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# German Beech Forests – UNESCO World Natural Heritage

Protecting a unique ecosystem



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## The Ancient Beech Forests of Germany

The European beech (*Fagus sylvatica*) is a unique and characteristic forest ecosystem in Europe and a special natural-historical testament. This is why, on 25 June 2011, the United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Committee added five of Germany's beech forest regions to the World Heritage List. This extended the transboundary World Heritage property 'Primeval Beech Forests of the Carpathians', located in Slovakia and Ukraine, to include a German forest regions the 'Ancient Beech Forests of Germany'. Since then, a number of European beech forest region have been added to the World Heritage List. The joint UNESCO World Heritage property is now called the 'Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe'.

The German part includes selected forest regions of the national parks Hainich in Thuringia, the Kellerwald-Edersee in Hesse, Jasmund and Müritz in Mecklenburg-Western Pomerania and the forest of Grumsin in the Schorfheide-Chorin Biosphere Reserve in Brandenburg. These areas represent the most valuable remnants of large-scale natural beech forests in Germany.

These German regions, with their lowland and low montane beech forests, are an ideal complement to the montane beech forests found in the Carpathian Mountains. Today, natural lowland beech forests can only be found in Germany, and the German low mountain ranges have the world's highest concentration of beech forests on nutrient-poor soils.

The regions recognised as UNESCO World Heritage represent the different forms and locations and the post-glacial expansion of beech forests. Without anthropogenic intervention, the landscapes of Europe's temperate zone would be dominated by beech forests. Today, less than a third of the landscape is covered by beech forests.

The expansion of beech forests since the Ice Age, the enormous dominance of beech and the diversity of geographical and ecological beech forest types are a globally unique phenomenon. The beech forests in Germany trace the post-glacial expansion of beech from south to north, from east to west, and span a wide range of different altitudes, from the seashore to the lowlands and submontane belt and on to the upper boundary of the forest in the mountains. The German UNESCO World Heritage Sites represent the most outstanding examples of two types of beech forest worldwide: the Baltic and Subatlantic-Hercynic beech forest regions. Each component site has its own particular characteristics and distinctive local attributes which make it unique and irreplaceable.

With the recognition of the 'Ancient Beech Forests of Germany' as UNESCO World Heritage, Germany is making a significant contribution to the protection and conservation of Europe's beech forests.





## Jasmund National Park (Mecklenburg-Western Pomerania)

Jasmund National Park is home to the impressive chalk coastline of the island of Rügen and the Jasmund peninsula, jutting out to sea with its hilly plateau. The beech forests, chalk cliffs and sea create a stunning backdrop that fascinated artists as early as the Romantic period. Today, it remains an exceptionally charming place, with the beech forest appearing to tumble down into the sea.

### History

Concerns that this impressive landscape could fall victim to chalk mining led to the site being placed under protection for the first time as early as 1929. Subsequent protected areas ordinances followed in 1935 and 1954, with the area finally being designated as a national park in 1990. Since then, the forest has been left to develop naturally.



### Type of beech forest

2,100-hectares of the 3,000-hectare protected area are home to the largest contiguous beech forest on the Baltic Sea coast. The predominant forest type is the Baltic wood barley beech forest (*Hordelymo-Fagetum*) accompanied by orchid-limestone beech forest on steep limestone slopes, ash-beech forest in brook valleys as well as alder marshes and peatlands. On the chalk cliff faces, the beech forest gives way to a dynamic mosaic of open areas, bushland and primeval forest. Due to their steepness and inaccessibility, the forests on the cliff faces were never used for forestry.

### Habitats

The Jasmund National Park exhibits an unusually broad range of habitats on account of the complex interactions between climate, topography and soil. The beech forests alone inhabit a wide range of nutrient-poor to nutrient-rich and dry to damp sites on limestone and glacial deposits in numerous different variants. Different types of peatland are embedded across the forest in a mosaic-like pattern, and the chalk plateau is criss-crossed with streams. During the Ice Age, glaciers repeatedly crossed, reshaped and compressed the Jasmund chalk block. As the Baltic Sea developed in the post-glacial period, this extraordinarily dynamic chalk coastline emerged with its forest landscape rising steeply from the sea.



### Flora and fauna

This diversity of habitats provides the basis for a wealth of flora and fauna. Particularly noteworthy are the rare lady's slipper orchid, the giant horsetail and the coral root. The chalk cliff face is a breeding ground for peregrine falcons, several colonies of house martins and other birds. The white-tailed eagle also regularly breeds here.

### The World Heritage Site

The World Heritage Site is a representative section of landscape in the heart of the Jasmund National Park that, in part, remains undisturbed by humans and spans from the drift line of the Baltic Sea across the steep coast to the hilly plateau. The area covers 493 hectares and is surrounded by a 2,511-hectare buffer zone.



## Müritz National Park (Mecklenburg-Western Pomerania)

Anyone visiting the beech forests near Serrahn, to the east of Neustrelitz, in early May will find themselves enveloped by fresh green shiny leaves. Late autumn, with its kaleidoscope of colour, and winter, with its cool colour palette, are equally magical times in this hilly forest landscape dotted with lakes and peatlands. An ancient beech forest still exists in the extensive woodland and lake landscape of the Serrahn component site of the Müritz National Park, which gives an idea as to how primeval beech forests in Germany once looked. The forests here have not been used by humans for 50 years, thus allowing for an impressive first-hand experience of the development cycles of beech forests.

## History

The grand dukes of Mecklenburg-Strelitz were passionate hunters, which consequently left the forests around Serrahn virtually untouched by silviculture for many years. This allowed the area to develop into a valuable and unique natural site. For this reason, the forests around Serrahn were declared a nature conservation area, with subsections declared strict nature reserves (1961), and finally became a national park in 1990. The forests around Serrahn, which have remained undisturbed for decades, were also incorporated into the national park.

## Beech forest type

The Müritz National Park, which covers a total area of 32,200 hectares, protects lowland beech forests on base-deficient glacial sands in the Serrahn component site. The predominant forest type is the melic grass beech forest (*Melico Fagetum*).

## Habitats

The extensive forest landscape is enriched with lakes, peatlands and meadows, which together create a diverse range of habitats. This wide range of biotopes in varying combinations is what makes this landscape so appealing and is a prerequisite for it to support a wealth of different species.





### Flora and fauna

The red deer is the largest mammal inhabiting the protected area. Rare bird species such as the bittern and crane are typical of the wide, undisturbed forest and water-rich landscape. The highest breeding density of white-tailed eagle and osprey in central Europe is found here. The ancient forests around Serrahn are home to an impressively diverse range of insect and fungi species that depend on dead wood.

### The World Heritage Site

The central parts of the 6,200-hectare Serrahn component site, covering an area of 268 hectares, are included in the World Heritage property.



## Grumsin in the Schorfheide-Chorin Biosphere Reserve (Brandenburg)

The Schorfheide-Chorin Biosphere Reserve north-east of Berlin is a fascinating landscape due to the transitions from extensive forest to open countryside, and from deep valleys to dramatic peaks. The distinctive topography reflects the events of the last Ice Age, when mighty glacial ice masses engulfed the landscape and transformed its shape. Grumsin is a very special beech forest that has not been used by humans in 20 years. Valleys formed by terminal moraines are filled with numerous peatlands and small bodies of water closely intertwined with the beech forests, creating a picturesque forest landscape.

### Beech forest type

Grumsin is a protected area of near-natural ancient lowland beech forest on glacial sands and clays. The predominant forest ecosystem is the millet grass beech forest (*Milium Fagetum*).

## History

Forest research shows that the deciduous forests of Grumsin have survived, almost in their entirety, for several hundred years. In the former German Democratic Republic (GDR), the site was a government-owned hunting ground. The ban on access to the area benefited numerous rare and sensitive species of fauna. Since 1990, Grumsin has been an important part of the core area of the UNESCO Schorfheide-Chorin Biosphere Reserve. The minimal silvicultural use and general non-use for almost 30 years mean that the area is characterised by a high proportion of old wood, making the Grumsin beech forests extremely valuable from a nature conservation perspective.

## Habitats

Deep valleys with an abundance of various lake formations, peatlands and small bodies of water alternating with prominent peaks. This structural diversity spread across a relatively small area provides a home for flora and fauna with special habitat requirements.



### Flora and fauna

White-tailed eagles, black storks and cranes are the ornithological highlights of the area. Tree frogs thrive in the countless near-natural small bodies of water, and the intact peatlands are home to rare plant species such as the sundew, cotton grass, marsh Labrador tea and Rannoch-rush.

### The World Heritage Site

Almost the entire Grumsin area has been declared a World Heritage Site, with the surrounding broad buffer strip designated a nature conservation area. The World Heritage area covers 590 hectares.





## Hainich National Park (Thuringia)

In the west of Thuringia, between Mühlhausen, Bad Langensalza and the Wartburg city of Eisenach, the beech forest puts on a dazzling display in spring when the first vibrant rays of sunlight create enchanting carpets of flowers along the forest floor. Before the wild garlic permeates the forests with the perfume from its starry white flowers, the pink-violet hollowroot birthwort (*Corydalis cava*) fills hundreds of hectares of forest floor. Once the ancient beech forest's canopy of foliage fully unfurls, the forest floor below is hidden in darkness again and competition for light begins. Over 30 species of deciduous tree are competing for their spot in the sun, alongside the dominant beech.





### Beech forest type

Spanning an area of 7,500 hectares, the Hainich National Park is a typical low montane beech forest on limestone. The predominant forest type is the wood barley beech forest (Hordelymo-Fagetum).

### History

For decades, this site was a restricted military area, meaning that access was restricted and large swathes of the forest were left to develop undisturbed. However, large tracts of land were also cleared for shooting range facilities, which now provide an impressive example of natural reforestation. Since the area was designated a national park in 1997, all usage has discontinued, and the central areas have remained untouched for around 50 years.

## Habitats

Alongside large areas of shrubland, deciduous forests with a high proportion of dead wood are home to an exceptional wealth of species and structures. Hainich impresses with its great diversity of tree species and limestone beech forests which are unrivalled in size, intactness and form.

## Flora and fauna

In addition to the flora and fauna that are typical of mixed deciduous forests, highly specialised species can also be found in Hainich. Wild cats, Bechstein's bats, middle spotted woodpeckers, highly endangered saproxylic beetles, orchids and numerous species of fungi are all found here. The large shrubland areas are home to rare species such as whinchats, barred warblers, red-backed shrikes, wrynecks and countless insect species.

## The World Heritage Site

The World Heritage Site covers the central areas of the national park, with their special ancient beech forests. The extent and location demonstrate the broad spectrum of location types for forest ecosystems at this site, which covers an area of 1,573 hectares.



## Kellerwald-Edersee National Park (Hesse)

In the centre of Germany, south-west of Kassel, is a large virgin beech forest that is exceptional for Germany. The forest is characterised by over 50 mountains and peaks spread across the large and peaceful landscape of the Kellerwald-Edersee National Park. Viewed from the air, the park resembles a sea of beech trees with the large expanse of ancient forest undissected by roads or settlements. Walks through the forest will be rewarded with frequent vistas of the winding Edersee lake, whose inlets appear almost fjord-like as they extend far into the beech forests.

### Beech forest type

The Kellerwald-Edersee National Park covers an area of 5,700 hectares and is home to acidophilous beech forests on argillaceous shale and greywacke (rocks formed from sediment from primeval seas around 350 million years ago) that are typical of German low mountain ranges. The predominant forest type is the woodrush beech forest, often in barren or steep rocky formations. Around half of the trees in the present national park are over 130 years old.

On over 1,000 hectares, the beech forests are over 170 years old, with some even being 260 years old, and are rich in dead wood and structures.

## History

With the area having remained remote and undeveloped until the mid-19th century, broad swathes of the extensive forests were used as royal hunting grounds by the princes of Waldeck and Pyrmont. Silvicultural use of the forest was not a priority as parts of the terrain are steep and rocky and therefore difficult to manage.

The diversity of habitats for the flora and fauna led to the area being envisaged as a nature conservation area as early as 1935. In the decades that followed, usage was gradually discontinued in almost one third of the area. In 1990, the majority of the area was designated a protected forest area and was finally designated a national park in 2004. In 2011, following an extensive process, the Kellerwald-Edersee National Park became the first and only German national park to receive International Union for Conservation of Nature (IUCN) Management Category II certification. With some 1,300 member organisations and input from 14,500 experts, IUCN is highly competent in the development of nature conservation standards and criteria. IUCN was founded in 1948. Its members include governmental and non-governmental organisations.



## Habitats

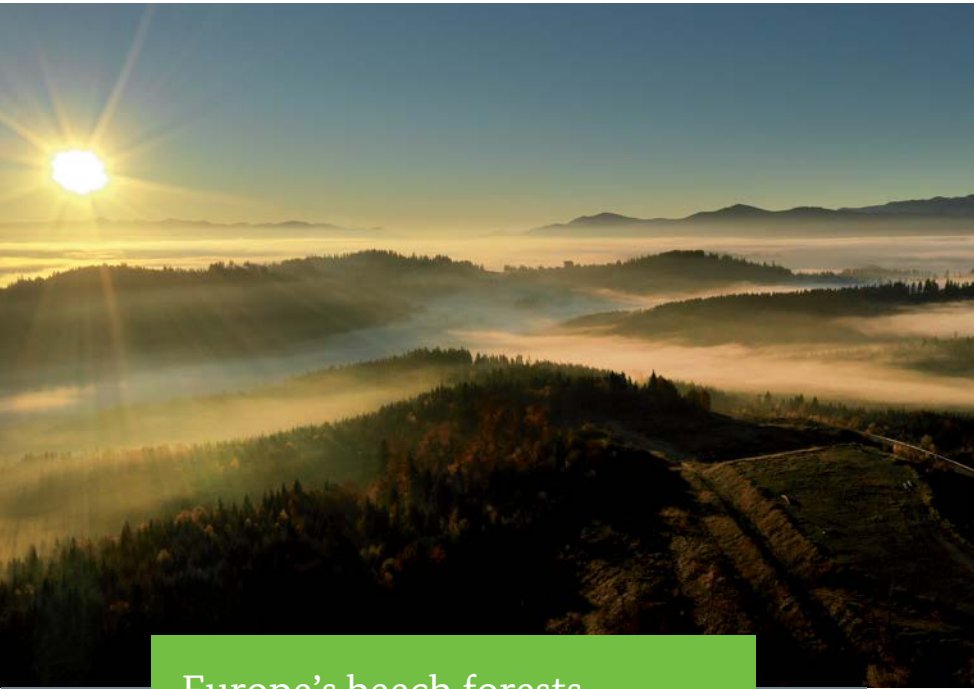
On steep rocky slopes, the beech reaches the limit of its growth potential and starts to form bizarre forestscapes and mystical-looking tree shapes. Remnants of primeval natural beech forests, dry oak forests, boulder forests and slope forests can be found here. Some 800 of the clearest springs and streams, rock vegetation and screes provide further valuable habitats.

## Flora and fauna

The broad range of habitats supports a large number of biotic communities typical of a deciduous forest, with countless rare species. Black storks, eagle owls, red kites, honey buzzards and stock doves all breed in the national park. Home to 6 of the 10 central European woodpecker species and 18 of the 22 bat species that occur in Hesse, the structural wealth of these ancient forests is evident. Outstanding features of the forests include 14 rare beetles, such as the violet click beetle, considered a primeval forest species, and the Cheddar pink (*Dianthus gratianopolitanus*). Germany bears great responsibility for this rare species, which only occurs in central Europe. Most of the overall population of this rare millennia-old relic plant species is found in Germany. In Hesse, the largest Cheddar pink population grows in the Kellerwald-Edersee National Park.

## The World Heritage Site

The World Heritage Site comprises the most representative contiguous core area of the national park and covers an area of 1,467 hectares.



## Europe's beech forests

### UNESCO World Heritage property 'Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe'

The foundation for the joint European UNESCO World Heritage property was laid in 2007 with the recognition of ten component sites in Slovakia and Ukraine as the World Heritage property 'Ancient and Primeval Beech Forests of the Carpathians'. These areas, located in mountainous and sub-alpine altitudes of up to 1,940 metres are primarily representative of montane beech forest.

The Carpathian Mountains are home to the last remaining large-scale primeval beech forests in Europe. The forests have been left to develop undisturbed since the end of the last Ice Age. Mighty beech trees up to 50 metres high dominate the structurally rich forests. The dynamics of the primeval beech forests that is, the natural life cycles, are able to play out entirely free of human intervention.



Lynxes, wolves and bears all inhabit this fascinating beech forest wilderness, where the complete diversity of species, structures and processes has been preserved. Globally endangered species of fauna, fungi and flora have been able to preserve their natural gene pool.

The inscription of the Carpathian beech forests on the World Heritage List was a first major success and an important foundation on which subsequent steps could build. In 2011 came the first extension of the World Heritage property to include the beech forests in Germany, adding five component sites containing representative lowland and low montane beech forests. The bilateral World Heritage property in the Carpathians had now become a trilateral World Heritage property, covering component sites outside of the Carpathians for the first time. Germany's beech forests are considerably younger than the primeval forests of the Carpathians, with only a few sections having remained largely free of human intervention. They represent the most valuable remnants of large-scale natural beech forests in Germany.

The joint UNESCO World Heritage property represents the ecological diversity, i.e. the various different forms and locations at all altitudes, and reflects the unique post-glacial expansion of Europe's beech forests. However, some forms and locations were still not included in the trilateral World Heritage property.

When it recognised the first extension in 2011, the UNESCO World Heritage Committee recommended identifying further suitable beech forest regions in Europe with the aim of extending the World Heritage property once again. The goal of the new extension was to represent the expansion of beech forests in Europe entirely and adequately.

To this end, a Europe-wide screening of potentially suitable beech forest regions was carried out. The search targeted areas that would provide additional value for an extensive European World Heritage property. The results of the study laid the foundation for a second extension nomination process. In total, 63 component sites in 10 European countries were submitted to UNESCO. The countries were Albania, Austria, Belgium, Bulgaria, Croatia, Italy, Romania, Slovenia, Spain and Ukraine. Following a comprehensive expert assessment, the UNESCO World Heritage Committee recognised the sites on 7 July 2017 as an extension of the World Heritage property. The European beech forest World Heritage property now includes a total of 78 component sites and covers over 92,000 hectares in 12 countries. The trilateral World Heritage property has become a large-scale multilateral World Heritage property, thus bringing a process that lasted many years to a successful conclusion. The Federal Environment Ministry and the Federal Agency for Nature Conservation co-initiated this process and closely accompanied it at political and expert level.

The joint transnational UNESCO World Heritage property is now called the ‘Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe’.

## Transnational cooperation in Europe

The beech forest cooperation between European countries stretches back as far as 2007, when the first trilateral meeting took place between Slovakia, Ukraine and Germany to prepare the German beech forest nomination process. The trilateral meetings were an important step on the path towards the nomination and recognition of the German beech forests as World Heritage. One of the most significant outcomes of these meetings was the coordination of concrete agreements regarding the management of the trinational property. As partners of a joint World Natural Heritage property, we committed to its joint conservation. Transnational cooperation at political and scientific level therefore also



plays an important role after the inscription of the beech forest regions on the World Heritage List. This was all the more true for the extension of the World Heritage property to include new component sites across Europe.

Cooperation at scientific level was very important for the continued growth of the beech forests World Heritage property. This cooperation enabled the use of experience and methodological expertise from a study to select German component sites for the Europe-wide screening study. In addition to literature reviews and field studies, the screening entailed three international expert workshops in Germany, Ukraine and Austria, which were attended by around 87 experts from 24 countries. On

the basis of phytogeographic, ecological and topographic features, they defined 12 beech forest regions that served as a scientific basis for the systematic identification of potentially suitable regions.

The trilateral World Heritage property countries were already working closely together at political level and opened this cooperation up to other interested European countries. At the invitation of the Federal Environment Ministry, three ministerial meetings took place in Bonn in 2013 and 2014, which were attended by representatives from 15 countries. These meetings were aimed at achieving political coordination of the proposed sites. A majority of the countries did express a concrete interest in nominating their sites for inclusion in the World Heritage property. As there were no further component sites in Germany proposed for nomination at that point in time, Austria declared

its willingness to coordinate the following steps of the nomination process. In the period from 2015 to 2017, Austria organised several expert workshops and ministerial coordination meetings in Vienna to prepare the UNESCO extension nomination process for the nine new sites. On the basis of this coordination, an extensive nomination application for new beech forest sites in ten countries was prepared and, with the approval of all partner countries, submitted to UNESCO. Germany supported this process intensively in an advisory and political capacity.

## The vision of a UNESCO World Heritage property 'Europe's Beech Forests' has become reality'

With the successful extension of the World Heritage property on 7 July 2017, the 'Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe' is now one of the world's largest and most complex serial World Heritage properties. A transnational Natural Heritage property with almost 80 component sites in 12 countries is unique worldwide.

The joint property helps direct the focus of the public and political decision-makers towards beech forests and their conservation, and means additional security for these unique forest ecosystems. As partners of this joint World Heritage property, the participating countries have committed to its joint conservation. To this end, all participating countries signed a joint declaration of intent that envisages an integrated management system and cooperation on the protection and conservation of European beech forests for future generations.



## Interesting facts about beech forests

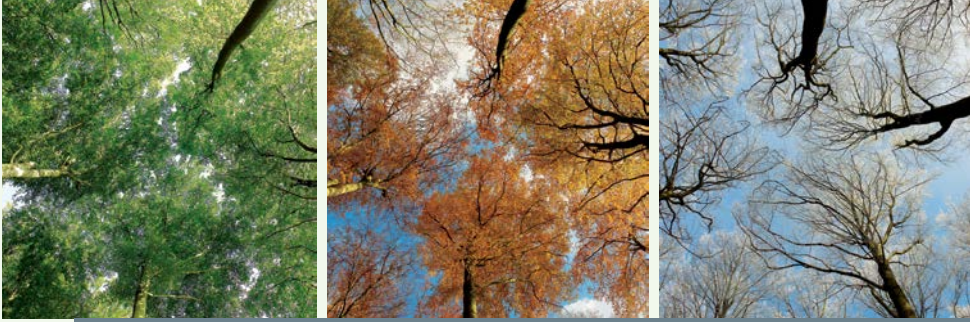
### Beech forests – Europe’s primeval forests

Beech forests, however different they may be in terms of their locations and the species communities they support, share one common feature: they are truly impressive forests. Large sections of Europe’s landscape are naturally characterised by beech forests, European beech forests to be more precise. For the majority of central Europeans, they embody the very essence of the word ‘forest’. The European beech is the only beech species native to central Europe, so it is generally the European beech being referred to when talking about beech trees in Europe.

### Beech forests through the year

Over the course of a year, and indeed their lifetime, beech forests go through a range of different processes and phases. In spring, an impressive blanket of early-flowering plants is spread beneath their still-bare canopy. This is followed by a burst of fresh green foliage and an exceptional darkness on the forest floor in the summer months. With so few other species able to thrive during

this time in its shade, it is clear why the beech tree is so dominant. In autumn, another side of the beech tree is unveiled with the magnificent display of colours and subsequent shedding of leaves.



## Lifecycles of beech forests

The phases the beech tree goes through as it matures are equally impressive: germination, crowding of young trees during the initial years, decades of competition for space, water and light and maturing into imposing trees, followed by death and decomposition.

We are no longer accustomed to the sight of ageing and dying trees as human intervention and the cutting of timber occur long before the trees begin to decompose. However, dead wood is just as much a part of life in the beech forest as the small dark green seedlings that take the place of the old tree.

The various different stages of life co-exist side by side in primeval and near-natural beech forests. They develop their own dynamic and are distinguished by a high level of structural diversity.

## Species diversity of beech forests

Although beech forests are shady and dark in summer, and may appear species-poor compared to some other mixed deciduous forests, for natural beech forests this is by no means the case. Beech forests with a high proportion of old trees, as well as standing and fallen dead wood, provide an ideal habitat for numerous species of fauna and flora. Such forests have many natural caves or

hollows in which hollow-breeding birds, bats and many other creatures can find places to breed and shelter. A significant proportion of the species diversity in beech forests does not fully come into its own until the forest enters the later stages of its lifecycle. The entire regeneration cycle of beech forests, that is the period during which the beech trees grow, bear fruit, age, die and decompose, spans between 250 and 300 years, and in some cases even longer.

This regeneration cycle, coupled with the broad spectrum of beech forest locations, means that almost all central European tree species can occur at some point or other in a beech forest. The overall number of species of flora found in the various locational and geographical formations of beech forest is therefore remarkably high. The structural diversity of beech forests is further enriched by the wide range of special locations such as springs, streams, small bodies of water, peatlands, cliffs, caves and screes.

It is estimated that up to 10,000 species of fauna inhabit beech forests. The beech forest was named Biotope of the Year in 1995 in Germany owing to its importance for many species, including some species threatened with extinction.



## Characteristics and distribution

Beech forests are deciduous broadleaved forests, which almost exclusively occur in the temperate zones of the northern hemisphere. Deciduous forests dominated by the European beech (*Fagus sylvatica* L.) are only found in Europe. Without human intervention, the beech forests would dominate the landscape in central and western Europe and cover more than two thirds of Germany's land area.

The beech is also known as the European beech or copper beech on account of its reddish white wood. Due to its ecological dominance, since the Ice Age it has managed to expand from small refuges in the south and south-east of Europe to colonise large sections of the continent. It thrives in cool, temperate climates.

It only exists in Europe, with its main distribution area in Germany. World-wide, there are 14 known species of beech, including the oriental beech (*Fagus orientalis*) which is closely related to our European beech and is primarily found in areas around the Black Sea, the Caucasus and northern Iran. The beech is very dominant and colonises almost all types of terrain: from rich calcareous to poor sandy soils, from mountains to lowlands and from damp to dry locations. Furthermore, it combines the ability to tolerate shade with a high growth rate. Only a small number of adapted flora species can thrive in its shade; as a result it is mostly other beech trees that grow beneath the leaf canopy of larger beech trees. Despite the dominance of a single tree species, the beech forest is the preferred habitat of several thousand fauna, flora and fungi species. It is thought that the beech has not yet reached its climatic limit for distribution, and its expansion therefore continues unhindered. The post-glacial reforestation phase is still ongoing – a process that cannot be observed anywhere else in the world.

## Beech forests in Germany

Germany is a beech country. It accounts for around one quarter of the total natural distribution area of the European beech. Many types of beech forest are only found here, at the core of its natural range, for example the woodrush beech forest, the melic grass beech forest (*Melico Fagetum*) and the wood barley



beech forest (Hordelymo-Fagetum). Beech forests thus represent a significant part of Germany's biological diversity.

In the primeval forests of Germania, which were still extensive in Roman times, the European beech was the dominant tree species. The natural distribution area of the beech in Germany stretches from the coastal regions over the north German lowland, across the hills and low mountain regions in the heart of Germany and into the higher regions of the Alps. As a result of the advancement of civilisation, however, beech forests today only cover a fraction of their potential natural distribution area (around seven per cent).

Since the days of Charlemagne, there has been large-scale forest clearance to make way for agricultural development. The industrial revolution in the 18th and 19th centuries would have been inconceivable without timber as a basic raw material. From the late 18th century onwards, the drastic shortage of timber led to afforestation with faster-growing coniferous trees in many forests, crowding out the slower-growing beech. Today, all that remains of Europe's once extensive beech forests are a few isolated patches of varying sizes. Almost all of our remaining beech forests are used for forestry or have been culturally modified. They are often lacking old growth and dead wood structures. Beech stands and individual beech trees that are more than 200 years old, as well as larger contiguous areas of beech forest, are very rare and often confined to difficult-to-manage sites. From a global perspective, they are therefore ranked as highly endangered habitats, even though the beech species itself is not endangered at all.



## UNESCO World Heritage

### The UNESCO World Heritage Convention

The Convention concerning the Protection of the World Cultural and Natural Heritage, also known as the World Heritage Convention, was adopted by UNESCO in 1972. It is the single most important instrument for the protection of our cultural and natural heritage. To date, 193 countries have ratified the Convention, including Germany in 1976.

### Protecting and conserving our unique heritage

The principal concept behind the World Heritage Convention is that ‘parts of the cultural or natural heritage are of outstanding interest and therefore need to be preserved as part of the world heritage of mankind as a whole’. The outstanding universal value of these properties means that their importance is so extraordinary that it transcends national borders and generations. World Heritage properties are therefore not solely owned by the states in whose territory they are located, but rather belong to humankind as a whole.



World Natural Heritage properties are unique natural phenomena, whilst World Cultural Heritage properties denote outstanding cultural achievements. These unique natural landscapes, habitats for flora and fauna, geological formations, cultural landscapes and cultural assets together make up the UNESCO World Heritage List – the most important instrument established under the World Heritage Convention. The main criteria for inclusion in the World Heritage List are a property’s outstanding universal value, its integrity and its guaranteed protection. States Parties may apply for the inscription of suitable properties located within their territory. They are committing to preserving the property for future generations.

In addition, there are transboundary or transnational World Heritage properties whose component sites, for instance due to their natural history or for cultural reasons, are located in several countries or, in rare cases, even on different continents. Transboundary properties form one continuous area across national borders, while transnational properties are made up of physically separate, serial, component sites in different countries. International cooperation is especially important for this type of World Heritage property.

Another mechanism created by the World Heritage Convention is the List of World Heritage in Danger, a kind of ‘red list’ of World Heritage properties considered to be particularly at risk. The preservation of such sites requires intensive efforts from the respective country and in some cases also support from the international community.

## The World Heritage List

The World Heritage List currently comprises 1,121 properties in 167 countries, of which 869 are Cultural Heritage properties and 213 are Natural Heritage properties. 39 sites are ‘mixed sites’ which are both Cultural and Natural Heritage properties. In addition, there are 39 transboundary or transnational World Heritage properties.

The List of World Heritage in Danger contains 53 properties, including the Rainforest of Sumatra in Indonesia, the Selous Game Reserve in Tanzania and the Old City of Jerusalem (as at July 2019).

## World Natural Heritage

The Geirangerfjord in Norway, the Great Barrier Reef in Australia, Lake Baikal in Russia, the Galapagos Islands in Ecuador and the Serengeti in Tanzania are just five of the best-known World Natural Heritage properties currently inscribed by UNESCO.

Not all sites are as well-known as those listed above. World Natural Heritage properties also include less famous natural treasures like the Bwindi National Park in Uganda with its mountain gorillas, the Škocjan Caves in Slovenia and the Ogasawara Islands in Japan.



Article 2 of the World Heritage Convention defines ‘natural heritage’ as

- natural features consisting of physical and biological formations or groups of such formations, which are of outstanding universal value from the aesthetic or scientific point of view;
- geological and physiographical formations and precisely delineated areas which constitute the habitat of threatened species of animals and plants of outstanding universal value from the point of view of science or conservation;
- natural sites or precisely delineated natural areas of outstanding universal value from the point of view of science, conservation or natural beauty.

## World Heritage properties in Germany

A glimpse at the current World Heritage List reveals a major imbalance between cultural and natural properties, both at a global and national level. Out of a total of 46 World Heritage properties in Germany, only three are Natural Heritage: the Messel Fossil Pit in Hesse, the Wadden Sea and, since June 2011, the Ancient Beech Forests of Germany. The remaining 43 are all Cultural Heritage properties such as Cologne Cathedral, Muskauer Park and the former Zollverein Coal Mine Industrial Complex in Essen. Furthermore, six of the World Heritage properties in Germany are transboundary or transnational: in addition to the Ancient Beech Forests, these sites include the Wadden Sea and the Prehistoric Pile Dwellings around the Alps.

### The 46 UNESCO World Heritage properties in Germany are (as at July 2019):

- Aachen Cathedral (date of inscription: 1978)
- Speyer Cathedral (1981)
- Würzburg Residence with the Court Gardens and Residence Square (1981)
- Pilgrimage Church of Wies (1983)
- Castles of Augustusburg and Falkenlust at Brühl (1984)
- St Mary’s Cathedral and St Michael’s Church at Hildesheim (1985)

- Roman Monuments, Cathedral of St Peter and Church of Our Lady in Trier (1986)
- Hanseatic City of Lübeck (1987)
- Palaces and Parks of Potsdam and Berlin (1990, extended 1992 and 1999)
- Abbey and Altenmünster of Lorsch (1991)
- Mines of Rammelsberg, Historic Town of Goslar and Upper Harz Water Management System (1992, extended 2010)
- Town of Bamberg (1993)
- Maulbronn Monastery Complex (1993)
- Collegiate Church, Castle and Old Town of Quedlinburg (1994)
- Völklingen Ironworks (1994)
- Messel Pit Fossil Site (1995)
- Cologne Cathedral (1996)
- Bauhaus and its Sites in Weimar, Dessau and Bernau (1996, extended 2017)
- Luther Memorials in Eisleben and Wittenberg (1996)
- Classical Weimar (1998)
- Wartburg Castle (1999)
- Museumsinsel (Museum Island), Berlin (1999)
- Garden Kingdom of Dessau-Wörlitz (2000)
- Monastic Island of Reichenau (2000)
- Zollverein Coal Mine Industrial Complex in Essen (2001)
- Historic Centres of Stralsund and Wismar (2002)
- Upper Middle Rhine Valley (2002)
- Town Hall and Roland on the Marketplace of Bremen (2004)
- Muskauer Park (2004; transboundary property with Poland)

- Frontiers of the Roman Empire: Upper German-Raetian Limes (2005, extended 2008; serial transnational property with the United Kingdom)
- Old town of Regensburg with Stadtamhof (2006)
- Berlin Modernism Housing Estates (2008)
- Wadden Sea (2009, extended 2011 and 2014; transboundary property with Denmark and the Netherlands)
- Fagus Factory in Alfeld (2011)
- Prehistoric Pile Dwellings around the Alps (2011; serial transnational property with Austria, France, Italy, Switzerland and Slovenia)
- Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe (2011; serial transnational property with Slovakia and Ukraine, since 2017 together with Albania, Austria, Bulgaria, Croatia, Italy, Romania, Slovenia and Spain)
- Margravian Opera House Bayreuth (2012)
- Bergpark Wilhelmshöhe (2013)
- Carolingian Westwork and Civitas Corvey (2014)
- Speicherstadt and Kontorhaus District with Chilehaus (2015)
- The Architectural Work of Le Corbusier, an Outstanding Contribution to the Modern Movement (2016; serial transnational property with Argentina, Belgium, France, India, Japan and Switzerland)
- Caves and Ice Age Art in the Swabian Jura (2017)
- Archaeological Border complex of Hedeby and the Danevirke (2018)
- Naumburg Cathedral (2018)
- Erzgebirge/Krušnohoří Mining Region (2019; serial transnational property with Czechia)
- Water Management System of Augsburg (2019)

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