

We restore and protect wetlands

Oxbow lakes are wetlands in the river arm system of Danube river in Danube floodplains. In the past they used to be drained, dried and buried due to the expansion of monocultures of euroamerican poplars for the purpose of fibre production. As a result of regulations on the Danube river the river arms were cut off the main stream and continually filled with mud and sediments. This causes their slow degradation because free flowing water is missing from the system.



Čičovské oxbow lake



Cleaning of river arms

Wetlands are an irreplaceable source of water in the land. Therefore we try to clean, reconnect and restore the water flow, remove barriers and repair the sluices to improve the water regime in the side arms.



Before realisation



After realisation

By removing the sediments, old wood and leftovers after logging, we are bringing life back into the river side arms.



Reconstruction of the sluice gate

By using sluice gates is possible to regulate the water level in wetlands.



Manually dug parts

We reconnect the isolated river arms with the main riverbed.



The river arm cut off from the inflow



The river arm is connected again

Thanks to these interventions many water plant species start occurring again in the wetlands together with fish, amphibians, water birds, insect and mammals (e.g. otter and beaver).



Common toad



Great egret



Azure Damselfly



European fingernail clam



European white water lily



European mudminnow

By removing or modifying the barriers in the water streams and by reintroducing the water dynamics we enable fish and other water species to migrate freely. We also make sure the still, muddy waters change into clean, flowing waters with a high level of biodiversity.



Barrier in the water flow



River arm flow without barriers

Why wetlands' restoration is important in Danube floodplains:

In the past the free flowing Danube river created an interconnected inland delta with side arms, wetlands, islands as well as our largest storage of drinking water hidden underneath the surface in gravel deposits. Today the river-arm network is limited by water constructions (e.g. dams, weirs) and it loses its natural functions. By disturbing the dynamic water regime and by lowering the amount of water in river arms the storage of ground water is shortening and the wetlands are disappearing. There is no life without water, therefore we try to bring the water back to dry wetlands and to keep it there in large amounts so they could serve as the storage of water for everyone when it's needed. We do our activities with the aim to secure not only enough water but also the natural water regime with flowing water in Danube river side arms and in the bedrock. We wish to restore the natural regime of the river arms. Wetlands work as a sponge: in times of water surplus they absorb water whereas in times of shortage they release it back into the land and so they keep the land alive. They serve as the source of water for people, plants and animals.



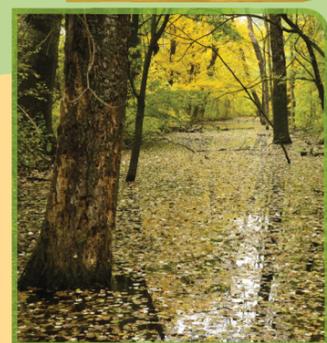
Common pond skater

With the described measures we help to:

- restore the natural water filtration and decomposition of polluting substances
- reduce the impacts of floods and long-lasting droughts
- raise the biodiversity in the land (richer diversity of species – fish, amphibians, birds, plants ...)
- create a more welcoming environment for us all
- to raise the natural productivity of water ecosystems
- mitigate the impact of the climate change



Danube river arms



MORE WATER = MORE LIFE = more plant and animal species = richer, more stable and diverse life for people living at the Danube river

We restore and protect native floodplain forests

Floodplain forests are forests along rivers, creeks, river arms and on the sites where the water spills out of the river during floods. Softwood floodplain forest around the Danube grow in places where the floods occur most often and they consist mostly of willows, white and black poplars. In hardwood floodplain forests we can mostly find common oaks, field elms and field maples. Floods are not so common here but there is relatively high ground water level. Today, native floodplain forests cover only 5 – 20% of the Danube floodplain area.



Native willow vegetation



Poplar monoculture

80% to 95% of the original Danube floodplain forests are now covered by planted monocultures of euroamerican poplar cultivars. Such poplars have thin and scarce branches that are not suitable for our native bird species like black stork or white-tailed eagle. They are not strong enough to support the bird's large nests.

These trees are cut early at 20 or 25 years for the purpose of paper industry. No old trees are being left in such forests so woodpeckers or other birds which use hollows have very little options for nesting in such forests. The sub canopy is also very poor, often dominated by invasive species. Very few native herbs, mushrooms and bushes can be found here, like we would find in a natural forest. Such monocultures are neither attractive homes for native fauna species – they don't offer enough food and shelter for animals. Biodiversity of these monocultures as well as their ecological stability is very low. Because such monocultures are present on majority of Danube floodplains, our native species don't find enough space for life and their numbers are decreasing. This is why they become rare.



Grey heron youngsters



White-tailed eagle

Everything that is according to nature is worth to be respected.

(Cicero)

...and protected (BROZ)



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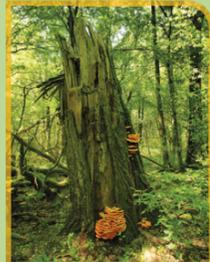




Clear-cutting

Growing hybrid poplars in the floodplain forests requires large-scale clearcutting when all the timber is harvested leaving a large open spaces. Such sites are quickly colonized by invasive plant species like giant goldenrod, aster novi-belgii, box elder and tree of heaven. Restoration of floodplain forests is performed in different ways: mostly we do the small-scale

cutting or selective cutting of trees when only several trees are chosen to be cut on the site.



Chicken of the woods

Using these techniques there is not such a big impact on the vegetation as it is in clear-cutting and it is also more nature-friendly.

We leave the old and decaying tree trunks in the forest afterwards and support the natural growth of seedlings or shoots of the nearby trees.



Common oak in the floodplains

We plant the native species in the floodplain forests

We grow and plant the native tree species – willows, oaks, white, black or grey poplars, linden, alders, but also mulberry, apple and pear trees. This way we transform the monocultures of hybrid euroamerican poplars into vegetation consisting of different native tree species.



Seedlings – oaks and linden Common oak Planting Alder

By such forestry techniques we prevent the spreading of invasive tree, plant and animal species and so we create a living space for our native and often rare species.

We restore abandoned meadows and pastures

Meadows and pastures used to be a common part of our landscape. In the past, large herbivores like aurochs and bisons grazed these meadows which were later replaced by domestic animals. As a result of changes in land management in the past few decades most of the meadows and pastures have become overgrown by invasive herbs, bushes and trees or they are ploughed up for the purpose of growing agricultural crops. Due to this we are losing many rare plant species in the land (e.g. orchids) and animals (butterflies, beetles or birds). To preserve them we have to bring back the traditional agriculture – mowing and grazing of meadows.



Hungarian grey cattle



Meadow clary and Military orchid

Using low intensive pasture we restore pastures with the help of domestic animals. We graze several types of animals on the localities: Hungarian grey cattle, goats, sheep, cows, horses and water buffalos. The pasture eliminates spreading of invasive plants, it helps rare herbs to germinate and restores the natural character of grass vegetation.

By regular mowing we ensure the meadows stay meadows – full of precious flower and animal species. The mowing is done in mosaic in the time when birds don't nest on the ground so that they are not killed. In protected areas we restore grass vegetation on meadows that were transformed into arable land in the past.



Violet oil beetle Peacock butterfly Hucul horses Coltsfoot

We take care of the old pollard willows, plant alleys and lines of trees

Hollow pollard willows are willows of different species (e.g. crack and osier willow...) formed into so-called head. This can be achieved due to the regular branch cutting (for firewood) and the ability to produce new shoots continuously. In the hollows of pollard willows live larvae of various species (beetles, butterflies), snails, martens, grass snakes, bats, ducks, redstarts, robins and other rare animals.



Crumbling pollard willows

In the past the pollard willows served as an important source of firewood for local people. If the willows are not cut for more years, bizarre shapes of trees occur. However, after some time, the trunk cracks under the heavy branches, it crumbles and the willow dies. We try to prevent this by cutting the willows regularly. There are not many old hollow trees in the country, therefore we also plant new willows and other tree species the way it used to be done in the past.

In the agricultural countryside we mostly plant tree lines along the roads, water canals and streams. Such trees provide shade and increase biodiversity and serve as significant aesthetical landscape features.



Willow flower



Pollarding the willow



The European stag beetle

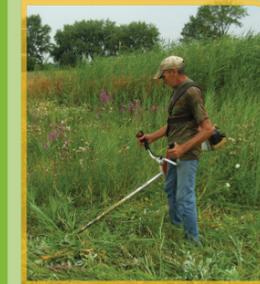


Red-backed shrike



Willow without pollarding

We provide jobs for locals



Thanks to the projects we provide employment not only for experts (nature scientists), but also for people in the marginal villages of Danube region – tractor drivers, shepherds, junior workers, horse handlers, managers, feeders, managers of summer camps for children, excursion guides, forestry workers and others.



The aim of our activities is to improve not only the nature, but also the local community, economy, tourism and to change the neglected border area of Danube floodplains into attractive place for life and for nature.

We share our experiences, spread the information and knowledge and involve the volunteers

Excursions, lectures, seminars, meetings and discussions with local people are part of our work as well as organizing children summer camps, activities for volunteers and enhancing the local people to manage the land. Our aim is to explain the reasons of our activities and their importance for the protection of nature and water resources and to inspire other people to do such activities on their own.



REVIVING THE DANUBE FLOODPLAINS

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