

NATURA Tip 14

Harly Forest, Ecker River and Oker River Valley near Vienenburg

Harz



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der Vereinten Nationen
für Bildung, Wissenschaft
und Kultur



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Yes, today EU Sites of Community Importance (SCIs) No. 123 – Harly, Ecker River and Oker River Valley north of Vienburg and No. 202 – Stimmecke near Suderode, as well as EU Special Protection Area (SPA) V58 – Oker River Valley near Vienburg are still in a border area. The border between the federal states of Lower Saxony and Saxony-Anhalt runs, in sections, along waterways.

"Attention! Border in Centre of River – Federal Border Guard" could be seen written in black and red on white signs along the Ecker River in Lower-Saxony until 1989. Here and there on the opposite bank, granite stones can still be found with the letters "DDR" on one side. Coloured border markers made of concrete and bearing the national emblem of East Germany have, almost without exception, disappeared. The border was impregnable until November 11, 1989, when it was opened near Stapelburg.



Historical border marker of Hanover



State border near Lochtum

The border separated two power blocs for decades after the Second World War. On the western side of the border began the Western world, led by the USA. NATO's central European eastern flank stretched to this point, and the British Army of the Rhine operated here. On the eastern banks of the Ecker and Oker Rivers stood troops of another military alliance – the Warsaw Pact, led by the Soviet Union. Even after the Warsaw Pact's collapse in 1991, there was a Russian military presence on the nearby summit of the Brocken until 1994. Nevertheless: the opening of the Inner German border and the ensuing summit between President George Bush Snr. (USA) and Mikhail Gorbachev (USSR) on Malta in December, 1989, heralded the end of the Cold War!

To this day, subsequent borders have followed the historical border separating the Duchy of Braunschweig (after 1918, the Free State of Braunschweig) and the Kingdom of Hanover, later the Prussian Province of Hanover (from 1866).



From Death Zone ...

Only the Soviet Bloc had any interest in expanding the border to incorporate an impassable "death zone", as it was called in the vernacular. There was a considerable gap between standards of living in East and West Germany. This difference, together with political persecution, was the reason behind many people's escape attempts, especially those of highly-trained specialist workers. On the East German side there were numerous agencies responsible for border security. The Stasi operated in the shadows. The Transport Police operated deep into the hinterland checking, among others, train passengers travelling through districts along the border, like those of Wernigerode and Halberstadt. In such districts there was a restricted zone several kilometres wide which could only be entered with an official pass. This zone was signposted accordingly and there were checkpoints manned by the East German police force along



... to Lifeline

Then came anti-vehicle trenches and/or steel barriers – so called "chevaux de frise" – and sometimes also running lines for guard dogs. The wall or metal mesh fence itself was 3 m high. Climbing these was hindered by barbed wire, smooth metal pipes, or directional anti-personnel mines. Land mines were laid within the adjoining no mans land. Only beyond the no mans land were there border markers and the border itself, often the centre-line of a watercourse such as the Ecker River. Due to the inaccessibility of the no mans land, unique communities of fauna and flora were able to develop, adapted to specific habitats, principally fallow land. As this land remained unfertilised, vegetation was sparse, but species-rich. Sunlight reached the soil surface which benefited a diverse insect community. Whinchats and European stonechats used overhanging branches as vantage points from which to sing or to spot prey. This is how the German Green



Former border patrol road



East German border marker



Border memorial "Begegnung II"



... and in the Geopark, near Hötensleben

access roads. Closer to the border (originally the border of the Soviet Occupation Zone) was the "protective zone" which was, in places, up to several hundred metres wide. It was secured with a signal fence which automatically set off an alarm when touched. Farmers working in fields in this zone were overseen by soldiers from the Border Troops of the GDR. Members of 27 companies of the Border Command North, based in Stendal, including soldiers performing compulsory military service, guarded the border complex 24 hours a day, including where it ran through the Harz Mountains.

Today, generally only the border patrol roads remain from the former border complex. These have mostly been upgraded to create concrete-paved, two-lane roads with passing places. Border patrol roads usually had 6 m wide "control zones", known as K6, on both sides. These were kept vegetation-free so that footprints or vehicle tracks would be seen, betraying any unauthorised presence.

Belt was formed, which extends from the border as far as the former border patrol roads in some places; at least, that is, where the zones surrounding the border were not incorporated into agricultural or grazing land.

Three decades after the fall of the Berlin Wall and the opening of the Inner German border, pioneer species of tree have colonised the Green Belt as part of the ecological succession process, primarily birch, but also poplars, willows and alders. Woodland birds could move in, including the Eurasian jay. The jays see to it that oaks increasingly grow in the Green Belt. In locations where fields or paths do not directly abut the border, the Green Belt has spread, sometimes into Lower Saxony. The area along the Ecker and Oker Rivers here is part of the European network of protected areas, Natura 2000.





The Area

Designation	SCI – Harly, Ecker River and Oker River Valley north of Vienburg and SPA – Oker Valley near Vienburg
Code	FFH 123 Nds, DE 3929-331; V58 Nds, DE 4029-401
Location	Floodplains of the Ecker and Oker Rivers between the Harz Mountains and the Harly Forest near Vienburg
Characteristics	Semi-natural watercourses, partially lined by alluvial forests and Calaminarian grasslands. In the Harly Forest species-rich mixed beech and oak forests
Area	682 ha SCI and 470 ha SPA (sometimes overlapping)



Asperulo-Fagetum beech forest

The European beech is the most vigorously competitive species of tree in Germany and across large parts of Central Europe. On soils with sufficient nutrients which are neither too wet or too dry, it dominates natural and semi-natural forests from the north German lowlands up into low mountain ranges. What makes the European beech so successful? In the shade cast by its dense leaf canopy its competitors are completely denied direct sunlight. Even beech saplings only have a chance to thrive when dense forest is thinned out. This opportunity is today provided by commercial forestry practices, long before older trees die naturally. Only early in spring, before the leaf canopy has closed, does lush life unfold on the forest floor. If the soil is fertile loess, for example, then demanding species such as wood anemone and sweet woodruff may be present.



View of the Brocken



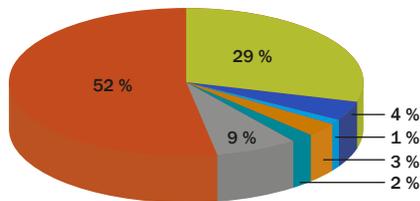
View of Harly Forest



Beech forest in Harly Forest



Alluvial forest in the Ecker River Valley



- FFH-LRT 9130 Asperulo-Fagetum beech forest
- FFH-LRT 91E0* Alluvial Forests with *Alnus glutinosa* and *Fraxinus excelsior*
- FFH-LRT 3260 Watercourses of the Plain to Montane Levels
- FFH-LRT 6130 Calaminarian Grasslands
- FFH-LRT 3150 Natural Eutrophic Lakes
- Other habitat types
- Non-habitat types



Alluvial Forests with *Alnus glutinosa* and *Fraxinus excelsior*

Particularly along streams and rivers in the Harz Mountains and the surrounding forelands we find a very special kind of alluvial forest: alder and ash forest. A high water table and regular flooding present no problem for the characteristic tree species. Their ability to regenerate from root stock and trunk segments ensures rapid reforestation after severe high-water episodes. Alluvial forests also help protect against flood waves reaching the lower reaches of waterways because they lower flow velocity. In winter and spring the alders occasionally attract huge flocks of Eurasian siskins. The majority of seeds are not, however, eaten. They fall to the snow and are spread by melt-water. In spring the yellow-flowering lesser celandine lights up the forest floor. Those in the know value the leaves of the ground elder as a seasonal wild edible.



Watercourses of the Plain to Montane Levels

The habitat type of watercourses with floating aquatic vegetation includes both natural and semi-natural rivers and streams. The formation of substrate banks, bank erosion and areas of aggradation are typical and result in variegated landforms along the watercourses. Depending on the current, water depth, amount of shade and the substrate, a variety of vegetation can be found in and next to the water. In clear water, flooded with sunlight in the Oker and Ecker Rivers we find, above all, water mosses, which form a green cushion on the stream bed. Fauna like the banded demoiselle, the brook lamprey (a fish similar to an eel), the kingfisher and the white-throated dipper can be observed. The banks of the Ecker are lined over extensive stretches with alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (habitat type 91E0). Along the Oker River, on gravel banks, we often find Calaminarian grassland (habitat type 6130).



Oker River near Wiedelah



Calaminarian grassland



Natural Eutrophic Lakes

The close proximity of erstwhile monasteries to bodies of water is typical, as monks frequently created fish-rearing ponds. In the Oker floodplains, however, we find bodies of water up to 80 m deep. These are holes resulting from gravel extraction, a practice which is carried out in the floodplains of the Harz foreland to this day. This Natura 2000 habitat type is, then, not a naturally occurring one in the Oker floodplain, but the result of deliberate renaturation of flooded gravel-pits. Rush communities or reed beds can be found where large areas of shallow water have been created by the addition of sediment. This is most evident in the lakes located farthest to the southwest in the EU SPA. Where banks drop away more steeply trees and shrubs (e.g. willows) characterise the bank vegetation. The lakes provide habitat for many species of bird (e.g. great crested grebes, greylag geese, Egyptian geese) which can enjoy undisturbed nesting sites.



Lake in Oker River Valley



Oak-hornbeam forest in Harly Forest



Calaminarian Grasslands

The riches that the mining and metallurgical industries once brought to the Harz region had a dark side. To this day, the gravel in the bed and banks of the Oker River and the slag piles at former metalworks along the Ecker River are contaminated with heavy metals like lead, cadmium, arsenic, copper and zinc. Furthermore, the natural dynamics of rivers repeatedly re-form gravel and stone banks. This is a habitat that is only colonised by specialists, like thrift, spring sandwort, bladder campion and some rare species of lichen. These photophilic plants withstand heavy metals and thus have an advantage in these locations. More vigorously competitive grasses and bushes can only painstakingly colonise from the edges of such locations. The specialists are slowly forced out and must find new locations to colonise in this dynamic habitat.



Other habitat types

The Calaminarian grasslands and alluvial forests along the Ecker and Oker Rivers are, depending on exact location and river regime, closely interlocked with semi-natural dry grasslands on calcareous substrates, lowland hay meadows and hydrophilous tall herb communities. To the east of Weddingen, in the western section of the Harly Forest, on acidic soil on Komturberg Hill, we find a typical example of **Luzulo-Fagetum beech forest**. In the neighbouring dry and warm area to the north, on Osterberg Hill, as well as on the south-facing slope near the ruins of Harly Castle, we find **Galio-Carpinetum oak-hornbeam forest** and small areas of **Medio-European limestone beech forest**. In a small wooded area, isolated among the fields east of Immenrode and Schraders Mühle, we find, on fresh to moist soils, **sub-Atlantic and Medio-European oak and oak-hornbeam forest**.



Let's Hit the Trail for a Day Trip!

Good to know: Stapelburg, in Saxony-Anhalt and Vienenburg, in Lower Saxony, are connected by regional train route RE 21. Trains operated by the Abbelio rail company, a subsidiary of Netherlands Railways, run at frequent, regular intervals. This makes our decision regarding a tour along the Harz Border Trail an easy one. We can hike from one railway station to the other and simply take the train back to our starting point! Stapelburg is a good choice for our starting point as there is a parking area conveniently located directly next to the station. We begin by heading into the village and taking the first left we come to. We then turn into Schützenstrasse and head west, before turning into the street called Am Anger, opposite the Ilsenburg District Forestry offices. Bear left after the fire brigade depot, before carefully crossing the L 85. On our right a paved road branches off, leading to the grounds of the erstwhile Jung-



To the Border Memorial

More than anything else it is the marker stones from 1846 that remind us that, in walking along the Ecker River, we are also walking along a border. They mark the former border between the Duchy of Braunschweig and the Kingdom of Prussia. The "B" faces the Braunschweig side and the "P" the Prussian side. Today the border separates the states of Lower Saxony (B) and Saxony-Anhalt (P). Naturally, we find beech forest in the river valley. The birches to the east bear witness to the area that was kept vegetation-free on the East German side of the border. At the spot where we cross the L 85 once more, a large, brown information board reminds us of the border opening on November 11, 1989. We have already put 4.6 km behind us. Those who don't wish to continue on can return to Stapelburg railway station through the town (1,7 km). Following the Harz Monasteries Trail to the railway station in Vienenburg is a further 12 km!



"Light-and-air" hut at Damenpark



East German border marker



Angel's bench



Border memorial

born sanatorium. The author, FRANZ KAFKA, and actor, MARIKA RÖKK, both spent time there. Next to the grounds, where the famous Eckerkrug Hotel stood until 1964, we reach the southeastern section of the Harly, Ecker River and Oker River Valley SCI. On the Harz Border Trail, which shares its course here with the Harz Monasteries Trail, we follow the Ecker River downstream. Along the trail the Friends of Jungborn Harz group have re-created two of the "light-and-air huts" which were a feature of the sanatorium. They are open to the public and offer a pleasant spot to take our first break.

Afterwards, we can observe nature at our leisure and, with luck, enjoy the sight of a white-throated dipper, for which nesting boxes have been installed at the diversion dam on the Stimmecke. It is a wonderful feeling to be able to walk freely back and forth, crossing the formerly impregnable border at will! What remains of one of the few reinforced concrete border markers still in its original location reminds us of the border.

Let's hit the trail again. We bear left and follow the Ecker through Schimmer Forest. This forest stands on the location of an air force munitions facility and has a sad history. In the facility were 137 bunkers where munitions for the air force base at Goslar were stored. Despite being detonated in April 1945, complete clearance of all explosives took a further 32 years. 14 people lost their lives, including 12 women who were working on reforestation of the area.

When we arrive at the former location of the Astfelder Inn, we reach our first "angel's bench" on the Monasteries Trail. A short distance further on, rather than following the trail in the direction of Abbenrode, we leave the Harz Border Trail and the Mills Hiking Trail on our right. Instead we continue straight ahead on the Lower Saxony side of the border, passing a paved intersection and continuing along the state border. It is only when the village of Lochtum comes into view that the border turns, running parallel to a farm road which branches off to the NNE and leading us to a border memorial.





Route suggestion





To the Finish Line: Vienenburg Railway Station or Wöltingerode Monastery

When we arrive at the border memorial we find both an information board erected by the Abbenrode Historical Society on the subject of the "Iron Curtain" and the second "Angel's Bench". Hereafter, the hike is a little more energetic. We have rejoined the Harz Monasteries Trail, with the EU SCI and the old Degen mill on our right. With a little luck we might hear the piping song of an oriole from the alluvial forest there. We pass under the highway and then cross the SCI once more, continuing straight on until we come to the Hasenwinkel road. We turn left onto it, pass two farmhouses and then walk parallel to the railway line in a westerly direction. We follow the Ecker beneath the railway line and, after a right then a left, we come to the Am Finkenherd restaurant and steakhouse. After a short rest we continue toward Wiedelah, crossing beneath the railway line twice more. Then, where the Ecker and the Oker meet, we arrive at the



Hiking the Loop Trail

Our loop trail, which is just under 7 km, starts at the Klosterhotel and begins by leading left past the former forestry building into Harly Forest. We quickly reach a fork in the road, where we discover a memorial stone. It commemorates FRITZ LAUBE, who was born in Berlin in 1914. This prominent landscape and animal painter lived and worked in Vienenburg from 1950. His paintings, in particular those of animals, are much sought after in the art market today. Dioramas made by him can be found in major museums in Lower Saxony and in the Springe Hunting Lodge. We pass by the rest area on our left as we follow Bären Valley up to Kräuter-August Cave. An old man named August is said to have lived in the cave. In thanks to forest workers who shared their bread and soup with him, he shared his knowledge of medicinal herbs (German: Kräuter).



Border memorial "Begegnung I"



Former forestry building



Memorial stone for Fritz Laube



Shelter

moated Wiedelah Castle. From Zollweg we turn left into Amtstrasse, at the end of which we turn left again onto Wülperoder Strasse. Before this passes beneath the highway we bear right, as the Monasteries Trail passes under the A 36 150 m further north. As it runs through the Oker floodplain, the Monasteries Trail crosses the access road to the Schacht 1 residential neighbourhood. If we turn left and follow this, it takes us to within sight of Vienenburg railway station. If we continue straight on, the Monasteries Trail leads directly to Wöltingerode Monastery. Those with the stamina and motivation can follow the directions for the tour up Harly Hill (256 m ASL) to the northern border of the SCI. ISRAEL JACOBSON had the tower that stands there built at the beginning of the 19th century. It is open on Sundays between 10 am and 5 pm during the summer half of the year. Beautiful forest views also await us on the hike back down to the former forestry building not far from the monastery. The monastery was secularised in 1809 and now houses, among other things, a hotel.

At the next fork in the road we take the trail toward Mittelweg. We soon arrive at a small shelter. We continue to bear left and follow the trail down to the southern edge of Harly Forest, where we turn right and head westward. A bridge takes us over Weddel Creek. Heading upstream we continue on to the L 510, which joins Weddingen and Vienenburg. We follow the road for 100 m and then turn south onto a road with a boom gate blocking motor vehicle access and head into the forest. The path takes us to the Harz Monasteries Trail, which runs along a former railway line here.

Until a mining disaster forced its closure in 1930, this railway line connected Pits I and II of the potash mining facility operated by Preussag AG in Harly Forest with the Grauhof and Vienenburg railway stations. Before reaching Pit II trains passed Wöltingerode Monastery, the start and finish point of our hike.



The Harly, Ecker River and Oker River Valley north of Vienenburg SCI, the Oker Valley SPA, and the Stimmecke SCI are all located within the borders of the UNESCO Global Geopark Harz • Braunschweiger Land • Ostfalen. Harly Forest is Geopoint No. 6 of the Geopark's Landmark 18 – Liebenburg Castle. The largest Geopark in Germany is characterised by its striking geological diversity and rich history of mining. Natural and man-made rock exposures, cliffs and show mines open windows into the history of the Earth. The organisation responsible for a Geopark is required to effectively contribute to the protection of geological heritage and to promote regional development.

In addition, UNESCO Global Geoparks have an educational role to fulfil. Every four years observance of these responsibilities is reviewed.



European Beech *Fagus sylvatica*

Is the European beech not one of the primeval species of Central Europe? Perhaps this question is surprising, but the science is clear: the species reached Germany's southeast from the direction of Slovenia, ca. 7,000 years ago. The northern Harz foreland was first settled by farming people 500 years earlier. They found forested steppe on their arrival. The native forests were more open and species-rich. Oak and hazel dominated. Species-poor European beech forests like those we know today, which are protected by the Habitats Directive, are synanthropic! They can only develop when there are no disturbances: livestock have not been driven into the forests for a long time, land used for agriculture and for forestry are kept strictly separated. Red deer are only tolerated in designated areas and are managed through hunting to protect the natural regeneration of forest trees.



Kräuter-August Cave



Abandoned gravel quarry



European beech on Harly Hill



Fruit of the wild service tree



Born of the Sea

During the Zechstein period, ca. 255 MYA, the Harz foreland area was part of a shallow marine basin. Falling sea levels periodically cut it off from the open ocean. The warm climate evaporated the seawater. Left behind were limestone, gypsum, anhydrite and salts. Later periods, from the Bunter (Upper Triassic) to the Cretaceous, were also characterised by repeated marine transgressions. These variously deposited iron- or fossil-rich limestone, mudstone, marl and sandstone atop the Zechstein salts. Under this enormous pressure and the effects of remote expansionary tectonic movements in the Earth's crust, the salt deposits reacted viscoelastically. Salts were forced upwards at zones of tectonic weakness and took overlying stony strata with them. This is how the Vienenburg anticline – another name for the Harly Forest hill chain – was formed.



Wild Service Tree *Sorbus torminalis*

This rare deciduous tree species from the family Rosaceae is found in warm, sunny locations in the Harz foreland as well as in the south and east of the Harz region. In autumn its maple-like leaves, with their pointed lobes, are coloured blood-red. Its apple-shaped fruit has a diameter of ca. 1.5 cm. These start off olive-green, later turning brown with light spots and are extremely rich in vitamin C. The species name torminalis means "stomach pain" and refers to its use against diarrhoea-causing illnesses. MARTIN LUTHER (1483 – 1546) knew of the wild service tree's medicinal uses. In 1526 he asked his friend, JOHANNES AGRICOLA (1494 – 1566), to send him some of the fruit from Eisleben, as his wife valued them highly. Not just the berries were in demand, the wood of the wild service tree was also valued due to its distinct hardness. The resulting overuse, combined with its lack of competitive vigour, led to the species' decline in native forests.



Meadowsweet *Filipendula ulmaria*

Meadowsweet grows in sunny, nutrient-rich, moist or wet locations along the Ecker and Oker Rivers. The genus name *Filipendula* refers to its root tubers: "filum" means "thread" in Latin and "pendulus" means "hanging". The species name *ulmaria* refers to the leaves which resemble those of elms. There are numerous explanations for the German name "Mädesüß" – "süß" means sweet and the Germanic tribes are said to have used meadowsweet to add sweetness and aroma to their mead. Then too, the word "Mede" is an archaic word for grassland, one of the places where meadowsweet grows. If such an area is mowed, meadowsweet's wilting leaves and stems emit a sweet aroma. The odour of its leaves when rubbed is reminiscent of aspirin. Indeed, the plant contains salicylic acid, the basis for the well-known headache medication.



Meadowsweet



Red Fox



European Golden Oriole *Oriolus oriolus*

This starling-sized bird lives among the trees in alluvial forests. They do not even have to go down to the ground when searching for food. Generally, they comb through the crowns of broadleaf trees, searching for beetles, bugs, butterflies and caterpillars. Like the fox, the oriole does not ignore fruit and they can use their powerful beaks to pluck cherries fresh from the tree. Orioles return from overwintering in central and southern Africa at the beginning of May, their migratory route taking them over the Balkans as they return to their breeding territories in Lower Saxony. There, after mating, a nest is built hanging from the two boughs of a forked branch. Litter in the form of string, or even torn paper and plastic film, are often artfully woven together with birch bark and plant stems. Despite the oriole's bright colours and tuneful singing, it often remains hidden from bird-watchers.



European Golden Oriole



Nightingale



Red Fox *Vulpes vulpes*

It has a reputation for slyness. With the exception of Iceland, the red fox is found throughout Europe, not to mention in large parts of Asia, North Africa and North America. It has long since discovered the habitat offered by towns, but can still be found "where the fox and the hare bid each other goodnight": that is, in the wilderness. The wilderness on the edge of the Harz Mountains is, though, a recycled wilderness, formed after, for example, the quarrying of valuable gravel deposits in the Oker floodplain. Adult foxes enjoy a solitary lifestyle and like to sleep during the day. However, they rarely do so in their dens, which they have dug themselves or taken over from badgers. Number one on their list of prey are mice, but they do not turn their noses up at vegetarian fare like fruit, for example. After the mating period in January and February and gestation of up to 58 days, vixens produce litters of 4 to 6 kits.



Nightingale *Luscinia megarhynchos*

From the end of April the unprepossessing brown male nightingale sings in alluvial forests and hedges. At the beginning of the 20th century, in the Oker River Valley between Vienenburg/Wiedelah and Schladen, the nightingale was considered a "very common" breeding bird. In 1969 and 1970 between 20 and 40 males sang in the 135 hectares of the present-day EU SPA, but in 2002 there were only 5 to 10 singers in the same area. Whether the reason for this decline is solely to do with the breeding area is unknown. Beginning in August nightingales migrate in a southwesterly direction and reach Africa at the Mediterranean coast of Morocco. It is believed they overwinter somewhere south of the Sahara. Here in the northern forelands of the Harz Mountains nightingales search for their food principally on the ground. Beneath the protection of bushes and shrubs they rummage through fallen leaves looking for food such as beetle larvae and ant eggs.



Common Kingfisher *Alcedo atthis*

Within the protection of the Inner German border, the Oker River between Vienenburg and Schladen escaped expansion and straightening. The meandering river, with its undercut banks, colks and shallow sections, along with the sometimes lush vegetation on its banks, remained one of the rare refugia of the common kingfisher. At the same time, water pollution was particularly bad during the period Germany was divided. Kingfisher numbers recovered after reunification. Greater attention was paid to water pollution prevention, winters were milder and continuing gravel extraction in the floodplains of the Oker produced large bodies of standing water. As a result, today the kingfisher is an index species in the SPA. In contrast to the oriole and the nightingale, the kingfisher can be seen here all year round. It feeds on 4 to 7 cm long fish, preferring gudgeon, minnows and sticklebacks.



Common Kingfisher



European Stag Beetle



EU SCI Stimmecke near Suderode (Lower Saxony section)

Stimmecke channel is protected as a SCI in both Lower Saxony and Saxony-Anhalt. It flows into the Ilse. Like the Ecker River, which rises at an altitude of 893 m ASL in the Brocken area, the Ilse is a tributary of the Oker. About 1 km outside Stapelburg the Stimmecke channel is formed using water diverted from the Ecker River and, almost 13.9 km later, it flows into the Ilse near Rimbeck in Saxony-Anhalt. For 1,157 m it flows through Lower Saxony. The diversion dam southwest of Stapelburg is a narrowing of the river creating using gabions. The Ecker retains about two thirds of its volume, with the other third finding its way into the 32 km² catchment area of the Stimmecke. The Stimmecke channel represents the habitat type of a watercourse with aquatic vegetation. The banks are natural and steep. The European bullhead is found in its waters.



View over the Stimmecke valley



European Bullhead



European Stag Beetle *Lucanus cervus*

Europe's largest beetle lives in the oldest oak and beech forests of the Harz Mountains and their forelands. The males of the species, which is protected under the Habitats Directive, bear the eponymous, antler-like, oversized mouth parts. Romans wore these as amulets. The "mandibles" are used for fighting rivals or to hold the female during mating. After mating the female lays her eggs in the soil near the roots of a sick or dead tree, often an oak. The hatching larva can live within the trunk of a tree for up to 8 years, feeding on rotten wood. Finally, the larva return to the soil to pupate. The beetles emerge after the end of winter, swarming and breeding for a few weeks. The beetles feed exclusively on tree sap.

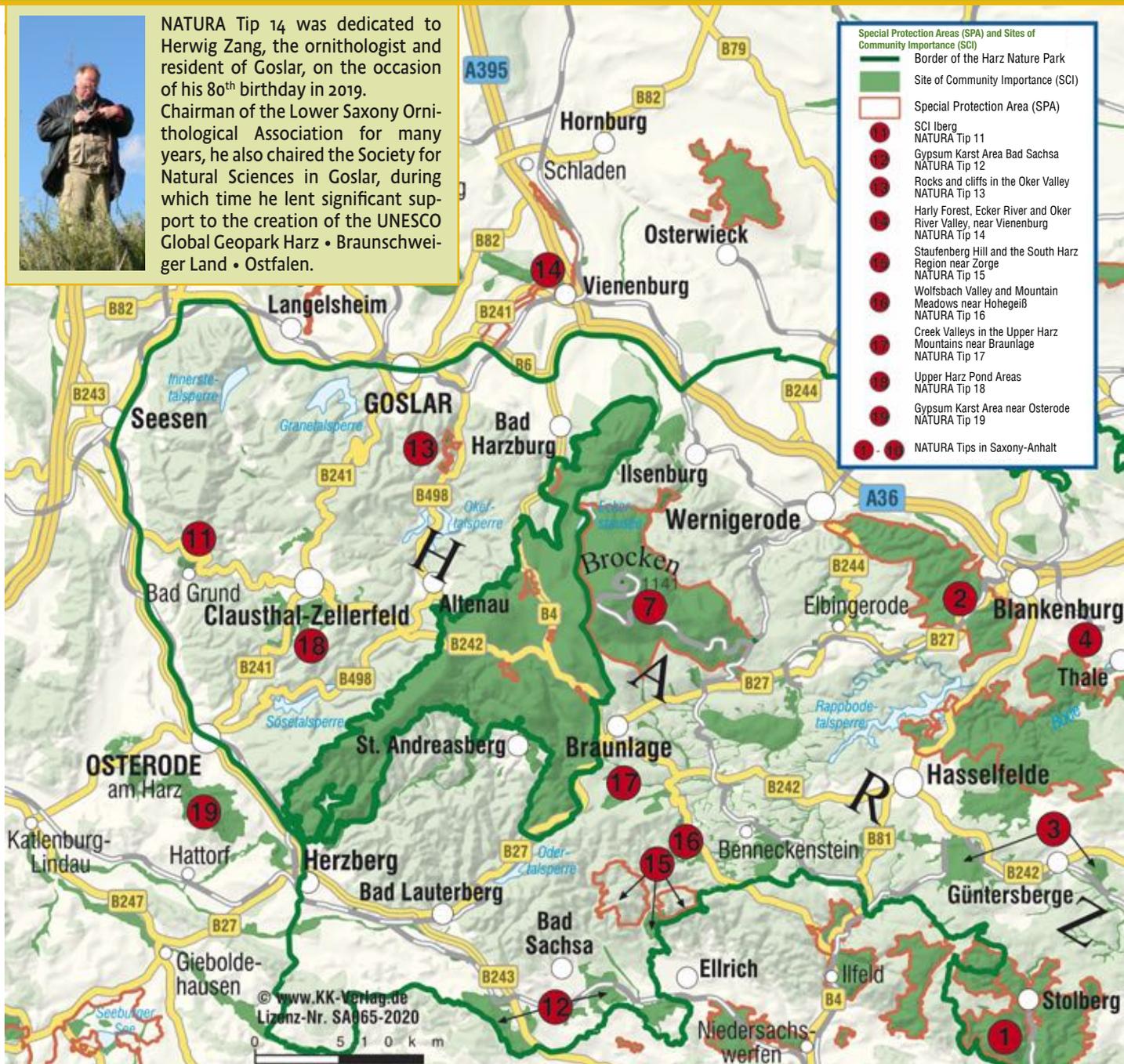


European Bullhead *Cottus gobio*

This nocturnal bottom-dwelling fish is at home in cool, clear waters with stony bottoms. The bullhead, with a maximum length of between 12 and 16 cm, is not a good swimmer. Its ventral fins are located below its pectoral fins, its swim bladder has almost disappeared; its motion is generally jerky. The presence of this species, protected under the Habitats Directive, is a sign of high water quality. The bullhead can only survive in oxygen-rich freshwater. They affix their eggs to the stream bed. The male protects the spawn until they hatch. The young fish then drift downstream and remain in calm stretches of water until they are strong enough to move against the current. Dry springs and summers resulting from climate change and the partial drying-up of bodies of water that results, threaten this protected fish species.



NATURA Tip 14 was dedicated to Herwig Zang, the ornithologist and resident of Goslar, on the occasion of his 80th birthday in 2019. Chairman of the Lower Saxony Ornithological Association for many years, he also chaired the Society for Natural Sciences in Goslar, during which time he lent significant support to the creation of the UNESCO Global Geopark Harz • Braunschweiger Land • Ostfalen.



"The Classic Square Mile of Geology in the UNESCO Global Geopark",
 "On the Traces of Life" & "From Ore to Metal": permanent exhibitions in Goslar
 Museum, Museumsinsel, Goslar

Goslar Museum
 Opening hours: Dec – Oct 10 am – 5 pm
 and Nov 10 am – 4 pm (closed Mondays)
www.nwv-goslar.de





The Regionalverband Harz is a non-profit association whose members include the Districts of Goslar and Göttingen in Lower Saxony, Nordhausen in Thuringia, Harz and Mansfeld-Südharz in Saxony-Anhalt, as well as the World Heritage-listed city of Quedlinburg. It currently has 130 sustaining members. These include local authorities, clubs and other associations, as well as businesses and entrepreneurs. The Regionalverband Harz is the trustee of the nature parks in the Harz Mountains and, together with its partner association in Königslutter, is responsible for the UNESCO Global Geopark Harz • Braunschweiger Land • Ostfalen. In an area spanning state borders, the Regionalverband is committed to the protection and development of the natural and cultural treasures of the Harz Mountains region. The publications of the Regionalverband Harz encourage the public to discover these treasures.



Natura 2000

in the UNESCO Global Geopark

The Regionalverband Harz's project "Learning to Read the Landscape" has the particular focus of increasing awareness of the Natura 2000 areas (both SCIs and SPAs) in the Harz region.

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