

# Natural habitats in the Middle Elbe Biosphere Reserve

Floodplains are a complex and dynamic ecosystem whose appearance alters with the rise and fall of water levels. They feature wetland meadows, flood channels, backwaters, fluvial woodland and dunes, and provide indispensable habitats for a large number of species which have adapted to live in these specific conditions. One example is the Elbe beaver. The largest European rodent, it has made its home in the area since time immemorial. This furry floodplain dweller is reclusive, and works by night as a landscape architect, regulating water levels and felling trees. 1,200 Elbe beavers live in the Middle Elbe Biosphere Reserve, where they account for about 15% of all the beavers in Germany. The unspoiled floodplain habitat also represents a genuine sanctuary for many other species of mammal, such as Nathusius's pipistrelles and others. Their presence is indicative of an unspoiled ecological environment.

This landscape is also a paradise for birds. An impressive 315 of the 462 bird species known to live in Germany are found in the Middle Elbe Biosphere Reserve. About ten pairs of sea eagles and the same number of ospreys are breeding in the area. Some forty species of fish have returned to the River Elbe, which was once one of the most polluted rivers in Europe. The structural diversity of the riverbeds and banks on the lower stretches of the Mulde provides extremely valuable habitats for numerous species. This area of the Middle Elbe Biosphere Reserve is one of the most precious sections of river in Germany, which is why it has been designated a wildlife sanctuary. Somewhere in the region of 1,400 species of ferns and flowering plants flourish in the broad woodlands and meadows of the floodplain or can be found amongst the vegetation on the riverbanks and marshland near the waterways. Mighty 400-year-old oak trees, as well as maples and elms, can be found in this, the largest contiguous area of hardwood fluvial woodland beside the River Elbe. More life forms find food and shelter in and on oak trees than is the case with any other European plant species. Indeed, many creatures – such as the squirrel, capricorn beetle and jay – include Eiche (oak) in their German names.

The warmth-loving water chestnut (see photo) is a Methuselah of the Elbe floodplain. Its starchy fruit served our forefathers as a food source until into the 19th century. Today, this floating aquatic plant is endangered, but it can still be found at nineteen locations in the Middle Elbe Biosphere Reserve.



Water chestnut

# Facts and figures, and what makes us unique

- Location:** The entire course of the Elbe in Saxony-Anhalt, which extends for 303 river kilometres, including its confluences with its tributaries: the Schwarze Elster, Mulde, Saale, Ohre, Havel, and Aland
- Size:** ca. 126,000 ha of natural and cultivated landscape in the Elbe, Mulde, Saale and Havel floodplains
- Routes:** 2 international cycleways (the R 1 and the 'Elberadweg') and many other regional cycle paths and hiking trails, 19 paths through the floodplain administered by the reserve authorities for tourists and as an environmental education resource, numerous nature trails, and bridle paths
- Local communities:** Jessen, Lutherstadt Wittenberg, Oranienbaum-Wörlitz, Coswig/Anhalt, Dessau-Rosslau, Aken, Steckby, Schönebeck, Magdeburg, Tangermünde, Arneburg, Havelberg and others
- The oldest UNESCO Biosphere Reserve (recognised in 1979) protects an unspoiled river valley floodplain in central Europe
- Largest contiguous area of hardwood fluvial woodland in central Europe
- Principal home of the Elbe beaver (Castor fiber albicus)
- The cultivated landscape of the Dessau-Wörlitz Garden Kingdom (UNESCO World Heritage Site) has been part of the Biosphere Reserve since 1988
- The only biosphere reserve in Germany to border upon a state capital (Magdeburg).

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# The Middle Elbe Biosphere Reserve – a site of global importance on untamed riverbanks

Pristine river courses flowing through floodplains subject to regular inundation have become a rare sight indeed in central Europe. The Elbe is a source of inspiration, a food source, a navigable waterway, and a habitat. It creates a sense of identity, so is highly valued for its natural space and culture. The third-longest river in Germany, it meanders ribbon-like through the Middle Elbe Biosphere Reserve, and extends for a distance of 303 river kilometres through Saxony-Anhalt. The Elbe floodplain is an indispensable habitat for a wide variety of flora and fauna which have adapted to life in the riverine environment. Evolution involves change. There is a long history of settlement and cultivation in the area around the Elbe, Mulde, Saale and Havel. There has always been a need to adapt it to the conditions of the time. This has meant change – desirable and undesirable, intentional and by chance, visible and hidden. Such changes make up the memory of this cultivated landscape. So sustainable dynamic regional development is a key responsibility, and harmonious interaction between man and nature is a guiding principle. In the Middle Elbe Biosphere Reserve, different lifestyles and economic activities are put to the test with a view to protecting the area by making use of it, creating and securing people's economic livelihoods (while at the same time giving natural resources the chance to regenerate), allowing the river room to breathe, and maintaining the ideas and culture which are of value to the landscape. The Dessau-Wörlitz Garden Kingdom is a famous example of this. Laid out by Duke Franz of Anhalt-Dessau, the park has always been open to the public: a historic legacy which has survived intact.

Different regulations govern land use in the three zones of the Middle Elbe Biosphere Reserve:

**Core areas**, which are off limits, account for only about 3 % of the total reserve. Here, nature is to be left to its own devices.

**Buffer zones** are nature reserves (NSGs) where land and water use is governed by NSG regulations. Visitors must keep to the paths.

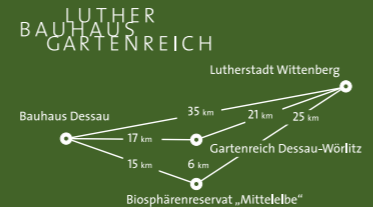
**Transition zones** provide a link between the protected areas (LSGs), and represent an intensively used cultivated landscape, which can serve a number of different purposes: residential, business, educational and leisure-related.

Southern migrant hawk



*The global network of biosphere reserves can create such places.*

Prof. Dr. Carlo Jaeger, Potsdam Institute for Climate Impact Research (PIK)



Nationale Naturlandschaften



The Middle Elbe Life by the river



Biosphärenreservat Mittelbe



*„Our only hope of addressing the consequences of climate change is if we have places where we can show the way forward.*



# The history of the Middle Elbe Biosphere Reserve

**1929:** the first measures are taken to protect the Elbe beaver – the stretch of the Middle Elbe between Magdeburg and Wittenberg offers a final refuge to the dwindling population of just a few animals. A beaver and bird sanctuary provides the legal basis for the nature reserve.

**1961:** the Steckby-Löderitz Forest becomes a nature reserve. Steckby biological station conducts field observations and landscape conservation on a scientific basis: important preconditions for recognition as a UNESCO Biosphere Reserve.

**1979:** on 24 November, UNESCO designates Steckby-Löderitz Forest as the first biosphere reserve in Germany. Vessertal Biosphere Reserve in the Thuringian Forest is granted this status on the very same date. It's a great day for nature conservation.

**1988:** one of what have now been several expansions of the reserve means that the historic Dessau-Wörlitz Garden Kingdom is now part of the Middle Elbe Biosphere Reserve – this logical amalgamation of a natural and a cultivated landscape, rich in potential, is very much in the spirit of Duke Franz of Anhalt-Dessau and the era of the Enlightenment in which he lived.

**1990:** a few days before the official demise of the GDR, a resolution is passed by the Council of Ministers creating the legal basis for the 43,000 ha Middle Elbe Biosphere Reserve: a jewel in the crown of German unity.

**1997:** five federal states through which the Elbe flows apply successful to UNESCO to have the nature reserve extended to form the River Landscape Elbe Biosphere Reserve. For Saxony-Anhalt, this means another huge increase in the size of the reserve, which now includes the entire course of the River Elbe through the state, including its confluences with tributaries. The Middle Elbe Biosphere Reserve in Saxony-Anhalt now covers around 126,000 ha.

**2000:** the Dessau-Wörlitz Garden Kingdom becomes a UNESCO World Heritage Site.



The Mulde near Sollnitz



## Where should I go in the Biosphere Reserve?

The information and signage provided along the nineteen footpaths, in the two information centres, and at several information points enable visitors to experience for themselves the typical character of the floodplain and the special features to watch out for in the landscape. The **Auenhaus information centre** and the **Haus der Flüsse** are the major visitor centres in the Middle Elbe Biosphere Reserve. The entertaining and informative exhibitions with many working models and stuffed animals are a microcosm of the bigger

picture and illuminate the connections between nature conservation and sensitive land utilisation. The **outdoor beaver enclosure** was built in 1997 as a visitor magnet for the Reserve. An area around 2 ha in size next to the Kapenschlösschen is now home to an entire family of beavers. Don't miss the opportunity to peek inside the lodge through the window provided. The natural environment and river landscape also have plenty of other things to offer at all times of the year, whether it be once-in-a-lifetime impressions, relaxation, or the chance to learn something new. Check out our regularly updated events calendar for details of guided tours and talks.

## Rivers need their own space – floodplain management projects at the Middle Elbe Biosphere Reserve

Long-term renaturation projects are restoring typical river and floodplain environments and giving the rivers room to expand. Species which disappeared over the years due to a loss of habitat are now repopulating the area. The state authorities in Saxony-Anhalt share responsibility for the sanctuary with the Biosphere Reserve Administration, which provides technical advice on nature conservation and helps to implement the various projects being undertaken.

### Major 'Middle Elbe' nature conservation project, funded by WWF Deutschland

**Area:** 9,050 ha between Dessau-Rosslau and Barby, of which 600 ha are the result of dyke relocation

- Goals:**
- to safeguard and restore flora and fauna to a network of authentic floodable fluvial woodlands,
  - to protect the extraordinarily diverse range of species in the area by relocating a flood protection dyke and reactivating flood channels, as well as reshaping / establishing new fluvial woodland;

### Major 'Lower Havel Lowland' nature conservation project, funded by Nabu Deutschland

**Area:** ca. 18,700 ha in the states of Brandenburg and Saxony-Anhalt

- Goals:**
- to develop near-natural structures in and around the river, creating a habitat for a range of river flora and fauna by linking dead branches of the Havel to its main channel,
  - to dismantle bank reinforcements and construct fish ladders for migratory species of fish,
  - to modify the course of the river so as to minimise the effect of the ecological failings of the past;

### 'Oranienbaum Heath' grazing project, funded by the German Foundation for the Environment, Primigenius gGmbH, Anhalt University

**Area:** ca. 2,000 ha of former military training ground in the Central Oranienbaum Heath

- Goals:**
- to preserve and safeguard the semi-open heathland with its typical diversity of species, quite a few of which are rare or endangered in Germany,
  - to encourage extensive grazing all year round by sturdy breeds of livestock.

New course of the dyke (left) near Löderitz



## Opportunities and responsibilities – why does the world need biosphere reserves?

The earth is facing an increasing number of desperate problems: progressive habitat loss, the extinction of species, the over-utilisation of natural resources (such as ground water), accompanied by poverty and drought in many countries around the globe. Warnings are being ignored for too long, and major conferences on the environment and climate result as often as not in a damp squib. Society therefore needs concrete, practical examples to follow which demonstrate how man and nature can coexist in harmony. The 670 biosphere reserves around the world (as of June 2017) are pioneers for the sort of future world we would like to inhabit.

UNESCO launched the **MaB** ('Man and the Biosphere') programme in 1970; after several rethinks of its criteria, they now also form the basis on which the **Middle Elbe Biosphere Reserve** operates:

### TO PRESERVE:

... a typical fluvial floodplain and its landscape structures, with floodplain meadows, individual trees, hardwood fluvial woodland, flood channels, inland dunes, backwaters and dead branches of watercourses,

... and to monitor the habitats of a diverse range of flora and fauna communities

### TO PROMOTE:

... renaturation measures and projects for the development of the entire fluvial floodplain system and sustainable flood protection,

... eco-friendly tourism and dynamic regional development with the aim of value creation and image enhancement,

... sustainable forms of commerce and land utilisation in the Biosphere Reserve, with the interests of future generations in mind,

... the education of schoolchildren, local residents, visitors and land users about the Biosphere Reserve, and familiarise them with the basic principles of the MaB programme,

... the care and preservation of historic elements of the landscape, such as parks, avenues of fruit trees, individual oak trees, cnidium meadows, etc.

### TO RESEARCH:

... the interconnections between the impact of humans and changes in the fluvial floodplain ecosystem,

... strategies aimed at promoting a harmonious coexistence between man and nature, and at dealing with the already irreversible consequences of climate change.

L.L. Bäntsch, Guide to the History and Geography of the Entire Duchy of Anhalt, Dessau 1801