



Final report

Adaptation to climate change in the Czech cultural landscape by improving water retention

Az.: 38522

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1 Zusammenfassung

Das Pilotprojekt „Anpassung an den Klimawandel in der tschechischen Kulturlandschaft durch Verbesserung der Wasserrückhaltung“ (DBU Ref. 38522) war ein Gemeinschaftsprojekt von Landcare Deutschland (DVL), E-KOTOXA und der Tschechischen Gesellschaft für Ornithologie (CSO). Dieses Projekt zielte darauf ab, die Auswirkungen des Klimawandels und den Verlust der biologischen Vielfalt in der tschechischen Agrarlandschaft durch die Stabilisierung des Wasserhaushalts und die Entwicklung von Landschaftsstrukturen zur Verbesserung der Widerstandsfähigkeit von Ökosystemen zu bekämpfen. Die Initiative legte großen Wert auf die Zusammenarbeit der Beteiligten und erkannte die Bedeutung gemeinsamer Anstrengungen für ein nachhaltiges Umweltmanagement.

Das Projekt wurde auf zwei Ebenen konzipiert: regional und national. Auf regionaler Ebene wurden Aktivitäten in zwei Pilot-Mikroregionen, Nechanicko und Hrušovansko, durchgeführt, um die Zusammenarbeit zwischen den Akteuren zu entwickeln und zu nutzen und den Umfang der Aktivitäten zu erweitern. Datenerhebungen zu hydrobiologischen und klimatischen Bedingungen sowie Erhebungen zur biologischen Vielfalt wurden durchgeführt, um Informationen für die Gestaltung und Umsetzung von Landschaftselementen wie der Wiederherstellung von Feuchtgebieten und der Bepflanzung von Biokorridoren zu erhalten. Das Projekt konzentrierte sich auch auf den Aufbau von Vertrauen und Netzwerken zwischen regionalen Interessengruppen, einschließlich Landbesitzern und Landwirten, und bot Schulungen zu widerstandsfähigen Anbaumethoden an.

Auf nationaler Ebene zielte das Projekt darauf ab, das in den Pilotregionen gewonnene Wissen in der gesamten Tschechischen Republik zu verbreiten. Dazu gehörte die Organisation von Workshops, Konferenzen und Studienreisen zum Austausch bewährter Verfahren und zur Förderung von Naturschutzmaßnahmen. Das Projekt umfasste auch die Entwicklung und Pflege der Datenbank Živá půda, die als Finanzquelle für den Naturschutz dient.

Umfassende Daten über Boden, Klima und biologische Vielfalt wurden gesammelt, um die Umsetzung von Schutzmaßnahmen zu unterstützen. So wurden beispielsweise Sedimentanalysen im Feuchtgebiet durchgeführt, und Klimadaten aus dem Intersucho-Projekt halfen bei der Planung von Maßnahmen zur Landschaftsgestaltung. Das Projekt konzentrierte sich auf den Aufbau eines kooperativen Ansatzes zwischen den Beteiligten, einschließlich Verhandlungen mit Landbesitzern, Schulungen für Landwirte und die Organisation von Seminaren und Workshops, um den Wissensaustausch und die gemeinsame Planung zu erleichtern. Um das Bewusstsein der Öffentlichkeit für die Bedeutung des Schutzes der biologischen Vielfalt zu schärfen, wurden verschiedene PR-Aktivitäten durchgeführt. So wurden Artikel in lokalen und nationalen Medien veröffentlicht und Werbematerialien mit problematischen Vogelarten verteilt, um die Öffentlichkeit in die Schutzbemühungen einzubeziehen.

Studienreisen nach Deutschland und andere Exkursionen vermittelten den Beteiligten Erfahrungen aus erster Hand über erfolgreiche Naturschutzpraktiken, erleichterten den grenzüberschreitenden Wissensaustausch und inspirierten die Teilnehmer, ähnliche Maßnahmen in ihren Regionen umzusetzen. Regelmäßige Treffen zwischen den Projektpartnern sorgten für einen reibungslosen Ablauf und ermöglichten eine Anpassung der Pläne bei Bedarf, was für die Koordinierung der Aktivitäten und die Bewältigung von Herausforderungen, die während des Projekts auftraten, von entscheidender Bedeutung war.

Das Pilotprojekt hat erfolgreich die Wirksamkeit eines kooperativen Ansatzes bei der Anpassung an den Klimawandel und der Erhaltung der biologischen Vielfalt in der Tschechischen Republik bewiesen. Durch die Stabilisierung des Wasserhaushalts der Landschaft und die Stärkung der Widerstandsfähigkeit der Ökosysteme schuf das Projekt eine Grundlage für die weitere Umsetzung und Ausweitung von Schutzmaßnahmen. Es wird erwartet, dass die Fortführung dieses Kooperationsmodells die Anpassungsbemühungen verstärken wird.

2 Summary

The pilot project "*Adaptation to climate change in the Czech cultural landscape by improving water retention*" (DBU ref. 38522) was a collaborative effort between Landcare Germany (DVL), EKOTOXA and the Czech Society for Ornithology (CSO). This project aimed to address the effects of climate change and biodiversity loss in the Czech agricultural landscape by stabilizing the water balance and developing landscape structures to enhance ecosystem resilience. The initiative placed a strong emphasis on stakeholder cooperation, recognizing the importance of collaborative efforts for sustainable environmental management.

The project was designed on two levels: regional and national. At the regional level, activities were implemented in two pilot microregions, Nechanicko and Hrušovansko, to develop and utilize stakeholder cooperation and expand the scope of activities. Data collection on hydrobiological and climatic conditions, as well as biodiversity surveys, were conducted to inform the design and implementation of landscape features such as wetland restoration and bio-corridor planting. The project also focused on building trust and networking among regional stakeholders, including landowners and farmers, and provided training on resilient farming methods.

At the national level, the project aimed to disseminate the knowledge gained from the pilot regions across the entire Czech Republic. This involved organising workshops, conferences, and study trips to share best practices and promote conservation efforts. The project also included the development and maintenance of the Živá půda database, which serves as a finance resource for nature conservation.

Comprehensive data on soil, climate, and biodiversity were collected to guide the implementation of conservation measures. For example, sediment analysis executed in the wetland site, and climatic data from the Intersucho project aided in designing landscape features measures. The project prioritized building a cooperative approach among stakeholders, including negotiating with landowners, training farmers, and organizing seminars and workshops to facilitate knowledge exchange and collaborative planning. Various public relations activities were conducted to raise public awareness about the importance of biodiversity conservation, with articles published in local and national media and promotional materials featuring emblematic bird species distributed to engage the public in conservation efforts.

Study trips to Germany and other excursions provided stakeholders with firsthand experience of successful conservation practices, facilitating cross-border knowledge exchange and inspiring participants to implement similar measures in their regions. Regular meetings among project partners ensured smooth progress and allowed for the adjustment of plans as needed, which was crucial for coordinating activities and addressing challenges that arose during the project.

The pilot project successfully demonstrated the effectiveness of a cooperative approach in addressing climate change adaptation and biodiversity conservation in the Czech Republic. By stabilizing the landscape's water balance and enhancing ecosystem resilience, the project set a foundation for further implementation and expansion of conservation measures. The continuation of this cooperative model is expected to strengthen adaptation efforts.

3 Project activities

3.1 Regional level in both pilot microregions Nechanicko and Hrušovansko

3.1.1 Collection of hydrobiological and climatic conditions data in the areas of interest

Nechanicko microregion

Data on the climatic conditions and water regime of a microregion landscape were intentionally collected from freely accessible databases for the correct design of the landscape features (Komárov wetland restoration, Hrádek bio-corridor planting). Data about soil conditions was provided by the Czech Geological Survey (<http://www.geology.cz/extranet-eng>) and climate data was provided by the Czech Hydrometeorological Institute (<https://www.chmi.cz/?l=en>). Historical maps of the microregion helped determine where waterworks or field roads were located in the past.

A pivotal moment in our project's trajectory occurred during an inspection conducted at the proposed wetland site in Komárov, where Michal Vávra, the river Elbe basin manager, lent his expertise to assess potential risks associated with the revitalization efforts. This collaborative effort not only underscored the importance of stakeholder engagement but also facilitated the identification and mitigation of potential challenges. Furthermore, the seminar held in Nechanice served as a platform for knowledge exchange, with Mr. Vávra showcasing successful water retention projects in the vicinity to stakeholders, thereby fostering a spirit of cooperation and shared learning. Looking ahead, we are committed to nurturing and expanding upon these collaborative relationships as we progress towards the realization of our shared objectives.

Thanks to our established cooperation, we were able to survey the Elbe basin's wetland sediment. On September 22nd, a team arrived to measure the sediment thickness at 13 different points and collect samples for analysis. The thickness of the sediment in the wetland is highly variable and ranges from zero to 80 centimetres. The lab results revealed a high skeletal structure in the sediment, making it unsuitable for use on agricultural land after extraction. See in Annex 1 the results of sediment analysis of the wetland in Komárov.

Microregion Hrušovansko

Data related to agricultural drought were collected from the Intersucho project (www.intersucho.cz/en). Climatic data (temperature and precipitation) for selected stations were collected from Czech hydrometeorological institute (www.chmi.cz/?l=en). These collected data was very useful especially for designing water erosion measurements in Božice municipality.

3.1.2 Collection of biodiversity data of selected localities (CSO, Nechanicko)

The sites that were selected as the most promising for the implementation of the proposed measures or revitalization were subjected to a more detailed survey. This individual survey aimed to obtain a general overview of biodiversity and the state of the environment before the intervention and the subsequent evaluation of the overall effect on the site after the intervention. The survey was focused in particular on the biodiversity and species associated with water elements in the agrarian landscape (farmland birds, insects, plants, reptiles).

Data on the site's biodiversity were collected from The Nature Conservation Agency Finding Database (ndop.cz), the CSO's Faunistic Database (birds.cz) and our survey conducted by external collaborators.

In June 2023, herpetologist Roman Rozínek completed an assessment of the impact on local herpetofauna in the Komárov wetland (Annex 2). Although a targeted herpetological survey wasn't conducted during the field investigations for the habitat modification proposal, it's clear that this area serves as a vital habitat for amphibians and reptiles. This wetland provides a sanctuary for these creatures, offering them places to live, hibernate, and breed. Among the residents are a population of marsh frogs. Other species making their home here include the common toad, the agile frog, the grass snake, and the common lizard.

During 2023, botanist Michal Vávra conducted a botanical survey of the wetland area (Annex 3). A total of 227 species of vascular plants were recorded in the wetland. Interestingly, no particularly protected or endangered species, as listed on the Czech Republic's Red List, were discovered. This finding underscores the urgent need for the planned revitalization, highlighted by the current, troubling state of the vegetation. The aquatic vegetation is severely degraded and the decline of rare aquatic and wetland plants can be attributed to the wetland's successional phase. This phase is marked by a thick layer of mud, high nutrient levels, and significant vegetative turbidity, all contributing to extremely poor water clarity. Summer brings additional challenges with vegetative turbidity caused by cyanobacteria and green algae, which compete fiercely with aquatic plants. Among the invasive species identified at the site were the small balsam (*Impatiens parviflora*) and the Northern Red Oak (*Quercus rubra*), adding to the complexities of the ecosystem.

During the breeding season, two external ornithologists carried out mapping of bird species on agricultural land within the microregion (Annex 4). More than 100 bird species were recorded. Among the observed bird species were also priority species such as the Eurasian hoopoe, the European Turtle dove, the Grey Partridge, the Common Quail, the Meadow Pipit, or the Montagu's Harrier. At Komárov wetland, we ringed Red-backed Shrike's juveniles during the survey and also observed Eurasian Skylarks. White storks have long made their nests in Nechanice and Mžany, and we had the privilege of participating in the of their chicks.



Figure 1: Ringing of the Northern Lapwing chicks during a workshop. (M. Kadavá, CSO)

On August 31st 2024, we collaborated with the Czech Fishermen's Association to conduct an ichthyological survey of the wetland site in Komárov u Nechanice (Annex 5). Identifying the fish species present is a crucial step in the wetland revitalization process, particularly for subsidy applications. During the survey, we identified 11 fish species, including two non-native species: the Stone moroko and the Prussian carp. Notably, we observed a relatively large number of European eels and a single tench, which is listed as endangered on the Czech Republic's Red List. The survey was conducted in accordance with Act No. 99/2004 Coll. on fish farming, utilizing an electric generator. After identification, all fish were promptly released back into the water.



Figure 2: Ichthyological survey of the Komárov wetland using an electric generator. (M. Kadavá, ČSO)

3.1.3 Creation of landscape features

Nechanicko microregion

In Nechanice, one high-priority draft landscape feature was selected from the list of potential projects in cooperation with relevant stakeholders, which is wetland restoration in Komárov (Nechanice). Several meetings with environmental experts have already taken place.

In December, landscape architect Petra Malá was invited to the site for a consultation regarding the revitalization of the wetland, followed by her colleague's visit at the end of January. Together we agreed on the next steps to be done. Environmental engineer Filip Šálek subsequently requested consultation on the project with The Nature Conservation Agency. The Agency contacted us and we discussed the conditions under the revitalization that could be carried out due to the offered subsidy titles.

We contacted the Envicons with this intention, who provide services of water management, landscape engineering and applied ecology. They provide expert project solutions to extreme climatic phenomena, especially floods and droughts. Natura Servis, which did the detailed report, was asked to supply information on the occurrence of amphibians in the wetland.

Václav Zámečník presented the proposal for the revitalization of the wetland to the city council and also to the public at round tables in December 2022. Stakeholders and the general public were informed about the news and ongoing negotiations at a seminar in Nechanice in June 2023. Further fishing use and the lease contract were discussed at personal meetings with local fishermen from the Czech Anglers Union. During the course of

the project, several other meetings took place, during which the possibilities of revitalising the Komárov wetland were discussed. At the initiative of Abraham Hofhanzl, a hydro-biologist and owner of a wetland creation company, we started a close collaboration with Filip Lysák, a biologist who has extensive experience with revitalization projects, especially in the Vysočina region (central part of the Czech Republic). He is currently preparing a project that should be supported by a 100% subsidy from the Ministry of the Environment (see the Annex 6 map base for revitalization). The assumed applicant should be the city of Nechanice, which is 100% owner of the land. Expected implementation is autumn 2024.

As a result of cooperation started within our previous project, in April 2023 closer cooperation with the local hunting association Lověna had started with the aim to create a landscape feature that will divide large field blocks in the agricultural landscape south-east of Nechanice. We decided to create a bio-corridor by tree planting and grass strip that could be a refuge for animals and at the same time has the potential to increase biodiversity. The planting was also consulted with the garden realisation company OK Gardens and Martin Smetana, an expert in sustainable management in the Partnership Foundation. At the same time, the Partnership Foundation was repeatedly contacted with questions about further grants for planting.

Within the project we have prepared a project for the funding from the Partnership Foundation, that was accepted and supported (5.400 Euro). We have agreed that these projects will be managed by hunters who have agreed to secure 10 years sustainability. CSO carried out the organisation of the planting - prepared a public poster (Annex 10), raised awareness through local and social media and through our contacts collected within this project. As a result, more than 30 people came to help with planting and it turned out to be a nice public event. The success of the event will be permanently commemorated by an informational table (Annex 9).



Figure 3: Tree planting in a new landscape feature with public participation, November 2023. (M. Kadavá, ČSO).

Microregion Hrušovansko: study on water erosion instead of landscape feature

The money allocated to the landscape features was rededicated for the study on reducing water erosion in the cadastral area České Křídlovice (part of Božice municipality).

The request came from the fact that Božice municipality in the Hrušovansko region has long-term problems with water erosion in certain localities. This idea was based on the talk with the active farmer in the region: Marek Klíč. Marek Klíč manages this land and is also an owner of part of it (together with Božice municipality which supports the idea). In spring 2023, a serious water erosion event happened here – strong rain came while vegetation of alfalfa didn't fully cover the soil.

The study was focused on the cadastral area České Křídlovice (part of Božice) and designed the most crucial measurements to reduce water erosion in the focused area. The idea was to use the study as a basis for the realisation of water erosion measurements (several swales and barriers accompanied with grass, shrubs or trees). Outputs of the study can be also used for the complex land consolidation in Božice. In the past, only simple land consolidation was done in Božice. Water erosion study was made by the water management specialist from EKOTOXA (Annex 7).

In September, there was a meeting about erosion study with a farmer Marek Klíč and the mayor of Božice. There was also one round table specifically dedicated to water erosion and water erosion measurements designed in the study. This round table took place in March 2024. During the discussion there, Marek Klíč mentioned that he would like to plant more trees in agricultural land that is owned or managed by him. He also mentioned that he regularly takes care of trees that were planted in the previous project (financed also by DBU, in spring 2022).



Figure 4: Effect of water erosion on the agricultural land managed by farmer Marek Klíč in spring 2023 (mayor of Božice)



Figure 5: Trees planted during a previous project (in spring 2022) and measurements for insect and raptors in Božice – situation in spring 2024 (Marek Klíč)

3.1.4 Expanding the basis of trust

Nechanicko microregion

For the development and expansion of existing collaborative structures, we invited varied stakeholders to round tables and seminars. So far, we did more than 10 meetings and phone dealings with relevant stakeholders in the microregion, especially in connection with the planned landscape features included in the Annex 8.

At the end of February 2023, a one-day series of lectures for pupils and teachers focused on how we can help the synanthropic bird populations. The event took place in the elementary school in Stěžery. After this event, the children could make their own birdhouses at home according to the instructions we provided. This started further cooperation with the stakeholder targeted in the project proposal.

To expand the basis of trust, common activities with stakeholder are helpful. Together with the local beekeeper organization, we organized an event for primary and secondary schoolchildren in the regional capital Hradec Králové in June. During this event presented what people can do about climate change and bird population decline. This event drew the attention of national media, leading to an engaging short video in the news.



Figure 6: Václav Zámečník teaches kids how to protect birds by hanging up birdhouses in the countryside. (M. Kadavá, CSO)

In December 2022 four round tables took place in microregion (Nechanice, Stěžery, Komárov). The purpose of these events was to present the planned landscape features and to detect potential threats and opportunities that can facilitate implementation. Local municipality representatives, landowners and farmers were present at the round tables. Another roundtable meeting in December last year was dedicated to strengthening relationships with local farmers, who play a crucial role in shaping the landscape. This subsequently led to the chairman of the Mžany Agricultural Cooperative inviting us to a presentation as part of the evaluation of agricultural enterprises in the "Responsibly Towards the Landscape 2023" competition. The cooperative successfully won the competition. In subsequent press releases, he emphasized the importance of our mutual cooperation in landscape protection. The most recent roundtable was held in February, during which the latest progress on the Komárov wetland revitalization project was presented to the council. Project representative Václav Zámečník regularly met with municipal representatives at city council meetings to discuss the project's planned activities.

Number	Date	Place
1	08.12.2022	Komárov - pheasantary
2	15.12.2022	Nechanice - restaurant u Ságnerů
3	19.12.2022	Nechanice - town hall
4	20.12.2022	Stěžery - town hall
5	20.12.2023	Svobodné Dvory - restaurant
6	06.02.2024	Nechanice - town hall

Table 1: List of round tables in Nechanicko microregion

Microregion Hrušovansko and its surroundings

The database of contacts created during the previous project was updated. The database includes mayors, farmers, winemakers, local organizations, landowners, other stakeholder groups (e.g. gamekeepers, beekeepers) and the public. Compared to a previous project, the area of interest was enlarged into municipalities neighbouring with or close to microregion – Dolní Dunajovice in the east, Borotice in the west, Troskotovice, Loděnice and Ořechov in the north.

The needs, ideas and opinions of stakeholders were collected and were taken into consideration while organizing seminars, round tables, planning water erosion measurements or new landscape features. During these meetings, various proposals for landscape measurements were discussed, also with possible obstacles, their advantages and other related aspects.

Number of round tables, seminars and personal meetings were organized to strengthen existing contacts and create new ones in microregion and its surroundings. During the project, more than 25 personal meetings and phone interviews with mayors, farmers and other stakeholders were undertaken (including 10 personal meetings with stakeholders). Personal meetings included talks related to water erosion (Božice, Borotice) and meetings with gamekeepers, farmers and people taking care of landscape features (e.g. in Loděnice, Božice, Dolní Dunajovice).

Altogether six round tables took place in microregion and its surroundings. Most round tables were organized in autumn and winter 2023 (four round tables – Loděnice, Ořechov and two in Troskotovice) while one round table took place in April 2023 (Dolní Dunajovice) and one in March 2024 (Božice).

Number	Date	Place
1	20. 04. 2023	Dolní Dunajovice
2	09. 10. 2023	Loděnice
3	30. 10. 2023	Ořechov
4	04. 12. 2023	Troskotovice
5	10. 01. 2024	Troskotovice
6	11. 03. 2024	Božice

Table 2: List of round tables in Hrušovansko microregion and its surroundings



Figure 7: Round table in Božice – March 2024 (F. Jurečka, EKOTOXA)

3.1.5 Networking at regional level

Nechanicko microregion

To strengthen and expand cooperation for a realisation of proposed landscape features various stakeholders and local associations in the region were contacted, e. g. local game-keeper association, fisherman and bee-keepers. Representatives of these associations were also invited to the seminar in Nechanice in June and to round tables and other events.

We made several expert consultations - in terms of getting a wide and detailed overview of the proposed wetland revitalization we will continue cooperation with nature conservation institutions and specialists (e.g. Nature Service s.r.o, The Nature Conservation Agency and others). Cooperation was deepened, especially with water management institutions, stream administrators (e.g. Povodí Labe) and landscape engineering experts.

Microregion Hrušovansko and its surroundings

For better understanding of local conditions in microregion and its surroundings, gamekeepers, beekeepers, winemakers and members of farmer associations were invited to round tables, as well as the DVL seminar and field trip in Božice, conference for landowners, webinar and other project activities.

Several consultations with experts were made during round tables and other organized events or meetings. Consultations were mostly connected to water erosion and designed measurements, drought events, planting

vegetation in or close to agricultural land and restoration of windbreaks. Several consultations with specialists from The Nature Conservation Agency of the Czech Republic (Agentura ochrany přírody a krajiny ČR) and Czech Union for Nature Conservation (Český svaz ochránců přírody) were undertaken. Since stakeholders were often interested in protection of bird nesting sites and support of raptors (e.g. in Troskotovice and Ořechov), we connected representatives of municipality, gamekeepers and other stakeholders with members of CSO.

3.1.6 Negotiating with landowners

Nechanicko microregion

Reaching out to landowners has been instrumental in advancing our project within the Nechanice municipality. Through various events, including the Landownership conference and the creation of landscape features in the microregion, we have successfully engaged with some landowners. These gatherings provided valuable platforms for disseminating information and fostering dialogue about our biodiversity enhancement plans and sustainable land management practices.

Building on this foundation, we have made progress in negotiations with key stakeholders such as municipality representatives and the local agricultural cooperative. Notably, the city's approval in July 2023 for the creation of a bio-corridor on a leased field exemplifies their dedication to environmental improvement. By creating a bio-corridor, the city will no longer lease this area and will also become the owner of the planted deciduous trees, including fruit production trees. Furthermore, our approach to engagement, including round table discussions and DVL seminar, has enabled us to inform and collaborate with landowners across the microregion. By cultivating understanding and garnering support for our initiatives, we are laying the groundwork for continued collaboration that will be essential in achieving our project objectives while fostering the well-being of both the environment and the community.

Microregion Hrušovansko and its surroundings

Several landowners participated in the DVL seminar in June 2023, roundtables organized in five municipalities, conference in Velké Hostěrádky dedicated specifically for landowners and webinar in March 2023. Many more landowners were also contacted via phone calls or personally and invited for these events although they couldn't come. However, they were informed about the project and its aims.

Municipalities represent an important fraction of land owners in the Czech Republic. Representatives of municipalities in microregion and its surroundings are generally aware of the current state of their land and its vulnerability to wind and water erosion, drought and other impacts of climate change.

Most active municipality in the region is Božice. Farmer Marek Klíč and Božice municipality planted trees in the previous project and took care of them. They plan to plant trees also in other localities and together they take care of wetlands in Božice. Farmer Marek Klíč and the municipality also plan to implement water retention measurements on agricultural land managed by the farmer (swales together with grassland or trees).

Municipality Troskotovice is interested in the restoration of old windbreaks while preserving biodiversity but also wood production and its original function (reduction of wind erosion). Municipality is also interested in

protection of bird nests and support of raptors. Municipality Borotice (west of Božice) is concerned about the effects of heavy rainfalls and water erosion on their agricultural land and infrastructure.

In mentioned cases, municipalities suffer from lack of advice and service of specialists related to particular measurements and their possible financing.

3.1.7 Training of farmers in resilient farming methods and accompanying measures

Nechanicko microregion

Throughout published articles, personal meetings, round tables and the seminar in Nechanice, farmers were informed about the practices of sustainable agriculture and the possibilities of using short food supply chains. In addition, a field trip to a demonstration farm will be organized for farmers in the fall, where farmers can learn more about these practices.

Furthermore, on the 5th of May 2023, CSO and EKOTOXA conducted a field excursion for farmers and allied environmental and agricultural NGOs to visit demonstration farms. The excursion started at the Demonstration Farm Pooslaví, where participants learned extensively about soil erosion management. The farm operates primarily on elongated slopes and employs strip cropping to mitigate erosion. They utilize deep loosening techniques that lift the soil without turning it over, effectively breaking up compacted subsoil layers. This method enhances water retention during rainfall, reducing surface runoff and erosion. Additionally, it allows plant roots to penetrate deeper, accessing water reserves during dry periods. This approach not only prevents erosion but also promotes healthier plant growth and resilience.

In the second part of the excursion, we visited Agroservis Višňové and the Butterfly Farm - Valenta Ždánice, where the focus was on combating wind and water erosion using natural solutions. The sites showcased biodiversity support measures such as flowering strips that benefit game animals and insects, species-rich fallow land, and nature-friendly land utilization practices. These initiatives provide ecological benefits by enhancing habitats for wildlife and promoting sustainable agriculture. Those farmers who subsequently wanted to learn more about sustainable agricultural practices took part in an excursion to Saxony in the fall.



Figure 8: Excursion participants were captivated by the benefits of strip cropping. (M. Kadavá (CSO))

In December 2022, the CSO hosted an engaging thank-you dinner event for the farmers who collaborated on our initiatives. Highlighting the evening, Václav Zámečník delivered a presentation on practical measures to enhance farmland bird populations and overall biodiversity through CAP subsidies.

During bird monitoring in Nechanicko a couple of northern lapwing nests were found in a freshly ploughed field. Thanks to a cooperative agreement with the farmer, these nests were carefully marked, ensuring their protection. This field was then officially included in the CAP subsidy program specifically for northern lapwing conservation, guaranteeing ongoing protection for these birds in the coming years. The condition of the nests was regularly checked and during the Farmland bird conservation workshop two chicks were ringed.

Microregion Hrušovansko and its surroundings

During the DVL study trip to the Czech microregion (in June 2023), the seminar dedicated to farmers and a field trip took place. During the seminar and field trip, farmer Marek Klíč demonstrated agricultural measurements used in organic farming as well as measurements improving water retention.

Farmers were also informed and got advice during roundtables and personal meetings. It was generally mutual exchange related mostly to drought, water retention, biodiversity or difficulties connected to agricultural management, subsidies etc.

3.1.8 Development of a permanent cooperation structure

At the realized events and in published articles and social media posts people were invited to participate in the project. Building a stable, resilient collaboration takes time. It is difficult to find an initiator who has time to take care of these purposes. However, we still actively look for such a person during our interactions with stakeholders.

Despite our efforts, several challenges impeded the establishment of a permanent cooperation structure. One significant barrier was the varying levels of commitment and availability among potential partners. Many stakeholders expressed interest, but their capacity to engage consistently was limited due to their existing commitments and responsibilities.

Additionally, the complexity of aligning different organizational goals and interests made it difficult to establish a unified cooperation framework. The need for a dedicated coordinator to manage and drive this initiative was crucial, yet identifying an individual with the necessary expertise and availability proved challenging.

We remain committed to fostering collaboration and will continue to explore alternative strategies to engage stakeholders more effectively. Future initiatives will focus on creating smaller, more manageable working groups that can gradually build towards a larger, cohesive structure. Creating a (even small) landscape feature could have a potential in this. By doing so, we hope to lay a stronger foundation for sustained cooperation in the future.

3.1.9 Study trip of DVL to the Czech microregions

The study trip of DVL to the Czech microregions happened from 12th to 15th June 2023 (Monday to Thursday). The program in Nechanicko and its surroundings took place on the 12th and 13th of June (Annex 14). The event started with a seminar near Nechanice's pheasantry provided by the local gamekeeper association Lověna. The municipality, beekeepers, nature conservationists, gamekeeper association and the public participated in the seminar. Participants were invited by phone calls, emails, local radio and social networks. At the beginning of the seminar, DVL presented practical measures to improve the water regime in agrarian landscape, Michal Vávra from Elbe basin, state company spoke about successful water bodies restoration in our region, gamekeeper company Lověna introduced their recent plantings and bio-best in Nechanicko, Pestré Polabí (nature conservation NGO) presented how to involve young people in nature protection activities and CSO informed about current situation of landscape features. The seminar was followed by a botanical excursion into the Komárov wetland, we continued with informal discussions and finished the day with a corncrake ringing in a nearby meadow.



Figure 9: Liselotte Unseld, DVL, engaged the audience with her presentation on innovative techniques to boost natural water retention in the landscape. (M. Kadavá, CSO)

On Tuesday we made a couple of field trips in the Nechanicko microregion by visiting a planting from a pilot project and farmland measurements such as biobelts and fallow land with raptor perches. In the afternoon we visited the Josefov Meadows Bird Reserve, which is the first privately owned, publicly accessible in the Czech Republic. The area is administered and developed by the CSO. Thanks to public donations and sponsors, we have repaired a hundred-year-old irrigation system that maintains a higher level of groundwater and is used twice yearly to imitate the natural spring and autumn flooding of the meadows. CSO also built a couple of ponds for birds and amphibians.



Figure 10: The entire project team gathered for a memorable photo in front of the Great Bustard observatory in Roseldorf, Austria. (M. Kadavá, CSO)

On the 14th and 15th of June, the program took place in the Hrušovansko region and its surroundings. On 14th June, an excursion in Austria took place - we visited the place with the current occurrence of the Great Bustard (*Otis tarda*) and discussed the regional co-ordination of diverse agri-environmental measures with active integration of all farmers with arable land in the region. In Božice, a seminar for farmers took place (Annex 15). It focused on possible financing of measurements improving landscape structure, biodiversity, water retention etc. Unfortunately, not many farmers were present. Nevertheless, mayors of several municipalities, local game-keepers and other important stakeholders visited the seminar and wanted to discuss the current state of the landscape in their villages.

Božice municipality and surroundings is a locality with the former occurrence of Great Bustard, the area is part of a proposed rescue program for this bird (that is not authorized by the Czech government). The activities in the landscape of this area are prioritised to support the return of this bird, i.e. some measures regarded necessary in this open landscape as the planting of windbreaks, alleys and sole trees should be prohibited according to the proposed rescue program. Nevertheless, the mentioned measures are also improving the water retention and reducing wind erosion in the area.



Figure 11: During the field trip, Marek Klíč showcased a field sown with a unique blend of crops designed to attract the Great Bustard back to the area. (M. Kadavá, CSO)

Immediately after the seminar and the following day (15th June), the field trip on wetland and fields managed by local farmer Marek Klíč took place while he explained the functionality of biobelts, measurement for water retention, difficulties of organic farming and other topics.

3.1.10 Study trip of Czech partners and stakeholders to Germany

The study trip of Czech partners (CSO, EKOTOXA) and stakeholders from both microregions to Germany to see the best practices of climate change adaptation and other relevant measures took place between 1st and 3rd November 2023. DVL organized the trip together with some Saxonian landcare associations. A total of 15 stakeholders took part in the excursion including representatives of municipalities, nature conservation and others. There were six stakeholders from Hrušovansko microregion and its surroundings and nine stakeholders from Nechanicko microregion.



Figure 12: Some of the excursion participants saw a live salamander for the first time. (M. Kadavá, CSO)

Our journey began with a visit to Bieberach in Baden-Württemberg, where a family farm has been promoting biodiversity for four generations. The current owner is developing a "biotope bridge," transforming intensively farmed land into a valuable ecological habitat. Participants were introduced to a variety of conservation practices, such as creating wildflower meadows, stone and deadwood pyramids, and amphibian ponds.



Figure 13: Wetland restoration in Hartmannsdorf-Reichenau. (V. Zámečník, CSO)

In the historic town of Meissen, we explored its rich cultural heritage, including the renowned porcelain production and the northernmost vineyards in Europe. A guided tour through the town's center was followed by a traditional Saxon dinner, where we tasted local specialties like the "Meißner Fummel," a pastry historically used to ensure the safe transport of porcelain.

At Lindenhof Ulberndorf in Dippoldiswalde we met representatives from the local landcare association (LPV) learning about their extensive efforts in environmental consulting and habitat management. In Hartmannsdorf-Reichenau, we witnessed the restoration of a valley floor, transforming a drained and deforested area into a wetland ecosystem. The final day offered a more relaxed pace at the Bohemian Switzerland National Park visitor centre, where participants could explore interactive exhibits showcasing the region's natural and geological history. We hope this study trip has inspired participants to actively contribute to creating healthier landscapes in their own communities.

3.2 National Level

3.2.1 Exchange of experience from the pilot project

Throughout March, we disseminated articles across both the CSO and EKOTOXA project websites, chronicling the invaluable lessons garnered from both the pilot and ongoing initiatives. These articles, tailored to diverse audiences including mayors, farmers, conservationists, and the wider public, drew upon the comprehensive guidelines forged in preceding DBU supported project. We actively engaged previous project contributors to enrich our discourse, ensuring a rich tapestry of experiences. Emphasizing practicality, we spotlighted the example of tree planting to elucidate how individuals can actively contribute to local conservation efforts, fostering a deeper connection to nature preservation within their communities.

In March 2024, we gave two important online talks at Masaryk University in Brno. Project representatives talked about how to communicate better with different groups involved in conservation and how to get them to work together. For a detailed account of these presentations we invite you to explore the PR activities chapter within this report.

3.2.2 Advisory services in nature conservation within farming

Throughout our project journey, we've engaged farmers through diverse channels like face-to-face meetings, group events, phone calls, and emails, igniting enthusiasm for sustainable agricultural practices. CSO and EKOTOXA have sparked a surge of interest among landowners and farmers, driving them towards conservation measures. Our personalized advisory services, now accessible on the CSO and EKOTOXA websites, offer tailored guidance, empowering farmers to make informed decisions aligning with both environmental stewardship and economic viability. By integrating advisory services online, we've broadened their accessibility, ensuring farmers can readily access the guidance and resources necessary for sustainable agriculture.

3.2.3 Development and maintenance of the Živá půda database

A meeting related to the Živá půda database with Partnership Foundation took place in April. At the meeting, developing the database and its number of visits were discussed, as well as tools for online promotion. Since the beginning of this project, a couple of subsidies and grants concerning water retention and landscape adaptation to climate change have been supplemented. CSO and EKOTOXA regularly updated databases including newly authorized CAP and other subsidy schemes.

3.2.4 Networking at national level

Partnerships established from the pilot project continue. CSO and EKOTOXA are cooperating with the Partnership Foundation in the development of the online database Živá půda and promoting each other's activities, as they share the same goal. The partnership with Beleco was established while organizing a conference for landowners. We continue to nurture this partnership through regular meetings. Presently, we are in the process of planning our participation in a travelling exhibition. This exhibition will feature lectures addressing landscape challenges, particularly focusing on issues such as erosion and soil compaction. Together with the Friends of the Earth Czech Republic – we have consulted on agricultural policy issues and exchange experiences weekly. Since the beginning of the project, we have published together with the WWF a few press releases on the CSO website. The one published last year was about the disagreement with the fact that the Czech Republic demanded for the year 2024 a significant reduction for essential ecological conditions when drawing subsidies from the CAP.

Furthermore, on the 5th of May 2023, CSO and EKOTOXA arranged a field excursion to visit demonstration farms aimed at forging new alliances, complemented by enlightening lectures delivered by farmer-centric enterprises specializing in combating soil erosion and humus depletion due to wind and water forces. This event garnered participation from an array of distinguished organizations and entities, including Friends of the Earth Czech Republic, WWF, Beleco, Krajínohled, the Association of Private Farming of the Czech Republic (APF CR), and a representative from the Ministry of the Environment of the Czech Republic. Serving as a convivial platform, this gathering fostered an atmosphere conducive to the sharing of insights and the fostering of collaborative endeavours, thereby fortifying our collective pursuit of common objectives.

Members of the APF CR and other farmer associations active in the Czech Republic were contacted several times and invited to the DVL seminar, conference, webinar and roundtables. They were also informed about the project and its aims, we also discussed several topics related to sustainable agriculture, biodiversity, water retention and other topics.



Figure 14: In November 2023, we embarked on a learning event with representatives from about 20 different Local Action Groups from all over the Czech Republic to establish further contacts that could help transfer experiences to other regions. (M. Kadavá, CSO)

3.2.5 Farmland bird conservation fieldwork workshops (CSO)

The critical importance of preserving field wetlands and enhancing farmland water retention was vividly demonstrated at a hands-on workshop in Hradec Králové on April 21st. This engaging event highlighted nest protection efforts for the Northern Lapwing and the Little Ringed Plover. Around 15 participants gathered to learn monitoring of locating nests using binoculars and the best practices for safeguarding them. The group successfully identified and marked five Northern Lapwing nests and one Little Ringed Plover nest. Participants were equipped with bamboo sticks, and after receiving further guidance, they ventured into the field over the following days to mark additional nests on their own. This proactive approach not only enriched their understanding but also actively contributed to conservation efforts.

The following day, a similar workshop was held in Nechanice, focusing on improving the quality of nesting habitats for these birds. This session further underscored the importance of habitat enhancement in conservation strategies. During this session, participants had the unique opportunity to witness firsthand the ringing of Northern Lapwing chicks by experienced ornithologist from CSO.



Figure 15: The excursion participants are observing a flock of partridges. (M. Kadavá, CSO)

Additionally, on December 27, 2022, a workshop dedicated to partridge conservation took place in Hradec Králové. This event explored innovative financial tools and agricultural subsidies aimed at increasing safe nesting opportunities for partridges. The success and enthusiasm generated by this workshop have inspired plans for a repeat event this year. Throughout these events, numerous photos were taken, capturing the dedication and efforts of the participants. These images have been shared across social media platforms, spreading awareness and inspiring others to join in the conservation efforts. Additionally, a similar workshop was held on December 27, 2023, continuing the efforts and discussions on partridge conservation. Due to the success of these workshops, with at least 10 people participating in each, it is expected that this will become a tradition for following seasons.

3.2.6 Conference about landownership (two days)

The two-day hybrid conference, which included both in-person and online components as well as a field excursion, focused on landownership and proactive engagement with landscape enhancement. It was held on November 21st and 22nd, 2023, at the Ecological Farm Probio in Velké Hostěrádky (near Klobouky u Brna, approximately 30 km southeast of Brno). The event was organized by the Czech Society for Ornithology and EKOTOXA. To enhance collaboration with other landcare organizations, we initiated a partnership with Beleco. This new alliance significantly contributed to attracting more relevant participants and speakers, thereby improving the promotion and overall success of the event.



Figure 14:

Figure 16: Soil spade testing a common used diagnosis tool to assess soil structure. (M. Kadavá, CSO)

The conference targeted landowners, conservationists, municipalities, NGOs, and the general public across the country, with a special emphasis on stakeholders from project areas. It aimed to involve organizations with extensive experience in landownership issues, such as the Partnership Foundation and the Association of Private Farming of the Czech Republic (APF CR).

On the first day, the conference featured a series of presentations and discussions for landowners. Esteemed experts, including Jan Vopravil from the Research Institute for Soil and Water Conservation (VÚMOP), Daniel Lunter from the Partnership Foundation, private farmer and gamekeeper Jiří Michalisko, Jan Trávníček from Czech Organics, and the mayor of Šumice, along with colleagues from Beleco and CSO, shared their insights and experiences regarding land and landownership.

The second day was dedicated to an excursion at the ecological farm Velké Hostěrádky, showcasing its various activities there such as catch cropping, tree plantings, organic pig farming etc. Following the farm tour, participants visited Šumice municipality near Pohořelice in Southern Moravia. This visit highlighted large-scale bio-center and biocorridor projects spanning 75 hectares. The mayor of Šumice showed us the site and shared their experience with realized measurements in such scale.

Cesta ke zdravější zemědělské krajině

Konference pro vlastníky půdy

21. - 22. 11. 2023

21. 11. Přednášky a diskuse 8:30 - 17:00

Ekofarma Probio, Velké Hostěrádky a online

Plánování, prosazování a realizace opatření zlepšující stav půdy a krajiny
Zkušenosti obcí, vlastníků půdy a zemědělců
Dotace a poradenství

22. 11. Terénní exkurze 9:00 - 13:30

Ekofarma Probio ve Velkých Hostěrádkách
Ukázka krajinných opatření v obci Šumice

Registrujte se do 15. 11.

Účast zdarma

Občerstvení zajištěno

Kontakt: Michaela Kadavá, kadava@birdlife.cz

Figure 17: Invitation to the Conference about landownership in Velké Hostěrádky



Figure 18: Field trip site – biocenter and biocorridors realized in Šumice municipality (M. Kadavá, CSO)

4 PR activities and publications

4.1 Joint PR activities

4.1.1 Press releases

During the project two press releases has been published about the project activities. We published the first press release [Conference about landownership introduces the ways to healthy farmland](#) on the 13th of November 2023 before the planned conference. The press release invited the public for the event, informed about the program and also presented the methods how landowners can participate in protection of landscape and soil. Next press release [CSO and EKOTOXA invite for webinar about experiences with landscape features](#) has been published on the 6th of March 2024 as a invitation for a webinar about plantings and landscape water body features.

4.1.2 Leaflet for landowners

In order to be able to continuously update information (especially financial instruments) on how to help the landscape, we decided to create a [new website](#) with a guide to how farmers and landowners can help the landscape and biodiversity. Website visitors can find a number of recommendations for measures on arable land as well as on grassland. By clicking on the picture of farmland bird at the end of the page the measure for a specific measure will be opened. To promote the new website we published a colourful printed leaflet. On the top page, a typical agricultural landscape is depicted and the call to action follows: *Will you take the opportunity to... continue on the next page: ...help the agricultural landscape?* The following page is an example of measures, which are described in more detail on the website, including the QR code and logos of the project partners. See a leaflet in a Annex 11.

4.1.3 Promote the database Living soil (“Živá půda”)

The Living Soil database has been promoted on a project website and through posts on social media. The database has also been promoted through distributed printed materials, face-to-face meetings, and public events (webinar, university lectures, and landowner conference). During the conference, the Parnertsví Foundation presented to the participants its consulting activities for landowners, in which they also spoke about the Living soil subsidies database.

4.1.4 Series of short articles

At the end of the project CSO and EKOTOXA released a series of articles on the new CSO website called [“How to start changing environment around me”](#) which summarises our experience from the project about networking between different types of stakeholders to achieve a more resilient landscape through cooperation on establishing new landscape features. The series of seven articles guide the reader from the initial idea to help nature, through the writing of the project, its financing and realization, to the possible creation of a land-care association like the LPV. An example of tree planting is presented as one of the ways to address climate change in a land of particular municipalities through all articles. Each article is complemented by illustrative

photos, e.g. including instructions on how to find a farmer in the public land register or find out the owner of the property. At the end of each article, our experience from the practice of tree planting near Hrádek is added.

4.1.5 Webinar

CSO and EKOTOXA organised an online webinar with speakers from NGOs, universities and research institutions with a demonstration of good practice examples about landscape features. We managed to reach a very heterogeneous group of participants. Farmers, representatives of municipalities, landowners, workers of state institutions for nature protection or students of landscape architecture participated in the event.

A total of 158 participants registered for the webinar, approximately half watched the live broadcast on the 14th of April. After the webinar, we received several positive responses as well as requests to make the recording of the event available for those who could not attend.

The first contribution was about whether we need landscape elements and why they are important, presented by Václav Zámečník from the CSO. From the speakers of Research Institute for Soil and Water Conservation participants learned how the practices that promote healthy soils and landscape can also lead to positive outcomes for water quality and other environmental benefits, with a focus on the Czech context.

A detailed focus on tree plantings and its subsequent care has been presented by a Zdeňka Flousková from Beautification Association from the Vrchlabí region. This part was essential for anyone involved in tree planting activities as one of the climate change adaptation strategies. The importance of cooperation and involvement of the local community in the preparation stage, realization and subsequent care of landscape features has been spoken by Michaela Kadavá (CSO) and Veronika Chvátalová (project external expert).

Participants will also increase their understanding of the various barriers and enabling factors that affect whether farmers and landowners adopt or do not adopt healthy farmland practices in a presentation by Tamara Meirerová from Lenzing and Jan Skalík from Friends of the Earth organization.

We believe that promotion of planting and water retention practices could play a major role in addressing key environmental challenges, including reducing harmful nutrient losses and increasing water security. Also, highlighting how consideration of soil, biodiversity, and water challenges together, rather than separately, better reflect the actual agro-ecological processes and potentially lead to better outcomes for Czech agriculture, with lessons for other regions.

This activity has been promoted through press releases (see more information bellow), social media and [web article](#). This article includes the program, detailed answers with links for questions asked during the event and [YT video](#) of recorded webinar. Anyone who missed the live webinar can replay it. There is also a long list of links to interesting websites with a methodologies and instructions on how to prevent climate crisis by relevant measures, the Living Soil subsidies database, good practice examples (demonstration farm etc.) and examples of successful cooperation (DVL)

4.1.6 University lecture

In our project, we conducted two online lectures at Masaryk University in Brno, focusing on enhancing communication with various stakeholders and initiating cooperation for nature conservation, with a particular emphasis on climate change adaptation in the Czech agricultural landscape. The first lecture covered effective stakeholder communication strategies, emphasizing the importance of engagement, conflict resolution, and the use of practical tools for fostering new collaboration. The second lecture centred on strategies for improving water retention to adapt to climate change, highlighting the necessity of cooperative efforts among different groups to implement sustainable water management practices. Both lectures aimed to equip participants (mostly environmental science students) with the knowledge and skills needed to effectively address environmental challenges through collaborative approaches. The lectures also included a presentation about the entire project and the possibility of joining it as a volunteer. In Annexes x, y, you will find a Prinstreen of our presentations.

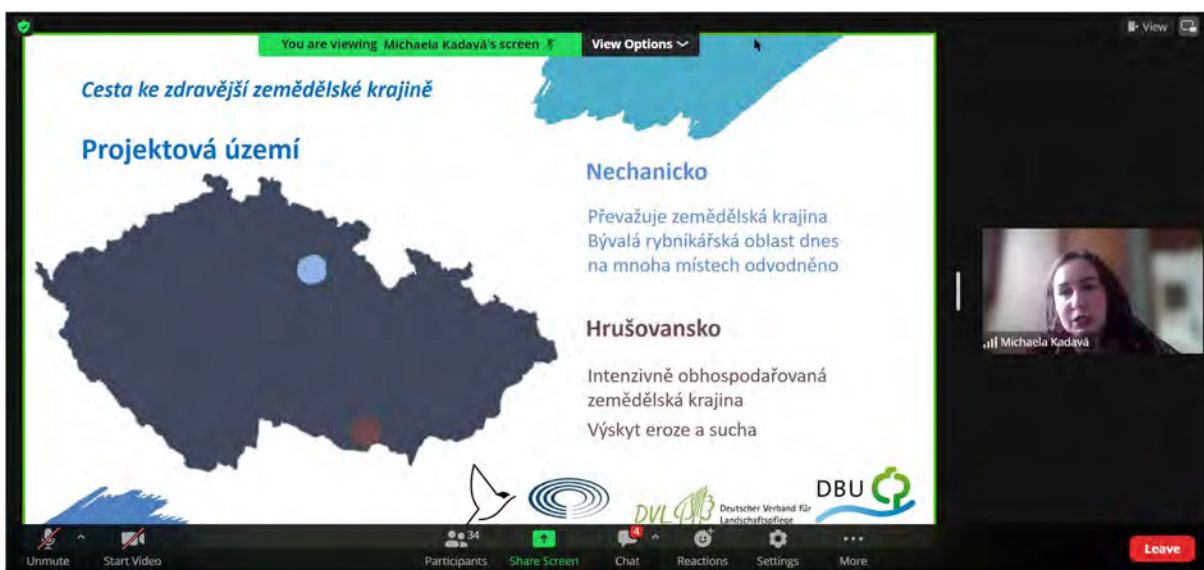


Figure 19: Online university lecture about how to communicate with different stakeholders (M. Kadavá, CSO)

4.2 CSO PR Activities

4.2.1 Project website

[The CSO project website](#) has been updated on a regular basis in connection with oncoming events (roundtables, the conference etc.). Considering the current vole crisis, a new guide for farmers has been created on the CSO website for farmers, landowners and relevant institutions. This guide provides options for the prevention and elimination of common voles in a more environmentally-friendly way. All the project outputs are now available on the project website, enhancing the project's visibility by featuring it prominently in the side menu under the agriculture section. This strategic placement ensures easier access and greater engagement from our audience, highlighting the significance of our work in climate change adaptation.

4.2.2 Online farmland bird atlas

The Czech Society for Ornithology (CSO) has released an online demo version of the Farmland Bird Atlas. This atlas features twelve representative farmland bird species, providing detailed descriptions of their appearance, population trends, habitat preferences, distribution, threats, and conservation measures. Each species' page includes information about mapping efforts and guidance on how to participate in their protection. The text and graphic design are inspired by V. Zámečník's Farmland Bird Manual (2016). Additional pages for other bird species within the atlas are in development, with plans to expand the information available for each species. The atlas is available in this [website Farmland Birds](#), see the left side bar.

4.2.3 Social media

Utilizing Facebook, Twitter, and LinkedIn, our project disseminated news, reports, and field insights to a wide audience. With over 15 posts shared (Annex 12), we highlighted key events like Landownership conference, Webinars discussing landscape features, and hands-on workshops focused on farmland bird conservation. Additionally, we extended invitations to collaborative round tables within the Nechanicko microregion. Through these channels, we aimed to engage stakeholders, spark discussions, and drive participation in our project initiatives.

4.2.4 Regional press

Our project activities and events have continued to gain visibility through our ongoing collaboration with the Municipal Association Pilot Region Nechanicko. They regularly provide us with space in their local newsletter *Zpravodaj mikroregionu Nechanicko*. In the first issue of 2024, we published an article highlighting the experiences of local farmers and the LPV with specific nature protection measures observed in the study trip of Czech partners and stakeholders to Saxony (Annex 13). This article not only showcased successful environmental practices but also illustrated the valuable cross-regional exchange of knowledge fostered by our project.

Furthermore, we published two articles in the *Nechanický zpravodaj* - local press in Nechanice (Annex 16 and 17). The first article detailed a recent tree planting initiative near Hrádek, emphasizing our ongoing commitment to enhancing local biodiversity. The second article covered a seminar held in June, where we presented various project activities and shared insights from a field trip to the Komárov wetland restoration project.

4.2.5 Printed media

As part of our PR activities, CSO published an article on farmland bird conservation in *Ptačí Svět* (Bird World) magazine to raise awareness and encourage public participation in our project. The article highlights our conservation efforts for species such as the Corncrake, Northern Lapwing, the Grey Partridge, and Montagu's Harrier. By detailing our methods and the importance of preserving these species, we aim to engage a broader audience and encourage community involvement in our conservation activities (Annex 18)

Additionally, we featured an article on the nesting success rate of the Grey Partridge in *Úroda* (Harvest) magazine, titled "*Nesting Success Rate of Grey Partridge in Farmland Landscapes and Opportunities for Support*" offers practical insights and recommendations for farmers, e. g. the introduction of the new CAP subsidy called combined bio-belts, designed by the CSO (Annex 19). By providing actionable information and highlighting

available subsidies, we hope to inspire farmers to adopt conservation-friendly practices and contribute to the protection of these important bird species.

4.2.6 Promotion of flag species

The project focused on promoting public awareness of three flag species: the Northern Lapwing, the Grey Partridge, and the Corncrake. These species were chosen due to their vulnerability to various environmental threats, including habitat destruction and loss of landscape features. Through the distribution of over 100 stickers featuring these emblematic birds, efforts were made to engage individuals in conservation challenges facing these avian species (Annexe 20).

The Northern Lapwing, a representative of meadow bird species, faces significant threats from nest destruction caused by farm machinery. Similarly, the Grey Partridge typical steppe species suffers from a negative population trend attributed to the loss of essential landscape features and natural food sources such as weed grasses. Lastly, the Corncrake, preferring grassland habitats, encounters nesting risks due to grass cutting activities in summer. These stickers were strategically distributed during both individual meetings and public events, aiming to capture the attention of diverse audiences and foster discussions on the importance of preserving the habitats of these emblematic bird species.

4.3 EKOTOXA PR activities

4.3.1 Project website

The EKOTOXA project website has been updated in connection with continuation of the project. Current project contacts, outcomes and information connected to the project were updated including links to recordings of landownership conference and webinar.

Landownership conference, webinar and other project activities were also promoted through websites and social media of collaborative partners and municipalities including Czech-Moravian Hunting Association (Českomoravská myslivecká jednota), Union of Towns and Municipalities of the Czech Republic (Svaz měst a obcí ČR), Živá půda database and others.

4.3.2 Social media and regional press

Project events were regularly promoted through social media posts (mostly on Facebook). Landownership conference, webinar, seminar dedicated for farmers and other events happening in microregion and on national level were promoted (Annex 21). Through these channels, we aimed to engage stakeholders and drive participation in our project initiatives.

4.3.3 Internal mechanisms of project management

Internal regular meetings of CSO and EKOTOXA with DVL are organised by DVL once a month or as needed, to guarantee the smooth progress of the planned activities. At these meetings, news, strategies for achieving goals, organisation of events and other relevant topics are discussed.

5 Problems and obstacles

Throughout the project, various problems and obstacles were encountered that required careful consideration and solutions. These challenges spanned time-management, logistical, and stakeholder engagement issues, each of which impacted the project's progress in different ways.

Logistical challenges

One significant logistical challenge was coordinating the numerous meetings, roundtables, and seminars across two different microregions. Organizing these events required substantial effort in terms of scheduling, invitations, and ensuring adequate participation from all relevant stakeholders.

Period of the project

The fifteen-month period allocated for this project was relatively brief to establish firm trust and cooperation with all stakeholders and to realize the landscape features proposed during stakeholder meetings. Building strong relationships with stakeholders requires time and consistent engagement, which was challenging within the project's limited timeframe. Moreover, implementing landscape features is a complex process that involves multiple stages, including planning, approval, and actual realization, all of which require more time than was available.

Time requirements for creating landscape features

Various interesting ideas about creating or revitalizing landscape features emerged from the individual meetings. However, even smaller projects require extensive preparatory work in terms of documentation and communication. Seasonality also plays a crucial role in the implementation of these features. Certain activities such as biodiversity surveys must be carried out at specific times of the year, making scheduling crucial. Bureaucratic procedures related to permits and approvals took longer than anticipated, causing delays in the implementation of certain landscape features and environmental measures. Due to the interest in cooperation from stakeholders in some municipalities, there is immense potential for a follow-up projects that could provide sufficient time to realize another of the landscape features discussed.

Stakeholder engagement

Engaging with stakeholders, particularly landowners and local municipalities, presented a series of challenges. While some landowners were receptive and actively participated in project activities, others were less engaged or unable to attend key events. Despite efforts to contact and involve as many stakeholders as possible through phone calls and personal visits, there were instances where participation was lower than expected. This occasionally hindered the dissemination of crucial information and the implementation of proposed landscape features.

Negotiating with landowners was another critical challenge, especially in the Nechanicko microregion. Although progress was made with some stakeholders, such as the approval for creating a bio-corridor on a leased field, these negotiations required continuous effort and time to build trust and consensus among the various parties involved. Ensuring that all stakeholders understood and supported the project's goals was essential for its success, yet this process was often slow and required persistent engagement.

Specification of the Hrušovansko microregion and neighbouring municipalities is that the area used to be inhabited mostly by the German population. This radically changed after 1945 when original inhabitants were forced to leave this area that they had cultivated for centuries. After 1945, new people came to colonise and cultivate the area but the bond between people and land has been disrupted and has never been fully re-established. While negotiating during roundtables and personal meetings, we had the opportunity to feel differences between areas with the original Czech or formerly German population.

Seasonal conditions

The project's timeline was influenced significantly by seasonal conditions. Activities such as bird monitoring and certain agricultural practices are inherently tied to specific times of the year. The delay between the planned start in October 2022 and the actual start two months later meant that some activities had to be rescheduled or compressed into shorter time frames, complicating the project's execution.

Technical expertise and resources

Access to technical expertise and resources was another obstacle. The project relied heavily on consultations with environmental experts, landscape architects, and other specialists. Coordinating these consultations and integrating their recommendations into the project plan demanded significant effort. Additionally, the implementation of specialized measures, such as the creation of swales and barriers to reduce water erosion, required specific technical knowledge and resources that were sometimes difficult to obtain in a timely manner.

Low level of trust among stakeholders

However, building trust is a long-term process that extends beyond the project's timeline. Despite our efforts to assure stakeholders of our commitment to continued engagement beyond the project's duration, skepticism persists. The uncertainty surrounding the authorization of titles supporting agri-environment-climate measures (AECM) and the lack of clarity and continual changes in the national strategic plan of CAP for the term 2023-2027 further exacerbated this challenge. Despite efforts to provide information on proposed financial mechanisms, many farmers showed limited interest in consultations or participation in round table discussions.

Low response from farmers

Despite proactive attempts to engage farmers during their off-season through phone calls and emails, the response rate remained low. Our tailored approach, inspired by qualitative research on farmers' motivations (Meierová and Chvátalová, 2022), aimed to address their concerns effectively. However, many farmers declined offers of assistance, citing existing advisory arrangements or disinterest in the project's objectives. Resistance was particularly evident among farmers focused solely on economic stability, unwilling to participate in broader landscape improvement efforts.

Fortunately, some farmers and representatives of agricultural companies were open to collaborate and to change their practices in order to improve biodiversity, water retention and other aspects of the agricultural landscape. However, there is a need to support these farmers and keep established relationships alive and functioning.

Low interest from municipal representatives

Initial engagement with municipal representatives was promising, with personal meetings or telephone interviews conducted with all mayors and/or vice mayors in microregional villages. However, sustained involvement proved challenging, with limited attendance at round table discussions and other project activities. Despite efforts to accommodate schedules, some representatives exhibited prioritized existing power dynamics within their villages over project participation. In many cases, municipalities simply suffered from lack of advice and service of specialists related to particular measurements and their possible financing. Municipalities often had limited personal capacities and financial possibilities to deal with this issue.

Financial constraints

As part of the project, it was necessary to make some changes in the budget. Salaries rose in response to inflation, so despite the reduction of Václav Zámečník's project load over the last 9 months to 0.5, the total cost of labor costs was higher than planned. Fortunately, the project managed to save some funds, either on the side of travel costs or external services. There was also no need to cover the cost of the material. Initially, we assumed that the CSO would pay for the revitalization project from this money, but over time we have discovered that the project should optimally be implemented by the local municipality, which is the owner of the land.

Financial barriers also emerged during discussions with landowners when planning landscape features. Concerns about the financial implications of implementing landscape features hindered higher stakeholder commitment. Particularly, stakeholders expressed apprehension regarding the costs associated with post-project maintenance, such as tree watering or pruning etc. Municipalities, especially those with limited resources and bureaucratic hurdles in accessing subsidies, faced additional challenges in funding landscape initiatives.

Challenges in sustaining landscape features

Collaboration with local agricultural cooperatives posed challenges, with disagreements arising over landscape interventions and instances of destruction of newly planted features. Additionally, property rights issues and changing land ownership patterns hindered the establishment and maintenance of landscape features.

Community engagement

A lack of interest among residents, particularly the younger generation, in community activities, coupled with a general distrust of new approaches, posed challenges to community engagement. Despite positive perceptions of the project among stakeholders, skepticism regarding the applicability of landscape approaches persisted, hindering broader community involvement.

Conclusion

Addressing these problems and obstacles required a multifaceted approach, combining strategic planning, continuous stakeholder engagement, and adaptive management practices. While these challenges impacted the project's timeline and resource allocation, they also provided valuable lessons and insights that can be applied to future initiatives. By acknowledging and overcoming these obstacles, the project team demonstrated resilience and adaptability, ultimately contributing to the project's overall success and sustainability.

6 Consolidation and further or connected activities

Both pilot regions

We have succeeded to initiate cooperation where it had not been in place before in both pilot regions. The project contributed to a greater connection of various stakeholders who have an interest in the good functioning of the landscape. A directory of people was created, which can be used to disseminate information and invitations to various meetings and activities in the agricultural landscape.





















Pilot region Southern Moravia

Thanks to networking, EKOTOXA together with Friends of the Earth and other entities implemented a project Introduction of the bioregion concept as a support network for biodiversity in the Czech landscape under Rago call until April 2024, the aim of which was to support the adoption of ecological agriculture in a geographically defined region through a cooperative approach. EKOTOXA employees managed to combine both projects in such a way that they complement each other. Further development of activities supported sustainable farming and more ecologically stable countryside are planned.

Pilot region Nechanicko

The project raised awareness of the need to address the landscape and also contributed to the dissemination of examples of good practice. Thanks to this, there will be another stage of greening of the agricultural landscape by planting trees and bushes on municipal land in the cadastral territory of the municipality of Kunčice. It is also expected to implement the modification of the wetland in Komárov already in the fall of this year. Thanks to the connection of people with an interest in the landscape, the development of other activities beneficial to biodiversity and the landscape can be expected, such as the search for nests of birds endangered by agricultural technology, the support of bird nesting by placing birdhouses in the landscape, the implementation of wood landscaping and the strengthening of landscape features.

7 Annexes

-  Annex_1_sediment_analysis_of_Komárov_wetland
-  Annex_2_Herpetological_survey_Komárov_wetland
-  Annex_3_Botanical_survey_Komárov_wetland_Vávra
-  Annex_5_Ichthyological_survey_Komárov_wetland_photo_doc
-  Annex_6_Wetland_restoration_map
-  Annex_7_Water_erosion_study_České_Křídlovice
-  Annex_8_List_of_Round_Tables_in_Nechanicko
-  Annex_9_Hrádek_Biocorridor_planting_info_table
-  Annex_10_Hrádek_Biocorridor_Invitation_Poster
-  Annex_11_Leaflet_for_Landowners_and_Farmers
-  Annex_12_Social_media_PR_activities
-  Annex_13_Article_Experience_in_Nature_conservation_in_Saxony
-  Annex_14_Poster_Seminar_Nechanicko_12_6_2023
-  Annex_15_Seminar_Božice_Invitation_14_6_2023
-  Annex_16_Article_Bird_seminar_in_school
-  Annex_17_Article_The_effort_for_healthy_landscape_continues
-  Annex_18_Article_in_Bird_Life_farmland_birds
-  Annex_19_Article_agricultural_magazine_Partridge_cons
-  Annex_20_Farmland_birds_Stickers
-  Annex_21_Seminar_Hrušovansko_online_PR_activities

All attachments are uploaded in a separate folder, containing 155 pages. Annex 4 was deleted due to a safety concern.