English translation

of the texts in the permanent exhibition of the Natural History Museum of Thurgau

1st floor

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1st floor

Villages, towns and cities

At first glance, human settlements are dominated by asphalt, concrete, steel and glass. However, gardens, parks, cemeteries, the banks of streams and rivers, sports grounds, gravelled surfaces, house façades, industrial plants and, not least, our own homes are all, in fact, inhabited by numerous plants and animals. Nature is ever-present, even within our towns and cities. Over the course of just 24 hours, staff from the Natural History Museum found 1217 different plant and animal species in the municipal area of Frauenfeld.

1 The wishing-table

For various reasons, human settlements offer a rich supply of food for animals. A variety of plants grow in parks and gardens, in tree-lined avenues and in cemeteries. The blossoms, seeds and fruits are eaten by insects and other small creatures, which themselves are a source of food for larger animals. On top of that, food stored in cellars, waste dumped in bins and even people who like to feed animals ensure that food supplies are plentiful.

2 Treasures at the roadside

At first glance, weathered and half decayed walls, unkempt roadsides, railroad and road embankments or derelict industrial estates offend our sense of order. However, as nutrient-poor and often sunny sites, they are the perfect habitats for a large number of plants and microbes. The wilder and more disorderly an area is, the more valuable it is from a biological point of view. If we look closely, we often find unexpected botanical or zoological treasures.

1 Sand lizard
2 Domestic pigeon
3 White-toothed shrew
4 House sparrow
5 European red slug
6 Small tortoiseshell
7 Bush cricket
8 Map (butterfly)
9 Comma (butterfly)
10 Firebug
11 Black vine weevil
12 Plantain
13 Ribwort plantain
14 Common stork's bill
15 Common toadflax
16 Common nettle
17 Sorrel

3 A prickly neighbour

Depending on their size, hedgehogs have a suit of armour consisting of between 5000 and 7000 spines. When threatened, they roll into a tight ball, which gives them perfect all-round protection. Hedgehogs spend the winter hibernating in safe and well-padded dens. During the first balmy nights in April, they leave the safety of their dens and roam through the night in search of food. Hedgehogs mainly feed on snails, earthworms and insects. But frogs, lizards and even snakes can also be part of their diet.

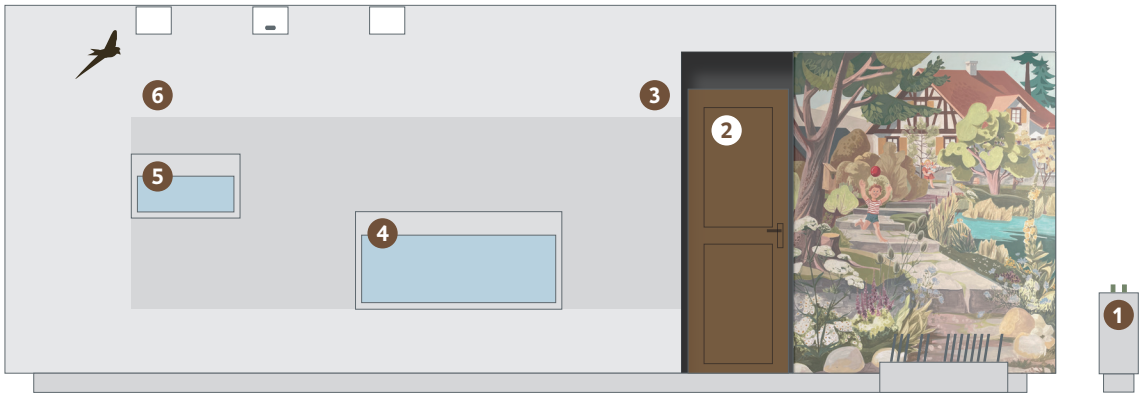
4 City slickers

Red foxes not only live in wooded areas, but also in villages and cities, where they hide away in gardens, parks, cemeteries and backyards. As omnivores they find plenty to eat in compost heaps, refuse bins and discarded leftovers. They are accompanied by an unwelcome guest, the fox tapeworm. This parasite can also infect humans, leading to severe liver damage. Approximately ten people are infected in Switzerland every year. The infection is often caused by the consumption of garden produce that has been contaminated by fox droppings. Fruit and vegetables from the garden should always be washed or preferably even cooked before eating.

5 Pussycat or feline predator?

There are 1.5 million domestic cats in Switzerland, approximately 1 million of which are free to roam outdoors. This makes our household pets the most common indigenous predators. Cats preferably hunt animal species that are abundant and easy to catch. Their favourite prey includes mice and birds, for example sparrows, blackbirds and robins. The impact of cats on the population numbers of individual species is difficult to assess and only a few studies have to date compared the number of animals killed by cats with the reproductive success of each species. However, we can say that cats pose a serious threat to species that have already been decimated by other factors.

1st floor Villages, towns and cities



1 Life on our workshop roof

Small oases of nature can be created in urban areas by covering the roofs of houses with vegetation. Protected from trampling, different types of greenery grow on these roofs. And with the plants come insects, which in turn are food for birds and other animals. A stone marten, a nuthatch, a woodpecker and a jackdaw are hiding on our workshop roof and in the trees. The binoculars will help you spot them.

2 Life in the attic

Using the torch, who can find the animals that live in the attic?

– two house mice
– a common pipistrelle with its young
– a house spider
– a wasp's nest
– a colony of greater mouse-eared bats
– a stone marten

3 Hanging upside down from the rafters

For a long time, bats were suspected of being in league with evil spirits. Today, we are fascinated by their way of life. Bats have a highly developed echolocation system, which helps them find their prey, even in pitch dark. Their spatial memory is so precise that they can find roosts that are hundreds of miles apart. Bats spend the colder months hibernating. During that time, their body temperatures decrease to just above freezing point. Canton Thurgau is known to have 20 different species of bat. First described in 2001, the Alcathoe bat is the most recent of these.
A small colony of greater mouse-eared bats can be found hanging in the attic.

4 Animal lodgers

They are numerous, our animal lodgers. Be it in cracks in the walls or behind wardrobes, in the basement or in the attic – humans are not the only ones who like to live in apartments and houses. It is for good reason that animals choose to live in human dwellings: a constant climate, abundant food and a great many hiding places to choose from. But those who wish to avail of these things, must not be put off by the presence of humans. Flexibility and adaptability are necessary skills. These uninvited lodgers can sometimes prove to be right pests. Who would ever choose to share their cellar with mice or their kitchen with cockroaches? Most of these animals are nocturnal, but their secret activities are given away by the various traces they leave behind.

Display case, from left to right:
Indianmeal moth
Feral pigeon
Fruit fly
Wasp
Skin beetle
Oriental cockroach
Flies with maggots
Brown rat
House mouse
Jet ant
Common clothes moth

5 Living fossils

Who has not looked in disgust at woodlice? In fact, the blackish brown creepy-crawlies deserve more respect than we give them; after all, they have roamed the Earth for 450 million years. Apart from their size, they have barely changed in all that time. This means that woodlice are, in fact, living fossils. There are more than 10,000 species of woodlouse worldwide today, the majority of which live in the sea. Our common rough woodlice are photophobic, i.e. they prefer dark and shady places. Hit the light switch – with a little luck, you will see the animals scurrying to safety.

Marine isopod
Solnhofen (D), c. 135 mill. years
By courtesy of the Mayor Müller Museum, Solnhofen

6 The common swift

They zoom around church towers and up and down alleyways as fast as lightning. Swifts spend almost all of their lives up in the air; they hunt, drink, sleep, and even mate in flight. They almost exclusively build their nests in buildings. Renovations and alterations on such structures can lead to a loss of nesting sites that have been used for several decades. This could be avoided; there are simple measures that can be put in place, like these nest boxes.

Forests

If the Thurgau region was devoid of people, almost the entire canton would be covered in dense beech forests. With its woodland coverage of only 20 percent, Thurgau is today one of the most sparsely wooded Swiss cantons.

As near-natural habitats, forests are of great importance. Almost half of all plant and animal species live in forests. They are also important water reservoirs. They protect us from natural hazards and erosion, provide fuel and construction materials and offer a recreational space for people to enjoy. There are different types of forest, depending on the location, elevation, climate and type of soil. As many as 64 different forest communities exist in the Thurgau region.

1 More than just dirt

The forest floor is more than just dirt. The Earth's surface and the area beneath it are teeming with life. Waste, however, does not belong in the forest. Not only does it look awful, it is also dangerous – like this bottle, which has become a death trap for small animals.

1 Eurasian wren
2 Common shrew
3 Wood mouse
4 Fire salamander
5 Wood ant
6 Horntail
7 Leatherback ground beetle
8 Dryad
9 Dung beetle
10 Ash-black slug
11 Blackberry
12 Wild strawberry
13 Hazelwort
14 Wood fern
15 Honey fungus

2 Small animals up close

Looking through the magnifying glass reveals the rich and fascinating wildlife that inhabits the forest floor.

3 Searching for clues

Many of the animals that live in the forest like to remain hidden. But they all leave behind traces. These drawers contain some of them.

4 An interloper in the nest

It happens to the sparrow, the wagtail and the wren – we know of over 100 bird species whose nests can be chosen by cuckoos to lay their eggs in. The male cuckoo distracts the prospective foster parents while the female uses the moment to lay her egg into their nest unseen. Because young cuckoos grow faster than the host species, they are soon big enough to throw their "siblings" out of the nest. Here, a robin can be seen feeding a young cuckoo.

5 An omnivore capable of adapting

The red fox occupies a vast range of habitats worldwide. Distinguished from other fox species by its ability to adapt to new environments, it can be found all over Switzerland, even at elevations of over 3000 m above sea-level. Foxes rarely live longer than 4 years. With 4 to 6 kits per litter, the species' procreation is guaranteed. Frequent causes of death are disease including mange and canine distemper and also traffic. Rabies is no longer a problem as it has been eradicated in Switzerland since 1999.

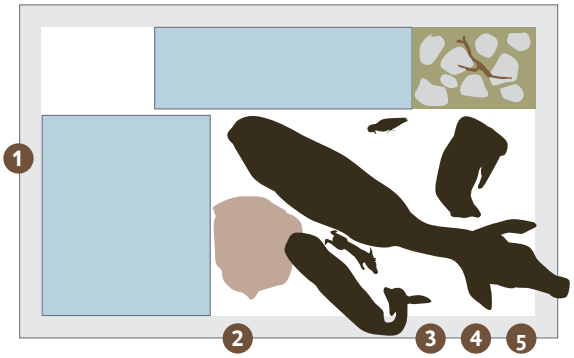
6 A comeback with the help of humans

Lynx were once native to all of Switzerland. Hunting and habitat loss thanks to forest clearing led to their disappearance in the 17th and 18th centuries. In the 1970s lynx were reintroduced to central and western Switzerland. In the 2000s, a number were moved from there to the north-east of the country. Switzerland once again boasts a stable population of lynx, though the species is only occasionally seen roaming the Thurgau region due to the absence of sufficiently large wooded areas.

Tracker collar for a lynx
On loan from the KORA Lynx Project, Bern

7

Animals in the forest
4.5 mins



1 It was the nightingale and not the lark

Forests as the last large natural habitats are home to more than half of all plant and animal species in Canton Thurgau. They include a great many bird species that find food, hiding places and nesting sites there – provided forests are used and managed in a near-to-nature and site-appropriate way.

1 Nightingale
2 Eurasian hobby
3 Tawny owl
4 European scops owl
5 Song thrush
6 Eurasian pygmy owl
7 Sparrowhawk
8 Long-eared owl
9 Serin
10 Dunnock
11 Bullfinch (male)
12 Bullfinch (female)
13 Stock dove
14 Northern goshawk
15 Goldcrest
16 Common firecrest
17 Eurasian golden oriole
18 Coal tit
19 Long-tailed tit
20 European jackdaw
21 Red crossbill
22 Crested tit
23 Garden warbler
24 Willow warbler
25 Fieldfare
26 Blackcap (female)
27 Blackcap (male)
28 Chiffchaff
29 Icterine warbler
30 Wood warbler
31 European honey buzzard
32 Eurasian woodcock
33 Eurasian collared dove
34 Eurasian wren
35 Turtle dove
36 Hawfinch
37 Eurasian jay
38 Common woodpigeon
39 Lesser whitethroat
40 European nightjar
41 Boreal owl
42 Hazel grouse

2 Deadwood is very much alive

Forests that are managed according to near-to-nature management principles contain areas with old and dead trees. Such old-growth and deadwood areas are of immense ecological value. All our indigenous woodpecker species, for instance, are dependent on ancient trees. Their hollows also offer homes to tenants like hornets. The robin uses deadwood as a perch, the larvae of jewel beetles feed on it. Their burrows in turn are then used by bees and wasps as nurseries.

1 Black woodpecker (female)
2 Middle spotted woodpecker
3 Lesser spotted woodpecker (male)
4 Eurasian wryneck
5 Grey-headed woodpecker (male)
6 European green woodpecker (male)
7 Great spotted woodpecker

3 Red deer

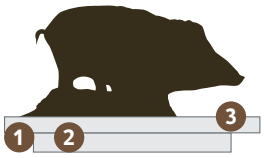
Adult red deer can weigh up to 250 kg and live up to 30 years. They live in herds made up of either females or males. It is only during the rutting season that dominant stags hold harems.

4 Roe deer

Roe deer weigh up to 32 kg and live no longer than 20 years. In the winter they live in mixed-sex groups but are solitary during the rutting season and while rearing their fawns.

5 Badger

Badgers weigh up to 20 kg and live up to 16 years. Given sufficient food resources, they can be quite numerous and form groups of up to 20 individuals. In Switzerland, badgers live in small family units consisting of the parents and their cubs.



1 Bristly omnivores

Wild boars are very shy forest inhabitants. They are rarely seen during the day because they hide in the thick undergrowth. Come nightfall, they roam the woods – and sometimes can wreak havoc on cultivated land, much to the annoyance of farmers.

2 Adapted to life in the forest

Wild boars are well adapted to life in the forest. They effortlessly move their bulky bodies through the undergrowth. A thick coat keeps them warm and helps to protect them from injury. They have excellent hearing and a keen sense of smell, which enables them to find their way around the woods, even in the dark. Broad hooves prevent them from sinking into the soft forest floor.

3 The wild boar in Canton Thurgau

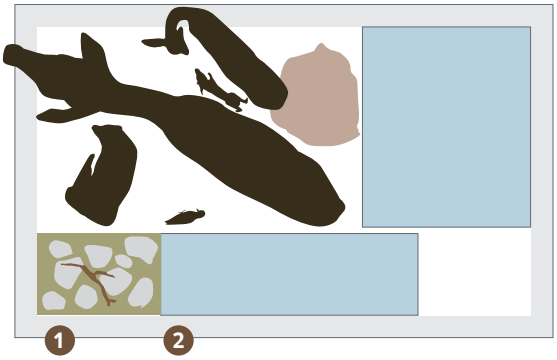
Like everywhere else in Switzerland, wild boar populations in the Thurgau region have rapidly increased in recent decades. While only 20 animals were killed in Canton Thurgau in 1990, numbers today can rise to almost 1000 in some years! The bristly creature can now be found all over Canton Thurgau.

1st floor

Fields and meadows

Animal husbandry and crop cultivation have been the basis of subsistence for the people of Thurgau for at least 7000 years. During that time, human impact has gradually transformed a largely wooded natural landscape into an open cultivated one. Its meadows, fields, streams, hedgerows and groves now offer habitats for many different plants and animals that would not exist without the presence of farmers.

Today, market pressures force farmers to rationalise the farming of their land as much as possible. For plants and animals to inhabit the fields and meadows even under these circumstances, it is necessary to allow near-natural areas to exist in between the cultivated fields. Farmers must be compensated by the state for the maintenance of such areas – after all, we all benefit from a diverse cultural landscape.



1 More than just a pile of stones

Hedgerows, shrubs, piles of branches or stones: unremarkable landscape features such as these are of great importance to a variety of creatures. A simple pile of stones is a place for lizards to live. Hedgehogs find shelter in hedgerows and birds build their nests there. It is well worth creating such micro habitats, be it on the edges of fields or meadows, in urban green areas or in our own gardens. This requires little effort but is of great benefit to plants and animals.

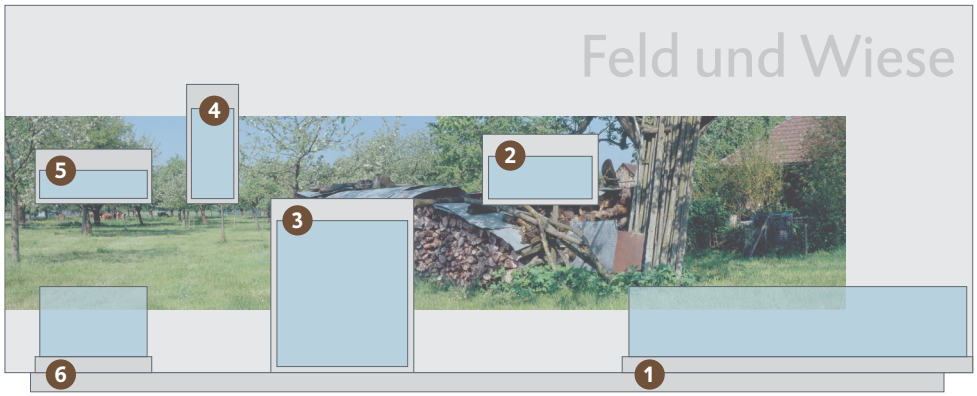
1 Red-backed shrike
2 Common shrew
3 Little weasel
4 Burgundy snail
5 Painted lady
6 Leatherback ground beetle
7 Blackthorn
8 Blackberry
9 Oregano
10 Common puffball
11 Impaled bush-cricket (shrike's prey)
12 Impaled giant horsefly (shrike's prey)
13 Impaled bumblebee (shrike's prey)

2 Diversity as a result of human impact

The numerous plants and animals that inhabit cultivated land include over 40 different species of bird. However, their occurrence is contingent on whether there are little used areas with small features such as hedgerows or copses nearby. Habitats that lack features such these are suitable for only a few undemanding bird species.

1 Red-backed shrike
2 Common redstart
3 Common kestrel
4 Marsh tit
5 Northern lapwing
6 Greenfinch
7 Yellowhammer
8 Tree pipit
9 Little owl
10 European pied flycatcher
11 Eurasian nuthatch
12 Common swift
13 Chaffinch (female)
14 Chaffinch (male)
15 Goldfinch
16 Barn owl
17 Common buzzard
18 European starling
19 Common raven
20 Eurasian blue tit
21 Great tit
22 Carrion crow
23 Black redstart
24 Common linnet
25 Common quail
26 Barn swallow
27 Eurasian skylark
28 Short-toed treecreeper
29 Whinchat
30 Western yellow wagtail
31 Common whitethroat
32 Woodlark
33 Peregrine falcon
34 Tree sparrow

1st floor Fields and meadows



1 An oasis of nature within cultivated land

Rough pastures are inhabited by a great variety of plants and animals. They form oases of nature within intensively cultivated land. One square metre of rough pasture can contain up to 50 different plant species. A square metre of fertile meadow or rich pasture has only 15 species at most. The many flowering plants in rough pastures attract lots of insects, and because they are not mown as often, ground-nesting birds like the Eurasian skylark build their nests there and brown hares rear their young.

1 Young European hares
2 Field vole
3 Eurasian skylark
4 Brown-lipped snail
5 European field cricket
6 Orange tip
7 Swallowtail
8 Golden ground beetle
9 Clouded yellow
10 Blue gossamer-winged butterfly
11 Wart-biter
12 Roesel's bush-cricket
13 Rufous grasshopper
14 Common field grasshopper
15 St. John's wort beetle
16 Wasp spider
17 Dark bush-cricket
18 Nursery web spider
19 Crab spider
20 St John's wort
21 Common restharrow
22 Cornflower
23 Wood pink
24 Common agrimony
25 Oregano
26 Teasel
27 Great burnet
28 Lady's mantle
29 Ribwort plantain
30 Broadleaf plantain
31 Brown knapweed
32 Common yarrow
33 Harebell

2 The cockchafer

In the Middle Ages, cockchafers or Maybugs were seen as the Devil's plague. How else could it be possible for the voracious bugs to remain hidden for years, only to suddenly reappear en masse and eat all the leaves off the trees? Today, such "mass flights" occur every 3–4 years. Up to the 1970s, cockchafers were controlled by pesticides such as DDT. Today, nets are the preferred method. However, this leaves the problem of the larvae, or cockchafer grubs, which live in the ground and can inflict a lot of damage on tree roots.

3 Busy ground burrowers

Both earthworms and moles live below ground and industriously build their burrows in the dark. Up to 300 earthworms can be found beneath a single square metre of ground, with burrows of up to 900 metres in length. Earthworms feed on plant matter. They loosen and mix the soil and their casts are an invaluable fertiliser. Healthy earthworm populations therefore increase soil quality. Another busy underground worker is the mole. It never stops moving around the burrows it has constructed to search for food such as woodlice, insect larvae, spiders – or earthworms. Moles have sensory vibrissae or whiskers that help them detect their prey. They discard their waste material roughly every metre. This is how molehills are formed.

1 Earthworm
2 Cockchafer grub
3 Blackbird
4 Mole cricket
5 Mole
6 Dandelion with taproot

4 Cave dwellers as subtenants

The European dormouse is one of the species that live in old standard fruit trees. During the day it sleeps in hollow sections of the trunk or branches, where it also rears its young. Old varieties of fruit tree are rarely found on cultivated land today. Instead, dormice sometimes move into vacant nesting boxes.

5 Where our cider grows

Up until around 1950, the Thurgau region had approximately 1000 apple varieties. No wonder then that the canton was known in common parlance as ‘Cider India’. Since the 1960s, thousands of apple trees have been felled because they were no longer really profitable. This has not only eliminated a common characteristic of the Thurgau landscape, but many of the varieties of fruit have also been lost. Each individual loss reduces our ability to breed new varieties in response to climate change or new pests.

Models by Victor Dürfeld, c. 1880
Papier mâché, coated in wax, filled with sand to represent their weight.
On loan from Agroscope, Wädenswil ZH

Königlicher Kurzstiel, London Pepping, Charlamowsky, Roter Astrachan, Geflammter Kardinal, Kleiner Katzenkopf, Schafsnase, Kleiner Fleiner.

6 A buffet for many

In the late summer and autumn, the ground beneath fruit trees is often covered in windfalls, overripe apples and other fruit that have been blown down by the wind. Bruised and prone to rotting, to us they have very little value. For numerous animals, however, the sweet and juicy fruit is a welcome source of nutrition. As well as many small animals and birds, large mammals like red foxes, badgers, deer or boar, also gorge themselves on windfalls.

1 Common starling
2 European peacock butterfly
3 Common wasp
4 Grey field slug
5 Red slug

Survivalists

1 Lichens and mosses

Lichens and mosses can survive extreme environmental conditions. They are pioneers and, as such, the first plants to move into barren locations. Some 1100 different mosses are known in Switzerland. Many can store large amounts of water and thus survive lengthy periods of drought. Lichens are symbiotic communities of algae and fungi. The algae produce their own nutrition by photosynthesis. The fungus forms the body of the lichen, which absorbs water and mineral salts. Lichens only grow a few millimetres a year, but they can live for several millennia. Many lichens and mosses have old common names, which can be confusing because, long ago, lichens used to be called mosses and vice versa.

1st floor

Rivers and lakes

Water is the source of all living processes on Earth. It creates landscapes and offers a habitat for many plants and animals.

Water bodies are highly dynamic habitats; ponds can silt up, lake water levels fluctuate, streams and rivers can go from small trickles to raging torrents that can tear away their banks during thunderstorms. The dynamic nature of water bodies creates ever-changing living conditions. Plants and animals inhabiting water or habitats near water must be able to adapt quickly. This also applies to humans; for millennia, we have been inhabiting areas adjacent to rivers and lakes to be close to the life-giving properties of water.

1 Waterlilies
have pores on the top side of their leaves that regulate the exchange of air. In terrestrial plants, these pores are on the underside of the leaves.

2 The kingfisher
rubs an oily secretion onto its plumage to prevent its feathers from becoming saturated with water.

3 Muskrats
have stiff bristles on their toes and hind feet. Their tails serve as rudders and their fur is water-repellent.

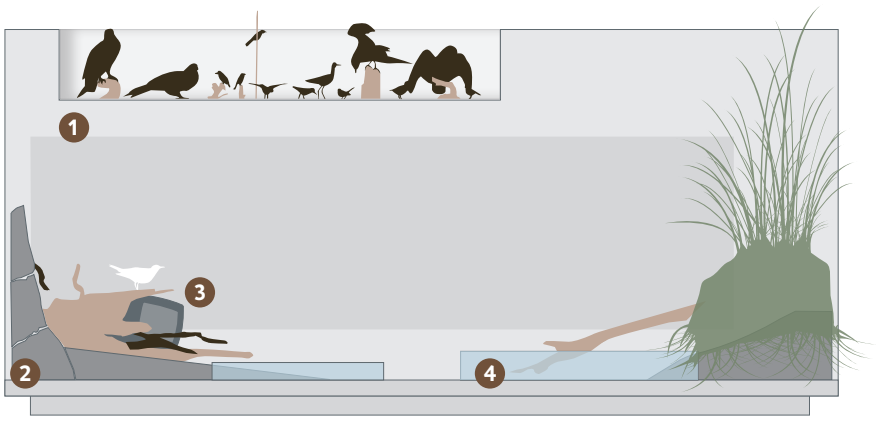
4 Alpine newts
breathe through their skin like all amphibians and this allows them to remain submerged for several hours at a time.

5 Caddisfly larvae
create protective cases which adhere to stones in water. This prevents them from being washed away or eaten by predators.

6 Winter visitors to the Thurgau region
Many Swiss water bodies remain ice-free in the winter. That is why numerous water birds from northern Europe spend the colder months at our lakes and rivers. Approximately 13 percent of the canton is covered by water, four times the national average; the majority is made up by Lake Constance, which is very important as a winter habitat. More than a third of the estimated 500,000 water birds that winter in Switzerland can be found on Lake Constance.

Display case, from left to right:
Common moorhen
Northern shoveler
Goosander
Great crested grebe
Black-necked grebe
Little grebe
Eurasian coot
Spotted crake
Tufted duck
Garganey
Northern pintail
Common curlew
Common redshank
Golden plover
Black-tailed godwit
Common snipe
Common pochard
Red-crested pochard

7 Clever fish hunters
Numerous great cormorants can be seen on Thurgau lakes in winter. They feed on fish, which they like to steal from nets too, much to the annoyance of fishermen. The clever thieves identify the nets by their floats. People try to stop them from stealing by shooting them or driving them away, but such campaigns are not very successful. The birds fly away – only to do the same elsewhere.



1 Diversity near water

Numerous bird species can be found near water. Their common denominator is that their bodies are specifically adapted to this habitat. Webbed feet allow them to travel through water faster, long beaks help them to find their food in the mud and a well-oiled plumage stops their bodies from becoming too cold in the water – and those who want to hunt in the water, must be able to dive.

From left to right:
Osprey
Black kite
Common kingfisher
Common reed bunting
Great reed warbler
Little ringed plover
Common sandpiper
Common greenshank
White wagtail
Common gull
White-throated dipper
Short-eared owl
Water pipit

2 Forced into a straitjacket

'Oh country of the meandering River Thur'. In 1842, when Thomas Bornhauser wrote the lyrics of the *Thurgauerlied* [Song for Thurgau], the river still ran its own unrestricted course through the region. The first Thur Correction was carried out in 1867. The river was straightened, an artificial riverbed of crushed rock was introduced, and the banks were shored up with massive blocks of stone. The river lost its original dynamic nature and was now more like a channel. Important habitats for plants and animals were eliminated and in 1977 and 1978, the river flooded its banks in several different places. As elsewhere in Switzerland, it also became obvious in the Thur Valley that river regulation provides highly inadequate protection against flooding.

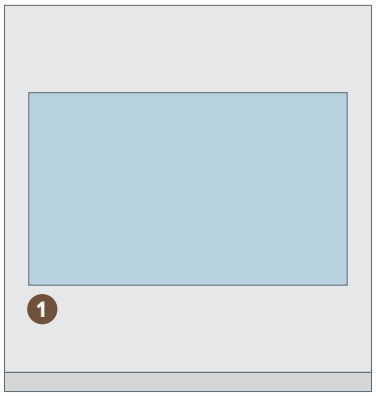
3

The River Thur flooding its banks in 1964
1 min.

4 Free flowing water

A natural riverbank is not only more sustainable than one that is stabilised with blocks of stone; near-natural riverscapes are also safer from flooding than rivers crammed into concrete straitjackets. Several flooding events on the River Thur in the 1970s convinced the authorities that remedial action would be necessary to upgrade the protective structures. Restoration work has been carried out in several stages since 1993. Ecological considerations have become increasingly important. The river now has more room. Flood plains, old river courses and gravel banks are being recreated. The project has been successful so far. The new constructions have withstood several flooding events in recent years. The natural flora and fauna are also returning. Rare plants are flowering again. Fish species such as the souffia have increased in number thanks to the gravelly riverbed and little ringed plovers are nesting on the gravel banks once again.

1 Muskrat
2 Eurasian reed warbler
3 Mallard
4 Grass snake
5 Water frog
6 Blue hawker
7 Weaver beetle
8 Exuviae of the blue hawker
9 Willowherb hawk moth
10 Elephant hawk moth
11 Willow
12 Reed
13 Bulrush
14 Butterbur
15 Coltsfoot



1 Fascinating fish diversity

Who would have thought that Canton Thurgau has more than 40 different fish species. This variety should come as no surprise, as the many streams, rivers, ponds and lakes throughout the canton offer such favourable conditions for a species-rich fish fauna. The images were taken in local bodies of water and provide a fascinating insight into a world that we would otherwise have no access to.

Images: Michel Roggo, Fribourg, 2023/2024

To the Seebach Valley:

Time travel through a landscape

Landscapes are subject to constant change. Natural forces such as water, ice, sun or wind change the face of a landscape. A few thousand years ago, another force was added: humans. Humans impacted their environment from the beginning, and under their influence the original natural landscape was gradually transformed into a cultivated one. Using the Seebach Valley as an example, this part of the exhibition illustrates the eventful development of a Thurgau landscape.

The Seebach Valley 12,000 years ago

The first humans

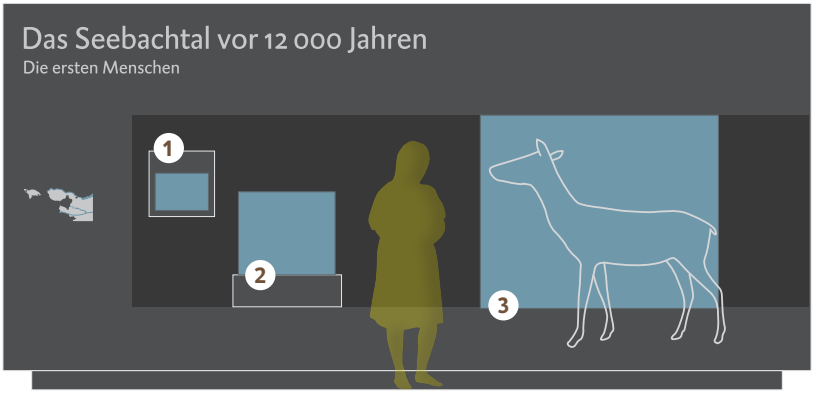
The Seebach Valley is located eight kilometres north-west of Frauenfeld between the Thur Valley and the Seerücken hill range. The landscape is characterised by three lakes: Hüttwil, Nussbaum and Hasen See. They are the remnants of an ancient lake, which formed approximately 15,000 years ago at the end of the last Ice Age, when meltwater from the glaciers was trapped between the last remaining end moraines.

The earliest evidence of human presence in the Seebach Valley dates from between 9700 and 5500 BC. The first permanently inhabited village was established around 3800 BC. The first settlers enjoyed favourable living conditions. The lowlands

had water bodies teeming with fish, vast marshes and alluvial forests. The slopes of the hills were covered in dense virgin forests of predominantly oak, lime/linden, elm and hazel. Wild animal species such as bear, elk, deer, aurochs and European bison roamed the landscape.

Natural landscape • today: cultivated landscape • **Closed primeval forests** • today: small-scale managed timber forests • **Vast swamp forests and marshes** • today: small-scale swamp forests and marshes • **Lake level 430 m above sea-level** • today: lake level 435 m above sea-level • **Big game: bear, wolf, deer, aurochs, European bison** • today: big game species have disappeared • **Hunting wild animals and fire clearing** • today: agriculture, leisure activities, renaturation

1st floor The Seebach Valley



1 The first humans

Minute flint splinters bear witness to the earliest human activity in the Seebach Valley. They date from the Mesolithic period from around 9700 to 5500 BC and are some of the earliest objects attesting to the presence of humans in the Thurgau region. The sites where they were found were probably once the camps of hunters and gatherers who roamed the landscape around the three lakes. Bodies of water teeming with fish and forests with abundant wildlife made the area an ideal place for them to live.

2 Beaver steak and hedgehog roast

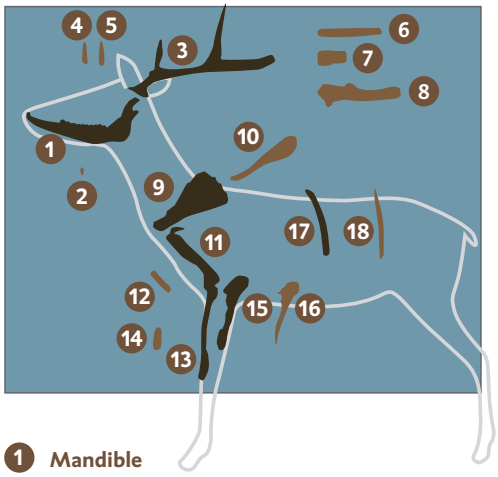
The early inhabitants of the Seebach Valley hunted a variety of wild animals. They were not particularly fussy. Most of the bones on display bear cut marks which show that the animals were indeed consumed.

1 Brown bear
2 Wild cat
3 Badger
4 Marten
5 European polecat
6 Beaver
7 Red squirrel
8 Hedgehog
9 European pond tortoise

Loans: Archaeology Department of Canton Thurgau
All objects c. 3400 BC

3 From axes to sewing needles

To prehistoric people, a wild animal was a source of many different raw materials. Red deer were the most important prey. Besides meat, their coats, bones, sinews and teeth were used to make clothes, rugs, tools and jewellery. Bones and antlers were particularly useful and were made into a wide range of objects.



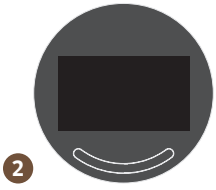
1 **Mandible**
2 Raw material: mandible – tooth pendant
3 **Antler beam**
4 Raw material: antler – pendant
5 Raw material: antler – tool handle
6 Raw material: antler – spatula
7 Raw material: antler – axe sleeve
8 Raw material: antler – pick
9 **Scapula**
10 Raw material: scapula – spoon/ladle
11 **Femur**
12 Raw material: femur – chisel
13 **Radius**
14 Raw material: radius – chisel
15 **Ulna**
16 Raw material: ulna – dagger
17 **Rib**
18 Raw material: rib – hackle

Loans: Archaeology Department of Canton Thurgau
All objects c. 3400 BC

1 Bears in the Seebach Valley

Water bodies teeming with fish in a landscape with mixed deciduous forests and dense undergrowth made the Seebach Valley an ideal habitat for brown bears. Their presence in the valley in the past is attested to by archaeological finds such as the bear's tooth on display. We can assume that bears lived and were hunted here up to the Early Middle Ages. It is not clear when the bear disappeared from the Seebach Valley. Bear baiting on Thurgau soil was last recorded on Hörnli mountain in 1532. On 28th July 2005 a brown bear was photographed in the Swiss National Park. It was the first sighting of a bear in Switzerland in a century. Since then, various animals have crossed over from Italy to Switzerland. However, they all disappeared again after a while.

Canine tooth, brown bear
C. 3380 BC
On loan from the Archaeology Department of Canton Thurgau



2

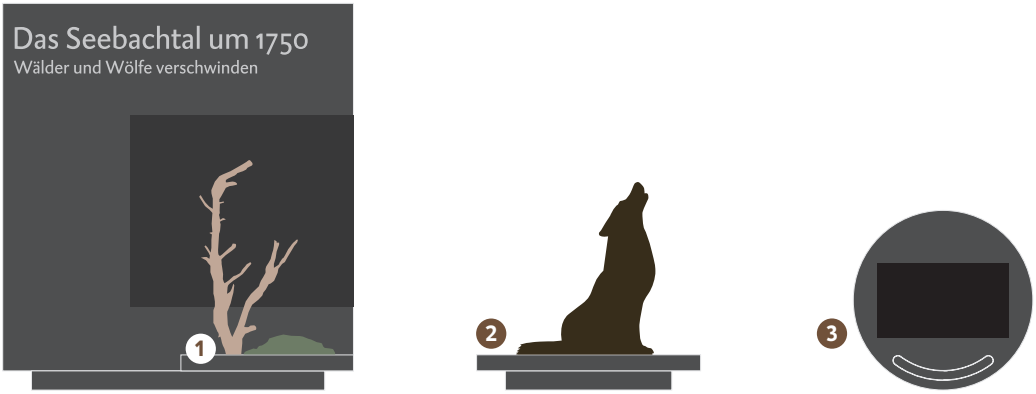
Please operate the foot switch to start the film:
The Seebach Valley 12,000 years ago
The first humans
5 mins

The Seebach Valley around 1750

Forests and wolves began to disappear

In the 18th century, much of the Seebach Valley was in the hands of the nearby Ittingen Charterhouse. The monastery had strict rules with regard to the running of its properties, which indirectly impacted the development of the landscape. The land was divided into many small parcels. Both the agricultural and the viticultural areas were much larger than they are today. Hedgerows, reed meadows and rough pasture were home to a rich flora and fauna.

The forests, however, were in poor condition. Having once been the dominant landscape component, wooded areas had already been in steep decline since the Middle Ages. Typical forest-dwelling species such as deer, roe deer or boars were becoming increasingly rarer throughout the 18th century. Eventually, the final link in the food chain, the wolf, also disappeared.



1 Forest overuse

Due to significant population growth, forest areas in the Seebach Valley in the 18th century were only half the size they are today. More and more farmland, construction timber and firewood were needed. The remaining forests were also overused: farm animals ate the fruits from the trees and sometimes caused browsing damage. This stopped the regeneration of the forests. Trees were crippled by the extraction of resin and by pollarding, the cutting of green branches for use as animal fodder. This led to wood shortages in many areas. Thanks to targeted forestry measures, the Seebach Valley forests have once again increased in size. In many places, they are lightly managed for the benefit of nature and forestry methods are largely intended to promote biodiversity.

A beech tree crippled by pollarding
Billhook
On loan: Canton Thurgau Historical Museum
Collection of Rural Life

2 The wolf in the Seebach Valley

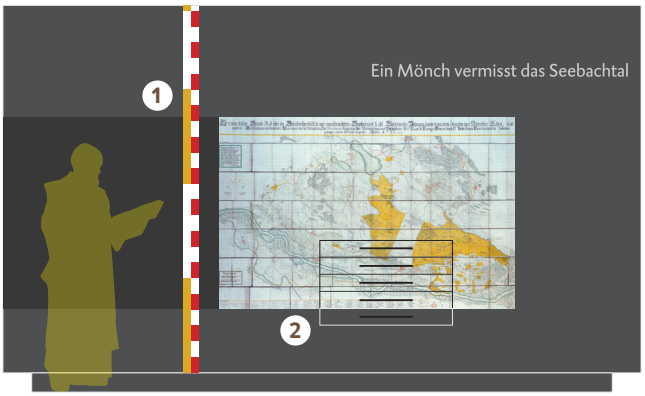
As in the rest of Switzerland, the wolf disappeared from the Seebach Valley around 1800. Serious forest overuse in the 18th century had grave consequences for the fauna; game species such as roe deer, deer and wild boar disappeared. This meant that wolves found it increasingly hard to find prey, which resulted in a growing number of wolf attacks on farm animals and, as a consequence, farmers began to hunt more wolves. From the mid-1990s onwards, wolves began to return to Switzerland and the first litter is known to have been born in 2012. For the first time in over a century, a wolf was spotted in Canton Thurgau in 2017. Since then, individual animals have occasionally roamed the region.

3

Please operate the foot switch to start the film:
The Seebach Valley around 1750
Forests and wolves disappear
7 mins

Forest area 14 percent, woods overused • today: forest area 30 percent, woods sustainably used • **Three-field crop rotation, cultivated land 52 percent, pastureland 25 percent** • today: intensive farming, cultivated land 35 percent, pastureland 23 percent • **Forest clearing and forest overuse** • today: agriculture, recreational activities, renaturation

1st floor The Seebach Valley



The monk who surveyed the Seebach Valley

In the 18th century, surveying techniques reached a highpoint all over Europe. The efficient use of land was dependent on precise maps and plans.

Father Josephus Wech, custodian of the Ittingen Charterhouse from 1743 to 1761, was a master of surveying. Over the course of just three years, he created a map measuring 5 metres in length and more than 3 metres in width of the monastery's properties. At a scale of 1:2000, it contained all lands over which the monastery had a right of use. Together with 39 property lists, the so-called urbaria, the map formed the basis of administration for the monastery's assets.

1 The "Ittinger Feldschuh"

It was not until 1877 that units of measurement were standardised in most parts of Switzerland. A vast array of units of measurement had been used up to that point. Father Josephus defined four different land measurements, one of which was the so-called "Ittinger Feldschuh". Measuring just under 12 inches or 29.95 cm, it corresponded roughly to a European shoe size 46 (size 12 UK). Using the measuring rod you can measure your body height in centimetres and in Ittinger Feldschuhs.

2 See for yourself!

Father Josephus' map is a masterpiece, which we are still captivated by today. Each drawer contains a section of the map.

Drawers, from top to bottom:

Section containing 'Steinegger See' (today's Hüttwil Lake), the municipality of 'Hüttweilen' (Hüttwilen) and the 'Gottshaus Kalchrain'. Hüttwilen was an impressive village even back then.

Section containing the 'Wetzstein' fief near Hüttwilen on the 'Strass nach Kalcheren' (Kalchrain). The section very clearly shows how small the parcels of cultivated land were.

Section containing 'Steinegger See' (today's Hüttwil Lake), Steinegg Castle and the municipality of Nussbaumen. The network of tracks was remarkably dense, even at that time.

Section containing 'Haasensee' and the south-western shore of 'Steinegger See' (today's Hüttwil Lake). The ruins of 'Helffenberg' Castle are clearly marked; the many wet meadows around the lake stand out due to their horizontal hatching.

Detailed view of the 'Herdemer Gricht'. The attention to detail goes so far as to show individual trees, each with its own shadow. The Seebach stream, which had not yet been channelled, can clearly be seen meandering through the landscape.

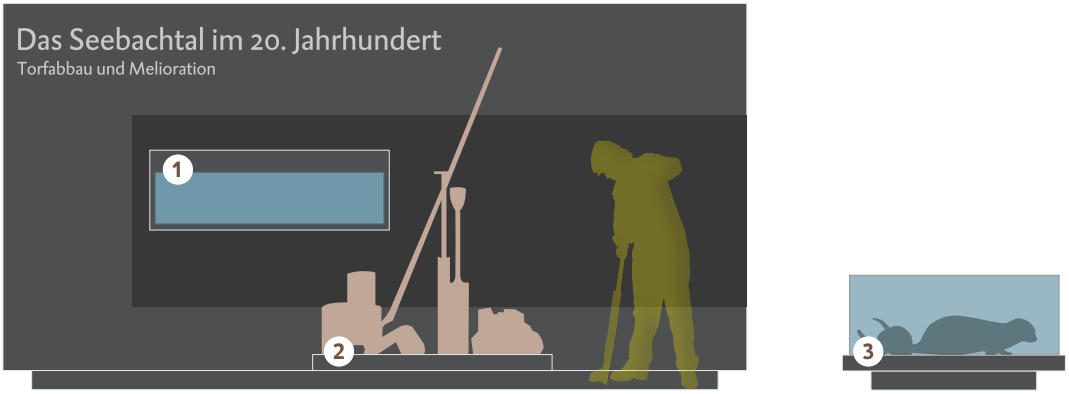
The Seebach Valley in the 20th century

Peat extraction and land development

In the 20th century, the landscape in the Seebach Valley underwent fundamental changes, mainly prompted by continuous peat extraction, substantial land consolidation during the Second World War and increasingly intensive farming. Within a short period of time the traditional cultural landscape around the three lakes was transformed into an intensively managed agricultural and recreational area. This was not without consequences for the habitats of plants and animals.

Large percentage of reed beds and wet meadows within the cultural landscape • today: small percentage of reed beds and wet meadows within the cultural landscape • **Eurasian otter and beaver populations collapsed, wild boars rarely seen** • today: beavers reintroduced, wild boars frequently seen • **Land development and lowering of lake-levels** • today: agriculture, recreational activities, housing development, hypolimnetic withdrawal, since 1999 renaturation

1st floor The Seebach Valley



1 Disappeared

The lowering of lake levels and land development measures had serious consequences for the habitat structure of the Seebach Valley. Many wetland areas were destroyed and the lowering of the lake levels led to a loss of invaluable shallow-water zones near the lakeshores, which resulted in shrub and bush encroachment. After a short period of time, the diverse habitats within the traditional cultural landscape of the three lakes region disappeared, along with numerous plants and animals, for instance these bird species, all of which once nested in the Seebach Valley.

Display case, from left to right:
Eurasian hoopoe
Great grey shrike
Common grasshopper warbler
Corn crake

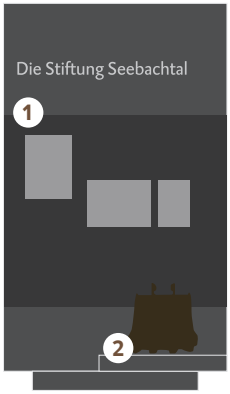
2 Peat extraction and land development

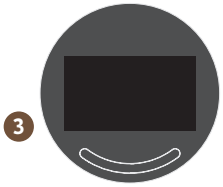
In the past, farmers only extracted as much peat as they needed to maintain their own fuel and fertiliser supplies. Land drainage too was done on a small scale to increase cropland. It was not until the advent of industrial peat extraction and land development measures put in place during the Second World War that many of the wetland areas disappeared. The lake levels were lowered by approximately 1.5 metres and an area seven times the size of Nussbaumen Lake was drained. The consequences for flora and fauna are still being felt today.

Gully scoop (gooseneck), mid-20th century
On loan: Canton Thurgau Historical Museum Collection of Rural Life
Peat spade, 19th and early 20th centuries
On loan: Canton Thurgau Historical Museum Collection of Rural Life
Drainage shovel, mid-20th century
On loan: Canton Thurgau Historical Museum Collection of Rural Life

3 The Eurasian otter in the Seebach Valley

The Eurasian otter was long considered to be close to a fish, which is why it could be eaten during Lent. We know that otter was part of the monastic diet at the Ittingen Charterhouse. While the last sighting of a Eurasian otter in the Seebach Valley dates back to 1946, they were still observed along the River Thur up until the 1970s. Besides extensive hunting, the disappearance and pollution of water bodies resulted in the collapse of the otter populations in Switzerland and no further sightings were recorded until 2009. Since then, otter numbers have increased, and pups have also been observed. All the evidence suggests that otters from Austrian and French populations are spreading into Switzerland.





The Seebach Valley Foundation

1 Despite various intrusions, the Seebach Valley has retained significant areas of natural landscape. The Seebach Valley Foundation was created in 1994. Its main objective is to preserve the landscape of the three lakes region for future generations. A new chapter in the landscape's history has begun. Preservation and enhancement measures have once again restored the richness and beauty of the landscape in many places.

2 Carpark or low-level moor
Despite its high level of protection, the Seebach Valley will continue to be exposed to human impact. On the one hand, the three lakes region is becoming increasingly popular as a residential and recreational area, on the other it is a nature reserve where large swathes of land are being restored and rewilded – often with the aid of heavy machinery. Time will tell how these opposing forces can be reconciled. In that sense, the Seebach Valley is representative of the development of the entire landscape of Canton Thurgau.

3
Please operate the foot switch to start the film:
The Seebach Valley in the 20th century
Peat extraction and land development
5 mins