LIFE Project Number

<LIFE16 NAT/HU/000599>

Mid-term Report

Covering the project activities from 01/08/2017[1] to 31/03/2020

Reporting Date[2]

<31/05/2020>

LIFE PROJECT NAME or Acronym

<OAKEYLIFE - Multilevel and multisite complex restauration of key ecosystem services of the calcareous sand forest steppe habitat>

Data Project

Project location:	Közép-Magyarország (Hungary Magyarország) Dél-Alföld, Bács-Kiskun County, Kunpeszér SCI HUKN 20002 Peszéri-erdő SCI HUKN 20003 Felső-kiskunsági turjánvidék
Project start date:	<01/08/2017>
Project end date:	<31/12/2022> **Extension date:**
Total budget:	€ 2,685,487.00
EU contribution:	€ 1,895,500.00
(%) of eligible costs:	74,81

Data Beneficiary

Name Beneficiary:	KEFAG Kiskunsági Erdészeti és Faipari Zrt.
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[1] Project start date

[2] Include the reporting date as foreseen in part C2 of Annex II of the Grant Agreement

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1. List of key-words and abbreviations

DPP	– Deliverable Products of the Project
GIS	– Geographic Information System
IAS	– Invasive Alien Species
KEFAG	– KEFAG Kiskunsági Forestry and Wood Industry Plc.
KNDP	– Kiskunság National Park Directorate
LIDAR	– Light Detection and Ranging, is a surveying method that measures distance to a target by illuminating the target with pulsed laser light and measuring the reflected pulses.
MME	– Hungarian Ornithological and Nature Conservation Society, BirdLife Hungary
MS	– Milestones of the Project
N2000	– Natura 2000
PC	– Personal Computer
PR	– Public Relations

2. Executive Summary

Our project proceeds mostly as scheduled. However, we have minor delays in actions while we are ahead of schedule in some others. In our view, that none of our delays are so significant, that it could possibly threaten the original objectives and manageability of the project. The proposed preparatory work containing the action plan and technological instructions during the implementation were proven mature. Which is a well-set foundation, providing safety for the realization of the project. Such documents with professional nature-conservation and forest-management content were composed, which further on can be the outlines of good practice guides (A1). The constructed also GIS database also works as planned, it helps to efficiently allocate resources and technologies (A2). However we had an initial delay in soil mapping and hydrological examinations (A3), we could finish it by 31, December, 2019. The main causes of this are the necessary changing of the soil sampling method, and the belonged period of licensing procedures for the monitoring wells. Despite of the delay, the completion of soil maps and the automatization of monitoring wells are very important successes.
The procured large vehicles are working between the end of summer until springtime, to avoid the hatching period of native bird species. The labour in forest conditions wears out all machines, this results significant service costs.

In the frame of monitoring measures (D2) the field-survey protocol was made, which sets how and what should be examined by our colleagues on the field. In 2018 we decided to record detailed data on invasive species on 25m x 25 m sized plots. This survey concluded, that Peszér-forest is much more infested with invasive trees, than it was assessed before. A remarkable progress of "D" actions was the completion of Peszér-forest invasive tree map, as it indicates the locations for necessary interventions. Furthermore, the forest's habitat map also has been finished, in which we identified 1016 habitat-spots, and 26 habitat-type, which contain 315 habitat-type combinations (based on Á-NÉR).
The thoroughness and importance of the monitoring surveys (D2) are well demonstrated by the fact, that five species (*Cerambyx cerdo, Lucanus cervus, Barbastella barbastellus, Myotis blythii, Myotis dasycneme*) with Community interest were found, which were formerly unknown on the area. Some monitoring tasks were reassigned, with the update of partnership agreements: Kiskunság National Park Directorate took them over from Birdlife Hungary (F1).
Communication and Dissemination of results action can really be referred as well advanced and successful (E actions). We could reach and address as many groups with as many people, that in most cases we could reach our expectations for the end of the project. Despite of that, we continued our campaign to deliver our efforts and achievements to as wide layers of the society as possible.
Another important event since the last progress report was the completion of the visitor centre (E8), which was presented to the public on a tour-for-the-press event. This makes it possible to hold educational courses even on the spot, and to welcome more groups of visitors. Interactive education is also supported by the educational trails (E3) implemented by KEFAG and Kiskunság National Park Directorate, where 7 different type of boards are placed.
During the realisation of the project, we faced the following problems. The KEFAG Plc. still was not able to employ forest workers in sufficient numbers in the project (7 individuals instead of 10, and only 6 individuals in permanent positions). It is difficult to find adequate contractor in case of some line of work, such as: trunk removal, invasive species elimination. In case of the KEFAG Plc., the differences in wages for several person exceeds 20%. This can be explained by the fact that in Hungary the average wages are increasing yearly, and the wages planned for 2016 increased significantly in some jobs.

In case of the Kiskunság National Park Directorate, the main problem was the following: in case of the C7-C13 actions, forest workers could not be directly employed, because of a governmental decision. Instead, they could only be employed via external assistance.
Coronavirus disease of 2020 (COVID-19) also negatively influenced the progression of the project. Due to the restrictions, the contactors could not reach the area in case of the C1 action. Thus we changed the deadlines of the contracts.

3. Introduction

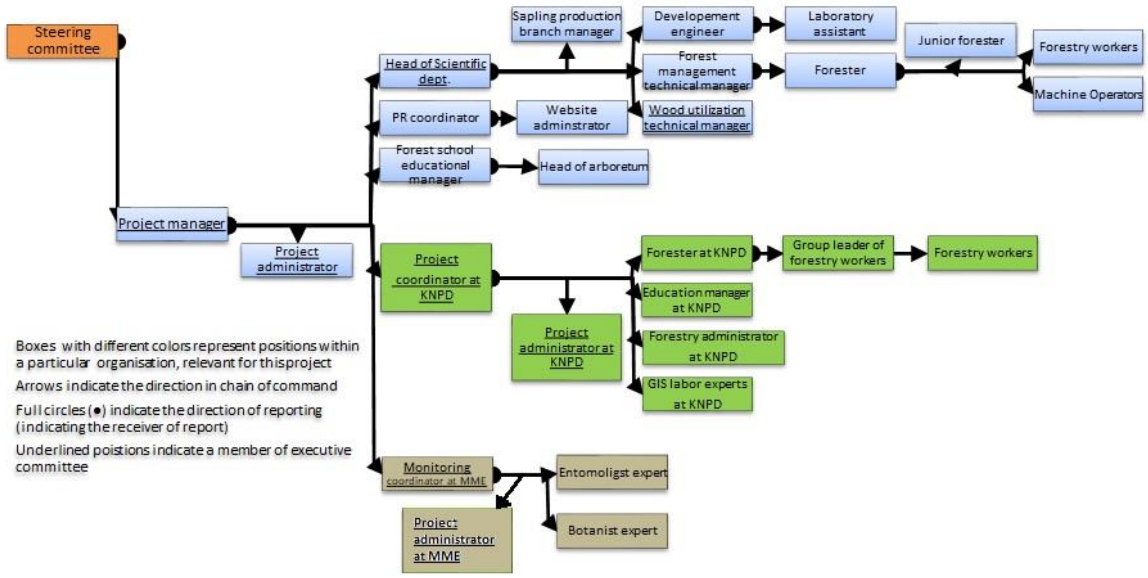
OAKEYLIFE project, aims to restore ecosystem-services of calcareous sand forest steppe: Peszér-forest, with the protection of pedunculated oak stands, and the characteristic plant and animal species within.
Peszér-forest is situated in the Pannonic biogeographical region, and is one of the smallest areas in the European Union, where several remarkable and endangered habitats can be found.
Naturally, there were attempts to eliminate endangering factors of forest-steppe habitats and to restore these areas in Hungary formerly, but success could be achieved on small scale, in some distinct locations. Until this day, we still not have practical manual to guarantee the subsistence of forest-steppe habitats. This is the main objective of OAKEYLIFE project, implemented by KEFAG Kiskunság Forestry and Woodworking Co, and its partners: Kiskunság National Park Directorate, and BirdLife Hungary. The name refers to Oak, as a key species, since the focus of the project is on the improvement of native oak stands' nature protection status, and the substitution of invasive tree species.
The programme is implemented in NATURA 2000 classified Peszér-forest (HUKN200002), which is an area of special interest. This is the most species- and habitat-rich habitat-complex of calcareous sand sites of the Pannonic biogeographical region. On this area various items of forested steppe can be observed: Subcontinental peri-Pannonic scrubs (40A0), Pannonic sand steppes (6260), Euro-Siberian steppic woods with *Quercus spp*. (91I0) and Pannonic inland sand dune thicket (*Junipero-Populetum albae*) (91N0) types.
The aim of OAKEYLIFE is to identify, measure, and eliminate the factors endangering these local habitats, and with this to improve their overall nature-protection status.
The implementing professionals are required to take actions to restore the most important supplying, controlling, sustaining and cultural ecosystem-services. The programme is meant to improve nature-awareness, social responsibility, and also gathers knowledge and practically tested expertise for professionals dealing with similar problems.
During the programme's technical actions we survey and eliminate endangering factors. Maybe the most important object of survey is the sinking level of groundwater. On the field of elimination: the fragmentation of habitats must be dissolved, along with the control of invasive plant species dispersal and the balancing of age-structure of forest habitats.
Unfortunately, vast majority of society, often even professional and authority specialists are not aware sufficiently of these environmental problems, and therefore they do not take enough care of protecting endangered forest steppe habitats.
The most serious problem currently is the widespread dispersion of invasive tree species, which we must expel with our technical actions. Furthermore we must get rid of the stump-piles formed at former forest-renewal works.
Another serious problem affecting the whole sand-ridge between Danube and Tisza rivers is the sinking of groundwater level. It is crucial to measure and monitor the process, to be able to assess further subsistence of habitat-types.
In OAKEYLIFE programme the professionals would like to connect the clearing of Peszér-forest with structured ecological corridors. To act against the even age structure of forest stands,

they reduce shrub-coverage to promote the succession towards forested-steppe oak forests, or pioneer softwood forests, which will help the succession towards climax forest biocoenosis. As a summary: instead of the currently mostly alien trees, site-specific species rich mixed transitional forests according will be formed by project beneficiaries, which may secure maintaining existence of steppic oak forests.
It is important to know, that the clearings of Peszér-forest are special margin-habitats, and they have emphasised role in upholding biological diversity. With the well-keeping of the already existing, partly forested clearings and the properly structured ecological corridors it is possible to link isolated populations of weakly dispersing species – like the threatened species of scarce fritillary (*Euphydryas maturna*). Besides scarce fritillary (*Euphydryas maturna*), the project also aims the protection and preservation such species of community interest like sand iris (*Iris humilis ssp. arenaria*) and sword lily (*Gladiolus palustris*).
It is woth to know, that forest steppe is accommodated to continental climate, and rather resistant consociation to climatic impacts. This means, it is capable to moderate the negative effects of climate change on biodiversity. The forest types of the habitat complex to maintain may provide balanced meso- and micro-climate, and so can guarantee the subsistence of less adaptive plant- and animal-species in the area.
The educational activities of the project with the www.oakeylife.hu webpage, along with the local visitor centre renewed and delivered in 2019 the people can directly recognize NATURA 2000 sites and species with community importance. Additionally: why and how much importance lies in halting the decline of biological diversity.
Thanks to the monitoring actions of the project, we detected new species of community interest (5 species), which were previously not known from the area. Additionally, the detection of even more protected and highly protected species and species with community interest is expected. During the implementation of the professional actions (C1-C13), the specimen numbers of some organisations of community interest (*Euphydryas maturna, Gladiolus palustris*) have already grown. The nature conservation value of the Peszér-forest (HUKN200002) will grow, as well as the proportion of the areas with community value.
The elaboration of our management guidelines (A1) and writing of the best practice study tomes contribute to the possibility of similar interventions being concluded in different areas.

4. Administrative part

The partnership structure formed during the planning of the project were proven operable in the implication. The main council of the partners is the Steering Committee made up by the leaders of each organizations. It holds meetings yearly according to the plans, with a slight difference: the meetings are not always in January, but moved to the autumn regarding that the start of the project was in August. In 2020 we held it in January. On these meetings the Executive Committee members and directly the project manager reports about the achieved results and together they evaluate the situation. Other important reference is the monthly progression report, which was not in the initial plan. This contains every important event in Hungarian, and a shorter English version is also prepared. This latter report is sent monthly to the Executive Committee of the project. Quarterly these reports are submitted in English too.
The Executive Committee hold 7 meetings in the examined period, where the actual tasks and problems were coordinated by the colleagues working in the implementation. Besides, 42 times ad hoc meetings (13 times since the progress report) were held, field- and office-discussions. The major field and office ad hoc meetings were recorded, to be able to oversee and supervise the said information.
The first Progress Report was sent to EASME and NEEMO in January of 2019.

NEEMO held rapports in March of 2018, May of 2019 and March of 2020.
There were some changes in the structure of project management in the examined period: at KEFAG beneficiary Dr. Dániel Andrési took over the project manager position from Dr. Gábor Bárány starting at 1. of May, 2019. At Birdlife Hungary the project leader position was moved from Bálint Halpern to Judit Hartdégen in November of 2019.
In case of the realisation of the tasks, the field and the clerkly collations are regular. The National Park and the MME made a cooperative agreement regarding the takeover of some tasks, which was signed in early April of 2020 (there was a delay because of the COVID 19 pandemic).
The significant divergences from the work plan are listed in point #8. During the making of the action plans, we discuss the concurrent changes. In case of every DDP and MS, I signal the forthcoming deadline towards the partners in advance. In some cases however, the significant changes in the deadlines are caused by changed technologies (e.g. C4 action, the trunk removal).
The following picture shows the organograms of the individual organisations, the roster (including names and positions) of the people working in the project can be found in the annex (F1_3).



5. Technical part

5.1 Technical progress, per Action

A1 – Creation of action plans (including management guideline and schedule for the present LIFE-project)

The realization of the action is in progress, and practically will continue during the whole period of the project.

Foreseen start date: 01 – 08 – 2016	Actual start date: 01 – 08 – 2016
Foreseen end date: 31 – 12 – 2022	Actual end date: 31 – 12 – 2022

The planned and realized DPP the action-plan in the project is the most important management and follow-up instrument for the project-management (A1_1). Practically it is an extended Gantt-chart (F1_5), containing the specific milestones and the deadlines and operators for the different Deliverable products of the projects. Completed and refreshed in deadline.

Naturally, the action plan is updated yearly and is ready for every autumn (instead of January) for the next Steering Committee meeting. So the project leaders can easily scope the progress. This alteration is caused by the delayed starting of the project too.

The National Park Directorate and Birdlife Hungary also completed their technological regulations (A1_2), which are useful in reproduction the examinations on other locations too. Furthermore, this will be helpful in composing the good practice publications.

A2 – Creation of GIS-database for Peszér-forest area

The implementation of the action is in progress.

Foreseen start date: 01-08-2017	Actual start date: 01 – 08 – 2017
Foreseen end date: 31-12-2022	Anticipated end date: 31-12-2022

The activities planned for this Action during this reporting period have been implemented successfully with no alteration from the specification laid down in the Grant Agreement.

- Progress: In this period, the implemented activities were: a) purchasing equipment and remote sensing data, b) creation of frame system of GIS database, c) operation of GIS database.
- a) The frame system has been developed (progress compared to plans:100%).
- b) Spatial data provided by KEFAG's experts (soil mapping), MME's monitoring experts (abundance of invasive species, data on key species and habitats) and KNPD's experts (remote sensing data, biotic data including data on key species and habitats) have been loaded in the GIS (progress compared to plans:100%).

During the project period more than 30,000 new records were loaded in the databases.
According to the progress of this action, all the expected results of Action A2 can be achieved without any modifications of the proposed schedule (A2_1).
Milestones
MS1 (A frame system of a functional GIS-database is created and available for all project partners) has been reached in time.
MS2 (A thematic map for representation of soil heterogeneity based on the data of soil mapping collected in the frame of action A2) has been reached with some delay compared to the original schedule.

A3 – Hydrological and soil mapping of project area

The realization of the action is in progress, and will be during the project period because of the collection for groundwater data.

Foreseen start date: 01 – 08 – 2017	Actual start date: 01 – 08 – 2017
Foreseen end date: 31 – 12 – 2022	Actual end date: 31 – 12 – 2022

The method planned in the action (sampling with tractor mounted device with 3 point suspension) were changed by the management for nature conservational considerations. Following a consultation with the Technical Monitor of the project, we obtained manual sampling borers without exceeding the budget, and our physical workers are collecting the soil samples (2 of our 6 persons). This process is obviously slower than the mechanized, therefore the soil map could not be ready as planned (12/2018), new deadline for the soil map was 30/06/2019. We succeeded in finishing the collection of samples in for the new deadline. In October of 2019 the laboratory examinations also finished. 2526 samples from 638 sample points were collected, and 9 parameters analysed on each. With these results the soil-type map of Peszér-forest was completed in December of 2019 (A3_1). The data of the groundwater monitoring wells are regularly read and saved. In the annexes the soil map is presented by depth layers, and the groundwater data by measured parameters (A3_2).

The laboratory examinations were performed continuously on the samples, until the soil map was finished in December of 2019. The soil-map represents the different parameter-values in all individual sample plots, for every collected sample (A3_3).

The licensing procedure of the automatic groundwater sensing wells took much longer time, than expected. This resulted practically 1 year delay between the original deadline (02/2018) and the accomplishment (01/2019). The delay affects the amount of the collected data, but until the end of the project period the collected data-amount will be still sufficient for valuable conclusions. After the implementation of the monitoring wells we started manual data collection, until the automatization. Finally, in July of 2019 the automatization of the groundwater monitoring wells has been completely finished. The following datasets are available: water temperature, groundwater level, water conductivity.

After we finished the data collection we employed the forest workers of the action in the C1 action.

The planned spectrophotometer was purchased.

C1 – Elimination of invasive trees on area managed by KEFAG

The realization of the action is in progress.

Foreseen start date: 01 – 08 – 2017	Actual start date: 01 – 02 – 2018
Foreseen end date: 31 – 12 – 2022	Actual end date: 31 – 12 – 2022

The planned equipments (chainsaws, mulcher and tractor) in the action has been obtained (C1_1-2). Instead of the planned 200 hp tractor we obtained a 220 hp (VALTRA T234) tractor more suitable for our needs, after following a consultation with the Technical Monitor of the project. This machine is also capable of performing the tasks planned in action C6. The chemical spraying tasks was delayed because of the delayed start of the project and the long licensing procedure. To minimalize the damage in the remaining forest stands and habitats we established sample plots after several official coordination occasions. After the examinations from 09/2018 we started the interventions with KEFAG Zrt. own forestry workers employed for the project. Our workers attended the basic plant protection training, which is a condition for the implementation of the IAS restriction.

According to our experience, it was a problem to hire entrepreneur with adequate experience and qualification. To solve this problem we asked for involving our own employees in these

tasks. The required wage cost for this (50.000 €) therefore was reallocated from the external assistance fee (250.000 €) for the action. We also asked for the price of the necessary chemicals from the cost of the planned consumables, which originally included seedlings purchases (7.500 €). This reallocation was also was granted. Furthermore, we asked to produce the necessary seedlings in our own nursery instead of the originally planned purchase, thus increasing the security of sand adapted origin, which also was allowed.
Meanwhile we managed to hire two entrepreneur to take part in the chemical treatment (*Fekete-Bérc Forest Kft., SM Consulting Erdő és Természetvédelmi Szolgáltató és Fejlesztő Kft.*). During the implementation we realized, that the complete removal of invasive trees could be extremely hard on those areas, where there are many small seedlings and shoots of them. To get forward, we concentrated on larger trees first (above 5 cm diameters) to prevent seed dispersal. We also implemented the total soil recultivation (before planting) as an effective method of removing invasive saplings and shoots. Additionally, we are trying to form well-structured forests with high canopy closure, which is unfavourable for many invasive plant species.
In this action the progress is continuous. Minor time-lapse was caused by COVID19 outbreak: the contractors could not start their work in early springtime. As a result, we would like to ask for the postponing of the deadline of the first round of chemical treatment: instead of 31. October 2020. to 31. October 2021. Additionally, we would like to finish the second round of treatment until 31. July 2022.
Basically two methods are applied for invasive control on the area: chemical treatment, and on the most infected areas mechanical removal (stump removal with full soil preparation), which shows excellent efficiency.
Invasive removal is completed on 106,6 ha from the planned 403,8. Great effort was placed on destroying the larger diameter, seed dispersing invasive trees, to reduce the spreading of their seedlings.

C2 – Reduction of scrub-cover of overgrown areas

The realization of the action is in progress.

Foreseen start date: 01 – 08 – 2017	Actual start date: 01 – 01 – 2018
Foreseen end date: 30 – 03 – 2019	Actual end date: 31 – 03 – 2021

The planned equipments (bushcutters) in the action has been obtained (C2_1-2). In the action we realized shrub control on 77,9 ha, with manual work and machinery, with own employees and entrepreneurs.
So 77% of the planned area (101,4 ha) is finished. The scrub-control could not be finished to deadline (MS 30. March 2019.) because the vegetation period and the hatching period limits our time suitable for this work. Scrub-control can be performed between 15. September and 15. March. We plan to finish the whole area until 31. March 2021.

C3 – Conversion of structure of forest stands

The realization of the action is in progress.

Foreseen start date: 01 – 08 – 2017	Actual start date: 01 – 01 – 2018
Foreseen end date: 31 – 12 – 2022	Actual end date: 31 – 12 – 2022

The areas affected by forest-structure conversion were slightly changed, because the Office of National Heritage did not approve our original plans (Kunpeszér 21A and 26F). New areas were chosen (Kunpeszér 7 H, 7O, 8 G, 25 A, 25 D). Structure conversion was performed on completely 13,6 ha of the planned 56,5 ha (C3_1-2). We plan to complete 20 additional ha in

2020 autumn and 2021 spring. On these areas tree felling has been already completed, next step is stump removal. We are still doing the stump removal. The progress compared to time-rate is fair. A milestone for the completion of tree felling was set for 01. March 2020., we would like to move this to 31. December 2021. And the milestone for the completion of planting will set for 31. March 2021., we would like to move this to 30. April 2022.
Large amount of saplings from our own nurseries are used up in forest structure conversion. We would like to account these saplings as our own contribution to the project.

C4 – Recultivation of trunk-depots

The realization of the action is in progress.

Foreseen start date: 01 – 08 – 2017	Actual start date: 01 – 03 – 2018
Foreseen end date: 30 – 09 – 2020	Actual end date: 30 – 04 – 2021

The trunk-depots planned to be eliminated by the action are located in several forest compartments, altogether on 2,19 ha area. As we will realize the site development by full ground-clearance and fitting of land, unlike in the project submitted before we would like to omit chemical treatments to decrease the load on the area. We mechanically removed the invasive trees from the trunk-depots. Machine works started in the first quarter of 2019. Currently on 0,80 ha (36,5%) our work is done (C4_1-2). With our work done, invasive centres were significantly reduced, and former trunk-depots were planted with native saplings. In 2020 we plan to increase the area of recultivated trunk-depots by 1 ha. We will plan to finish the field works of this action in 30. April 2021. It will be necessary to create new deposition site where we will carry the trunks before the grinding.
We would like account our self-produced saplings as our own contribution in this action too.
There is no deadline task.

C5 – Creation and maintenance of ecological corridors

The realization of the action is in progress.

Foreseen start date: 01 – 08 – 2017	Actual start date: 01 – 01 – 2018
Foreseen end date: 31 – 12 – 2022	Actual end date: 31 – 12 – 2022

We planned to make ecological corridors on altogether 11.56 ha. So far with our machine and hydraulic crusher, and our workers formed on 6,9 ha (59,7%-o preparedness) the base of the corridors (C5_1-2).
Work is carried out both by hand and by machine power. Limiting factor is the hatching period of birds, so we can progress from end of September until 15. of March in this action too. Our progress is as scheduled, and the action will be finished till 30. April 2021.
There is no deadline task.

C6 – Creation of forest clearings on area managed by KEFAG

The realization of the action is in progress.

Foreseen start date: 01 – 08 – 2017	Actual start date: 01 – 02 – 2018
Foreseen end date: 31 – 12 – 2022	Actual end date: 31 – 12 – 2022

There were no progress in the action from the last report (C6_1-2). Limiting factors are the hatching period of birds, and vegetation period. On many areas of this action originally submitted project proto-forests started to evolve. The mulching of these habitats is not adviseable from the point of nature-protection.

The forming of clearings could be carried out after proper area-selection. The action will be finished until the end of the project.
There is no deadline task.

C7 – Elimination of invasive trees on area managed by KNPD

The realization of the action is in progress.

Foreseen start date: 01 – 08 – 2017	Actual start date: 01 – 08 – 2017
Foreseen end date: 31 – 12 – 2022	Actual end date: 31 – 12 – 2022

The activities planned for this Action during this reporting period have been implemented successfully with no alteration from the specification laid down in the Grant Agreement (C7_1).

- Progress: In this period, the planned activities of Action C7 were: a) employing staff & purchasing equipment, b) first round of chemical treatment of non-arboreal species, c) first round of chemical treatment of arboreal species.
- a) Employment & purchase of equipment: Originally 5 persons (1 group leader, 4 forestry workers) were planned to be employed (as new employees) from the beginning of the project period. Due to difficulties in finding the adequate persons, in total 6 persons were employed, 2 of them for short time (the contract of those 2 persons were terminated). It total, 95 person-months have been allocated to all the activities performed by the new employees, including the chemical treatment.
- b) The first round of chemical treatment of non-arboreal species was completed (progress compared to plans: 100%).
- c) The first round of chemical treatment of arboreal species has been carried out on net 65.2 ha, while with repeated treatments the second round has been carried out on net 61.2 ha (progress compared to plans: approx. 105%). As the abundance of invasive species is quite varying among forest stands, and the time demand of treatments depends on other factors than the number of individuals to be treated (accessibility, density of shrubs, etc.), this can be regarded as a rough estimate. Also, as the mostly infected forest stands have already been treated, the progression is even better in terms of treated individuals of invasive trees.
- Problems and solutions: a) Due to governmental decisions, it was not possible to continue employing the forestry workers in 2020, therefore their contracts have been terminated on 31st December 2019. For coping with this, we involved external assistance from 1st January 2020. b) Treating the seedlings originating from the seed bank of the Black Cherry and the Common Hackberry seems to require more time than it was estimated. This problem can be solved by recruiting volunteers. In 2019 more than 900 working days of volunteers have been spent on the treatment of invasive species (mostly applying physical treatments).
- According to the progress of this action, all the expected result of Action C7 can be achieved without any modifications of the proposed schedule.

We could apply new methods, and we quantified the resource demands of those. Also, during the second half of 2020 we will be able to quantify the efficiency (as the ratio of successfully treated individuals and the total number of treated individuals) and the selectivity (the amount of herbicide residues in non-targeted species and in soil).
Instead of employing forestry workers as own employees, we have to implement all the C actions (including C7) by using external assistance, which probably will require the modification of the Grant Agreement. This was indicated in our monthly report sent to NEEMO on the 3rd February 2020.
Net area of treated forest stands (regarding the 1st round of selective chemical treatment of invasive trees): 65.2 ha
Net area of treated forest stands (2nd round of selective chemical treatment of invasive trees): 61.2 ha

Net area of treated forest stands regarding the physical removal of seedlings of invasive trees: 6,51 ha
According to the progress of this action, all the expected results of Action C7 can be achieved without any modifications of the proposed schedule.
Milestones
MS1 (Completion of the first round of chemical treatment of invasive non-arboreal plants) has been reached in time.

C8 – The reintroduction of silvipastoral systems on Peszér-Adacs Meadows

The realization of the action is in progress.
Foreseen start date: 01-08-2017 Actual start date: 01 – 08 – 2017
Foreseen end date: 30-09-2022 Anticipated end date: 30-09-2022

Progress: In this period, the planned activities of Action C8 were: a) complete elimination of invasive plants, b) data collection on the baseline conditions, c) implementation of traditional wood fence around the wooded pasture; d) regular grazing (implemented by a local cow-keeper) (C8_1).

- a) The elimination of invasive plants has been completed (progress compared to plans: 100%).
- b) Data collection on the baseline conditions has been completed (progress compared to plans: 100%).
- c) The implementation of traditional wood fence around the wooded pasture has been completed (progress compared to plans: 100%).
- d) Regular grazing: it has been implemented all over the project period in an experimental design (3 management types: exclusion of all grazing animals, exclusion of domestic grazing animals, grazing by domestic animals and game species, 2 repetitions of each)
- Problems and solutions: It was hard to find a person for monitoring the effects of forest grazing, as regarding the original plans a Serbian PhD student was foreseen to carry out the research, but as the Serbian partner was excluded from the project implementation, we had to find a new applicant. The contract with the new person has been signed later, and instead of 5 complete year, the monitoring activity will cover a 4-year long period.
- Unforeseen achievements: Due to changes in legal conditions, it is possible to reintroduce forest grazing to Peszér-forest. According to our plans, from May/June 2020 a 3.0 ha part of forest compartment Kunpeszér 45 G will be grazed by cattle.

Net area of grazed forest-steppe stands: 10.0 ha
Gross area of treated forest-steppe stands (selective chemical treatment of invasive plants): 10.0 ha
According to the progress of this action, all the expected results of Action C8 can be achieved without any modifications of the proposed schedule.
MS1 (Accomplishment of complete elimination of invasive plants) has been reached with some delay compared to the original schedule.
MS2 (Accomplishment of data collection on the baseline conditions) has been reached with some delay compared to the original schedule.
MS3 (Implementation of traditional wood fence around the wooded pasture)
The activities planned for this Action during this reporting period have been implemented successfully with some alteration from the specification laid down in the Grant Agreement.

C9 – Creation of small-scale forest clearings by KNPD

The realization of the action is in progress.

Foreseen start date: 01-10-2017 Actual start date: 01 – 01 – 2018
Foreseen end date: 31-12-2021 Anticipated end date: 30-09-2022

The implementation of activities planned for this Action during this reporting period have been started, with some alteration from the specification laid down in the Grant Agreement (C9_1).

- Progress: In this period, the planned activities of Action C9 were: a) complete elimination of invasive plants on former clearings, and in forest stands with incomplete canopy closure (at locations where natural processes would lead to the decrease of canopy closure as well)¸b) shrub reduction.
- a) The elimination of invasive plants has been partly completed (progress compared to plans: 30.9% in terms of gross area treated).
- b) Shrub reduction has been partly completed: completed (progress compared to plans:10%).
- Problems and solutions: a) Due to governmental decisions, it was not possible to continue employing the forestry workers in 2020, therefore their contracts have been terminated on the 31st December 2019. For coping with this, we will have to involve external assistance from the 1st January 2020.
- Unforeseen achievements: Due to changes in legal conditions, it is possible to establish grassy habitats in the Peszér-forest in a considerably easier administrative way than it was possible in the planning period. Therefore, small-scale forest clearings have been established in additional forest compartments (Kunpeszér 25 F, 30 B, 30 D, 30 E, 32 A, 32 C, 32 G and a 3.0 ha part of 45 F).

Net area of small-scale clearings: 0.76 ha
Gross area of treated forest stands (selective chemical treatment of invasive plants): 9.4ha
In the previous progress report (31st January 2019) we foresaw that during this reporting period the delay would be compensated, which has not been accomplished. According to the progress of this action, all the expected results and impacts of Action C9 can be achieved with some modifications of the proposed schedule (more effort will be concentrated on this action).
MS1 (Completion of treatment of invasive plants) has not been reached, significant delay is foreseen compared to the original schedule.

C10 – Improvement of conservation status of pre-forests of steppic Oak woods

The realization of the action is in progress.
Foreseen start date: 01-07-2018 Actual start date: 01 – 01 – 2018
Foreseen end date: 31-12-2022 Anticipated end date: 31-12-2022

The implementation of activities planned for this Action during this reporting period have been started, with some alteration from the specification laid down in the Grant Agreement (C10_1).

- Progress: In this period, the planned activities of Action C10 were: a) complete elimination of invasive plants on former clearings, and in forest stands with incomplete canopy closure (at locations where natural processes would lead to the decrease of canopy closure as well); b) shrub reduction.
- a) The elimination of invasive plants has been partly completed (progress compared to plans: 98.1 % in terms of number of invasive tree specimens and 79.9% in terms of gross area).
- b) Shrub reduction has been partly completed: completed (progress compared to plans:10%).
- Problems and solutions: a) Due to governmental decisions, it was not possible to continue employing the forestry workers in 2020, therefore their contracts have been terminated

on the 31st December 2019. For coping with this, we will have to involve external assistance from the 1st January 2020.
Net area of pre-forests with improved conservation status: 27.5 ha
Gross area of treated forest stands (selective chemical treatment of invasive plants): 27.5 ha
In the previous progress report (31st January 2019) we foresaw that during this reporting period the delay would be compensated, which has not been accomplished. According to the progress of this action, all the expected results and impacts of Action C10 can be achieved with some modifications of the proposed schedule (more effort will be concentrated on this action).
MS1 (Completion of treatment of invasive plants) has not been reached, significant delay is foreseen compared to the original schedule.

C11 – Floral diversification of restored habitats

The realization of the action is in progress.

Foreseen start date: 01-07-2017	Actual start date: 01 – 01 – 2018
Foreseen end date: 30-09-2022	Anticipated end date: 30-09-2022

The implementation of activities planned for this Action during this reporting period have been started, with no alteration from the specification laid down in the Grant Agreement (C11_1).

- Progress: In this period, in line with the planned schedule, only administrative activities have been implemented.
- Problems and solutions: a) Due to governmental decisions, it was not possible to continue employing the forestry workers in 2020, therefore their contracts have been terminated on the 31st December 2019. For coping with this, we will have to involve external assistance from the 1st January 2020.

According to expectations, all the expected results and impacts of Action C11 can be achieved with some modifications of the proposed schedule (more effort will be concentrated on this action).
MS1 (End of preparatory phase) has been reached in time.

C12 – Transformation of roadside shrubberies to forest-steppic Oak groves

The realization of the action is in progress.

Foreseen start date: 01-09-2017	Actual start date: 01 – 01 – 2018
Foreseen end date: 31-12-2022	Anticipated end date: 31-12-2022

The implementation of activities planned for this Action during this reporting period have been started, with some alteration from the specification laid down in the Grant Agreement (C12_1).

- Progress: In this period, the planned activities of Action C12 were: a) Procurement of necessary equipment/construction material; b) implementation of game fence around the patches to planted; c) planting sand-adapted Pedunculate Oak acorns and saplings; d) watering and weed control of saplings.
- a) Procurement of necessary equipment and material (game fence) has been accomplished.
- b) Implementation of game fence has been partly completed (progress compared to plans: 84.4%).
- c) Planting sand-adapted Pedunculate Oak acorns and saplings has been partly completed (progress compared to plans: 84.4%).
- d) Watering has been completed in the dry periods up to the necessary amount.

• Problems and solutions: a) Due to governmental decisions, it was not possible to continue employing the forestry workers in 2020, therefore their contracts have been terminated on the 31st December 2019. For coping with this, we will have to involve external assistance from the 1st June 2020. b) due to economize on fence material, it was reasonable to merge some locations. In the application we proposed to implement this action at 50 sites (20 locations per site, i.e. 1,000 locations in total covering 8000 sqm, using 10,000 meters of game fence), during the reporting period 6750 sqm area has been surrounded; c) there was no acorn production in 2018, therefore mass acorn collection could have been performed during 2019. d) The sites managed by local municipalities has not been surrounded and planted with Oaks, these activities will be accomplished during 2020.

Amount of acorns collected and planted: approx. 50,000

Net area surrounded by game fence and planted with sand-adapted Pedunculate Oak acorns and saplings: 6750 sqm.

In the previous progress report (31st January 2019) we foresaw that during this reporting period the delay would be compensated, which has not been totally accomplished. According to the progress of this action, all the expected results and impacts of Action C11 can be achieved with some modifications of the proposed schedule (more effort will be concentrated on this action). MS1 (Completion of acorn/sapling planting) has been reached by 31st March 2020, with some delay compared to the original schedule (15th October 2018).

C13 – Creation of nursery for Pedunculated Oak saplings originating from verified sand-adapted genotypes

The realization of the action is in progress.

Foreseen start date: 01-07-2017 Actual start date: 01 – 09 – 2018

Foreseen end date: 31-12-2022 Anticipated end date: 31-12-2022

The implementation of activities planned for this Action during this reporting period have been started, with some alteration from the specification laid down in the Grant Agreement (C13_1).

• Progress: In this period, the planned activities of Action C13 were: a) Procurement of necessary equipment/construction material; b) implementation of game fence around the nursery; c) planting sand-adapted Pedunculate Oak acorns; d) watering and weed control of saplings.

• a) Procurement of necessary equipment and material (game fence, sprinkling irrigation system) has been accomplished (progress compared to plans: 100%).

• b) Implementation of game fence has been completed (progress compared to plans: 100%).

• c) Planting sand-adapted Pedunculate Oak acorns and saplings has been partly completed (progress compared to plans:100%).

• d) Watering and weed control has been completed (progress compared to plans:100%).

• Problems and solutions: a) Due to governmental decisions, it was not possible to continue employing the forestry workers in 2020, therefore their contracts have been terminated on the 31st December 2019. For coping with this, we have to involve external assistance from the 1st January 2020.

Amount of acorns collected and planted: 22,000

Amount of seedlings produced: 5,800

According to the progress of this action, all the expected results and impacts of Action C13 can be achieved with some modifications of the proposed schedule (more effort will be concentrated on this action).

MS1 (Completion of genetic investigations of lineages of the Pedunculated Oak adapted to calcareous sand) has not been reached by 31st March 2020.

D1 – Monitoring post-treatment occurence of alien species

The realization of the action is in progress. The foreseen end date (according to the Grant Agreement).

Foreseen start date: 01 – 08 – 2017 Actual start date: 01 – 08 – 2017
Foreseen end date: 31 – 12 – 2022 Actual end date: 31 – 12 – 2022

The planned activities of this Action have been implemented successfully with necessary alterations from the specification laid down in the Grant Agreement.

- Progress: In this period, the implemented activities were: a) recording the baseline conditions b) continous post-treatment monitoring
- a) Recording the baseline conditions (progress compared to plans:100%).
- c) continous post-treatment monitoring (altered due to the applied methodology)

As spatial distribution of *Ailanthus altissima, Celtis occidentalis, Padus serotina, Acer negundo* (target IAS tree species) proved to be extremely aggregated, the planned sampling methodology (1 sample/ ha) was inefficient to estimate the real abundances (D1_1-2). Instead, full-mapping in 25x25m quadrates (625 m^2) was necessarily employed since the beginning of the the field survey of IAS species. However, mapping the whole project area resulted in a cc. 1,5 year of continuous fieldwork, it is highly unlikely to repeat it for the whole site several times until 2022. Instead, we re-mapping the managed areas and also unmanaged areas to evaluate the differences between natural spread and management efficiency. In this way, we will be able to complete the aims of the action. (Ref. at Action D2). Comparing to the original plan (cc. 1600 quadrates), the IAS field survey was necessarily conducted in more than 16 000 quadrates so far.

During the continous IAS field survey, data were collected in hundred thousand scale in total 15 076 quadrates. We surveyed 856 ha on a quantitative basis, so the achieved (full) coverage resulted in 89%. For the rest (forest stands with extremely dense shrub layer) text descriptions were given, and additionally the highly invaded patches were determined during the habitat mapping as well. As a result of our field survey, we have counted cc. 98 000 „thick" (diamater measured at breast hight > 5 cm) individuals, and estimated 2,2 million of „thin" (diamater measured at breast hight < 5 cm) individuals. *Ailanthus altissima* was present in 50% of the assessed area, the number of thick indiviuals was 43 500 and thin individuals 1,1 million. *Celtis occidentalis* occured in 80% of the assessed area, the number of thick individuals was 26 000 and thin individuals 880 000. *Padus serotina* was found in 30% of the assessed area, the number of thick individuals was 16 000 and thin individuals 125 000. *Acer negundo* was recorded in 14% of the assessed area, the number of thick individuals was 12 000 and thin individuals 80 000. The IAS survey in Szalag-erdő resulted in another 54 ha covered with 1150 quadrates. *Celtis occidentalis* proved to be the only wide-spread IAS tree species in the area with 900 thick and 40 000 thin individuals (D1_3). Besides, all the other non-indigenous wooden species, and stands of *Solidago spp.* and *Asclepias syriaca* were recorded during the IAS (and also habitat) surveys. Several manageable high definiton maps and data sheets (also in GIS) were created from the collected data. Assessing baseline conditions in such a detailful way is also necessary for the execution of some C actions. Many of our results have already been integrated in the relevant C actions both in planning and fieldwork.

We have already started to re-map particular forest subcompartments, and we are continously recording the changes in forest stands due to forestry works and project actions. Re-mappings will be continued in much greater extent in 2020 to follow the changes of IAS abundances and evaluate the effects of management activities.

According to the progress of this action, all the expected result of Action D1 can be achieved with necessary modifications of the proposed schedule.
Milestones
MS1 (Accomplishment of coenologic survey and collection of biomass samples (pre-treatment conditions) – 31/03/2018) has been reached within Action D2 (Habitat Report) with some delay compared to the original schedule.
MS2 (Re-mapping the whole target site for occurrence of invasive plant species – 31/03/2018) has been reached with some delay and major alterations compared to the original schedule.
MS3 (Re-mapping the whole target site for occurrence of invasive plant species – 15/12/2018) has been reached with some delay and major alterations compared to the original schedule.
MS4 (Re-mapping the whole target site for occurrence of invasive plant species – 15/12/2019) has been reached with some delay and major alterations compared to the original schedule.

D2 – Monitoring key species and habitats within Natura2000 site

The realization of the action is in progress. The foreseen end date (according to the Grant Agreement).

Foreseen start date: 01 – 08 – 2017	Actual start date: 01 – 08 – 2017
Foreseen end date: 31 – 12 – 2022	Actual end date: 31 – 12 – 2022

The planned activities of this Action have been implemented successfully with no alteration from the specification laid down in the Grant Agreement.

- Progress: In this period, the implemented activities were: a) purchasing equipment, b) regular monitoring of species and habitats of Community interest potentially affected by particular actions of the project, c) quantification of reintroduction/recolonization processes of plant and invertebrate species to habitats reconstructed/restored.
- a) Purchase of equipment: 2 pcs of Fieldbook K80G2 with one more year warranty were purchased (altogether 3255 EUR).
- b) Regular monitoring of species and habitats of Community interest potentially affected by particular actions of the project (progress compared to plans:100%).
- c) Quantification of reintroduction/recolonization processes of plant and invertebrate species to habitats reconstructed/restored (progress compared to plans:100%).

Due to the experiences gained about field data collection, instead of the Trimble Juno devices two Fieldbooks have been procured, which resulted some alteration in the budget as well. We were reported to NEEMO in an email, received on 5th September, 2019.
Due to the significantly higher time requirements of Action D1 (monitoring IAS) less amount of working days has been allocated to Action D2, as indicated in the progress report sent on 31th January, 2019 and accepted by EASME (Ref. Ares(2019)1608745 - 11/03/2019). To cope with this difficulty, KNPD involved its experts, trainees and volunteers to implement field data collection within the frames of D2. A verbal agreement was made by KNPD and BirdLife Hungary (and approved by the coordinating beneficiary) for the handover of filed data collection regarding the plant and invertebrate species of Community Interest (originally for 2019). As the other subaction of D2 (mapping of key habitats) also required much more working days than it was foreseen, the handover of field data collection regarding plant and invertebrate species, and also bird species was prolonged for 2020 (as a formal partnership agreement on the handover of field data collection) (D2_1).
Field assessment (D2_2) of the habitats of Peszéri-erdő was carried out in 1082 ha, which resulted in an individual assessment of 1012 habitat patches. We identified 26 habitat types based on the system of Á-NÉR, and from those 14 can be considered as key habitats in the site. The habitat types were presented in mosaics in most of the patches, altogether we could describe 315 combinations. Several fragments of 7 habitats of Community interest were identified, 3 of

them are priority habitats. Based on our results, the recent area of Euro-Siberian steppic woods with Quercus spp. (91I0) is 200,8 ha and the additional potencial area is 184,1 ha, Pannonic sand steppes (6260) is 96 ha and the additional potencial area is 13,2 ha. Pannonic inland sand dune thicket (*Junipero-Populetum albae*) (91N0) have been identified unequivocally only in 1 ha. Area of Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) (6410) can be estimated to 26,1 ha, Alluvial meadows of river valleys of the *Cnidion dubii* (6440) is 7,8 ha, Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Pandion, Alnion incanae, Salicion albae*) (91E0) is 10,4 ha. A locally new type of habitat was furthermore identified, *Juniperus communis* formations on heaths or calcareous grasslands (5130) on 8,9 ha. Besides the habitats of Community interest, several additional informations were collected on a quantitave base regarding e.g. stand structures and species. Also suggestions (in a categorical system) were made for the relevant C Actions.
Iris arenaria: Altogether 2266 individual records were collected in HUKN2002 (and also in HUKN20003) in different 17 localities. 12 new localities were found.
Gladiolus palustris: Altogether 41 individual records were collected in the single known locality.
Bolbelasmus unicornis: 17 individual records were collected in 8 localities
Cucujus cinnaberinus: 150 individuals were recorded, 123 habitat patches were identified.
Isophya costata: 30 occurrence data (acoustic detection) were collected in 6 different localities.
Carabus hungaricus: 16 individuals were recorded in 3 localities.
Euphydrias maturna: 682 individuals were marked for population estimation, additionally 150 individuals were recorded and 52 egg laying localities were identified (D2_5-6)
Dryocopus martius: 44 observation was made, 24 territory was identified.
Lullula arborea: 14 observation was made, 10 territory was identified (D2_3)
Additionally, 25 observation was made, and 9 territory was identified of *Dendrocopos medius*, and new species to the site were discovered, such as *Lucanus cervus* and *Cerambyx cerdo*.
According to the progress of this action, all the expected result of Action D2 can be achieved without any modifications of the proposed schedule.
Milestones
MS1 (Accomplishment of census of Iris arenaria populations - 30/04/2018) has been reached in time.
MS2 (Accomplishment of mapping the distribution/occurrence of species of Community interest (before the accomplishment of project actions) - 30/06/2018) has been reached with some delay compared to the original schedule (D2_3).
MS3 (Accomplishment of census of Gladiolus palustris populations - 15/07/2018) has been reached in time.
MS4 (Accomplishment of census of Iris arenaria populations - 30/04/2019) has been reached in time.
MS5 (Accomplishment of census of Gladiolus palustris populations - 15/07/2019) has been reached in time (D2_4).
MS6 (Accomplishment of census of Iris arenaria populations - 30/04/2020) has been reached in time (D2_4).

D3 – Evaluation of the socio-economic effects of the project

The realization of the action is in progress.

Foreseen start date: 01 – 08 – 2017	Actual start date: 01 – 08 – 2017
Foreseen end date: 31 – 12 – 2022	Actual end date: 31 – 12 – 2022

The first survey and summary was completed to deadline (annex D3_1-2). In our first online questionnaire survey we tried to assess the knowledge of all employees of the three participating

organizations about forest visitation habits, nature-conservation and LIFE-programme topics. With this we aimed to compare the knowledge of professionals directly and indirectly working in the project with those professional's knowledge in the topics relevant to our project, who are working on other fields.

D4 – Evaluation of the effects of the project on ecosystem services

The realization of the action is in progress.

There were no actual objective with deadline, however, data collection is ongoing.

Foreseen start date: 01 – 08 – 2017 Actual start date: 01 – 08 – 2017

Foreseen end date: 31 – 12 – 2022 Actual end date: 31 – 12 – 2022

The planned drone and a spare battery has been purchased, we also used this item for our PR activities. In the E2 action, we have made short films introducing Peszér-forest with the drone, which film can be used in one of our undertaken DPPs, "Short films for the internet". We made 3 short films which is available in our Youtube channel.

D5 – Monitoring the effects of forest-grazing

The realization of activities planned for this Action during this reporting period have been started, with some alteration from the specification laid down in the Grant Agreement.

Foreseen start date: 01 – 08 – 2017 Actual start date: 01 – 01 – 2019

Foreseen end date: 31 – 12 – 2022 Actual end date: 31 – 12 – 2022

The implementation of activities planned for this Action during this reporting period have been started, with some alteration from the specification laid down in the Grant Agreement (D5_1).

- Progress: In this period, the planned activities of Action D5 were: a) recording the baseline conditions; b) annual monitoring of the effect of grazing on key species and habitats
- a) recording the baseline conditions (progress compared to plans: 100%).
- b) annual monitoring of the effect of grazing on key species and habitats (progress compared to plans: 100%).
- Problems and solutions: It was hard to find a person for monitoring the effects of forest grazing, as regarding the original plans a Serbian PhD student was foreseen to carry out the research, but as the Serbian partner was excluded from the project implementation, we had to find a new applicant. The contract with the new person has been signed later, and instead of 5 complete year, the monitoring activity will cover a 4-year long period.

Biotic data collected on key species and habitats: more than 4,500 records.

According to the progress of this action, all the expected results and impacts of Action D5 can be achieved with some modifications of the proposed schedule (more effort will be concentrated on this action).

MS1 (Accomplishment of recording the baseline conditions) has been reached with significant delay.

E1 – Creation and maintenance of project website

Foreseen start date: 01 – 08 – 2017 Actual start date: 01 – 08 – 2017

Foreseen end date: 31 – 12 – 2022 Actual end date: 31 – 12 – 2022

Web page: www.oakeylife.hu (E1_1)

Facebook profile: https://www.facebook.com/oakeylife/

Youtube channel: https://www.youtube.com/channel/UCQvYKiQL6jV2r27hlF2PCAQ/
The web page contains the compulsory contents and formal elements required by LIFE.
Main purpose of the webpage is infotainment, namely teaching and informing through entertaining.
OAKEYLIFE website data: All users of the webpage in 2019: 5893 users
Active users monthly on average: 602. Best result on May (in 2019): 1032 persons. Page views (is the total number of pages viewed): 19 512 pcs. Page views monthly on average: 843 pcs.

Number of articles on the website: news: 91 (pieces), in protected species category: 51 (pieces), in all categories (in hungarian and in english news, results and protected species categories): 250 (pieces)

Our Facebook site data: total amount of facebook posts 209 pcs, all followers 221, most reached post by 5856 persons (on May).

There is no deadline task.

E2 – Public relation activities

Foreseen start date: 01 – 08 – 2017 Actual start date: 01 – 08 – 2017
Foreseen end date: 31 – 12 – 2022 Actual end date: 31 – 12 – 2022

PR-activity means for us primarily the utilisation of "not paid" communication channels and versatile usage of platforms. The realisation is decided on the base of news value. All online, printed, radio and television media coverage are posted on the webpage, in "Press releases" menu (E2_1).

(http://oakeylife.hu/category/sajtomegjelenesek/);(http://oakeylife.hu/en/category/press-releases/)

We organized a press tour with the theme of the educational trail prepared by KEFAG Zrt., and the Forest Visitor Centre prepared by the National Park.

(http://oakeylife.hu/2019/11/11/oakeylife-sajtotura-kunpeszeren-2019-11-11-sajtokozlemeny/)

With 12 not paid media appearances not only the county media and their audience, but the national and professional media and their audiences.

Media participating in the press tour: baon.hu, Petőfi Népe county daily, KTV, MTV, Kossuth Rádió, "A mi erdőnk" magazine, keol.hu.

We committed in the action point to release paid advertisements too, which were not bound to dates. In 2019 a paid press-material was published about the opening of educational trail and Forest Visitor Centre in a county gazette "Petőfi Népe" (E2_2).

DPP's: Short films for the internet (5 pcs). Deadline 31/01/2018. 3 short films have been completed with modified deadline, as previously agreed. (31/01/2018.) According to our agreement, we make 1 short film a year.

https://www.youtube.com/watch?v=uPrfVqoyLG8 (28/03/2018)
https://www.youtube.com/watch?v=xxMSr66OtGs (11/11/2019)

Foreseen completion date of the third film is 27 June 2020. We would have liked to link making our next short film to the 151 Wandering Assembly of the National Forestry Association, by KEFAG Zrt in Kecskemét and in Peszér-forest, but recent information that the event will be postponed due to the epidemic situation. (*The new date will be decided later by the organizers.*)

A list of all press releases is attached and appear on the website in Press menu, too.

E3 – Non institutional and institutional educational activities

Foreseen start date: 01 – 08 – 2017 Actual start date: 01 – 08 – 2017

Foreseen end date: 31 – 12 – 2022 Actual end date: 31 – 12 – 2022

Education of pupils: In the project we undertook with the involving of "Vackor Vár" Forestry School and the Arboretum of Kecskemét (628 children in 2019), that starting from 2018 with environmental programmes, guided field tours in Peszér-forest (named "Fowler activities", 252 children in 2019), educational work in the forestry school, and education on country-wide events (almost 700 children in 2019) we address school aged and kindergarten aged children in OAKEYLIFE topic.

We reached 1580 children with our educational activities in this period.

We received university students for internships in Peszér-forest, so we reached 428 students in 2019, (it contains number of students from period 1 Jan 2019 to 31 March 2020).

MS's:

Interactive educational trail is prepared by August in 2019. (Deadline 31/05/2019) (*Anybody can reach online the study trail boards on Downloads menu: http://oakeylife.hu/en/downloads/ And you can also watch the trail in our short film: https://www.youtube.com/watch?v=xxMSr66OtGs)* (E3_1-4).

Education of professionals: We organized a 2 days training on 20-21/11/2019 as a field tutorial for professionals. The topic was the key species and habitats of the calcareous sand forest steppe, with 48 participants. (Deadline 30/11/2019)

DPP's:

The educational material about the key species and habitats of the calcareous sand forest steppe is accessible on our website, on Downloads menu. (*http://oakeylife.hu/en/downloads/*) (Deadline 30/11/2019)

Educational DVD: According to our previous agreement, instead of DVD, we made an online board game which is available to anyone from OAKEYLIFE website. "Collect acorn!" game is completed by the end of March in 2020 (E3_5). http://oakeylife.hu/makkgyujto/ (Deadline 31/01/2020)

Posters (E3_6), introducing the species, habitats, and the habitat-conservational operations: We processed the task in two topics, the design of two posters are prepared. From these the press already produced 100 posters. The rest 100 posters will be delivered until May 2020. The 2 pieces of A/1 sized posters are accessible on the webpage. 35 posters have already been distributed to primary and secondary school groups in 2019.

(*Anybody can download our posters from the Downloads menu: http://oakeylife.hu/en/downloads/).*

(*http://oakeylife.hu/wp-content/uploads/2018/03/Peszeri-erdo_poszter_final_resize_florakonferencia.jpg*

http://oakeylife.hu/wp-content/uploads/2018/11/vedettrovarok_plakatA1.jpg)

Brochure introducing the species, habitats: It was planned to be completed by the end of May, 2020, because we would have liked to wait completion of the educational material about the key species and habitats of the calcareous sand forest steppe. (Deadline 31/01/2019)

The photo documents of this action contain the annex E3_7.

E4 – National and international networking

Foreseen start date: 01 – 08 – 2017 Actual start date: 01 – 08 – 2017

Foreseen end date: 31 – 12 – 2022 Actual end date: 31 – 12 – 2022

We continued strong relationship-building and experience-sharing activity in 2019. The abstract is attached to the report (E4_1).

International activities: In 2019 KNPD attended a field-trip in Podijí National Park in the Czech Republic, where we could discuss our experiences about the methods used for selective

chemical control of invasive tree species. Later in 2019, the Czech colleagues visited us in Peszér-forest and shared their experiences.

Other, not planned networking activity: We participated in 9 different networking programs, as an organizer in Peszér-forest, or as an invited person on conferences. Here we could show and discuss our results on the OAKEYLIFE program (E4_2).

DPP: Report on the succeeding of the networking visitations in 2019 completed. (Deadline 31/12/2019)

E5 – Training staff and volunteers

Foreseen start date: 01 – 08 – 2017 Actual start date: 01 – 08 – 2017
Foreseen end date: 31 – 12 – 2022 Actual end date: 31 – 12 – 2022

There is no deadline task.

143 volunteers were trained in Peszér-forest in 2019. In September, the students of American Nagykovácsi School and the staff of ACCACE Ltd. are participated in removing seedlings of invasive tree species.

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E6 – Opening Workshop

Foreseen start date: 01 – 08 - 2017 Actual start date: 01 – 08 – 2017
Foreseen end date: 31 – 03 – 2018 Actual end date: 31 – 03 – 2018

Not relevant, no task completion.

E7 – Final Workshop

Not relevant, no task completion.

E8 – Establishment of Peszér-forest visitor centre

The realization of the action is in progress.

Foreseen start date: 01 – 08 – 2017 Actual start date: 01 – 08 – 2017
Foreseen end date: 31 – 12 – 2022 Actual end date: 31 – 12 – 2022

The implementation of activities planned for this Action during this reporting period have been started, with no alteration from the specification laid down in the Grant Agreement.

- Progress: In this period, the planned activities of Action E8 were: a) purchase of old forester hous; b) renovation of the purchased building; c) operation of the forest visitor center
- a) purchase of old forester house (progress compared to plans: 100%).
- b) renovation of the purchased building (progress compared to plans: 100%) (E8_2). Contracting with local building contractors, it was possible to renovate both the mail and the outbuilding. The official opening ceremony was held on the 11th November 2019.
- c) operation of the forest visitor centre. During 2018 and 2019 (before the official opening) a lot of groups have attended the visitor centre and the surrounding forests. We targeted 1,000 visitors for the 3-year operation of the centre. In fact, we got more than 1400 guest days. Visitors from 35 different institutions have visited our centre (E8_1).
- Problems and solutions: We could contract with two Universities for official educations (a BSc level subject: Conservation management of lowland forest is held on-site at the visitor

centre), but the building is not large enough for 20 students, therefore to provide them with accommodation we will have to revamp the attic.

Number of visitors attending field education activities: 1517

According to the progress of this action, all the expected results and impacts of Action E8 can be achieved with some modifications of the proposed schedule (more effort will be concentrated on this action).

You can see some photos about the houses in our press release of our press tour: http://oakeylife.hu/2019/11/11/oakeylife-sajtotura-kunpeszeren-2019-11-11-sajtokozlemeny/). MS1 (Accomplishment of recording the baseline conditions) has been reached with significant delay.

F1 – Project management

Foreseen start date: 01 – 08 – 2017 Actual start date: 01 – 08 – 2017

Foreseen end date: 31 – 12 – 2022 Actual end date: 31 – 12 – 2022

See above (pages 8-9) 4. Administrative part. For partnership agreements see annex F1_1-2

The F1_3 annex contain the hierarchial structure of the workers of OAKEYLIFE project and the organogram. The photo documents of this action contain the annex F1_2.

F2 – Independent financial audit

We were selected the independent audit company: The financial audit will be carried out by Gábor Oláh, who is the independent auditor at KEFAG Zrt., the coordinating beneficiary.

The name of the financial audit companies: GABOL Audit Könyvvizsgáló és Tanácsadó Kft.

The address of the company: 3000 Hatvan, Irinyi János u. 10.

Registration number: 004062

The name of the independent financial auditor: Oláh Gábor

The address of the auditor: 3000 Hatvan, Irinyi János u. 10.

The membership card number: 000081

Number: 004855

F3 – After-LIFE plan

Not relevant, no task completion.

In this period, we performed the DPP's (Deliverable products of the project) below:

Number of the associated action	DPP (Deliverable products of the project)	Proposed deadline	Actual/ implemented deadline
A1	Action plan for the project	2017-08-31	2017-08-31
A1	Updated action plan for the recent project	2019-01-31	2018-10-17
D1	Yearly report on occurence of invasive plant species in the target area	2018-12-31	2018-12-31
D1	Yearly report on occurence of invasive plant species in the target area	2019-12-31	2019-12-31
E1	Fully functional project website	2017-12-31	2017-12-31
E3	Educational material for professionaks on selective use of chemicals for eliminating invasive plants	2018-11-15	2018-10-31
E3	Poster introducing species, habitats and conservation efforts (200 copies)	2019-01-31	2018-12-31
E4	Report on the lessons and results of the networking visit(s) in 2018	2018-12-31	2018-12-31
E4	Report on the lessons and results of the networking visit(s) in 2019	2019-12-31	2019-12-31
F1	Project partnership agreement	2017-08-31	2017-08-30
F1	Updated LIFE project performance indicator table (in Progress Report #1)	2018-12-31	2018-12-31
F1	Updated LIFE project performance indicator table (in Mid-Term Report)	2020-05-31	2020-05-20
F4	Report on progress regarding performance indicators in the Mid-Term Report	2020-05-31	2020-05-31

In this period, we performed the MS's (Milestones) below:

Number of the associated action	MS (Milestones of the project)	Proposed deadline	Actual/ implemented deadline
A1	Compilation of project performance indicators by project manager and its approval by steering committee	2017-08-15	2017-08-15
A1	Updated Management Guideline for the project (with all necessary spatial data)	2018.08.31	2018.08.31
C7	Completion of the first round of chemical treatment of invasive non-arboreal plants	2018-08-31	2018-08-31
C7	Completion of the first round of chemical treatment of invasive trees	2020-10-31	2019-03-31
C11	End of preparatory phase	2017-12-31	2017-12-31
D2	Accomplishment of census Iris arenaria populations	2018-04-30	2018-04-30
D2	Accomplishment of census Gladiolus palustris populations	2018-07-15	2018-07-15
D2	Accomplishment of census Iris arenaria populations	2019-04-30	2019-04-30
D2	Accomplishment of census Gladiolus palustris populations	2019-07-15	2019-07-15
D2	Iris arenaria populatáció összeszámlálásának végrehajtása.	2020-04-30	2020-04-30
E1	Project website published	2017-12-31	2017-12-31
E2	General design of the project is created	2018-01-31	2017-12-20
E3	Training for professionals on selective use of chemicals for eliminating invasive plants	2018-11-30	2018-10-03
E3	Training for professionals on key species and habitats (including species and habitats of Community interest) of the calceorus sand forest steppe	2019-11-30	2019-11-20/21
E4	Collecting contact data to managers of sites where the target habitats of this project are present	2018-11-30	2018-11-30
E6	Opening Workshop hel	2018-03-31	2018-03-28/29
E8	Purchase of land	2017-12-31	2017-10-15
E8	Renavation of buildings	2019-08-31	2019-08-31
F1	Project partnership agreements are signed by all parties	2017-08-31	2017-08-30
F1	Regular report to steering committe by executive committe	2020-01-31	2020-01-21
F2	Selecting the independent audit company	2017-11-30	2017-11-30

Some DPP’s and MS’s had occurd delays because of professionals and nature conservation reasons, and the coronavirus. The Chapter 8 will contain these DPP's and MS's.

5.2. Main deviations, problems and corrective actions implemented

One of the most serious problems occurring during the realization of the project is attached to human resource management. In Hungary during the last few years the numbers of the employed shows remarkable fluctuations, among others because of the saltatory increase in wages. It is really difficult to find workforce with the required qualification, and it is even hard to keep the workers later on. Due to this, for example the project administrator duties are issued by the fourth person already, and by the same participant instead of the planned 10 forestry workers for KEFAG, but we could recruit only 6-7 persons. But since we plan to employ them for longer time, we will be able to use up the feasible financial envelope.

In the case of Kiskunság National Park, the situation of employing physical workers is also problematic. Due to governmental decisions, it was not possible to continue employing the forestry workers in 2020, therefore their contracts have been terminated on the 31st December 2019. For coping with this, we will have to involve external assistance from the 1th January 2020.

Regarding the personal costs, some conditions must be mentioned: in Hungary during the last few years it is more and more problematic to employ manpower for physical jobs, especially in the sector of agriculture and related fields. This made the employers from 2016 to gradually raise wages to be able to keep the employees.

Also, in our project in many cases the personal costs exceeding the planned budget by more, than 20% (see table below). Because of the above mentioned process the beneficiaries had to raise their wages significantly.

The selection of the entrepreneur capable of adequate work quality is also attached to the problem above, especially for skill-demanding tasks, like spraying against invasive species. To solve this, we are planning to call in own employees in higher rate into the implementation of the commitment, which will require some cost rearrangement. Other problem was during the realisation was the continuance of licensing procedure, which especially caused time lag in the chemical control of invasive species. However, these lags are not so long affect project feasibility. The fourth outstanding problem occurred in the early state of realisation is attached to forest-structure conversion action (C3). In Kunpeszér 21A and 26F forest-compartments we planned to intervene on altogether 18,14 ha. But the National Office of Cultural Heritage referring to archaeological deposit bound the intervention to preliminary excavation. The cost of this excavation (about 53 000 €) greatly exceeds the possibilities in our project budget, so the Executive Committee decided to reschedule the plan, and got approval for this amendment. The forest-structure conversion is implemented in the same magnitude of area submitted in the project, but on other forest compartments. These are the parts of the following forest sub-compartments: Kunpeszér 7 H, 7O, 8 G, 25 A, 25 D, where the actions are already in progress. Another significant problem is the outbreak of SARS-CoV-2 virus (COVID-19) in the first quarter of 2020, which significantly inhibited the progress of certain actions. Fortunately the visit of the external monitoring team could be held in March 2020, almost in the last possible days. The restriction affected work, business, travelling and movement, and so certain contractors could not reach the formerly contracted sites in time. To handle this, we will sign modified contracts.

Despite of the problems pointed out above, we still think that it is possible to hold schedule during the implementation of the project. The planned developments and interventions will fully be realized!

5.3. Evaluation of Project Implementation

Thanks to our interventions, already at the first part of the project it is observable, that the nature conservational status of the aimed habitats, parallel with the implemented actions are improving significantly. Among others, a reason for that is the fact, that the area of "Peszér"-forest is relatively small, so every intervention produces easily accountable improvements. The most serious threatening factor is the presence of invasive tree species, against which we have started the defense. However, with the performed survey we have such high-precision map data, which makes the planning of control-operations much easier. As a result of our survey-work, we could describe species with community importance, and also protected species (*Sternbergia colchiciflora, Iris arenaria, Gladiolus palustris Carabus hungaricus, Cerambyx cerdo*). We proved the nesting of certain bird species (e. g. *Scolopax rusticola*) on the area, and we managed to specify the spread and population size of individual species with community importance (*Bolbelasmus unicornis, Euphydrias maturna*). With this information the interventions for the next period can be planned and implemented more precisely.
Indirect impacts: In the course of our events and communications activity we payed exceptional attention on the application and informing of the various authorities. Thanks to this, our aims and implicational concepts could be easily get across to them and implemented, although in some cases these were different from regular authority practice.

5.4. Analysis of benefits

Environmental benefits:
Direct/quantitative environmental benefits:

Thanks to the results of the project so far, the nature-protection value of Peszér-forest significantly increased. In case of *Euphydrias maturna* the first signs of positive effects of habitat improvement are already observable. With the continuous removal of invasive trees the elimination of the most threatening factor is carried out. In the first cycle, the elimination of invasive species occurred on 171.8 ha. Firstly, the seed dispersing and the nearly seed dispersing specimens were removed. This will improve the nature-protection status of the project area and the area of the denoted sites. With the ecological corridors different and dispersed populations will be connected to a larger system. The formation of ecological corridors was completed in large amounts, on 6.9 ha. The recultivation of trunk-depots also remarkably adds to the area of better nature-protection status in forests. Trunks were removed on 0.8 ha, whit which the area of invasive focal points were also reduced. In addition, samplings of native species were planted in the place of the trunk-depots.
In forest-structure conversion we transform the affected forests-stands with alien species into forests with only native tree species, which is also a major improvement. So far, forest structures was changed on 13.6 ha, during which non-native stands were replaced with native stands, which also lowered the proportion of the area of the invasive species.

Qualitative environmental benefit:

Our actions promote greatly both the extension of denoted habitats, and the number of populations on them, and this process will continue in the future. We could observe positive processes already, thanks to monitoring activities. We could detect denoted habitats from places, where they were not recorded before. During our technical actions' progress we try to develop the naturalness of the area, and we are looking forward to achieve this aim. According

to our opinion, the most important endangering facto on the project area is the presence of invasive tree species, and their remanent seed-lot. The forest management methods applied in the project are focused on the decreasing of this problem.
Until the end of the project it is crucial to control areas infested with herbaceous and woody invasive species. On the most infected areas we must apply clear-cutting and then full soil preparation.
In the afterlife of the project it will be still important to observe the dispersion of invasive plants, intervention might become necessary.

Economic benefits:

In the case of forests close to nature stands appear to be much persistent compared to artificially formed forests, which makes their management more economic. That is why we intend to transform our forests as close to natural stands as possible. If the canopy closure of these natural forests is high enough, the probability of the dispersal of invasive trees drops significantly.

Social benefits:

Thanks to our forest visitor centre and the interactive educational trail, environmental education became conspicuous in the vicinity. We can raise the interest starting from kindergarten-age to university graduates, even to adults of the visitors with our establishments of public welfare. Nowadays more and more excursionary visits the area, which in this part of "Alföld" lowlands was uncommon before. Nevertheless: with our project we could give employment to some local colleagues.

Replicability, transferability, cooperation:

The area of calcareous sand steppe forests is low both in Hungary, and worldwide. But this project is still applicable from many points of view on other areas to improve nature protection status (i.e.: invasive removal, structure conversion, developed monitoring methods, forest grazing, etc.). The path we trod can be applied by other projects, other countries. A good example for this: the invasive removal method developed at our project has been used successively in Czech Republic.

Best Practice lessons:

The lessons of proven practices will be disseminated in our Best Practice publication at the end of the project. According to our opinion, the preliminary works are crucial in giving good foundation for the progress of technical actions of the project. An important aim is the composition of an adequate preliminary documentation, which is crucial for the oncoming technical actions.

Innovation and demonstration value:

Our innovation progress is remarkable. According to preliminary studies of morphological patterns, it is possible, that another oak species is also present on the area. Scots pine genetic examinations are in progress, as former references and forest plans refer to it as a native species of Peszér-forest.
Among our demonstrative values, I would like to highlight the forest visitor centre, and the informational boards on the interactive educational trails. Our presentable technical interventions (invasive control, structure conversion) on each forest parts also pose as demonstrative values.

Policy implications:

We could also raise the attention of local and national authorities regarding our project. We regularly tally with the forestry authority about our professional actions and their progress. Some of our actions are showing new approach for them, but in the same time we could feel their encouragement. And we hope, that our results may have effect on legislation processes too (the problems of invasive species, forest grazing, etc.). In the practice, we apply the new things and paragraphs (e.g. forest grazing) in our forest law an in its execution decree amongst the first in the Great Hungarian Palin. With our practical experiences, we contribute to the writing or modification of future laws. We will be able to provide new solutions to forest management problems that can be clearly perceived by them, which can later be extended by legislation.

During chemical elimination of invasive species, the most often used substance is glyphosate. The banning of this chemical in the European Union will cause a significant problem. Whit this chemical, we can eliminate invasive plants selectively and with great efficiency. The biological control methods are yet to be sufficient enough to replace this chemical. During the OAKEYLIFE project however, we investigate the effectiveness and selectivity of some fungi strains against *Ailanthus altissima*, which could be useful in future practices and legislation.

According our forest law, invasive species do not count towards the closure of the total forest area. But removing this species could also cause closure lacking areas, which leads to legislative anomalies. We hope that the practical part of our project can help in the elimination of this problem.

6. Key Project-level Indicators

The online KPI database were completed in the time of the first Progress Report.

At the first part of the project, it can be concluded, that we are on the right track towards reaching our aims. In case of preparatory actions we were completed. We made significant progress in the professional actions. With these ones towards “Improve the conservation status on target habitats”. The more accurate knowledge on the populations of species with community importance also supports this activity. Our communications, educational and networking activity can be considered outstandingly successful, the results of this activity exceeds greatly our preliminary expectations. This is due to the success in applying countrywide media (TV, radio stations) in our communication, with rising the interest of wide social layers toward the problem and our project.

Significant progress has been made in the handover of the forest visitor center and forest study trails. Through these activities, we make a significant contribution to positive environmental education.

The indicator table will send in an annex (F1_5).

7. Comments on the financial report

7.1. Summary of Costs Incurred

PROJECT COSTS INCURRED				
	Cost category	Budget according to the grant agreement in €*	Costs incurred within the reporting period in €	%**
1.	Personnel	1 010 620,00 EUR	524 957,55 EUR	51,94%
2.	Travel and subsistence	179 713,00 EUR	41 964,15 EUR	23,35%
3.	External assistance	480 875,00 EUR	249 093,78 EUR	51,80%
4.	Durables goods: total non-depreciated cost	273 275,00 EUR	157 363,97 EUR	57,58%
	- *Infrastructure sub-tot.*	24 000,00 EUR	16 074,07 EUR	66,98%
	- *Equipment sub-tot.*	249 275,00 EUR	141 289,90 EUR	56,68%
	- *Prototype sub-tot.*	0,00 EUR	0,00 EUR	0,00%
5.	Consumables	362 284,00 EUR	35 894,70 EUR	9,91%
6.	Other costs	61 820,00 EUR	20 830,97 EUR	33,70%
7.	Overheads	165 275,00 EUR	47 779 EUR	28,91%
	TOTAL	**2 533 862,00 EUR**	**1 077 884,12 EUR**	**42,54%**

The table contains the summarized costs arranged to categories from the start of the project until 31. March 2020.
The reporting period covers 49,2% of the total project duration. As far as the budget is concerned, it can be stated that the project is a little underperformed.
The beneficiaries spending's remarkably exceeded the amount of EU contribution transferred so far as.
The coronavirus outbreak in the beginning of this year slightly hindered the progress of the project financially and also from the point of indicators.
The formerly signed contracts for invasive control will be amended, to extend the deadline of completion.
Our cost-per-line transfers, or our changes, are listed in the list per action.
Accounting of travel costs within the LIFE project for company owned vehicles is based on unit costs for each car in accordance with our travel regulations. Unit costs are calculated: all cost of a given car of the year divided the all run km's for the year. The travel cost therefore include: fuel cost, service charges, insurance costs, car taxes, road tolls, oils and other liquids and tires.
On the other hand, our employees using the national rules and fees when using their own vehicle.
It is still observable, that personnel costs are exceeding the planned amounts. This is caused by the rising of wages explained before.
There is also an over-spending of infrastructure and equipment lines, but this is due to the timing of our purchases for the initial period.
The acquisition of the required building and the larger equipment has been accomplished.

The PC has been purchased (actual price: 3351 €, budgeted: 3500 €). The LIDAR images (together with the aerial photo and thematic maps) has been procured (altogether 8070 €). The GIS licences (5000 €) has not been purchased as KNPD owns the necessary amount even without purchasing new licences.
The problem with the procurement of LIDAR images, indicated in the previous progress report was successfully solved: with negotiations we could decrease the price of processed LIDAR images. Originally in total 8.200 € was budgeted for the procurement of LIDAR images, the aerial photo and thematic maps, and all these items have been procured at a moderately lower price (8070 €).

Two pieces of Logic Instrument Fieldbook K80 has been used for monitoring tasks in the OKAEYLIFE project (D1-D2 actions). These devices were purchased by KNPD from outside resources, and provided for project purposes free of charge. During over one year of use the battery length is proved to be enough even for 2 days of intensive use. The tablet could bear heavy rain and minus 15-20 °C, so data collection and protection during bad weather conditions is also solved. The rubbed coat bears the permanent scratching of twigs, accidental droppings from 2 meters high and also keeps dust outside. However, most importantly the tablet is compatible with ArcPad GIS software, which has been used for the previous monitoring works and all the running survey protocols are built up in GIS environment. ArcPad runs under Windows OS (but not Android), and can manage several working layers simultaneously. As during data collection, the database is getting greater, hardware capacity is determining. So far hundred thousand of data have been collected and classified into several layers to help the remaining fieldworks. The tablet's hardware is clearly strong enough for extent database managing.

As KNPD needs the lent devices, we have to purchase equipment for continuing our monitoring effort. After surveying via internet, we concluded that the purchase should be done in Hungary, in order to avoid any future guarantee issues. Although we found several seemingly cheaper solutions, the battery life and GPS accuracy cannot be compared between offers, so we would not like to risk the effectivity of our future work, therefore we would like to accept the offer of ESRI Hungary for the similar models what we used so far. We plan to use the remaining budget item allocated for the purchase of 3 GPS devices, summing 2.300 EUR. Based on the recent offer the 2 devices (K80) would pose an increased expenditure of 700 EUR, summing 3.000 EUR. We are therefore asking the approval of this budget modification.

We kindly ask the approval of this modification of the budget:

Category	From Action	Amount €	Category	Where Action	Explanation
Consumables	A3	15.000	Consumables	C3, C4	At action A3 (reagents for laboratory examinations) not all costs were used up. We would like to use up 15.000 EUR from the remaining amount for the planting of our own-produced saplings. As KEFAG is the biggest sapling-producer of the country, and it is technically reasonable to use up saplings grown near to their planting area, to ensure their accommodation to site-conditions. Accounting of these saplings would happen on cost price.
Consumables	C3, C4	70.000	Other cost	C4	At forest structure-conversion and stump-depot recultivation works besides significant fuel costs remarkable reparation costs emerged for our heavy machines. As well fot the Valtra tractor obtained from project-budget, and for our initial machinery too. This is why we would like to rearrange costs from fuel costs to service costs. We would like to move 55.000 EUR in C3 action, and 15.000 EUR in C4 action to service cost. If it is possible, we would like to account service costs for C3 action too!
Personnel	C7, C8, C9, C10, C11, C12, C13	124.000	External assistance	C7, C8, C9, C10, C11, C12, C13	Due to governmental decisions, it was not possible to continue employing the forestry workers in 2020, therefore their contracts have been terminated on 31st December 2019. For coping with this, we involved external assistance from 1st January 2020. We kindly ask for the approval of this modification.

7.2. Accounting system

All the beneficiaries are committed to use double-entry bookkeeping, which is realized by accredited software. All beneficiaries are responsible for accounting it's own OAKEYLIFE related invoices. The codes identifying OAKEYLIFE project costs are:

- KEFAG LTD: FLIFE16
- Kiskunság National Park Directorate: OAKEY LIFE EU; OAKEY LIFE FM; OAKEY LIFE ÖN

- Birdlife Hungary:
    - 850-210001 OAKEY LIFE Personnel Cost,
    - 850-210002 OAKEY LIFE Travel Cost,
    - 850-210003 OAKEY LIFE External Assistance,
    - 850-210004 OAKEY LIFE Equipment,
    - 850-210006 OAKEY LIFE Consumables,
    - 850-210007 OAKEY LIFE Other Cost,
    - 850-210008 OAKEY LIFE Overhead.

All invoices, or other documents justifying costs are checked, approved and signed by the responsible project leader of the individual beneficiary before accounting. On the approved invoices the identification code of the project is indicated: OAKEYLIFE (LIFE16 NAT/HU/000599), and the technical action for that the costs occurred. Then the costs of the invoice are assigned to OAKEYLIFE code in the individual beneficiaries accounting systems by the accounting departments.
The time spent on project actions are registered on electronically completed time-sheets. The work is supervised by the employees' direct leader and by project leaders and the project administrator. Their approval is needed to account the working days for the project, as they sign the time-sheets of the employees.

7.3. Partnership arrangements (if relevant)

In the OAKEYLIFE project the first part of the EU contribution for the 3 beneficiaries was transferred to the coordinating beneficiary (KEFAG Zrt.). Then the amounts of the other 2 beneficiaries was transferred forward proportionally to them.
The partner organizations have individual accounting systems, they manage their costs on their own. Financial reports with all supporting documents from the partners are called in to the coordinating beneficiary in every quarter year. At this time we summarize the financial spreadsheets. The costs are accounted monthly on the actual monthly HUF/EUR exchange rate. In some cases (calculating automobile costs per km) the costs need yearly supervision, so at the end of each year we correct the amount to be accounted.

7.4. Certificate on the financial statement

We will send it in an annex.

7.5. Estimation of person-days used per action

Budgeted person-days by group of actions:

Action type	Budgeted person-days	Estimated % of person-days spent
Action A: Preparatory actions	1481	104%
Action B: Purchase/lease of land and/or compensation payment for payment rights	-	-
Action C – Concrete conservation actions	5393	43%
Action D: Monitoring and impact assessment	1239	46%
Action E: Communication and Dissemination of results	954	27%
Action F: Project management (and progress)	1055	31%
TOTAL	**10122**	**43%**

In the case of A actions we exceeded the originally planned budget. The cause of this is that in A3 action much more fieldwork was needed, than was planned originally. Even in the future we will be in need to account person-days for this action, as around the monitoring wells we most regularly mow the grass, and officials regularly visit the wells to check groundwater-quality.
In E and F actions we completed slightly fewer person-days, than it was planned. In this actions the oncoming wanderer assembly of the Hungarian Forestry Association will be an important event, as OAKEYLIFE will be a major part of the programme, which will need significant preparation work.

8. Envisaged progress until next report

Till next report, we will continue the already begun the professional operations. We completed our preparatory actions, the whole soil and hydrologic mapping will be completed, which will provide basement for our further works. The directly useful instruments for the project management (action plan, technology instructions) are regularly updated, to log and trace our knowledge more and more precisely. For the next report of the project, we will actually have the main part of the habitat development tasks realized.
Regarding "Monitoring and impact assessment actions", we will possess information expanding on the whole intervention area of the project, and related to every proposed aims.
We also plan to continue our communication activity attached to the project. With this we will exceed the public-reach and opinion-shaping indexes planned in progress reporting 2.

The Gantt chart send it in an annex (F1_4).
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The proposed deadline and the actual/postponed deadline of The DPP's (Deliverable products of the project)

Number of the associated action	DPP (Deliverable products of the project)	Proposed deadline	Actual/ postponed deadline
A1	Management guideline for actions	**2017-09-30**	**2018-05-30**
	Updated action plan for the whole project	**2018-01-31**	**2018-03-15**
	Updated action plan for the whole project	**2020-01-31**	**2020.03.31**
A2	A tematic map for representation of soil heterogeneity based on the data of soil mapping collected in the frame of action	**2018-08-31**	**2019-01-31**
	A tematic map for water balance based on the hydrological data collected in the frame of action A2	**2018-08-31**	**2019-08-31**
A3	Soil map of the project area	**2018-12-31**	**2019-12-31**
C13	Study on the genetic lineages of Pedunculated Oaks on calcareous sand	**2019-03-31**	**2021-12-31**
D1	Report on coenologic survey (pre-treament conditions)	**2018-03-31**	**2018-05-30**
	Report on the result of analyses of herbicide residues (pre-treament conditions)	**2018-03-31**	**2018-08-31**
	First report on occurrence of invasive plant species in the target area	**2018-04-30**	**2018-08-31**
D2	High definition distribution maps for species and habitats of Community interest (before the accomplishment of project actions)	**2018-07-30**	**2019-12-31**
	Report on the occurrence and abundance of all the species of Community interest (baseline conditions)	**2018-07-30**	**2020-03-31**
	Report on the results censuses of Gladiouls palustris and Iris arenaria populations	**2019-08-15**	**2020-03-31**

D3	The analysis of interviews and focus group meetings focused on the possible socio economic impact of the project (in the Layman's Report)	**2019-01-31**	**2022-12-31**
E2	Leaflets introducing project (5000 copies)	**2018-01-31**	**2018-06-15**
	Merchandised products	**2018-01-31**	**2018-06-15**
	Short documentary for internet use (5 pcs)	**2018-01-31**	**2022-03-31**
	Information boards (5 pieces)	**2018-01-31**	**2019-10-31**
	Laymen's Report (3000 copies)	**2018-01-31**	**2022-12-31**
E3	Brochure introducing species and habitats (1700 copies)	**2019-01-31**	**2020-09-01**
	Education material for professionals on key species and habitats (including species and habitats of Community interest) of the calcareous sand forest steppe	**2019-11-15**	**2019-11-30**
	Educational DVD (500 copies)	**2020-01-30**	**2020-03-31**
E5	Education materials for training professionals	**2018-08-31**	**2018-12-31**
F4	Report on progress regarding performance indicators in the Progress report	**2018-12-31**	**2019-01-19**

The proposed deadline and the actual/postponed deadline of The MS's (Milestones)

Number of the associated action	MS (Milestones of the project)	Proposed deadline	Actual/ postponed deadline
A1	Approved Management Guideline for the project (without spatial data)	**2017-09-30**	**2018-05-30**
A2	A frame system of a functional GIS-database is created and available for all project partners	**2018-03-31**	**2018-03-31**
	A tematic map for representation of soil heterogeneity based on the data of soil mapping collected in the frame of action A2	**2018-08-31**	**2019-01-31**
A3	Installation of automatic ground water monitoring wells (3 pcs.)	**2018-02-28**	**2019-07-15**
	Establishment of sampling pits, collection and on-the-spot analysis of soil samples (638 pcs.)	**2018-08-31**	**2019-06-30**
C2	Completion of shrub reduction	**2019-03-31**	**2021-03-31**
C3	Completion of clearcutting at forest stands to be transformed	**2020-03-01**	**2021-12-31**
C4	Elimination of invasive trees growing on trunk depots	**2017-08-31**	**2021-04-30**
C5	Treatment of invasive plants located at trences and pathes to be converted into ecological corridors	**2017-09-30**	**2021-04-30**
	Removal of trees located in the planned trace of the corridors	**2017-10-31**	**2021-04-30**
C8	Accomplishment of complete elimination of invasive plants	**2017-10-31**	**2018-03-31**
	Accomplishment of data collection on the baselane conditions	**2017-12-31**	**2018-05-30**
	Implementation of traditional wood fence around the wooded pasture	**2018-03-31**	**2020-01-31**
C9	Completion of treatment of invasive plants	**2018-10-31**	**2020-12-31**
	Completion of reduction of shrub	**2020-12-31**	**2021-12-31**
C10	Completion of chemical retreatment of invasive trees	**2017-09-30**	**2020-12-31**
C12	Completion of acorn/sapling planting	**2018-10-15**	**2020-03-31**
C13	Completion of genetic investigations of lineages of the Pedunculated Oak adapted to calcaerous sand	**2018-12-31**	**2021-12-31**
D1	Re-mapping the whole target site for occurrence of invasive plant species	**2018-03-31**	**2018-08-31**
	Accomplishment of coenologic survey and collection of biomass samples (pre-treatment conditions)	**2018-03-31**	**2018-07-31**
	Re-mapping the whole target site for occurrence of invasive plant species	**2018-12-15**	**2019-03-31**
	Re-mapping the whole target site for occurrence of invasive plant species	**2019-12-15**	**2020-03-31**

D2	Accomplishment of mapping the distribution/occurrence of species of Community interest (before the accomplishment of project actions)	**2018-06-30**	**2018-08-31**
D3	Accomplishment of interviews and focus group meetings in the starting phase of the project	**2018-06-30**	**2018-08-31**
D5	Accomplishment of recording the baselane conditions	**2017-12-31**	
E2	Information boards are installed in nearby villages	**2018-01-31**	**2018-08-31**
E3	Interactive educational trail is prepared	**2019-05-31**	**2019-08-30**
E5	Accomplishment of official training on using chemicals by forestry workers employed by KNPD	**2017-08-31**	**2017-12-31**
F1	Regular report to steering committe by executive committe	**2018-01-31**	**2018-10-17**
	Regular report to steering committe by executive committe	**2019-01-31**	

Kecskemét, 5th June 2020

Dr. Dániel Andrési
project manager

ANNEXES

Electronically attached deliverable products and a summary of their contents per action (each directory contains some photos to present our activity):

A1:

- **A1_1:** Action plan.
- **A1_2:** Management guidelines (D1, D2 Actions) for the KNPD and the MME.

A2:

- **A2_1:** Description of the GIS system (list of datasets, record structure of datasets, data management protocol – in Hungarian, with executive summary in English)

A3:

- **A3_1:** Soil-type maps of the Peszér-forest.
- **A3_2:** Photo documentation of Action A3
- **A3_3:** Summary of the action A3

C1-6:

- Photo documentation of the Action C1_1-C6_1
- Maps of completed areas

C7:

- **C7_1:** Detailed description of activities carried out in Action C7
- **C7_2:** Dimitrov Valcsev Zsófia Lora BSc thesis

C8:

- **C8_1:** Detailed description of activities carried out in Action C8

C9:

- **C9_1:** Detailed description of activities carried out in Action C9

C10:

- **C10_1:** Detailed description of activities carried out in Action C10

C11:

- **C11_1:** Detailed description of activities carried out in Action C11

C12:

- **C12_1:** Detailed description of activities carried out in Action C12

C13:

- **C13_1:** Detailed description of activities carried out in Action C13

D1:

- **D1_1:** A Peszéri-erdőben előforduló idegenhonos fásszárú növényfajokról – Non-indigenous wooden plant species in Peszéri-erdő (2019)
- **D1_2:** Az inváziós fafajok tömegességének becsült értékei – Estimated density values of invasive species (2019)
- **D1_3:** Inváziós fafajok tömegességi viszonyai a Szalag-erdőben – Density patterns of invasive species in Szalag-erdő (2020)

D2:

- **D2_1:** Partnership Agreement on the handover of field data collection regarding species of Community interest (2020)
- **D2_2:** Élőhelytérképezés a Peszéri-erdőben – Habitat mapping in Peszéri-erdő (2020)
- **D2_3:** Közösségi jelentőségű fajok felmérése a Peszéri-erdőben – Assessment of species of Community interest in Peszéri-erdő (2020)
- **D2_4:** A homoki nőszirom (*Iris arenaria*) és mocsári kardvirág (*Gladiolus palustris*) felmérése a Peszéri-erdőben – Assessment of *Iris arenaria* and *Gladiolus palustris* in Peszéri-erdő (2020)
- **D2_5:** A díszes tarkalepke (*Euphydrias maturna*) vizsgálata a Peszéri-erdőben – Assessment of *Euphydrias maturna* in Peszéri-erdő (2019)

- **D2_6:** A díszes tarkalepke (*Euphydrias maturna*) tojáscsomó és hernyófészek vizsgálata a Peszéri-erdőben – Assessment of eggs and larvae nests of *Euphydrias maturna* in Peszéri-erdő (2019)

D3:

- **D3_1-D3_2_Socio-economic surveys** files summarize the results of the socioeconomic analyses carried out so fare.

D5:

- **D5_1:** Detailed description of activities carried out in Action D5

E1:

- **E1_1:** Photo documentation of Action E1

E2:

- **E2_1:** Press releases.
- **E2_2:** Photo documentation of Action E2

E3:

- **E3_1:** Educational trail table 1.
- **E3_2:** Educational trail table 2.
- **E3_3:** Educational trail table 3.
- **E3_4:** Educational trail table 4.
- **E3_5:** Online game photo.
- **E3_6:** Protected insects' poster
- **E3_7:** Photo documentation of Action E3

E4:

- **E4_1:** Networking report 2019.
- **E4_2:** Photo documentation of Action E4

E8:

- **E8_1:** Detailed description of activities carried out in Action E8
- **E8_2:** Photo documentation of Action E8

F1:

- **F1_1:** Contract_KNPD and Contract_MME
- **F1_2:** Partnership agreements modification (KNPD-MME)
- **F1_3:** Photo documentation of Action F1
- **F1_4:** Hierarchial structure of workers, organogram
- **F1_5:** Gantt chart