



LIFE Project Number
LIFE17 NAT/CZ/000463

Final Report
Covering the project activities from 1. 9. 2018 to 30.9.2023

Reporting Date

30. 12. 2023

LIFE PROJECT NAME or Acronym
**LIFE Osmoderma 2017 - Osmoderma eremita species
conservation in SCI Poodří**

Data Project

Project location:	Czech Republic, Moravian- Silesian Region, SAC Poodří
Project start date:	1. 9. 2018
Project end date:	30. 9. 2023 Extension date: non applicable
Total budget:	€ 954,012
EU contribution:	€ 694,999
(%) of eligible costs:	72.85

Data Beneficiary

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Package completeness and correctness check	
Obligatory elements	✓ or N/A
Technical report	
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>	✓
Financial report	
The reporting period in the financial report (consolidated financial statement and 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 $\geq 750,000$ € in the budget) <i>Electronically Q-signed or if paper submission signed original and in electronic version (pdf)</i>	N/A
Other checks	
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*

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2. List of key-words and abbreviations

AOPK - Nature Conservation Agency of the Czech Republic, Ostrava regional office

CEPO – Center for Citizen´s Support, coordinated beneficiary

CSOP – Czech Union for Nature Conservation, local chapter Studénka, associated beneficiary

FER – Fundacja Ekorozwoju, associated beneficiary

LAG Poodří - Local Action Group Poodří

MoE – Ministry of environment of Czech Republic

NA - not applicable

NS - not specified

PLA - Administration of Protected Landscape Area Poodří

UNI – University of Ostrava, associated beneficiary

3. Executive Summary

The main objective of this project was improving of the conservation status of the hermit beetle (*Osmoderma barnabita**) in SAC Poodří. It was to be achieved by conservation measures, which will connect the isolated locations of the occurrence of *O. barnabita*, extend the lifespan of current biotops and create new potential ones.

In 108 trees the development of *O. barnabita* has been proven during the implementation of the project. 976 trees with proven/prospective occurrence of *O. barnabita* were treated and 2041 trees as potential habitats were planted. The lifespan of the habitat trees was extended and new habitats were prepared for the future.

During the implementation of the project new pollarding willow stands and other landscape elements were created (tree avenues and groups of trees). Plantings locations were selected so that in the future individual locations with the occurrence of *O. barnabita* would be connected, reducing the risk resulting from the isolation of populations.

This has halted the predicted decline of *O. barnabita* species.

The main objective was thus realistic and we can state that the objective has been achieved.

Summary of the project progress

The A.1 and A.2 actions were finished on time scheduled and created the important conditions for further progress of the project. The Action Plan (A.1 activity) confirmed up-to-date conditions and project cooperation rules. The Feasibility Study (A.2 activity) defined bases for the implementation of conservation measures and bases for the obtaining of needed administrative acts and agreements of landowners.

As for the **A.3 action**, we started administrative procedures and negotiations with stakeholders in advance, even before the start of the LIFE project. We obtained all necessary acts for the conservation measures. The implementation of this activity requires the good capability of negotiation and the good knowledge of local conditions. Thus the cooperation with the Administration of the Protected Landscape Area Poodří was very important because of its expert support and feedback. The dissemination activities help to attract the attention of stakeholders to our project and to obtain further agreements with the conservation management.

The conservation measures (**C.1 – C.7 actions**) were implemented on all project sites. We entered into partnership with local tree nurseries. Thus we had the source of native tree seeds of good quality (e.g. *Populus nigra* – the population from Poodří, pear trees – native old varieties). The measures included: planting of native species of trees, pollarding of willows, pruning of oaks and linden and some special measures (e.g. removal of non-native woody plants, improvement of light conditions of the stand).

From October 2018 to April 2023 we planted 2041 trees and treated 976 trees. That's even a little more than we planned, even though the COVID-19 crisis didn't allow planting with the help of the public and all works were implemented by our staff.

The monitoring of the impact of project activities (**D actions**) was provided by expert partners from the University of Ostrava and by external experts - zoologists.

The monitoring of *O. barnabita* was focused on the impact of the project activities on local populations and habitats. The survey of trees before and after the interventions was carried out. The mobile application ESRI Survey 123 was used for the field data collection. During the implementation of the project the occurrence of *O. barnabita* was proven in 108 trees and recorded in the official database of the Nature Conservation Agency of the Czech Republic.

Monitoring of the impact of conservation measures on habitats of other endangered species was focused on the species *Bombina bombina*, *Cucujus cinnaberinus**, *Misgurnus fossilis** and the Vespertilionidae family. The impact was monitored in all management locations where there is supposed to be an impact on their habitats. It was stated that the local populations and the habitats of the species were not negatively affected by management interventions.

Both the monitoring of socio-economic impact and the monitoring of ecosystem services (**D.2 and D.3 actions**) were carried out as planned and provided the project team with early information about the situation in the region regarding people's approaches toward the protection of the SAC Poodří and endangered species. Provisioning, regulating and cultural ecosystem services of the habitats of *O. barnabita* were evaluated and the comparison of costs with benefits was done for two categories of regulating ecosystem services.

The set of information tools was created and used with good results (**E.1 action**). We have organized 30 events for stakeholders (**E.2 action**) and 37 events for the public (**E.3 action**). The bike trip with an eco-educational programme (Tour de aleje) was very successful. We organized a total of 5 years. It was a community festival for local residents and tourists and it also resulted in support from local authorities and companies. In particular, the publications (a Poodří guide for children, a handbook for managers, a book about trees in Poodří and a publication comparing management approaches to habitat trees) have met with a positive response.

The implementation of **E.4 action** was based on the networking with 15 LIFE and other project teams. We visited the LIFE Vistula (Poland) and the LIFE Danube floodplains (Slovakia) project areas. We used very good opportunities to promote our project and the LIFE programme: the participation in conferences in Lithuania and USA, the expert text in the book *The Pruning Trees - Lost Heritage* and the presentation on the webinar for Moldovan stakeholders.

The project management followed the established rules and ensured the effective implementation of the project. The project management structure has not been changed.

The implementation of the project was affected by the COVID-19 in the period 2020-2021. Changing the deadlines and postponing the implementation of some activities to a later stage of the project affected the timing of the whole project and some of the indicators. Nevertheless, it can be concluded that the project objectives were realistic and effective. The main objectives have been achieved and the overall impact of the project corresponds to the assumptions formulated in the proposal.

4. Introduction

Main objective of the project was to improve conservation status of *Osmoderma barnabita in SAC Poodří - CZ0814092.**

Specific objectives:

1. To stop degradation and restore typical habitats of *O. barnabita* in SAC Poodří – pollarded willows
2. To connect isolated locations *O. barnabita* occurrence by planting native species of trees
3. To create a stepping stones connecting SAC with other locations of the occurrence of *O. barnabita*
4. To mitigate invasion of mistletoe, which is endangering the second most common habitats of *O. barnabita* in SAC Poodří – linden trees
5. To support the preservation of hollow trees and dead wood
6. To set up an appropriate management and create socio-economic conditions for the long term preservation of habitats
7. To prove positive impact on habitats of *O. barnabita* and on biodiversity in SAC Poodří, on socio-economic conditions and on performance of ecosystem services

Which sites were involved

identification of the project site	cadastral areas included
1. Košatka	Jistebník, Košatka nad Odrou, Proskovice, Stará Bělá, Svinov, Stará Ves nad Ondřejnicí
2. Petřvaldík	Albrechtický, Petřvaldík
3. Studénka	Bartošovice, Butovice, Hukovice, Nová Horka, Studénka nad Odrou, Velké Albrechtice
4. Pustějov	Hladké Životice, Pustějov
5. Kunín	Kunín
6. Bernartice	Bernartice nad Odrou, Jeseník nad Odrou, Mankovice, Suchdol nad Odrou
7. Out of SAC Poodří	Bernartice nad Odrou, Bravantice, Petřvaldík, Jeseník nad Odrou

Targeted species and main conservation issues

Osmoderma barnabita (Hermit beetle)

The main locations of the occurrence of *O. barnabita* in SAC Poodří are isolated. It is considered as the main targeted issue because the maximal observed flight distance of the hermit beetle is only about 200 m.

The main habitats - pollarded willows are degraded due to lack of regular pollarding. The second most common habitats - lindens are endangered by invasion of mistletoe. The ancient oaks with cavities are often cutted instead of pruning. The abandonment of traditional management, the removal of ancient trees and tree stands result in the degradation of habitats and the loss of their connectivity.

Other species being targeted

Cucujus cinnaberinus (Red flat bark beetle)

Monitoring the impact of project activities on *C. cinnaberinus* was not originally included in the project proposal. On the basis of the recommendation of experts, we included this species. Habitat trees with *O. barnabita* are only rarely occupied by *C. cinnaberinus*, which unlike *O. barnabita*, is usually found in dead standing trees and branches. *O. barnabita* requires sunny trees without shading of the trunk, whereas *C. cinnaberinus* prefers trees in denser stands (usually shaded). Therefore, in trees with the presence/potential presence of *O. barnabita*, protection of *O. barnabita* from *C. cinnaberinus* has always been preferred and the management rules for this species have been followed.

Bombina bombina (European fire-bellied toad)

The potential risks for *B. bombina* in relation to the management measures of the project were

- 1) planting of trees near periodic water bodies inhabited by *B. bombina*, which may cause their drying out and excessive eutrophication due to leaf fall,
- 2) shading of riparian and aquatic areas with new tree plantings,
- 3) possible reduction of the shelters in the form of naturally fallen branches and dead wood that would be removed from the Oder floodplain during tree maintenance.

Vespertilionidae (Bats)

The aim of the monitoring of the impact of the project activities on bath was to determine the possible occurrence of bats in tree shelters in localities where trees were planed to be prune and in case of the occurrence of bats, to establish appropriate preventive measures to minimise the impact on bat population.

Misgurnus fossilis (Weatherfish)

The most important risk factors for the *M. fossilis* populations in the SAC Poodří are hydrological droughts after long periods featuring low precipitation amount and the fishing management.

Socio-economic context

One of the specific objectives of the project was to start sustainable management on the sites with current and potential *O. barnabita* habitats and to create socio-economic conditions for the long-term maintenance of favourable habitat conditions and the sustainable use of ecosystem services.

We created 3,44 (FTE) long-term jobs for local citizens.

5. Administrative part

Project management

Marcela Klemensová, senior expert from CEPO, coordinated the project throughout its implementation. As project manager was responsible for coordination with associated beneficiaries, reporting, and communication with national and EU authorities and external monitoring team. She prepared necessary data and initiated the meetings of the steering committee and the supervising team.

We organized 3 types of meetings – working meetings within each beneficiary, coordinating meetings within the project manager and coordinators and the steering committee meeting. Working meetings were held as needed, most often once a week.

To assure the internal audit of project implementation, the CEPO's supervising team was working. Members of the team were project manager, financial manager, expert for LIFE programme and head of CEPO.

To monitor project progress, we created an on-line shared documents „Deliverables“ and „Project progress“. The documents were updated by the project manager at least quarterly. So all partners had an opportunity to check actual ongoing works.

The Partnership agreements with ČSOP, UNI and FER were signed in September 2018. The cooperation with partners was without problems. The contribution of ČSOP was the long term experience with the communication with local stakeholders and the knowledge of the project area. The partnership of UNI was very important since it allows the implementation of scientific results to the conservation management. The FER contribution was the experience with the communication with local authorities and the knowledge of tree maintenance.

During the project implementation, the project management structure has not been changed.

The communication with external monitor Michala Mariňáková, ELMEN EEIG (NEEMO EEIG) was based on quarterly reports of project progress and on ad-hoc consultation or information about LIFE programme news. External monitor visited the project sites every year, discussed the progress and consulted the preparation of reports. Organizational changes in external monitoring and reporting only affected the final phase of project implementation and were not significant.

We have received helpful letters with the evaluation of visits of the external monitor and of the progress reports from the project advisor, Mr. Manuel Montero Ramírez. The visit to the project area was carried out on 19-20 May 2022. The possible impact of the COVID-19 crisis has also been discussed with the Agency.

In March 2023 we requested **the amendment** due to the change of coordinating beneficiary's administrative modification, namely the change of the legal address. The Agency agreed to our request by letter dated 2023-04-21. This administrative modification could not treat the aim of the project.

6. Technical part

6.1. Technical progress, per Action

A. Preparatory actions

Action A.1 Start-up activity

Foreseen start date: September 2018

Actual start date: September 2018

Foreseen end date: February 2019

Actual end date: February 2019

This action was implemented without significant problems, in the foreseen start and end date. We created some important conditions for further progress of the project.

A.1.1 At the initial meeting of the project team we have defined terms, rules and procedures of the mutual cooperation, which were summarized in the Action Plan.

A.1.2 Proposal of the Action Plan was created by the project manager and discussed by coordinators of beneficiaries. The final version confirmed up-to-date conditions and cooperation rules.

A.1.3 Eleven participants took part in **the round table**, including mayors of local municipalities, representatives of the PLA, regional authority, and LAG Poodří. We did not have any private landowner on this meeting, but for communication with them, the individual meetings directly in the field were most effective (see action E. 2). Four articles were published in regional and national media informing about the launch of the project and conservation activities.

A.1.4 During the kick-off meeting in Brussels, we presented our project in a working group “Species management” and distributed the information leaflet. We get new contacts and topics for networking and transfer of the project results.

Tab. Action A. 1: List of deliverables fulfilled

name of deliverable	foreseen unit/ deadline	fulfilled unit/ deadline
A.1.2 Action Plan	1 document/October 2018	1 document/October 2018
A.1.3 Letter addressed to stakeholders	1 document/October 2018	1 document/October 2018
A.1.3 Article in regional and national media	1 article/November 2018	4 articles/November 2018
A.1.3 Roundtable for stakeholders - documentation	NS/ January 2019	1 document/January 2019

Action A.2 Securing the implementation of direct conservation measures

Foreseen start date: November 2018

Actual start date: November 2018

Foreseen end date: June 2019

Actual end date: September 2019

Elaboration the Feasibility Study

Consultation with experts from PLA Poodří allowed us to establish a legal framework for conservation management. Experts confirmed original selection of probably influenced

species: *O. barnabita*, *B. bombina*, *M. fossilis* and bats. It was relatively difficult to find external experts for monitoring *B. bombina* and bats, who would fulfill our expectations (expertise, knowledge of project area, free capacity for the whole duration of the project). We also undervalued the time demand of initial field research and we postponed the completion of the Feasibility Study from June to September 2019. The study should be ready before the start of actions C. However, we have started to implement some conservation measures already in the autumn 2018. We consulted with experts and assumed that together with administrative procedures and consultation with experts from PLA it was sufficient guarantee for elimination of the negative impact on important species and landscape in the project area.

Contribution to the next project implementation

Feasibility Study contains basic background for implementation of conservation measures and procedures for necessary administrative acts and agreements of landowners. During preparation of the study, important consultations with experts from PLA and stakeholders took place, which supported the dissemination of the project results. Study stated a proposal of monitoring the project impact on habitats of *O. barnabita* and other relevant species.

Tab. Action A. 2 : List of deliverables fulfilled

name of deliverable	planned unit/deadline	fulfilled unit/deadline
A.2 Feasibility study	1 document/June 2019	1 document/September 2019

Tab. Action A. 2: Evaluation of the foreseen milestones

milestone name	foreseen deadline	implemented deadline
A.2 Commissioning of the feasibility study	November 2018	November 2018
A.2 Approval of the final version of the study	June 2019	September 2019

Action A.3 Obtaining necessary administrative acts and agreements with stakeholders

Foreseen start date: July 2019 Actual start date: September 2018
 Foreseen end date: March 2022 Actual end date: December 2022

A.3.1 Obtaining necessary administrative acts

We started the administrative procedures and the negotiations with stakeholders in advance, even before the start of the LIFE Osmoderma project. We continued without significant problems and stakeholders showed understanding and willingness to cooperate in the majority of cases. The end date of the activity has been postponed due to the administrative procedure for repeated willow pollarding in Bernartice nad Odrou. The pollarding was carried out in the winter season 2022/2023. For a detailed list of administrative acts, see “Osmo_Deliverable_A3_Administrative procedures_documentation”.

The course of administrative proceedings and negotiations with nature protection authorities allowed verification of good practice and supported the discussion about approach to treatment of habitat trees. We consider the establishment of procedures with regards to specific conditions in SAC Poodří as one of main contribution of the implementation of the project.

CSOP obtained in 2020 permission from water-law authority to use surface water from river Odra for irrigation. The permit is valid up to 2033 and provides us with the possibility to take out enough water for irrigation of trees also after the end of the project period.

A.3.2. Obtaining agreements of the owners to the implementation of the conservation management on their property

The negotiation with stakeholders took place during the whole project period. Thus we could better adapt the conservation measures to the current state of landscape in Poodří. Based on experience from the first year of the project, we used following procedure:

1. field survey and consultation with experts providing monitoring within action D.1

The result was the preliminary proposal of planting and treatment of trees.

2. negotiation with landowners

On the basis of the obtained agreements of landowners we updated the original proposal for planting and treatment of trees.

3. field survey with experts from PLA to achieve compatibility of proposed measures with the management plans of protected areas and important species

The result was a working documentation for action C (Conservation measures).

Altogether, we obtained agreements with conservation management for more trees than our goals for conservation management were. Summary of agreements see in “Osmo_Deliverable_A3_Agreements of owners”.

Additional field surveys and negotiations with owners, that we have not used during the implementation of the project, create a background for the continuation and replication of conservation measures.

Tab.: Action A. 3 - list of deliverables fulfilled

name of deliverable	planned unit/deadline	fulfilled unit/deadline
A.3.1 Documentation of administrative procedures	NS/March 2022	index /December 2022
A.3.1 Necessary administrative acts to start conservation activities	NS/March 2022	scans/December 2022
A.3.1 Agreements of owners to implement conservation management	NS/September 2021	index /December 2022

Tab. Action A. 3: Evaluation of the foreseen milestones

milestone name	foreseen deadline	implemented deadline
A.3.1 Start of administrative procedures	July 2019	October 2018
A.3.1 End of administrative procedures	March 2022	December 2022

C. Conservation measures

Foreseen start date: October 2018
Foreseen end date: March 2023

Actual start date: October 2018
Actual end date: September 2023

We implemented the conservation measures in all project sites. The work was carried out in accordance with the conditions set out in the Exemption permit from the conditions for protection of the rare species (*O. barnabita* and bats).

We kept the species composition given in the project proposal and planted oaks, pears, willows and poplars. Cooperation with regional suppliers of seedlings was successful because of lower transport costs and because of better quality of the seedlings and their local origin.

The treatment of trees included pollarding of willows, pruning of linden infested with mistletoe and improvement of concrete oaks habitats (necessary pruning of branches, removing non-native woody plants, improving light conditions). Pollarding of old willows was more difficult than expected. Almost all the interventions had to be carried out by an arborist with tree-climbing training. **The aftercare of young trees included** check and repair the anchorage systems and the stem and crown protection, and arrange irrigation in dry periods. We also replaced 103 of the dead seedlings, which corresponds to the number of trees planted and local conditions. **The data collection of the planted and treated trees** was processed by the mobile application Survey123 and the map application ArcGIS Collector was used. The map adapted for the presentation of the project results is available at www.poodrizije.cz.

Deviations from the planned implementation of the activity:

a) The start of conservation measures on concrete project sites depended on the progress of A.3 action and was different from that foreseen in the project proposal. The aftercare of the planted trees continued until the end of the project. Therefore **we postponed the end of action C to September 2023**.

b) Conservation measures were implemented on the basis of the working documentation which was prepared during A.3 action. It means that in the concrete project sites the number of the planted and treated trees proposed was different from that which was really implemented. On the basis of the above mentioned fact, we evaluated the final results of conservation measures overall for the whole project area, not for individual project sites (C.1 - C.7). See table below. The overview of planned and actual number of trees planted and treated is demonstrated in relevant deliverables (per project sites and per tree species). Comparison of the results achieved in terms of *O. barnabita* habitats protection and expected results foreseen in the proposal is provided in the section 6.3.

c) The aftercare was carried out according to estimated need and each planting location was visited at least once. See "Osmo_Deliverable C1-7_ Aftercare". **The structural pruning** was only carried out on pear trees. In the coming years, it will be necessary to carry out structural pruning especially for trees planted along local roads. **Repeated pollarding** was carried out in winter 2022/23 only for willows that were treated for the first time at the beginning of the project (2018). Pollarding of other willows will be effective after 2028.

d) We planted 130 more trees than planned on localities outside SAC Poodří (project site C.7). We took advantage of the cooperation with Bravantice municipality and planted groups of trees to connect the surrounding landscape to protected areas and to create functional stepping stones in the future.

e) To protect mature habitat trees, especially willows, we originally planned to install more than a hundred beaver fences. However, in the course of the implementation of the project, we found that their effectiveness was low or that they were not needed. Therefore, the beaver fences have been installed in only 9 trees and we did not count them in the "treated trees".

We do not consider the above mentioned deviations and changes to be significant. We have achieved sufficient results to meet all the stated objectives of the conservation measures.

Tab. C. 1 - C. 7 activities: Evaluation of the planned and actual implementation of conservation management per project sites

project site	deliverable name	foressen units/deadline	achieved units	actual deadline
C.1 Košatka	Planted trees	140 trees//March 2022	374 trees	November 2022
	Treated trees	130 trees/September2022	116 trees	January 2021
C.2 Petřvaldík	Planted trees	200 trees//March 2022	145 trees	November 2021
	Treated trees	140 trees/September2022	16 trees	February 2022
C.3 Studénka	Planted trees	155 trees//March 2022	299 trees	November 2022
	Treated trees	295 trees/September2022	471 trees	January 2022
C.4 Pustějov	Planted trees	265 trees//March 2022	275 trees	November 2022
	Treated trees	200 trees/September2022	155 trees	December 2021
C.5 Kunín	Planted trees	710 trees//March 2022	234 trees	November 2019
	Treated trees	100 trees/September2022	0 trees	NA
C.6 Bernartice	Planted trees	120 trees//March 2022	154 trees	April 2022
	Treated trees	160 trees/September2022	97 trees	February 2020
C.7 Out of SAC	Planted trees	430 trees//March 2022	560 trees	November 2022
	Treated trees	60 trees/September2022	67 trees	January 2023
IN TOTAL	Planted trees	2 020 trees//March 2022	2041 trees	November 2022
	Treated trees	955 trees/September2022	976 trees	January 2023

Tab. C. 1 - C. 7 activities: Evaluation of the foreseen milestones

project sites	milestone name	foreseen deadline	actual deadline
C.1 - C.6	Start of conservation management	October 2019	March 2019
	Start of Populus nigra planting	October 2021	November 2020
	Finishing of maintenance of new planting trees	April 2023	September 2023
C.7 Out of SAC	Start of conservation management	January 2020	October 2018
	Start of Populus nigra planting	October 2021	November 2020
	Finishing of maintenance of new planting trees	March 2023	September 2023

D. Monitoring of the impact of the project actions

Action D.1 Monitoring of the impacts on priority species and biodiversity

Foreseen start date: March 2019
Foreseen end date: March 2023

Actual start date: March 2019
Actual end date: May 2023

The methodology and the preventive measures were proposed in the Feasibility study. It was updated on the basis of field research, as described in corresponding progress reports.

Deviations from the planned implementation of the activity

Due to the delay of the start of experts works and assessment of the plan of project impact on other species in the Feasibility study and due to the extension of the implementation of conservation measures until spring 2023, deadlines for the completion of individual monitoring reports and milestones have been postponed for up to six months. Further deviations are discussed below for activities D.1.1 and D1.2.

D.1.1 Monitoring of the impact on the priority species *Osmoderma barnabita*

Deviations from the planned implementation of the activity:

Due to the COVID movement restrictions and the urgency of the arranging of on-line lectures at the University of Ostrava, our expert was late with the 1st and 2nd progress report.

Results of monitoring

All performed interventions had a predominantly positive or neutral influence in all monitored parameters (98.2-100 %), while neutral means maintaining the current situation. In exceptional cases the condition worsened (0-1.5%), but only in one case it involved a tree demonstrably occupied by *O. barnabita*. In this case, the cavity was secondarily exposed to rain after pruning but the cavity was immediately covered by an artificial roof.

More detailed information can be found in the section 6.3 and 6.4.

D.1.2 Monitoring of the impact on other endangered species and the biodiversity

Deviations from the planned implementation of the activity:

After discussion with ornithologists we abandoned our initial intention to monitor the impact on *Athene noctua*, which in the project area inhabits other habitats than old hollow trees. On the basis of the recommendation of experts, we included the species *Cucujus cinnaberinus*. The SAC Poodří is an important area for the occurrence of this species.

The reports about monitoring of the impacts on other endangered species were implemented as separate documents. In compliance with the project proposal and above mentioned recommendation the attention was focused on the species *Bombina bombina*, *Cucujus cinnaberinus*, the *Vespertilionidae* family and *Misgurnus fossilis*.

These deviations were stated in the Mid-term Report (31. 3. 2021).

Summary of monitoring by species

More detailed information can be found in the section 6.3 and 6.4.

Bombina bombina

The monitoring was carried out according to the document The assessment of a possible impact of project activities on *Bombina bombina* (Polášek 2019). Cooperation with the expert providing the monitoring on *B. bombina* proved problematic. In the course of implementation

of the project we had to fill this position with another person. This has somewhat disrupted the planned schedule for monitoring reports. However the monitoring was carried out at all localities, where the occurrence of the species was confirmed and where the treatment of trees was performed. No negative impact on *B. bombina* was found.

Cucujus cinnaberinus

The monitoring was carried out at all localities, where the pruning of trees has been performed. Monitoring of populations was conducted according to the methodology (Kočárek 2019). Searching for individual *C. cinnaberinus* beetles took place on all treated trees before the planned interventions and also on the stands neighboring to the treated woody plants.

On the basis of the conducted surveys, it is stated that the local populations and the habitats of *C. cinnaberinus* were not negatively affected by management interventions.

***Vespertilionidae* family**

The Feasibility study established appropriate measures to minimize the impact on bat population. Thus we decided to not elaborate the separate plan of monitoring. For the first monitoring period the procedure proposed in the Feasibility Study was used. The 1st progress report confirmed the preventive measures proposed in the Feasibility Study.

It was established that the pollarded willows were not used as bat shelters. The occurrence of bats in cavities of ancient willows in SAC Poodří is thus unlikely. In old oaks and linden, the occurrence of bats in cavities and other shelters was more likely. Thus the appropriate preventive measures were established, i. e. suitable period and methodology for treatment of oaks and linden was determined. The conservation measures did not have a direct negative effect on bats and we do not expect a negative effect even in the future.

Misgurnus fossilis

According to the evaluation of the impact of project activities on the species (Lojkásek, 2019), the most prominent risk factor is hydrological drought, the consequences of which cannot be prevented in the conditions of the SAC Poodří. The habitat of this species could be influenced only indirectly by partial changes in shade over the water surface. Within the project, we did not implement any measures targeting the water environment and the habitat of *M. fossilis*. For the reasons stated above, we did not order the elaboration of progress and final monitoring reports.

Tab. Action D. 1 - List of deliverables fulfilled

name of deliverable	planned unit/ deadline	fulfilled unit/ deadline
D.1.1 Methods and plan for monitoring of the impacts of project activities on priority species	1 document/ March 2019	1 document/ March 2019
D.1.2 Methods and plan for monitoring of the impacts of project activities on other endangered species	1 document/ July 2019	3 documents/ September 2019
<i>separate documents:</i>		

<i>D.1.2 Monitoring of the impacts of project activities on C. cinnaberinus - methodology and plan</i>	<i>NS/July 2019</i>	<i>1/June 2019</i>
<i>D.1.2 Monitoring of the impacts of project activities on M. fossilis - methodology and plan</i>	<i>NS/July 2019</i>	<i>1/June 2019</i>
<i>D.1.2 Monitoring of the impacts of project activities on Bombina bombina - methodology and plan</i>	<i>NS/July 2019</i>	<i>1/September 2019</i>
1st progress report	1 document/ March 2020	4 documents/ September 2020
<i>separate documents:</i>		
<i>D.1.1 Monitoring of the impacts of project activities on priority species O. barnabita, 1st progress report</i>	<i>NS /March 2020</i>	<i>1/May 2020</i>
<i>D.1.2 Monitoring of the impacts of project activities on C. cinnaberinus, 1st progress report</i>	<i>NS /March 2020</i>	<i>1/June 2020</i>
<i>D.1.2 Monitoring of the impacts of project activities on B. bombina, 1st progress report</i>	<i>NS /March 2020</i>	<i>1/September 2020</i>
<i>D.1.2 Monitoring of the impacts of project activities on bats, 1st progress report</i>	<i>NS /March 2020</i>	<i>1/September 2020</i>
2nd progress report	1 document / September 2021	3 documents/ February 2022
<i>separate documents:</i>		
<i>D.1.1 Monitoring of the impacts of project activities on priority species O. barnabita, 2nd progress report</i>	<i>1/September 2021</i>	<i>1/December 2021</i>
<i>D.1.2 Monitoring of the impacts of project activities on C. cinnaberinus, 2nd progress report</i>	<i>1/September 2021</i>	<i>1/December 2021</i>
<i>D.1.2 Monitoring of the impacts of project activities on bats, 2nd progress report</i>	<i>1/September 2021</i>	<i>1/February 2022</i>
final report	1 document/ March 2023	4 documents/ May 2023
<i>separate documents:</i>		
<i>D.1.1 Monitoring of the impacts of project activities on priority species O. barnabita, final report</i>	<i>1/March 2023</i>	<i>1/March 2023</i>
<i>D.1.2 Monitoring of the impacts of project activities on C. cinnaberinus, final report</i>	<i>1/March 2023</i>	<i>1/March 2023</i>

D.1.2 Monitoring of the impacts of project activities on bats, final report	1/March 2023	1/April 2023
D.1.2 Monitoring of the impacts of project activities on B. bombina, final report	1/March 2023	1/May 2023

Tab. D. 1 Action: Evaluation of the foreseen milestones

milestone name	foreseen deadline	implemented deadline
Implementation of plans of monitoring	July 2019	September 2019
End of field monitoring	September 2022	April 2023

Action D.2 Monitoring of socio-economic impact of the project actions

Foreseen start date: November 2018

Actual start date: November 2018

Foreseen end date: March 2023

Actual end date: March 2023

Deviations from the planned implementation of the activity:

There were no significant delays experienced in any of the activities that had originally been planned. Some setbacks were, however, also experienced because of the Covid-19 crisis. We planned to start interviewing stakeholders in the spring of 2020 but we had to postpone them. The analysis of the historical transformations of the *O. barnabita* habitats was also delayed because of closed archives. Due to the lack of availability of strictly local socio-economic data, a full cost-benefit analysis was not possible. However, a partial cost-benefit analysis was carried out within the monitoring of environmental services (D. 3).

Results of monitoring

The two opinion surveys were carried out. They showed consistent results on those questions which were identical, i.e. public opinion and knowledge of certain issues pertaining to nature conservation remains relatively stable. In 2021, visitors to four different parts of SAC Poodří were counted and assessed on the type of activity and the degree of its sociability. The results should help to **focus public outreach efforts** in the future.

The media analysis showed a high importance of environmental and tourist topics in the media coverage of the region. The number of articles and radio and television programs **mentioning *O. barnabita* rose dramatically after the start of the LIFE project**. This is clear evidence of the effectiveness of the project team media communication efforts.

The analysis of the historical development of *O. barnabita* habitat showed a macro-scale stability and a micro-scale dynamic. At macroscale, certain types of tree stands lasted over time (e.g. forest edges, tree avenues). At microscale, individual trees rarely survived more than 100 hundred years. Pollarding began to be abandoned already in the first part of the twentieth century. Currently, there are more trees in the region than there probably were in the last 300 years. Also, the connectivity of individual tree stands is much higher than it was a hundred years ago. However bushes and high tree density make the microhabitats (cavities) of *O. barnabita* difficult to access. Treatment of tree stands and bushes and the support of tree cavity formation should be a conservation priority.

Tab. Action D. 2 - list of deliverables fulfilled

name of deliverable	planned unit/deadline	fulfilled unit/ deadline
D.2 Socio-economic impact of project activities - methods and plan for monitoring	1 document / November 2018	1 document / November 2018
D.2 Initial socio - demographic and socio - economic analysis	1 document / April 2019	1 document / June 2019
D.2 1st progress report - Results of initial questionnaire research	1 document / June 2020	1 document / July 2019
D.2 Report about the historical transformations of the O. barnabita habitats	1 document / June 2021	1 document / January 2022
D.2 2nd progress report - socio-demographic and socio-economic analysis	1 document / September 2021	1 document / August 2021
D.2 Report about the media image of region in relation to O. barnabita protection	1 document / April 2022	1 document / July 2022
D.2 Final report, cost-benefit analysis included	1 document / March 2023	1 document / March 2023

Tab. Action D. 2: Evaluation of the foreseen milestones

milestone name	foreseen deadline	implemented deadline
Implementation of plan of monitoring	November 2018	November 2018
Start of initial socio - demographic and socio -economic analysis	November 2018	November 2018
Start of initial questionnaire research	May 2019	May 2019
Start of continuous socio – demographic and socio -economic analysis	August 2020	August 2020
Start of media analysis	August 2021	August 2021
Preparation of final socio -economic analysis including cost - benefit analysis	May 2022	May 2022

Action D.3 Monitoring of ecosystem services

Foreseen start date: November 2018

Actual start date: November 2018

Foreseen end date: March 2023

Actual end date: June 2023

Deviations from the planned implementation of the activity

The monitoring of **provisioning ecosystem services** is based on the market research and in-depth interviews, which was planned in the spring 2020. Unfortunately, the Covid-19

pandemic crisis made these meetings impossible, which was postponed in accordance with the national restrictions. Similar situation affected the progress of the **cultural ecosystem services** evaluation due to cancellation of many of the dissemination activities.

SWOT analysis of area of SAC Poodří and a partial **cost-benefit analysis** were prepared only in the final phase of the project and were part of the final monitoring report.

According to the current progress of the project and also for professional reasons, **we combined specific deliverables into one document**, as shown in the table below.

Results of monitoring

We have chosen ecosystem services (ES) in relation to the CICES v5.1 classification - **provisioning, regulating and cultural ecosystem services**. The methodological approach was discussed and inspired by the methodology applied by the Lithuanian Fund for Nature in the LIFE Osmoderma project. **The impact of the conservation measures on ecosystem services of habitats of *O. barnabita* is slightly positive.** The data could be used for the promotion of unsatisfactory protection of habitat trees and support a public discussion about the need for new legislation. More detailed information can be found in the section 6.4.

Tab. Action D. 3 - list of deliverables fulfilled

name of deliverable	planned unit/ deadline	fulfilled unit/ deadline
D.3 Methods and plan for monitoring - ecosystem services performance (the document contains 2 deliverables listed in the project proposal separately)	2 documents / November 2018	1 document / November 2018
D.3 1st progress report - Analysis of initial level of ecosystem services performance	1 document / November 2019	1 document / September 2019
D.3 2nd progress report	1 document / December 2021	1 document / December 2021
D.3 Final report - evaluation of ecosystem services, cost-benefit analysis and SWOT analysis, index of targets, measures and tools for efficient using of ecosystems services (the document contains 2 deliverables listed in the project proposal separately)	2 document / March 2023	1 document / June 2023

Tab. D. 3 Action : Evaluation of the foreseen milestones

milestone name	foreseen deadline	implemented deadline
Preparation of methods for monitoring of ecosystem services performance	November 2018	November 2018
Start of mapping of initial level and potential of ecosystem services	May 2019	May 2019

Start of continuous monitoring of ecosystem services in SAC Poodří	November 2020	November 2020
Preparation of final analysis of ecosystem services in SAC Poodří including cost - benefit analysis	January 2022	January 2022
Start of monitoring of changes in potential to provide the ecosystems services	March 2022	March 2022

Action D.4 Key project – level indicators monitoring

Foreseen start date: September 2018

Actual start date: September 2018

Foreseen end date: September 2023

Actual end date: September 2023

We evaluated a set of key indicators relevant to nature and biodiversity, as well as to social and economic outcomes of the project. The Key Project-level Indicators (KPI) are discussed in the section 7. During the project implementation the approach to KPI reporting changed so that the processing of (originally planned) separate reports was not necessary.

The first information about the KPI was included in the 1st Progress report (October 2019). The KPI were discussed on the monitoring missions (March 2021, May 2022, July 2023) and commented on in the following reports (March 2021, July 2022). The final evaluation was consulted and reviewed with the external monitor and the final data were entered into the LIFE KPI Database, before the final report was sent. The process is summarized by the respective deliverables.

Tab. Action D. 4 -list of deliverables fulfilled

name of deliverable	planned unit/ deadline	fulfilled unit/ deadline
1st report about The Key Project-level Indicators	1 document / October 2019	1 document / October/2019
2nd report about The Key Project-level Indicators	1 document / February 2021	1 document / March 2021
3st report about The Key Project-level Indicators	1 document / July 2022	1 document / July 2022
4st report about The Key Project-level Indicators	1 document / September 2023	1 document / September 2023

Tab. D. 4 Action: Evaluation of the foreseen milestones

milestone name	foreseen deadline	implemented deadline
Start of action	September 2018	September 2018
End of action	September 2023	September 2023

E. Public awareness and dissemination of results

Action E.1 Creation and use of information tools

Foreseen start date: December 2018
Foreseen end date: June 2023

Actual start date: September 2018
Actual end date: September 2023

We launched the media and information campaign immediately after the start of the project. The created information tools were used as support for the activities E.2, E.3 and E.4. The progress of sub-activities and deliverables achieved are discussed below.

E.1.1 Project website

www.poodrizije.cz has been functional since March 2019. **10 articles about activities of Polish partners were published, and reciprocally.** Section “Ke stažení” allows **free downloading of items** (e.g. worksheets and publications), which supports the awareness raising and dissemination. The English version offers basic information about the project, selection of news and downloadable materials in English. During the implementation of the project we reached **7 300 web users**. Website is still functional and we will gradually add information about our After-LIFE activities.

E.1.2 Media campaign

We issued **press releases** depending on current events, and significantly exceeded the planned number. The initial **press conference** was held in September 2018 and included short excursion to the project area. On the recommendation of our media experts we resigned from the next 3 planned press conferences. The list of several alternative media formats that we have used to replace planned press conferences see in “Osmo _Deliverable_E1_Press conferences”. **Short information** were published in newsletters and on websites of 14 municipalities in the Poodří region. All together **14 articles** about the project activities and about the protection of *O. barnabita* were published in regional journals and scientific papers.

E.1.3 Newsletter

a) The newsletter “Zachraňme stromy/Save the Trees” (22 items) is addressed to the general public from all over the Czech Republic. Number of recipients: 60 000

b) The special newsletter “Poodří žije/Poodří lives on”

We issued 4 items in Czech language and 2 items in English. The newsletter is focused on stakeholders and the public from region and from abroad. Number of recipients: 262

See the selection of newsletters in “Osmo _Deliverable_E1_Newsletters”.

E.1.4 Promotional materials

Promotional materials and products were used in events for stakeholders and public. List of materials and products described in the project proposal was adapted to new ideas and opportunities. **We produced a total of 7 different items.**

E.1.5 Video

We made **5 promotional and educational videos**. They are presented on the website <https://poodrizije.cz/cs/video> and youtube homepage Arnika.

E.1.6 Information boards

The locations for **7 infoboards** were chosen so that they are easily accessible to the public and at the same time well present our project. For example, by a pollarded willows or a planted trees stand, within easy reach of hiking trails. The installation of the boards in the field was quite challenging and we only got to it at the end of the project. We were able to use the infoboards still within the last event for the public - Tour de Aleje (June 2023).

E.1.7 Layman's report

We have produced a **calendar for 2024** called “Poodří 2024, Report on the LIFE Osmoderma project - protection of the hermit beetle in SAC Poodří”. It contains 27 pages of photographs with descriptions and 4 pages of bilingual text with basic information about the project and its results. At the end of September 2023 we distributed the calendar to important stakeholders. The minor delay did not affect the impact of this deliverable.

Tab. Action E. 1 - list of deliverables fulfilled

name of deliverable	foreseen unit/ deadline	fulfilled unit/ deadline
E.1.1 Project website www.poodrizije.cz	1/May 2019	1/May 2019
E.1.2 Press releases	6/June 2023	36/ June 2023
E.1.2 Press conferences	4/March 2023	NA/May 2023
E.1.2 Articles in magazines and regional journals	14/March 2023	14/March 2023
E.1.3 Newsletters	25/March 2023	28/August 2023
E.1.4 Promotional materials	5/December 2019	7/May 2022
E.1.5 Video clips	5/July 2022	5/June 2023
E.1.6 Information boards	7/June 2022	7/May 2023
E.1.7 Layman's report	1/June 2023	1/September 2023

Tab. E. 1 Action - Evaluation of the foreseen milestones

name of milestones	foreseen deadline	implemented deadline
E.1.2 Press conference to start the project	December 2018	September 2018
E.1.2 Press conference on the end of the project	June 2023	May 2023
E.1.7 Layman's report issue	June 2023	September 2023

Action E.2 Raising stakeholder awareness and motivation

Foreseen start date: December 2018

Actual start date: October 2018

Foreseen end date: June 2023

Actual end date: May 2023

The action has started even ahead of schedule. Already in October 2018 we organized the first workshop on pollarding of willows. The May 2023 seminar “Poodří alives” was the last in a series of events for stakeholders.

E.2.1 Educational and motivational activities

The implementation of activities was affected by the COVID-19 in the period 2020-2021.

Changing the deadlines and postponing the implementation of some activities to a later stage

of the project affected the timing of the whole project and some of the indicators. Some impacts and their mitigation are commented on for relevant sub-activities. Technical and indicators related information see in „Osmoderma_Deliverable_E2_Documentation of awareness activities“. Attendance lists and other documentation are stored in the project archive.

E.2.1.1 Round table and meetings with stakeholders

The first meeting with stakeholders took place within the A.1 Start-up activity (January 2019). In the period 2020 - 2021, due to the COVID-19 crisis, we cannot organize the roundtables within the planned scope. By the end of the project only 2 more round tables were held but at the same time we were meeting with the landowners individually. It proved to be very effective and mutually satisfactory. Therefore, we continued this practice in the post-epidemic period. Most of the meetings resulted in pollarding and planting of trees. The individual meetings with the Odra River Basin and Regional Road Authorities also motivated them to maintain mature trees instead of cutting them down.

E.2.1.2 Workshops on pollarding of willows and growing of pear trees

We organized workshops on pollarding of willows attended mainly by private landowners and representatives of local authorities and associations. The number of participants was larger than planned. The trees planting workshop was part of every planting event and it became a tradition that almost every planting was attended by representatives of local governments and associations. This activity has also been affected by the epidemic situation. We only conducted 3 of the 4 planned workshops. We therefore supported the impact of the workshops with two educational videos. Given the number of views, we consider them a suitable complement to the field workshops.

E.2.1.3 Excursion for examples of good practise

We organized the excursion to the project areas of the South LIFE project in South Bohemia. The study tour was focused on making contacts and sharing examples of good practice. The participants (representatives of local authorities, NGOs, arborists, experts on nature protection) discussed different approaches to the protection of habitat trees. However, due to COVID-19 crisis the number of participants was lower than expected.

The excursion to Central Moravia was organized for experts and government representatives as an accompanying programme of the seminar „Poodří alive“. We visited the centuries-old willows near the village of Čehovice, which are regularly pollarded. It is an example of conservation management provided in cooperation with experts and local governments.

E.2.1.4 Seminar for authorities

We organized the webinar “Together for the landscape”. The structure of the participants corresponded to the desired target group: members of the authorities and local governments, LIFE project managers, members of associations and experts. Our project partner FER prepared a presentation together with the Polish association EkoInicjatywa on the approach to the protection of habitat trees. Another planned topic "use of the LEADER programme" was abandoned, as it was not necessary in the context of the ongoing project activities. We have replaced the planned expert articles on this activity with a video recording of all presentations, which is available on the event website.

The epidemiological situation affected in particular the ability of the team to implement the seminars and the ability of the experts to prepare presentations, even in online mode. When considering moving the deadline to a later stage of the project implementation, we have found the necessity to implement further training activities and in particular the planned conservation measures. Therefore, we were unable to organize all 4 planned seminars.

E.2.1.5 International seminar about habitat trees and conservation management

We held the meeting with the expert presentations to review the outputs and impacts of the project and to share good experiences. The LIFE Osmoderma team presented the key outputs

and lessons learned from the project implementation. The presentation of the representative of the PLA was beneficial, as it evaluated the cooperation between the nature protection authority and the NGO during the implementation of conservation measures. Representatives of teams implementing other LIFE projects in the Czech Republic and Slovakia shared their experiences and examples of good practice.

We devoted more space to the presentation of expert from the Polish Institut Drzewa. He was involved in the creation of our publication “Comparison of the approaches to the maintenance of veteran trees and habitat trees”, the main conclusions of which he presented here.

The seminar was attended by representatives of all levels of government from 4 Czech regions. Landowners were represented only by members of local governments. Private farmers showed no interest in attending, we assume mainly because of its timing.

The seminar included informal discussions with stakeholders and project teams on how to use the project outputs and possibilities for further cooperation. Some of the planned activities are listed in the After-LIFE plan document.

We have made a video recording of all the presentations, which can be accessed from the event website. We consider this more effective than the originally planned expert article.

E.2.1.6 Workshop for professional public - transfer of foreign experience

The topic of habitat trees protection is closely linked to the main objective of the LIFE Osmoderma project, to improve the condition of the habitats of *O. barnabita* in the Poodří region. An expert consensus on the approach to the management of senescent and veteran trees is also essential for the sustainability of the project results and the motivation of landowners for the desired management (pollarding of willows and pruning of mature trees).

Thus the workshop was planned with regard to the announced Czech standard "Care of trees as a habitat for rare species of organisms". Its impact on the approach to the management of habitat trees will certainly be crucial. The outcomes were to be a recommendation for Polish colleagues on how to approach the development of such a standard and recommendations for further expert discussion. Work on the final version of the Czech standard did not start until 2020 and the expected date of its publication has been postponed until the end of 2023.

In this situation we approached the topic of habitat trees in a slightly different way:

In cooperation with FER we published the expert publication „Comparison of the approaches to the maintenance of veteran trees and habitat trees“ (in Czech, Polish and English), which includes a comparative analysis of European arboricultural standards and recommendations for management of habitat trees (April 2023).

One of the key presentations at the seminar „Poodří alive“ was given by an expert from the Polish Institut Drzewa on the importance of habitat trees and the approach to their conservation, he also presented the above-mentioned publication (May 2023).

We published a collection of examples of good practice „What's good at the neighbours“, the main topic of which is the protection of habitat trees (June 2023).

We shared our experiences in the protection of habitat trees with Polish ecologists on the study tour, where our colleagues from FER prepared a workshop for us (August 2023).

E.2.2 Publications

All publications are available for download on www.poodrizije.cz. More information is provided in the relevant deliverables. The production of publications was delayed, but their impact was still significant. This is evidenced by the interest in both printed and electronic versions. Postponements of deadlines were announced in the progress and midterm reports and discussed in the monitoring missions. The fulfilled deadlines are listed in the table below. The publication “**Hospodaříme v Poodří**” (Land Stewardship in Poodří) should have been finished in February 2020, but the process was delayed. The text was written by

ourselves and we decided to give preference to working on conservation measures and to arrange some non-expected tasks due to COVID-19 crisis.

The publication “**Ochrana páchníka pro správce infrastruktury**” (Protection of the hermit beetle for infrastructure managers) was planned to be issued in March 2021. We have replaced it with a publication „**Porovnání přístupů k ochraně a péči o biotopové stromy**“ (Comparison of the approaches to the maintenance of veteran trees and habitat trees), and we resigned from the printed form (due to budget possibilities). We stated the change in the midterm report, which was approved by CINEA letter dated 25.5.2021.

The publication “**Co dobrého u sousedů**” (What's good at the neighbours) was delayed due to the revision of the schedule and priorities. This fact did not affect its quality and planned impact. This is evidenced by the positive response from the Polish and Slovak authors who contributed to the proceedings.

Tab. E. 2 Action - list of deliverables fulfilled

name of deliverable	foressen unit/deadline	fulfilled unit/ deadline
E.2.2.1 Publication Land Stewardship in Poodří	300 prints / February 2020	300 prints / September 2021
E.2.2.2 Publication Comparison of the approaches to the maintenance of veteran trees and habitat trees	300 prints / March 2021	1 pdf / April 2023
E.2.2.3 Publication What's good at the neighbours	1 pdf / March 2022	1 pdf/ July 2023
E.2.1 Professional article on the project website	2 articles/ March 2023	NA*/May 2023
E.2.1 Documentation of awareness activities	1 document/ June 2023	1 document/ May 2023

*We have replaced the planned expert articles with a video recording of presentations.

Tab. E. 2 Action - Evaluation of the foreseen milestones

name of milestones	foressen deadline	implemented deadline
E.2 Start of the activities	December 2018	October 2018
E.2 End of the activities	June 2023	May 2023

Action E.3 Raising public awareness

Foreseen start date: January 2019

Actual start date: October 2018

Foreseen end date: April 2023

Actual end date: September 2023

Deviations from the planned implementation of the action

The first event was the planting of pear trees with schoolchildren already in October 2018. We carried out more planting days with local NGOs, companies and volunteers (not specified in project proposal).

In 2020, due to the COVID-19 crisis, we could hold almost no public events. We also were not able to meet deadlines for publications and exhibition posters. So we first suggested to postpone the end date of action E.3 to August 2023 (announced in Midterm Report, March 2021) but the last event “Running through Poodří” was in September 2023. Details, expected impacts and proposed solutions are described in relevant sub-actions.

E.3.1 Awareness activities and infostands

Technical and indicators related information see in „Osmo_Deliverble_E3_Activities for public_documentation”. Minutes of the events, attendance lists and other documentation are stored in the project archive.

E.3.1.1 Excursions for families with children

We conceived the activity as a bike trip with an eco-educational programme (Tour de Aleje) and organized a total of 5 years. It was a community festival for local residents and tourists and it also resulted in support from local authorities and companies. Educational part of the event focused on protection of landscape and biodiversity. Experts from the PLA, from UNI and local associations worked with us in the preparation of the programme.

E.3.1.2 Events for schools

We organized planting days for the pupils of the primary schools from region. Another type of activities were “Days with the hermit beetle” “, trips to Poodří organized by CSOP for local primary schools. We created two worksheets for schoolchildren focused on the protection of landscape and hermit beetle, that we used in our activities and offered to teachers. We organized a webinar for students of the University of Ostrava. These events were welcomed by teachers as a desirable addition to environmental education.

E.3.1.3 Info-stands

The information stands were operated at traditional events in region. We cooperated with local authorities, associations and LAG Poodří to provide technical facilities and thematic content. We used the posters “Behind the old trees in Poodří”, which were of great interest. Infostands at traditional events allowed us to contact a very wide group of the public.

E.3.2 Competition “Memorable trees in Poodří”

In October 2020, on the Day of Trees, we announced the artistic competition for school children “Old Trees and Their Inhabitants”. Due to the epidemiologic situation, we added the category for adults/families and connected this event with the Tour de Aleje 2021 (vernissage of artworks). The combination of promotional tools helped us to get more feedback.

E.3.3 Exhibition “Behind the old trees in Poodří”

(the proposed title “Ancient trees and their inhabitants”)

The deadline for the completion of the exhibition posters was postponed because in an epidemic situation the installation of traveling exhibitions would be very difficult, so we preferred to implement conservation measures.

E.3.4 Publications

All publications are available for download on www.poodrizije.cz. Technical details and examples of use are given in the respective deliverables.

E.3.4.1 Information leaflets for public

The leaflets represented the purpose of our project from three different perspectives.

E.3.4.2 Publication “Remarkable trees”

The foreseen deadline was postponed by one year. Given the fact that it was assumed as some representative and summarizing output, the delay did not treat the aim of the project. We have reduced the number of copies from 600 to 400 due to the increase in prices for services.

E.3.4.3 Publication „Guide for families and childrens“

The attractive publication for children and their parents was created in cooperation with the local expert and illustrator. We published it in the first half of 2021. The anticipated deadline was December 2020, but we believe that the quality of the publication outweighed the delay.

Tab. Action E. 3 - list of deliverables fulfilled

name of deliverable	planned unit/ deadline	fulfilled unit/ deadline
E.3.1.2 Worksheets for schools	2 sheets/ March 2020	2 sheets/ September 2020
E.3.4.1 Information leaflets for public	3 leaflets/ March 2020	3 leaflets/ September 2020
E.3.4.3 Publication Guide for families and childrens	1 500 prints / December 2020	1 500 prints / June 2021
E.3.3 Exhibition “Behind the old trees in Poodří” (photo documentation)	10 posters /December 2020	10 posters/ September 2021
E.3.4.2 Publication “Remarkable trees”	600 prints /December 2021	400 prints /December 2022
E.3.3 Competition “Remarkable trees” - gallery on the website	1 website/ December 2021	1 website/ June 2021
E.3.1 Activities for public - documentation	1 document/ June 2023	1 document/ September 2023

Tab. Ation E.3 - Evaluation of the foreseen milestones

name of milestones	foreseen deadline	implemented deadline
E.3 Start of the activities	January 2019	October 2018
E.3 End of the activities	April 2023	September 2023

Action E.4 Networking with other LIFE projects and / or other projects

Foreseen start date: January 2019

Actual start date: November 2018

Foreseen end date: March 2023

Actual end date: June 2023

Deviations from the planned implementation of the activity:

We started already in November 2018 and met the project team LIFE Vistula. The end of the action was postponed to August 2023 in view of the expected date of the final seminar (May 2023) and the study tour to Poland (August 2023).

Contribution to the continuing the action after the end of the project

Sharing methodology and experience in the field of ecosystem services assessment with the Lithuanian LIFE Osmoderma project allows us to use the acquired knowledge in active work for the National Ecosystem Services Platform. Networking with Polish, Slovak and Moldovan NGOs continues with the preparation of joint projects. The participation of European project implementers in our events in the Poodří region has contributed to establishing contacts with local stakeholders and has increased the credit of our experts for further continuation of conservation management and educational activities in SAC Poodří.

E.4.1 Communication with other EU project teams

We shared experiences and methodologies, participated on webinars, organized excursions and promoted our project to 9 implementers of the LIFE projects and to 6 other teams. For more details see “Osmo_Deliverable_E4_Communication with other teams”.

E.4.2 Study-tours of project team LIFE Osmoderma

We carried out 3 study tours and met the teams of LIFE Vistula (Poland), LIFE Danube floodplains (Slovakia) and the Polish NGOs. For more details see “Osmo_Deliverable E4_ Study tours _ documentation”.

E.4.3 Presentations of project team members on relevant courses and conferences

Already in 2019, we presented our project in the international **conference Aleje 2019**, which was organized by CEPO. Number of participants 58, from 6 EU member states.

In 2021 we participated in **the Lithuanian LIFE Osmoderma conference** “From a Beetle to an Oak and we made two presentations. In 2022 we also gave a lecture on Poodří and the importance of habitat trees at the **meeting of the Society for Applied Anthropology**, Salt Lake City, USA. Our experts also presented at **4 other events in the Czech Republic**. For more details see “Osmo_Deliverable E4_ Presentations of project team members”.

Examples of other special occasions

a) In 2020 we presented the video “Preservation of the Hermit beetle in Poodří” on a virtual study tour within the project “Building of Trust between Moldavian Banks”. The video is published on youtube (142 views).

b) Our expert entomologist introduced the pollarded willows as the habitats of *O. barnabita* and other rare species (Kočárek P.: Chapter V - The renewal of pollarded willows in Poodří, in: Čížek, L. et al.: The Pruning Trees - Lost Heritage, agentura gevak s. r. o., 2020)

Tab. Action E. 4 - list of deliverables fulfilled

name of deliverable	foreseen unit/deadline	fulfilled unit/deadline
E.4.1 Communication with other project teams	10 teams/March 2023	15 teams/August 2023
E.4.2 Presentations of cooperating teams on international seminar	NS/March 2023	2 presentation/ May 2023
E.4.2 Study tours of project team	2 tours/March 2023	3 tours/August 2023
E.4.3 Presentations of project team members on relevant conferences	4 cases/March 2023	8 cases/June 2023

Tab. Action E.4 - Evaluation of the foreseen milestones

name of milestones	foreseen deadline	implemented deadline
E.4 Start of the activities	January 2019	November 2018
E.4 End of the activities	March 2023	August 2023

F. Project management

Action F.1 Managing and monitoring project activities

Foreseen start date: September 2018

Actual start date: September 2018

Foreseen end date: September 2023

Actual End date: September 2023

The coordinating meetings within project manager and coordinators (resp. relevant experts) of beneficiaries held at least each month, as foreseen. The programme of meetings corresponds to involvement of each beneficiary and to progress of the project. The minutes are stored in the project archive.

The Steering committee met 3 (or 2) times a year, depending on the progress of the project and the agenda to be discussed. The minutes are stored in the project archive.

Since 2019, the working meetings of CEPO, ČSOP and PLA Poodří have been carried out, mainly as field rounds. The main reason is to approve the proposal of the conservation management in concrete project sites. The information about related activities and legislation requirements are discussed. Both sides find these informal meetings to be more efficient than the participation of PLA on the standard Steering committee meetings. 17 such meetings were held.

Tab. F.1 Action - list of deliverables

name of deliverable	planned unit/ deadline	fulfilled unit/deadline
F.1 Steering committee sessions (minutes)	NS/September 2023	1 document/ September 2023

Tab. F1 Action - Evaluation of the foreseen milestones

name of milestones	foreseen deadline	implemented deadline
F.1 Start of the activities	September 2018	September 2018
F.1 End of the activities	September 2023	September 2023

Action F.2 Internal project audit

Foreseen start date: December 2018

Actual start date: December 2018

Foreseen end date: October 2023

Actual end date: September 2023

Deviations from the planned implementation of the activity:

The originally envisaged internal audit was replaced by the activities of the CEPO supervision team. It was more in line with CEPO's internal control procedures and also allowed us to verify the extent to which we were complying with rules of the LIFE programme. The team consisted of the project manager, the LIFE program expert, the financial manager and the head of CEPO. According to the topics discussed, other experts were invited. The project manager called meetings as necessary, but obligatory meetings are during the preparation of reports or monitoring missions.

Tab. F. 2 Action - list of deliverables fulfilled

name of deliverable	foreseen unit/deadline	fulfilled unit/deadline
1st progress report from internal audit	1/October 2019	1/January 2020
2nd progress report from internal audit	1/October 2020	1/November 2020
3st progress report from internal audit	1/October 2021	1/December 2021
4st progress report from internal audit	1/October 2022	1/December 2022
Final report	1/October 2023	1/October 2023

Tab. F.2 Action - Evaluation of the foreseen milestones

name of milestones	foreseen deadline	implemented deadline
F.2 Start of the activities	December 2018	December 2018
F.2 End of the activities	October 2023	October 2023

Action F.3 After-LIFE plan

Deviations from the planned implementation of the activity:

For the preparation of the document we used the expertise and experience of the members of the project team, so we resigned from the originally planned cooperation with external experts. The timetable for the preparation of this document was postponed by 6 months in view of the expected completion date of the final monitoring reports (Actions D).

The After-LIFE plan of the LIFE Osmoderma 2017 project sets out the procedure for the continuation of the desired conservation management and dissemination activities, respectively the procedure for ensuring the long-term sustainable management of the habitats of *O. barnabita* and protection of biodiversity in the SAC Podří.

Its content was approved at the Steering Committee meeting in December 2022. The final version of the document was approved by the Steering committee in September 2023.

Tab. F. 3 Action - list of deliverables fulfilled

name of deliverable	foreseen unit/deadline	fulfilled unit/deadline
F.3 After-LIFE plan	1/March 2023	1/September 2023

Tab. F. 3 Action - Evaluation of the foreseen milestones

name of milestones	foreseen deadline	implemented deadline
Commissioning and selection of internal experts	January 2022	June 2022
Preliminary discussion of the document by the Steering committee	September 2022	December 2022
Approval of the final version of the document by the Steering committee	March 2023	September 2023

6.2. Main deviations, problems and corrective actions implemented

1. Territorial system of ecological stability as a component of maps of the project sites

During the project preparation and at the beginning of its start we discussed one concrete component of maps of project sites. It was the territorial system of ecological stability (TSES), which is defined at three interconnected levels – supra-regional, regional and local. Data including the supra-regional and regional TSES are open. We can use the data and integrate it to the maps of the project sites (as we documented in the midterm report). Data including the local TSES are administered by individual municipalities, are not open and it is not possible to gain the free and update versions (due to running changes). However, we have also used this data in cooperation with specific municipalities where necessary, in particular to plan plantings with the function of stepping stones.

2. The native *Populus nigra* seedlings without genetic analysis

We abandoned the purpose of sampling the cutting of *Populus nigra* from Poodří and providing genetic analysis to ensure the nativity of tree seeds. Instead we buy the certified tree seedlings of the *Populus nigra* population from the Poodří region provided by the Forestry and Game Management Research Institute, Research Station Kunovice.

3. Evaluation of the final result of conservation measures

We evaluated the final result of conservation measures and the implementation of project objectives overall for the whole project area, not for individual project sites (C.1 - C.7).

The justification is given in the section 6.1 Technical progress, C. Conservation measures, Deviation b). Tab. C. 1 - C. 7 activities: Evaluation of the planned and actual implementation of conservation management per project sites is given in *ibid.*

The overview of planned and actual trees planted and treated and aftercare implemented is demonstrated in relevant deliverables (per project sites and per tree species).

4. Corrective actions needed due to the COVID-19 crisis (2020 - 2021)

The implementation of activities was affected by the COVID-19 in the period 2020-2021. Changing the deadlines and postponing the implementation of some activities to a later stage of the project affected the timing of the whole project and some of the indicators.

Planting

Our ability to plant the required number of trees was depending mainly on the work of volunteers. But the epidemiologic measures did not allow the public events. We had to plant it ourselves, without the help of the public. Fortunately, our fears about whether we would be able to plant the planned number of trees and live up to our agreements with the municipalities did not come true. We continued planting with the public in a limited format, taking all necessary precautions.

Dissemination activities

We cannot organize the roundtables within the planned scope. Thus we decided to replace them with a larger number of individual meetings with landowners. Similarly, we have replaced other activities for stakeholders and for the public. Instead of a field workshop we used educational videos. Instead of the traditional Tour de Aleje format, we developed a combination of individual bike rides and an online game in 2021.

We also were not able to meet deadlines for publications and exhibition posters. The texts for the publications were prepared mainly by ourselves and we decided to give preference to working on conservation measures and to arrange some non-expected tasks due to COVID-19 crisis. It caused some delay which could not threaten the aim of the project.

We have been relatively successful in eliminating the impact of the epidemic on the dissemination activities, however, we were not able to implement all the activities for stakeholders, especially the expert seminars. Even in this case, comparing the planned indicator "number of stakeholders affected" with the achieved one, the impact of the epidemic was not very significant.

6.3.Evaluation of Project Implementation

Methodology applied

The management measures were based on the latest available data on the occurrence and behavior of the target species in the Czech Republic and the project area, and the assessment of risks and opportunities for the development of its populations. They included:

(a) conservation management: pollarding of willows and treatment of oaks and linden to create the elements necessary for the life cycle of *O. barnabita* in the long term and to mitigate the mistletoe invasion

b) management for long-term sustainability: planting of native trees (willow, pear, oak, black poplar) that will gradually expand the area of suitable habitat and replace senescent trees.

We linked the suitable conservation measures with the needs and interests of local landowners and citizens. The project therefore included activities targeting important stakeholders (local authorities, landowners, local residents and schoolchildren, tourists).

For the preparation of conservation measures we used following procedure

1. field survey and consultation with experts providing monitoring of endangered species
2. negotiation with local authorities and landowners
3. field survey with experts from PLA Poodří to achieve compatibility of proposed measures with the management plans of protected areas.

Field data collection was provided by the mobile application ESRI Survey 123 adapted by experts from the University of Ostrava. Each treated tree was marked with a unique identification code, its position has been recorded and is therefore easily traceable in the field. This application has proven successful in the field and will continue to be used.

Monitoring of the impact of project activities

The methodology and the proposal of preventive measures for monitoring the impact on *O. barnabita* and other endangered species were proposed in the Feasibility study. They were updated on the basis of current field research. The basis for the monitoring of socio-economic impact were socio-demographic and socio-economic analyses, opinion surveys, media analysis and analysis of the historical development of *O. barnabita* habitat. Provisioning, regulating and cultural ecosystem services were identified as an input to the ecosystem services evaluation. The methodological approach was discussed and inspired by the methodology applied by the Lithuanian Fund for Nature in the LIFE Osmoderma project. The partial cost-benefit analysis was carried out for two categories of ecosystem services.

Majority of achieved results were visible in the Poodří landscape immediately after their implementations (e.g. the improved and created biotops - pollarded willows, planted trees). Some special results and outputs were visible or known in expert groups (e.g. new proven occurrence of *O. barnabita* in SAC Poodří recorded in the official database of the Nature Conservation Agency of the Czech Republic, or the progress achieved in the ecosystem services assessment presented on the Conference Zoological Days 2020 and on the meeting of National Platform for Ecosystem Services 2023). Nevertheless the impact on the habitats of *O. barnabita* and other endangered species and on the behavior of landowners will only become apparent after certain years.

Tab. 6.3 Evaluation of project implementation

Action	Foreseen in the revised proposal	Achieved	Evaluation
C.1 - C.6	<p>Goal 1: To stop degradation and restore typical habitats of <i>O. barnabita</i> – pollarded willows</p> <p>a) Preserving management of willows in 6 localities with <i>O. barnabita</i> occurrence</p> <p>b) 570 mature willows treated</p>	<p>a) Preserving management of willows implemented in 5 from 6 project sites with <i>O. barnabita</i> occurrence</p> <p>b) 692 grown willows were treated</p>	<p>The goal was achieved, although we were not able to obtain the consent of the owners to pollard some prospective willows in project site C. 5 Kunín.</p>
C.1 - C.6	<p>Goal 2: To connect isolated areas of <i>O. barnabita</i> occurrence by planting native species of trees</p> <p>By planting 1 590 trees (willows, poplars, oaks and pears) the isolated localities with <i>O. barnabita</i> occurrence will be connected in SAC Poodří.</p>	<p>1 481 trees were planted in SAC Poodří (willows, poplars, oaks and pears).</p>	<p>The goal was achieved even with a somewhat lower number of trees planted in SAC Poodří. The implementation was based on updated field investigation and negotiations with the nature conservation authority.</p>
C.7	<p>Goal 3: To create stepping stones connecting SAC with other localities of occurrence of <i>O. barnabita</i></p> <p>We will provide preservation management of 60 willows and plant 430 trees as potential habitats for <i>O. barnabita</i> in adjacent localities.</p>	<p>67 willows were pollarded</p> <p>560 trees were planted</p>	<p>The goal was achieved. We have laid the groundwork and indicated the direction for the stepping stones to connect the location in SAC Poodří with other habitats of <i>O. barnabita</i> in the direction of the natural migration corridor - the Moravian Gate.</p> <p>We will contribute to the protection and restore ecosystems that allow the spread of native species threatened by climate change.</p>

Action	Foreseen in the revised proposal	Achieved	Evaluation
C.1 - C.6	<p>Goal 4: To mitigate invasion of mistletoe, which is endangering the second most common habitats of <i>O. barnabita</i> in SAC Poodří – linden trees</p> <p>We will treat 145 linden trees attacked by mistletoe.</p>	129 linden trees were treated	The goal was achieved, no significant deviation from the target value. We have extended the lifespan of the trees that will help preserve the population of <i>O. barnabita</i> in SAC Poodří.
C.1 - C.6	<p>Goal 5: To support preservation of standing cavity-trees and dead trees</p> <p>We will treat 180 mature oaks.</p>	151 grown oaks were treated	The goal was achieved, no significant deviation from the target value. We extended the lifespan of existing and potential habitats of <i>O. barnabita</i> .
A.3, C, E, F.3	<p>Goal 6: To initiate sustainable management of habitats of <i>O. barnabita</i> and to create socio - economic conditions for its continuation</p> <p>a) Written declaration to continue suitable management - 5 landowners b) Informed about suitable management and its benefits - 150 stakeholders c) Events for stakeholders - 20 d) Publication issued (for stakeholders) - 3 e) Events for public - 20 f) Leaflets - 3 g) Publications issued (for public) - 2 h) Visitors of exhibition - hundreds</p>	<p>a) 6 landowners declared the continuation of the suitable management b) 169 stakeholders were informed c) Events for stakeholders - 30 d) Publication issued (for stakeholders) - 3 e) Events for public - 37 f) Leaflets - 3 g) Publications issued (for public) - 2 h) Visitors of exhibition - 4 580</p>	<p>The goal was achieved. We have good feedback from negotiation with landowners and expect the continuation of joint conservation management after the end of the project.</p> <p>The types of activities for the public were well chosen and timed. This was evidenced by the public's participation and interest in planting days, or information given at information stands. We have also had a positive response from the institutions that installed our exhibition panels "Behind the old trees in Poodří".</p>

Action	Foreseen in the revised proposal	Achieved	Evaluation
D.1, D.2, D.3	<p>Goal 7: To prove positive impact on status of habitats of <i>O. barnabita</i> and on biodiversity in SAC Poodří, on socio-economic conditions and on performance of ecosystem services</p> <p>a) improvement of the status of <i>O. barnabita</i> population and its habitats</p> <p>b) improvement of biodiversity - for at least 2 other species, the positive impact on habitats via elimination of at least one risk factor will be proven</p> <p>c) improvement of landscape value</p> <p>d) improvement of reputation and popularity of the region for local citizens and tourists</p> <p>e) improvement performance of ecosystem services</p>	<p>a) Altogether, 1009 trees have been inspected and in 108 trees the development of <i>O. barnabita</i> has been proven during the implementation of the project. 976 trees with proven/prospective occurrence of <i>O. barnabita</i> were treated, 2041 trees as potential habitats were planted.</p> <p>b) Positive impacts on 2 species were found - <i>B. Bombina</i> and bats</p> <p>c) New landscape elements were created (pollarding willows stands, tree avenues, groups of trees).</p> <p>d) The number of media outputs mentioning <i>O. barnabita</i> rose dramatically after the start of the LIFE project.</p> <p>e) Provisioning, regulating and cultural ecosystem services were identified as an input to the ecosystem services evaluation.</p>	<p>The goal was achieved. The negative impacts on habitats of <i>O. barnabita</i> that have been present in the area for a long time have been eliminated or mitigated. The lifespan of the habitat trees was extended and new habitats were prepared for the future. This has halted the predicted decline of <i>O. barnabita</i> species.</p> <p>Positive impacts on habitats of <i>B. Bombina</i>:</p> <ul style="list-style-type: none"> - the lightening of wetland microhabitats by pruning trees as <i>B. bombina</i> prefers somewhat open and sunny water bodies - pollarded trees may provide conditions for seasonal shelters or to overwinter <p>Positive impacts on habitats of bats:</p> <ul style="list-style-type: none"> - standing hollow trees as shelters - newly planted tree avenues as areas for hunting and migration corridors <p>The impact of the conservation measures on ecosystem services is slightly positive.</p>

Results of the replication and transfer efforts

a) We use the database of stakeholders and targeted groups and our long-term reputation in the project area. ČSOP continues to plant native trees and pear trees together with local municipalities in the Poodří region. They utilize experiences from the LIFE Osmoderma project and national financial sources. Landowners from the Poodří region consult with our experts about how to plant, how to buy tree seedlings and then plant native trees on their land. Examples of these plantings are registered with their implementers.

- Jistebník, municipal land, 3800 trees and bushes, oaks and pears included, planted by ČSOP
- Hrabětice nad Odrou, private land, 21 pears planted and financed by owner himself
- Velké Albrechtice, municipal land, 2182 trees, planted as small woods and the part of the biocorridor, planted by ČSOP
- Vražné - Hukovice, municipality consulted with our experts and planted pear trees to celebrate the Anniversary of its famous native G. J. Mendel

These planted trees will allow the creation of additional stepping stones.

b) The Moravian-Silesian Road Authority consulted with our expert on the treatment of mature trees along the road in SAC Poodří. Our recommendations based on field research were used for the maintenance of roadside greenery.

c) A good resource for further replication and transfer are downloadable publications produced within the project or co-authored by members of the project team, e.g. „Ořezávané stromy - zapomenuté dědictví“, available from: <https://palava.nature.cz/orez-vrb-na-hlavu>

Effectiveness of dissemination activities

Our outdoor events (study tours, workshops, cyclo rides Tour de aleje, planting days for school children) have the strongest impact and feedback on the public. The on-line tools (e.g. social networks and newsletters) helped us during the COVID-19 crisis. For experts were more important presentations on conferences and expert articles. This mix of dissemination tools was the most effective way to attract the target groups. The tools and methods raised public and stakeholder awareness of the importance of the project area for biodiversity and the benefits of suitable conservation management. They also enabled the dissemination of the project results towards the stakeholders who could benefit from them and created conditions for their transfer and replication.

Policy impact

CEPO uses its knowledge of national environmental legislation and experience within policy negotiation, participates in the consultation of applicable national and regional strategies and leads campaigns against intentions with potential negative impacts to the project area. CEPO is active in multiple platforms and expert groups relevant to this field. CSOP is a member of LAG Poodří and participates in the creation of the LAG Poodří strategy and promotes topics related to the protection of biodiversity and planting native trees in SAC Poodří. Some special cases are mentioned below.

Regional level

A positive impact can be noted in the areas of sustainable development and improving the quality of life of citizens:

- return to native fruit tree species and sustainable landscape management
- improving the relationship with the site and creation of 3,44 jobs for the duration of the project

National level

- a) CEPO participated in a working group for legislation. We prepared several proposals to change current legislation to benefit the protection of habitat trees and we were consulting on these proposals at the level of the MoE. Our proposals have become part of the currently proposed amendment to the Act No. 114/1992, On nature conservation and landscape.
- b) In 2019 the initiative “We Plant the Future” appreciated our work in SAC Poodří. We obtained a “Golden spade”. During the ceremony we emphasized the importance of trees in the landscape.
- c) In 2020 CEPO participated in demonstration against the plan in building the Channel Donau - Odra - Elbe and applied the argumentation because of its vast negative impacts on the Natura 2000 Network, and also on the SAC Poodří.
- d) In 2021 CEPO joined the Appeal of Green Circle “Let's together protect our Climate, Nature and Environment” and supervised the fulfillment of commitments done by the Action Plan of Climate Changes in the context of habitat trees and biodiversity conservation.

European level

- a) Since 2021 we are members of the initiative “Time for Odra”. We apply the argument and activities against the plan in building the Channel Donau - Odra - Elbe, because of its vast negative impacts on the Natura 2000 Network sites.
- b) In 2022 we were alarmed by the European Commission’s intention to once again postpone its proposal for legally binding nature restoration targets and we joined the WWF initiative and signed the letter to the President of the European Commission.

EU added value (comment to the results foreseen in the project proposal)

EU Biodiversity Strategy for 2030

Our contribution to the territory of SAC Poodří: we planted more than 2,000 trees of native species.

European Landscape Convention

We restored landscape elements (pollarded willows) and planted pear trees, thus the attractiveness of the landscape both for nature and visitors increased.

EU Common Agricultural Policy - Rural development

- a) Contribution to the restoration, preservation and enhancement of ecosystems, specifically the preservation of habitat trees and the restoration of typical landscape features
- b) Contribution to the job opportunities and a cheap local energy source (firewood as a product of pollarding)

6.4. Analysis of benefits

1. Environmental benefits

a. Direct / quantitative environmental benefits

Habitats of *O. barnabita*

The lifespan of the 976 habitat trees was extended and 2 041 habitat trees were planted for the future, which is somewhat higher than the planned values.

Ecosystems services of habitats of *O. barnabita*

Provisioning, regulating and cultural ecosystem services were evaluated. The impact of the project on these ecosystem services were slightly positive.

Incentive/pump priming effects

In line with this strategy, we have improved the protection and restoration of natural resources and ecosystems and promoted biodiversity in the Poodří region. Project staff has participated in many workshops, meetings and seminars, sharing the experience and thus

motivated the owners to the suitable conservation management (e.g. planting trees on agricultural land, protecting habitat trees). Some visible results of conservation management on project sites and on the project team members' own land were incentives for a wider habitat tree management works.

b. Qualitative environmental benefits

Conservation benefits for SAC Poodří and endangered species

*Osmoderma barnabita** : the negative impacts that have been present in the area for a long time have been eliminated or mitigated, specifically, the life span of the habitat trees was extended and additional habitats were prepared for the future

*Bombina bombina**: suitable lightening of wetland microhabitats by pruning trees, conditions for seasonal shelters or to overwinter through wooden biomass left in place and cavities provided at the bases of tree trunks and under roots of protected habitats trees

Vespertilionidae (bats): arboreal species of bats can find shelter in habitats trees (oaks, linden), the newly planted tree avenues will certainly benefit bats in the future because they will be able to hunt along them, but will also serve as migration corridors

Support for biodiversity: extending the lifespan of habitat trees and restoring landscape elements (pollarded willows, pear avenues)

We eliminated and/or mitigated main risk factors, defined in the project proposal.

1. Isolation of the location of the hermit beetle occurrence: we connected the 6 locations of *O. barnabita* occurrence by planting native trees and creating new landscape elements

2. Lack of traditional management of ancient willows – pollarding: we pollarded 692 willows and motivated the landowner to do the same

3. Invasion of mistletoe: we treated 129 linden affected by mistletoe and we extended their lifespan

4. Felling trees with cavities

We treated ancient oaks and discussed with landowners to achieve pruning instead of felling

The After - LIFE plan determines how the actions that were initiated in the LIFE project will continue and how the long-term management of the project sites will be assured. See “Osmo_Deliverable_F3_AfterLIFE plan”.

2. Economic benefits

In the socially weak and immigration-affected Poodří region, we created 3,44 long-term jobs (qualified staff) for local people (Moravian-Silesian region) for local people during the project implementation period.

The results of the cost-benefit analysis (Rumnová 2023) show, that the costs for conservation measures will not return during the 10 years. But the real value of the project has a non-monetizing character and cannot be expressed in currency. The main impact of the project lies in the creation and protection of new habitats.

3. Social benefits

We have renewed interest in biomass from pollarded willows and cultivation of traditional varieties of pear trees, which can help the local community. We also cooperated with local companies and thus supported local economics. Social benefits can be also expected through the aesthetic effect of pollarded willows and newly planted avenues.

4. Replicability, transferability, cooperation

The highest visibility of the project was generated by the plantings with the public and by the event Tour de Aleje. The visibility at national (partly European) level was generated by study tours and publications. The experience and methods described in the publications are

applicable to solving similar environmental problems in the same or similar conditions. The project thanks to the implemented interventions (maintenance of willow stands, protection of dead wood as a habitat for other species, planting pear trees as potential new habitats) will be a good example in the benefits of returning to the original style of farming. Thus the project's likelihood of replication in European conditions is high.

5. Best Practice lessons

We used the experience of the Bratislava Regional Conservation Association from Slovakia. The association pollards willows to create habitats for insects, which are a food base for target bird species. In SAC Poodří we have created habitats for *O. barnabita* and other insects. We used the experience of LAG Poodří, whose project based on planting fruit trees met with great support from landowners. The pear trees planted in SAC Poodří as long-lived fruit trees and potential habitats will also have a positive impact in the socio-economic field. We followed the new approaches to maintenance of habitat trees and adapted the conservation management to current conditions in concrete project sites.

6. Innovation and demonstration value

The innovative approach of the project was planting pear trees in the open countryside, as a potential habitat trees and as trees that are resistant to mistletoe. Already at the project preparation stage it was perceived very positively by the landowners because of the future benefits (drying of fruit for food use, production of jams, brandy and pear juice).

7. Policy implications

a) Nature Restoration Law

From August 2023, CEPO has been actively campaigning .We want the law to define targets for the protection of agricultural landscapes (in particular for landscape elements such as solitary trees and tree plantations). We base this on our experience with the protection of habitat trees in the Poodří region.

b) Our approaches to the protection of habitat trees have supported national discussions leading to the development of a standard for the Care of Trees as Habitat for Rare Species and a debate on the value of the ecosystem services of habitat trees.

7. Key Project-level Indicators

We entered the actual values of the KPIs related to our project in the online KPI database (<https://webgate.ec.europa.eu/eproposalWeb/kpi>) and consulted the final version with our external monitor. KPI database contains the specific contexts related to the ecosystems, ecosystem services and territorial impact. Comparison with the targets at the beginning of the project:

1.5. Project area/length

The area of the Poodří Protected Landscape Area was selected as the area where we implemented awareness raising activities, which led to a reduction in the risk of unnecessary felling or inappropriate treatment of habitat trees.

The estimation of the area affected by conservation management is based on field measurements of tree canopy widths.

1.6. Humans influenced by the project

The planned value of 1000 persons was exceeded several times even if we counted only the general public involved (not the stakeholders).

The achieved value includes recipients of electronic newsletters and printed journal Arnikum, visitors of exhibition and infostands, participants in public events, watching the videos and downloading of the on-line publication and following on social media. The value obtained by summing these individual groups was reduced by the assumed overlap.

Total: 75 598 persons

The original KPI database assumed at least 5 landowners who changed their behavior or practices due to the project actions. Thanks to the negotiations and individual meetings we have reached a value of 6. The subjects have committed in writing to continue the suitable management and further cooperation.

7.1. Ecosystem assessment

The project focuses on improving the condition of *O. barnabita* habitats in SAC Poodří (i.e. old trees with cavities), therefore the project mainly evaluated the condition and development of these habitats in terms of preferences of the beetle. Data for evaluating the condition of the entire affected ecosystems are not available.

7.2. Ecosystem services assessment

The positive impact on the potential of the area to provide ecosystem services (ES) was estimated in the project proposal. The monitoring during the project implementation showed that the impact was slightly positive. More details can be found in part 6.4 and in the final report of ES monitoring (Rumanová, T., 2023). The results of the monitoring have been translated into KPI database webtool. The following set of ES was evaluated:

Nutrition provision, Materials provision, Bioremediation and hydrological cycle, Habitats, Entertainment and representation.

Note: Specific context ES - Materials provision - Biomass: we have not commented on this indicator because we do not have interpretable data on it.

7.4. Wildlife species

Estimated value: 130 habitats with the proven occurrence of *O. barnabita*

In 108 trees/habitats the occurrence of *O. barnabita* was demonstrated during the project. The new findings of the *O. barnabita* in individual trees are not due to an increase in the species' abundance, but to new knowledge gained during the implementation of the project.

10.2. Involvement of non-governmental organizations (NGOs) and other stakeholders in project activities

Number of stakeholders involved: 33

We included the groups of stakeholders: state institutions and municipal governments, NGOs and private farmers and Instytut Drzewa from Poland due to its important involvement in the project (authorship of a publication "Comparison of the approaches to the maintenance of veteran trees and habitat trees" and conducting a workshop on tree care as a part of the study tour for the project team).

11.1. Website

Estimated value: 7 000 of unique visits

We reached 7 300 unique visits during the project.

11.2. Other tools for reaching/raising awareness of the general public

Some of the indicators listed in this section can be compared with the achieved indicators for the Activity E Public awareness and dissemination of results. We exceeded the expected number of press releases, newsletters and events for the public and stakeholders. Although some types of events we could not realize. This was caused especially by COVID-19 crisis.

12.1. Networking

We planned to be in contact with 10 other teams, which was already reached (even the values have been exceeded - 15) due to organization of study tours, attendance on seminars or by preparation of other projects.

12.2. Professional training or education

We have implemented several types of educational and motivational activities. Below we list the number of participants.

General public (public, pupils and students, families with children): 1022

Stakeholders (local, regional and state authorities, landowners, fishermen, associations) :194

13. Jobs

Estimated value of FTE: 3

Final value of FTE: 3, 44

During the project, we created 3,44 new jobs (FTE), which will only partially continue after the end of the project (expected value : 0,27 FTE). In the region of Poodří, with unfavorable social situations and lack of available qualified positions, even this amount has its value.

14.1. Running cost/operating costs during the project and expected in case of continuation/replication/transfer after the project period

We have quantified total project related expenditure. It comprises all categories of expenses made during the project's duration.

Beyond 5 years the expected costs are calculated as

a) Costs of aftercare of the planted and treated trees and of other relevant activities (educational and policy activities): 28,200.00 €

Costs are estimated in the final report "Ecosystem services assessment" (Rumanova, 2023).

b) Estimated costs of 0,27 FTE: 44,200.00 €

14.3. Future funding

We have defined the amount of funding from grants and subsidies and the amount we need to cover from our own resources (i.e. individual and corporate fundraising).The total value of the financial resources raised over a period of 5 years should cover the costs of aftercare of the habitat trees and personnel costs for 0.27 FTE.

14.4. Continuation/replication/transfer after the project period

We have registered 12 cases of replication. These are mainly planting of native tree species that are important as potential habitats and/or stepping stones. The plantings were carried out using our experience or in consultation with our project team.

8. Comments on the financial report

Extraordinary cases and changes

No important budget changes were necessary. Other non-significant changes are commented below.

a) Direct personnel costs

Action C.7

At the beginning of the project, part of the conservation measures (willow pollarding) planned to be paid from direct personal costs, were actually implemented by external assistance. It was due to the budget structure of a previously obtained grant (applied for before the LIFE project was accepted), which was used as a source of co-financing. The value of this change (3462 EUR) is covered by saving in external assistance costs described below.

Action D.1

In action D.1 we also spent external assistance instead of direct personal costs for zoologists monitoring bats. We unsuccessfully tried for some time to find a specialist for this task, and we finally made an agreement with the organization for protecting bats (ČESON). The value of this change is 3600 EUR for the whole project period. It is covered by saving in external costs in other activities (e.g. savings in genetic testing in activities C.1 - C.7).

The daily fee of assistant Petr Krpec (employed by partner University of Ostrava) was significantly higher than in the case of other employees doing the same task at the same position (Dominik Prda). The reason is that Mr. Krpec has done his work individually, in the harsh climatic conditions. He was hired specifically for this task. Mr. Prda worked accompanied by a qualified person, and his task was less demanding.

b) Travel costs

Actions C

In the planned budget we estimated needs for covering travel costs for people implementing the field works. In reality, most of these works were done by local people, who traveled much less (often by foot or bicycle). Therefore, not only for these activities, but for the whole budget the travel costs were spent significantly less than expected.

Action F.1

The project management required more frequent personal meetings of the project team than expected, which resulted in higher travel costs for this activity. This change was more than compensated by savings in actions C.1 - C.7.

c) External assistance costs

Transfers between direct personal costs and external assistance costs see above.

Action A.2

Legal and expert consultation costs for completing the Feasibility study were lower than expected (part of the work was done by project staff). Non-used resources were transferred to other actions (e.g. A.3, D.1 and F.1).

Action C.4

New item has been added to this category: geodetic measurement for planting of trees. It was necessary to establish the exact border of the land owned by community and private land and to guarantee a compliance with land use plan. It was a condition of the municipality to implement this measure.

Action C.6

New item has been added to this category: creating a database of conservation measures. This database proved to be extremely useful for cooperation between field workers, arborists and monitoring experts - it allowed the online communication and flexible organization of cooperation (e.g. trees could be checked for presence of protected species by experts just before treatment) and for evidence of conservation measures, which in turn helped tremendously in communication with stakeholders and public.

Actions C generally

We have cooperated with a local certified tree nursery, so all costs planned for genetic analysis of poplars were saved.

Action E.3

Lecture fee was planned to cost only in action E.2, but it was useful to pay lecturers also in public events (specifically Tour de Aleje) within action E.3.

d) Durable goods: equipment costs

Purchases of equipment were reassessed to adapt to real needs of the project.

Action A.2

We skipped the purchase of a digital camera with GPS. Due to the improvement of mobile phone technology, it was sufficient to use only cell phone applications.

Actions C.1 and C.2

We did not buy a brush cutter, and we bought only two chainsaws instead of five ones. Due to the situation in the field and organization of work to two field worker teams it proved to be sufficient. We bought better ground drill (made planting of trees more efficient) and slightly increased resources for the off-road car, the trailer (for better quality of equipment), and bought mobile scaffoldings instead of simple ladders, which was necessary for treatment of very tall trees. Instead of a computer, we bought a laptop that we could use in the field.

e) Consumables

Actions C

We have implemented only 9 beaver fences against 130 planned. We used the funds to cover the increased costs of materials for conservation management.

Action D.2

The University of Ostrava bought a voice recorder for the purpose of opinion polls. It helped to make interviews more efficient.

f) Other costs

Action A.1

New item - rent of the room for initial project team meeting. We considered it useful to organize the meeting in the project area, and due to the high number of participants it was necessary to rent a room. The cost of rent for two days was negligible - 39 EUR.

Action C.7

New item was assigned to this category: transportation cost of items for planting. These costs were not expected in the budget, but were necessary for implementation of conservation measures.

Action D.3

We have bought a digital altimeter for measurement of height of the trees for assessment of dendrologic parameters within monitoring of ecosystem services.

Action E

CEPO bought an external hard drive. It was used solely for the project, as a medium to store videos and photos made in the field (sometimes in the area without signal for online connection). Another new item - megaphon - was used for public events.

Action F

New items for this category: training of the staff:

CSOP - safety of work, driving, operating chainsaws

CEPO - legal and practical aspects of the treatment of trees

The cost of external services (expert texts and consultations) was planned for the elaboration of the After-LIFE plan, estimated 1 950 EUR.

We did not use these costs, the document was prepared by experts from the project team.

Distribution of costs between partners

Partner FER spent less costs than expected, mostly because of its share in action E.2, namely participation in seminars for stakeholders, was severely limited because of pandemic situation, some events were implemented as online events, which led to savings in travel costs. These savings were used to cover increased costs of partners CEPO and CSOP.

Some costs by **partner UNI** were transferred between experts and assistants' personal costs and between actions A.2, D.1, D.2 and D.3. The transferred amounts did not exceed 6000 EUR and had no significant impact on the total spending within cost categories.

New small scale items required for action D.1: consumables - incubator for larvae (180 EUR), headlamp (cca 35 EUR), plastic vials for insects (136 EUR). These items were not predicted in the original budget.

Counting of visitors for action D.2 was ordered as an external service - this was cheaper than realizing it personally, and it did not cause an increase in the total budget. The costs of the service represent cca 2350 EUR. It did not have a significant impact on total external costs - it was compensated by savings of external costs in other actions (especially A.2).

Partner CSOP changed the bank account number - the change was reflected in the annex to partnership agreement.

Questions from reports assessment (“Open issues”):

1. Ms Karolina Kostičova has a significantly higher daily rate than foreseen in the budget (foreseen €100, actual €125).

Clarification: Ms Kostičova played an irreplaceable role of a technical assistant in the project. A higher qualification was needed. Because she was working part-time and doing only specific work, we could afford to pay her a higher daily rate.

2. FER: Please submit the following financial documentation with the Final Report for verification purposes: - Invoice FZ/2023/1/9, subcontractor Biuro Turystyki Przyrodniczej „Dudek” Izabella Engel, External assistance, including the proof of payment.

Solution: The required documents are attached to the final report.

8.1. Summary of Costs Incurred

PROJECT COSTS INCURRED			
Cost category	Budget according to the grant agreement in €*	Costs incurred within the reporting period in €	%**
1. Personnel	710 700	731 193	103
2. Travel and subsistence	57 821	34 386	59
3. External assistance	49 421	69 692	141
4. Durables goods: total <u>non-depreciated</u> cost	21 452	20 344	95
- <i>Infrastructure sub-tot.</i>	0	0	0
- <i>Equipment sub-tot.</i>	21 452	20 344	95
- <i>Prototype sub-tot.</i>	0	0	0
5. Consumables	55 595	40 778	73
6. Other costs	5 290	8 008	151
7. Overheads	53 733	53 733	100
TOTAL	954 012	958 135	100

Review of financial situation of the project in comparison with planned budget

Generally, the actual costs slightly exceed planned costs. The surplus was covered from an increase of co-financing.

Personal costs

Total personal costs slightly exceeded planned costs. We underestimated the time needed to implement all activities, but it was almost completely compensated by the lower salaries than expected.

Travel costs

In the planned budget we estimated needs for covering travel costs for people implementing the field works. In reality, most of these works were done by local people, who traveled much less (often by foot or bicycle). Therefore, not only for these activities, but for the whole budget the travel costs were spent significantly less than expected. Also, due to covid-19 pandemic, some events were organized as online, which limited the need for travel. In some actions (e.g. F.1) travel costs were actually higher than expected (due to need for more personal meetings for coordination of the project), but that did not compensate the lower travel costs for actions C.1-C.7 and E.1-E.3.

External services

We exceeded planned costs for external services. In actions C.1-C.7 some works, which were planned to be done by staff, had to be implemented by specialized companies due to high risk and difficult accessibility. Also, the promotional and educational actions (E.1 - E.3) were significantly higher than expected, not only due to inflation, but also because the demand and interest of these activities exceeded our expectations. In some cases, we saved external services costs (f.e. there was no need for genetic testing of tree saplings, because we bought them from certified tree nurseries or some work was done by project staff instead of external contractors), but this savings did not compensate for the increase mentioned above.

Equipment and consumables

Slight changes in these categories were caused by the development of the market prices and in some cases, we made adjustments to number or character of bought equipment or consumables to adapt to actual needs of the project. Most of the equipment and consumables was bought or ordered in the first phase of the project, thus the impact of inflation on the real costs was negligible.

Other costs

During the project, some costs expected to fall into other categories were moved to other costs on the recommendation of an external monitor. Also, some unexpected costs (like specialized and obligatory training for the staff) fell in this category.

8.2. Accounting system

CEPO

The accounting of the project was performed in the Pohoda system, as well as the accounting of the entire organization. The system can distinguish both individual projects and budget items. We have implemented in the system:

project name: LIFE17NAT / CZ / 00463

budget lines:

1. Personnel
2. Travel
3. ExAss
4. Equipment
6. Consumable
7. Others

Overheads as a separate "project"

Costs were then charged according to Czech accounting standards to individual analytical accounts according to the valid accounting plan.

The project coordinator Marcela Klemensová approved whether the expenditure was justified. The received invoice was registered in the table by the project assistant. The financial manager of the project decided which activities the expenditure concerns. The assistant marked on the invoice that it was paid from the LIFE project - LIFE17NAT / CZ / 00463 and the activity number. The invoice was then paid and passed on to the accountant.

Timesheets were manually completed. Every employee had a timesheet file stored on Google Docs, which was filling in during the month. At the end of the month, the document was printed, the date was added and signed by the relevant staff member and project coordinator. Then it was archived on paper form. The same system was applied by the partners of the project.

CSOP

The project had a separate folder in the accounting system, and numbers of financial documents start with the acronym LIFE (the partner was so far implementing only one LIFE project).

The costs were approved by the economic director of the organization, who was the same person as the coordinator of the LIFE project.

UNI

Each projects run by UNI have an exclusive analytic number of contracts, and if needed, number of sources of financing (grant or co-financing). The number of contracts are assigned by the head of the economic department of the University of Ostrava according to the binding internal directive.

For the LIFE project, the numbers of contract were 2259 (EU contribution, number of source 1220 + beneficiary's own contribution, number of source 1650) and 2260 (contribution of MoE, number of source not needed). Costs were approved by the secretary of the relevant department and formally, all financial documents were checked by the head of the economic department of the chancellor's office.

FER

The project had a separate folder in the accounting system (1812-1 LIFE17 KE OSMO). The costs were approved by the coordinator of the project and one of the board members of the foundation.

8.3.Partnership arrangements

The partnership agreement was concluded between the coordinating beneficiary and the associated beneficiaries, which describes individual installments. (How much money and when will they be sent). The percentage of co-financing was also given there. Each entity (coordinating and associated beneficiary) filled in its expenditure table - LIFE_financial reporting_beneficiaries. The consolidated statement was prepared by the coordinating beneficiary accountant.

8.4.Certificate on the financial statement

Not applicable.

8.5. Estimation of person-days used per action

Action type	Budgeted person-days	Estimated % of person-days spent
All projects when applicable Action A: Preparatory actions	284	154,6
NAT and CLIMA projects Action B: Purchase/lease of land and/or compensation payment for payment rights	0	0
ENV projects Action B: Implementation actions	not applicable	not applicable
GIE projects Action B: Core actions	not applicable	not applicable
NAT projects Action C – Concrete conservation actions	3420	143,2
CLIMA projects Action C: Implementation actions	not applicable	not applicable
ENV and GIE projects Action C: Monitoring of the impact of the project action	not applicable	not applicable
NAT and CLIMA projects Action D: Monitoring and impact assessment	948	118,7
ENV and GIE projects Action D: Public awareness/ommunication and dissemination of results	not applicable	not applicable
NAT and CLIMA projects Action E: Communication and Dissemination of results	1525	86,3
ENV and GIE projects Action E: Project management	not applicable	not applicable
NAT and CLIMA projects Action F: Project management (and progress)	615	91,1
TOTAL	6792	

The time requirements for implementation of the project activities in total was originally underestimated, which was compensated by the lower salaries than expected. Especially time consuming was preparation activities (negotiation with authorities, stakeholders and getting necessary permits) and field works (especially coordination, documentation and coordination of field works with monitoring and communication activities).