

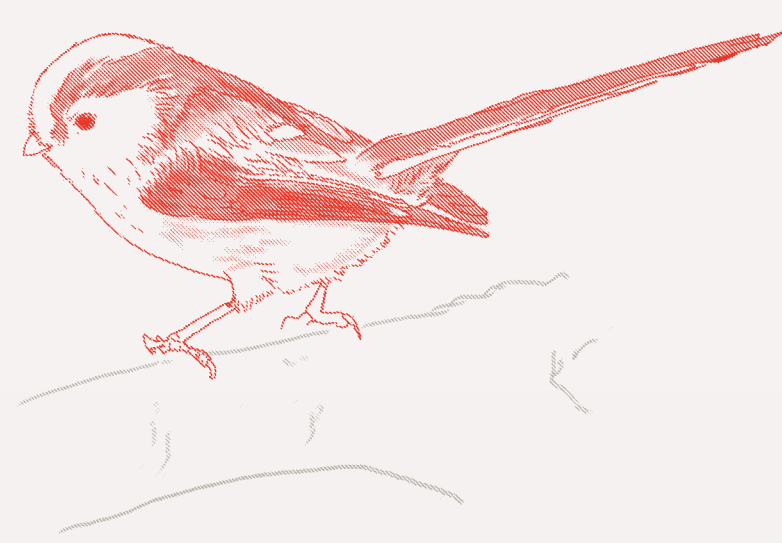
# Hidden Diversity of the Bird Habitat

## BIRDS IN THE FLOODPLAN

The floodplain often looks impenetrable to us: a thick patchwork of mosaics is formed by dry earth, reed beds and dense undergrowth. Many small birds live in the thicket of bushes that can be found at the edge of the riverbanks and woods, especially when the bushes are overgrown by climbing plants. Though it might look untidy to us, on closer inspection, this environment offers a multitude of sunny and shady, dry and damp niches with hiding places and food. We urgently need these areas of wilderness in order to protect the diversity of plants and animals from the modern world. Migratory birds additionally need stepping stone habitats in order to be able to rest on their journeys.

### 1 Long-tailed Tit

Aegithalos caudatus



#### Characteristics:

Weighing only 8 grams, this tiny titmouse has a black and white plumage with pink patches on its wings. Its tail is longer than the rest of its body.

#### Way of life:

Year-round, it flies in small groups with its own kind. In winter it also likes to fly with other titmice.

#### Food:

Small insects are the main food of the long-tailed tit.

#### Habitat:

It prefers to live in forests with thickets and near water.

#### Endangerment:

Currently not endangered

#### Special Feature:

Why does the nest of the long-tailed tit glisten? Because of spider webs in its shell!

1) The colorful tit uses its small beak to pick soft-skinned, small insects from branches and bark. These are often aphids, so tits are important helpers in organic gardening and farming. While great tits and blue tits are well-known and common, the white and black-tailed tit is rarer. It is found mainly in alluvial landscapes. Like all tits, they can be found most easily after breeding, when families move around making continuous contact calls.

## RESTING PLACE AND HOME

In the Mediterranean region, human hunting is still the most common cause of death for migratory birds. The Lobau is a protected breeding ground for native gray geese. Northern European waterbirds can rest safely here when they are on their journey south in the fall or on their way back in the spring. For some years now, even cranes have been passing through. The fields in the New Lobau are therefore important feeding areas, especially when winter cereals or winter catch crops are grown.

2) Greylag Geese have become more common again since they have found safe breeding and resting places in protected areas in the EU. They often form a life-long bond with a single mate. They build hidden nests in the old grass in the reed beds, in which they lay their only brood, with four to six eggs, in spring. They need to have water nearby because the young, like most waterfowl, leave their nests immediately. Unlike many other duck species, they forage mostly on land, in meadows and in fields.

### 2 Greylag Goose

Anser anser

#### Characteristics:

The life-size goose shown here can weigh 2-4 kilograms.

#### Way of life:

It likes to live in family groups and move in large flocks.

#### Food:

The greylag goose eats mainly grasses and aquatic plants.

#### Habitat:

It lives in reedbeds and wetlands and finds most of its food in meadows and fields.

#### Endangering:

The population has recovered after strong declines but still needs our protection.

#### Special Feature:

Greylag geese are loyal partners for their entire lives, which is often more than ten years.

2) High in the air above us, birds migrate with a loud cry of nga- nga- nga! Together they form a clear V-shape with a strong, experienced lead bird at the front. They keep taking turns at the front, of course, because it's very tiring. Then they come down and land in the field: large gray birds with long necks, plus pink beaks and pink legs - a greylag goose stands in front of you. They like to build their nests in the old reeds that lie above the water, where it is protected from enemies.



The memory cards in the display case show animals and plants from the surrounding area. With a bit of luck, you can see these species here in real life. Find the matching pictures - but be careful! Not all the pairs of pictures are the same. What do you think is behind the hidden cards?

1) In winter, little black and white balls of feathers with long tails fly in small groups to the bird feeder. For the rest of the year, the long-tailed tit lives quite hidden in the Lobau. Its nest is a real work of art. The little birds use hair, moss, and cobwebs to build a large ball in the fork of a branch or in a tangle of climbing plants so that it can hardly be seen. The parents can then discreetly slip into the side of the nest and raise their children.



# Birds of the Trees and Bushes

## COMMON WHITETHROAT AND GREEN WOODPECKER

Forest edges and hedgerows are particularly important bird habitats: dense branch forks are just as good places for hidden nests as the thick grass near the ground. The small shrubberies that are found in open field landscapes are especially important for biodiversity. Each bird species builds its nest in its own way and has its favorite spots. Some need a view, others prefer to stay inside. In winter and fall, the fruits of many shrubs such as wild roses, hawthorn, and blackthorn are essential sources of food for thrushes, chiffchaffs, warblers and starlings. Migrating birds can also feed and rest on the hedges. For biodiversity to recover, we need more permanent structures in our field landscapes, such as reeds and shrubs.

3) The whitethroat is sparrow-sized and often lives in the same habitat as field sparrows. While sparrows are usually found in larger groups, white-throats live independently. Sometimes in spring we can spot a whitethroat singing at the tip of a dry branch and then we can clearly see its white throat, the gray top of its head and its brown back. Because they migrate across the Mediterranean to Africa every year, whitethroats are exposed to many dangers. It is therefore all the more important that we preserve their habitats in a diverse field landscape, rich in variety.

4) The green woodpecker is typical of orchards, hedgerows, and copses in the field landscape, as long as there are a few old, rotten trees. In the Lobau, these are pollarded willows and poplars, as well as fruit trees. It is important that there are enough lawns because the green woodpecker has to collect a lot of ants on the ground to feel full. It pulls the ants out of their nests using its long, sticky tongue. A very similar „twin species“, the gray woodpecker, is common in Western Europe.

### 3 Common Whitethroat

*Sylvia communis*

**Characteristics:**

This tiny songbird can be easily identified by its delicate 15 cm length, brown back, light gray wings and white tail edges.

**Way of life:**

A summer bird in Europe, the whitethroat can be found in tropical Africa in winter.

**Food:**

It feeds on insects and other small animals, spiders, mollusks and berries.

**Habitat:**

The whitethroat lives on field margins and meadows with single thorn bushes where it can hide well.

**Endangering:**

Unfortunately, a clear decline of the population has been observed due to loss of habitat.

**Special Feature:**

If we create new uncultivated field margins and bushes, the whitethroat will be able to reestablish itself when it returns from its wintering grounds!

We are located here

A whitethroat is in its favorite spot right now. Can you find it?

3) The whitethroat's favorite place is a thorny bush, where it can hide the best. It can also sing loudly from the top: it sounds very scratchy, but it is a beautiful melody. Adult whitethroats love to eat fruits. However, they need lots of small insects to grow strong quickly and to head south in the fall.



*Picus viridis*

### 4 Green Woodpecker

**Characteristics:**

The large green woodpecker has a powerful beak and a red head and neck. Despite its imposing appearance, it only weighs about 160 grams.

**Way of life:**

The green woodpecker remains „site-faithful“ to its home throughout the year.

**Food:**

As a ground woodpecker, it primarily looks for its food on the ground, for example garden ants.

**Habitat:**

It usually builds its nest in old trees, in forests and in open, cultivated land.

**Endangerment:**

Currently not endangered.

**Special Feature:**

If an old tree was allowed to remain in every garden, we wouldn't have to worry about woodpeckers anymore - let's start at home!

4) „He-he-he-he-he!“ are loud calls that we can hear almost all year round. When a large green bird arrives bobbing in flight, it all becomes clear: it is a green woodpecker. Its big strong beak is needed to knock out cavities for nests in old trees and to dig up anthills. Because green woodpeckers also call before thunderstorms in the sweltering summer heat when all other birds are silent, people used to believe that they can predict rain - but this is not true.



Scan the QR code to view the boards in PDF format and for further information about the project.





# Milestone in the History of Surveying

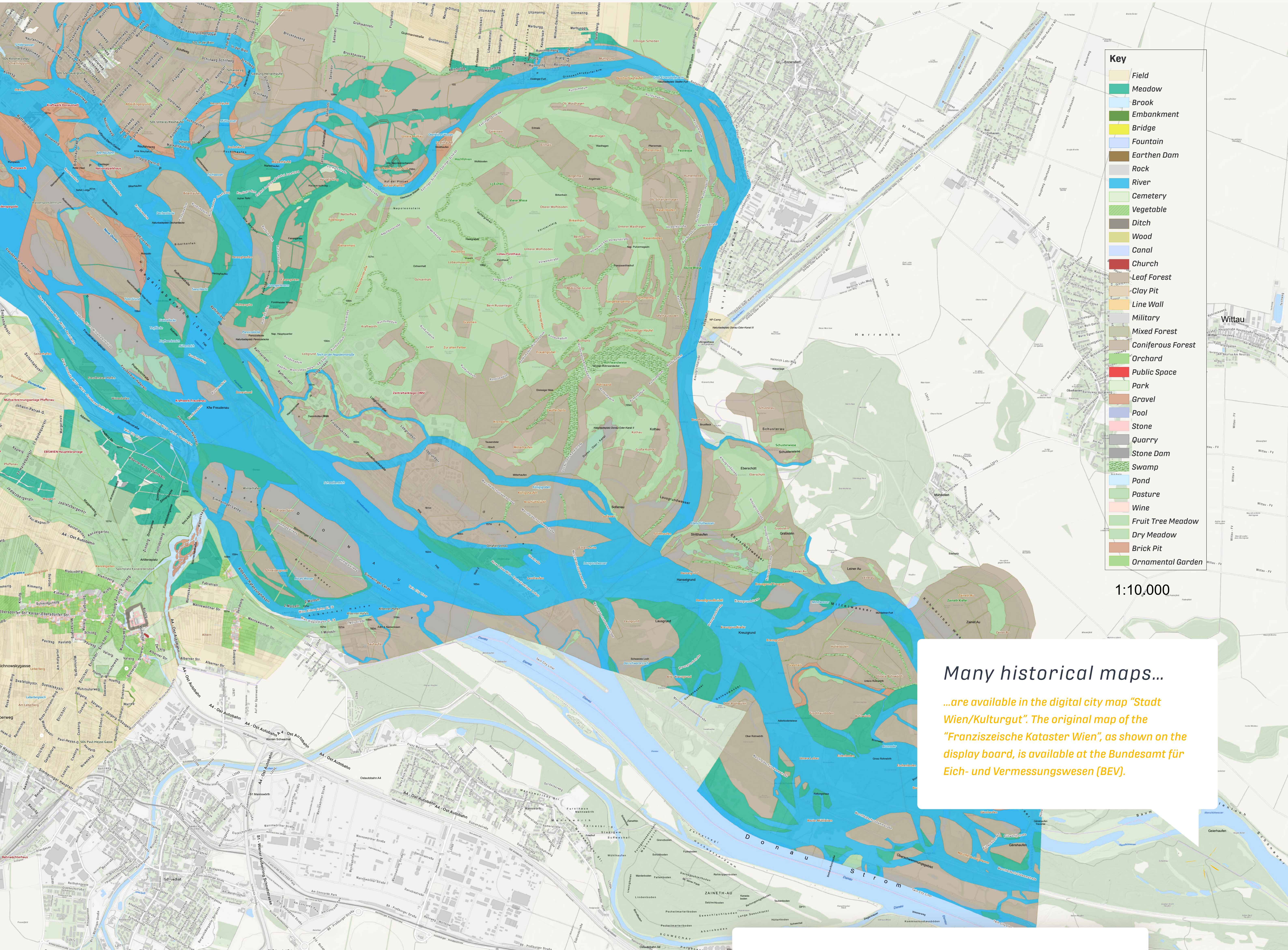
## FROM PASTURELAND TO THE DANUBE FLOODPLAIN NATIONAL PARK

Before the regulation, the Danube flowed through the expanse of the Marchfeld, south of the Bisamberg. For a long time, arable farming was not possible in this wide floodplain due to dangerous ice surges and floods. 200 years ago, the landscape was shaped by pastureland and fodder meadows for horses and cattle in the nearby barracks. Riparian forests were limited to much smaller areas than they are today. For over 25 years, the Lobau has been part of the Danube Floodplain National Park.

### An important foundation for state administration

The Franciscan Cadastre ("Franzsiszeischer Kataster") is named after the Austrian Emperor Franz I. After the end of the Napoleonic Wars, a new basic cadastre was drawn up for the entire adminis-

trative territory of the Austrian Empire in order to create a uniform means of calculating taxes together with the land register. A significant driving force was the creation of military maps.

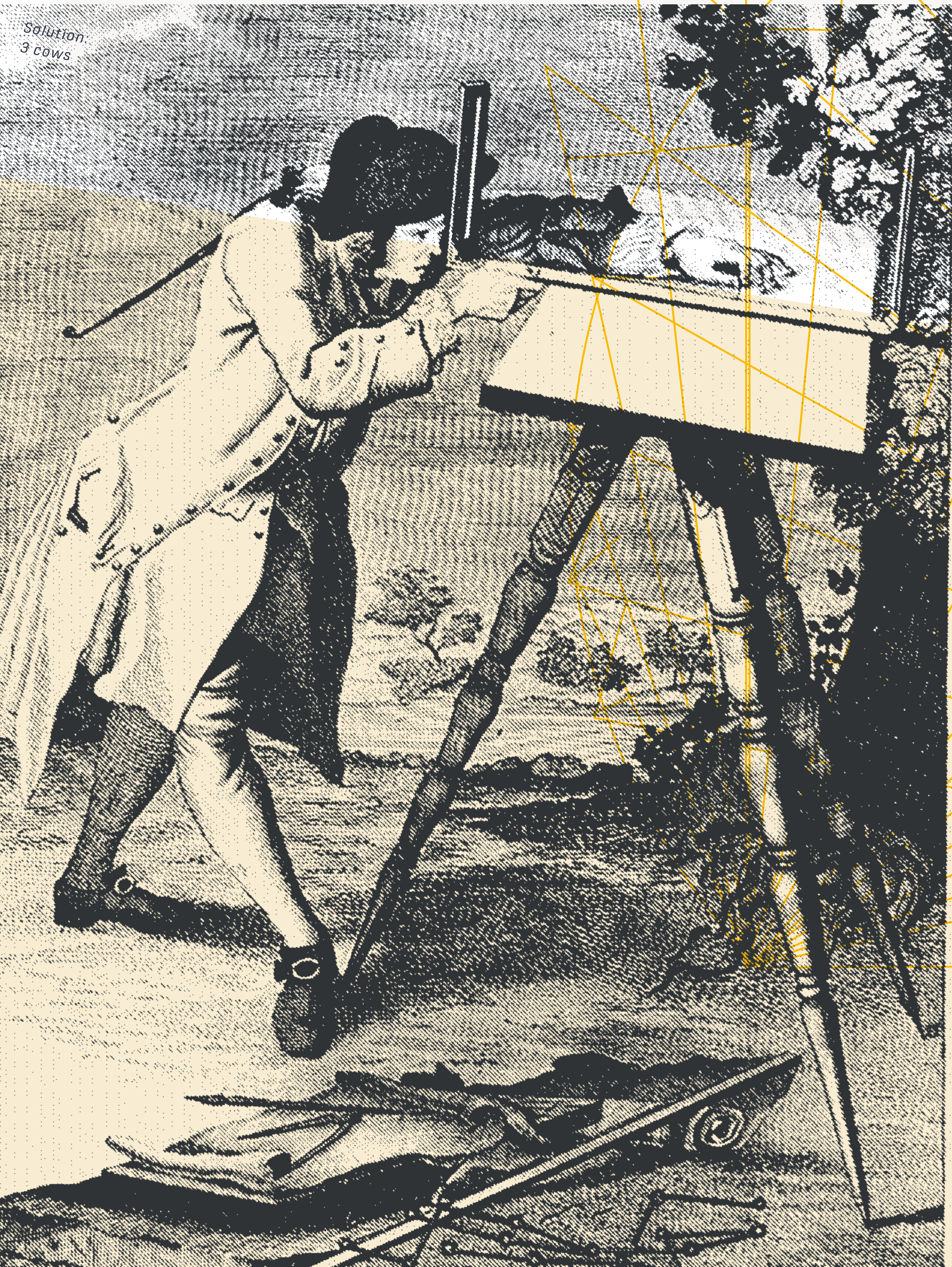


© ViennaGIS Here you can see the "Franzsiszeische Kataster" from 1829, which you can find at <https://www.wien.gv.at/kulturportal/public/>

### Johann Jakob Marinoni

(\* 1676 in Udine, Italy; † January 10 1755, in Vienna)

In 1714, Johann Jakob Marinoni, the intellectual founder of today's basic cadastre, perfected the surveying method of the time using a measuring table. In 1726, he was commissioned by Emperor Charles VI to make the first accurate survey of the imperial hunting and forestry districts in the Danube floodplains.



### What actually is a cadastre?

A cadastre is a record of information related to a plot of land or landscape, with individual zones numbered and allocated. This system enables the use of the land to be recorded (arable land, meadows, forests) and taxes to be calculated.

### How many feet does a meter have?

Until the 19th century, people calculated units of measurement in feet, shoes and rods - all related to the human body. It took until 1872 for the "meter", today's unit of measurement, to become established and used widely. Take three small steps („feet“) forward and you will cover approximately one meter:

How many cows can be seen in this picture by Otto von Thoren? You'll find the answer about 2 feet to the left of here.



Figure on the left: Reproduction, original from Marinoni's textbook „DE RE ICONOGRAPHICA“, 1751; from the Diözesanarchiv St. Pölten, Stiftsbibliothek. Signature Y-Merkus-IV-4 Graphic in yellow: representation, reproduction of a measuring table drawing

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# The many Transitions of our Lobau

## A BEAUTIFUL LANDSCAPE IN THE COURSE OF HISTORY

In the area of the Upper Lobau, after almost a thousand kilometers of flow, the Danube opens up into a mighty river valley. The Eferdinger Becken, Machland and Tullner Feld already show large expansions, but these have almost disappeared today due to intensive land use. The Lobau allows you to experience the deep and higher terrain levels of the floodplain with hotlands and oxbow lakes. The surrounding agricultural area, including old villages such as Kagran, Aspern, and Ebling, lies on a somewhat older level of the floodplain, only a few meters higher. This was enough to ensure that these villages were only rarely affected by floods.

The current development is shown in yellow over the historical map, reproduction based on @googlemaps.

The blue band shows the course of the many branches of the Danube around 1869 @JHG/ BOKU (2004).

The black and white map shows the countryside around 1726. You can find sections of the original map „Mappa über den Kaiserlichen Dienst“ of Aspern, Mühleboden und Ebersdorf from the Morinoni hunting atlas, which is located in the archive of the Austrian National Library.

We are located here

### A Wild River Landscape

In this old map of the Lobau from around 1726, you can see that there was a rugged network of river branches and small water bodies, which were continually changing. The way the Danube flowed around 1869 is illustrated by the blue lines.

From 1870, regulation began, giving the river its present bed. In the Lobau, many of these water bodies are still preserved as oxbow lakes.

### Agricultural Use of the Lobau

f) Since 1987  
Organic farming

g) 1980 - 1987  
Gradual conversion to organic farming by the City of Vienna's Department of Forestry and Urban Agriculture (Bio-Zentrum Lobau)

d) End of 2<sup>nd</sup> World War until 1980  
Conventional arable farming and field vegetable cultivation

c) 1940 - 1945  
Cultivation of the area by the city of Vienna

b) 1922 - 1940  
Cattle pasture and fodder production for approx. 300 cattle of the fund for victims of war in the old barracks (today's Lobau BioCenter)

a) 1798 - 1915  
Horse pasture and fodder production for up to 200 horses of the Habsburg cavalry regiments in the Groß-Enzersdorf barracks (now the old barracks, Lobau BioCenter)



Breitenlee Station

During the First World War a large railroad station was planned in the northeast of the village of Breitenlee but it was never completed. At that time, its location was the westernmost sand dune of the Marchfeld, which was leveled in the course of construction. Many typical Pannonian steppe plants can still be found in this urban wilderness today. To the north of this, the „Norbert Scheed Forest“, a recreational area, is being created in the Donaustadt landscape conservation area.

Picture: Breitenlee, former sand dune, photo and picture collection Eichert Robert, in the public domain.

1912 - 1914

1870



Danube + Regulation

The Upper Lobau is still strongly characterized by its alluvial landscape. The widely branched river landscape is clearly recognizable from its landforms and oxbow lakes and is thus an important record of the natural and cultural history of Vienna. Until the great regulation of the Danube in 1870-1875, the strength of the Danube and its associated dangers in the event of flooding were only slightly reduced by small regulation works a good two hundred years ago. The increased use of land dates back to this time.

Later hydraulic constructions were the oil harbor and the embankments of the Danube-Oder Canal in 1940-1945 and the construction of the „New Danube“ flood bypass in 1972-1988.

Lithograph: Alexander Kuisch, 1862 after drawing: „The flooding of Vienna“ (in the February days of 1862) Otto Körner

~1800



Livestock Farming

In 1900 there were approx.100.000 horses in Vienna.

From 1922 to 1940, the fund for victims of war used cattle farming as a means to support the starving Viennese population.

Image: „Grazing Horses“, Otto von Thoren, around 1860-1880

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Seestadt Aspern

The Aspern airfield opened in 1912. In the interwar period, Vienna's international airport was located here. During the Civil War in 1934, the Goethehof, a Viennese residential area, was attacked from here. In the Second Republic until 1977, the airport was only used recreationally and so the area was chosen for a high-quality city extension. Since 2007, apartments for 20,000 people and just as many jobs have been built around a five-hectare pond along subway line 2 and the high-speed train. Twenty streets are named after international women.

Aspern airfield around 1910; photo and image collection Eichert Robert, in the public domain

seit 1912



Land and Forestry Use

As part of the Danube Floodplain National Park, the Lobau is being transformed into a forest landscape in which the National Park Forestry Administration only intervenes when necessary, for example, to keep invasive woody plants away. Otherwise, the focus is on preserving natural processes.

since 1980

With the establishment of the national park in 1996, two-thirds of the formerly extensive arable land was converted into forest and meadowland. For forty years, the Upper Lobau has been developing on the preserved open areas as a model region for innovative organic agriculture. Many residents of Vienna get their potatoes and rye bread from the Lobau. This is also where one of the largest composting sites for organic waste in Europe was established early on, making it a beacon project for modern recycling of organic materials in the urban ecology cycle. The next step is to secure habitats for open-land species by designing organic fields for climate adaptation and biodiversity.

Photo: Jeshoots

~1850



Cemetery of the Nameless

Downstream from the port of Albern in the district of Simmering, the Danube leaves Vienna's urban area. Even before the Danube was regulated, a whirlpool of water used to cause the bodies of drowned people to float down here. Since Christian cemeteries refused to bury the unidentified dead, they had to be laid to rest in such places as this as a matter of necessity. From the middle of the 19th century, the „Cemetery of the Nameless“ was established in this remote part of the city and it still exists today.

Picture: Cemetery of the Nameless, Albern, Grabler, around 1890, photo and picture collection Eichert Robert, in the public domain.

1809



Battle of Aspern / Schüttkasten

The military clashes of May 21 and 22 1809 remain anchored in European history today, when more than 150,000 Austrian and French soldiers fought a fierce battle for two days near Aspern. One in three men were wounded, and more than 11,000 were murdered. The Austrian victory under the command of Archduke Charles delayed the French advance for several weeks.

Picture: „The victors of Aspern“, Johann Peter Krafft, 1820

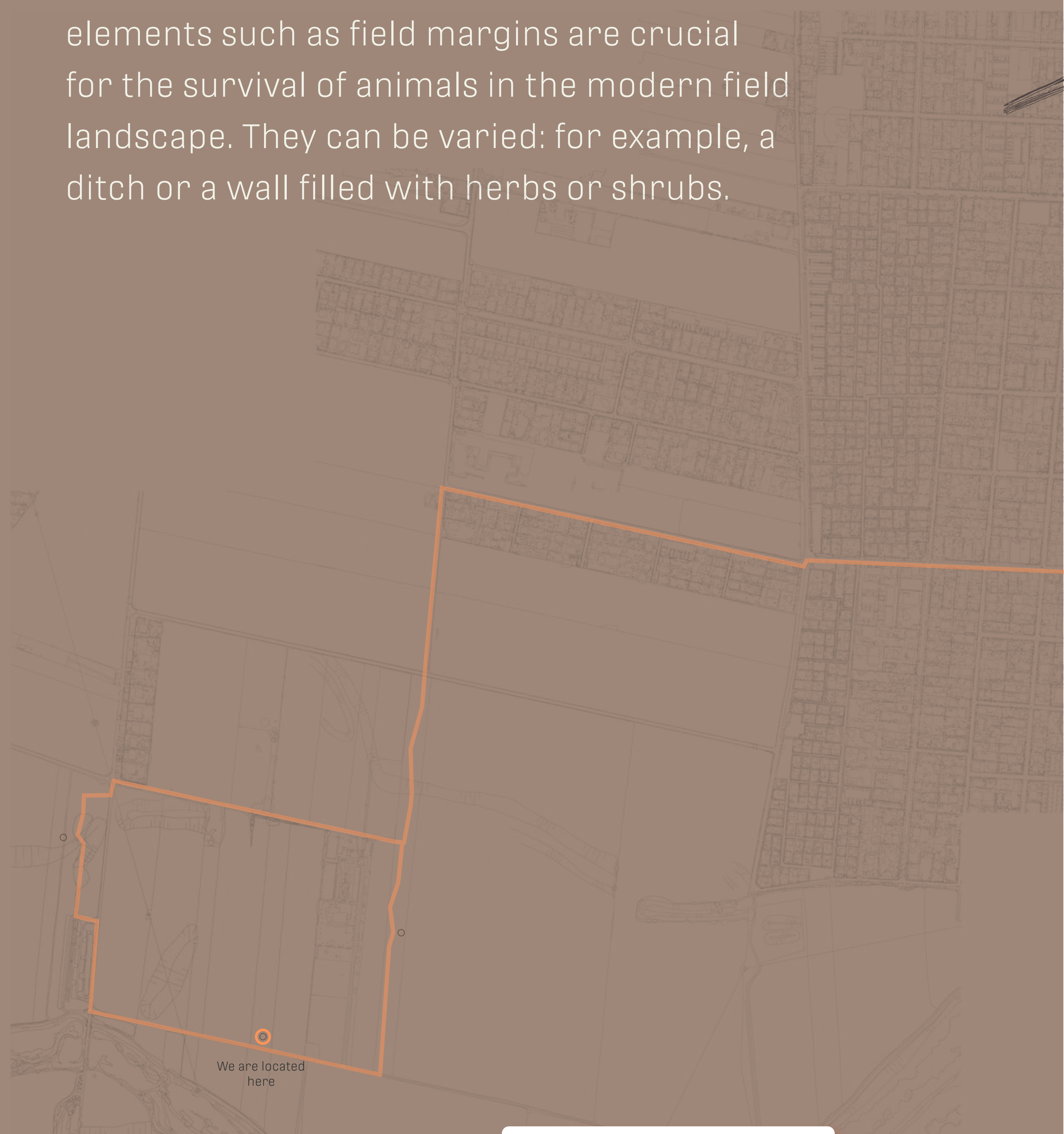
1798 - 1915



# The Soil — a Home for Many

## HEDGEROW BIRDS ON FIELD MARGINS

Changes brought about by modern farming have had serious consequences for wildlife. Ground-nesting birds, in particular, are now at risk. Individual fields tend to be very large, so the consequences are felt over a large area with each step of the operation. When the seedbed is prepared by harrowing in spring, the nests of lapwings and skylarks are often already built, and their young birds are at risk. When the harvest turns the field into an empty one within a few hours, there are no places to hide or escape to for partridges or quails. All the small insects and seeds that they feed on disappear. Therefore, permanent structural elements such as field margins are crucial for the survival of animals in the modern field landscape. They can be varied: for example, a ditch or a wall filled with herbs or shrubs.



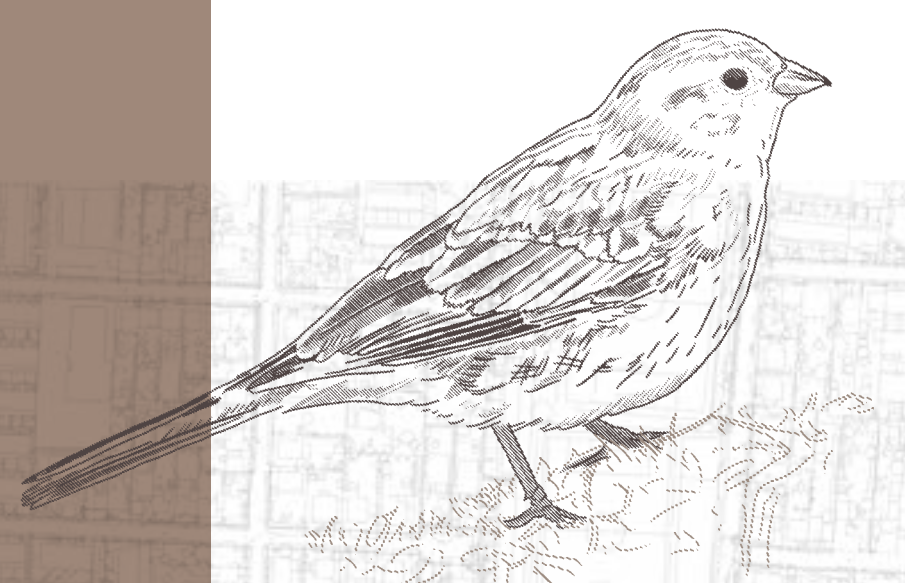
2) The yellowhammer makes a sound like a loud hammer: di-di-di-di-düüü, which makes it easy for you to identify the yellowhammer when it sings nearby. Yellowhammers begin as early as March and can be heard through June. The bright yellow heads of the male yellowhammers are very noticeable, which is another way you can easily identify them. Look out for them on your next walk!

1) When you walk on the field paths, sometimes birds fly out of the grass and land a few meters away. You can hear a rustling sound when they fly. This noise frightens away any foxes in the area and allows the partridges to get to safety. The partridges have an unusual call, which can be heard especially on spring evenings and sounds like kkkrrrk - a bit like a creaking door.

1) Pheasant, partridge and quail are the three domestic field fowl. A medium-sized chicken with a short tail: this is how the partridge is easy to distinguish from the pheasant. Partridge families stay together in fall and winter and move as „chains” along the field margins.

Adult partridges feed mainly on herbs and seeds. Their young, however, need insects. That is why there would be no partridges in our country without diverse hedgerow habitats and organic fields.

2) The yellowhammer is widespread but only in Europe. We therefore have a special responsibility for the conservation of yellowhammers. Yellowhammers build their nests close to the ground in high grass, often at the edge of forests or in hedges. The buntings like to sing on isolated trees and bushes so it is important to have these nearby.



## Yellowhammer

Emberiza citrinella

### Characteristics:

This sparrow-sized bird, with a yellow head, a brown back and white patches on the edge of its tail, only weighs about 50 grams.

### Way of life:

With two to three broods, the yellowhammer stays local in the summer; in winter, they move around in flocks.

### Food:

Adults eat mainly seeds; the young require small animals.

### Habitat:

Open field landscapes with individual trees and forest edges provide the ideal home for yellowhammers.

### Endangerment:

Despite their predominant stability, they are already in decline locally.

### Special Feature:

Yellowhammers need many seeds, even in winter. To ensure there is enough to eat, do not mow the roadsides too often!

## Grey Partridge

Perdix perdix

### Characteristics:

The small brown partridge weighs 380 grams on average. It has round wings and a short reddish-brown tail.

### Way of life:

The partridge is "site-loyal" to its breeding location. During the breeding season in spring, individual pairs also live in a territorial way.

### Food:

Adults forage mainly for seeds; the young require small animals.

### Habitat:

Partridges are particularly fond of open field landscapes with meadows, hedgerows and small bushes.

### Endangerment:

Endangered

### Special Feature:

Did you know? - Male partridges have a rust-colored "horse shoe" on their light-colored belly plumage.

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# Life in the Field

## GROUND BREEDERS OF DIVERSE ORGANIC FIELDS

Life in the field is unpredictable: crops change and plowing is repeated over and over again. Abundance and scarcity follow each other quickly so it is crucial to have some spots to seek refuge in. Permanent structures between fields provide safe habitats for partridges and many other species. Field shrews, field hamsters, whitethroats, red-backed shrikes, sandhill beetles, ground bumblebees are just a few examples of species that would otherwise not be able to survive in a field landscape.

Varied strips of meadows with individual rose bushes and trees are ideal. An especially large number of species find suitable habitats in this way. Greening the fields is important in winter. This is often possible through crop rotation, especially with winter cereals, or with radishes and clovers, and is vital for keeping nutrients in the field.

3) European hamsters live in large parts of Europe and in Central Asia but have become very rare in a few decades and are now threatened with extinction. Older people remember large numbers of hamsters in the fields. The City of Vienna still has viable numbers of field hamsters despite urban expansion. They have remained native to some of Vienna's municipal buildings and cemeteries, despite the city growing into their world. If we take good care of our hamsters, they will be able to continue living with us together.

4) Larks are typical birds of steppes and deserts. Most of them are as big as sparrows and are brown or gray. They have a small feathered cap on their head, which they can raise depending on their mood. On open ground with few plants, they skilfully walk around looking for their food, mostly insects. Few other small birds can walk. Most of them hop with both legs on the ground. The skylark is the most common bird in our country. The crested lark also lives in particularly sparse places in the March and Steinfeld.



### 4 Eurasian Skylark

*Alauda arvensis*

**Characteristics:**  
It is distinguished by its small cap and dashed plumage. With a length of 16-18 cm, however, this gray-brown bird is easy to miss.

**Way of life:**  
Skylarks are skillful runners on open ground and also build their ground nests there.

**Food:**  
Generally, they feed on small insects but, especially in the cold season, they also eat seeds and sprouts.

**Habitat**  
They can be found in open fields and meadow landscapes.

**Endangerment**  
Unfortunately, their populations are declining due to the intensification of agriculture and construction.

**Special feature:**  
You might find stanzas from other bird species in the skylark's song. Sometimes, even those learnt by the skylark while it was migrating.

### 3 European Hamster

*Cricetus cricetus*

We are located here

**Characteristics:**  
These small rodents grow to about 20-35 cm and the males are usually slightly larger than the females. Their fur is dark with white spots and they have fangs that can look dangerous.

**Way of life:**  
Between October and April, they live in hibernation. Several generations are raised by their mothers in deep burrows.

**Food:**  
Generally, hamsters feed on seeds and roots and rarely, they hunt small animals.

**Habitat:**  
Hamsters live in open grassland and they also like to be in grain and alfalfa fields.

**Endangerment:**  
Due to soil consumption, dramatic declines in field hamsters can be observed worldwide.

**Special feature:**  
Contrary to their small size, field hamsters are very courageous animals. If they are disturbed, they will stand up and will even hiss at people or bite in distress.

3) If you find a steeply declining hole, the size of a fist, at the edge of a field: beware! It could be a hamster burrow. Look closely and you may be able to see well-worn paths in the grass all around. This is typical! Vienna is an important habitat for hamsters and you can find them not only in fields but also in green spaces in the city. For hamsters to survive in the fields we need to consistently help them by securing their habitats and making sure they can find enough food!

4) A small brown bird flies up out of the field and climbs higher and higher. We can barely see it, but a loud song fills the sky. This is the skylark. It can walk skillfully over open ground. Sparrows and finches, on the other hand, can only hop with both legs rather than walk because they have adapted so well to sitting on the branches of trees and bushes.



A hamster is hiding in the field. Can you find it?

Via this hole in the ground the hamster can rapidly flee



# Sunny Roadsides & Field Margins

## INSECTS AND BEE PASTURES: SMALL BUT FULL OF LIFE

A dense tree population protects the site from westerly winds. As a result, the shrub fringe is an ideal habitat for bumblebees and fireflies. The open flower borders at the edge of the fields provide food for the sweat bee and the silver-studded blue.

2) The sweat bee is the most common wild bee species in the Lobau. Externally, it looks very similar to a tiny honeybee, much like the numerous related narrow bee species. Its way of life is unique and allows us to observe a fascinating community. The queen bee can live up to 6 years, and large colonies of up to 1000 bees live together in her nests. They build their private breeding chambers in a shaft that goes deep into the earth. A separate pollen chamber with a partition is built for each individual egg.

3) The gossamer-winged butterflies are a large group of butterflies, to which about a quarter of all native butterfly species belong. They can be orange, brown, and blue-colored, and some have a small tip at the end of the wing. Gossamer-winged butterflies are typically found in the summer in brightly-colored flower meadows, especially when butterfly flowers such as clover, sainfoin, and alfalfa are in bloom. If we look carefully along the edges of the path, we can spot a few species such as the large copper butterfly and the silver-studded blue in the Lobau.

1) Bumblebee is the name given to the larger wild bees that have a lot of body hair and, with their warm coats, can also be active at lower temperatures. Many form annual colonies that can number several hundred workers. Their life is in danger particularly in the spring! Because each time a large mother bumblebee is killed by a car while looking for a new nest after winter, or starves because of a lack of flowers in our poorly structured gardens and fields, it means the loss of an entire colony! That is why it is very important to allow abundant seas of blossoms to develop again around shrubs and fences and to plant many fruit trees!



**Common Carder Bee**  
*Bombus pascuorum*

- Characteristics:**  
The common carder bee is a smaller bumblebee with a rusty brown back and light gray abdomen, which even as a queen grows less than two centimeters.
- Way of life:**  
The queen hibernates alone after its summer nuptial flight. In spring, it establishes a new nest in mouse holes or other cavities.
- Food:**  
It draws in nectar using its proboscis, for example, from deadnettle, golden nettle, and groundsel.
- Habitat:**  
The common carder bee usually inhabits structurally rich fields, gardens, and forests.
- Endangerment:**  
Currently not endangered.
- Special feature:**  
Because it has a rather long proboscis, the common carder bee is also able to visit flowers with particularly deep calyxes.

1) In the early spring, countless blue flowers of ground ivy bloom among the bushes, often between red deadnettle and yellow gold nettles. However, the common carder bee won't begin to visit flowers until it has found a suitable place for its nest. Until then, it flies close to the ground and looks for suitable holes. For a mother common carder bee to find enough food to feed an entire colony, she needs tens of thousands of blossoms.

Soon they will pollinate our apple, pear, and plum trees, and we can look forward to enjoying the sweet fruits. Everything in nature is connected and without bees, we would go hungry too!

Finally, would you like to know who is hiding behind the speech bubbles?

You can either wait until it's dark or look on the other side of the board!

## 2 Sweat Bee

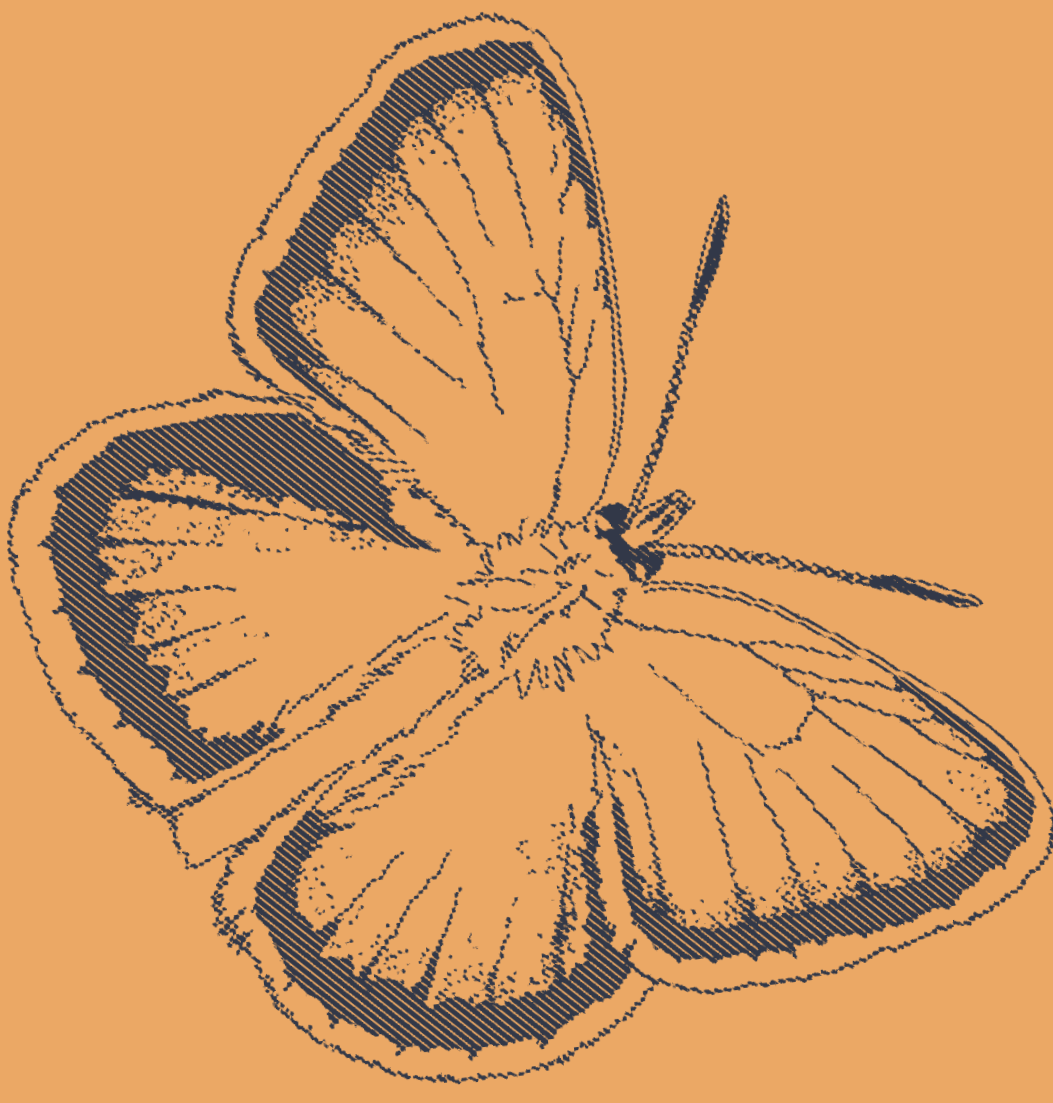
*Lasioglossum marginatum*

- Characteristics:**  
These inconspicuous wild brown bees are smaller than one centimeter and look like very small honeybees.
- Way of life:**  
This social bee species builds nests that can hold up to 1000 workers. Their queen can live 5-6 years.
- Food:**  
It collects pollen from many different types of plants: maple, asters, roses, willows and brown roots.
- Habitat:**  
Generally, the sweat bee can be found in dry and warm field landscapes.
- Endangerment:**  
Currently not endangered.
- Special feature:**  
If you see many dozens of bees flying in and out of a small hole in the ground, it is most likely to be the sweat bee.

< 1 cm

## 3 Silver-Studded Blue

*Plebejus argus*



- Characteristics:**  
This small butterfly has a wingspan of up to three centimeters. Females are brown on top, males have bright blue wings with a wide black border.
- Way of life:**  
The caterpillars first live on clovers, then pupate in nests of garden ants. The butterflies fly in two generations in spring and summer.
- Food:**  
The green caterpillars live on various butterworts such as horn clover, crown vetch, alfalfa, and snail clover.
- Habitat:**  
The silver studded blue can be seen on sunny roadsides and field margins, as well as in rough pastures.
- Endangerment:**  
Endangered, especially due to habitat loss.
- Special feature:**  
Silver-studded blues like to gather at wet puddles along field paths. Whole groups can gather there.

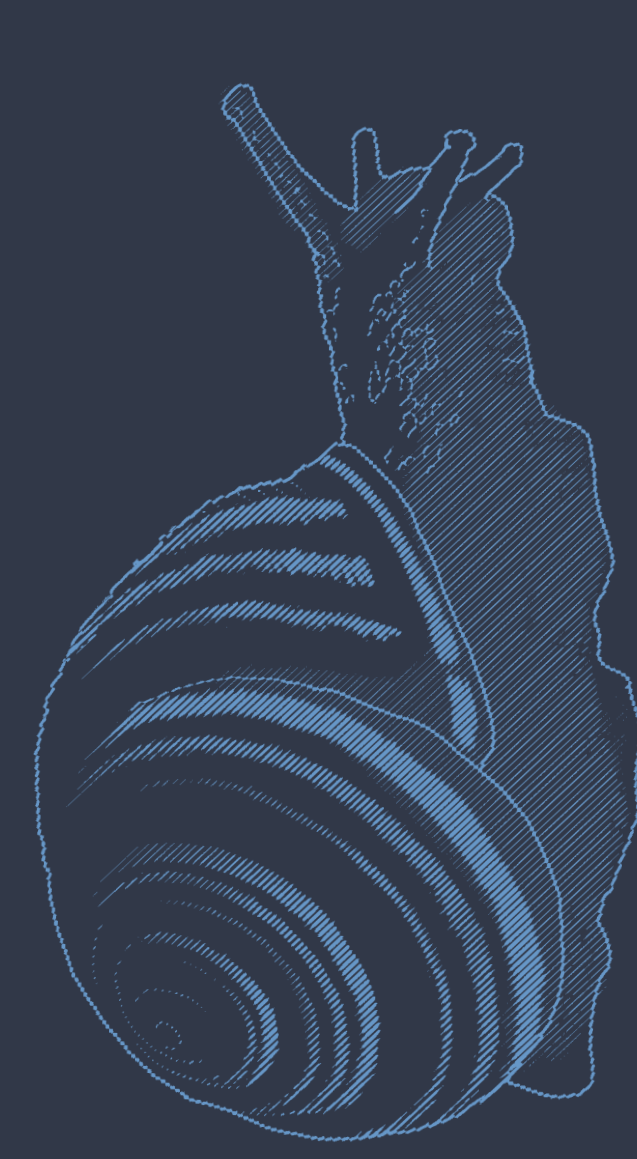
A bumblebee is flying to the ground ivy's blue flowers!  
Has it found a nest yet?

2) After the winter, the forests are still bare. As soon as it gets warm in March, many small bees come to visit the Lobau's first flowers. Sweat bees are smaller than one centimeter and are gray-brown with light stripes and hairs. They live in large groups in the ground. Their nests are easily recognizable by the piles of earth. Underneath, there are many small tunnels and caves where large groups of sweat bees live together.

3) Gossamer-winged butterflies are small butterflies that live in the meadow. Almost all species of gossamer-winged butterflies need ants and various clover plants to ensure that the caterpillars develop properly. Some of these butterflies fly past us so quickly that we can hardly see them. Others fly for only a short distance, but there are usually several of them close together: one of these is the silver-studded blue butterfly. If you look closely at its wings, you will see that the female butterflies are brown on top and the male butterflies are blue. Below, they are all light-coloured with many spots.



# At Night, the Wilderness Comes to Life



## IN HEDGES AND FLOWER BEDS

Many of our native animals belong to the insect group, the most species-rich group of animals. They colonize all habitats. Some get in our way as „pests“, some are helpful as „beneficial insects“. Most are just there, like the large firefly. If we take a closer look at six-legged „insects“ a wide variety of life forms in all colors opens up. The myriad ways insects have found to find a niche for their species and adapt to changing environmental conditions is fascinating: from the specially-adapted insects who live, generation after generation, in giant ancient trees, like in a single dying and gradually decaying poplar trunk, to the agile ground beetles that originally lived in the dynamic zone of sandy riverbanks and which now often live in fields.

4) Large glow-worms are inconspicuous. We don't notice them all year round. But as soon as summer begins, they dance like small green lights along hedgerows and forest edges. There are only a few species of glow-worms, but for a few weeks, they fascinate us humans with their search for mates. If we allow a lot of grass and herb undergrowth in gardens along the hedges, we can reintroduce glow-worms and experience the dance of lights in our own gardens on summer evenings.

Glow-worms are one of the smallest families of beetles. While the ground beetle, weevil, and leaf beetle families include hundreds of species, there are not even ten species of glow-worm here in Europe.



**Characteristics:**  
Females grow up to two centimeters long and have no wings. Males measure only about 12 millimeters and can fly.

**Way of life:**  
Glow-worm larvae live for several years; adult beetles live only a few weeks.

**Food:**  
They feed on tiny snails and kill them with a poisonous bite.

**Habitat:**  
They feel most comfortable in tall, herbaceous vegetation along moist ditches and shrubby edges.

**Endangerment:**  
They are currently not endangered. But due to habitat loss, the population is declining.

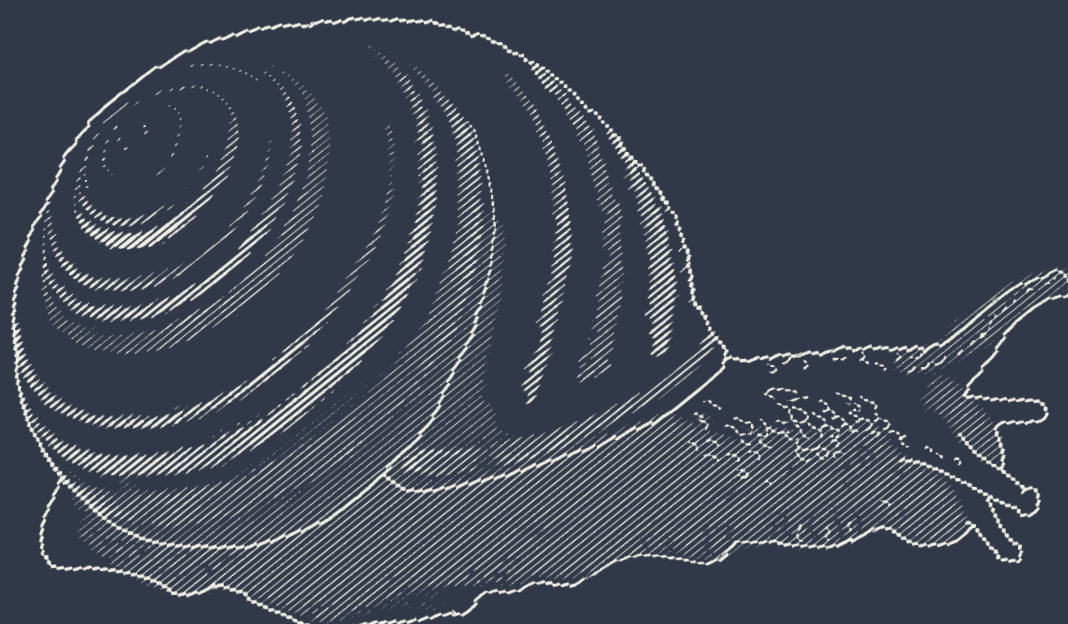
**Special feature:**  
Glow-worms fly for only a few weeks a year. Their activity starts around the summer solstice in June.

*The distinct light on the ground comes from us female beetles. We cannot fly so instead we sit on plants and on the ground. At night, we attract the males with our glow. Their fainter light flickers like a small flashlight. If you look carefully, you might be able to see us!*

4) Just before the vacation begins, it's time for us fireflies to fly. We are called large glow-worms. There are several species of us. If you look closely in the evening, once it is dark, sometimes a little green light dances around the edge of the forest. The light never goes up high in the air, and sometimes it goes out suddenly, then comes back on.

*The memory cards in the display case show animals and plants from the surrounding area. With a bit of luck, you can see these species here in real life. Find the matching pictures - but be careful! Not all the pairs of pictures are the same. Finally you can see what was hiding behind the two flipped cards.*

**It's hard to believe:**  
The copse snail has to watch out for the firefly! It is one of the glow-worm's favorite prey animals.



Scan the QR code to view the boards in PDF format and for further information about the project.

