

Natur
Schutz
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Stiftung
Brandenburg



LIFE
Feuchtwälder

Life by the water



River Dahme near Freidorf



Anyone who knows the rivers Dahme, Rhin or Stepenitz knows how charming Brandenburg's small rivers are and how diverse their floodplain landscapes and the bog woodlands that surround them. We humans experience the beauty of nature and the great diversity of species here. Fish such as brown trout and bullhead, the brook lamprey and the now rare thick-shelled river mussel have their habitat here. Otter, crested newt and spadefoot toad, dragonflies and butterflies, the extremely shy black stork and numerous bat species are at home here. With a keen eye one can spot the pale pink flowers of the common toothwort in early spring while the large bitter-cress covers the floodplain in a white carpet. The wild rosemary exudes its spicy scent. Peat mosses form green cushions on the ground, on which the tendrils of the cranberry lie.

Although many of the smaller streams appear natural at first glance, they are influenced by mankind. In order to gain land for grazing animals and arable farming and agriculture, many of the rivers have been straightened, widened and diked over long stretches. The water, which then flowed faster, dug deeper and deeper into the landscape, transporting clays, sands and gravel further and further downstream instead of depositing them in bends on the banks. In addition, the floodplains were no longer flooded regularly, a problem for the typical floodplain forest trees such as alder, which need these phases of changing water levels. A habitat for many animals and plants was lost.

For nine years, alluvial forests and bog woodlands and their rivers were the focus of our EU project „LIFE Feuchtwälder“. In the administrative districts of Prignitz, Ostprignitz-Ruppin, Oberhavel and Dahme-Spreewald, we have implemented numerous measures with the support of our partners. We have resto-red stream beds back into their old courses or reconnected former flood channels and opened them up to the water. Thanks to these measures the Rhin, Dahme and Stepenitz can return to their floodplains and the precious water stays in the landscape for longer. In some areas, the river beds were raised and stabilized with gravel, creating spawning grounds for fish. Newly planted hedges protect the rivers and streams from material and sediment inputs from neighboring farm-land. Information boards highlight the special features of the alluvial forests and bog woodlands and new hiking routes open up a fresh view of nature.

River landscapes and their forests are highlights for those seeking recreation. They are part of the identity of our water-rich federal state, which we will continue to protect and preserve with our work together with our regional partners. With this brochure, we would like to introduce you to the alluvial and bog forests and show you how we are helping these valuable habitats. We hope you enjoy reading it.

Best wishes

Dr. Holger Rößling
Director of the Stiftung NaturSchutzFonds Brandenburg

Wetland forests – life by the water

Brandenburg is a county of water, featuring 3000 lakes, over 30.000 kilometres of rivers and streams and 140.000 hectares of peatlands. The forests that have developed on theses wetlands and along the banks of the streams are amongst the richest in species in Central Europe. Floodplain and bog woodlands provide a habitat for many highly specialized plant and animal species which are often found only there.

Wetland habitats are true all-rounders. Rivers and lakes, mires, floodplains, small bodies of water and pond landscapes retain water, act as flood-protection and a carbon sink. Furthermore, they provide livelihoods for fishermen and pond farmers and are popular recreational areas typical to Brandenburg. To retain those many functions, however, these habitats need to remain intact and well-supplied with water.

In the past and with the wish to use these wetlands as arable land and pasture, people decided that the water had to go. To do this, drainage ditches were built, rivers straightened, and mires drained starting from the 18th century. The aim was for the water to flow off as quickly as possible, leaving the surface of the bogs drier and usable. As the water disappeared, however, so did the floodplain and bog woodlands dependent on wet ground and with them so did numerous plants, birds, insects and amphibians. Species like the Eurasian penduline tit, Rannoch rush, the cranberry blue and wild rosemary are now highly endangered or even threatened with extinction.

The main aim set for the project “LIFE Feuchtwälder (LIFE Wetland Forests)” (run time 2014 – 2023), initiated and run by the Foundation NaturSchutzFonds Brandenburg was to preserve, restore and protect these valuable habitats for the future. The project team was active in ten Nature 2000 areas along the river systems of Dahme, Rhin and Stepenitz. This effort was supported by the Brandenburg State Office for the Environment and the foundation Euronatur.



Wild rosemary



Rannoch rush



Cranberry blue



Eurasian penduline tit

Bog woodland by Großer Barchsee in the nature park Stechlin-Ruppiner Land

Alluvial forests – biodiversity at its finest

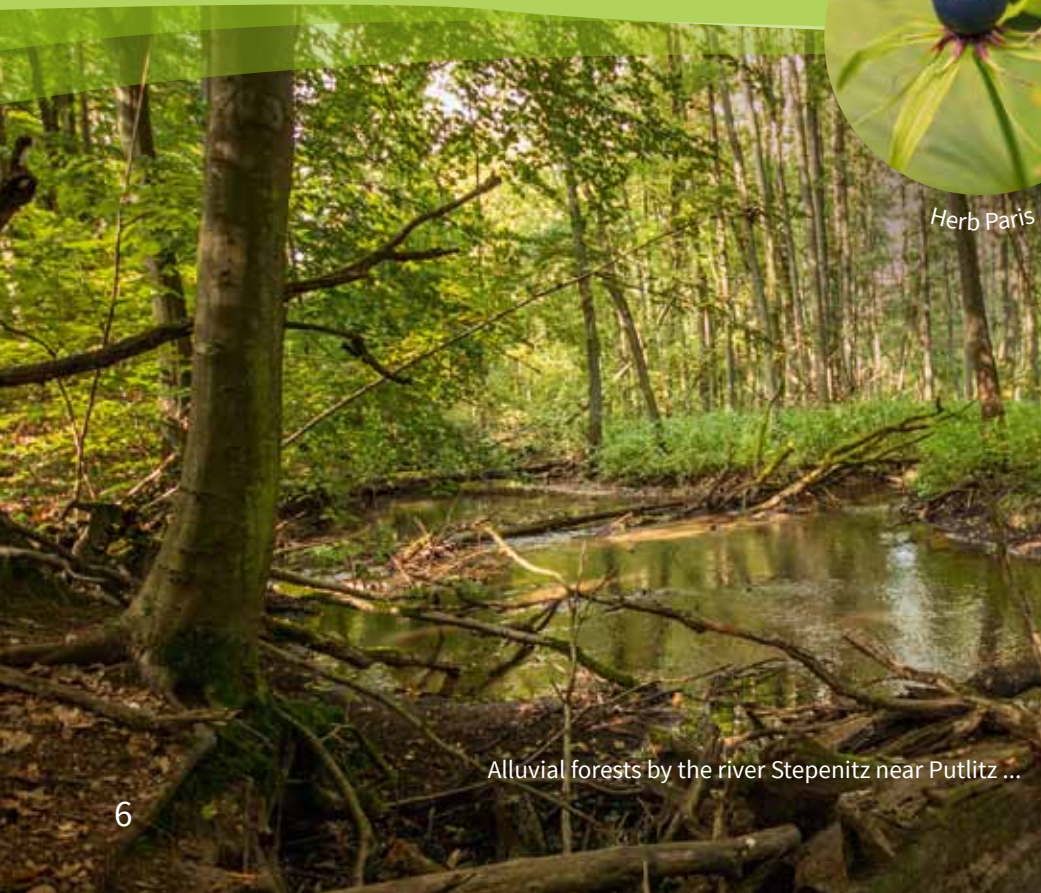
Towering trees reaching into the sky, their canopies casting a shade on the forest ground while the air is filled with the spice and musk of damp earth: these surroundings of alluvial forests can still be experienced along the rivers Stepenitz, the Upper Rhin and the Dahme.

This habitat type develops along rivers and streams and is dependent on water levels that differ throughout the year. Having “wet feet” is a critical aspect of survival for the trees

specific to alluvial forests: willow, alder and ash. Thriving under their canopy are numerous species of animals and plants, all similarly specialized to the change between flooding and dry periods. Plants like large bittercress, the herb Paris and unspotted lungwort are well-adapted to this habitat, while animal inhabitants include the black stork, the beautiful demoiselle and the alder leaf beetle.



Herb Paris



Alluvial forests by the river Stepenitz near Putlitz ...



Nowadays alluvial forests have become very rare in Germany. The loss of these precious forests was caused by extensive clearing in the past: arable land and timber were more important to people at the time. In addition, many rivers were straightened to make navigation by boat easier and create usable land in their floodplains. These straight river courses have led to a faster water flow and streams that dig deeper into the river beds. Sediments that would otherwise have been deposited in the curves and bends or sunk to the ground in calmer flow passages are now carried further and further downstream. As a result, the streams hardly ever over-

flow and the natural alternation between flooding and drying out has been lost in many places – and with this thousands of hectares of alluvial forests.



Black stork



... by the river Rheinsberger Rhin near Rheinshagen ...



... by the river Dahme near Briesen

Bog woodlands – mystic and diverse

Here and there, water glistens through the bright green peat moss almost completely covering the ground. The white trunks of the mire birch gleam in the deep green of the forest. Laying on the forest ground are dead trees, also called coarse wood debris, giving new life to a myriad of insects and fungi. Young birch trees germinate on tussocks of grass, while hare's-tail cottongrass and round-leaved sundew grows on the ground. Living here are cranes, woodcocks, cranberry blues, common hawkers, moor frogs and the common pipistrelle – rare species in a now rare habitat-type...

Bog woodlands are the “final stage” of a bog: only when the growth rate of the peat body has slowed down and the ground become more stable, trees can start to grow there effectively. Although bog woodlands can be found everywhere in Germany

they often cover only small areas and are isolated from each other. Their distribution in Northeastern Germany is concentrated on nutrient-poor acidic kettle hole bogs and terrestrialization mires. There they take the form of pine woodlands, with birch trees taking the place of pines on more nutrient-rich soil.

However, bog woodlands are not only beautiful and species-rich – they are indispensable carbon reservoirs.

Interesting fact: 40 percent of Germany's bog woodlands are situated in Brandenburg. While this is undoubtedly an enrichment to Brandenburg's landscape, with this the federal state also holds a special responsibility to preserve this habitat.



Bog woodland by Rheinsberg



Bog woodland by the lake Großer Bartschsee



Common pipistrelle



Moor frog





Common cottonsedge at Possebruch by Rheinsberg

Gravel and dead wood for variety

To preserve wetland forests, the return of their water regime close to their original state is imperative. There is a variety of ways in which humans can assist in this.

The installation of gravel and dead wood, for example, is an important and effective measure. These materials restore momentum and natural dynamics to straightened rivers. They initiate the development of river bends – the meanders – and reduce stream-caused erosion. This results in a more

balanced water supply in the adjacent floodplain forests. An important side-effect of this: the gravel in the riverbed acts as a spawning-ground for fish and provides a habitat for rare species such as the thick-shelled river mussel.

By changing the cross-section of streams, gravel and dead wood installations create different flow velocities of the water. Where the water flows faster around obstacles in narrow passages, it creates cut banks on the outsides of the river



Installation of dead wood in the Rheinsberger Rhin

curves where erosion happens at a higher pace, while on the opposite side the water moves more leisurely. On this softly sloped bank, also called a slip-off slope, the river deposits debris and other materials it had been carrying along, resulting in sandbanks. These present a new habitat for a number of species: caddisflies and dragonfly larvae on the riverbed, river trout in the oxygen-rich streams and otters on the banks of the waters.



Thick-shelled river mussel



Gravel installation into the Rheinsberger Rhin

Closing ditches to raise water levels

Many of the drainage ditches built in the 18th and 19th century continue to drain the landscape today. This has dire consequences: With water no longer covering the peat that makes up the body of the mire, it comes into contact with air and its oxygen. This starts the decomposition process of the organic materials, similar to that of a compost heap. Called mineralization by experts, this process frees nutrients previously locked in the peat, turning the ground nutrient-rich where before it was quite meagre. Consequently, species preferring nutrient-poor soils like peat mosses and the round-

leafed sundew disappear, displaced by other species. On only slightly drained mires, moor grass takes their place, while stinging nettles grow on dryer spots. Alders and sometimes also spruce trees start to settle, further reducing the water level with their increased high evaporation and endangering the bog woodland habitat.

One of the main measures to preserve bog woodlands lies in the stopping of mire drainage. In order to do this, the project team of "LIFE Feuchtwälder" commissioned specialist com-



Large white-faced damselfly



Closed ditch at Mahnigsee near Halbe

panies to close a total of five kilometres of drainage ditches. Peat obtained from local sources was used to fill the ditches, sealing them naturally.

Ditches located in the vicinity of settlements or roads were not filled fully. In those areas where water levels have to be limited for reasons of flood protection, sills were built into the trenches. These enable the setting of a maximum water level and enable keeping the highest possible hydration of the mires while still keeping flooding at bay.



Round-leaved sundew



Installing a sill at Hellseemoor by Rheinsberg



Unspotted lungwort



Reintroducing the unspotted lungwort by the Rheinsberger Rhin

Of fluttering elms, almond willows and fringed pinks

Even after ditches have been closed and structure restored to streams, plants typical to bog woodlands have often disappeared by the time living conditions have returned to a favourable state. Without human help, their return to their original habitats are unlikely to happen in any foreseeable time. Therefore, reintroduction was another major part of “LIFE Feuchtwälder”.

On many areas cleared from alluvial forests, reedbeds and megaphorbs, communities of tall herbaceous plants, have taken over due to the lack of agricultural usage. Their very dense vegetation makes it almost impossible for trees and bushes to re-establish themselves without help. To help the site-appropriate forest to develop again, almost eight hectares of trees and shrubs were planted along the rivers Stepenitz and Dahme. The trees and shrubs planted varied depending on the river sections and including bog woodland-typical species such as rowan, fluttering elm, alder, almond willow, Vi-burnum and ash. All plants were grown from native seeds and will develop into an alluvial forest over the next few decades, with all its diverse functions: securing embankments, filtering water and providing shade to keep the waters cool.

However, a bog woodland is not only made up from woods and shrubs. The canopy of alder and beech trees provides a perfect habitat for many small plant species that require a cool, damp and shady surroundings. Unfortunately, a great number of these are threatened by extinction by now and need urgent help to repopulate their restored habitats.

Another measure of “LIFE Feuchtwälder” thus lay in the reintroduction of bog stitchwort, frilled pink, large bitter-cress and six other plant species. This was preceded by a comprehensive concept of potential seed donor and recipient areas. To prevent the introduction of alien plants, the seeds were collected by hand in the corresponding donor areas. Part of these were then used to raising young plants in controlled conditions which were then planted out in the recipient areas later. Alternatively, some plants were directly sown on site – depending on the ideal growth conditions of each species.



Large bitter-cress



Frilled pink



Plantation by the Dahme, close to Märkisch Buchholz

Experiencing wetland forests

Would you like to go on a date with the river Dahme? Or would you prefer to explore the bog woodlands by lake Dagowsee in the Stechlin-Ruppiner Land? As part of project “LIFE Feuchtwälder”, our team has set up various tours for experiencing alluvial forests and bog woodlands on foot, by bike and via canoe. Information boards along the way provide titbits of know-ledge about the area and the plants and animals living there. For all those interested in seeing more of the Dahmeland, the most beautiful tours have been collated and published as an adventure brochure. Further information and detailed route descriptions can be found at www.feuchtwaelder.de/erleben

Prefer company? Our rangers in the nature park Dahme-Heideseen and Stechlin-Ruppiner Land regularly offer guided tours through their wetlands.

The Rheinsberger Rhin is one of the most popular paddling destinations in Brandenburg. To ensure the protection of the alluvial forest and its inhabitants while offering recreational options to visitors, paddlers are only permitted to moor and rest in designated areas. To support this, our team has renewed landing docks and put up signs along the Rheinsberger Rhin.

For our young (and of course, older) wetland forest fans we recommend the adventure story “Lilian in the land of the wetland forests”. Here, Lilian explores the wondrous animals and plants of the alluvial forest with her friend, the kingfisher Monsieur Alcedo. Further information and an order form for the free copy of the story booklet can be found at www.lillys-abenteuer.de



Information board by the river Stepenitz



Guided tour by the river Dahme by Briesen



Kayak tour on the Rheinsberger Rhin



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