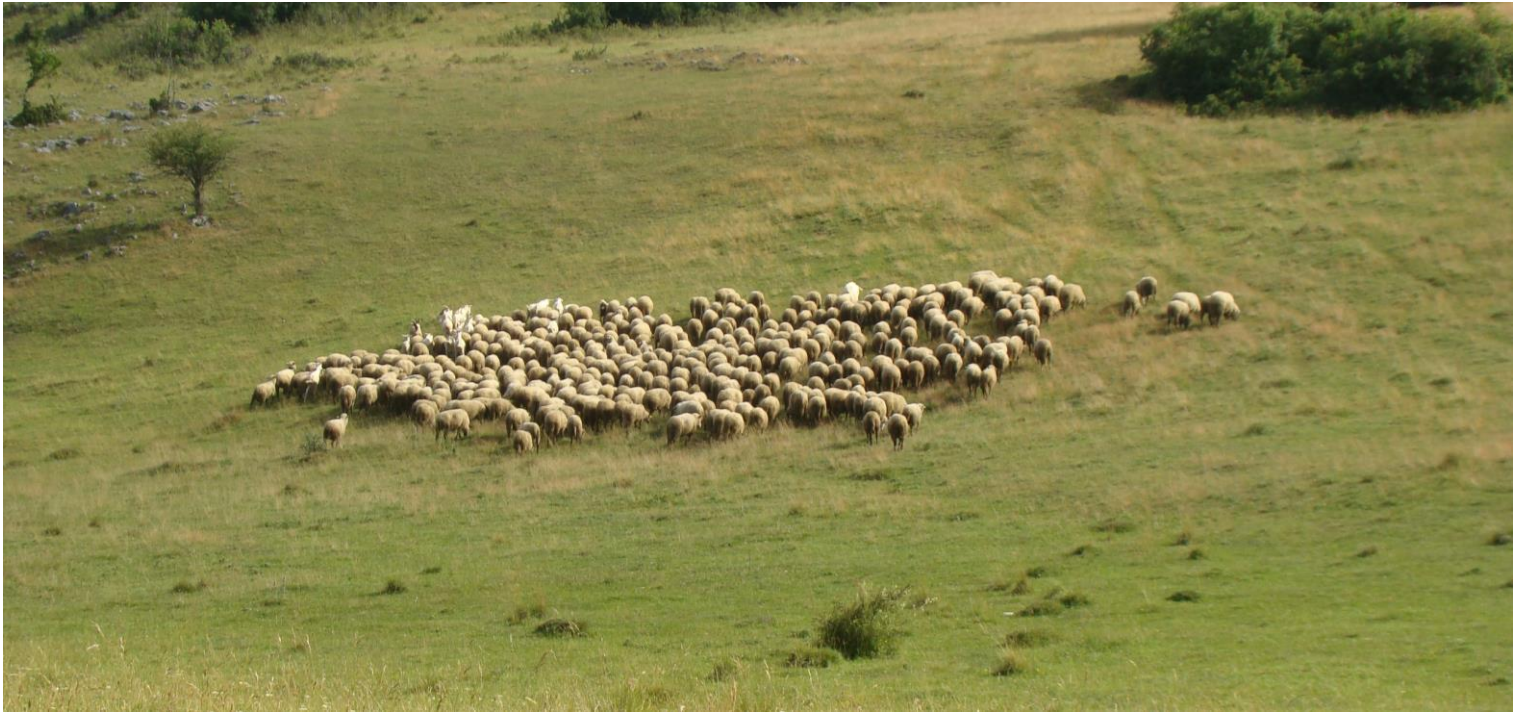
LIFE SUB-PANNNONIC

Layman Report



Conservation of Subpannonic dry grassland habitats and species

Project name:
Conservation of subpannonic dry grassland habitats and species

Project acronym:
LIFE SUB-PANONIC

Code of Project:
LIFE17 NAT/SK/000589

Duration:
09/2018–07/2025

Project budget:
Total project budget: 3.112.940 €
EU contribution (75 %): 2.330.797 €

The main part of the project was financed by the European Commission and the project was supported by the Ministries of Environment of Slovakia and the Czech Republic.

BROZ ochranárske združenie

STATE NATURE CONSERVANCY OF THE SLOVAK REPUBLIC

NATURA 2000

Life

český svaz ochránců přírody

MINISTERSTVO ŽIVOTNÉHO PROSTREDIA SLOVENSKEJ REPUBLIKY

Ministry of the Environment of the Czech Republic

PROJECT LOCATIONS

IT WAS...

The Pannonian steppes of Slovakia and South Moravia are among the rarest biotopes of European nature. They are home to hundreds of unique species of plants and animals that cannot be found anywhere else. For centuries, they have been kept alive by a simple but fundamental relationship: man, and his herd. As long as animals moved through the landscape, the steppe remained open and full of life. However, as soon as the grazing ground subsided and man left, the landscape did not remain static – it began to change. Shrubs gradually took over the space and the steppe, once vibrant with biodiversity, began to disappear before our eyes.

Grazing in SCI Ladmovské vápence

...WAS NOT

It only took a few decades for what had been slowly and naturally forming over centuries to disappear. The steppe landscape was gradually swallowed up by trees, and with them the very character of the local communities changed. In recent years, invasive plants have also been added, accelerating the extinction of thermophilic species. At this very moment, we were faced with a crucial choice: either we will just watch as the unique steppe disappears, or we will intervene and try to restore the lost balance to the landscape.

BATTLEFIELD – HABITATS

Semi-natural dry grasslands and scrubland facies on calcareous substrates (6210*)

These are real gems of the region thanks to their diversity. The steppe grasslands on calcareous subsoil are characterized by an exceptionally diverse species composition and, above all, the most valuable - they are home to several orchids that grow nowhere else but on these steppes.

Pannonic loess steppic grasslands (6250)

The rarest habitats of all those included in the project. In the past, these grasslands spread over vast areas of deep and exceptionally fertile soils. Today, only small fragments remain scattered across the landscape. It was their high fertility that became their downfall – most of these habitats were converted to agricultural land.

Sub-Pannonic steppic grasslands (6240)

Specific communities are bound to the southern-exposed slopes, which represent the peak of the Central European thermophytic. The substrate is often rocky, consisting of clay-sandy layers. It is this combination of conditions that has given rise to exceptional biotopes with a predominance of low grasses and herbs, capable of withstanding long-term drought and a very warm climate.

STARS – TARGET SPECIES

Himantoglossum caprinum

It is one of the largest and most impressive orchids in Europe. It needs open space and plenty of sunlight to survive. Once its habitat starts to become overgrown with bushes, this exceptional plant disappears very quickly. Today it is only found in Slovakia – it has unfortunately been exterminated in the Czech Republic.

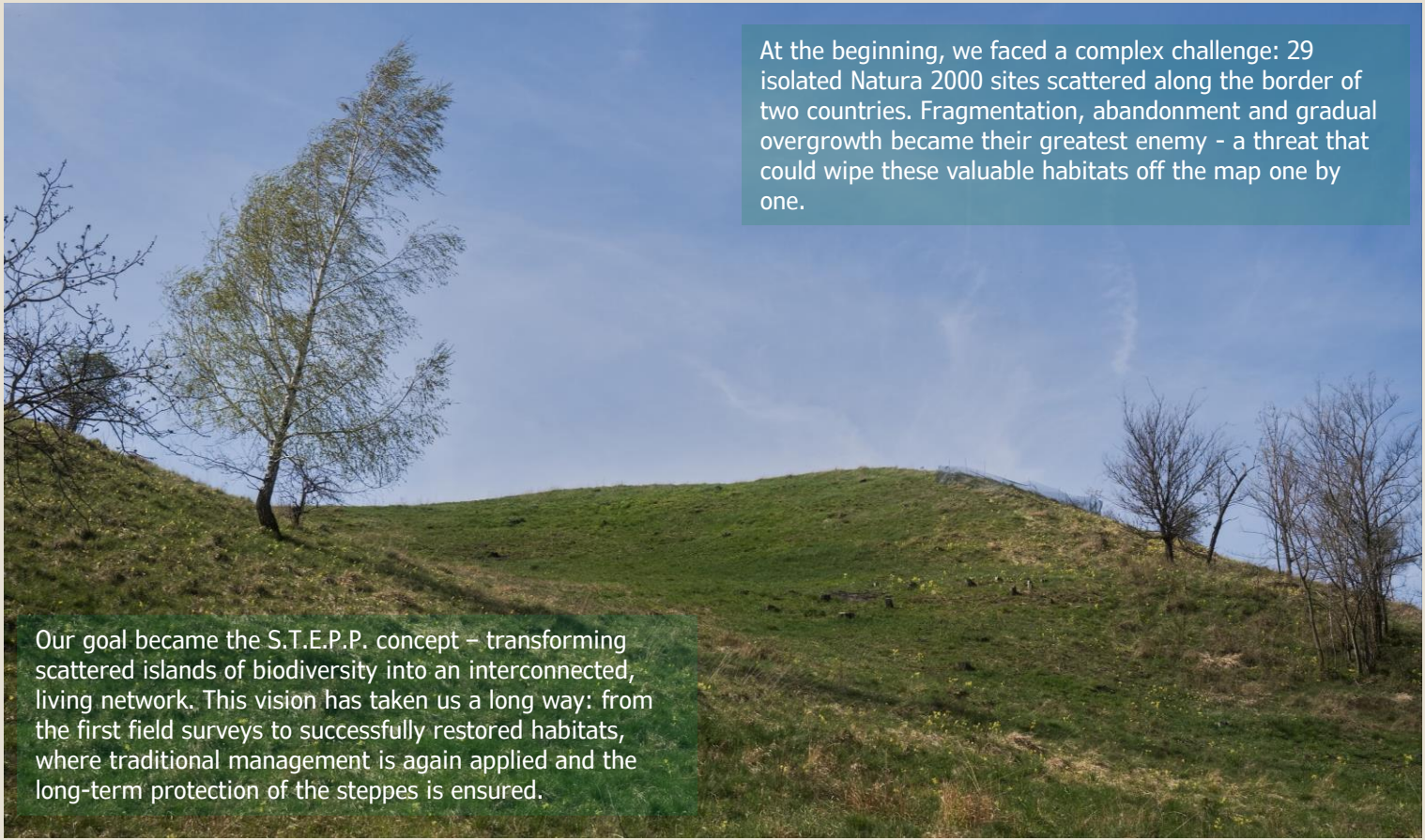
Artemisia pancicii

A Pannonian endemic, one of the most endangered plants in Central Europe. Today it only grows in about ten locations, mainly in South Moravia (in three places), as well as in Austria and Serbia. In the Czech Republic, it survives only on the last remnants of loess slopes. It has become a symbol of our fight and determination against extinction.

Onosma tornensis

Historically, this plant was known as *Onosma tornensis*, named after the locality near Turni nad Bodvou. However, modern genetic research now classifies it under the name *Onosma viridis*. Although the scientific name was changed to be geographically neutral, for us it remains the iconic Turnian rumělnica – a critically endangered relic and one of the greatest unique features of Slovak nature. It occurs on the steep and arid slopes of Turnianský hradní vrch and its immediate surroundings.

RECOVERY PLAN



At the beginning, we faced a complex challenge: 29 isolated Natura 2000 sites scattered along the border of two countries. Fragmentation, abandonment and gradual overgrowth became their greatest enemy - a threat that could wipe these valuable habitats off the map one by one.

Our goal became the S.T.E.P.P. concept – transforming scattered islands of biodiversity into an interconnected, living network. This vision has taken us a long way: from the first field surveys to successfully restored habitats, where traditional management is again applied and the long-term protection of the steppes is ensured.

THE S.T.E.P.P. STRATEGY

S

SURVEYING (Action A)
Science first, precise habitat mapping and expert design for restoration measures.

TERRITORY (Action B)
Purchase and lease of key plots as a necessary step to ensure the protection of the area.

T

E

EFFECTIVE MEASURES (Action C)
Shrub cuttings and the return of grazing as a key step towards restoring steppes.

PROOF (Action D)
Professional monitoring – monitoring the impact of project activities on the target site.

P

P

PEOPLE & POLICY (Action E)
Public education, sharing experiences, cooperation with experts.

RESTORATION MEASURES

Everything for the light

To restore steppe habitats, we let light into the landscape again. We removed bushes and air raids, resumed mowing after many years, and in some places used controlled burning. We suppressed invasive species by targeted injections of herbicide into the trunk, thus protecting rare plants from widespread intervention.

Trunk injection method.

An innovation in the removal of invasive *Ailanthus altissima*

In selected test areas, we went even further and replaced chemistry with biology. To suppress *Ailanthus altissima*, we used a natural enemy – the fungus *Verticillium nonalfalfae*. It spreads through the vascular system of the tree, gradually drying it out from the inside and effectively preventing its regrowth. This innovative approach allowed us to intervene against invasive species with respect for the surrounding nature and without unnecessary chemical burden.

Ailanthus altissima *stand after application of* Verticillium nonalfalfae.

Goat breeder Arnold Dócs and his herd of goats on pasture (SCI Veľký kopec).

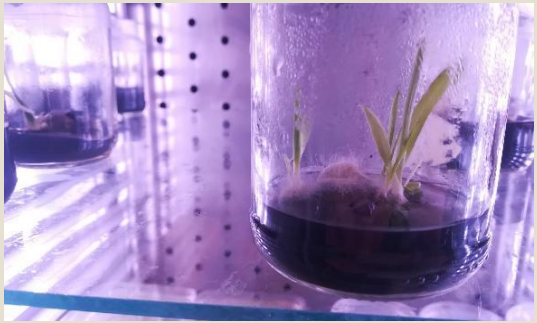
Goats, sheep, cows and donkeys

What we started with cutting and mowing, the animals finished. In cooperation with local farmers, we introduced a historically proven steppe care tool – grazing. Thanks to grazing, we managed to restore life to more than 500 hectares of valuable steppe habitats.

Donkey grazing in the v SCI Kamenný vrch u Kurdějova.

Recovery in the laboratory

Restoring the *Himantoglossum caprinum* population in the field was extremely difficult, so we had to call in science. In cooperation with the Slovak Academy of Sciences, we grew more than 2.000 specimens of this orchid in laboratory conditions (ex situ). We then sensitively planted these seedlings back into restored natural locations where the species was threatened with extinction.



Young plants of Himantoglossum caprinum *in the laboratory.*

Protective belt (SCI Špidláky).

Saving the last flowers

In SCI Špidláky, Artemisia pancicii survives in a small and vulnerable population, threatened by intensive agriculture and predation by wildlife. To stop these threats, we installed protective fencing around the occurrence and negotiated a buffer zone with local farmers, which protects the last individuals from the negative effects of the surrounding landscape.

MONITORING

Exploring recovery

Restoration interventions without evaluation are meaningless. That is why we carried out thorough monitoring at all locations every year. Our teams continuously monitored the development of biotopes and the condition of target species, and the data obtained became the heart of the entire project. It was thanks to them that we were able to prove that restoration really works. At the same time, we also evaluated ecosystem services and the socio-economic impacts of the implemented measures.

Botanický průzkum v SCI Pieskovcové chrbty.

PEOPLE & POLICY

Community for the community

An equally important part of the project was the involvement of the public and local stakeholders. We organized specialized workshops aimed at local farmers and representatives of local governments and state administrations to obtain practical information about grazing and the elimination of invasive species. We prepared lectures and trainings for schools and their teachers in Slovakia and the Czech Republic, which transferred the topic of nature restoration directly into the teaching. We held dozens of excursions, seminars and a professional conference. All these activities contributed to education, increased awareness and networking of individual stakeholders across regions.

Pozorní účastníci závěrečné konference.

Permanent identity

It was not just about saving steppe habitats. We created a legal and social framework that gives long-term meaning to the restoration of the land. Through the Living Land program, we are able to make local farmers visible and support forms of local agriculture that contribute to improving the condition of the land and its resilience. This also helps to maintain grazing in the project locations in the long term.

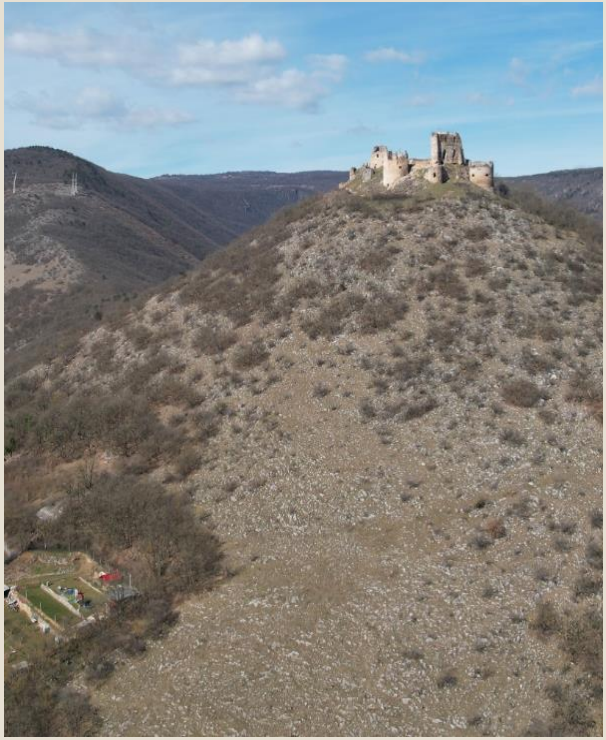
As part of the Living Landscape program, we recognized farmers who farm in harmony with nature as one of the measures to improve their socioeconomic status.

Better rules

We have succeeded in pushing through legislative changes in both the Slovak and Czech environments that enable more effective nature conservation and better management of protected areas. We have contributed to the legitimization of tools such as controlled burning, helped expand the Natura 2000 network, and strengthened the effectiveness of the fight against invasive species.

Controlled burning as a legitimate tool of care.

WORK, WORK, WORK



When machines do not help

On the extreme slopes of the Turnian Castle Mountain, it was not possible to use mechanization. To save the habitat of the rare Turanian red-bellied toad, our teams had to work manually and in difficult conditions. We removed the bushes meter by meter, gradually revealing the rocky outcrops on which this relict species depends.

Modern infrastructure for traditional grazing

Farmer Roman Halás maintains a powerful electric fence at SCI Sedliská. This modern infrastructure allows for precise grazing control where the invasive vegetation is densest, thus purposefully restoring the open character of steppe habitats.

PROJECT RESULTS: LANDSCAPE, NATURE AND PEOPLE

Purchase and long-term lease of land
Total area: 159,24 ha
By lease of land (30 years): 136,53 ha (SCI Ladmovské vápence)
Land purchase: 22,71 ha (SCI Pieskovcové Chrbty and SCI Plešivské stráně)

Restoration interventions
Land restoration and cleaning: 464,2 ha (SK: 413,9 ha | CZ: 50,3 ha)
Invasive species removal: 137,3 ha (SK: 99,2 ha | CZ: 38,1 ha)
Introduction of grazing: 541.3 ha (SK: 502,8 ha | CZ: 38,5 ha)
Specific measures for target species: 31,88 ha

People and politics
More than 80 field trips
6 specialized workshops
24 replications of project best practices
Information panels in key locations
Project website (digital hub)
Networking (sharing of best practices)

NATURA 2000

NATURA 2000 is a key pillar of European nature conservation policy. It is the largest coordinated network of protected areas in the world, designed to ensure the long-term survival of Europe’s most valuable and threatened species and habitats. This approach is based on the recognition that specific sites – including the 29 sites included in our project – are of fundamental importance not only at a local level, but for the biodiversity of the entire continent.

PROGRAM LIFE

The LIFE programme is the European Union's key financial instrument for environmental protection and climate action. Since 1992, it has co-financed thousands of projects across Europe, providing the essential support that allows nature conservation to move from planning to action.