



LIFE Project Number

LIFE14 NAT/SK/001306

Final Report

Covering the project activities from 01/08/2015 to 30/09/2024

Reporting Date

04/12/2024

LIFE PROJECT NAME or Acronym

Restoration and management of Danube floodplain habitats – LIFE Danube Floodplains

Data Project

Project location:	Danube Floodplains (Slovakia, Hungary)
Project start date:	01/08/2015
Project end date:	31/01/2022 Extension date: 30/09/2024
Total budget:	5 999 420 €
EU contribution:	3 599 651 €
(%) of eligible costs:	60 %

Data Beneficiary

Name Beneficiary:	BROZ – ochrannárske združenie (BROZ – conservation association)
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Technical part

Technical progress, per Action

Please describe **what and how** progress has been achieved regarding the different technical/substantial components of the project (such as research, fieldwork, construction, development of communication tools). Indicate what has been done regarding each action (sub-action if appropriate) but avoid describing the objectives and targets as such. The description of the work done has to be sufficient to allow a good understanding of the project without a need to refer to the deliverables. Present and discuss the main findings and results and their implications for other actions and the project as a whole. The technical details, however, should be given in the deliverables.

For each action (the description of which should start on a new page):

- Please indicate:
 - Foreseen start date: Actual start date:
 - Foreseen end date: Actual (or anticipated) end date:
- Describe the activities undertaken and outputs achieved in quantifiable terms (also indicate by whom they were done).
- Compare with planned output (including the foreseen action description, expected results, deliverables and milestones) and time schedule. Please justify any deviations from the action start and end dates as well as the deliverables' and milestones' dates foreseen in the grant agreement, and discuss the impact on other actions.
- If relevant, clearly indicate how actions were modified, and any correspondence with the Agency approving the changes (in particular this is required if there has been a significant over-spending of the foreseen budget for the action).
- Clearly indicate major problems / drawbacks encountered, delays, including consequences for other actions (technical, legal, financial/economic, market, organisational or environment related problems).
- Mention any complementary action outside LIFE.
- Outline the perspectives for continuing the action after the end of the project.
- Include tables, photographs etc. to illustrate the actions, such as (for LIFE Nature & Biodiversity, as well as LIFE Climate Action) land purchase and non-recurring management activities.

For LIFE Nature & Biodiversity projects, and LIFE Climate Action projects where applicable, the progress description should, in addition, include the following:

- Preparatory actions / management plan preparation
- Land purchase including Land swaps (NB if relevant there are compulsory annexes)
- Natura 2000 site designation (if relevant)
- Recurring biotope management

For the dissemination actions, please also address the following:

- Compare with the planned activity
- Was the objective reached? What reactions and feedback were obtained?

A.1 Status of the action: completed

Foreseen start date: 1.8.2015

Actual start date: 1.1.2016

Foreseen end date: 31.5.2017

Actual end date: 16.2.2018

Deliverable/milestone: Deliverable: Final report with proposal of measures (specification of basic parameters), maps

Deliverable foreseen: 31.5.2017

Deliverable completed: 16.2. 2018

Description of implementation of the action: The objective of the action was to produce the expert study (DA_01_A1_study_longitudinal_continuity) as a basis for the actions A.3, C.1 and C.2. This objective was fulfilled. It was preceded by extensive terrain surveying works, setting up of numerical hydrodynamic models of the Danube branch system and the old Danube (1D and 2D) and building of physical model in the hydraulic laboratory.

Problems, solutions, delays, and the impact on the other actions depended on this action: The action was a little bit delayed due to a later active start of the project (January 2016) and a late procurement of the digital terrain data (DTM is a crucial input into 2D modelling and physical modelling).

Hydrological model on flow capacity and longitudinal continuity of Danube river branch system

A.2 Expert study on restoration of river branches lateral connectivity and wetlands water regime

Status of the action: **completed**

Foreseen start date: 1.8.2015

Actual start date: 1.1.2016

Foreseen end date: 30.11.2016

Actual end date: 31.01.2019

Deliverable/milestone: **Deliverable: Expert study elaborated**

Deliverable foreseen: 30.11.2016

Deliverable completed: 31.01.2019

Description of implementation of the action: Based on the results of D.1 monitoring data, A.1 modelling results simulating various discharge conditions in the Danube branch system, analysis of ground water regime and interactions of the surface and ground waters as well as the influence of the Danube main channel, we prepared proposal of measures for restoration of lateral connectivity in selected branches and wetlands. Also, analyses of DTM as well as additional terrain measurements in the branches were necessary to verify / modify the DTM in underwater areas. Land property and historical (reference) state was also considered. The effect of proposed measures was tested by numerical modelling tools.

Expert study was prepared ([DA_02_A2_study_lateral_connectivity](#)) focusing on restoration measures of side-arms and river branches. It describes the proposed measures with detailed information on the extent of measures (quantification of dredging amounts, dimensions of proposed channel reconnections etc.), cross-section profiles, longitudinal profiles, elevations, expected discharges and water levels etc. In some localities, scenarios (variants) of measures were proposed according to available financial sources. Besides reconnection of branches in side-arm system, two localities in lower part of the Danube were also analysed (Veľký Lél. Mužľa).

Problems, solutions, delays, and the impact on the other actions depended on this action: The action was delayed also due to a later start of the project and later procurement of limnigraphs and the digital terrain data. Also long-term observations of water regime (D.1 monitoring) and action A.1 modelling results were needed.

A.3 Technical documentation

Status of the action: **completed**

Foreseen start date: 1.10.2016

Actual start date: 1.9.2015

Foreseen end date: 31.3.2023

Actual end date: 12.1.2024

Deliverable/milestone: **Deliverable Technical set of project documentation for each restoration action where necessary**

Deliverable foreseen: 31.1.2023

Deliverable completed: 31.7.2023

Deliverable/milestone: **Deliverable Valid construction permission issued for each restoration action where necessary**

Deliverable foreseen: 28.2.2023

Deliverable completed: 22.11.2023

Deliverable/milestone: **Milestone Public procurements finished, contracts signed**

Milestone foreseen: 31.12.2022

Milestone completed: 12.1.2024

Description of implementation of the action: All necessary technical documentations were elaborated ([DA_03_A3_technical_documentations](#)). VVB together with BROZ were responsible for this action. Technical documentations for restoration of river branches were elaborated by external subcontracted experts under supervision of VVB and BROZ and involving all relevant stakeholders for discussion where needed. Results of this action are complete detailed technical documentations in printed as well as electronic versions dedicated for obtaining necessary permits as well as for the execution of proposed restoration works. Documentations were prepared on the basis of expert studies (A.1, A.2, plus study from LIFE12 NAT/SK/001137 BeeSandFish project concerning locality Kráľovská lúka) as well as parameters defined by SWME and in some cases also negotiated conditions requested by stakeholders (FSR, SRZ, water sports associations). Beneficiaries VVB and BROZ were involved in obtaining construction permits (or announcement of construction works to authorities where relevant, see [DA_04_A3_permits](#)). The above mentioned technical documentations and permissions concern following measures and localities: restoration of lower Vojčianske side arm, installation of sluice gates on B1 weir, partial removal of old B weir, adjustment of outflow object of Šulianske jazero, D2a reconnection of sidearm, reconstruction of E3 weir, restoration of water regime of Kráľovská lúka (part I and part II), opening of L4 inflow of Veľkolélske side arm and Veľkolélsky channel; see overview of river branches restoration actions in [NDA_05_A3_overview](#).

Problems, solutions, delays, and the impact on the other actions depended on this action: The originally planned objectives of all phases of the action A.3 were fulfilled despite complications and postponements. Delays in elaboration of technical documentations and obtaining of construction permits were caused partially by the delay of preliminary A.1 and A.2 actions serving as a basis for action A.3, and partly by COVID-19 pandemics. Finalisation of procurement of contractors was postponed because of administratively demanding processes within the state enterprise of VVB. Anyway thanks to the repeated extension of the project, all needed technical documentations, construction permits and contracts with procured suppliers were ready on time to finish the concrete restoration works (C.1 and C.2). All planned measures covered by technical documentations were later also implemented within the project except one – the L4 inflow into the Veľkolélske side arm. Another project, 101069837 LIFE21-IPE-SK-LIFE Living Rivers, where BROZ is responsible for water regime restoration actions, took over this agenda and first steps towards its implementation were already taken (negotiations with relevant authorities – SWME, VVB, MoT SR, etc.).

A.4 Identification of the sources of autochthonous gene pool, reproduction of these species and elaboration of a draft of activities serving on forest ecosystems protection

Status of the action: **completed**

Foreseen start date: 1.8.2015

Actual start date: 1.1.2016

Foreseen end date: 30.6.2017

Actual end date: 30.06.2018

Deliverable/milestone: **Deliverable The inventory elaborated**

Deliverable foreseen: 31.12.2016

Deliverable completed: 6.7.2017

Deliverable/milestone: **Deliverable All 200 verified, registered genotypes of Black poplar (*Populus nigra*)**

Deliverable foreseen: 30.6.2017

Deliverable completed: 30.6.2017

Deliverable/milestone: **Deliverable Expert study proposed concrete restoration measures to improve conservation status of targeted forest habitats elaborated**

Deliverable foreseen: 30.6.2017

Deliverable completed: 30.1.2018

Deliverable/milestone: **Milestone Implementation of the field work finished (NLC)**

Milestone foreseen: 30.6.2016

Milestone completed: 28.2.2018

Deliverable/milestone: **Milestone Approval process finished (NLC)**

Milestone foreseen: 31.12.2016

Milestone completed: 30.4.2018

Description of implementation of the action:

NLC – 220 individuals of native trees as official sources of autochthonous genetic material have been identified in the Slovak part of the project site. At the beginning the methodology and the work plan have been prepared. Mapping and identification of phenotype – important sources of tree species began in January 2016 and during the winter 2016 – 2017 the measurements have been finished. Amongst 220 individual trees are mostly black poplars *Populus nigra* ssp. *nigra* (68), pedunculate oak *Quercus robur* (38), white poplar / grey poplar *Populus alba* (30), *Populus x canescens* (3), white willow *Salix alba* (20), narrow leaved ash *Fraxinus angustifolia* (2), European ash *Fraxinus excelsior* (15), Black alder *Alnus glutinosa* (12), European white elm *Ulmus laevis* (9), lock elm *Ulmus minor* (5), field maple *Acer campestre* (5). Other species included are linden *Tilia cordata* (1), *Tilia platyphyllos* (3), wild apple trees *Malus silvestris* (1), wild pear tree *Pyrus communis* (4), mulberry trees *Morus nigra*, bird cherry *Prunus racemosa* (3), english hawthorn *Crataegus oxyacantha* (1). The most precious individual trees have been found in the forest area of Klížska Nemá, where 300 – 400 years old trees have been identified. Their exact age was determined by a special method in winter time 2016 – 2017, also measurements of height and other parameters were performed. Each individual tree was marked by a special number in the map and also in the field. See attached report with database (NDA_06_A4_report_database) including excel sheet with parameters of all identified trees with GPS coordinates and other tree characteristics. Every spring or autumn the reproduction material (vegetative or seeds) was taken from identified individuals for the purpose of further reproduction within action C.3. 41 trees out of 220 were selected and nominated into the National Register and National List of LRM (according to the Act. No. 138/2010 coll.).

BROZ cooperated on identification of individual native trees for NLC and on the mapping and inventory (DA_07_A4_inventory) for the expert study (DA_08_A4_study_forests) proposing concrete restoration measures to improve conservation status of targeted floodplain habitats (elaborated in June 2017 and modified in January 2018). It includes proposals for planting of native trees and removal of IAS.

DINPD contracted on 3.10.2016 Sapro Forest Kft. for identifying, depicting, GPS mapping, genetic sampling and investigating of 200 Black poplar trees. The action was completed and the deliverable was provided in June 2017 (DA_09_A4_poplar_genotypes). The samples were DNA tested in the official laboratory of the Hungarian National Food Chain Safety Office. The

final report showed that 203 individuals were identified as pure *Populus nigra* L. and 6 individuals as a subvariety of *Populus nigra* species out of the 214 samples collected within the action and therefore they are all suitable for further reproduction. The GIS database contains coordinates, photo documentation, morphological descriptions and sexes of the individuals (see overview map [NDA_10_A4_map](#) showing the geographical distribution of the individual trees.) The finalised Black poplar database served as a primary source for subsequent collections of propagating material in Action C.3. Moreover, all the trees involved in the database are also registered as part of the Black poplar genetic basis at the Hungarian National Food Chain Safety Office and therefore could be used for future conservation purposes.

Problems, solutions, delays, and the impact on the other actions depended on this action: N/A

A.5 Expert study on lowland meadows and non-forest habitats restoration

Status of the action: **completed**

Foreseen start date: 1.8.2015

Actual start date: 1.1.2016

Foreseen end date: 31.5.2017

Actual end date: 31.5.2017

Deliverable/milestone: **Deliverable Expert study on restoration of lowland meadows and non-forest habitats elaborated**

Deliverable foreseen: 31.5.2017

Deliverable completed: 31.5.2017

Deliverable/milestone: **Milestone Public discussions with stakeholders and/or experts on the study organized**

Milestone foreseen: 30.12.2016

Milestone completed: 23.2.2017

Description of implementation of the action: Field research of selected habitats on selected project sites was carried out during the period June – September 2016 with the aim to map the current status of the habitats on project sites. The field research was done in sites in the following SCIs: Dunajské luhy, Kľúčovské rameno, Čičovské luhy, Klátovské rameno, Dolnovážske luhy. The external contractor prepared the study ([DA_11_A5_study_grasslands](#)) with all results from the field research and with all recommendations for the restoration measures on individual project sites. The study was consulted with local farmers directly in the field – PD Sokolce. They agreed to change the arable land to grassland in the cadastral area of Čičov – SKUEV0227, SKUEV1227 Čiližské močiare (see the description of the action C.5). Moreover, based on the results of the study, the town of Komárno was contacted by the official letter with the request to restore the lowland meadows in the NNR Apálsky ostrov – SKUEV Dolnovážske luhy and perform annually mowing of the vegetation. In the letter we have explained the purpose of the management measures. The town of Komárno (as owner of the land) agreed with the management and the management started in November – December 2017 (for the details – see action C.5). The study was used as a basis for consultations with the owners or users of the land in the project sites (see [NDA_12_A5_discussions](#)). The study covers a broader area than was possible to restore and manage by this project. Therefore concrete locations for the restoration measures were selected according to the local situation and financial possibilities of the project.

Problems, solutions, delays, and the impact on the other actions depended on this action: N/A

B.1 Purchase/lease of land

Status of the action: **completed**

Foreseen start date: 1.8.2015

Actual start date: 1.8.2015

Foreseen end date: 31.12.2023

Actual end date: 20.12.2022

Deliverable/milestone: **Milestone First land purchased**

Milestone foreseen: 31.1.2016

Milestone completed: 9.12.2016

Deliverable/milestone: **Milestone First land leased**

Milestone foreseen: 31.1.2017

Milestone completed: 15.12.2015

Description of implementation of the action:

This action was connected with the needs of concrete conservation measures, based on the results of preparatory actions (A-actions – expert studies). A detailed analysis of land ownership was elaborated for priority areas for land purchase and land lease. Regular meetings and negotiations took place with the landowners among the whole project area. Formal relation to land is one of the most crucial precondition and factor for successful implementation of project actions and for ensuring the long term management. Land ownership or long term land lease secures the preservation and sustainability of the project actions and achievements also after the project's end. Land was purchased / leased in strategic locations where the implementation of key project actions and measures (action C.1, C.2, C.4, C.5) was undertaken. During the whole project period – there were 38 purchase contracts and 4 long term lease contracts signed. These contracts could be found in [NDA_13_B1_land](#) also together with ownership certificates, maps and overview tables of acquired land. Data about land purchase were uploaded to the Land Purchase Database.

Land purchase:

In total 67.07 ha of land were purchased in following project sites: SCI Dunajské luhy, Čičovské luhy, Kľúčovské rameno, Čiližské močiare, Veľkolélsky ostrov. The target for purchased land was 31.5 ha so we significantly exceeded it.

Following habitat types were addressed by the land purchase contracts:

Water, wetland and riparian habitats (3150, 3270, etc.) – 5 ha (plan) – 6.28 ha

Grassland habitats (6120*, 6510, etc.) – 12 ha (plan) – 3.82 ha

Forest habitats (91E0*, 91F0) – 14,5 ha (plan) – 49.99 ha

Other land – 6.98 ha.

All purchased lands are assigned definitively to nature conservation activities according to the land purchase contracts. Nature conservation clause to confirm assignment definitively to nature conservation purposes is included in all land purchase contracts.

Land lease:

Concerning long term lease of land, we acquired 349.22 ha in SCIs Čičovské luhy, and Dunajské luhy. The target for leased land was: mosaic of forests and wetlands will be leased with the total size of 38,5 ha. This target was significantly exceeded. Following habitat types were addressed by the land lease contracts:

Water, wetland and riparian habitats (3150, 3270, etc.) – 9.13 ha

Grassland habitats (6120*, 6510, etc.) – 55.36 ha

Forest habitats (91E0*, 91F0) – 283.42 ha

Other land - 1.31 ha

C.1 Restoration of the flow capacity and longitudinal continuity of Danube branch system

Status of the action: **completed**

Foreseen start date: 1.7.2018

Actual start date: 1.7.2017

Foreseen end date: 30.9.2024

Actual end date: 10.9.2024

Deliverable/milestone: **Deliverable Acceptance protocols of the realised construction works**

Deliverable foreseen: 30.9.2024

Deliverable completed: 10.9.2024

Deliverable/milestone: **Milestone Construction time schedule elaborated**

Milestone foreseen: 31.12.2022

Milestone completed: N/A (see cancellation in Ares(2020)6509888, issue 8)

Deliverable/milestone: **Milestone All planned sites restored**

Milestone foreseen: 30.9.2024

Milestone completed: 10.9.2024

Description of implementation of the action: The action has started by modification of the main document for operation of VDG – so called “Operational Manual” (OM). In cooperation with AB – VUVH we initiated changes in text to alter the water manipulation in the branch system. The operator of VDG – VVB included into the wording of the document a possibility of simulation of short water waves in the Danube river branches area, during higher water levels in the Danube. This could bring a little more dynamics to water levels from 30 m³/s up to 40 m³/s. for a short time (for 2-5 days), several times per year according to general water level in the Danube. This is a better situation than before when the water level of the river branch system was stabilised at 30 m³/s during the whole spring, summer and autumn. In the winter time the stable water level used to be at 20 m³/s. The stable water regime is not typical for floodplain ecosystems and has a negative impact on the ecosystem. Moreover, CB – BROZ in cooperation with other state institutions (VUVH, SNC SR), initiated so-called “regular artificial flooding”. The petition for survival of Danube inland delta was successfully issued in 2020 – 11,306 signatures were collected and the petition was submitted to the Minister of Environment at a press event at the Danube river. The petition requested more water and dynamics to the Danube inland delta through modification of OM. Previously achieved increase of the water discharge to 90 m³/s for a short period was not enough to flood the whole area. Therefore, the negotiations with responsible bodies continued. BROZ and VUVH were very active in the process and were forcing further improvement of the flood regime, including the increase of the flow up to 120 m³/s. The improvement of the simulated floods in the Danube inland Delta became in course of the time more political topic than expert issue. Planned improvement of OM, including the increase of the inflow up to 120 m³/s, was discussed on various levels and with various authorities. An accompanying issue is the presence of illegal buildings in the area, which used to be an argument against the increase of flood level. State secretary of the Ministry of Environment promised to intervene and the first steps to resolve this issue were carried out. In 2023 testing flooding with the higher discharge was executed for the first time for a period of less than four days proved as safe and afterwards, next year's spring in 2024 artificial floods could have been performed for a period of 15 days (see overall development of simulated floods attached in overview of [NDA_14_C1_restorations_simulated_floods](#)). Target was to improve the water regime of the area of 1,850 ha. We achieved to influence the water regime on a total area of 1,805 ha. Beside OM, project partners (BROZ, VUVH, VVB) were also involved in the process of preparation of two most important legislative documents of the water policy in Slovakia. Both documents, Conception of the water policy till 2030 and Water plan of Slovakia were approved in 2022 by Slovak parliament.

Concerning concrete restoration measures towards improvement of water regime following outputs were carried out, including reconstruction or construction of 7 out of planned 5 technical objects:

Lower Vojčianske side arm – 2 objects (A2 and A3 weirs) The restoration of flow in the lower Vojčianske branch represented the largest restoration of its kind within the whole Danube branch system. The branch was disappearing due to lack of water, because of regular drying out of some of its parts. As a result mass fish dying was regularly recorded from these parts. Several sections were artificially filled in and others were clogged with a large amount of sediment. Under the crossings of the branch with forest roads, there were steel pipes of insufficient diameters that could not convey larger amounts of water, becoming clogged, stopping water flow, and thus presenting a migration barrier for fish. Field work on the branch modifications took place from August 2023 to January 2024. We managed to restore flow over a length of 3.7 km. Weirs designated as A2 and A3 were rebuild from narrow pipes to much larger frame culverts, the branch was widened in narrow places to a minimum of 10 m, and as part of the work, we built a ford to maintain access to the island that was created after restoring flow and connecting sections of the branch. The riverbed was also deepened in several places to create suitable wintering habitats for fish species.

Uniqueness of this restoration action attracted a lot of media attention which was crowned by the media briefing in the frame of the final project conference. This restoration was also the object of many visits and excursions by experts, but also students groups or various stakeholders. The extent of this restoration also attracted the private sector, which resulted in cooperation in the framework of the Living Danube Partnership project with the Coca-Cola Foundation (mediated by WWF Slovakia).

Šulianske jazero – 1 object – this measure including raising the overflow edge of the discharge facility to an elevation of 120.00 m ASL (from the former 119.16 m ASL) is proposed in order to prevent flowing of water into the material pit "B" from the Danube branch at high water levels. This was essential for the negotiations about simulated floods, because in the past this was seen as a reason for refusing the simulated floods from the side of the land users along the water body – material pit "B". It also ensures more effective performance of the simulated floods.

E3 weir – 1 object – before restoration it consisted of a non-functional water sports chute that hindered water dynamics. Even during higher water levels, when water flowed over the barrier, the steep chute combined with the flow velocity was not suitable for the migration of most fish species. Therefore, a technical solution was designed that also serves as a functional fish pass. The old water sports chute was demolished, and two frame culverts were installed under the road, with the amount of flowing water adjustable by manipulatable gates. During this reconstruction, requirements for recreational navigation were incorporated, ensuring better passability and creating access points to the water.

Old B weir – 1 object – it was not possible to manipulate and an impassable barrier was a remnant of the original damming of the branch system. From its total width of 130 m, 28.6 m was demolished from the left side of the flow, and the overflow edge was lowered by 1.3 m. This adjustment ensured the removal of the migration barrier and levelling of water surfaces above and below the barrier. This also contributed to the extension of flowing sections, which is significant for rheophilic fish species that currently suffer from a lack of suitable habitats.

Kráľovská lúka – 2 objects – inflow object with manipulatable sluice gate and outflow with provisional gate, as a part of complex restoration of 4,470 m of river branches. Due to obstacles

represented by insufficient clogged narrow tube culverts, the branch was left without water for prolonged periods. In addition, in several places, soil or tree remnants had accumulated in the channel, which presented a barrier to flow, so the sections were dredged locally. Largest volumes of work took place in the upper part of the channel, where the entire section from the inlet to the crossing with the forest road was deepened, banks were raised in order to prevent complete long-term flooding of adjacent forest plantations (managed by FSR; it was their demand in order to issue an agreement with the works). Under the road, a more flow-efficient frame culvert was installed, equipped with a manipulatable gate. At the outflow, a frame culvert equipped with a provisional gate was placed. The negotiations with land users FSR were very long lasting and for a long period without any positive conclusion. Thanks to purchase of land (B.1) in this area and proposing a technical solution enabling easy manipulation with the inflow the restoration was implemented in 2024.

Installation of sluice gates on B1 weir – new elements – the aim of the sluice gates is to manipulate B1 weir to reach certain water levels. This is essential during the simulated floods as it enables either to retain the water above the B weir lines, or concentrate the flow in certain parts and flush away unwanted sediments.

All restored technical objects as well as execution of simulated floods are documented in [NDA_14_C1_restorations_simulated_floods](#), relevant acceptance protocols are annexed in [DA_15_C1_acceptance_protocols](#). By adjustment of simulated floods and concrete conservation measures we targeted also following expected results:

-Following habitat types will be restored and their conservation status improved on the area of: 3270 - 60 ha, 6430 - 35 ha, 91E0* - 430 ha, 91 F0 – 100 ha – the actual achieved results are as follows: 3270 - 54 ha, 6430 - 42 ha, 91E0* - 482 ha, 91 F0 – 115 ha.

-Conservation status of the targeted species will be improved and their populations will be enhanced – positive impact of restoration of water regime was proved within monitoring of biota and assessment of ecosystem function (see description of actions D.2 and D.4).

Problems, solutions, delays, and the impact on the other actions depended on this action: Beginning of the works was delayed due to COVID pandemic situation, long lasting process of public procurement, collision of dates with performance of simulated floods, long term negotiations with local stakeholders and land users (hunters, FSR, etc.), but nevertheless at the end, all restoration measures took place before the amended end date of the project. With the aim of achieving more effective and faster implementation of C.1 and C.2 actions the implementation was newly redistributed between CB BROZ and AB VVB (mentioned in the letter: Request for contract amendment from 20.12.2021, Annex 1: Justification of the contract amendment request and preliminary accepted by the letter Ares(2022)710045). Performing of simulated floods was evaluated in connection to amphibian monitoring which resulted in several recommendations (see action D.2).

C.2 Restoration of river branches lateral connectivity of branches and water regimen of wetlands

Status of the action: **completed**

Foreseen start date: 1.1.2017

Actual start date: 1.1.2016

Foreseen end date: 30.9.2024

Actual end date: 28.8.2024

Deliverable/milestone: **Deliverable Acceptance protocols of the realised construction works**

Deliverable foreseen: 30.9.2024

Deliverable completed: 28.8.2024

Deliverable/milestone: **Milestone First wetland water regimen restored**

Milestone foreseen: 31.5.2018

Milestone completed: 31.5.2018

Deliverable/milestone: **Milestone All planned sites restored**

Milestone foreseen: 30.9.2024

Milestone completed: 28.8.2024

Description of implementation of the action: Out of planned 37 ha of four restored wetlands we targeted together 64.09 ha of 12 wetlands (consisting of 1.1 ha of 5 permanent wetlands and 62.99 ha of 7 periodic wetlands) created within the project in two localities. Three permanent wetlands in SKUEV0090 Dunajské luhy were supplied with water thanks to restoration of dry river branch in the length of 430 m and subsequently another 440 m. And two deep permanent wetlands and 7 periodic (one bigger and 6 small) in SKUEV0183 Veľkolélsky ostrov were created thanks to transition of formerly drainage channel to a supply channel (715 m), so the water could flow from Veľkolélske side arm to the middle of the island and smaller wetlands around the channel with shallow depth were created. The two deeper wetlands are available for amphibian breeding for the whole vegetation season. The channel was prolonged to connect the natural depressions and its bottom was adjusted 1 metre deeper than the original. Also the existing old culvert on the channel crossing with the forest road had to be removed and replaced. The new culvert has much wider flow capacity and the bottom is again more than 1 metre deeper than was the old one. A simple flood gate has been installed on the culvert, in order to keep the water in the area for a longer time. One field road has been interrupted by prolongation of the channel. This resulted in no driving through the grassland in one part of the island and reduction of disturbance for species and habitats.

Concerning concrete restoration measured towards improvement of water regime of river branches, following construction works with following outputs were carried out, including restoration or 9,570 m of 3 branches (out of minimum 4,500 m of 2 branches expected): *Vojčianske side arm – 3,700 m* (described in detail in C.1 action). *D2a reconnection of side arm – 1,400 m* – the aim of this action was to restore a smaller remnant of sidearm which was in the past cut off and suffered from drought by building of weirs and construction of forest road. The implementation helped to reconnect the Šulianske branch through this restored branch, with the Boďické branch. Frame culvert culverts were installed here. To reduce the slope between the Šulianske and the newly watered branch and to dampen the flow velocity, a boulder chute and stilling basin were built so that the flow would be suitable for migrating fish. The openings of the culvert include manipulatable gates that allow setting the required flow into the branch. This restoration initiated cooperation with the water sports association, whose representatives were invited to consult on solutions, also taking into account the safety of recreational vessel navigation. *Kráľovská lúka – 4,470 m* (described in detail in C.1 action).

All restored wetlands and branches are documented in [NDA_16_C2_restorations](#), relevant acceptance protocols are annexed in [DA_17_C2_acceptance_protocols](#).

Side effect of the restoration of sidearms and wetland was also making part of the lands hardly accessible and thus ensured reduction of human disturbance of sensitive habitats and species. This occurred on the Vojčianske side arm where the restoration created an semi isolated island

on an area of 17.3 ha. The same happened by restoration of wetlands in both localities, on an area of 27.7ha. Side effect of restoring the water regime in Kral'ovská lúka was the restriction of the access on an area of 18.4 ha.

The results of monitoring of vegetation (D.2) show that the restoration of the water regime (actions C.1 and C.2) had an almost immediate positive impact on all monitored sites. After the improvement of the water regime (increased groundwater level, water supply to the site through new branches), the cover of IAS decreased in the first year and was followed by an increase in the number and cover of native hygrophilous species.

Expected results:

-Following habitat types will be restored and their conservation status improved on the area of: 3150 – 32 ha, 6430 – 13.5 ha – the actual achieved results are as follows: 3150 – 27 ha, 6430 – 34.5 ha.

-Conservation status of the targeted species will be improved and their populations will be enhanced – positive impact of restoration of water regime was proved within monitoring of biota and assessment of ecosystem function (see description of actions D.2 and D.4).

-Expected output was also reduction of human disturbance on 135 ha – we managed to secure that on 147.77 ha (counting also with the effect of a ramp installed within C.5).

Problems, solutions, delays, and the impact on the other actions depended on this action: Here applies the same explanation as in this same text section in action C.1.

C.3 Establishment of the biological base and production of planting material of the native tree species

Status of the action: **completed**

Foreseen start date: 1.8.2015

Actual start date: 1.1.2016

Foreseen end date: 30.9.2023

Actual end date: 5.1.2024

Deliverable/milestone: **Deliverable First 15 000 seedlings produced by NLC**

Deliverable foreseen: 31.12.2018

Deliverable completed: 31.12.2018

Deliverable/milestone: **Milestone Reconstruction of nursery greenhouse finished**

Milestone foreseen: 31.5.2017

Milestone completed: 31.12.2019

Deliverable/milestone: **Milestone Establishment of a gene pool with full capacity and a demonstration site**

Milestone foreseen: 30.6.2020

Milestone completed: 5.1.2024

Description of implementation of the action: As part of this activity in Slovakia, material for further reproduction, such as seeds or cuttings, was obtained by NLC in the first years. From these, the first seedlings were subsequently grown. In the first years, the number of seedlings grown was small, but when the greenhouse (NDA_18_C3_greenhouse) was built in 2020 the number of seedlings grown was much higher from this year. The greenhouse is equipped with a state-of-the-art temperature and humidity control system, so it helped us a lot with growing of seedlings. Since 2020, we have used a certain part of the seedlings to establish a biological base, in which the most important species such as *Populus nigra*, *Salix alba*, *Tilia cordata*, *Ulmus laevis*, but also less important species such as *Crataegus monogyna* or *Padus racemosa* are represented. 10 pieces of each species are planted and this genetic base will serve as a basis for possible further reproduction in the following years. Currently, it fully fulfils its function. In total, 67,390 seedlings (DA_19_C3_seedlings) were grown during this activity. All seedlings were at least 100 cm high. Some species were even 300 cm high, e.g. *Salix alba* or *Populus nigra*. Most of the produced seedlings were directly used for restoration of floodplain forests in the project area (46,120 planted seedlings in C.4 action), or are prepared for after-life management..

From an expected 3.8 ha DINPD succeeded to establish a gene pool on 4.6 ha.

Tasks completed in chronological order related to the Black poplar nursery, Dejtár: All supporting documentation for this locality is included in NDA_20_C3_Dejtár. Authorization process for the Black poplar nursery – the official permission was issued on 25.3.2020. Protective fence of 530 m around the nursery was completed on 24.8.2020. 1st round of plantation: DINPD ordered 410 individuals of 42 different certified genotypes of Black poplars from the Gemenc State Forestry on 3.4.2020, which were received, planted (and also managed during the vegetation season) by a contractor called KAGRO-Textil Kft. in Dejtár on 18.3.2021. Related official authority visit and quality checks were successfully done on 2.6.2021. At the end of the project, 352 individuals are alive. This round of plantation was officially certified by the National Food Chain Safety Office as ‘national core plantation’ of Black poplars on 11.7.2022. 2nd round of plantation: on 28.3.2023, 648 individuals of 32 genotypes from Gemenc State Forestry were planted (and also managed during the vegetation season) by a contractor called TATN-HAJÓ Bt. and all of them is deemed to be alive at the end of the project. This round of plantation was officially certified by the National Food Chain Safety Office as ‘national core plantation’ of Black poplars on 18.1.2024. 3rd round of plantation: in early March 2023, after several unsuccessful experiences before (e.g. in 2021: app. 2,000 shoots, in 2022: 470 shoots were cut and delivered to Ipolyerdő State Forestry for rooting), DINPD focused again on collecting *Populus nigra* shoots from the previously investigated and verified donor trees along the Danube River section of DINPD. A total number

of 791 shoots were collected from 64 individual genotypes between Almásfüzitő and Dunaújváros and a total of 1,916 cuttings were made out of them. Rooting was fairly successful as 895 individuals of 53 genotypes stayed alive at KEFAG State Forestry. On 4.-5.1. 2024, these 895 individuals of 53 genotypes from DINPD's registered tree pool (see action A.4) were planted (and also managed during the vegetation season) by a contractor called TATN-HAJÓ Bt. Similarly to the previous two rounds, DINPD has applied for the 'national core plantation' qualification in the case of this round of plantation. Certification of 'national core plantation' is expected by the end of 2024. Overall, 1,895 individual plants of exactly 100 different genotypes (47 from Gemenc State Forestry and 53 from the Danube section of DINPD) are archived in Dejtár as of 30.9.2024. First production of propagulum (shoots) of the Dejtár nursery was done in February 2024. 230 shoots were used for Danube floodplain reforestation purposes within the framework of LIFE WILDIsland project (LIFE20 NAT/AT/000063) on the TÁTI islands.

Tasks completed in chronological order related to the tree-shaped gene pool in Rácalmás island: All supporting documentation for this locality is included in [NDA_21_C3_Racalmas](#). On 31.3.2016 an entrepreneur (Balázs Gyetvai) was contracted for preparation of the Rácalmás gene pool and planting of saplings. First part of the gene pool area (1.5 ha) was cleared in 2016 and mowed regularly until 2019. In 2019 and beginning of the year 2020 necessary permission for preparing the area for the "tree-shaped gene collection" was obtained and the area was cleared from shrubs and IAS. By the end of March 2020, the entire project area of 3.6 ha was cleared of IAS and bushes and the remaining 2.1 ha was prepared for plantation. The first two phases of plantation were done in December 2019 (5,300 pcs of other tree species) and March 2020 (2,500 pcs of Black poplar cuttings of 46 different genotypes) on the first 1.5 ha. Between 7.-10.12.2020, the remaining 2.1 ha was planted with 4,800 saplings the same way as it was done in December 2019. Only every second row was planted, so we left half of the area empty for Black poplars, to be planted during the spring of 2021. In March 2021, 3,500 Black poplar cuttings of 49 different certified genotypes were purchased from the Gemenc State Forestry in Tolna and planted in Rácalmás. They were planted in every second row of the remaining part of 2.1 ha. This way, the entire 3.6 ha was wholly planted by spring 2021, half of it with Black poplars (86 different genotypes) and half of it with other indigenous tree species typical of 91E0. However, Black poplars planted in 2021 had a very low rooting rate, that's why extra rounds of plantations were done in March 2023 with 3,000 individuals of 34 genotypes and 1,000 pcs of other tree species and finally in January 2024 (1,000 pcs) as additional replacement was needed. In April 2022, the Pest County Government Office issued its decree stating that this plantation is officially completed and Rácalmás 512/2 is classified by the forestry authority as a 'free provision forest' (a less strict category than normal forests). Previously it was classified as an 'exempt' area, meaning it could be used for many other purposes, but now it is an official forest, providing a much higher degree of legal protection. Thanks to the prolongation of the project period, extra rounds of plantation could have been done in 2023 and 2024 and regular maintenance management was carried out 3 times in 2023 and 2 times in 2024. The plantation has now reached a sufficient average height, which does not need further maintaining management, only occasional control of sporadic invasive tree individuals (*Acer negundo* and *Ailanthus altissima*).

Problems, solutions, delays, and the impact on the other actions depended on this action: In Slovakia, no serious problems occurred during the implementation of the activity. The only problems we had to solve were problems with the low production of oak acorns (*Quercus robur*), and therefore we could not grow any seedlings of this species from 2020.

Nursery: Within this action, DINPD had two main tasks, establishing a tree-shaped and a 1 ha juvenile gene pool. Originally, both of them would have been on the Rácalmás island (plot no.

Rácalmás 512/2), but in 2019 DINPD proposed a modification of the locality of the juvenile plantation. Approved by the Commission letter no. Ares(2020)6509888 of 9.11.2020 (technical issue no. 1), DINPD established a 1 ha intensive black poplar nursery on a Natura 2000 arable land for the following reasons: a) the proposed new site is officially registered as an arable land, therefore suitable for a more intense culture like a forestry gene collection, whereas the Rácalmás island project site is a sensitive and natural floodplain environment; b) chemicals are needed for the control of *Saperda populnea* and *Chrysomela populi*, two insects, which could cause significant damage in young *Populus* plants. Timely, moderate and careful use of chemicals would be sufficient to control these pests and the new site, as being an arable land, would be more suitable for such treatments than the originally planned floodplain site in Rácalmás. The parcel number of the new site of the 1 ha juvenile Black poplar collection is Dejtár 030/4 and it belongs to the Ipoly-völgye (HUDI10008) SPA Natura 2000 site.

Unsuccessful years in rooting and planting of collected shoots between 2020 and 2022: In February 2020 DINPD collected more than 100 genotypes, but rooting was unsuccessful. In 2021, DINPD collected app. 2,000 shoots and even the rooting was successful, so 1,200 seedlings were planted in November 2021. However, all of them were infected by *Cryptospora* sp. and *Botryosphaeria* sp. in spring 2022 and eventually could not be saved and this part of the plantation (everything except of the ‘core plantation’) was officially ordered to be fully destroyed during the summer of 2022. On top of this problem, all the shoots (470 pcs) collected in February 2022 and taken for rooting to Ipolyerdő State Forestry nursery were not rooting at all and were destroyed by the end of the summer. Thanks to the prolongation of the project period, DINPD had a last chance in 2023 and it turned out to be successful: see above at Dejtár.

C.4 Restoration of autochthonous tree species composition and increase of the forest stands biodiversity

Status	of	the	action:	completed
Foreseen start date: 1.7. 2017			Actual start date:	1.3.2016
Foreseen end date: 31.12.2023			Actual end date:	31.12.2023
<u>Deliverable/milestone:</u> Milestone	Waste clean-up and removal of ammunition			
Milestone foreseen: 31.7.2020			Milestone completed:	03.11.2017
<u>Deliverable/milestone:</u> Milestone	Invasive species removed on planned area within Slovak part of project site			
Milestone foreseen: 31.12.2020			Milestone completed:	31.12.2023
<u>Deliverable/milestone:</u> Milestone	45 000 pcs of trees planted within Slovak part of project site			
Milestone foreseen: 31.3.2021			Milestone completed:	16.5.2023
<u>Deliverable/milestone:</u> Milestone	Control of invasive species within Háros Island finished			
Milestone foreseen: 31.12.2023			Milestone completed:	31.12.2023
<u>Deliverable/milestone:</u> Milestone	Restoration of the alluvial forest within Hungarian part of project site			
Milestone foreseen: 31.12.2023			Milestone completed:	31.12.2023

Description of implementation of the action: SK part of the project area: This action included support of natural rejuvenation by intervention on the land, when the topsoil was disturbed, so the small seedlings of native trees, white and black poplar, occur naturally from dissemination from the standing trees. In the parts where the natural restoration by seedlings was not successful, the planting of the trees was carried out (together 59,400 individuals of native species) in SCIs Dunajské luhy, Čičovské luhy, Veľkolélsky ostrov. Some of the trees were planted individually with the aim of increasing the species diversity of the existing forest stands. Since these trees are not included in the total area planted, the total area is lower, even though the total number of planted trees has been increased. Seedlings were prepared partly within C.3 action by NLC. Planting was associated with after planting care in following years. IAS were eliminated in the area of 113.67 ha in SCIs Dunajské luhy, Čičovské luhy, Kľúčovské rameno, Dolnovážske luhy. On all purchased land adult IAS were individually eliminated to prevent further generative spreading on these localities. This individual treatment of only adult trees was not calculated in the overall area of elimination of invasive species. For more information about forest restoration in the SK part of the area see documentation attached – [NDA_22_C4_planting_SK](#) and [NDA_23_C4_invasives_SK](#).

Expected results in Slovakia:

- Planting of 45,000 pcs of native tree species – 59,400 seedlings of native trees were planted on the area of 39.17 ha.
- Invasive tree and plant species removed on the area of 30 ha – we succeeded in removing IAS on 113.67 ha.
- Following habitat types will be restored and their conservation status improved on the area of: 91E0* - 25 ha, 91F0 – 37 ha, 91G0 - 13 ha – the actual achieved results are as follows: 91E0* - 56 ha, 91F0 – 38 ha, 91G0 - 7 ha.
- Conservation status of the targeted species will be improved and their populations will be enhanced – positive impact of restoration of floodplain forests was proved within monitoring of biota and assessment of ecosystem function (see description of actions D.2 and D.4).

HU part of the project area – achievements on Háros Island: 1. *control of invasive species* (documented in [NDA_24_C4_invasives_HU](#)) – the action started in November 2016 by setting up a four-member physical work team with all the necessary equipment: chainsaw, mower, heavy duty electric drill, loppers, forestry markers, chainsaw attachments, grinder, bucket, fuel tank, spade, pitchfork, protecting clothing, injection tool. The necessary licences and courses were obtained by the workers and two of them also attended a pesticide users course to be qualified for the various chemical treatments used against IAS. Control of invasive tree species took place on a total of 13.87 ha and control of invasive herb species on a total of 2.0 ha between autumn 2016 and autumn 2019 covering the originally planned project area and a buffer zone. Altogether, because of overlapping, a total of 14.81 ha were eliminated instead of the proposed 7 ha. In 2016 and 2017 the first rounds of IAS treatments were carried out on approximately 7 ha. The work team applied mechanical pulling (2 ha) and bark treatment on box elder and black locust and stem injection to box elder, black locust, tree of heaven and Bohemian/Japanese knotweed in the targeted area. A total of 2 ha out of the 7 ha were mowed in order to control invasive herb species: *Aster* and *Solidago sp.* were eliminated. Some non-indigenous shrubs were also cut and chipped by a contractor (Áfonya Bt.) in December 2017. DINPD used a special needle for knotweed injection. This treatment was claimed to be very efficient and used in the United Kingdom, but in Hungary this was possibly the first application. Some patches of Bohemian / Japanese knotweed and tree of heaven were also treated in the surroundings of the target area. In 2018, the work team checked and treated the occasional re-growth in the previously managed 7 hectare and an additional 7 ha was also treated for box elder and black locust. Box elder and common hackberry was newly treated in an extended 1 ha. Seedlings of box elder were also eliminated by mechanical pulling in the entire treated area. Mowing weeds in the oak plantation was carried out three times in the vegetation period. 1 hectare was newly mowed (making it a total of 3 ha for mowing) and prepared for planting. In autumn 2019, selective chemical treatment was applied again to repel Bohemian / Japanese knotweed in the project area. Due to the previous management activities, the dense stands (app. 0.6 ha) completely disappeared and only solitary sprouts could be observed. Between 2020 and 2023, the work team continuously monitored and after-treated the entire target area of 14.81 ha, ensuring that the less possible individuals of IAS are remaining. 2. *forest renewal* (documented in [NDA_25_C4_planting_HU](#)) – the project work team enabled a very efficient implementation of the actions in the Háros Island: not only the IAS treatment but also the planting could be integrated into their daily work routine. Therefore DINPD proposed the reallocation of the financial sources from the “Forest renewal line” in “External assistance budget costs” category to “Personnel budget cost category” for the work team. The proposed changes were approved in the 2nd Progress Report. In autumn 2017, the work group planted 1,000 oak seedlings in the forest clearings where *Solidago* had been removed. In autumn 2018, 5,000 oak and 2,000 white elm saplings were purchased and planted by a contractor. Saplings were later treated with game deterrent by the work group. 4,000 black poplar saplings were also purchased and planted on the project area. In the winter of 2020-2021, 2,500 trees were planted making it a total of 14,500 saplings. During the winter periods the planted saplings were individually managed to reduce the game pressure (roe, wild boar) in the afforested patches. All the saplings were regularly wiped by special game repellent agents between 2017 and 2024. Because of the extreme liana coverage typical of floodplain forests, until the end of 2023, the work team regularly (at least twice a year) conducted a mechanical clearing. Patches of restored alluvial forest on Háros Island sum up to 3.7 ha. 3. *waste clean-up and ammunition removal* (documented in [NDA_26_C4_waste_ammunition](#)) – DINPD selected and contracted an ammunition removal company (EL-KÁ Tűzszerész Kft.) to inspect the targeted area. The screened and cleared surface was eventually increased from 5 ha to 7.1 ha in order to rule out the possible dispersion of shells. Altogether 120 pieces of anti-tank training mines (UKA) and

80 pieces of anti-infantry training mines (GYATA) were discovered and removed from the targeted area, which was officially declared safe on the 3.11.2017. Waste removal works were first tendered in September 2018. Although DINPD received and evaluated valid offers, the company providing the lowest-price offer eventually backed out of contracting, practically upsetting the implementation during the winter of 2018-2019. In the autumn of 2019, DINPD changed the management of the project and due to this transitional period, no tendering was done in 2019. Finally, DINPD selected and contracted a company (DÉSZOLG Kft.) on 29.6.2020 for collecting 450 tons of urban waste on Háros Island. The collection of 449.38 tons was done between 12.-26.1.2021. Referring to the technical issue no. 13 of Commission Letter Ref. Ares (2021)5962162 (30.09.2021.), in order to extend the range of waste removal, DINPD selected and contracted a company (DÉSZOLG Kft.) on 26.10.2023 for collecting an additional 85 tons of urban waste on the Háros Island. The collection of 84.9 tons was completed on 22.11.2023. Consequently, altogether 534.28 tons of urban waste was collected and transported from the Háros Island project site.

Expected results in Hungary:
 -12,500 trees planted – 14,500 trees were planted.
 -Control of invasive species – clearing *Negundo aceroides*, *Fallopia japonica*, *Solidago* sp. from app. 7 hectares area (this corresponds to app. 470 m³ *Negundo aceroides*) – DINPD succeeded in removing IAS from a larger area of 14.81 ha.
 -Renovation of a hardwood alluvial forest – on several smaller spots, on a total of 3.5 ha area we will renovate the hardwood forest which does not renew on its own – 3.7 ha of alluvial floodplain forest were restored.
 -Construction of a protective game wire fence – sub-action was cancelled and substituted by a more effective game repellent protection (explanation below).
 -Waste clean-up and removal of ammunition on 5 hectares including: Transport of app. 700 tons of bulky waste (large reinforced steel blocks, demolition wastes, waste glass, rotting wood and iron boxes, waste iron, beams), and 5 tons of hazardous waste (truck tires) – altogether 534.28 tons of urban waste was collected. The 560 m long concrete fence that runs in the mid of the alluvial forest will be removed – sub-action was cancelled and substituted by a larger restored area (explanation below). The removal of ammunition is necessary to provide for the safety of workers and researchers, the contaminated area is app. 5 hectares – ammunition was removed on 7.1 ha.

Problems, solutions, delays, and the impact on the other actions depended on this action:
Abandoning the removal of concrete fence – according to the technical issue no. 13 of the Commission letter of Ares (2021)5962162 – 30/09/2021: “Furthermore, the DINPD and external monitor discussed the issue of the concrete fence removal, which was already commented on in the previous EASME letters. I read the DINPD's arguments for cancelling this sub-action due to its financial inefficiency and the expected weak environmental impact. I understand that this activity was underestimated in your project proposal and that the originally provided reasons are inaccurate. However, I consider that the recently provided detailed justification is reasonable and I can approve cancelling the concrete fence removal based on this accepted justification. At the same time, I believe that the allocated budget for this activity can be invested in a larger area restored by the project.” Within this action, DINPD has substantially overachieved the original objectives of IAS control (14.81 ha instead of 7 ha), moderately exceeded the target area for ammunition and waste removal (7.1 ha instead of 5 ha) and amply fulfilled the expected result of forest renewal of 3.5 ha. *Abandoning of protective game fence* – among many others, the most decisive argument for using game repellent instead

of building many little circles of fences is definitely the cost efficiency. After the first plantations DINPD experienced a steady game damage on the young buds of the saplings. Therefore DINPD decided to use game repellent which is a simple silica sand based material. Game repellents are necessary to use in later stages of the trees as well, because deer can cause severe bark peeling damage, too. DINPD has experienced it on larger planted trees, which have a wider stem, so the deer can reach – without bending the stem itself– the young bark. Without game repellents the damage would have been significant, but in the last years of the project, the animals did not touch the managed tree individuals at all. This treatment will be maintained after the project duration. Regarding *waste removal costs*, it is important to underline that the project proposal calculated 32.774 EUR/ton for deposition of waste, while the eventual contract was signed at a rate of app. 100 EUR/ton in 2020 and app. 270 EUR/ton in 2023. This significant difference (especially in 2023) is mainly due to the fact that the planning was done in early 2014, while the contracting in late 2020 and 2023, resulting in a 6 – 9 years backlog, including a massive inflation of energy in 2022-2023.

C.5 Restoration of lowland meadows and non-forest habitats

Status of the action: **completed**

Foreseen start date: 31.7.2016

Actual start date: 31.7.2016

Foreseen end date: 30.9.2024

Actual end date: 30.9.2024

Deliverable/milestone: **Milestone First meadows restored**

Milestone foreseen: 1.9.2016

Milestone completed: 30.3. 2017

Deliverable/milestone: **Milestone Grazing started**

Milestone foreseen: 1.7.2017

Milestone completed: 31.8.2020

Deliverable/milestone: **Milestone All pollard willows restored and managed**

Milestone foreseen: 31.12.2019

Milestone completed: 21.3.2023

Deliverable/milestone: **Milestone All pollard willows planted**

Milestone foreseen: 30.4.2022

Milestone completed: 31.1.2023

Description of implementation of the action: Restoration of the alluvial meadows has been accomplished in SKUEV0227, SKUEV1227 Čiližské močiare in the cadastral area of Čičov by re-grassing of the 23 ha of the arable land with the selected seed mixture of natural plant species. This has been agreed with the land user of the respective area – Agricultural cooperative Sokolce (PD Sokolce). After harvest of the agricultural crops, soil has been prepared for seeding of grassland / meadow seed mixture. It was done in spring 2017. During the summer 2017, PD Sokolce cut the grass in the area and they continued in grass cutting once a year also following years. In the autumn 2017 PD Sokolce re-grassed again some parts, where the seeds in spring did not grow.

Another meadow, where the restoration process started in November – December 2017 is on the NNR Apálsky Island near Komárno (cutting of woody vegetation, milling and mulching of the unmanaged overgrown meadow), SKUEV0092 Dolnovážske luhy, habitat 6440. Due to the protection of an active nesting pair of the White-tailed eagle (*Haliaeetus albicilla*) in this locality the works could not start earlier than in August (according the requirement of SNC SR) and finished in the middle of December. Approximately 2 ha of the area were restored. The works continued next year from August 2018 by further mulching and grass cutting of an area of 5.5 ha and in the following year 2019 by grass cutting in May – June. The works in the year 2017 could not start before the road restraint (ramp; [NDA_27_C5_ramp](#)) was installed on the road to the NNR (requirement of SNC SR). This road was not used for many years and it was overgrown by the trees. But we needed to cut the trees in order to free the road for a tractor with mulching equipment. Since it was risky to leave it unprotected, because the locals – hunters could use it for unauthorised entrance to the area or for dumping of the waste, we installed the ramp in November 2017. Reduction of human disturbance thanks to this ramp was calculated together with effects of C.2 activities towards reduction of human disturbance into one result compared to the Expected result from project proposal. Based on the interim results from monitoring of vegetation, the most suitable management was the reintroduction of traditional grazing management. We made attempts to start cooperation with local farmers, but in all cases it failed due to various reasons: difficult access to the area, risk of floods, nutrient composition of the pasture, and the area was not suitable for claiming agricultural subsidies. In one of the project dissemination actions (E.2) we made contact with agricultural cooperative from Vrbová nad Váhom. It is an entity with a long farming tradition with its own animals and qualified employees. The agreed conditions were that BROZ would start the initial investments in the preparation of the territory: removal of invasive herbs and invasive trees, installation of grazing infrastructure and the cooperative would subsequently, under its own management, implement cattle grazing in the number and intensity corresponding to the requirements of nature conservation. Grazing within NNR of Apálsky Island began towards the final stage of the project in August 2023 (first 7 ha). In October 2023 another 21.5 ha were added to the

pastures. In the year 2024 the grazing continued on a total area of 28.5 ha and will follow also in the next years after the project based on the official contract signed until 31.1.2029.

Another sites were grassland habitats were restored is the SCI SKUEV0183 Veľkolélsky ostrov. This island is the biggest inland on the Slovak part of the Danube. Thanks to the project LIFE07 NAT/SK/000707 the significant restoration action at this locality occurred, including establishment of traditional grazing management on the island. We used the established grazing background for extending the areas important in this project. The total area is 22.04 ha and consists of 4 individual sites. The composition of the grazing herd and the timing of the management reflects the interim monitoring recommendations.

In SCI SKUEV0090 Dunajské luhy – locality Bodíky the grazing was implemented on an area of 8.1 ha. The grazing at this locality was already established in the frame of the project LIFE10 NAT/SK/080. In the frame of this project we enlarged the area in southern parts of the locality. At this locality the grazing management was significantly connected also with the willow pollarding activities. After the pollarding the grazing ensured elimination of the regrowth of shrubs and invasive species and maintenance of the open character of the area.

Pollard willows are a valuable remnant of a landscape that was in the past carefully managed by humans. The trunks of regularly pruned willows can reach truly impressive dimensions and live for more than 120 years. Cavities filled with rotting wood form in their centre, represent an unique habitat for many species. Many animals linked to cavities and wood of old trees are now very rare, and pollard willows represent one of their last refuges.

During the project, we identified individual trees in the project area that showed signs of past pruning in this way. In cooperation with an arborist, an initial pruning was then performed, which protected the individuals from disintegration and extended their life by several decades. A total of 366 willow individuals were identified and pruned in localities SCI Dolnovážske luhy, Veľkolélsky ostrov and Dunajské luhy. Two of them were pollarded as a replication when a local farmer took care of the willows in Dobrohošť' (NDA_28_C5_replication_willows).

The importance of pollarded willows was highlighted by results of monitoring conducted on Veľký Lél Island which was performed from 2018 to 2022 (monitoring was not part of the project actions). The results of the monitoring provided evidence of occurrence of up to 355 beetle species associated with pollard willows, which underlines the importance of these willows as a key element of biodiversity in the landscape.

Moreover young willow trees were planted on Veľkolélsky Island, for the first time in spring 2018 along the periodical channel on its both sides. Initial survival rate of the seedlings was low so the planting was repeated during next years. Altogether 387 willows were planted partially also with help of volunteers.

Restoration of grasslands (NDA_29_C5_grasslands) and pollard willows (NDA_30_C5_willows) is documented by attached maps and photographs.

Monitoring of insects and pollinators showed that there is a gradual increase in both abundance and diversity of pollinators on all above described implementation sites (see details in D.2 action).

Also the monitoring of vegetation documented a very positive improvement of the habitats where grazing management was established. The impact of grazing was assessed as a very effective measure in eliminating IAS and supporting native species. One of the many positive examples of the impact of the restoration of mowing and grazing on alluvial meadows was the expansion of the cover of the protected plants *Clematis integrifolia* and *Leucojum vernalis*.

Expected results:

-Overall 84 ha of grasslands restored and their regular management initiated (following habitat types: 6210 – 30 ha, 6440 – 53 ha, 6510 – 1 ha) – together 81.64 ha of grassland habitats were restored within these habitats: 6210 – 16 ha, 6440 – 57.2 ha, 6510 – 8.44 ha.

- At least 150 pollard willows restored – we exceeded this target by pollarding 366 trees.
- Overall 200 pcs of new pollard willows will be planted – consecutively 387 willows were planted.
- Conservation status of the targeted species will be improved and their populations will be enhanced – positive impact of restoration of grasslands was proved within monitoring of biota and assessment of ecosystem function (see description of actions D.2 and D.4).

Problems, solutions, delays, and the impact on the other actions depended on this action: The grazing part of this action started later than we expected. It was caused by the long term negotiations with local farmers, especially for the locality of Apálsky Island, where the potential farmer turned up as unauthorised for grazing in a protected area since his animals were not officially registered. Other attempts were not successful due to various reasons: difficult access to the area, risk of floods, nutrient composition of the pasture, and the area was not suitable for claiming agricultural subsidies. Finally we succeeded to include a local agriculture cooperative from a nearby municipality and prospective cooperation was established and contracted also for the period after project ends.

After the first planting of willows (2018) in Velký Lél, the majority of trees dried out in the hot and dry summer. In 2019 the success of the restoration measure in Velký Lél raised – supply water channel (action C.2) has been proved as effective, the water was present in terrain depressions of the island more than 3 weeks in May – June. The water was present also in the side channel where the willows were planted, which improved the conditions for surviving of further planted trees.

The installation of the road restraint (ramp) was not planned in the approved project budget. However for protection of the habitant against waste dumping and unauthorised entrance of locals (e.g. hunters, fishermen, poachers, visitors....) it was necessary to install a ramp. That was also a requirement of SNC SR.

D.1 Hydromorphological and hydrobiological monitoring

Status of the action: **completed**

Foreseen start date: 1.8. 2015

Actual start date: 1.1.2016

Foreseen end date: 30.9.2024

Actual end date: 30.9.2024

Deliverable/milestone: **Deliverable Prior-implementation monitoring results report**

Deliverable foreseen: 31.12.2017

Deliverable completed: 31.1.2019

Deliverable/milestone: **Deliverable Post-implementation monitoring results report**

Deliverable foreseen: 30.9.2024

Deliverable completed: 30.9.2024

Description of implementation of the action: Hydromorphological and hydrobiological monitoring was performed in period 2016-2018 and was summarised in Pre-implementation report. **Hydromorphological** monitoring continued also in period 2019-2024 as many field measurements were necessary during implementation of measures related to flow regime improvement (simulated floods), additional morphological measurements and data collection (bed sediment sampling, suspended sediment sampling, profile measurements in smaller side arms, water levels surveying, discharge and velocity measurements etc.). Continual monitoring of surface and ground water levels by installed probes continued, additionally online surface water measurement devices were installed with data publicly available at <https://vuvh.meratch.com/> (NDA_31_D1_digitization). For stakeholders – water managers who are operating the area (the system of weirs and their regulation to reach certain water levels), a mobile app was developed based on the results of hydrodynamic models of the area. VUVH and other partners participated at negotiations and prepared inputs related to the simulated floods operation and update of operational manuals to improve the rules for simulated floods and plan the simulated floods every year (since 2021 two simulated floods per year). Thanks to the negotiations and updates of the OM, discharge rate and the duration of simulated floods per year are increasing compared to the pre-monitoring period when mostly only constant flow and water levels were present in the area. In 2016, simulated flood duration was 3 days (performed as a testing phase, there were no simulated floods previous years), while since 2018-2020 the flood duration varied around 30 days / year increased to 41-69 days / year in period 2021-2024 (both spring and summer flood were done, action secured in the OM). Maximum discharge value was reached in 2023-2024 with 120 m³/s peak (in 2024 for 15 days). Several improvements in the OM secured a slight increase of discharges during higher discharge periods on the Danube river. Thus the variability of discharges in the side arm system has improved although there are still some goals to improve the discharge regime that have not yet been met by the water managers (e.g. securing the 120 m³/s discharge in the OM). In 2021 first implementation of restoration measures started in the Danube Floodplains area (Šulianske side arm implemented within LIFE BeeSandFish), therefore post-implementation measurements were performed. Monitoring results at localities of reconstructed objects at A2, A3, C2, D2a, E3 and dolné Šulianske and dolné Vojčianske side arms showed increase of discharges and flow velocities compared to previous state. Flow dynamics and water supply of these localities (previously with stagnant water) has increased. Measurements during simulated flood with 120 m³/s in spring 2024 have shown improved flow diversion between the side branches in the upper part of the area where side arms were reconnected and the weirs were reconstructed. Also in D2a locality where there was no culvert before, the discharges have increased. Flow velocities in the smaller branches and at the sites of the implemented measures increased significantly during the simulated floods to average values of 0.7-1.3 m/s. Thus, during the 120 simulated floods, water velocities were an order of magnitude higher than the velocities in the main (wide) branches. It can therefore be concluded that the measures have increased the variability of flows and flow velocities in the area of interest, while the increased flow dynamics at the sites of the implemented measures create the preconditions for the

preservation and creation of gravel-bottom habitats and their subsequent colonisation by biota. Due to the higher dynamics, the measures are expected to be sustainable in the future with less siltation by fine sediment. Post-restoration **hydrobiological monitoring** was done only on the dolné Šulianske side arm. Based on the findings presented in the deliverable report, it can be concluded that the restoration of the arm has had a positive impact on the **macrozoobenthos communities**, with the intensity of change decreasing from the beginning of the arm to its end. There has been an improvement in the ecological status based on the macrozoobenthos at the beginning of the arm, with a deterioration at the end of the arm, which appears to be temporary. However, overall community change is currently still in progress and we estimate that the final state may not occur until 3 to 4 years after restoration at the earliest. Therefore, to assess the true impact of restoration, we propose to repeat sampling and change assessment in another 2-3 years to obtain a more robust database to test and validate the indicative properties of the selected metrics and indices. Based on trends and changes in the community, we estimate that restoration will result in improved species richness and ecological condition of the sites. **Macrophyte vegetation** pre-restoration monitoring was done in 18 reaches. Only in the case of dolné Šulianske side-arm, first post-restoration monitoring could be done in 2023 due to late implementation of other measures. The monitoring focuses on a section located about 400 m downstream the C2 dam, where there was a notable transition from slow to fast water flow and increased discharge. Construction works resulted in a higher proportion of fine-grained sediment, particularly in the convex areas of the meandering reach, which became prime locations for macrophyte colonisation. Before restoration, macrophytes were widespread; however, post-restoration, their growth diminished in central and left concave areas of the channel. The bays began to support acropleustophytes (free-floating species). Changes in riparian vegetation were minimal; the right convex area maintained dense reed growth, while the left bank exhibited a less abundant mix of tall sedges and reed canary grass. Comprehensive, post-implementation monitoring of biota will only be possible after the implementation of the planned measures. For the sake of representativeness of the results, it will be necessary to carry out the survey after stabilisation of the conditions at the sites affecting the growth of aquatic vegetation. In particular, this will involve adapting to changes in flow velocity, flow magnitude affecting, among other things, sedimentation and the structure of the bed material. Therefore, such a survey should be carried out with a time lag after the implementation of the measures, optimally at least two years.

Physico-chemical monitoring: Based on the results of the analyses of the samples taken, the following can be stated: In 2016 and 2017, the results for temperature, conductivity and pH, dissolved oxygen, total ammonia, organically fixed nitrogen, total phosphorus, sulphate, chloride, CODMn, CODCr, and TOC did not exceed the required limits for surface water. All the above indicators met the limits except nitrite and nitrate. Exceedance of the limits required by the legislation for the set indicators was caused mainly by the indicator nitrite, especially in the spring and summer months. It is assumed that there was an increase in plant biomass and subsequent decomposition of nitrogen compounds and their oxidation to nitrite.

All results and conclusions of D.1 monitoring could be found in the Prior-implementation monitoring report (DA_32_D1_report_prior) and Post-implementation monitoring report (DA_33_D1_report_post).

Problems, solutions, delays, and the impact on the other actions depended on this action: Late implementation of most of the restoration measures at the end of the project did not allow enough time for post-restoration monitoring. Especially hydrobiological monitoring needs more time to stabilise the conditions and repeated sampling to obtain reliable results. Therefore

the monitoring of post-restoration effects will continue in follow-up project located in the same area – LIFE Living Rivers.

D.2 Monitoring of biota

Status of the action: **completed**

Foreseen start date: 1.1.2016

Actual start date: 1.1.2016

Foreseen end date: 30.9.2024

Actual end date: 30.9.2024

Deliverable/milestone: **Deliverable All annual reports of monitoring of biota elaborated**

Deliverable foreseen: 30.9.2024

Deliverable completed: 30.9.2024

Deliverable/milestone: **Milestone Study of the monitorized biotic data (DINPD)**

Milestone foreseen: 30.11.2023

Milestone completed: 30.11.2022

Description of implementation of the action:

DINPD: Pre-treatment invasive species survey was carried out in 2016. After 3-year continuous monitoring and management of invasive tree species (2016-2019), the entire project area was checked again in 2022. This was necessary because of the IAS seedlings emerging from the seed bank accumulated in the soil over decades. This process is natural and expected in all habitat management activities. During 2022, any individuals that have germinated and started to develop since 2019 were systematically searched for and pulled out. During the treatments, the number of individuals was recorded in a 25 x 25 m grid applying GIS software. The method differed somewhat from the pre-treatment survey, which was typically based on forestry approaches (e.g. it provided full-area coverage and a simpler approach). However, this new method was more appropriate after the treatments, as it was possible to record the number of young individuals (1-3 years old) germinated in the area at a very fine resolution. One of the main conclusions of the 2022 survey is that treatments carried out in 2022 ensured that the project area is protected from invasive tree species for a longer time period of decades. More about pre- and post-treatment monitoring of IAS in [NDA_34_D2_invasives_monitoring](#). A nest camera was installed by a contractor (Filmzsungel Kft.) in November 2017 in a white-tailed eagle nest on Háros Island. This camera was in operation from November 2017 until June 2019 and recorded two nesting seasons. Due to a technical problem, the camera did not work during the winter of 2019-2020. The problem was solved the next year, but in the meantime, the white-tailed eagle pair chose another tree for nesting, so the winter 2020-2021 was again unsuccessful. After this winter, DINPD decided to uninstall the camera. DINPD gained a significant audience with the online streaming of the "birdlife" during the two seasons, when both the camera and the pair of eagles happened to share the same nest ([NDA_35_D2_nest_camera](#)). However, this experiment also provided some negative conclusions, which will be for sure taken into account in the future: in unexpected and rough situations (e.g. in big storms), the audience of the nest demanded prompt and effective interventions from DINPD staff, although this kind of interactions into natural processes are highly questionable from a nature conservation point of view. As a byproduct, some data on behaviour, prey-composition, endangering factors and other species occurrences were also gained.

With the use of equipment purchased in the project, general biotic data were collected on the whole project area (see [NDA_36_D2_biotic_data](#)). Equipment for this action ([NDA_37_D2_equipment](#)) purchased in 2017 included fish-catcher, spotting scope (2), wild cameras (2), nest camera, motorboat with petrol engine and a trailer. A 4WD car, Isuzu D-max, was purchased in the frame of a public procurement of DINPD in December 2018 and was used for project purposes.

BROZ: The aim of monitoring D.2 action is to evaluate the impact of implemented measures of C.1, C.2, C.4 and C.5 actions through monitored groups of animals and habitats. The mappers presented their results in the form of partial / interim and final reports. They agree that a longer monitoring time is needed for better quality and more significant results. Despite this,

they were able to evaluate the impact of the project measures on the monitored groups with their multi-year field research, achieved results and their comparison.

FISH - ichthyofauna monitoring took place in 2023 and 2024 (DA_38_D2_fish). It recorded the state before and after the implementation of significant water restorations within the framework of C.1 and C.2 actions, which it evaluates positively for the target rheophilic fish species. The monitoring considers the removal of migration barriers, acceleration of water flow in streams to be beneficial, which enabled the creation of gravel benches, the washing away of fine sediments and also the creation of various habitat niches for a wider range of fish species, the creation of suitable spawning habitats and microhabitats for the development of juvenile rheophilic fish. The occurrence of target rheophilic species in restored waterways is positive. According to the report, the number of species of European importance is expected to increase, such as *Rutilus pigus*, *Zingel streber*, *Romanogobio vladkovi* and others. It is also worth mentioning the discovery of *Cottus gobio* and *Gymnocephalus baloni* (whose numbers have decreased due to the appearance of invasive fish species) in the newly restored Vojčianske side arm. After the restoration of the side arm below D2a weir, an increase in the number of fish species was recorded from the original 7 to 16, and an increase of up to 20 species is expected. Longer-term monitoring will be necessary for a more comprehensive assessment of the impacts. In case of ichthyo monitoring, this should be ensured as part of student final theses at the Faculty of Science, Comenius University in Bratislava.

AMPHIBIANS: Monitoring of amphibians in selected locations focused mainly on the species of European importance *Bombina bombina* and *Triturus dobrogicus* and other amphibians present in the localities and it was ongoing from 2018 to 2024. These have been successfully recorded several times in several locations. In addition to the restoration of wetlands and watercourses (actions C.1 and C.2), flooding of locations is crucial to the occurrence and successful reproduction of amphibians. Some species (*Rana dalmatina*, *Rana arvalis*, *Bufo bufo*, *Lissotriton vulgaris* and *Triturus dobrogicus*) reproduce in early spring (March, April). For these species, it is desirable to flood reproductive locations in early spring (from mid-March at the latest). For this reason, BROZ has been trying to launch a spring simulated flood (action C.1) with sufficient flow and duration, which was achieved for the first time in 2021. Spring floods carried out in the earlier spring period, which were negotiated for 2023 and 2024, bring more favourable results. BROZ will continue this trend. For other species (*Hyla arborea*, *Pelobates fuscus*, *Bombina bombina*, *Pelophylax esculentus* complex), which reproduce from April to early June and their larvae develop in the water until the end of July / beginning of August (depending on the species and location), it is appropriate for the areas to be flooded at least until the end of July. Another recommendation is that the period of culmination of high waters should be prolonged, which was achieved for the first time during spring flood 2024 for two weeks. Beside regular yearly elaborated reports from monitoring of target species (DA_39_D2_amphibians) in order to better understand the impact of simulated floods and to more effectively manage them, additional reports were prepared on the impact of simulated floods on amphibians beyond the monitoring framework (NDA_40_D2_amphibians_floods). We take the monitoring results and report on simulated floods into account and present them annually during the planning negotiations for the spring and summer simulated flood, so that they are as optimal as possible for amphibians.

SNAILS: Monitoring was carried out in 2020-2023 for *Vertigo moulinsiana*, an endangered species (EN) of European importance (DA_41_D2_snails). This snail is very easily overlooked, its shell grows to a size of 2.5 mm. In Slovakia, it is known from several localities, including two places near restored floodplain habitats, which could potentially represent a suitable environment for its occurrence. The search was unsuccessful. Another snail, *Valvata macrostoma* is a glacial relict listed in the local Red list and was recorded during monitoring in the restored periodic wetland in Dobrohošť and also in the wetland on Apálsky Island.

DRAGONFLIES: Monitoring was carried out from 2019 to 2023 (DA_42_D2_dragonflies). Although dragonflies were not a target species, monitoring confirmed the positive impact of increasing microhabitat diversity on dragonfly reproduction in some locations. Restoration of sufficiently deep and sunny floodplain pools is significantly beneficial for dragonflies and other aquatic benthic invertebrates. Reports state that the restoration of the water regime is a basic prerequisite for dragonflies (and other plant and animal species) to return dragonfly populations to the Danube floodplain ecosystem. The high number of species present but not reproducing is, according to reports, evidence of a high number of potential colonists of new habitats, the so-called species pool. Time is considered a favourable factor; ecological succession improves the conditions of the semi-aquatic environment.

BEETLES: Monitoring was carried out from 2019 to 2023 (DA_43_D2_beetles). The monitoring results indicate a predominant connection of apterous and brachypterous species to established forest stands (action C.4), which indicates a more stable environment and increasing succession. Macropterous species indicating high anthropogenic interference correlated with meadows and pastures (action C.5). The research confirmed the increase in the number of individuals and species. Regression models predicted an increase in the number of individuals and species for 2025, which is justified by appropriate management of simulated floods (action C.1) and land management (actions C.4 and C.5). The results of monitoring the beetles show that the implemented restoration of floodplain forest had a positive impact on the community structure, species richness and abundance of beetles. In the future, it is proposed to continue the initiated project measures with a recommendation for more frequent modification of herbaceous vegetation around planted trees, which will enable a faster change of the sedge communities to the original forest ones. In the area of interest, were recorded the following protected species: *Calosoma auropunctatum*, *Lamia textor*, *Copris lunaris*, *Lucanus cervus*, *Sisyphus schaefferi* and *Platydracus fulvipes*.

SPIDERS: Monitoring was carried out from 2019 to 2023 (DA_44_D2_spiders). The results of the spider (Araneae) monitoring clearly reflect the positive impact of the implementation of the project activities, which included the restoration of the original floodplain vegetation (planting trees, action C.4). In the monitored habitats, habitat conditions for the establishment of spider coenoses, typical for floodplain forests, have been improved. A second positive impact on the araneofauna was the restoration of the Danube river arms (action C.1 and C.2), which resulted in a higher presence of wetland species. Grasslands and meadows (action C.5) were among the richest habitats, with a high diversity, which was also a positive consequence of project activities of this type. The monitoring considers the grassy area near Cíčov to be a biota refuge in the agricultural landscape and a very valuable coenosis with a diverse and interesting composition. It rates all the measures implemented in terms of spider (Araneae) coenoses as very effective, consistently implemented with a positive impact on the epigeic fauna. In the future, it proposes to continue the implementation of activities and measures, developing them in places where they are still needed. Interesting records include *Mioxena blanda*, our smallest spider, living in a cryptic manner and one of the most dangerous spiders in Slovakia – *Cheiracanthium punctorium*.

INSECTS AND POLLINATORS: Monitoring was carried out from 2020 to 2024 (DA_45_D2_insects). Monitoring lasting four and a half years showed that there is a gradual increase in both abundance and diversity of pollinators and it considers the project's sites well managed (action C.5). Thanks to the monitoring, several insects of conservation interest and three species new to Slovakia were discovered (*Conops insignis*, *Scolia galbula* and *Tolmerus cowini*). Results of monitoring highlights the importance of Danube floodplain grasslands from a conservation point of view. The results of the reports evaluate that the project sites are valuable habitats that complement the mosaic of the Danube floodplain landscape. The conclusion is that cattle grazing in combination with other management measures such as

pollarding of willows, removal of IAS or mosaic mowing is considered particularly suitable for maintaining grasslands supporting the biodiversity of insects. Monitoring of effects of project actions towards improvement of grassland habitats will continue in Čiližské močiare within LIFE21-NAT-SK-LIFE 4 STEPPE BIRDS/101074480, other two localities (SCI Dunajské luhy - Bodíky a SCI Veľkolélsky ostrov) will be monitored by the expert from Slovak Academy of Sciences (who monitored the pollinators within LIFE Danube Floodplain project) out of his own curiosity with no additional finances needed, in order to gain knowledge about the progress and development of pollinator populations.

HABITATS: Monitoring was carried out from 2016 to 2024 (DA_46_D2_habitats) and took place in the form of repeated phytocoenological records on permanent monitoring areas. The monitoring inspected the impact of management measures divided into three groups (restoration of the water regime, removal of non-native species and introduction of grazing in the floodplain forest) on habitats. The results show that the restoration of the water regime (actions C.1 and C.2) had an almost immediate positive impact on all monitored sites. After the improvement of the water regime (increased groundwater level, water supply to the site through new branches), the cover of IAS decreased in the first year and was followed by an increase in the number and cover of native hygrophilous species. During the first three years, the vegetation changed dynamically and in the last two years it was more or less stable, changes in the cover of species were within the natural dynamics of wetland communities and were mainly influenced by precipitation conditions in a given year. In the removal of non-native noble poplars (action C.4), in addition to the impact on habitats, the monitoring also assessed different approaches. The impact of small-scale removal of non-native trees while preserving the shrub layer is assessed much more positively compared to the impact of large-scale removal. While in the case of small-scale removal, native species typical of floodplain forests persisted on the area, the coverage of which increased in subsequent years, in the area after large-scale removal of non-native species, light-loving ruderal and segetal species and also several neophyte species, including invasive ones, spread. The impact of grazing (action C.5) is assessed as a very effective measure in eliminating IAS and supporting native native species. One of the many positive examples of the impact of the restoration of mowing and grazing on alluvial meadows (action C.5) is the expansion of the cover of the protected plants *Clematis integrifolia* and *Leucojum vernum*.

Problems, solutions, delays, and the impact on the other actions depended on this action: Some of the monitoring efforts were postponed due to the postponement of the concrete conservation actions – in case of ichthyo monitoring, the first pre-implementation monitoring was carried out on 31.5.2023 and followingly post-implementation monitoring was finished during September 2024.

D.3 Monitoring of socio-economic impacts of the project

Status of the action: **completed**

Foreseen start date: 1.8.2015

Actual start date: 1.3.2016

Foreseen end date: 30.11.2023

Actual end date: 20.11.2023

Deliverable/milestone: **Deliverable Report of socio-economic impact of the project**

Deliverable foreseen: 30.11.2023

Deliverable completed: 20.11.2023

Description of implementation of the action:

Monitoring of socio-economic impacts of the project included 3 questionnaire surveys, the results of which are processed successively in three reports ([DA_47_D3_socio-economic_impact](#)). The first questionnaire survey was carried out in autumn 2017 and 206 persons were joined. The first report is focused on results of the first survey among local inhabitants about awareness of background information on implemented project (monitoring of the awareness of NATURA 2000), their perception of current socio-economic status of the territory and their perception of project objectives, conservation activities and project outputs. The second questionnaire survey was carried out in autumn 2019 and 213 persons were joined. The second report focused on results of the second survey among local inhabitants about their perception of current socio-economic status of the territory, their perception of nature conservation and relationship to the target habitats and monitoring of the awareness about NATURA 2000. The third, last one questionnaire survey along with in-depth interviews was carried out in autumn 2023 and 205 persons were joined. The final report focuses on results of the third survey among local inhabitants about their perception of current socio-economic status of the territory, their perception of project objectives, nature conservation activities and practical outputs of the project, results of the in-depth interviews among local inhabitants having work thanks to the project and comparison of basic results emerging from socio-economic monitoring held in 2017, 2019 and 2023.

The results of the monitoring show that the public of the affected municipalities agrees with the activities of the project, supports them and appreciates the contribution of the project itself to the territory and the residents.

Problems, solutions, delays, and the impact on the other actions depended on this action: N/A

D.4 Monitoring of the impact on the ecosystem functions

Status of the action: **completed**

Foreseen start date: 31.7.2016

Actual start date: 31.7.2016

Foreseen end date: 30.6.2024

Actual end date: 28.6.2024

Deliverable/milestone: **Deliverable Final report elaborated**

Deliverable foreseen: 30.6.2024

Deliverable completed: 28.6.2024

Description of implementation of the action: After agreement with the contractor, the activity was divided into three stages: a) Evaluation of the initial state of the project area; b) Evaluation of ecosystem functions and related ecosystem services in the concerned areas, including monitoring of changes related to the implementation of project activities; and c) Overall evaluation of the impact of implemented activities on ecosystem functions and services (EFS). The output of activity D.4 is an initial report issued in 2019 ([NDA_48_D4_ecosystem_functions_report_initial](#)), which evaluates the initial state of the project area, and a final report submitted in 2024 ([DA_49_D4_ecosystem_functions_report_final](#)), providing an overall evaluation of the impact of the implemented activities on EFS. The first report evaluates the project area in detail in terms of natural and socio-economic conditions, focusing on the defined 4 research areas and 6 project locations: Area 1 – project locations Dobrohošť, Kyselica I, II.; Area 2 – project sites 2a – Points – floodplain forests, 2b – Šuľany – non-forest biotopes, 2c - Baka – dead arm Kráľovská lúka; Area 3 – project territory Veľký Lél island – wetlands; Area 4 – project area Apálsky Island – lowland meadows and additionally added seventh location lowland meadow in Číčov. It also includes the selection of EFS that are important and relevant for the wider area of the Dunajské luhy. The basic selection of significant EFS for the model areas of the project was made on the basis of the results of the EFS assessment in all model territories / localities and its comparison with the results of the national assessment. For the purposes of the project, 11 EFS out of 18 important for Slovakia were selected, some were merged due to a common essence. The resulting selection includes 3 production EFS (biomass; water; wildlife and natural crops), 6 regulatory and support EFS (water quality regulation; runoff regulation; climate regulation; carbon sequestration; biodiversity promotion; pollination promotion) and 2 cultural EFS (recreation and tourism; natural and cultural heritage). However, not all EFS were relevant for all measures, therefore the number of assessed EFS is different for different types of measures and for different project locations. For a clearer and more comprehensible processing of the results, 3 basic types of measures, which consist of several specific measures and interventions, were evaluated separately. These are water management and hydroecological measures (actions C.1 and C.2); forestry measures (action C.4) and grassland management measures (action C.5). These groups of measures were subsequently evaluated in terms of impact on EFS in the area.

Based on its own research, monitoring activities of the project and literature research, the report evaluates the impact of the project activities on the EFS with the conclusion that to a large extent they will positively influence biodiversity, resilience of ecosystems and the provision of ecosystem functions and services of the wider area of the Dunajské luhy. According to the results of the report the most positive impact is documented for the EFS Species and ecosystem diversity promotion (all types of measures contribute to improving this EFS). Mostly positive impact is documented for the EFS Recreation and tourism, Natural and cultural heritage (mainly water management and grasslands measures contributing), partly Runoff and water regime regulation (very positive impact of water management measures). Partially positive impact – documented for the EFS Water quality regulation, Water supply provision (mainly contributed by water management measures), Game & Wild berries provision, Pollination (mainly contributed by grassland measures). The least positive impact,

or not yet sufficiently demonstrated in terms of overall impact of the measures, is documented for the following EFS: Biomass provision, Carbon sequestration and Climate regulation.

The assessment of the impact of actions C.1 and C.2 on the selected EFS shows that they will have:

- Significant, very positive impact (also documented by monitoring) – EFS Regulation of runoff ratios reasonable
- Reasonable positive impact (on the basis of literature and partly also project monitoring) – EFS Creation of water reserves, Regulation of water quality, Support of species and ecosystem diversity, Recreation and tourism, partly also Natural and cultural heritage
- Likely positive impact (based on literature analysis and limited project monitoring) – EFS Conditions for wild animals and natural crops, Regulation of climatic conditions and Carbon sequestration
- neutral or unclear impact (based on literature analysis) – EFS Biomass production and Pollination.

The assessment of the impact of action C.4 on the selected EFS shows that they will have:

- Significant, very positive impact (also documented by monitoring) – not documented for any EFS
- Reasonable positive impact (based on literature and partly on project monitoring) – EFS Species and ecosystem diversity promotion
- Likely positive impact (based on literature analysis and limited project monitoring) – expected for most of the EFS - Water supply provision, Game & Wild berries provision, Water quality regulation, Runoff and water regime regulation, Climate regulation, Pollination, Recreation and tourism, Natural and cultural heritage.
- Neutral or unclear impact (based on literature analysis) - EFS Biomass provision and Carbon sequestration. In the case of IAS removal, data is missing for up to 5 EFS.

The assessment of the impact of action C.5 on the selected EFS shows that they will have:

- Significant, very positive impact (also documented by monitoring) - EFS Species and ecosystem diversity promotion
- Reasonable positive impact (based on literature and partly on project monitoring) - EFS Pollination, Recreation and tourism, Natural and cultural heritage
- Likely positive impact (based on literature analysis and limited project monitoring) - EFS Biomass provision and Game & Wild berries provision
- Neutral or unclear impact (based on literature analysis) – half of the EFS: Water supply provision, Water quality regulation, Runoff and water regime regulation, Climate regulation, Carbon sequestration.

According to the final report, the project LIFE14 NAT/SK/001306 – Restoration and Management of Danube Floodplain Habitats is one of the important contributions in the field of conservation and active management of hydric ecosystems in Central Europe.

Problems, solutions, delays, and the impact on the other actions depended on this action:

The problem was the insufficient time since the implementation of the measures and the absence of specific monitoring data. Therefore, it was not realistic to carry out repeated observations and eventual measurements of the real impact of most of the project measures on ecosystem functions and processes in the field. The evaluation was therefore mainly carried out on the basis of a literature review, using the results of the following preparatory and monitoring activities of the project: A.4, A.5, D.1, D.2 and D.3. In addition, the majority of ecosystem changes and processes will be manifested only in the horizon of several years (some even decades) – therefore field research conducted during or shortly after the implementation of the measures cannot be considered as the main source of information for the assessment. In

order to confirm the expectations of the positive impacts of the project, it would therefore be appropriate to introduce medium-term monitoring of ecosystem processes and suitable indicators of biodiversity and the state of affected ecosystems in selected project locations.

D.5 Monitoring of dissemination activities

Status of the action: **completed**

Foreseen start date: 31.7.2016

Actual start date: 31.7.2016

Foreseen end date: 30.9.2024

Actual end date: 30.9.2024

Deliverable/milestone: **Deliverable Report on the monitoring of dissemination actions**

Deliverable foreseen: 30.9.2024

Deliverable completed: 30.9.2024

Description of implementation of the action: Monitoring of the impact of dissemination activities was held throughout the whole project period, including archiving outputs and evaluating their reach on the target audience. At the end of the project, all the collected data have been put in a form of a summarising report from monitoring (DA_50_D5_dissemination_report). According to the report, it is obvious that the greatest reach was achieved by traditional media, especially television broadcasts, online articles, as well as print and radio broadcasts. Social media follows, offering a more personal approach and the ability to build a fan base and a good reputation. The project reached over 10 million people through various media channels, a testament to the effectiveness of multi-platform communication. The report evaluates positively also other projects' dissemination activities beside the media outputs itself.

Problems, solutions, delays, and the impact on the other actions depended on this action:

Originally it was planned to hire an external company to conduct the evaluation, but in the end it was conducted by the project staff. It was possible thanks to the fact that comprehensive data were continuously collected by the awareness and media manager during the whole project implementation. Evaluation of this data set was carried out at the final stage, since the media outputs were published until the very end of the project. Originally planned questionnaires and quizzes were not included due to their ineffectiveness (explained in Midterm Report).

E.1 Project web site

Status of the action: **completed**

Foreseen start date: 1.1.2016

Actual start date: 1.1.2016

Foreseen end date: 30.9.2024

Actual end date: 30.9.2024

Deliverable/milestone: **Milestone Full version of project website developed**

Milestone foreseen: 31.7.2016

Milestone completed: 31.7.2016

Description of implementation of the action: The project website <https://broz.sk/projekty/dunajskeluhy/> works in trilingual mode – SK, HU and EN. The website was launched 6 months after the project started. The full version was finished after the first year of the project – according to schedule. From July 2018 a new design of the general BROZ webpage as well as project sub-page was done. All information from the old website was transferred to the new one with the same web address. The website was updated regularly. Visitors can find here the main information about the project, its goals, project area, actions, results achieved, media outputs published and it is also possible to download from here more project outputs. The most important part News (first contribution published on 21.3.2016) was updated continuously throughout the whole project period according to accomplished achievements. Additionally social media was intensively used for promotion of project actions. Reach of the project website as well as social media contributions was evaluated within the D.5 action.

Problems, solutions, delays, and the impact on the other actions depended on this action: Some technical difficulties occurred with the new website design, which were caused by the extensive information uploaded for each project, but it was consequently resolved.

E.2 Meetings with stakeholders and study visits

Status of the action: **completed**

Foreseen start date: 1.8.2015

Actual start date: 4.11.2016

Foreseen end date: 31.1.2024

Actual end date: 22.5.2024

Deliverable/milestone: **Milestone All meetings and study visits with stakeholders organized**

Milestone foreseen: 31.1.2024

Milestone completed: 22.5.2024

Description of implementation of the action: Out of the target 24 meetings for at least 5 participants for each, together 39 meetings with 290 attendees of different stakeholders were organised – including landowners, land users, forest managers, private forest owners, state foresters, local people and representatives of the Ministry of Environment, District Environmental Offices, representatives of SNC SR, etc. Moreover, several informal meetings were held with landowners, which were not documented by attendance records but which have led to land lease / purchase of land documented by contracts (see B.1 action). Some additional undocumented meetings were related to planning of C.1 and C.2 actions which resulted in their successful implementation. Out of two planned study visits for approx. 30 people, one was attended by 29 and the other by 47 people – representatives of project partners, authorities and stakeholders. The first two-day excursion was organised in strategic locations of the Slovak project area, the second three-day study visit (2 days covered financially from this project) was organised in cooperation with LIFE18 NAT/AT/000733 in Germany and Austria in order to share best practice experience and demonstrate positive impact of previously implemented conservation measures on rivers Danube and Isar. All supporting documentation related to meeting with stakeholders and study visits is included in [NDA_51_E2_stakeholders](#).

Problems, solutions, delays, and the impact on the other actions depended on this action: N/A

E.3 Publication of information, educational and promotional materials

Status of the action: **completed**

Foreseen start date: 1.8.2015

Actual start date: 1.1.2016

Foreseen end date: 31.12.2022

Actual end date: 21.8.2023

Deliverable/milestone: Deliverable **Project logo designed**

Deliverable foreseen: 30.11.2015

Deliverable completed: 18.3.2016

Deliverable/milestone: Deliverable **Information leaflets BROZ printed out**

Deliverable foreseen: 31.5.2016

Deliverable completed: 20.5.2022

Deliverable/milestone: Deliverable **Pens produced**

Deliverable foreseen: 30.6.2016

Deliverable completed: 9.8.2016

Deliverable/milestone: Deliverable **Stickers and magnets produced**

Deliverable foreseen: 30.6.2016

Deliverable completed: 15.6.2022

Deliverable/milestone: Deliverable **Cups produced**

Deliverable foreseen: 31.12.2017

Deliverable completed: 9.9.2019

Deliverable/milestone: Deliverable **Leaflets of NLC printed out**

Deliverable foreseen: 31.12.2017

Deliverable completed: 14.7.2020

Deliverable/milestone: Deliverable **T-shirts produced**

Deliverable foreseen: 30.6.2018

Deliverable completed: 17.5.2022

Deliverable/milestone: Deliverable **Calendar 2019**

Deliverable foreseen: 31.12.2018

Deliverable completed: 31.12.2018

Deliverable/milestone: Deliverable **Calendar 2020**

Deliverable foreseen: 31.12.2019

Deliverable completed: 31.12.2019

Deliverable/milestone: Deliverable **Cincér Newsletter printed yearly**

Deliverable foreseen: 31.12.2020

Deliverable completed: 31.12.2018

Deliverable/milestone: Deliverable **Calendar 2021**

Deliverable foreseen: 31/12/2021

Deliverable completed: 31/12/2021

Deliverable/milestone: Deliverable **All promotional material of DINPD produced**

Deliverable foreseen: 30.6.2022

Deliverable completed: 31.12.2017

Deliverable/milestone: Deliverable **Leaflets of DINPD printed out**

Deliverable foreseen: 30.6.2022

Deliverable completed: 31.12.2021

Deliverable/milestone: Deliverable **All brochures/ booklets printed out**

Deliverable foreseen: 31.12.2022

Deliverable completed: 20.5.2022

Description of implementation of the action: At the beginning the project logo was designed (DA_52_E3_logo) and used throughout the whole implementation on website, invitations, promotion and information materials, etc. BROZ produced all the planned materials and used them for distribution during the project events (meetings, excursions, presentations, etc.); 1,590 pcs of project T-shirts (and tank tops) with mandalas of Danube Floodplains for men, women and children made from organic bio cotton (compared to 1,500 expected) – DA_53_E3_T-shirts; 2,000 pcs. of pens (compared to 1,500 planned thanks to lower price than expected) – DA_54_E3_pens; 1,500 pcs. of magnets as planned (DA_55_E3_magnets); 11,100 pcs of stickers (compared to 15,000 expected, more was not needed as the COVID years were not optimal for events organisation and materials distribution) – DA_56_E3_stickers; 1,300 pcs of information leaflets (compared to 2,000 planned, again no need for more because of COVID restrictions) were produced in three language versions (500 pcs SK, 500 pcs HU, 300 pcs EN) – DA_57_E3_leaflets (also to be downloaded from the web site); 1,900 pcs of wall calendars, 3 motives, for years 2019, 2020 and 2022 (compared to 2,000 planned) – DA_58_E3_calendars; 2,500 pcs of brochures about Veľkolélsky Island (DA_59_E3_brochure_island); 230 pcs of cups (compared to 200 expected) were produced by a local SK supplier (DA_60_E3_cups) and also originally not planned outputs compensating

for those not produced in planned quantities: 5 motives of postcards (10,000 pcs) – [DA_61_E3_postcards](#) and illustrated books for children (1,200 pcs.) – [DA_62_E3_book](#). The overall costs for books printing were split proportionally between LIFE Danube Floodplains project, LIFE17 CCASK000126 DELIVER, and LIFE12 NAT/SK/001155 Ostrovné lúky according to number of included fairytales thematically belonging to particular project. The book presents topics connected to the LIFE Danube Floodplains project using main characters as white-tailed eagle or Danube fish, demonstrating the most crucial issues concerning floodplain nature, the most valuable habitats and species, their threats and protection, in a way understandable also for children. NLC published 100 pcs of leaflets about autochthonous trees of Danube Floodplains – [DA_63_E3_leaflet_NLC](#) (could be downloaded from the project website). DINPD produced 1,000 canvas bags and 350 chocolate bars with the programme logo in 2017 ([DA_64_E3_DINPD_promo_items](#)). The first 3 issues of Cincér newsletter ([DA_65_E3_newsletter](#)) were produced in 2016-2017-2018 both printed and online with articles about the project, Háros Island project area and the white-tailed eagle nest camera. The ‘Canoe and bike tour’ leaflet was printed in December 2021 (2,000 copies in Hungarian, 1,000 copies in English – see [DA_66_E3_leaflet_tours](#)). The remaining 6,000 copies were not produced.

Visitor centre facility was improved at the beginning of the project and used as a visitor and information centre presenting also the project exhibition. Equipment of the visitor centre was purchased (washing machine, coffee machine, dishwasher, etc.) which was used also for children camps (action E.7). Moreover, a gazebo for visitors was constructed in July – August 2017 ([NDA_67_E3_gazebo](#)). For the purpose to hold the presentations and seminars in reconstructed storage house in Veľký Lél the tables and chairs were necessary to be purchased (tables 6 pcs and chairs 36 pcs). This created space for much bigger scope of activities for visitors of Veľký Lél. We can organise the presentations now also indoor and we can also show films and presentations about the Danube floodplain area to locals. This really upgraded quality of our promotional and educational actions in Veľký Lél and will bring more understanding and acceptance of NATURA management actions of the project in the area amongst locals and public.

Problems, solutions, delays, and the impact on the other actions depended on this action: At first glance, some completion dates of deliverables seem to be delayed, but it does not have to be that way, as we just enter here the last date, when the latter pieces of the item were produced / published. It is caused by the fact that even if the original version of the material was produced earlier, its language variants were created later, or some items were produced in multiple batches. Furthermore BROZ substituted the missing amounts of some planned materials (not needed in such quantities due to COVID situation) by other originally not planned items – postcards and books for children. According to the reasons mentioned in technical issue no. 9 of the Commission (EASME) letter of Ares(2020)6509888 (09 Nov 2020) and the technical issue no. 17 of the Commission (CINEA) letter of Ares(2021)5962162 (30.9.2021) and the Commission (CINEA) letter of 3.1.2023, DINPD made the following changes: abandonment of the last two issues of Cincér newsletter (2*3,000 pc.); abandonment of the booklet on the management of Natura 2000 sites along the Danube (1,000 pc.); abandonment of reissuance of the publication ‘Discover the Duna-Ipoly National Park’ (3,000 pc.) – DINPD still had copies from the previous printing, therefore there was no need to reprint it; reduction of quantity of the ‘Canoe and bike tour’ leaflet from 9,000 to 3,000 copies. The above listed reductions of content and subsequent loss of active reach were offset by an intense FB campaign ([DA_68_E3_FB_advertising](#)) for the main project events, the Dömös Green Days and canoe trips. With FB, DINPD could reach many more people compared to the traditional hard copy brochures and publications. The budget items not spent for the above publications were partly

used for reprinting the questionnaire in 5,000 copies related to the mobile exhibition in action E.6.

E.4 Excursions/tours for students, teachers and public, guide trainings

Status of the action: **completed**

Foreseen start date: 1.8.2015

Actual start date: 1.1.2016

Foreseen end date: 30.9.2023

Actual end date: 26.08.2024

Deliverable/milestone: **Milestone First excursion realised**

Milestone foreseen: 31.10.2015

Milestone completed: 7.6.2016

Deliverable/milestone: **Milestone Equipment for guided tours purchased**

Milestone foreseen: 31.10.2016

Milestone completed: 8.4.2019

Deliverable/milestone: **Milestone Demonstration tour for teachers took place**

Milestone foreseen: 30.9.2022

Milestone completed: 28.8.2023

Deliverable/milestone: **Milestone Guide trainings took place**

Milestone foreseen: 30.9.2022

Milestone completed: 14.9.2022

Description of implementation of the action: BROZ organised together 16 school excursions for 516 participants (compared to 10 for 200 expected) and 9 public excursions for 123 participants (compared to 5 for 50 expected) – [NDA_69_E4_excursions](#). Excursions which were merged with garbage collecting were very successful and a large amount of waste was collected. It was transported to a waste company for disposal; therefore the costs for transport and disposal occurred amongst the Other costs expenditures. 5 bicycles and a monocular were purchased for the excursions. The binoculars and magnifiers, which were purchased for the children camps (action C.7) were used also during excursions. Pontoon port for canoes was installed. All equipment is documented in [NDA_70_E4_equipment](#).

In Hungary 12-seat canoes were purchased in December 2018 (3 pieces) and a trailer suitable to transport them in April 2019. After a long searching, negotiating and contracting process, DINPD reached an agreement and signed an 'operational contract' with SZÍV S.E. in Szigetmonostor on 9.7.2020 for one short touristic season (until October 2020) as a kind of test period. DINPD handed over 36 bikes and 10 4-person canoes purchased from previous projects along with the 3 12-person canoes purchased from this project to the contractor. On the basis of 2020 contracting experiences, from October 2020 until March 2021 an official tendering process was going on for selecting the new contractor for a long term agreement. Eventually, BraunLazar Ltd. was selected and contracted for operating the above-mentioned equipment between 1.5.2021 and 31.12.2023. On 4.12.2023 this contract was prolonged by one year until 31.12.2024, so DINPD could further implement this action. In the frame of this contract, DINPD was able to organise 28 guided tours with a total number of participants of 489 on the Danube. Between 2021 and 2024 also bike tours were held (11 trips for 101 people). See the overall tour participants' figures and attendance records in [NDA_71_E4_tours](#). Two demonstration tours for teachers were held on 25.8. and 28.8. in 2023, with a total of 30 participants and training for guides was organised on 13.-14.9.2022. Altogether 15 colleagues of DINPD, who are frequently engaged as guides, participated at the event, which focused on the more effective presentation techniques of nature values and areas. See [NDA_72_E4_guides_teachers](#).

Problems, solutions, delays, and the impact on the other actions depended on this action: DINPD's part of the action started in September 2016 at the Dömös Green Day, when app. 50 visitors participated in the guided canoe trips. Unfortunately, in the following two years no further steps could be made to build on this promising start as DINPD was unable to find a suitable location and cooperation partner to operate its canoes. Eventually, DINPD made the first steps in 2018 and 2019 by purchasing the necessary equipment, followed by again a year of void in project management and the COVID lockdowns in 2020. Finally, from 2021 to 2024, 4 full seasons could be achieved thanks to the prolongation of the project period. To reach the

target number of people participating on guided tours. 4,000 people mentioned in the proposal) was not possible to be fulfilled; this was a mistake in number during the writing of the proposal. Explanation was issued in MTR: When DINPD operated its canoes in Kisoroszi (Szentendre Island) between 2012-2017, the average annual number of participants was 80 people (4 guided tours with an average of 20 people). On the basis of this figure, DINPI projected a target number of 5*80 people for the project between 2017-2021, which add up a total of 400 participants instead of the likely mistyped number of 4,000 in the proposal. By the end the realistic expected result was overreached.

E.5 Promotion of project on conferences and in media

Status of the action: **completed**

Foreseen start date: 1.8. 2015

Actual start date: 1.7.2016

Foreseen end date: 30.9.2024

Actual end date: 30.9.2024

Deliverable/milestone: **Deliverable Articles printed**

Deliverable foreseen: 30.9.2024

Deliverable completed: 30.9.2024

Deliverable/milestone: **Deliverable Press releases published**

Deliverable foreseen: 30.9.2024

Deliverable completed: 30.9.2024

Description of implementation of the action: Project was presented via 15 conferences (13 expected), 5 press conferences (4 expected), 9 press releases (5 expected), 73 articles (30 expected), 13 radio contributions (5 expected) and 16 TV contributions (10 expected). Overview of all these outputs is listed in [NDA_73_E5_media_overview](#), articles and press releases are attached as deliverable annexes ([DA_74_E5_articles](#), [DA_75_E5_press_releases](#)).

Problems, solutions, delays, and the impact on the other actions depended on this action: No major problems or delays of this action occurred except one – at the very end of the project, the festive opening of restored river branch of Královská lúka was planned and invitation sent for the date 13.9.2024, so the last press conference, press release and following media coverage was expected to happen within the project period. Unfortunately we were forced to shift this event to 21.10. due to the massive floods and restricted access to the locality during the second half of September 2024. So therefore the few latter media outputs are from the period after the official project end date.

E.6 Presentations for school and public, interactive educational expositions

Status of the action: **completed**

Foreseen start date: 1.8.2015

Actual start date: 1.6.2016

Foreseen end date: 31.12.2023

Actual end date: 22.6.2024

Deliverable/milestone: **Milestone Interactive permanent exhibition started**

Milestone foreseen: 1.3.2018

Milestone completed: 10.10.2018

Deliverable/milestone: **Milestone Exhibition in Duna-Ipoly NP started**

Milestone foreseen: 15.4.2018

Milestone completed: 30.9..2020

Deliverable/milestone: **Milestone All presentations carried out**

Milestone foreseen: 30.11.2023

Milestone completed: 18.3.2024

Description of implementation of the action: BROZ organised together 19 presentations for schools for 648 participants (compared to 10 for 200 expected) and 15 presentations for the public for 1,450 participants (compared to 5 for 100 expected) – documentation attached in [NDA_76_E6_presentations](#). Two beamers were purchased and new books about fauna a flora which are used during the presentations, excursions and children camps in Veľký Lél or for presentations elsewhere. Cupboard for books and for mobile components of the exhibitions in storage house in Veľký Lél was purchased. Interactive educational elements – a wooden food chain of white-tailed eagle was purchased and an interactive magnetic board illustrating the difference between natural floodplain forest and artificial forest with hybrid euro-american poplars. Both elements are portable, so it is possible to take them for presenting to schools or at any event. They are designed from wood and hand painted. Moreover fish pillows in real size and colour of Danube fish species were purchased as educational elements. They are used for presentations in Veľký Lél but also on other presentations and occasions. These pillows and above-mentioned educational elements were also used during presentations and are very attractive for all children and adults (all equipment and accessories documented in [NDA_77_E6_equipment](#)).

In Slovakia, an interactive exhibition about Danube Floodplains called “Windows to Nature” ([NDA_78_E6_SK_exhibition](#)) was publicly opened in the old granary in Veľký Lél and groups of people, mostly children and student groups, were guided here throughout the rest of the project. Number of participants that we report (891 people within 14 group visits) is documented mostly by attendance records but many more who visited the exhibition signed also into a Book of Attendance situated on the spot directly in the visitor centre. Before installation of exhibition panels, it was necessary to considerably reconstruct the storage house (where the exhibition was installed). The works included: a new roof, replacement of old and nonfunctional or dangerous wooden parts – stairs, windows, doors, wooden floors on several places, new concrete floor on the basement, the water insulation should have been placed on the ground floor, entrance with ramp for disabled, walls repaired and painted. Without these measures the wooden exhibition panels would get rotten soon. Also the exterior walls had to be repaired and the facade was newly painted. Within these works, various types of nest boxes for birds and bats were incorporated into the new facade. This contributes to interesting visitors' awareness increase and it also follows up dissemination of the results and knowledge of our previous LIFE10 NAT/SK/000079 project Apus & Nyctalus.

In Hungary the exhibition designer (KGK Graph Kft.) was selected and contracted for preparing the detailed exhibition plan of the Visegrád watchtower on 30.9.2017. The first plan for the exhibition was presented at the Steering Committee Meeting on 21.11.2017. The concept of the exhibition was to introduce the birth of the Danube-Ipoly National Park at the time, when the construction of the Bős-Nagymaros water hydropower plant was put off in Hungary due to the strong public protest. Animations contain historic photographs and reports mixed with the natural beauties of the Danube Bend, which could be preserved by the natural

river dynamic. Unfortunately, the implementation of this action was derailed: three contract modifications should be signed at first due to the delay and eventually the abandoning of the construction of the exhibition building: 8.5.2018, 28.6.2019 and 18.11.2019. Nevertheless, the contracted designer company produced the exhibition panels (screenplay and layout of the exhibition), a mobile exhibition of 6 roll-ups, a questionnaire and a short film, which was visited altogether by 6,233 people. Planning and operation of the exhibition is documented in [NDA_79_E6_HU_exhibition](#).

Problems, solutions, delays, and the impact on the other actions depended on this action: Since DINPD was not able to renew (from financial sources outside of LIFE) the building where the exhibition originally would have been placed, according to the technical issue no. 6 of Commission letter no. Ares(2019)7442927, an alternative solution was prepared and submitted during the 2020 Project visit. The alternative plan, which was accepted by the Commission, consisted of a mobile exhibition of 6 roll-ups presenting the wildlife of the Danube and Danube bend and a questionnaire, for which the correct answers could be found on the roll-ups. These roll-ups were complemented by a short film called 'The birth of a National Park' and an interactive, online database mainly consisting of details of the short film. Related dissemination was mainly done via three channels: a) the mobile exhibition, questionnaire and the short film were freely ordered by schools as a complimentary thematic course; b) annual events of DINPD hosted the 'Danube Corner' representing the same content, examples: 'Dömös Green Day' with an average audience of 500 people or 'Day of Earth' events in Budapest with an average audience of 700 people; c) free 'nature education field days' offered by DINPD to kindergartens and schools were also good opportunities for presenting this 'Danube Corner'. Within this action, DINPD was able to achieve a total no. of visitors of 6,233 at 52 different events. Both exhibitions will be opened to the public also after the end of the project.

E.7 Camping in the nature

Status of the action: **completed**

Foreseen start date: 1.1.2016

Actual start date: 1.1.2016

Foreseen end date: 30.9.2023

Actual end date: 3.8.2024

Deliverable/milestone: **Milestone Equipment for camps purchased**

Milestone foreseen: 30.6.2016

Deliverable completed: 7.5.2019

Deliverable/milestone: **Milestone All camp took place**

Milestone foreseen: 30.9.2023

Deliverable completed: 23.8.2024

Description of implementation of the action: Equipment purchased in the earlier phases of the project was used for the camps (dishwasher, washing machine, etc.). Camping facilities have been improved and established (toilets and washrooms) and they were used not only during camps but also served for implementation of other actions (E.4, E.6). Additional equipment for activities during camps was purchased – binoculars, magnifiers and a microscope. The summer camps took place yearly in nine consecutive summer seasons since 2016. Compared to twenty 5-days camps for overall 240 children we organised 53 camps in nature (locality Velký Lél) together for 561 children. All supporting documentation is attached under NDA_80_E7_camps. The end date of this action shifted to summer 2024 as the project duration was prolonged, so also the camps continued one more season compared to the amended foreseen end date.

Problems, solutions, delays, and the impact on the other actions depended on this action: N/A

E.8 Final conference

Status of the action: **completed**

Foreseen start date: 1.10.2023

Actual start date: 14.11.2023

Foreseen end date: 30.6.2024

Actual end date: 5.8.2024

Deliverable/milestone: **Milestone Invitation for conference sent**

Milestone foreseen: 31.1.2024

Milestone completed: 21.12.2023

Deliverable/milestone: **Deliverable Proceedings of conference**

Deliverable foreseen: 30.6.2024

Deliverable completed: 5.8.2024

Description of implementation of the action: Arrangement of lecturers and program preparation, booking of conference venue and ordering catering for the Final Conference were done during November 2023, first invitation to relevant guests was sent in advance. The Conference (attended by 56 people) took place in Čunovo on 6.2.2024 including thematic lectures and discussions, presentation of project achievements, field visit in Dobrohošť (lower Vojčianske side arm) connected to festive opening of the newly restored side arm with presence of media. Proceedings were prepared in cooperation with lecturers during spring / summer 2024 (short delay caused by self-help graphic design) and sent out to the conference participants in August and also published online on the project web site. See attached proceedings of conference ([DA_81_E8_conference_proceedings](#)) and invitation with other supporting documentation ([NDA_82_E8_final_conference](#)).

Problems, solutions, delays, and the impact on the other actions depended on this action: N/A

E.9 Networking with other projects and institutions

Status of the action: **completed**

Foreseen start date: 1.8.2015

Actual start date: 1.1.2016

Foreseen end date: 31.1.2024

Actual end date: 30.1.2023

Deliverable/milestone: N/A

Description of implementation of the action: Out of originally planned six three-day visits for 3-5 project personnel or key stakeholders together 19 days of networking meetings were held during the whole project period with other organisations and projects covering 289 participations sharing their best examples, challenges and experience with implementation of restoration projects and practical nature conservation (see [NDA_83_E9_networking](#)).

Problems, solutions, delays, and the impact on the other actions depended on this action: N/A

E.10 Organization a family day

Status of the action: **completed**

Foreseen start date: 1.11.2016

Actual start date: 10.9.2016

Foreseen end date: 30.11.2020

Actual end date: 18.9.2021

Deliverable/milestone: **Milestone Dömös Green Day organized**

Milestone foreseen: 1.11.2015

Milestone completed: 18.9.2021

Deliverable/milestone: **Milestone Dömös Green Day organized**

Milestone foreseen: 1.11.2016

Milestone completed: 10.9.2016

Deliverable/milestone: **Milestone Dömös Green Day organized**

Milestone foreseen: 1.11.2017

Milestone completed: 9.9.2017

Deliverable/milestone: **Milestone Dömös Green Day organized**

Milestone foreseen: 1.11.2018

Milestone completed: 15.9.2018

Deliverable/milestone: **Milestone Dömös Green Day organized**

Milestone foreseen: 1.11.2019

Milestone completed: 21.9.2019

Deliverable/milestone: **Milestone Dömös Green Day organized**

Milestone foreseen: 1.11.2020

Milestone completed: 19.9.2020

Deliverable/milestone: **Milestone 3000 people visited the green days**

Milestone foreseen: 1.11.2020

Milestone completed: 18.9.2021

Description of implementation of the action: This event called 'Dömös Green Day' was organised every autumn (September). It was financed by the project six times (2016 - 2021). The events were visited together by 3,197 people (2016: 377, 2017: 902, 2018: 465, 2019: 584, 2020: 406 and 2021: 463, documented by attendance records). Adverts of the events were ordered online and in the local newspaper (examples of FB posters attached). The events offered activities in connection with local wildlife. The yearly programmes included opening ceremony, storytelling, traditional music, bird ringing presentation, tales of the wildlife, livestock introduction. Numerous stands were offering local handcrafted trades and advertising eco-tourism in the area (for photo documentation and other annexes see [NDA_84_E10_family_days](#)).

Problems, solutions, delays, and the impact on the other actions depended on this action: The first family day should have been organised originally in 2015, but due to delay of Grant agreement signature it was delayed and the whole cycle of yearly organised Family Day started one year later. Anyway, between 2016 and 2021, all six events as planned were organised without any problem according to the proposal.

E.11 Notice boards

Status of the action: **completed**

Foreseen start date: 1.7.2016

Actual start date: 1.7.2016

Foreseen end date: 31.1.2024

Actual end date: 10.10.2022

Deliverable/milestone: **Deliverable 10 notice boards installed**

Deliverable foreseen: 31.1.2024

Deliverable completed: 10.10.2022

Description of implementation of the action: Two notice boards were installed in 2020 on the premises of visitor centre in Velký Lél, in October 2022 other 9 notice boards were installed. Altogether we produced one information panel more than planned and the action was successfully accomplished ahead of the amended foreseen end date. Notice boards were installed on 4 different locations – Dobrohošť, Bodíky, Velký Lél and Apálský Island (see [NDA_85_E11_boards_locations](#)), 4 of them are bilingual (SK and HU) and 7 trilingual (SK, HU and EN) – see graphics and photos in [DA_86_E11_notice_boards](#). The notice boards are covering topics like valuable habitats and species of the project area, most actual problems and conservation challenges and promotion of recent nature protection and restoration achievements.

Problems, solutions, delays, and the impact on the other actions depended on this action: no problems

E.12 Layman report

Status of the action: **completed**

Foreseen start date: 1.1.2024

Actual start date: 1.1.2024

Foreseen end date: 30.9.2024

Actual end date: 30.9.2024

Deliverable/milestone: **Deliverable Layman's report printed out**

Deliverable foreseen: 30.9.2024

Deliverable completed: 30.9.2024

Description of implementation of the action: The Layman's report was prepared during the last implementation year and published at the end of the project. Three language versions were printed out (SK 500 pcs, HU 300 pcs and EN 200 pcs (see [DA_87_E12_Layman](#)) and the report was also published online for downloading. This publication presents a comprehensive summary of the project aims and achievements and contributes to raising awareness of stakeholder groups and local people on the conservation issues and NATURA 2000 network. It will present background document for future projects.

Problems, solutions, delays, and the impact on the other actions depended on this action: N/A

F.1 Project management

Status of the action: **completed**

Foreseen start date: 1.8.2015

Actual start date: 1.1.2016

Foreseen end date: 30.9.2024

Actual end date: 30.9.2024

Deliverable/milestone: **Milestone Project manager employed**

Milestone foreseen: 31.10.2015

Milestone completed: 1.1.2016

Deliverable/milestone: **Milestone Project office established**

Milestone foreseen: 31.10.2015

Milestone completed: 1.1.2016

Deliverable/milestone: **Milestone Office equipment purchased**

Milestone foreseen: 31.5.2016

Milestone completed: 2.6.2016

Description of implementation of the action: Project office was established and equipped and first project personnel hired at the beginning of the implementation period. The project personal terrain car ([NDA_88_F1_car](#)) was purchased in March 2018. Regular Steering Committee meetings were organised yearly (except 2020 due to Covid pandemics, and 2024 as all the partners discussed project progress in the frame of the Final Conference) by the Coordinating beneficiary (25.11.2016, 28.11.2017, 15.11.2018, 5.12.2019, 21.10.2021, 28.11.2022, 25.10.2023; see documented example of SC 2023 annexed in [NDA_89_F1_Steering_Committee](#)), progress of the project was continuously monitored by submitting of reports and visits of Project Monitor and Project Adviser and comments from all the received lists from monitoring visits were resolved. A complete overview of all project activities is summarized in the presentation with outputs and photos in annex [NDA_90_F1_project_presentation](#).

Problems, solutions, delays, and the impact on the other actions depended on this action: This action started 5 months later (in January 2016) since the grant agreement with EC was signed only in early December 2015. The later onset of the project also caused postponed start of some preparation and therefore concrete conservation actions, nevertheless all of the project actions were successfully implemented until the amended end date. Thanks to the enormous effort put from the side of BROZ to negotiations with representatives of MoE SR about the co-financing, the contract of co-financing was finally signed on 2.3.2018 on behalf of BROZ and on 22.3.2018 BROZ finally received the contract signed by the Minister of Environment. After this procedure BROZ and other ABs have access to co-financing. The first prepayment for BROZ from MoE SR was received on 10.10.2018.

F.2 Project bookkeeping and financial management

Status of the action: **completed**

Foreseen start date: 30.9. 2015

Actual start date: 1.7.2016

Foreseen end date: 30.9.2024

Actual end date: 30.9.2024

Deliverable/milestone: N/A

Deliverable foreseen: N/A

Deliverable completed: N/A

Description of implementation of the action: Accounting systems were established within all beneficiary organisations at the beginning of the project. Project bookkeeping was implemented throughout the whole project period on a daily basis including financial management and accounting. All project expenditures and incomes were transparently and duly recorded.

Problems, solutions, delays, and the impact on the other actions depended on this action: N/A

F.3 Project auditing

Status of the action: **completed**

Foreseen start date: 30.6.2016

Actual start date: 4.11.2019

Foreseen end date: 30.9.2024

Actual end date: 30.9.2024

Deliverable/milestone: **Deliverable Final audit report**

Deliverable foreseen: 30.9.2024

Deliverable completed: 30.9.2024

Deliverable/milestone: **Milestone External auditor nominated**

Milestone foreseen: 30.6.2016

Milestone completed: 4.11.2019

Description of implementation of the action: External auditor has been selected: Mrs. Zuzana Petrovičová, licence No. SKAU 956, company Tatraaudit Bratislava s.r.o., Pave Vukoviča 8, 85110 Bratislava. The project audit took place in stages, expenditures were checked in September 2020 and October 2023 and at the end of the project where the Final Audit report was issued in the form of Certificate on a Financial Statements ([DA_91_F3_audit_report](#)).

Problems, solutions, delays, and the impact on the other actions depended on this action: N/A

F.4 After-LIFE project conservation plan

Status of the action: **completed**

Foreseen start date: 1.4.2024

Actual start date: 1.4.2024

Foreseen end date: 30.9.2024

Actual end date: 30.9.2024

Deliverable/milestone: **Deliverable After-LIFE conservation plan published**

Deliverable foreseen: 30.9.2024

Deliverable completed: 30.9.2024

Description of implementation of the action: Towards the end of the project, we started to collect inputs for the After-LIFE project conservation plan, which was completed at the end of the project in a form of separate document (rather than the originally planned chapter of the final report) with its own design – [DA_92_F4_after_life](#) . This document collects all the plans concerning sustainability of the actions started within the project after its end and foreseen after life objectives in the project area, e. g. manipulation of water regime management technical objects, adjustment of regime of simulated floods, treatment of pollard willows and IAS, maintenance of forest stands, pastures, hay meadows, etc. and schemes which could be use to cover these managements.

Problems, solutions, delays, and the impact on the other actions depended on this action: N/A

Evaluation of Project Implementation

Please evaluate the following aspects of the project:

- Methodology applied: discuss the successes and failures of the methodology applied, the results of the actions conducted and the cost-efficiency of actions.

During the project implementation various methods related to the individual phases were used. The first was the development of expert studies on restoration of flow capacity and longitudinal continuity of Danube river branch system and lateral connectivity of branches and water regime of wetlands (including technical documentation and necessary permits), improvement of conservation status of floodplain forests (including identification of autochthonous gene pool) and restoration of grassland habitats. The proposed studies, documentations and permits formed the necessary framework for implementing the concrete conservation actions. Useful parts of the preparation phase were discussions with various experts and negotiations of proposed measures with relevant stakeholders. One of the most important initial steps of the project was land purchase / long term lease. It is a crucial part for implementation of several project actions. Hence the preparation phase of the project also included the start of the B.1 action by acquisition of land at the very beginning of the project. Extremely important factor for the land purchase was the own previous experience in the target area but also involvement of external experts and legal services in this field. Our experience in land acquisition has confirmed the importance and legitimacy of these services. The experience and reputation of the organization is also important when negotiating with landowners.

The implementation phase of individual conservation measures was primarily based on standard procedures proved within previous projects – restoration of grasslands by mowing and grazing, water regime restoration by removal of obstacles and reconstruction of technical objects. Additional approach to construction works towards water regime improvement was involvement of project staff into the process of simulated floods planning, which helped to reach the target results, as the higher achieved discharges go hand in hand with improvement of technical parameters of river branches and their objects, and in order to comprehensive improve water regime of the Danube inland delta, one can not act without the other. Concerning restoration of floodplain forest habitats, additionally to standard procedures of planting trees, after planting care and removal of IAS, project actions were enriched by identifying the autochthonous gene pool, certification of valuable reproduction material and producing its own seedlings in nurseries.

Monitoring of target species and habitats was based mostly on the standard methodology of zoological and phytocoenological research verified in scientific and conservation practice. Beside standard methods of hydromorphological monitoring an innovative approach by installation of online surface water measurement devices was used. Socio-economic monitoring was done by using questionnaire surveys and in-depth interviews with local inhabitants. Beside own research and monitoring activities concerning assessment of ecosystem functions also literature review was added. In case of dissemination actions monitoring, we used an alternative approach, instead of engaging external subjects, we evaluated the archived records by CB's own staff, which was possible thanks to the carefully documented partial outputs during the whole implementation period.

Concerning project communication towards the public, besides regular communication procedures and standard project materials published, we also included more unconventional project promotion and awareness – massive campaigning and petitioning action (for rescue of the Danube inland delta) or publishing of engaging books with tales for children.

All the project phases are directly dependent on project management. During the project implementation, these methods have been proved successful – frequent direct communication between project partners and cooperative approach in finding solutions to individual issues. Project beneficiaries together with SC members covered both technical and scientific know-how as well as necessary competences to achieve projects results. There were numerous small and bigger problems and challenges, but all have been successfully overcome by the project management team. Problems related to implementation of the actions (e.g. administrative processes, communication with stakeholders and land owners, etc.) and their solutions are described in detail in description of the respective actions.

- Compare the results achieved against the objectives and expected results foreseen in the proposal and described in section 4: clearly assess whether the objectives were met and describe the successes and lessons learned. This could be presented in a table, which compares through quantitative and qualitative information the actions implemented in the frame of the project with the objectives and expected results in the revised proposal:

<i>Action</i>	<i>Foreseen in the revised proposal</i>	<i>Achieved</i>	<i>Evaluation</i>
A.1	final proposal of restoration measures including specification of basic parameters	expert study including proposal of restoration measures	due to its complexity the study completed with a delay
A.2	elaboration of final expert study including all restoration measures with their basic parameters	expert study including proposal of restoration measures	study completed with a delay a
A.3	technical set of project documentation, obtaining construction permits, all necessary permissions and agreements issued	all necessary technical documentations elaborated and permits obtained	due to the previous preparatory steps (A.1, A.2), also these expected results delayed
A.4	result of mapping and inventory of NLC complementing the National Register and the National inventory of forest reproductive material	41 trees out of 220 were selected and nominated into the National Register and National List of LRM	expected result achieved
A.4	established a gene pool of 200 DNA-verified Black poplar genotypes with varietal identity and GIS records	established a gene pool of 209 DNA-verified Black poplar genotypes with varietal identity and GIS records	slightly overreaching expected result
A.4	expert study proposing concrete restoration measures to improve	experts study with proposed measured elaborated	expected result achieved

	conservation status of targeted forest habitats elaborated		
A.5	expert study on restoration of lowland meadows and non-forest habitats elaborated	experts study with proposed measures elaborated	expected result achieved
A.5	at least 2 public discussions with stakeholders and/or experts on the study organized	2 meetings organized	expected result achieved
B.1	in total 70 ha of the land acquired (31.5 ha purchased and 38.5 ha leased)	in total 416.29 ha acquired (67.07 ha purchased and 349.22 ha leased)	significantly overreaching expected result
B.1	Land purchased: Water, wetland and riparian habitats (3150, 3270, etc.) – 5 ha, Grassland habitats (6120*, 6510, etc.) – 12 ha, Forest habitats (91E0*, 91F0) – 14,5 ha	Land purchased: Water, wetland and riparian habitats (3150, 3270, etc.) – 6.28 ha, Grassland habitats (6120*, 6510, etc.) – 3.82 ha, Forest habitats (91E0*, 91F0) – 49.99 ha	significantly overreaching expected result
B.1	Land leased: 38.5 ha	Land leased: 349.22 ha	significantly overreaching expected result
C.1	minimum of 5 technical objects created or reconstructed	7 technical objects created or reconstructed	onset of works delayed but the action overreaching expected results
C.1	water regime of the area of 1,850 ha improved	water regime improved on 1,805 ha	expected result achieved
C.1	updated “Operating manual”	OM updated in order to improved simulated floods	expected result achieved
C.1	habitats restored: 3270 - 60 ha, 6430 - 35 ha, 91E0* - 430 ha, 91 F0 – 100 ha	habitats restored: 3270 - 54 ha, 6430 - 42 ha, 91E0* - 482 ha, 91 F0 – 115 ha	overall area overreached, minor change of proportion of habitats types
C.1	conservation status of species enhanced	conservation status of species enhanced	expected result achieved
C.2	2 river branches restored	3 river branches restored	overreaching expected result
C.2	minimum of 4,500 m of river branches will be re-connected	9,570 m of river branches restored	expected result more than doubled
C.2	migration barriers removed	migration barriers removed	expected result achieved

C.2	decrease of human disturbance on 135 ha	decrease of human disturbance on 147.77 ha	slightly overreaching expected result
C.2	4 wetlands restored on 37 ha	12 wetlands restored on 64.09 ha	significantly overreaching expected result
C.2	habitats restored: 3150 – 32 ha, 6430 – 13,5 ha	habitats restored: 3150 – 27 ha, 6430 – 34.5 ha	overall area overreached, minor change of proportion of habitats types
C.2	conservation status of species enhanced	conservation status of species enhanced	expected result achieved
C.3	genetic repository - minimum 20 pieces per specimen	minimum 20 pieces per specimen cultivated	expected result achieved
C.3	45,000 seedlings grown	67,390 seedlings grown	significantly overreaching expected result
C.3	gene pool established by DINPD on 3.8 ha area	gene pool established on 4.6 ha	significantly overreaching expected result
C.4	planting of 45,000 trees in Slovakia	59,400 trees planted	significantly overreaching expected result
C.4	IAS removed from 30 ha in Slovakia	IAS removed from 113.67 ha	expected results overreaching nearly four times
C.4	habitats restored in Slovakia: 91E0* - 25 ha, 91F0 – 37 ha, 91G0 - 13 ha	habitats restored: 91E0* - 56 ha, 91F0 – 38 ha, 91G0 - 7 ha	overall area overreached, minor change of proportion of habitats types
C.4	conservation status of species enhanced	conservation status of species enhanced	expected result achieved
C.4	12,500 pcs of trees planted within HU part of project area	14,500 trees planted	slightly overreaching expected result
C.4	control of IAS on 7 ha in Hungary	IAS removed from 14.81 ha	expected result more than doubled
C.4	renovation of a hardwood alluvial forest on a total of 3.5 ha in Hungary	3.7 ha of alluvial forests restored	slightly overreaching expected result
C.4	construction of a protective game wire fence	not constructed	replaced by application of protective game repellents
C.4	transport of app. 700 tons of bulky waste and 5 tons of hazardous waste	altogether 534.28 tons of urban waste collected	less waste collected than expected due to

			financial reasons (as explained above)
C.4	560 m long concrete fence removed	fence not removed due to financial inefficiency and expected weak environmental impact	sub-action cancelled and substituted by a larger restored area
C.4	removal of ammunition on 5 hectares	removal of ammunition on 7.1 ha	significantly overreaching expected result
C.5	84 ha of grasslands restored	81.64 ha of grasslands restored	slightly underreaching expected result
C.5	habitats restored: 6210 – 30 ha, 6440 – 53 ha, 6510 – 1 ha	habitats restored: 6210 – 16 ha, 6440 – 57.2 ha, 6510 – 8.44 ha	overall area slightly underreached, minor change of proportion of habitats types
C.5	at least 150 pollard willows restored	366 trees pollard willows restored	expected result more than doubled
C.5	200 new pollard willows planted	387 willows planted	due to low initial survival rate, number of planted trees overreached
C.5	conservation status of species enhanced	conservation status of species enhanced	expected result achieved
D.1	database of hydrological, morphological, climatological, biological and chemical data, assessment of present abiotic and biotic state and effectiveness of proposed measures	prior- and post-implementation reports from monitoring elaborated	expected result achieved
D.2	annual reports of monitoring of biota elaborated	all reports elaborated (habitats, dragonflies, spiders, beetles, molluscs, amphibians, fish, pollinators)	expected result achieved
D.3	socio-economic report completed	socio-economic progress reports and final report elaborated	expected result achieved
D.4	final ecosystem functions monitoring report elaborated	initial as well as final report elaborated	expected result achieved
D.5	dissemination monitoring results processed into excel tables and graphics	tables and graphs included in monitoring report	expected result achieved

D.5	questionnaires and quizzes	questionnaires and quizzes not included due to their ineffectivity (explained in Midterm Report)	these elements of the monitoring were abandoned after they proved as ineffective
D.5	dissemination monitoring final report elaborated	final report elaborated	expected result achieved
E.1	project web page developed, maintained and promoted in three languages	SK-HU-EN full version of project website fulfilled its role during the project	expected result achieved
E.2	at least 24 meetings with stakeholders, 5 participants / meeting	39 meetings with 290 participants organised	number of meetings as well as participants significantly overreached
E.2	2 two-day study visits for cca. 30 people organised	2 study visits for 76 (29 + 47) participants organised	significantly overreaching expected result
E.3	leaflets 2,000 copies	BROZ produced 1,300 leaflets, NLC produced 100 leaflets	less leaflets produced due to decrease of distribution possibilities during COVID pandemics, substituted by production of originally not planned items
E.3	leaflets 9,000 copies	DINPD produced 3,000 leaflets	less leaflets produced due to decreased need for printed materials, substituted by FB campaign
E.3	expert brochures – 3 types/ series together 7,500 copies	BROZ produced 2,500 brochures about Velký Lél, DINPD did not produce booklet on the management of Natura 2000 sites along the Danube, and did not reissue 'Discover the Duna-Ipoly National Park'	less brochures produced due to decreased need for printed materials, substituted by FB campaign
E.3	15,000 Cincér newspapers published (3,000 x 5 issues)	9,000 printouts of Cincér published (last 2 issues - 6,000 pcs cancelled)	reduction of newspapers due to decreased need for printed materials, substituted by FB campaign

E.3	DINPD promotional materials produced	350 promotion chocolates and 1,000 textile bags produced	expected result achieved
E.3	stickers – 15,000 copies	11,100 stickers printed	less stickers produced due to decrease of distribution possibilities during COVID pandemics, substituted by production of originally not planned items
E.3	calendar – 2,000 copies	1,900 calendars printed	slightly less calendars produced due to decrease of distribution possibilities during COVID pandemics, substituted by production of originally not planned items
E.3	magnets – 1,500 copies	1,500 magnets produced	expected result achieved
E.3	T-shirts – 1,500 pieces	1,590 T-shirts produced	slightly overreaching expected result
E.3	cups – 200 pieces	230 cups produced	slightly overreaching expected result
E.3	pens – 1,500 pieces	2,000 pens produced	significantly overreaching expected result
E.3	visitors centre facility improvement	equipment purchased, gazebo built	expected result achieved
E.4	10 guided excursions for 200 students	16 guided excursions for 516 students	significantly overreaching number of excursions and participants
E.4	5 guided excursions for the public for 50 people	9 public excursions for 123 people	significantly overreaching number of excursions and participants
E.4	two 5-days trainings of guides	two days of training activities organised	less training days due to lack of capacity of Nature Education Department of DINPD, since

			proposal submission, several colleagues with related competence left DINPD
E.4	five 1-day demonstration tours for teachers	2 one-day tours for teachers for 30 participants	less tour days due to lack of capacity of Nature Education Department of DINPD, since proposal submission, several colleagues with related competence left DINPD
E.4	20 guides trained	15 guides trained	even less than planned, all DINPD staff member capable of guiding a tour at a quality level were trained, they were 15 at the time of training
E.4	20 guides receiving further training	15 guides receiving further training	even less than planned, all DINPD staff member capable of guiding a tour at a quality level were trained, they were 15 at the time of training
E.4	4,000 participants of guided tours	606 people participated on guided tours	significantly overreaching compared to realistic estimation of 400 people (4,000 mistyped in proposal, explained in MTR)
E.5	13 conferences attended	15 conferences attended	slightly overreaching expected result
E.5	4 press conferences organised	5 press conferences organised	overreaching expected result
E.5	5 press releases distributed	9 press releases distributed	significantly overreaching expected result
E.5	30 articles published	73 articles published	expected result more than doubled
E.5	5 radio interviews broadcasted	13 radio interviews broadcasted	expected result more than doubled

E.5	10 TV shots broadcasted	16 TV shots broadcasted	significantly overreaching expected result
E.6	10 school presentations for 200 students organised	19 school presentations for 648 students organised	number of presentations and participants significantly overreaching expected result
E.6	5 public presentations for 100 people organised	15 public presentations for 1,450 people organised	number of presentations and participants significantly overreaching expected result
E.6	visit of stabile exhibition by 10 institutions/ organizations / schools	exhibition visited by 14 groups	significantly overreaching expected result
E.6	minimum of 3,500 visitors of stabile exhibition	891 visitors attended the stabile exhibitions	considerably lower number of visitors due to the COVID restrictions, actually the visitor rate was bit higher, but not everybody signed into the attendance lists, some signed also into a book of guests in the centre, numbers compensated with more visits of HU mobile exhibition
E.6	establish of seasonal exhibition by DINPD	mobile exhibition of DINPD established	exhibition established with a slightly changed concept due to space limitations
E.6	overall 5,000 visitors during project duration	7,124 visitors attended the exhibitions	significantly overreaching expected result
E.7	twenty 5-days camps for 240 children organised	53 5-days camps for 561 children organised	expected result more than doubled
E.8	at least 40 participants attending the event	56 participants attending the conference	significantly overreaching expected result

E.8	at least 5 media representatives attending press conference	6 media representatives attending press conference	expected result achieved
E.8	project's results disseminated through at least 5 media outputs	21 media outputs covered the event published	exceeding the expected result more than four times
E.9	six three day visits for 3-5 project personnel	19 days of networking meetings held for 289 people	slightly overreaching expected result
E.9	discussions with 50 people held	discussions with 289 people held	exceeding the expected result nearly six times
E.10	strengthened commitment towards nature conservation of 3,000 people in six years expected	events attended by 3,197 people in six years	slightly overreaching expected result
E.11	installation of 10 notice boards	11 notice boards installed	slightly overreaching expected result
E.12	1,000 pcs of Layman's report produced	1,000 pcs of Layman's report printed out and report published online	expected result achieved
F.1	sound implementation of the project ensured	project implemented properly	expected result achieved
F.1	project staff employed	project staff employed, project positions covered by experienced staff in a time periods when needed	expected result achieved
F.1	first progress report, three other progress reports, midterm report and final report submitted	first progress report, four other progress reports, midterm report and final report submitted	one additional progress report submitted due to project prolongation
F.2	transparent recording of project finances	project finances recorded transparently and continuously	expected result achieved
F.3	audit reports confirming transparent and accurate recording of project finances	controls of project finances carried out by external auditor	expected result achieved
F.3	final report on the project audit enclosed to the final technical report	final audit report enclosed to the project final report as Certificate on a Financial Statements	expected result achieved
F.4	After-LIFE conservation plan	After-LIFE conservation plan elaborated	expected result achieved