

*(Projects funded under the Call 2014 onwards must use this format)*



LIFE Project Number  
**LIFE15 NAT/CZ/001028**

**Final Report**  
**Covering the project activities from 01/09/2016<sup>1</sup> to 31/03/2022**

Reporting Date<sup>2</sup>  
**30/06/2022**

LIFE PROJECT NAME or Acronym  
**Military LIFE for Nature**

Data Project

<b>Project location:</b>	Czech Republic (all regions)
<b>Project start date:</b>	01/09/2016
<b>Project end date:</b>	31/03/2022 <b>Extension date:</b> <dd/mm/yyyy >
<b>Total budget:</b>	€ 2 339 875 Euro
<b>EU contribution:</b>	€ 1 691 906 Euro
<b>(%) of eligible costs:</b>	75 %

Data Beneficiary

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<sup>1</sup> Project start date

<sup>2</sup> Include the reporting date as foreseen in part C2 of Annex II of the Grant Agreement

**This table comprises an essential part of the report and should be filled in before submission**

Please note that the evaluation of your report may only commence if the package complies with all the elements in this receivability check. The evaluation will be stopped if any obligatory elements are missing.

<b>Package completeness and correctness check</b>	
<b>Obligatory elements</b>	<b>✓ or N/A</b>
<b>Technical report</b>	
The correct latest template for the type of project (e.g. traditional) has been followed and all sections have been filled in, in English <i>In electronic version only</i>	✓
Index of deliverables with short description annexed, in English <i>In electronic version only</i>	✓
<u>Mid-term report</u> : Deliverables due in the reporting period (from project start) annexed <u>Final report</u> : Deliverables not already submitted with the MtR annexed including the Layman's report and after-LIFE plan Deliverables in language(s) other than English include a summary in English <i>In electronic version only</i>	✓
<b>Financial report</b>	
The reporting period in the financial report (consolidated financial statement <b>and</b> financial statement of each Individual Beneficiary) is the same as in the technical report with the exception of any terminated beneficiary for which the end period should be the date of the termination.	✓
Consolidated Financial Statement with all 5 forms duly filled in and signed and dated <i>Electronically Q-signed or if paper submission signed and dated originals* and in electronic version (pdfs of signed sheets + full Excel file)</i>	✓
Financial Statement(s) of the Coordinating Beneficiary, of each Associated Beneficiary and of each affiliate (if involved), with all forms duly filled in (signed and dated). The Financial Statement(s) of Beneficiaries with affiliate(s) include the total cost of each affiliate in 1 line per cost category. <i>In electronic version (pdfs of signed sheets + full Excel files) + in the case of the Final report the overall summary forms of each beneficiary electronically Q-signed or if paper submission, signed and dated originals*</i>	✓
Amounts, names and other data (e.g. bank account) are correct and consistent with the Grant Agreement / across the different forms (e.g. figures from the individual statements are the same as those reported in the consolidated statement)	✓
Mid-term report (for all projects except IPs): the threshold for the second pre-financing payment has been reached	N/A
Beneficiary's certificate for Durable Goods included (if required, i.e. beneficiaries claiming 100% cost for durable goods) <i>Electronically Q-signed or if paper submission signed and dated originals* and in electronic version (pdfs of signed sheets)</i>	✓
Certificate on financial statements (if required, i.e. for beneficiaries with EU contribution ≥750,000 € in the budget) <i>Electronically Q-signed or if paper submission signed original and in electronic version (pdf)</i>	✓
<b>Other checks</b>	
Additional information / clarifications and supporting documents requested in previous letters from the Agency (unless already submitted or not yet due)	✓

<i>In electronic version only</i>	
This table, page 2 of the Mid-term / Final report, is completed - each tick box is filled in <i>In electronic version only</i>	✓

*\*signature by a legal or statutory representative of the beneficiary / affiliate concerned*

***Instructions:***

Please refer to the General Conditions annexed to your grant agreement for the contractual requirements concerning a Mid-term/Final Report.

Both Mid-term and Final Technical Reports shall report on progress from the project start-date. The Final Report must be submitted to the Agency no later than 3 months after the project end date.

Please follow the reporting instructions concerning your technical report, deliverables and financial report that are described in the document [Guidance on how to report on your LIFE 2014-2020 project](#), available on the LIFE website. Please check if you have the latest version of the guidance as it is regularly updated. Additional guidance concerning deliverables, including the layman’s report and after-LIFE plan, are given at the end of this reporting template.

Regarding the length of your report, try to adhere to the suggested number of pages while providing all the required information as described in the guidance per section within this template.

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## 2. List of key-words and abbreviations

MoE	Ministry of Environment
MtR	Mid-term Report (30/9/2018)
NP	National Park
PR1	The first Progress Report (30/06/2017)
PNP	Podyji National Park
PNPA	Podyji National Park Administration
SCI	Sites of Community Importance
SPA	Specially Protected Area

## 2.1. List of annexes

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### 3. Executive Summary (maximum 2 pages)

Military areas are comparable in importance to the most valuable Czech protected areas; mainly due to the occurrence of rare open habitats, such as dry grasslands, heathlands, wetlands or even sand dunes. These habitats have been preserved due to the absence of urbanization and industrial agriculture, as well as the military activities. These unintentionally simulated natural processes for many decades – disturbances which otherwise disappeared from the cultural landscape. Disturbances generally disrupt the established state of the ecosystem, prevent the gradual overgrowth of the landscape and thus ensure the constant restoration of open habitats. Infantry, heavy vehicles, and exploding ammunition shaped the landscape just like herds of large ungulates, natural landslides, windthrows, and fires once did.

The *Military LIFE for Nature* project aimed to provide management of five biologically extremely valuable sites in the Czech Republic formed in the past by military training: Naceraticky Kopec near Znojmo, Panov near Hodonin, Blsanský Chlum and Masovicka Strelnicee with Havranicke Vresoviste in Podyji National Park. For this purpose, four management methods were applied, which are being introduced in the Czech conservation: heavy and military vehicles movement, motocross, free grazing of sheep and goats and grazing of „wild“ horses. The advantage of these approaches is, on the one hand, that they make it possible to create much-needed environmental heterogeneity. On the other hand, they can also be effective in large areas, often at relatively low financial costs, especially with the community involvement. The project sought to raise public awareness of the biodiversity significance of abandoned military areas and the involvement of local people in their management.

The project activities at Panov followed the felling of self-seeding trees. First, stumps left after self-seeding trees were removed. Subsequently, the upper layer of the substrate was removed on the same areas and on selected parts of the forest-free area with heavily ruderalized grassland. The restoration of the target sites was supported by military vehicles movement. Contrary to the original assumptions, significant effort had to be made to eliminate regrowth of self-seeding and invasive woody plants.

These interventions have dramatically changed the appearance of the site. The scale and character of the interventions is unique in the country and it is one of the largest projects of its kind. The project enabled the restoration of one of the most important sand steppes in the Czech Republic at a time when the diversity of psammophilous species was already being depleted due to habitat reduction and fragmentation. The interventions have transformed the area into an open forest-steppe with solitary trees and small groups woody plants. The removal of the substrate has created space for the restoration of the sandy grassland mosaic in a gradient from sparse stands of initial grasses in disturbed areas to species-rich sand steppe grasslands.

At Naceraticky Kopec, the conservation actions enabled the restoration of steppe and dry thermophilous grasslands on a substantial part of the project site. Removal of unwanted shrubs was carried out with respect to the species associated with xerothermic shrubs, especially the regionally important breeding population of *Sylvia nisoria*. The combination of shrub removal and subsequent grazing has resulted in the re-establishment of a pastoral structure with species-diverse grasslands, forming a heterogeneous habitat mosaic on a scale from exposed soil to mature stands with unevenly distributed woody plants, particularly hawthorn. The restoration of the steppe grasslands and their subsequent grazing has greatly enhanced the populations of many species of conservation importance. Particularly significant is the increase in the number of the critically endangered *Chelis maculosa*.

The introduction of frequent military vehicles movements and motocross has added intensively disturbed parts to the habitat mosaic. Particularly on the edges of the tracks with less intensive traffic, extremely rare and endangered species appear, for which Naceraticky Kopec is the only known site in the Czech Republic (*Pachycerus segnis*), or it is one of the few Czech locations of occurrence (e.g. *Polycnemum majus* and *Heliotropium europaeum*).

Masovicka Strelnice and Havranicke Vresoviste were selected as the most suitable pilot sites for grazing large herbivores. In comparison with other project sites no significant remediation interventions took place here. The purpose of the measure was to restore target habitats (dry grasslands) and rare species associated with them (including orchids), in their original area gradually – by year-round extensive grazing. Both sites are exceptional also due to their location in Podyjí National Park, where management using Exmoor Pony grazing can be connected with the attractiveness of the place for tourists.

Grazing enclosures were built and a herd of eleven Exmoor ponies was acquired. The ponies were imported in May 2018. Grazing took place gradually on both sites, the sites were divided into several parts with a mobile fencing. On both pastures, there were significant structural changes in the grassland vegetation. Grazing has suppressed grasses and particularly tall expansive species (*Calamagrostis epigejos*, *Arrhenatherum elatius*) and led to the development of flowering plants including the target plant species (*Pulsatilla grandis* and *Orchis morio*).

This type of management significantly supports some groups of invertebrates, particularly coprophagous beetles. Both project sites saw an increase in the number of species and abundance of coprophagous insects, including some extremely rare species. The rich coprophagous communities serve as a food source for other invertebrate and vertebrate groups. At both project sites, populations of animal species tied to short-stemmed grassland are gradually appearing or increasing, such as *Spermophilus citellus* (Havranicke Vresoviste) or the endangered butterflies *Watsonarctia casta* and *Chelis maculosa* (Masovicka strelnice).

At Blsanky Chlum, the first step in the grassland restoration was a significant reduction of shrubs and opening of the area. Subsequently, it was possible to proceed to the reduction of unwanted regrowth and to the regeneration of herbaceous communities. For this purpose, long-term extensive grazing of a mixed flock of sheep and goats was chosen as the most appropriate tool. Grazing took place in a „wandering“ way, i.e. without fences and under the supervision of a shepherd and herding dogs. During the project, work began on a fence that would enable year-round, ideally community grazing as a long-term sustainable and community-friendly activity, which would simultaneously be financially independent.

The conservation actions have enabled the restoration of steppe grasslands in the most valuable parts of the site. Thanks to grazing, the restored areas are gradually acquiring a typical pastoral structure and the typical plant species for pastures (*Thymus*, *Eryngium campestre*) are spreading. The population of the *Euplagia quadripunctaria*\*, which is protected here, has responded positively to the changes made.

Around 1000-1500 people came to 29 events the public and nearly 100 volunteers were actively involved in management measures. High dozens of specialists participated in the expert events of the project.



The project successfully accomplished its three key goals: it restored biodiversity of rare open habitats, tested innovative management strategies, and involved local communities in management.

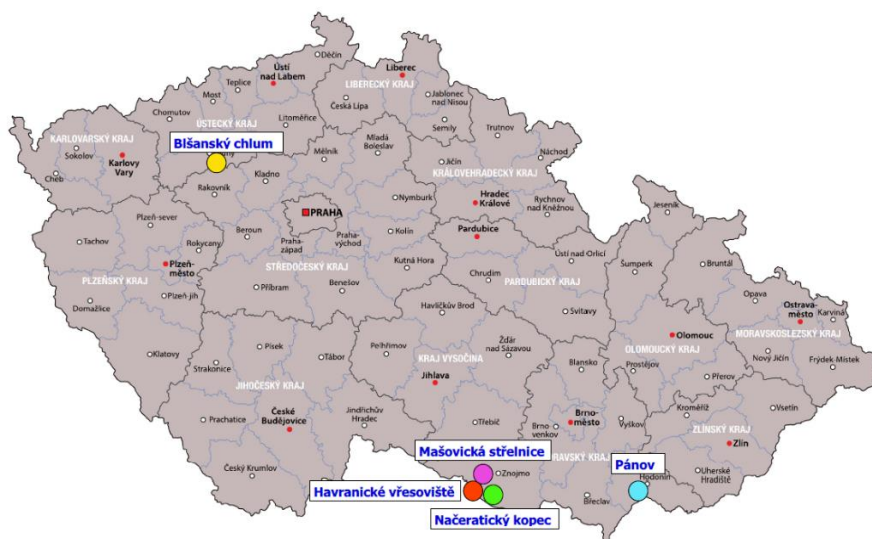
## 4. Introduction (maximum 2 pages)

The general objective is to provide suitable care of exceptionally valuable natural sites formed in the past by a military training through using different management approaches and thereby to create conditions for ensuring favourable conservation status of the natural habitat types of European importance 2330, 4030, 5130, 6210, 6210\*, 6260\*, 8230 and of the species of European importance *Euplagia (Callimorpha) quadripunctaria\** and *Pulsatilla grandis* at the project sites.

The project sites are:

- Panov (near Hodonin)
- Naceratický Kopec (near Znojmo)
- Masovická Strelnice (Podyji National Park)
- Havranické Vresoviste (Podyji National Park)
- Blsanský Chlum (near Louny)

All project sites are protected under Natura 2000.



Specific objectives:

- To restore open sand with occurrence of the habitat types 2330 and 6260\* at the project site Panov and introduce here long-term sustainable use with positive impact on these habitat types / 20 ha of 6260\* and 33 ha of 2330 habitat type were restored.
- To extend the area of the habitat types 6210 and 8230 at the areas currently influenced by vegetation succession at the project site Naceratický Kopec and prepare them for long-term sustainable management / Elimination of shrubs and *Robinia pseudoacacia* followed by grazing has started regeneration of 6210 habitat type on area of 78 ha, motocross activities combined with grazing stabilised the habitat type 8230 and created conditions for extension of this habitat type on 20 ha.
- To introduce large herbivores breeding at the project sites Masovická Strelnice and Havranické Vresoviste and thus prepare suitable conditions for the habitat types 4030, 5130, 6210, 6210\* and *Pulsatilla grandis* / Enclosures with horses were built on 28,5

ha at Masovicka Stelnice and on 35 ha at Havranicke Vresoviste. Status of *Pulsatilla grandis* and habitat types 6210 and 4030 has been improved. Habitat type 6210\* has been improved partially (progress in improving the quality). Habitat type 5130 was excluded as a target, because of an expert reclassification of habitat mapping during monitoring process.

- To provide suitable conditions for the occurrence of *Euplagia (Callimorpha) quadripunctaria*\* at the site Blsansky Chlum / In last two years of the project, 12 individuals were caught.
- To promote various management approaches to maintain favourable status of the habitat types and species of the abandoned military areas / Three different approaches were applied and promoted: (i) traditional grazing with sheep/goats, (ii) Exmoor Ponies grazing and (iii) military vehicles movements and motor sports.

The project aims at selected abandoned military areas that have a high natural value comparable with the most strictly protected areas. Military training generated frequent and irregular disturbances followed by succession, resulting in dynamic, fine-scaled mosaics of habitats in various stages of succession. Such places host many endangered species depending on either disturbed ground, or transient conditions.

After the army left, the major threats are habitat loss due to succession and invasive species. Therefore there is a need for active management to maintain the protected habitat or protected species. The management could either simulate army activities, which gives the opportunity for associations of military history fans or motocross riders, either use grazing as suitable treatment, which gives opportunity for local farmers and communities. In both cases it is very important to establish strong relationship and close cooperation between owners, conservationists and local communities.

Local people can benefit from the project in several ways:

- The need of management (especially after the project) creates space for adventurous leisure time activities like motocross, off-road riding or military history events. This can be win-win situation for everyone since such clubs have relatively little space for their activities, which often results in doing them semi-illegally elsewhere and anytime, which bothers local inhabitants. But if there is a place where such activities are permitted, it motivates people to keep agreed regime which is better for everyone.
- Local farmers can get extra space for grazing and related production (meat, milk, cheese, wool etc.).
- Opportunity for new community activities. Grazing could be also ensured in a way that local people can have their own sheep or goat at the common pasture and together share the costs.
- Thanks to such activities the location become more attractive for local people which can improve quality of life in the area.

New visitors can also initiate new opportunities for local development.

## 5. Administrative part (maximum 1 page)

All partners were involved as planned in the project proposal. There have been no significant changes regarding the project partners and their roles in the project. Ministry of Environment (MoE) joined the project from February 2017. All other partners have been working on the project since September 2016.

Partnership agreements with Wetland and Ceska Krajina had been signed when the project started. In July 2017 a legal document confirming financial contribution of MoE was signed. Partnership agreement with MoE was signed in June 2018, after necessary administrative procedures within MoE. Guidelines for cooperation within the project have been developed. These guidelines describe roles and responsibilities within the project team. The final version is attached to the partner agreements.

Basic project management and administrative procedures have been established. These procedures were consulted with all partners and adjusted to reflect both needs and good practice examples of the project partners as well as project demands. These included human resources management, financial management and accounting and tendering procedures.

Approximately once in three months there was a meeting of the key coordinators. (Meetings were more frequent in the beginning of the project.) During these meetings the coordinators shared information about their actions, discussed problems, revised plans and agreed about common issues. Between these meetings the coordinating beneficiary was in touch with all partners via phone or e-mail. If needed, there were *ad hoc* consultations or meetings about particular questions or problems.

The coordinating beneficiary gathered all relevant documents and information, including technical, administrative and financial issues, from project partners once every 3-4 months. The coordinating beneficiary checked that all internal rules according to partnership agreements are followed.

The project manager and financial manager took part in the Kick-off Meeting in Brussels in October 2016. The relevant information was shared with all project partners. Acquired information is used in project coordination and administration.

We have been in touch with the project's external monitor since October 2016 and have been consulting various issues with him since. There were seven monitoring visits during the project, four of them included visiting the project sites. In September 2021 there was a joined hybrid mission with Ms. Silvia Donato from CINEA. In between the visits we were consulting some questions with the external monitor via e-mail or telephone. These consultations concerned clarifications of some administrative demands, expected changes in the budget as well as unexpected developments of some of the project actions.

There were two Letter Amendments to the Grant Agreement:

- No 1 concerning modification of some articles of the General Conditions.
- No 2 concerning the change of the address of the coordinating beneficiary.

For the answers to the letters from CINEA please see ANNEX 01.

## 6. Technical part (maximum 25 pages)

### 6.1. Technical progress, per Action

#### A1 – Development of management plans for the project sites

Foreseen start date: 3Q/2016	Actual start date: 1/9/2016
Foreseen end date: 4Q/2016	Actual end date: 31/12/2016

#### What has been done:

- Relevant documents and information on the project sites were gathered and investigated (formal management plans, research reports etc.).
- Field visits of all sites were conducted and the current situation was checked.
- Proposed measures were consulted with relevant stakeholders for each site (local conservation authorities, Hodonin and Znojmo municipalities, local councils, land users, target species specialists etc.)
- Expectations and experiences of relevant project partners were discussed.
- Potential conflicts with conservation of important non-target species (*Lullula arborea*, *Sylvia nisoria* etc.) were discussed and measures planned in order to avoid harm.
- Much attention was given to effective elimination of invasive plants.
- Needs and interests of people living in close neighbourhood were consulted and taken into account where relevant.
- All gathered information were taken into account in development of the detailed plans of project measures. The plans include updated maps, specified maps of planned measures, and detailed directions for measures including important exceptions.
- Plans are available to all coordinators of C Actions.
- Documentation for necessary permissions and the relevant negotiations in Action A2 was developed based on these plans.

#### By whom:

- Coordinator of conservation actions (Beleco) in cooperation with experts responsible for conservation actions at Panov (Wetland), Masovicka Strelnice and Havranicke Vresoviste (Ceska Krajina).

#### Financial implications:

- All work has been done by project staff of the Coordinating Beneficiary and relevant Partners.
- Relevant travel costs have been paid according to the budget.

#### Problems:

- None.

#### Changes:

- No significant changes.

#### Deliverables:

- 4 management plans (submitted with PR1).

## A2 – Acquisition of necessary permits, development of project documentation, tendering procedures

Foreseen start date: 3Q/2016	Actual start date: 1/9/2016
Foreseen end date: 2Q/2018	Actual end date: 30/6/2018

### What has been done:

- Management Plans were negotiated with relevant regional conservation authorities and municipalities.
- Negotiations, meetings and/or correspondence with local stakeholders took place.
- Experts on important non-target species were consulted. (Naceraticky Kopec, Panov)
- Chemical analyses of soil were made. (Panov)
- Close cooperation with Podyji National Park (later on PNP) Administration was established.
- Technical documentation for grazing facilities (enclosures, shelters, gates etc.) was prepared. (Masovicka Strelnice, Havranicke Vresoviste, Blsanky Chlum)
- Together with relevant authorities was agreed, that grazing facilities do not require a building permit.
- Contract about long-term use of the land owned by PNP was prepared. (Masovicka Strelnice, Havranicke Vresoviste)
- Request for permit of woodland grazing was submitted in the autumn 2016. (Masovicka Strelnice, Havranicke Vresoviste). The final permit was issued 12/12/2017.
- Procedures for contracting were established according to the LIFE guidelines and the Czech legislation.

**All necessary permissions for the management actions (C1-C7) have been obtained.**

### Suppliers have been selected for the actions:

- C1-C3 (Panov): machinery purchase and/or machinery lease (excavator, truck and trailer)
- C4 (Panov, Naceraticky Kopec): heavy machinery management
- A3/C5 (Masovicka Strelnice, Havranicke Vresoviste): building of enclosures and infrastructure for grazing
- A3/C5 (Masovicka Strelnice, Havranicke Vresoviste): purchase and transport of Exmoor Ponies
- C6 (Naceraticky Kopec): removal of trees, shrubs and sprouts
- C6 (Naceraticky Kopec): grazing
- C7 (Blsanky Chlum): removal of trees, shrubs and sprouts
- C7 (Blsanky Chlum): grazing
- C7 (Blsanky Chlum): building of enclosure
- E1, E2: graphics and website development
- E1: making videos

**By whom:**

- Project manager and Financial Manager (Beleco), Coordinators of relevant actions and financial administrators (Beleco, Wetland, Ceska krajina), Additional staff for tendering procedures and additional administrative staff (Beleco).

**Financial implications:**

- All work has been done by project staff (permanent and additional staff) of the Coordinating Beneficiary and relevant Partners.
- Relevant travel costs have been paid according to the budget.

**Problems:**

We have encountered two problems. Both have been solved:

- Logging at Panov site:  
Planned measures at Panov site include logging of 31 hectares of trees in an early successional stage. The landowner, Hodonin municipality, agreed to carry the logging out on its own even before the project was submitted. The municipality proposed this course assuming that direct control over logging (and resulting sale of wood) will be more advantageous. That is why logging has never been included into the project. However, the municipality discovered in fall 2016 that it may not be possible to organise logging as agreed in such a short time. Possible solutions were discussed in several rounds of negotiation with Beleco and Wetland, including incorporation of logging into the project as a project change. However, the municipality and project partners eventually agreed to proceed with the original course. Beleco and Wetland supported the municipality in order to reduce its work demand in preparation of logging. The municipality tendered logging works and selected the contractor at the beginning of 2017. Logging itself commenced at the end of February 2017. These complications have led to a later start of Actions C1-C3 that depended on removal of the trees. The necessary work has been compensated during the next phases of these actions. This did not have any negative influence on the project results.
- Forest grazing in parts of Masovicka Strelnice and Havranicke Vresoviste sites:  
Masovice municipality agreed to lend the communal land at Masovicka Strelnice site to Ceska Krajina. Subsequently, local hunting association raised its objections to forest grazing at the site – both at the communal land and that of other landowners. Hunting association, Masovice municipality, Podyji NP Administration, Ceska Krajina and Beleco met at 29/3/2017 in order to resolve the issue but have not reached an agreement. Further negotiations followed. In the end the grazing area was shifted to avoid controversial parts.  
Hunting associations originally rejected grazing at Havranicke Vresoviste site as well. Their position has changed after negotiation and we were able to reach a compromise which provides for overlapping use of some parts of the site for both activities (grazing and hunting). A working manual for future hunting on grazing land was developed in order to formalise the agreements and set rules that will provide for simultaneous grazing and hunting. However, permission from MoE was necessary, so another administrative procedure had to be undertaken. In the end MoE confirmed the permission for forest grazing as proposed.

**Changes:**

- There is a small change in grazing area at Masovicka Strelnice. The area is divided by public path which has to stay open and must allow occasional use by motor vehicles (necessary works in neighbour areas, emergency, etc.) This means that the enclosure is divided in two parts and the horses will be time to time moved to the other part, so that all area is grazed as needed.
- Total area of both enclosures is in the end larger than expected in the project proposal:
  - Masovicka Strelnice: 27 ha (originally planned 25 ha)
  - Havranicke Vresoviste: 35 ha (originally planned 35 ha)

**Deliverables:**

- Project documentation package was submitted in PR1.
- Additional project documentation (MoE's permit for forest grazing, final maps of grazing areas) was submitted in MtR.



### A3 – Preparing grazing facilities for big herbivores at Masovicka Strelnice and Havranicke Vresoviste

Foreseen start date: 3Q/2016	Actual start date: 1/9/2016
Foreseen end date: 4Q/2017	Actual end date: 10/5/2018

#### What has been done:

- Final routing of the enclosure fence was decided so that it respects the local terrain and vegetation, and incorporated into maps. Detailed situation of the site was investigated in repeated field visits, along with currently used paths, and entry and exit points proposed so that the site will be accessible in case that the fence will be shifted in order to remove some parts of the site from grazing for regeneration.
- Monitoring of invasive plants was implemented (primarily for *Robinia pseudoacacia*) and groups for elimination selected.
- Elimination of invasive plants was carried out according to the plans.
- Enclosures and necessary infrastructure were built.
- 11 Exmoor Ponies were chosen, prepared for transport and transported to the project sites.

#### The Enclosures and facilities at both places are finished.

Horses were purchased and transported to the project locations in May 2018.

#### By whom:

- Coordinator of preparing grazing activities and coordinator of actions at Masovicka Strelnice and Havranicke Vresoviste + additional staff for manual work (Ceska Krajina): planning, coordination, negotiations, eliminating invasive plants.
- External supplier: building enclosures
- External supplier (Moorland Mousie Trust): purchasing and transport of 11 Exmoor ponies.

#### Financial implications:

- Part of the work has been done by project staff (permanent and additional staff) of Ceska Krajina.
- Relevant travel costs have been paid according to the budget.
- Costs of building enclosures were higher than expected and were covered by the savings in other budget items.
- Costs for purchasing and transport of ponies were in accordance with budget.

#### Problems:

- Because of complicated negotiations about grazing areas (as described under A2), the enclosures were built only in the end of 2017. Transport of horses was therefore possible only in spring 2018. There was cca 4 months delay comparing with original plan. This delay did not have any influence on the achievements of the project objectives. Grazing started from the beginning of May 2018, the intensity of grazing was regulated according to the needs of the sites. born, so it will be possible to adjust the number of horses according to the needs of the locations.
- It appeared that the real amount of *Robinia pseudoacacia* is bigger than expected. *Robinia* was eliminated by PNP staff using the herbicide drilling method, which proved

to be highly effective. By the end of the project, over 5 ha of *Robinia* (i.e. over 80% of the total acacia area) have been treated with this method.

**Changes:**

- Change of the grazing area at Masovicka Strelnice (as described under A2).

**Deliverables:**

- None planned.

#### A4 – Planning long term sustainable use of the project sites

Foreseen start date: 1Q/2017	Actual start date: 1/3/2017
Foreseen end date: 3Q/2018	Actual end date: 10/5/2022

##### What has been done:

- Negotiations with relevant stakeholders, municipality representatives and nature conservation authorities were done.
- Relevant agreements, statements and other documents have been elaborated and approved.
- The long term sustainable use of the project sites is secured in following ways:
  - Panov: The long-term sustainability of the project results is stipulated in the Declaration approved by the City Council of Hodonin on 10/5/2022. Practical arrangements of activities related to motocross at Panov (which is crucial for the long-term sustainability of the project results) are stipulated in the contract between Hodonin municipality and Mr. Josef Vecerka, who is entitled to coordinate these activities. The contract has been signed on 3/12/2021.
  - Naceraticky Kopec: The long-term sustainability of the project results is stipulated in the Declaration signed by the Mayor of Znojmo on 31/3/2022. Besides that, there is a contract granting gratuitous use of land for an indefinite period between Znojmo municipality and Mr. Petr Kosmak, who has been providing grazing at Naceraticky Kopec. This contract is fully compatible with the project's objectives. In addition to this, in 2018 regional nature conservation authority consulted with the coordinating beneficiary request from local motocross club about regular riding at one part of the project site. All parties agreed on conditions, which ensure compatibility with the project objectives. The permit for motocross was given for 5 years as a trial period. Based on the experience a more complex agreement will be prepared during 2022, with all parties involved.
  - Masovicka Strelnice and Havranicke Vresoviste: There is a contract between Podyji National Park Administration and Ceska Krajina about using the land for grazing semi-wild horses till 2025. (State institutions in the Czech Republic are entitled to sign contracts for the use of State property only for a limited term. Such contracts need to be prolonged regularly.)
  - Blsanky chlum: Beleco has obtained written agreements from all relevant landowners, including the municipalities of Blsany u Loun and Chlumcany as well as the private landowners, granting free use of their land for grazing for an indefinite period.

##### By whom:

- Coordinator of conservation actions and project manager (Beleco) in cooperation with experts responsible for conservation actions at Panov (Wetland), Masovicka Strelnice and Havranicke Vresoviste (Ceska Krajina).

##### Financial implications:

- All work has been done by project staff of the Coordinating Beneficiary and relevant Partners.
- Relevant travel costs have been paid according to the budget.

**Problems:**

- Longer time was needed for this action to be able to have good results. It was difficult to make detailed agreements for after LIFE at the beginning of the project, as originally planned.

**Changes:**

- No significant changes.

**Deliverables:**

- Please see ANNEX 04 for relevant documentation.

## C1 – Removal of stumps at Panov site

Foreseen start date: 4Q/2016	Actual start date: 20/2/2017
Foreseen end date: 1Q/2019	Actual end date: 31/3/2019 (Additional interventions continued till 31/3/2022)

### What has been done:

- First step was mapping trees, making detailed technical plans, budgets and other documents necessary for proper technical execution of the task.
- The project activities followed the felling of self-seeding trees carried out by Hodonin municipality outside of the formal project scope. Felling took place in three stages, always outside of the growing season, from 2017 to 2019. Only selected individual trees or their groups were left, especially aspens and birches, which provided an important habitat for some rare xylophagous insect species associated with these tree species. In addition to insects, this step was also beneficial for endangered bird species inhabiting the forest-steppe landscape – nightjar, woodlark, hoopoe, and bee-eater. On a broader scale, the retention of solitary trees has contributed to the creation of the intended fine and colourful mosaic of habitats.
- Stumps were removed in areas where self-seeding trees were cut, immediately after harvesting.
- After logging clearing of the land was needed. This was done partly manually by two workers making smaller piles and partly using machinery making bigger piles ready to be transported from the site.
- Stumps were removed by a tracked excavator equipped with a special device – a stump grinder, which was paid for from the project.
- The removed stumps were placed in temporary piles and removed from the site by the end of each stage at the latest. Transport from the site is done by special machinery.
- Each year the works have to be interrupted during the nesting season (from March till August), to avoid conflicts with nesting birds.
- Special attention has been paid to *Robinia pseudoacacia*. Since this invasive species tends to sprout from both stumps and roots after logging, special method of logging and post-logging interventions needed to be applied to ensure real removal of the trees from the site.

**A total of about 30 000 stumps on an area of 30 ha (21 ha foreseen).**

### By whom:

- The removal of stumps was provided by the Project Partner Wetland, which specializes in the implementation of nature conservation projects.
- The coordinator of actions at Panov (Wetland) was closely cooperating with the coordinator of conservation actions (Beleco) when planning the work and deciding about suitable technologies.
- The work is done by employees of Wetland (technical and manual workers).
- Transport of the stumps from the project site has been done by external supplier, because special machinery is needed.

### Financial implications:

- The work has been done by project staff of Wetland.

- Wetland was partly using its own machinery and equipment (excavator, chainsaw). In this case only cost for fuel were paid from the project.
- Special additional equipment for excavator was paid from the project according to the budget.
- Transport of stumps from the project site was provided by external supplier.

#### **Problems:**

- Intensive regrowth of woody plants proved to be the biggest complication in the project implementation. In the first phase (2017–2018), invasive trees, especially *Robinia*, were felled using so-called high stump felling (stump height about 1–1.2 m). The measure was based on the experience of Podyji National Park Administration at the time. The principle of this method is the removal (breaking) of the regrowth, which the stumps form in their top part. Multiple intervention gradually weakens the tree until it dies. In practice, however, this method proved to be extremely demanding in terms of personnel capacity and time. After one season of regular removal, no signs of reduced stump vitality were observed. For these reasons, *Robinia* stumps, as well as native self-seeding trees, were removed by an excavator. In the following seasons, the root regrowth was eliminated by spraying herbicide on the leaves. The method is highly effective – trees of heaven (*Ailanthus altissima*) were removed in the same way.
- The regrowth of indigenous trees, especially aspen (*Populus*), proved to be very intense, even though the stumps of these trees were removed. Aspens also regrew very well from the thin roots that remained in the ground after the stump was uprooted. Aspen regrowth was eliminated by a combination of military equipment movement and repeated mulching on more continuous, easily accessible areas. This intervention, carried out in two consecutive seasons and repeated twice a year, significantly reduced the vitality of the regrowth, but did not eliminate it completely. Targeted movement of vehicles to places with regrowth led to their elimination, but it was necessary to apply intensive movement at these places. During the project, the regrowth was removed on most of the areas, leaving only some localized outbreaks, which will be the target of the vehicle movement in the future management.

#### **Changes:**

- Additional interventions in order to stop regrowth (resprouting) of woody plants were necessary. These actions included:
  - Removing roots of *Robinia*, as well as native self-seeding trees, by an excavator.
  - Selective application of herbicides on the leaves.
  - Repeated mulching.
  - More intensive movement of heavy military vehicles.
- Additional interventions were performed repeatedly from 2019 till 2022.
- Since there were significant savings in the budget during the first years of the project, these necessary follow-up actions did not require additional funding.
- These changes have been reported in the Progress Reports 2019 and 2021.

#### **Deliverables:**

- None planned.

## C2 – Removal of upper layer of soil at Panov site

Foreseen start date: 4Q/2016	Actual start date: 20/2/2017
Foreseen end date: 1Q/2019	Actual end date: 31/3/2019 (Additional interventions continued till 31/3/2022)

### What has been done:

- This measure was necessary in places where the self-seeding trees and their stumps were removed because the soil there was too eutrophicated by litter and accumulation of nutrients, which would complicate the restoration of the target habitats. In addition, the topsoil was removed in selected areas of forest-free land where the grassland was already heavily degraded by wood small-reed (*Calamagrostis epigeios*).
- Heavy metal soil load analyses performed on two mixed samples at the site did not show that the set limits were exceeded in any of the monitored parameters.
- The removal was performed by a tracked excavator. In the case of felled areas, it was carried out simultaneously with the removal of stumps, or immediately after it, in three stages, always at the end of the growing season and outside it. In terrain depressions in places where there were shallow pools in the past, the layer of removed substrate was 10–15 cm. Towards the edges of the self-seeding tree groups, the humus layer thinned and thus the depth of the removed soil was lower (about 5 cm). The relief of the site was kept during the removal of the substrate. In the case of interventions aimed at wood small-reed, selectively smaller areas were removed at places of its most advanced expansion throughout the whole project.
- The removed substrate was stored in three places on the edges of the site and modelled into a flat area.
- Originally, only the truck and tractor with trailer were used for the transport. However, during the second phase it appeared, that it would be more efficient to use more vehicles for transport simultaneously, to be able to remove more material in shorter time. Therefore, additional vehicles with drivers were rented from local company as external service.
- After storage, the development of vegetation was monitored, especially with regard to the presence of undesirable species, and the areas were regularly mown twice a year.
- Each year the works have to be interrupted during the nesting season (from March till August), to avoid conflicts with nesting birds.

**In total, the upper substrate was removed from 31 ha (31 ha foreseen).**

### By whom:

- Project partner Wetland was responsible for this action.
- The coordinator of actions at Panov (Wetland) was closely cooperating with the coordinator of conservation actions (Beleco) when planning the work and deciding about suitable technologies.
- The work has been done by employees of Wetland (technical and manual workers).
- Additional works and machinery were provided by external suppliers.
- Chemical analyses of soil have been done by certified laboratory.

**Financial implications:**

- The work has been done by project staff of Wetland.
- Wetland was partly using its own machinery and equipment. In this case, only costs for fuel were paid from the project.
- The second-hand truck and trailer were purchased from the project. These vehicles were used to transport the soil.
- Tractor was rented from external provider. Additional trucks with drivers were rented when large amounts of soil needed to be transported within short time.

**Problems:**

- Regrowth of woody plants (for details about additional interventions see C1).

**Changes:**

- Additional interventions in order to stop regrowth of woody plants (for details see C1).
- Additional interventions were also needed in order to stop spreading undesirable species from the places, where the substrate was deposited. These places had to be regularly mown twice a year till the end of project.

**Deliverables:**

- None planned.



### C3 – Harrowing (mulching) at Panov site

Foreseen start date: 4Q/2016	Actual start date: 1/3/2017
Foreseen end date: 1Q/2019	Actual end date: 30/9/2019 (Additional interventions continued till 31/3/2022)

#### What has been done:

- Continuous wood small-reed (*Calamagrostis epigeios*) stands were removed by scraping off the substrate (see previous measures). The efficiency was increased by mulching, together with the removal of regrowth. Mulching was carried out in the summer (before the seeds ripen), when the small-reed wood was weakened, and the intervention was the most effective.
- Combination of scraping off the substrate with mulching and disturbances by heavy military vehicles, has proven to be the most effective in combating wood small-reed compared to mere mulching, heavy equipment movement, or harrowing.

**A total of 14 ha of land were treated in this way (10 ha foreseen).**

#### By whom:

- Project partner Wetland has been responsible for this action.
- The coordinator of actions at Panov (Wetland) was closely cooperating with the coordinator of conservation actions (Beleco) when planning the work and deciding about suitable technologies.
- The work has been done by employees of Wetland (technical and manual workers).
- Machinery and equipment are provided by external suppliers.

#### Financial implications:

- The work has been done by project staff of Wetland.
- Machinery and equipment were provided by external suppliers.

#### Problems:

- Regrowth of woody plants (for details about additional interventions see C1).

#### Changes:

- Additional interventions in order to stop regrowth of woody plants (for details see C1).
- Harrowing/mulching was originally planned for autumn and winter months, but had to be shifted to summer/early autumn, since mulching during vegetation season has better results.
- These changes have been reported in the Mid-term Report 2018 and the Progress Reports 2019 and 2021.

#### Deliverables:

- None planned.

#### C4 – Disturbances by heavy military technique at Panov and Naceraticky Kopec sites

Foreseen start date: 4Q/2016	Actual start date: 10/2/2017
Foreseen end date: 4Q/2021	Actual end date: 15/3/2022

##### What has been done:

- Panov: During the implementation of the project, the disturbance effect of military vehicles was used mainly for the elimination of unwanted vegetation on the restored areas (root regrowth of self-seeding woody plants, small-reed wood, Canadian goldenrod, etc.). Some parts of the project site were temporarily excluded from the vehicle movement. These are the parts where at the beginning of the project there were the best quality stands of target habitat types and also known places of occurrence of some important taxa. The preserved grasslands in these areas served as source populations for the restored areas.
- Naceraticky Kopec: There were two similarly important reasons for military vehicle movements on the project site. Disruption of vegetation and soil surface contributes to the restoration of target habitats, especially interstitial ephemeral plants and succulents, while also suppressing unwanted wood small-reed. At the same time, vehicle movements are of great educational importance; they make it possible to provide information to the general public and stakeholders on the importance of disturbance for biodiversity.
- Movement on both project sites was provided by tracked vehicles (tank and/or infantry fighting vehicles, IFV) and was concentrated on the areas which needed the most intensive interventions.
- Vehicle movement at Naceraticky kopec, implemented between 2017 and 2021, was every year connected with an event for the public as part of the Steppe Open Days (see also E1).
- Some movement was concentrated at the areas, which were cleared within actions C1-C3 (11 ha), the rest was directed to the areas endangered by ruderal plants, in order to create dynamic mosaic with various intensity of disturbances.

**Panov: 870 hours movement of military tracked vehicles on 40 ha (720 hours foreseen). Naceraticky Kopec: 120 hours movement of military tracked vehicles on 5 ha (120 hours foreseen).** Additional movement at Naceraticky Kopec has been done during the public event (Open Steppe Days) in 2021 (see also E1).

##### By whom:

- The coordinator of conservation actions (Beleco) has been responsible for planning and supervising these activities. Interventions at Panov were consulted and coordinated with the Coordinator of actions at Panov.
- Riding of military vehicle was provided by external supplier: association of military technique fans from southern Moravia region.

**Financial implications:**

- Riding of military vehicle has been done by external supplier.
- Coordination and supervision have been done by project staff of Beleco in cooperation with Wetland.
- Relevant travel costs have been paid.

**Problems:**

- None.

**Changes:**

- No significant changes.

**Deliverables:**

- None planned.

## C5 – Grazing of big herbivores at Masovicka Strelnice and Havranicke Vresoviste

Foreseen start date: 4Q/2016	Actual start date: 10/5/2018
Foreseen end date: 4Q/2021	Actual end date: 31/3/2022 (Grazing continues after the end of the project)

### What has been done:

- The ponies were imported in May 2018. All animals arrived in good condition without any serious problems.
- Five ponies were sent to Havranicke Vresoviste (1,4) and six to Masovicka Strelnice (1,5); while there was always one stallion in the herd, the rest were mares.
- The ponies spent the first month in acclimatization enclosures in order to get used to the new environment.
- In both sites, they were under regular veterinary and breeding supervision. The ponies have a constant supply of water and mineral licks on the pastures. In the case of deep or long-lasting snow cover, hay fodder was provided.
- Grazing took place gradually on both target sites. The sites were divided into several parts with a mobile fencing. In the first years (2018–2019), restoration grazing took place on areas of about 11 ha adjacent to the acclimatization enclosures in order to subsequently (2020–2021) extend to the entire area of pastures. This approach allowed control over the intensity and impact of grazing.
- All the mares became pregnant in 2018 and in the second year (2019) nine foals were born (5 in Masovice, 4 in Havraniky). Both herds have grown to a total of 20 horses. A season later, in 2020, four more foals were born (all in Masovice). In 2021, 7 horses were transported to other nature reserves, where, they provide grazing management for biologically valuable sites. From 2021 the reproduction of horses was temporarily interrupted by separating stallions and mares.

**Area of 28,5 ha is grazed at Masovicka Strelnice and 35 ha at Havranicke Vresoviste (63,5 ha foreseen in total for both sites).**

### By whom:

- Project partner Ceska Krajina has been responsible for this action.
- The work has been done by employees of Ceska Krajina: coordinator of action C5, specialist for big herbivores.
- Two local breeders (rangers) were hired to keep an eye on the horses and the enclosures on daily basis.
- Veterinary checks were provided as an external service.

### Financial implications:

- The work has been done by project staff of Ceska krajina.
- Relevant travel costs were paid according to the budget.
- Veterinary checks were provided as an external service.
- Additionally works and material necessary for making deep wells has been paid (for details see below).

**Problems:**

- Existing water sources appeared insufficient because of lack of water due to extremely hot and dry weather during some seasons. This was compensated by delivering extra water to both sites, which demanded an extra work of the rangers. Therefore, more sustainable solution was needed.

**Changes:**

- Although grazing started in both sites later than planned, beyond expectations, its positive effects quickly began to show in the first year of implementation. The delay in the start of grazing thus did not affect the fulfilment of the project objectives – restoration and maintenance of dry grasslands.
- Ceska Krajina after consultations with Podyji National Park Administration (PNPA) decided, that it will be necessary to make deep wells, using special drilling technology, at both project sites in order to have permanent water supply. The necessary permits have been obtained, material for wells and other necessary infrastructure has been purchased. The wells were dug at both sites. These were put into operation in December 2020. After this measure, there were no more water shortages. The permanent water supply helps with long term sustainability of grazing.
- Since there were some savings in the budget during the first years of the project, these unexpected, but necessary costs did not require additional funding.
- These changes have been reported in the Progress Reports 2019 and 2021.
- There were also plans to make permanent supply of electricity at both project sites. However this will be done out of the project.

**Deliverables:**

- None planned.

## C6 – Restoration of habitats at Naceraticky Kopec

Foreseen start date: 4Q/2016	Actual start date: 20/11/2016
Foreseen end date: 4Q/2020	Actual end date: 30/11/2020 (Additional interventions continued till 31/12/2021, grazing continues after the end of the project.)

### What has been done:

- The self-seeding woody plants were cut on the defined areas in two stages spread over two years: in the first stage of winter 2016/17 the management was carried out on 21 ha of the southern part of the hill, in the second stage of winter 2017/18 on 15 ha of the western part. The woody plants were always removed by hand during the dormant period from the beginning of October to the end of March. Approximately 80% of woody plants were cleared on a total area of 36 ha; most of the wood mass consisted of rose (*Rosa sp.*) and hawthorn (*Crataegus sp.*). The cut material was removed from the site.
- The number of removed woody plants and the final form of the remaining stands had to be determined in accordance with the ecological requirements of the protected bird species nesting in the shrubs.
- Regrowth on areas with cut shrubs was removed by mowing by brush cutter, always from the beginning of August to the end of March. This measure was carried out on each area several times in successive years.
- In addition to three-phase clearing, the woody plant regrowth was exposed to the grazing of a mixed flock of sheep and goats during the grazing season. Restoration grazing started on the site in 2017 and continued for all five growing seasons until 2021. It took place without a fence (free grazing), under the supervision of a shepherd and herding dogs. Each year, the grazing lasted at least 100 days, the herd consisted of at least 100 individuals.
- *Robinia* formed compact stands on Naceraticky Kopec in groups of various sizes and ages distributed in different parts of the site. Most of these stands were removed (a total of 12 ha); only a few fragments (a total of 1.3 ha) were left as a source of shade for grazing animals. The city of Znojmo, owner of the respective plots of land, took over the harvesting and removal of larger trees. Harvesting and removal of the remaining material was provided by an external contractor within the project.
- Due to the requirements of the agricultural entity on Naceraticky Kopec providing the grazing, which wanted to stay true to the principles of a chemical-free approach, a high stump felling method was chosen to remove the acacia.
- After such management, the acacias regrow at the top in the following growing season. Therefore, the top regrowth was always removed several times a year (during the growing season), both by hand and by nibbling of grazing animals. After the death of the trees, the remaining stem was harvested to a low stump.
- In the middle part of the motocross track, the stumps were pulled out so that in the future it would be possible to extend the vehicle movement there.
- Wood small-reed (*Calamagrostis epigejos*) was still relatively rare at the beginning of the measures. More continuous areas of wood small-reed were concentrated mainly in several places in the central and southern part of the area. Wood small-reed does not tolerate long-term and regular disturbances. Therefore, to eliminate it, two methods of disturbance were used: motorcycle riding and military vehicle movement. Some

patches were removed by pulling the turf with a bulldozer. In some places, these measures were also supported by grazing.

**Woody plants were cleared on a total area of 36 ha (35 ha foreseen).**

**Restoration grazing was carried out on an area of 48 ha (48 ha foreseen).**

***Robinia pseudoacacia* has been removed on 12 ha (13 ha foreseen).**

**Wood small-reed (*Calamagrostis epigejos*) has been eliminated at 5 ha (foreseen 5 ha).**

**By whom:**

- The coordinator of conservation actions (Beleco) has been responsible for planning and supervising these activities.
- Shrubbery reduction and grazing was provided by external suppliers: local farmers from Znojmo region.
- First phase of logging *Robinia* was done by Znojmo municipality, remaining parts was done by external supplier.
- Elimination of *Calamagrostis epigeios* (removing upper layer of soil) was done by external supplier.

**Financial implications:**

- Above mentioned interventions were paid as external service.
- Coordination and supervision were done by project staff of Beleco.
- Relevant travel costs have been paid.
- Municipality of Znojmo did part of logging *Robinia* trees for free. Saved money has been used in next phases of elimination of *Robinia*, which demanded repeated intensive interventions during the whole vegetation season.
- The budget allowed to do an extra shrubbery reduction than originally planned.

**Problems:**

- Intensive regrowth of woody plants proved to be the biggest complication in the project implementation. Additional interventions were necessary.

**Changes:**

- Regrowth of woody plants proved to be more intense than expected., partly due to rainy seasons in 2020 and 2021. Therefore, additional interventions in order to stop regrowth (resprouting) of woody plants were necessary. These included one extra stage of mowing by brush cutter.
- Since there were some savings in the budget during the first years of the project, these unexpected, but necessary costs did not require additional funding.

**Deliverables:**

- None planned.

## C7 – Restoration of habitats at Blsansky Chlum

Foreseen start date: 4Q/2016	Actual start date: 28/4/2017
Foreseen end date: 4Q/2020	Actual end date: 31/3/2022

### What has been done:

- The self-seeding woody plants were cut on a total area of 7 hectares. It was mainly dogwood, rose, and hawthorn, but also *Robinia*. Approximately 80% of shrubs were removed. Solitary trees and small groups of trees were left, especially fruit trees. Cutting took place manually during the dormant period, in two stages 2017/18 and 2018/19. The cut material was removed from the site.
- In the following years, it was necessary to remove unwanted regrowth on areas with cut shrubs. This was done by brush cutter, always from the beginning of August to the end of March, on each area twice at consecutive intervals.
- Restoration grazing with a mixed flock of sheep and goats started on the site in 2017 and continued for all five growing seasons until 2021. Grazing was done in an extensive, open way, under the supervision of a shepherd and herding dogs. Each year, the grazing lasted 100 days, the herd consisted of at least 100 individuals. At night, the grazing animals were located outside the project site.
- Construction of permanent pasture has been built. First, the landowners and other stakeholders were contacted and negotiations started on the technical design and exact location of the enclosure. The design provided for the passage of the enclosure for the public using gates on the access roads. A building permit was not required for the implementation. The construction of the enclosure with a total area of 20 ha has been finished in March 2022.

**Woody plants were cleared on a total area of 7 ha (7 ha foreseen).**

**Restoration grazing was carried out on an area of 13 ha (13 ha foreseen).**

**A grazing enclosure with a total area of 20 ha with a shelter for animals has been built.**

### By whom:

- The coordinator of conservation actions (Beleco) has been responsible for planning and supervising these activities.
- Shrubbery reduction and grazing was provided by external supplier.
- Building enclosure was done by external supplier.

### Financial implications:

- Coordination and supervision was done by project staff of Beleco.
- Above mentioned interventions were provided as external service.
- Some smaller task regarding preparation of building enclosure were done by additional staff of Beleco hired for a short periods.
- Relevant travel costs have been paid.

### Problems:

- Longer time for construction of permanent pasture was needed: Although the actual negotiations with the stakeholders took place without major complications, changes of ownership and the outbreak of the Covid-19 pandemic, due to which it was desirable to limit personal contact, significantly slowed down the whole plan. The project design and the geodetic survey took place only in 2021 and the enclosure was finished only in



March 2022. It did not affect the results of conservation management at the site, since grazing has been done every year since 2017 in the traditional way (walking with shepherd and herding dogs).

**Changes:**

- No significant changes.

**Deliverables:**

- None planned.

## D1 – Evaluation of project impact on habitats and species

Foreseen start date: 3Q/2016	Actual start date: 1/11/2016
Foreseen end date: 4Q/2021	Actual end date: 31/3/2022

### What has been done:

- Throughout the project, vegetation and entomological monitoring took place of the impacts of restoration measures on communities of interest and plant and animal species. The starting point for the evaluation is the data obtained in the first year of monitoring, which was completed in October 2017. Subsequently, monitoring was repeated every year, based to the methodology, which has been developed at the beginning of the project. The monitoring results will help both to optimize the implemented measures for the future, and contribute to general knowledge about the use of individual management measures.
- Monitoring methods are described in the Management Plans (A1). They have got two pillars: (i) vegetation monitoring and (ii) entomological monitoring.
  - Target habitats on each site were measured in several transects and a network of several dozen sampling squares that were tested on presence/absence of indicator species; a network of phytosociological relevés was measured and full vegetation maps developed for each site.
  - Entomological monitoring used several model groups: Araneae, Heteroptera, Lepidoptera, Carabidae, Curculionidae and Chrysomelidae. Some additional groups were also monitored in some sites (e.g., Hymenoptera in Panov and coprophagous species of Coleoptera in the Podyji National Park sites). Monitoring consisted of several steps: (i) collecting material at each project site during the whole vegetation season, (ii) sorting out material and preparing for determination, (iii) determination of species done in cooperation with external experts, and (iv) compilation of all data for each site.
- Results are described in a complex Monitoring report

### By whom:

- The coordinator of monitoring (Beleco) together with additional staff (experts and field workers).

### Financial implications:

- The work has been done by project staff of Beleco.
- Relevant travel costs and material have been paid.

### Problems:

- None.

### Changes:

- No significant changes.

### Deliverables:

- Biological monitoring report, please see ANNEX 06.

## D2 - Evaluation of socio-economic impacts of the project activities

Foreseen start date: 3Q/2016	Actual start date: January 2017
Foreseen end date: 4Q/2021	Actual end date: 31/3/2022

### What has been done:

- Key groups of stakeholders were identified in each project site. They represented two partially overlapping backgrounds: local residents from neighbouring communities and specific interest groups or institutions that use or manage the project sites.
- In total, 31 interviews were conducted at the beginning of the project so that the reflection gained could be used to design project activities and the target state of the sites.
- Subsequently, the responsible project officer was in continuous field contact with representatives of relevant stakeholder groups and institutions. In practice, this meant, for example, attending events of local interest groups, conducting joint field visits with their representatives. He passed on his findings to the project team and suggested how to effectively take them into account in project activities.
- Where necessary, he provided mediation between the project team and local stakeholders and between different stakeholder groups among themselves. Initiated joint meetings, participated in the preparation of documents and deliverables.
- The main findings and insights of the fieldwork are captured in the Evaluation of socio-economic impacts of the project.
- The evaluation covers several areas: (i) history of the project sites (ii) basic socio-demographic data, (iii) description of main stakeholder groups and their relationship to the sites and attitudes towards the project activities, (iv) benefits and drawbacks of different management approaches, (v) various ways of awareness rising and their outcomes (vi) economic aspects of the project and its activities.

### By whom:

- The coordinator of socio-economic evaluation (Beleco).

### Financial implications:

- The work was done by project staff of Beleco.
- Relevant travel costs and material have been paid.

### Problems:

- None.

### Changes:

- No significant changes.

### Deliverables:

- Evaluation of socio-economic impacts of the project, please see ANNEX 07.

### D3 - Evaluation of the project impacts on ecosystem services

Foreseen start date: 3Q/2016	Actual start date: October 2016
Foreseen end date: 4Q/2021	Actual end date: 31/3/2022

#### What has been done:

- Methodology for ecosystem services research in the project was developed.
- Selection of the ecosystem services was based on general analysis of the impacts of the interventions on changes in ecosystem functioning and interviews with stakeholders.
- Among the provisioning services, forage production, meat and wool production of grazing animals and fuelwood production were selected for evaluation.
- The evaluation focused in detail on global climate regulation, specifically changes in ecosystem carbon stocks and sequestration. Drought protection has been assessed as well.
- Among the cultural ecosystem services, that have been strongly supported, the aesthetic value of the landscape, cognition and learning, as well as the recreational function of the landscape were evaluated.
- Supporting populations and habitats were not assessed as they are detailed in other project outputs (Action D1 – Evaluation of project impact on habitats and species).
- Quantitative and more detailed qualitative assessment has been conducted during the course of the project implementation for the selected services. Special attention was paid also to the areas, where negative impact was expected, especially the carbon storage.

#### By whom:

- The coordinator of ecosystem services evaluation (Beleco).

#### Financial implications:

- The work has been done by project staff of Beleco.
- Relevant travel costs and material have been paid.

#### Problems:

- None.

#### Changes:

- No significant changes.

#### Deliverables:

- Impact analysis of the project in terms of ecosystem functions and services - please see ANNEX 08.

## D4 - Monitoring of project indicators

Foreseen start date: 3Q/2016	Actual start date: September 2016
Foreseen end date: 1Q/2022	Actual end date: 31/3/2022

### What has been done:

- Information has been collected from all project partners within project management procedures (F1), visits at project sites (C1-C7) and monitoring of impacts on habitats and species (D1).
- Milestones, deliverables and impact indicators were followed and updated.
- The progress was regularly discussed at the meeting of key coordinators.
- Baseline data snapshot was entered into the KPI database webtool according to the instructions in January/February 2018.
- Final data snapshot was entered into the KPI database webtool in June 2022.
- See also chapter 7.
- For the Indicators overview, please see ANNEX 05.

### By whom:

- Project manager (Beleco) in cooperation with relevant members of the project team from all partner organisations.

### Financial implications:

- All work has been done by project staff of the Coordinating Beneficiary and relevant Partners.
- Relevant travel costs have been paid according to the budget.

### Problems:

- None.

### Changes:

- No significant changes.

### Deliverables:

- Progress reports, Mid-term report and Final report.

## E1 - Information campaign about biodiversity at abandoned military areas

Foreseen start date: 3Q/2016	Actual start date: 1/9/2016
Foreseen end date: 4Q/2021	Actual end date: 31/3/2022

### What has been done:

- **Project website** was developed (structure, texts, layout, programming etc.). The website was launched in January 2017. It contains detailed information about the project sites, their management, target species and habitats, results and outcomes of the project and information about public actions [www.beleco.cz/militarylife/](http://www.beleco.cz/militarylife/) English version of the project website has been added in 2020.
- The project is promoted also via Facebook:
  - [www.facebook.com/wwwbelecocz](http://www.facebook.com/wwwbelecocz)
  - [www.facebook.com/pribehyceskeprirody/](http://www.facebook.com/pribehyceskeprirody/)
- **6 short videos** have been made and are available on the project website. The first two videos introduce the topics of biodiversity in abandoned military areas in general. The other four videos show the changes of the sites (Panov, Naceraticky Kopec, Blsanky Chlum and Masovicka Strelnice plus Havranicke Vresoviste) during the project to illustrate different management approaches and their impact.
- **5 information boards** have been erected at the project sites (Panov, Naceraticky Kopec, Masovicka Strelnice, Havranicke Vresoviste, Blsanky Chlum). Besides presenting general biological values of particular sites, they focus largely on explaining the purpose and importance of active intervention. Using such concept makes the new panels complementary to the existing information infrastructure made by the public nature conservation, which focuses mainly on descriptive presentation of nature values (species, habitats).
- Leaflets and other printed materials about the project sites were made:
  - **4 leaflets** (format A5, full colour, 4 x 800 copies) presenting the project sites as attractive locations for trips and leisure time activities. The leaflets were distributed during the public events as well as through local tourist information centres, project partners and public institutions.
  - **2 brochures** (format A6, full colour, 2 x 400 copies) serving as a field guide for Panov and Naceraticky Kopec. These were distributed mainly during the public events and through local stakeholders.
  - **2 posters** (format A1, full colour, 2 x 1 000 copies) were made for Panov and Naceraticky Kopec. The posters were distributed during the project events. These are meant as representative materials for long-term use.
- **Facilities for visitors at Panov** were built. They consist of simple wooden shelter with a table and benches. Fire place is not included since local people were afraid of quickly spreading fires during extremely dry periods.
- **6 events for the public** took place at **Naceraticky Kopec** - the Steppe Open Days (April 2017, September 2017, September 2018, September 2019, September 2020, September 2021). A diverse programme was prepared for the public in the form of various stands and thematic games, aimed especially at families with children, informing them about the natural values of Naceraticky Kopec and the principle of protection of steppe habitats. Military vehicle movement was also used as an attraction for visitors. Apart from that, the visitors could see: motocross, grazing sheep and goats with presentation of some products (meat, wool), presentation of typical species (birds,

plants, insect). The event became very popular among local people and there are plans to continue organizing such events after the project by the local motocross club.

- Similar **event** was organized **at Panov** in September 2018. This was only one-off action, since there are already many different events organized by local stakeholders at the site.
- **6 volunteer events** were organized during the project and 1 shortly after the end of project (May 2022). 4 of them took place at Naceraticky Kopec, 2 at Panov and 1 at Blsansky Chlum. These events combined awareness-raising with practical management of wildlife. Several events were organized in cooperation with the Brontosaurus Movement, one of which took place just a few days after the devastating South Moravian tornado and thus, unexpectedly, turned into dealing with its aftermath. Brontosaurus Movement (Hnutí Brontosaurus, Czech youth organisation) is planning to continue organizing such actions at Panov after the project.

**The project website was visited more than 30 000 times by over 8 000 people.**

**The public events at Naceraticky Kopec were regularly visited by more than 200 people. Facebook profiles had more than 3 000 followers by the end of the project (both profiles together).**

For detailed statistics of visitors of the website and public events, please see ANNEX 09a (Public events overview) and ANNEX 09b (Web statistics).

#### **By whom:**

- The coordinator of information campaign (Beleco) has been responsible for planning and supervising these activities.
- Different members of the project team cooperated at preparing and organizing the public actions.
- Overall communication strategy had been consulted at the beginning with an external expert.
- Videos, website administration, graphic works and printing has been provided by external suppliers.

#### **Financial implications:**

- Coordination and supervision is done by project staff of Beleco.
- Additional staff was hired for one-time help with organizing public events.
- Relevant travel costs have been paid.
- Above mentioned external services were paid.

#### **Problems:**

- The public actions were very limited during the Covid pandemic in 2020 and 2021. Even then we have succeeded to organize the events at Naceraticky Kopec every year.
- In June 2021 Panov was hit by a severe tornado. The volunteer action, which was planned just one week later, took place but instead of helping with restoration of steppe grasslands, they agreed to help with clearing the site from debris.

#### **Changes:**

- More printed materials have been produced comparing to the original plan. 2 posters and 2 brochures were made extra.
- 6 short videos have been made instead of 4 foreseen.

- These changes were reported and consulted with the external monitor. They do not have any significant impact on the budget and are within the flexibility rate.

**Deliverables:**

- 6 video spots <https://www.beleco.cz/en/Militarylife/outputs.html>
- 4 types of leaflets + 2 posters + 2 brochures (For pdf versions please see ANNEX 10 or <https://www.beleco.cz/en/Militarylife/outputs.html>, scroll down the page for different items)



## E2 - Dissemination of the results

Foreseen start date: 3Q/2016	Actual start date: 1/9/2016
Foreseen end date: 1Q/2022	Actual end date: 31/3/2022

### What has been done:

Presentation of the results in expert environment

- Members of the project team participated at 3 conferences and similar events. For details, please see ANNEX 09d.
- Project staff gave 7 lectures to relevant target groups of conservation management students at Czech University of Life Sciences and conservation professionals at lifelong education programme for professionals, organized by Charles University. For details, please see ANNEX 09d.
- By the end of the project there were 3 scientific articles published and another 3 are submitted for the peer review process. For details, please see ANNEX 09c.

Media work:

- 6 press releases were published:
  - 1/11/2016: Introducing the project, presenting planned actions
  - 4/1/2017: Announcing the intention to introduce Exmoor Ponies in PNP
  - 10/5/2018: Information about arrival of Exmoor Ponies
  - 14/6/2018: Information about what is happening within the project
  - 11/4/2019: First foal was born in Podyji
  - 29/3/2022: Presentation of project activities and results
- 2 events for journalists were organized:
  - Arrival of Exmoor Ponies in PNP (10/5/2018): an exclusive opportunity to report from the spot at Havranické Vřesoviště a Masovická Strelnice. The event was organized in cooperation with PNPA.
  - Meeting with journalists at the end of the project (29/3/2022): presenting the activities and results. The event was organized in cooperation with MoE.
- Journalists were interested especially in attractive actions and topics like Exmoor Ponies or military vehicles.
- By the end of the project there are 131 articles and reports published in all types of media (printed, electronic, local, nationwide, newspapers, TV, radio, local bulletins etc.) For details, please see ANNEX 09c.

Layman's Report

- The Layman's Report has been published in March 2022 (500 copies).  
<https://www.beleco.cz/en/Militarylife/project-results-1.html>

### By whom:

- The PR coordinator (Beleco) is responsible for planning and supervising these activities.
- Different members of the project team cooperate at preparing materials for media.
- Graphic layout and printing of the Layman's Report has been provided by external suppliers.

**Financial implications:**

- Coordination and supervision is done by project staff of Beleco.
- Relevant travel costs have been paid.
- Above mentioned external services were paid.

**Problems:**

- Possibilities of attending conferences and similar events were limited during the Covid pandemic in 2020 and 2021. Some events were cancelled or postponed due to high uncertainty of development.

**Changes:**

- No significant changes.

**Deliverables:**

- 6 Press releases [www.beleco.cz/militarylife/pro-novinare/tiskove-zpravy.html](http://www.beleco.cz/militarylife/pro-novinare/tiskove-zpravy.html) (see also ANNEX 11)
- Media outcomes overview (see ANNEX 09c).
- Layman's Report <https://www.beleco.cz/enMilitarylife/project-results-1.html> (see also ANNEX 11)

### E3 - Cooperation with stakeholders

Foreseen start date: 3Q/2016	Actual start date: 1/9/2016
Foreseen end date: 4Q/2021	Actual end date: 31/3/2022

#### What has been done:

- Events for local stakeholders: In all project areas, we organized biological excursions showing the most interesting species and habitats. Outside the vegetation period, they were supplemented by professional lectures and seminars. 12 events were organized, 10 field trips/guided walks and 2 discussion meetings. For details, please see ANNEX 09a.
- Case studies: At the very end of the project, 4 case studies were created in order to record and share important information about the initial state, course and results of conservation management at each project site. Emphasis is placed on retrospective evaluation of measures and transfer of experience gained, which can be used in the conservation of similar areas in the future.
- E-learning: We utilized the topic of managing former training grounds in the form of e-learning, which is available on the project's website. It consist of 21 on-line lectures on various topics covering both theoretical and practical topics.
- International conference: The five years of our project's efforts culminated in a two-day professional conference in Brno, where we presented our conservation activities, results, and experience gained to the general professional public. At the same time, over twenty representatives of the non-governmental, state, and academic spheres from Hungary, Slovakia, and the Czech Republic spoke here with the latest knowledge on nature conservation in military areas. The conference was attended by over sixty nature conservation workers, researchers, and administrators of both active and abandoned military areas. It also included field trips to Panov, Naceraticky Kopec, and Havranicke Vresoviste.

#### By whom:

- The coordinator of coordination with stakeholders (Beleco) has been responsible for planning and supervising these activities.
- Different members of the project team cooperated at preparing and organizing the public actions.
- Additional staff was hired for specific tasks (lecturing, translations, interpreting at the conference etc.).
- Space for the conference and catering, graphic layout and printing of has been provided by external suppliers.

#### Financial implications:

- Coordination and supervision has been done by project staff of Beleco.
- Relevant travel costs have been paid.
- Above mentioned external services were paid.

#### Problems:

- The e-learning course was prepared in 2020. Its publication was originally agreed with our cooperating organisation, the Nature Conservation Forum, which has been offering various e-learning courses and information in the field of nature conservation and the environment for several years. However, publication on the Nature Conservation

Forum platform was not possible due to the long-term illness of the person responsible for e-learning within the Nature Conservation Forum. The course has therefore been published on the project website, where it will be available after the end of the project. This did not affect the project results.

**Changes:**

- No significant changes.

**Deliverables:**

- 4 case studies. <https://www.beleco.cz/enMilitarylife/project-results-1.html>  
(see also ANNEX 12)
- Conference proceedings (A5, full colour, 200 copies printed)  
<https://www.beleco.cz/enMilitarylife/project-outcomes/final-conference.html>  
(see also ANNEX 12)

## E4 - Networking with other projects

Foreseen start date: 1Q/2017	Actual start date: 1/2/2017
Foreseen end date: 4Q/2019	Actual end date: 31/3/2022

### What has been done:

- Shortly after the start of the project, we held a "round table" on the maintenance and use of former military areas, bringing together biologists, nature conservationists, and local authorities with experience in management of former military areas, as well as users of the areas concerned, such as shepherds and bikers.
- 2 study visits to other LIFE projects:  
In May 2018, 2 LIFE projects in Slovakia were visited: LIFE10 NAT/SK/000083 Restoration of endemic Pannonic salt marshes and sand dunes in Southern Slovakia and LIFE06 NAT/SK/000115 Restoration and management of sand dunes habitats in Zahorie military training area. 9 people took part: 6 of them were members of the project team, 3 were outside the project team (executive director of Beleco and 2 civil servants from South Moravia regional authority responsible for nature conservation at Naceraticky Kopec and Panov). The main benefits of this visit are: (i) inspiration and practical advice about community grazing which can be used at Blsansky Chlum and (ii) practical examples of long term results of military technique use for management of habitats similar as Panov.  
In May 2019, 2 projects in Hungary were visited: Restoration and conservation of priority habitats and species in the Eastern Bakony area (LIFE07 NAT/H/000321). Restoration and conservation of priority-listed Pannonic sand land habitats in military owned area of the Hungarian Little Plain (LIFE08 NAT/H/000289). 7 people took part, 4 from the project team and 3 civil servants from South Moravia regional authority responsible for nature conservation at Naceraticky Kopec and Panov. These are projects with similar topics as our project, which are already in the "after LIFE" phase, so it was possible to see the long-term results and gain experience in ensuring the sustainability of the project results.
- In May 2017 the project manager and the financial manager participated at LIFE Info Day. This event was organized by MoE, different LIFE project teams were invited to share experience and good practice.
- In the beginning of June 2017 the coordinator of conservation actions participated at the final conference of LIFE10 NAT/SK/000083 project about restoration of endemic Pannonic salt marshes and sand dunes in Southern Slovakia. The purpose was to learn about experience with similar habitats.
- In May 2018 (31/5) we organized a field trip to Naceraticky Kopec and Havranicke Vresoviste within the NEEMO Horizontal meeting. Two project sites and relevant conservation actions were presented.
- Cooperation with LIFE Ceske Stredohori has been established. In May 2018 we took part in their event Slavnosti Stepi with presentation of our project and related activities.
- Networking will continue after the end of the project.

**By whom:**

- Project partner MoE has been responsible for this action.
- Project manager (Beleco) and other team members were cooperating at all activities.
- Additional staff was hired for the round table (moderator, speakers).

**Financial implications:**

- The work is done by MoE and other relevant members of the project team.
- Relevant travel cost have been paid.
- Catering for the round table was paid to external provider.
- The round table took part at the premises of MoE, so there were no costs for renting the space and conference equipment.

**Problems:**

- None.

**Changes:**

- No significant changes.

**Deliverables:**

- The reports from the international exchanges, see ANNEX 13.

## F1 - Project management

Foreseen start date: 3Q/2016	Actual start date: 1/9/2016
Foreseen end date: 1Q/2022	Actual end date: 31/3/2022

### What has been done:

- Main procedures and outcomes are described in section 5. Administrative part.
- For the organigram of the project team and the overview of the key project coordinators please see ANNEX 03.
- The audit the audit has been carried out by HDM Audit CZ s.r.o., the licence number KA ČR 579.
- The audit result is without objections. The auditor confirms that from the items and services used for the project the VAT is legally not recoverable. For details, please see ANNEX 14.

### By whom:

- Project manager together with financial manager and relevant members of the project team.
- Occasionally additional staff was hired (Beleco), mainly in order to assist with simple administrative tasks like scanning and archiving documents, preparing overviews, putting large amounts of data into electronic systems etc.

### Financial implications:

- All work is done by project staff of coordinating beneficiary and the partners.

### Problems:

- None.

### Changes:

- No significant changes.

### Deliverables:

- Audit report, please see ANNEX 14.
- After-LIFE Communication plan, please see ANNEX 15.

## 6.2. Main deviations, problems and corrective actions implemented

- **C1-C3 (Removal of stumps, Removal of upper layer of soil and Harrowing at Panov site):**

Intensive regrowth of woody plants proved to be the biggest complication in the project implementation. In the first phase (2017–2018), invasive trees, especially false acacia, were felled using so-called high stump felling (stump height about 1–1.2 m). The measure was based on the experience of Podyji National Park Administration at the time. The principle of this method is the removal (breaking) of the regrowth, which the stumps form in their top part. Multiple intervention gradually weakens the tree until it dies. In practice, however, this method proved to be extremely demanding in terms of personnel capacity and time. After one season of regular removal, no signs of reduced stump vitality were observed. For these reasons, false acacia stumps, as well as native self-seeding trees, were removed by an excavator. In the following seasons, the root regrowth was eliminated by spraying herbicide on the leaves. The method is highly effective – trees of heaven were removed in the same way.

The regrowth of indigenous trees, especially aspen, proved to be very intense, even though the stumps of these trees were removed. Aspens also regrew very well from the thin roots that remained in the ground after the stump was uprooted. Aspen regrowth was eliminated by a combination of military equipment movement and repeated mulching on more continuous, easily accessible areas. This intervention, carried out in two consecutive seasons and repeated twice a year, significantly reduced the vitality of the regrowth, but did not eliminate it completely. Targeted movement of vehicles to places with regrowth led to their elimination, but it was necessary to apply intensive movement at these places. During the project, the regrowth was removed on most of the areas, leaving only some localized outbreaks, which will be the target of the vehicle movement in the future management.

- **C6 (Restoration of habitats at Naceraticky Kopec):**

One of the biggest challenges was elimination of *Robinia pseudoacacia*. Initially, an experimental change of some of the *Robinia* trees to Turkey oak stands was also considered, but this plan had to be abandoned due to the extreme droughts that hit the site for two years in a row during the project.

During the preparatory phase in 2016, and subsequently throughout the project, the most suitable methods of *Robinia* eradication with regard to minimizing root regrowth were consulted with experts who had theoretical and practical experience in this area. The issue was discussed with representatives of Podyji National Park (Robert Stejskal, Petr Vancura), Silva Tarouca Research Institute for Landscape and Ornamental Horticulture, p.r.i. (Tomas Vrska), the City of Prague (Jiri Rom), Daphne - Institute of Applied Ecology (Jan Seffer), Czech Association of Nature Conservation Jaro Jaromer (David Cip), and others. Two main methods were recommended: felling trees on a so-called high stump (about 130 cm) in modifications with or without herbicide application to the cut surface, and injecting concentrated herbicide into pre-drilled holes around the trunk circumference.

Due to the requirements of the agricultural entity on Naceraticky Kopec providing the grazing, which wanted to stay true to the principles of a chemical-free approach, a high stump felling method was chosen to remove the acacia. This method consists of felling trees between August and October, leaving a stump approximately 130 cm high; this



significantly reduces the formation of root regrowth (which is a problem in the case of low stump felling).

After such an management, the acacias regrow at the top in the following growing season. In 2018 and 2019, from August to October, the top regrowth was therefore always removed several times a year, both by hand and by nibbling of grazing animals. After the death of the trees, the remaining stem was harvested to a low stump. In the middle part of the motocross track, the stumps were pulled out so that in the future it would be possible to extend the vehicle movement there.

- **C7 (Restoration of habitats at Blsanky Chlum):**

Although the actual negotiations with the stakeholders took place without major complications, changes of ownership and the outbreak of Covid-19 pandemic, due to which it was desirable to limit personal contact, significantly slowed down the whole plan. The project design and the geodetic survey took place only in 2021 and the enclosure has been finished only in March 2022. This delay did not affect the results of conservation management at the site, since grazing has been done every year since 2017 in the traditional way (walking with shepherd and shepherd dogs and using only mobile enclosure for overnight).

### 6.3. Evaluation of Project Implementation

The project aimed to introduce multiple available conservation management methods (e.g., traditional sheep and goat grazing, semi-natural horse grazing, military machinery use), assess their relative performance and measure absolute success.

**TAB 02: Main advantages and disadvantages of different conservation management methods**

	<b>Advantages</b>	<b>Disadvantages</b>
Traditional sheep and goat grazing	<p>Traditional, established approach.</p> <p>An efficient and biologically favourable way of the necessary export of biomass in structurally complex areas.</p> <p>When grazing is carried out appropriately, it creates a mosaic of differently intensive grazed areas with smooth transitions.</p> <p>Generally positive public perception.</p> <p>Possibility to (partly) finance from agricultural subsidies.</p> <p>Possibility to use products (meat, milk, wool).</p> <p>Does not require complex infrastructure.</p>	<p>Grazing alone does not usually provide all the management needed, especially with a single-species herd.</p> <p>Limits of agricultural subsidies (complexity of administration, pressure for uniformity of management).</p> <p>Smaller areas are less financially rewarding (most costs are fixed, while income depends on area).</p>
Exmoor Ponies grazing	<p>Low demands of the breed.</p> <p>Food preferences for grasses including undesirable aggressive species that other animals do not care for (reed grass etc.).</p> <p>Attractive to the public.</p> <p>Possibility of being (partly) funded by agricultural subsidies.</p> <p>Relatively low operating costs</p>	<p>Grazing alone usually does not provide all the necessary care, the disposal of unwanted trees and woody plants must be addressed.</p> <p>Limits on agricultural subsidies.</p> <p>Potential problem of restricting the access to the area (depends on the operator to keep fences passable).</p> <p>Sufficiently large area of pasture needed for optimum results and financial sustainability.</p>
Military vehicles movement	<p>The movement creates a fine-grained mosaic of habitats with a large representation of areas in early successional stages.</p>	<p>Relatively high costs (vehicle acquisition, maintenance, fuel).</p> <p>Problems with finding spare parts.</p>

	<p>Effective eradication of woody plants and undesirable plant species, with the exception of some problematic species (<i>Robinia pseudoacacia</i>, <i>Ailanthus altissima</i>).</p> <p>Attractive to the public, including people not interested in nature conservation.</p> <p>Potential to combine hobby activities with conservation management.</p> <p>When done properly, effectively restores intensively disturbed areas with bare substrate and inhibits tree expansion (less intensity of rejuvenation compared to clearing)</p>	<p>Emissions.</p> <p>Certain groups of people perceive military vehicles negatively.</p>
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**TAB 03: The results achieved**

Action	Foreseen in the revised proposal	Achieved	Evaluation
C1 C2 C3 C4	<p><b>Objective:</b> To restore open sand with occurrence of the habitat types 2330 and 6260* at the project site Panov and introduce here long-term sustainable use with positive impact on these habitat types.</p> <p><b>Expected results:</b></p> <ul style="list-style-type: none"> <li>• 55 ha of restored habitat types 2230 and 6260* at SCI Panov.</li> <li>• Introduction of long-term sustainable management of SCI Panov based on military vehicles movement.</li> </ul>	<p>According to results of conducted habitat monitoring 20 ha of 6260* and 33 ha of 2330 habitat type were restored.</p> <p>Long-term disturbances-based management activities (motocross, decommissioned military vehicles) were established.</p>	<p>Extensive restoration measures successfully opened space for recovery of habitat types 2330 and 6260*. The process of recovery to favourable state will take some time and will continue in time after project. By the end of the project target habitats can be distinguished mainly in mosaics with mixture quality, but at least some diagnostic species are present in each part of mosaics.</p>
C4 C6	<p><b>Objective:</b> To extend the area of the habitat types 6210 and 8230 at the areas currently influenced by vegetation succession at the project site Naceraticky Kopec and prepare them for long-term sustainable management.</p> <p><b>Expected results:</b></p> <ul style="list-style-type: none"> <li>• Elimination of continuous vegetation of shrub and <i>Robinia pseudoacacia</i> at the area of 48 ha at SCI Naceraticky Kopec and restoration of habitat types 6210 and 8230.</li> <li>• Restoration of regular disturbances by heavy machinery at SCI Naceraticky Kopec as a key driver for maintenance of the habitat type 8230</li> <li>• Introduction of long-term management of the restored areas at SCI Naceraticky Kopec in the form of continuous grazing by mixed herd of sheep and goats.</li> </ul>	<p>Shrub and <i>Robinia pseudoacacia</i> elimination activities were fulfilled as planned.</p> <p>All patches affected by removing woody plants were opened for grazing, that will continue after the project.</p> <p>The project helped to integrate motocross as a regular management at part of the site. Vehicles disturbances help to maintain the habitat type 8230.</p>	<p>Elimination of shrubs and <i>Robinia pseudoacacia</i> followed by grazing every year has started regeneration of 6210 habitat type on area of 78 ha that is slightly more than was planned.</p> <p>Regular motocross activities combined with grazing stabilised the habitat type 8230 and created conditions for extension of this habitat type on 20 ha as planned.</p>

Action	Foreseen in the revised proposal	Achieved	Evaluation
A3 C5	<p><b>Objective:</b> To introduce large herbivores breeding at the project sites Masovicka Strelnice and Havranicke Vresoviste and thus prepare suitable conditions for the habitat types 4030, 5130, 6210, 6210* and <i>Pulsatilla grandis</i>.</p>	<p>Enclosures with horses were built at both project sites on larger areas than was planned (27 ha at Masovicka Strelnice and 35 ha at Havranicke Vresoviste). The grazing has been set up at both sites and will continue after the project.</p> <p>Status of <i>Pulsatilla grandis</i> and habitat types 6210 and 4030 has been improved. Habitat type 6210* has been improved partially (progress in improving the quality). Habitat type 5130 was excluded as a target, because of an expert reclassification of habitat mapping during monitoring process (patches declared as 5130 before project do not meet botanical definition of this habitat type).</p>	<p>Both <i>Pulsatilla grandis</i> and habitat types were monitored each year. Compared to plan the area of habitat types 6120 and 4030 has increased to 110% and 103 % respectively at Havranicke Vresoviste and their quality have reached the favourable status. Population of <i>Pulsatilla grandis</i> has increased considerably. At Masovicka Strelnice the grazing led to increase of 6210 habitat type area to 107 % of the original plan and its quality changed to favourable. Habitat type 6210* is recovering more slowly as it was severely degraded, but both parameters (area and quality) have improved.</p>
	<p><b>Expected results:</b></p> <ul style="list-style-type: none"> <li>• Introduction of permanent grazing of primitive breeds of horses at the area of 25 ha at SCI Masovicka Strelnice</li> <li>• Construction of a reserve enclosure of 25 ha for primitive breeds of horses at SCI Havranicke Vresoviste</li> <li>• Improvement of status of the habitat types 4030, 5130, 6210 and 6210* and of <i>Pulsatilla grandis</i> at the areas with grazing of horses.</li> </ul>		
C7	<p><b>Objective:</b> To provide suitable conditions for the occurrence of <i>Euplagia (Callimorpha) quadripunctaria*</i> at the site Blsansky Chlum.</p>	<p>All planned restoration measures to improve habitat of <i>Euplagia quadripunctaria*</i> were implemented.</p>	<p>Population of <i>Euplagia quadripunctaria*</i> has increased considerably. In first half of the project the population was on the border of observability and no individuals were detected during monitoring. In last two year of the project 12 individuals were caught.</p>
	<p><b>Expected results:</b></p> <ul style="list-style-type: none"> <li>• Providing for suitable conditions (habitats) for <i>Euplagia quadripunctaria*</i> at the area of 18 ha of SCI Blsansky Chlum.</li> </ul>		

Action	Foreseen in the revised proposal	Achieved	Evaluation
E1 E2 E3 E4	<p><b>Objective:</b> To promote various management approaches to maintain favourable status of the habitat types and species of the abandoned military areas.</p> <hr/> <p><b>Expected results:</b></p> <ul style="list-style-type: none"> <li>• Increasing of attractiveness of the project sites for general public through installation of suitable awareness raising and recreation elements.</li> <li>• Promotion of alternative ways of management of the sites influenced at the past by military activities.</li> </ul>	<p>Three different approaches to maintain abandoned military sites in favourable biological status were established or supported – 1) traditional grazing with sheep/goats, 2) Exmoor Ponies grazing and 3) military vehicles movements and motor sports. At project site Naceraticky Kopec a combination of two approaches was successfully set up.</p> <p>Over 8 000 people have been reached by the project website.</p> <p>There was a strong interest of media especially about semi-wild horses and military technique.</p> <p>Around 1000-1500 people participated at 26 events for the general public and nearly 100 volunteers were actively involved in management measures. High dozens of specialists participated in the expert events of the project.</p>	<p>Management approaches, which were seen as new and untested at the beginning of the project became widely known and commonly used during the project implementation.</p> <p>The interest in the public events and number of published articles exceed the expectations, even when involvement of the public was limited due to pandemic measures in 2020 and 2021.</p> <p>The public events have also contributed to spreading awareness about the project sites and about the importance of the abandoned military areas from the point of view of nature conservation.</p>

Changes in vegetation structure and distribution of certain target plant and animal species with ability of quickly colonize restored open habitats are immediately visible on each site. This outcome is particularly apparent in sites with intensive restoration measurements (Panov, Naceraticky Kopec), where rare species like *Silene viscosa*, *Hesperis tristis* or *Alcea biennis* recolonized newly created open patches readily.

However, a complete restoration of target communities is a long-term process which will last years, maybe even decades after the restoration intervention implemented during the project.

If relevant, clearly indicate how a project amendment led to the results achieved and what would have been different if the amendment had not been agreed upon.

Not relevant.

**Results of the replication efforts:**

The approaches used in the project have been, and will be, successfully applied at other locations. The project has significantly broadened the experience with less common methods (tracked military vehicles movement, motocross, grazing of Exmoor Ponies, targeted eradication of invasive species), which are now used in a number of other areas with similar habitat character.

A good example of replication efforts can be found at abandoned military areas in western Bohemia. At the former military training ground in Rokycany, grazing of large herbivores has been established during the project implementation and occasional heavy tracked vehicles movements have been restored, combined with quite intensive off-road activities.

The owner of the former training ground in Klenova has expressed interest in a similar management approach this year (2022) and members of the project team will provide consultations and share knowledge and best practice, which has been gained during the project. However, the most comprehensive example of replication is the former military training ground in Dobrany near Plzen. There, in addition to the implementation of all the above management methods (here supplemented by volunteer and awareness raising activities), a sustainable and functional model of location management has been established. The site manager, appointed and paid by the Dobrany municipality as the landowner, coordinates all activities so that they complement and do not collide with each other.

**Effectiveness of the dissemination activities:**

The most effective dissemination activities were face-to-face events (round table, conference, field trips and excursions). Target groups took a keen interest in such events and actively participated in discussions. This gave a good opportunity to share experience gained through the project and show good practice examples as an inspiration. A number of participants appeared to be interested in replication at their sites. Members of the project team have been in touch with some of them afterwards.

In 2020 and 2021 these events were limited due to pandemic measures. Nevertheless, we have succeeded in organizing the most important events, like the international conference or Open Steppe Days, face to face as planned. More than 1000 people came to 26 information events for the general public and nearly 100 volunteers were actively involved in management measures. High dozens of specialists participated in the expert events of the project.

**Policy impact:**

There are dozens abandoned military training areas in Czechia, many of them with high biodiversity value. They are relatively small sites (higher dozens or lower hundreds of hectares), usually owned by municipalities and private owners. There is no national policy, that would govern them, and there hardly ever will be one. Therefore, management decisions are usually subject to local, not national policy choices. The project has contributed twice. First, it has changed local policy towards the management of some of the project sites (most notably, Panov and Blsanský Chlum), with municipalities changing the management of their land in ways that will be beneficial in future. Second, it also demonstrated that biodiversity value of such sites can be improved radically, and that the relevant operations create substantial social (local recreation etc.) and, in some cases, economic (farming) co-benefits (see ANNEXES 07 and 08). Dissemination activities (see Actions E1 – E4) drew attention of local decision makers to this opportunity, and a number of local authorities appear to be interested in replicating. Therefore, the project has potentially contributed to crucially important, small-scale policy choices of local authorities that may restore habitats and species in other sites beyond the scope of the project.

Ban of forest grazing – a traditional fixture of forest law in the country since early 19<sup>th</sup> century – has been a major drawback to some project activities. The Ministry of the Environment had to issue a one-off permit to enable forest grazing at Havranicke Vresoviste. The permit application was submitted immediately after the start of the project in autumn 2016; however, the issuance of the decision was delayed by more than a year due to a local hunting association's appeal. The final decision approving the grazing in the proposed scope was issued in December 2017. However, this happened before the introduction of grazing itself in 2018, which made Havranicke Vresoviste an unprecedented case of forest grazing in Czechia, since forest grazing was allowed not only in the National Park, but also on an area larger than a few hectares.

Based on this experience, the coordinating beneficiary provided an input on forest grazing into a forest law package developed by Czech environmental groups led by Friends of the Earth, which has been subject to NGO negotiations with the government, including the minister of agriculture. The input concerns changes necessary to make forest grazing – a key conservation technique in certain habitats and one of the methods assessed by the project – legal under suitable conditions. The policy decision has been postponed due the change of the government following the election.

### **EU Added value:**

Project contributed to linking environmental and socio-economic objectives. It supported the idea of using project sites in a way that provides for recreational and economic functions (military history associations' activities, motorbike racing, farming, tourism). These activities support conservation and improvement of target habitats and species. Such approach is still rather unique. In this way, the project indirectly improved the quality of the leisure space. At some sites it also initiated local decision-making processes for further investments or other measures in favour of recreational use of the sites in line with biodiversity conservation. Attention was paid to awareness rising and transfer of knowledge and good practice.

Among the most important achievements belong:

- A total of 42 hectares of land at Naceraticky Kopec have been reclassified as agricultural land and are once again used as sheep grazing land.
- 20 hectares of land has been prepared for permanent grazing at Blsansky chlum and is ready to be used by local community and/or local farmers. Part of this area can be reclassified as agricultural land in future.
- Exmoor Ponies grazing has been established at Masovicka Strelnice and Havranicke Vresoviste. Ponies have become an interesting attraction both for the local people and tourists.
- A model of coexistence between motocross and conservation has been implemented at Naceraticky Kopec and Panov.
- Around 1000-1500 people came to 29 events for the general public and high dozens of specialists participated in the expert events of the project.

### **Climate change impact:**

Measures were taken in order to increase the size and compactness of the target habitats. This has increased target species' populations, improving their resilience to climate change. Coherent areas of individual habitat types in good ecological status and higher species populations increase the probability of survival for these target species and habitat types. Low populations and fragmented habitats were seriously threatened by changing climate.



Within the evaluation of ecosystem services attention has been paid to carbon balance of the project actions. Since removal of tree cover and soil disturbances, some of the key conservation measures applied for target habitats, decrease carbon sequestration, they had a negative carbon balance. This decrease of carbon sequestration has been estimated at 152 tC (547 tonnes CO<sub>2</sub>). Military machinery use has produced 21 tC (80 tonnes CO<sub>2</sub>) emissions throughout the project.

In terms of drought protection, the interventions have led to a decline in forest cover, which provides better water retention in the landscape than dry grassland, but on the other hand a reduction in evapotranspiration of trees has led to an increase in groundwater levels. Several new wetlands that spontaneously emerged at the Panov site as a consequence of project operations contribute to adaptation to climate change. They provide rare source of water for organisms in a largely dry landscape, and recreational opportunities for the local community.

## 6.4. Analysis of benefits

### 1. Environmental benefits

#### **Panov:**

The conservation actions described under C1-C4 have dramatically changed the appearance of the project site. The scale and character of the interventions is unique in the Czech Republic and it is one of the largest projects of its kind. The project enabled the conservation of one of the most important sand steppe in the Czech Republic at a time when the species diversity of psammophilous species was already being depleted due to the reduction and fragmentation of the sandbanks' habitats.

The interventions have transformed the area into an open forest-steppe with solitary trees and small groups woody plants. The removal of the substrate has created space for the restoration of the sand steppe grassland mosaic in a gradient from sparse stands of initial grasses in disturbed areas to species-rich sand steppe grasslands. The form of the mosaic and the representation of each element will depend on the extent and intensity of the motocross and military vehicles movement as the main method of after project management.

After the interventions, ephemeral ponds and shallow steppe wetlands appeared in some place. Such wetlands were an integral part of the sand steppe on the site in the past, but they disappeared due to the overgrowth of self-seeding woody plants. The spontaneously restored wetlands were quickly colonised by species-rich communities, particularly of animals, including many species of conservation importance.

The project implementation has enabled the return of some species that had been considered extinct for several decades (e.g. *Utricularia vulgaris*, *Polycnemum arvense*, *Caprimulgus europaeus*) and it has enhanced the abundance of many typical species associated with the sand steppes.

#### **Naceraticky Kopec**

The conservation actions described under C4 and C6 enabled the restoration of steppe and dry thermophilous grasslands on a substantial part of the project site. Removal of unwanted shrubs was carried out with respect to the species associated with xerothermic shrubs, especially the regionally important breeding population of *Sylvia nisoria*. The combination of shrub removal and subsequent grazing has resulted in the re-establishment of a pastoral structure with species-diverse grasslands, forming a heterogeneous habitat mosaic on a scale from exposed soil to mature stands with unevenly distributed woody plants, particularly hawthorn. The restoration of the steppe grasslands and their subsequent grazing has greatly enhanced the populations of many species of conservation importance. Particularly significant is the increase in the number of the critically endangered *Chelis maculosa*.

The introduction of frequent military vehicles movements and motocross has added intensively disturbed parts to the habitat mosaic. Particularly on the edges of the tracks with less intensive traffic, extremely rare and endangered species appear, for which Naceraticky Kopec is the only known location of occurrence in the Czech Republic (*Pachycerus segnis*), or it is one of the few Czech locations of occurrence (e.g. *Polycnemum majus* and *Heliotropium europaeum*).

#### **Masovicka Strelnice and Havranicke vresoviste**

On both pastures with Exmoor Ponies, there were significant structural changes in the grassland vegetation. Grazing has suppressed grasses and particularly tall expansive species (*Calamagrostis epigejos*, *Arrhenatherum elatius*) and led to the development of flowering plants including the target plant species, which are *Pulsatilla grandis* and *Orchis morio*.

This type of management significantly supports some groups of invertebrates, particularly coprophagous beetles. Both project sites saw an increase in the number of species and abundance of coprophagous insects, including some extremely rare species. The rich coprophagous communities serve as a food source for other invertebrate and vertebrate groups. At both project sites, populations of animal species tied to short-stemmed grassland are gradually appearing or increasing, such as *Spermophilus citellus* (Havranicke Vresoviste) or the endangered butterfly species *Watsonarctia casta* and *Chelis maculosa* (Masovicka strelnice).

### **Blsansky Chlum:**

The conservation actions described under C7 have enabled the restoration of steppe grasslands in the most valuable parts of the site. Thanks to grazing, the restored areas are gradually acquiring a typical pastoral structure and the typical plant species for pastures (*Thymus*, *Eryngium campestre*) are spreading.

The population of the *Euplagia quadripunctaria*\*, which is protected here, has responded positively to the changes made.

Significant increases in populations have been observed for some steppe and thermophilous plant species such as *Stipa capillata* and *Linum austriacum* and for some rare and endangered invertebrate species, the most important of which is *Watsonarctia casta*

The grazing enclosure, which has been build, makes future grazing easier and thus helps to provide necessary conservation management after the project.

## **2. Economic benefits**

An important economic benefit was, that the project enabled major restoration interventions, which were beyond budgetary means of the regional authorities, which are responsible for most of the project sites. The sites were overgrown to the extent that they required costly one-off intervention before continuous maintenance could be applied. Investment in the restoration interventions prepared the sites so that they are ready for long-term conservation management, which can be provided by the the regional authorities in cooperation with local stakeholders.

The key economic benefit is that the project has investigated and locally implemented various management strategies that restore biodiversity while renewing active land use.

A total of 42 hectares of land have been reclassified as agricultural land at Naceraticky Kopec and are once again used by local farmers as sheep grazing pastures, which is consequently supporting local downstream businesses (meat production, meat processing, wool etc.).

A model of coexistence between hobby activities (motocross, military vehicle use) and conservation has been implemented at Panov and Naceraticky Kopec. Setting the conditions for motocross at Panov created an activity with a turnover of around € 8,000 per year.

Exmoor Pony foals born on the pastures in Podyji were transported to other nature reserves, where, as in Podyji, they provide grazing management for biologically valuable sites. Consequently, grazing management can be established at new sites with significantly lower costs. So far, there were 7 horses sent to new locations. If there is a need for more horses in future, breeding herds in Podyji will be able to provide additional foals.

The project also created one-off supply of 3 500 m<sup>3</sup> of biomass from tree clearing measures in Panov site. This was supplied locally to CEZ's Hodonin power plant, one of the largest renewable biomass power producers in Europe.

### **3. Social benefits**

Contributions to recreational and cultural ecosystem services are arguably the most important social dimension of the project. They have substantially transformed the experience for local people, enhancing everyday use of the sites and direct contact with nature conservation and SACs.

Some of the measures have a potential to support small-scale local tourism, and to create minor tourist attractions (semi-natural horse grazing, hobby operation of military vehicles). They provide additional opportunities for tourism marketing.

The project sites have landscape structures with generally shared high aesthetic potential, which are mainly pastoral landscapes, open landscapes with views, scattered trees and landscapes without intensive agriculture. The project interventions and established conservation management contributed to maintaining and enhancing these phenomena and landscape structures.

The project supported the recreational function of the sites by organising a series of events with high number of participants. Around 1000-1500 people attended 26 events for the general public. These events became an interesting feature of life in local communities. Nearly 100 volunteers were actively involved in management measures, many of them people who would normally hardly ever participate in conservation. It is likely that the events generated long-term interest in the sites and visitor numbers could increase permanently.

It can be assumed that the project enhanced the recreational use of the area by promoting landscape phenomena that are perceived by visitors as aesthetically attractive (a diversity of nature, grazing animals). On the other hand, motocross and military vehicles movement can attract a different segment of visitors, who may get a new experience with nature conservation.

The project employed two groups of staff: (i) members of the project team and (ii) external collaborators (additional staff).

The project team members worked on the project on a larger scale throughout the whole duration of the project. They were partly core staff of the project beneficiaries and partly new staff recruited especially for the project. Due to the specific nature of project financing, it is difficult to distinguish in which cases these are newly created jobs. From a project point of view, all posts are newly created, but from an organisational point of view, a number of staff in certain positions work on different projects over time. From this perspective, the project has made a significant contribution to the long-term preservation of jobs and also to professional development of the staff. In total there were 5,8 FTE jobs.

The external collaborators were involved in the project on a smaller scale or for a limited period of time. For most of them it was a secondary employment. Over the whole project period, 99 people were involved in the project in this way. At least two of these positions will be maintained after the project. These are the grazing guards (rangers) at Masovicka Strelnice and Havranicke Vresoviste.

#### **4. Replicability, transferability, cooperation:**

High dozens of specialists participated in the expert events of the project.

Two-day professional conference in Brno presented conservation activities implemented by the project, results, and experience gained. More than 60 nature conservation workers, researchers, and administrators of both active and abandoned military areas attended the conference. Along with presentation of the project achievements, it provided an opportunity to discuss biodiversity interventions in both abandoned and active military areas in Central Europe. The conference featured over 20 speakers from Hungary, Slovakia, and the Czech Republic. It also included field trips to Panov, Naceraticky Kopec, and Havranicke Vresoviste. For both experts and managers, it provided an inspiration for decisions about management of similar sites across the country and the wider region.

The round table with Czech experts and stakeholders was organized in 2017. Participants were mainly local decision makers and public administration from municipalities and regions with abandoned military areas. The main aim was to share experience and best practice. According to the feedback from some of the participants it served as a motivation for them to take first steps to establish suitable conservation management at their sites.

Project staff gave lectures to relevant target groups of conservation management students (Czech University of Life Sciences) and conservation professionals (lifelong education programme for professionals, Charles University).

Project staff participated in various conferences and similar events, presented project experience and results, and discussed with relevant colleagues. This provided opportunities for formal presentations and informal networking, again distributing knowledge attained by the project partners. For details, please see ANNEX 09d.

The approaches used in the project have been, and will be, successfully applied at other locations. The project has significantly broadened the experience with less common methods (tracked military vehicles movement, motocross, grazing of Exmoor Ponies, targeted eradication of invasive species), which are now used in a number of other areas with similar habitat character.

A good example of replication efforts can be found at abandoned military areas in western Bohemia. At the former military training ground in Rokycany, grazing of large herbivores has been established during the project implementation and occasional heavy tracked vehicle movements have been restored, combined with quite intensive off-road activities.

The owner of the former training ground in Klenova has expressed interest in a similar management approach this year (2022) and members of the project team will provide consultations and share knowledge and best practice gained during the project.

However, the most comprehensive replication is the former military training ground in Dobruška near Plzeň. There, in addition to the implementation of all the above management methods (here supplemented by volunteer and awareness raising activities), a sustainable and functional model of location management has been established. The site manager, appointed

and paid by the Dobruška municipality as the landowner, coordinates all activities so that they complement and do not collide with each other.

## 5. Best Practice lessons

Intensive regrowth of woody plants proved to be the biggest complication in the project implementation, and required change in management practices applied to control invasive species. Different strategies were applied in Panov and Naceratický Kopec sites.

Panov:

In the first phase (2017–2018), invasive trees, especially *Robinia pseudoacacia*, were felled using so-called high stump felling (stump height about 1–1.2 m). The measure was based on the experience of Podyjí National Park Administration at the time. The principle of this method is the removal (breaking) of the regrowth, which the stumps form in their top part. Multiple intervention gradually weakens the tree until it dies. In practice, however, this method proved to be extremely demanding in terms of personnel capacity and time. After one season of regular removal, no signs of reduced stump vitality were observed. For these reasons, false acacia stumps, as well as native self-seeding trees, were removed by an excavator. In the following seasons, the root regrowth was eliminated by spraying herbicide on the leaves. The method is highly effective – *Ailanthus altissima* trees were removed in the same way.

The regrowth of indigenous trees, especially *Populus* (aspen), proved to be very intense, even though the stumps of these trees were removed. Aspens also regrew very well from the thin roots that remained in the ground after the stump was uprooted. Aspen regrowth was eliminated by a combination of military equipment movement and repeated mulching on more continuous, easily accessible areas. This intervention, carried out in two consecutive seasons and repeated twice a year, significantly reduced the vitality of the regrowth, but did not eliminate it completely. Targeted movement of vehicles to places with regrowth led to their elimination, but it was necessary to apply intensive movement at these places. During the project, the regrowth was removed on most of the areas, leaving only some localized outbreaks, which will be the target of the vehicle movement in the future management.

Naceratický kopec:

During the preparatory phase in 2016, and subsequently throughout the project, the most suitable methods of *Robinia pseudoacacia* eradication with regard to minimizing root regrowth were consulted with experts who had theoretical and practical experience in this area. The issue was discussed with representatives of Podyjí National Park (Robert Stejskal, Petr Vančura), Silva Tarouca Research Institute for Landscape and Ornamental Horticulture, p.r.i. (Tomáš Vrška), the City of Prague (Jiří Rom), Daphne - Institute of Applied Ecology (Ján Šeffler), Czech Association of Nature Conservation Jaro Jaroměř (David Číp), and others. Two main methods were recommended: felling trees on a so-called high stump (about 130 cm) in modifications with or without herbicide application to the cut surface, and injecting concentrated herbicide into pre-drilled holes around the trunk circumference.

Due to the requirements of the agricultural entity on Načeratický kopec providing the grazing, which follows the rules of pesticide-free organic farming, a high stump felling method was chosen to remove the acacia. This method consists of felling trees between August and October, leaving a stump approximately 130 cm high; this significantly reduces the formation of root regrowth (which is a problem in the case of low stump felling). After such an management, the acacias regrow at the top in the following growing season. In 2018 and 2019, from August to October, the top regrowth was therefore always removed several times a year, both by hand and by nibbling of grazing animals. After the death of the trees, the remaining stem was harvested to a low stump. In the middle part of the motocross track, the stumps were pulled out so that in the future it would be possible to extend the vehicle movement there.

## **6. Innovation and demonstration value**

The project has investigated and locally implemented various management strategies that restore biodiversity while renewing a diversity of active land uses. A total of 42 hectares of land have been reclassified as agricultural land and are once again used as sheep grazing land. Exmoor Ponies grazing has been established on two sites while a model of coexistence between hobby activities (motocross, military vehicle use) and conservation has been implemented at others. At the same time, the project indirectly improved the quality of the leisure space. In some sites it also initiated local decision-making processes for further investments or other measures in favour of recreational use of the sites in line with biodiversity conservation.

Active management of abandoned military sites – as opposed to effective neglect and natural succession – alone is a significant innovation in restoration of biodiversity. However, we believe that the most important innovative achievement of the project was its ability to develop and test combinations of various traditional (conservation grazing), recently introduced but widespread (semi-wild grazing) and entirely innovative (e.g., motocross) management strategies. Also, our ability to find approaches that provide conservation management while serving radically different goals (hobbies such as, again, motocross) is an interesting innovation, rarely used in European conservation. Potentially, it provides for management that is low-cost (some hobby activities are self-financing) and ensures coexistence with needs of social segments that usually have low interest in biodiversity and land management.

## 7. Policy implications

Perhaps most importantly, the project underlines the need for an EU nature restoration law. It has showed that suitable interventions are able to radically improve biodiversity value of sites that have been neglected for decades. At the same time, the experience gained by project operations provides an important input into future implementation of any restoration legislation. The project demonstrates that biodiversity value of such sites can be improved radically, and that the relevant operations create substantial social (local recreation etc.) and, in some cases, economic (farming) co-benefits. Restoration of an active management in abandoned land is a key biodiversity measure in much of European landscapes. Innovative approaches will be needed to replace activities that used to contribute to biodiversity but are not financially viable (traditional agriculture) or needed (Cold War extent of military use) anymore.

Ban of forest grazing – a traditional fixture of forest law in the country since early 19<sup>th</sup> century – has been a major drawback to some project activities. The Ministry of the Environment had to issue a one-off permit to enable forest grazing at Havranicke Vresoviste. The permit application was submitted immediately after the start of the project in autumn 2016; however, the issuance of the decision was delayed by more than a year due to a local hunting association's appeal. The final decision approving the grazing in the proposed scope was issued in December 2017. However, this happened before the introduction of grazing itself in 2018, which made Havranicke Vresoviste an unprecedented case of forest grazing in Czechia, since forest grazing was allowed not only in the National Park, but also on an area larger than a few hectares.



## 7. Key Project-level Indicators

For progress towards achieving KPI during the whole period of project realization, please see ANNEX 05 with overview of all indicators and their values. Relevant project actions are marked for each of the indicators.

Data into the KPI database webtool were put according to the instructions in January/February 2018 and in June 2022.

Most of the project indicators are related to the Conservation Status and trend of target habitats and species.

Indicators targeting specific habitat types and species were in most cases met or slightly exceeded.

For *Euplagia quadripunctaria*\* there was an increase in abundance and population stabilisation. Conservation Status and trend assessed as Unfavourable - Inadequate at the beginning of the project is assessed as Favourable at the end of the project in both parameters based on monitoring results.

*Pulsatilla grandis* was already rated as Favourable in both monitored parameters (Conservation Status and Trend) at the beginning of the project, yet the implementation of management measures has resulted in a significant increase in the population of the species.

Habitat types 2330 and 6260\* are subject to protection at the Panov project site. At the end of the project, based on the results of the vegetation monitoring, the achievement of indicator 6260\* in the parameter of area is assessed, with the area of habitat 2330 close to the planned value (94 %). Contrary to expectations at the beginning of the project, this habitat has not been created on all areas where upper layer of soil has been removed, because shallow steppe wetlands appeared in some places. However, these wetlands are also biologically extremely valuable. Both habitats 2330 and 6260\* can be found in habitat mosaics and transitions in most of the area, which makes it difficult to accurately quantify the actual extent of each type; some diagnostic species typical for the respective habitat type are always present. Both habitat types are rated as Unfavourable - Inadequate with a positive trend in the Conservation Status parameter at the end of the project, however, for habitat 6260\* this is a significant improvement as the Conservation Status was rated as Unfavourable - Bad at the beginning of the project.

Habitat 6210 occurs at the project sites Naceraticky Kopec, Masovicka Strelnice and Havranicke Vresoviste.

At Naceraticky Kopec, the vegetation monitoring results indicate that the planned area of restored habitat has been slightly exceeded (104 %). The Conservation Status and Trend parameters are assessed as Favourable due to the regular grazing.

At Masovicka Strelnice and Havranicke Vresoviste, the established continuous extensive grazing of Exmoor Ponies has resulted in a slight exceedance of the restored area of this habitat (107 and 110 % respectively). At both sites, grazing has had a positive effect, which can be seen particularly in the elimination of expansive grasses. The Conservation Status and Trend parameters are thus rated as Favourable.

Habitat 6210\* occurs only at the Masovicka Strelnice. Restoration of the area with this habitat type has started only in the second part of the project for logistic reasons. At the end of the project, there are signs of improvement and a slight increase of the area of the habitat with a positive trend.

Habitat 8230 is the subject of the protection at Naceraticky Kopec. Due to the disturbances by military vehicles and motocross, the planned habitat expansion has been accomplished. Conservation Status is according to the biological monitoring results rated as Unfavourable - Inadequate with a positive trend. A positive development of the indicator can be expected in future, thanks to regular motocross activities, which have been established during the project.

Habitat 4030 occurs in a mosaic with habitat 6210 at Havranice Vresoviste. The positive effect of grazing by Exmoor Ponies can be seen in the gradual recovery of this habitat. The area parameter has been slightly exceeded at the end of the project. Conservation Status was assessed as Unfavourable - Inadequate with a positive trend.

Habitat 5130 was indicated in the project application at Havranice Vresoviste, based on the Natura 2000 information. Based on expert reclassification during the implementation of the biological monitoring, the habitat was excluded as target, because patches declared as 5130 before the project do not meet botanical criteria for this habitat.

Other group of indicators is showing the results of awareness raising actions.

A total of 26 events for the general public were organized within the project, attended by an estimated more than 1 400 people. (The number of participants who registered in the attendance lists was 880, but due to the nature of the events it was not possible to register all participants in this way.)

Several printed materials for the general public have been published:

- 4 types of leaflets serving as an invitation to visit the project sites.
- 2 types of brochures presenting the most important rare and endangered species of Panov and Naceraticky Kopec sites. The brochures were intended mainly for children.
- 2 types of posters with photographs of rare and endangered species. The posters served mainly as a symbolic reward for the participants of the events.
- Layman's Report summarizing the project's activities and achievements.

Activities for the general public included also making 5 information panels (one for each project site) and building a small shelter with table and benches for visitors at Panov.

6 short videos have been made and are available on the project website. The first two videos introduce the topics of biodiversity in abandoned military areas in general. The other four videos show the changes of the sites (Panov, Naceraticky Kopec, Blsanky Chlum and Masovicka Strelnice plus Havranicke Vresoviste) during the project to illustrate different management approaches and their impact.

The project website has been visited over 30 000 times by more than 8 400 people.

During the project, more than 130 media outputs of different form and scope were recorded. The most frequent form was posts on news websites. In terms of media impact, it is significant

that the media outputs include 30 more extensive articles and interviews, which give space to clarify the issue, and that they have been published in high-profile titles, including radio and television.

There were four main activities for the professional public:

- Round table about the abandoned military areas and the nature conservation (46 participants).
- International conference (64 participants).
- E-learning course.
- 4 case studies - retrospective evaluation of measures and transfer of experience gained, which can be used in the conservation of similar areas in the future.

## 8. Comments on the financial report

### 8.1. Summary of Costs Incurred

The table below shows the overall expenditure of eligible costs compared to the originally budgeted eligible costs. In terms of the overall budget spending, the planned budget was overspent by 0.12%. The more significant percentage variation can be seen in the case of travel and subsistence costs, where the increase has been caused by the permanent increase in fuel prices and statutory reimbursements, as well as higher volumes of work travel. However, this is not a significant cost in terms of overall expenditure. All changes in the budget categories are within the flexibility rate.

All equipment purchased within the project was used only for the project activities. The equipment will be used for the nature conservation purposes after the project.

There were some unforeseen costs during the project implementation:

- Costs related to additional interventions that had to be carried out at Panov and Naceraticky Kopec in order to suppress regrowth (resprouting) of woody plants. Additional interventions included:
  - Removing roots of *Robinia*, as well as native self-seeding trees, by an excavator. (Panov and partly Naceraticky kopec)
  - Selective application of herbicides on the leaves. (Panov)
  - Repeated mulching on a larger scale than originally anticipated. (Panov)
  - More intensive movement of heavy military vehicles. (Panov)
  - Extra stage of mowing of regrowing shrubs by brush cutter. (Naceraticky Kopec)

These additional interventions were necessary in order to reach favourable status and trend of target species and habitats. They also contributed to the long term sustainability of the results.

For details please see Actions C1 - C3 and C6.

- At Masovicka Strelnice and Havranicke Vresoviste deep wells had to be made in order to have permanent water supply at the pastures. This helped to overcome shortages of water during the extremely hot and dry periods, when the existing water sources appeared insufficient. For this reason the wells are crucial for long term sustainability of Exmoor Ponies grazing at these sites.

Most of these costs were paid from the savings in the budget during the first years of the project and they did not require additional funding. The changes were reported in the Progress Reports 2019 and 2021.

**TAB 04: Project cost incurred**

PROJECT COSTS INCURRED			
Cost category	Budget according to the grant agreement in €*	Costs incurred within the reporting period in €	%**
1. Personnel	1 127 580,00	1 072 186,62	95,08%
2. Travel and subsistence	62 713,00	84 311,51	134,44%
3. External assistance	588 459,00	610 004,22	103,66%
4. Durables goods: total non-depreciated cost	171 821, 00	194 439,65	113,16%
- <i>Infrastructure sub-tot.</i>	<i>56 821,00</i>	<i>125 476,36</i>	
- <i>Equipment sub-tot.</i>	<i>115 000,00</i>	<i>68 963,29</i>	
- <i>Prototype sub-tot.</i>	-	-	-
5. Consumables	104 636,00	125 180,17	119,63%
6. Other costs	56 854,00	27 345,04	48,10%
7. Overheads	143 812,00	145 070,52	100,88%
<b>TOTAL</b>	<b>2 255 875,00</b>	<b>2 258 537,73</b>	<b>100,12%</b>

\*) If the Agency has officially approved a budget modification through an amendment, indicate the breakdown of the revised budget. Otherwise this should be the budget in the original grant agreement.

\*\*\*) Calculate the percentages by budget lines: e.g. the % of the budgeted personnel costs that were actually incurred

## 8.2. Accounting system

The accounting systems of the coordinating beneficiary and the associated beneficiaries are carried out in accordance with the applicable legislation, in particular the Accounting Act and the Income Tax Act. The LIFE project is recorded in the entries in the books under a special cost centre:

Beleco z.s. – LIFE (responsible person Martin Kucera)

Wetland s.r.o. - 1028 (responsible person Hana Pelikanova)

Ceská krajina z.s. - 07 LIFE (responsible person Denisa Janoskova)

Ministry of the Environment – PDD4700012 (responsible person Lukas Pacek)

In order to manage the project budget, the participating organisations break down the project costs incurred by a numerical identifier that represents the cost category according to the budget. Based on this approach, the costs incurred can be allocated to the budget categories.

Beleco:

Costs incurred are approved by the project manager. The project manager first approves the need for the cost incurrence and then approve the invoice (or other document) for payment. The finance manager checks the administrative and legislative requirements for the documents received. The finance manager proceed with payment or return the documentation to the project manager for completion. Payments are authorised by the director of the organisation. The project manager is responsible for indicating the LIFE project invoice. The project manager tries to ensure that the supplier do the identification directly, however, in selected cases the suppliers' process setup does not allow to identify the LIFE project in the invoice. In that case, the document is marked with the project stamp upon acceptance by the organisation. Timesheets are completed for the purpose of reporting personnel costs. Timesheets are prepared manually by the employees themselves. The project manager reviews and authorises all timesheets and forwards them to the finance manager as a basis for processing and paying salaries. The financial manager checks the correctness of the completed timesheets.

Associated beneficiaries have similar procedures.

The coordinating beneficiary regularly checks the costs incurred by the partners and keeps copies of the supporting documents. All accounting and project documents are archived in the beneficiaries' offices.

### 8.3. Partnership arrangements

Agreements between the coordinating beneficiary and associated beneficiaries were prepared and signed at the beginning of the project implementation. These contracts define the obligations and rights of both participants, the budgeted costs and the method of financial compensation for the associated beneficiaries as well. Among the obligations of the associated beneficiaries is to provide, at regular intervals (max. quarterly), accounting documents justifying the use of the budget as well as the actual state of the budget used. These supporting documents include copies of accounting documents, the accounting diary, depreciation schedules for assets, payroll documents, etc. On the basis of the documents obtained, a consolidated report is drawn up by the financial manager of the coordinating beneficiary (Martin Kucera).

### 8.4. Certificate on the financial statement

Please, see ANNEX14 for the Certificate on the financial statement.

## 8.5. Estimation of person-days used per action

**TAB 05: Person-days used per action**

Action type	Budgeted person-days	Estimated % of person-days spent
All projects when applicable Action A: Preparatory actions	315	115%
NAT and CLIMA projects Action B: Purchase/lease of land and/or compensation payment for payment rights	0	0%
NAT projects Action C – Concrete conservation actions	4361	101%
NAT and CLIMA projects Action D: Monitoring and impact assessment	1343	101%
NAT and CLIMA projects Action E: Communication and Dissemination of results	1142	90%
NAT and CLIMA projects Action F: Project management (and progress)	2516	90%
<b>TOTAL</b>	<b>9677</b>	<b>95%</b>



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## Instructions / guidelines for the submission of deliverables / annexes

- Please make a reference to the deliverables in the report text. In case the deliverables are presented in a national language other than English, please include a summary in English, in the deliverable, outlining the purpose, outcomes, results and conclusions.
- All the deliverables due in the reporting period shall be provided unless already submitted with previous report(s). Deliverables should only be resubmitted if a revised version has been requested by the Agency.
- Please date deliverables with the actual date of completion (and the date of revision if applicable).
- You may annex any other document **only if** particularly useful to assess the success of the project but which is not part of the planned deliverables.
- Please note that For LIFE Nature & Biodiversity and LIFE Climate Action with land purchase you need to submit digital copies of the land register, including a "conservation clause" (in exceptional cases the purchase / lease acts can be accepted) as this is a prerequisite for the costs to be considered eligible. All land sections purchased or leased must be shown on a map, which also provides the boundaries of the project area and the Natura2000 site boundaries.
- Please be aware that the Layman's report and the After-LIFE Plan are **compulsory** deliverables and must be submitted with the Final report only:

### Layman's report

**Purpose:** The layman's report is a document aimed at a broader target group and serves to inform decision-makers and non-technical parties on the objectives of the project and the results achieved. The layman's report will be distributed widely and will be available on the LIFE website via the project database. It is therefore **compulsory** for all projects.

**Form:** This document is an entirely self-standing document, often in the form of a leaflet or similar. It should be provided in English and in the language(s) of the beneficiaries.

**Content:** The length of the layman's report should normally be 5-10 pages, including supporting graphs, photographs etc. Since the target group is the general public, the technical details should not be excessive. However, it is normally advantageous to include some quantitative results to illustrate the impact of the techniques/methods demonstrated by the project. It should include the following points (adapted to the target group):

- Summary of project scope and objectives;
- Description of the techniques/methodology implemented and the results achieved;
- Assessment of the benefit and impact
  - LIFE Nature & Biodiversity: conservation benefits for the Natura 2000 (SCI/SPA) and species/habitat type targeted. Highlight briefly issues that may have important policy implications;

- LIFE Environment & Resource Efficiency: environmental impact of the project, describing the environmental benefits (illustrated with quantified information);
- LIFE Climate Action: climate mitigation and adaptation impacts of the project;
- LIFE Environmental Governance & Information: impact on the environmental problem, describing the change in awareness and/or approach.
- Cost-benefit discussion on the results (economic and environmental benefits);
- Transferability of project results;
- Map indicating where the project takes place: NB please ensure that the project site is illustrated in a way that allows a broader public to know where in Europe and in the Member State the project is implemented.

After-LIFE plan – for LIFE Nature & Biodiversity, LIFE Environment & Resource Efficiency, LIFE Environmental Governance & Information and LIFE Climate Action projects

This compulsory plan (suggested length: 5 pages) shall set out how the beneficiary and partners plan to continue disseminating and communicating the results of the project after its end, and in particular how they plan both to continue applying the results themselves and to facilitate / encourage / ensure their wider application by others; it shall be delivered in English and also in the language(s) of the beneficiaries.