENDICES)

**Annex I** to the Biosphere Reserve Periodic Review, January 2013 – MABnet – List of biosphere reserves

**Annex II** to the Biosphere Reserve Periodic Review, January 2013 – Promotion and communication materials for the biosphere reserve

**Annexes III:** Additional annexes

**Annex III-1:** Location and zonation maps with coordinates

**Annex III-1.1:** Location map of the Schorfheide-Chorin UNESCO Biosphere Reserve

**Annex III-1.2:** Zonation map of the Schorfheide-Chorin Biosphere Reserve

**Annex III-1.3:** Zonation map of the Schorfheide-Chorin Biosphere Reserve including the Natura 2000 sites

**Annex III-1.4:** Profiles of the core areas

**Annex III-2:** Land use with habitats

**Annex III-2.1:** Land use map with habitats

**Annex III-2.2:** Location of the Special Areas of Conservation and Special Protection Areas in the biosphere reserve

**Annex III-2.3:** List of the Special Areas of Conservation that are in the biosphere reserve, either in whole or in part

**Annex III-2.4:** Overview of the habitat types identified in the biosphere reserve as listed in the EU Habitats Directive (as at December 2020 based on 100% mapped area)

**Annex III-3:** Legislation

**Annex III-3.1:** Federal Nature Conservation Act and Brandenburg Act to Implement the Federal Nature Conservation Act

**Annex III-3.2:** Regulation on the establishment of protected areas in a landscape area of key importance that bears the designation Schorfheide-Chorin Biosphere Reserve

**Annex III-3.3:** Regulation amending the Regulations on the Schorfheide-Chorin and Spreewald Biosphere Reserves and on the Märkische Schweiz Nature Park (19 May, 2014)

**Annex III-3.4:** Decree on the composition of the boards of trustees for large-scale protected areas in the state of Brandenburg (9 May 2012)

**Annex III-4:** Updated list of land use and management/cooperation plans

**Annex III-5:** Updated species lists

**Annex III-5.1:** Occurrence of ferns and flowering plants significant for conservation in the Schorfheide-Chorin Biosphere Reserve

**Annex III-5.2:** List of species of fauna listed in Annex II to the Habitats Directive found in the Schorfheide-Chorin Biosphere Reserve

**Annex III-5.3:** Species of mammal found in the Schorfheide-Chorin Biosphere Reserve

**Annex III-5.4:** Species of bird based on Annex I of the Birds Directive and other species significant for conservation in the Schorfheide-Chorin Biosphere Reserve

**Annex III-5.5:** Occurrence of fish and lamprey species in the Schorfheide-Chorin Biosphere Reserve

**Annex III-5.6:** List of species of reptiles and amphibians in the Schorfheide-Chorin Biosphere Reserve

**Annex III-5.7:** Species of butterflies and burnet moths as defined in Annexes II and IV of the Habitats Directive and other species significant for conservation in the Schorfheide-Chorin Biosphere Reserve

**Annex III-5.8:** Species of endangered species of dragonfly found in the Schorfheide-Chorin Biosphere Reserve

**Annex III-6:** List of main bibliographic references

**Annex III-7:** Further supporting documents

**Annex III-7.1:** Trends in the personnel situation

**Annex III-7.2:** List of scientific and academic institutions cooperating with the BR

**Annex III-8:** Guidelines - an extract from the landscape framework plan for the Schorfheide-Chorin Biosphere Reserve (2003)

## 10. ADDRESSES

10.1 Contact address of the biosphere reserve:

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## 11. LOOKING AHEAD

The conditions for effectively implementing the BR's goals on the vast majority of the site over the next two to three decades are very favourable: the increasingly strong support and agreement from local stakeholders, combined with the fact that the environmental conservation status of this highly valuable landscape is still good and is even continuing to improve, creates an excellent basis for this.

In addition to the re-wetting and sustainable use (paludiculture) of the 6,000 hectares of drained peatlands that still exist, the implementation of the management plans for the 48 Special Areas of Conservation through third-party funding projects – which are bundled both geographically and in terms of subject – must be a central focus of work over the next few years.

Restoration of the biodiversity typical of the landscape – including the agricultural landscape – is also a goal that is within easy reach. Monitoring programmes were put in place with the aim of clearly and convincingly documenting this positive development.

A further aim was to implement an overall policy in order to take visitor management and information and the BR's external communications to a new level that is appropriate for the site. This is also the basis for boosting environmentally and socially sustainable tourism by implementing the Tourism Action Framework that has been developed. Sustainable local development can be decisively enhanced by strengthening and expanding the biosphere reserve label (in particular by increasing the number of holders of the label and by optimising networking among them). The idea was to link this to the goal of achieving climate neutrality by reorganising the transport sector, carrying out energy-efficient building refurbishment, expanding the use of solar power systems on buildings, and using biomass in a way that is environmentally sound.

The combination of nature and resource conservation with commercial forestry, which has been successfully modelled in publicly owned forests, can and should be piloted in privately owned forests. In line with the requirements of the secondary legislation on protected areas, organic farming will be gradually extended to cover all the agricultural land in the biosphere reserve. Nature conservation plans for individual farms will also systematically optimise organic farming in its conservation aspects; coupled with this, there is still great potential to develop further processing and direct marketing of organic produce and thus increase local added value. It is important to make use of this potential. Finally, the heritage of the region's

built environment and the traditional cottage gardens in the villages must be further enhanced, so that they are increasingly valued by local people and visitors alike.

Implementing these goals will depend on the extent to which it is possible to achieve the imminent handover to the next generation in the BR's administration and in ranger service, and to continue to stabilise the staffing situation to ensure that this entire BR, which is right on the doorstep of the metropolis of Berlin, can become a model region with international reach.