BKT FOREST S.R.L.
Nr. 211 / 26.11.2021

FINAL REPORT

A.2. General technical measures for forest edge restoration, surface of min. 2000m

Service contract no. 26/4.8.7;4.8.8/0010 din 27.04.2020

S.C. BKT FOREST S.R.L.

CUI: RO13626732, J24/8/2001 Sediul: Loc. Lăpuș, Nr. 1297/A, Jud. Maramureș Punct de lucru: Cariera de Andezit "Măgura Ciorii", Loc. Strâmbu Băiuţ < Perimetrul Chelemen > Jud. Maramureș Punct de lucru: Stație de concasare și sortare a pietrei, Loc. Strâmbu Baiuț, Jud. Maramures Tel: 0744-313.222 / E-mail: bkt_forest@yahoo.com

1. Name of contract and context:

SERVICES OF FOREST RESOURCE MANAGEMENT (CPV code 77231100-9) / i) Restoration and improvement of areas intended for wildlife food and ii) forest edge restoration, in order to improve ecological connectivity., (called A 2.): includes a technical report on the description of the stages related to the activity A 2, Romanian and English language.

Current report includes Deliverable 2: technical measures implemented for forest edge restoration, technical report in English language.

Current report is delivered in the framework of Open Borders for Wildlife in the Carpathians Project (1.10.2019 – 31.03.2022), www.openbordersforbears.com. The project is funded under the Hungary-Slovakia-Romania-Ukraine, **ENI Cross-border Cooperation Programme 2014-2020**. Project partners include **WWF-Romania – Maramureş Branch** as lead beneficiary, the **Slovak Ornithological Society/BirdLife, NGO RachivEcoTur** (Ukraine) and **Aggtelek National Park** (Hungary).

Ecological corridors are functional zones of passage between several natural zones for a group of species used for movement, reproduction and refuge.

In a world of change, when natural habitats are more and more fragmented, the ecological corridors are very relevant for protection of viable populations of wildlife species (including large carnivores); securing corridors is a must as there are many threats encountered by large carnivores, such as:

- Habitat loss and fragmentation given by developments leading to limited ecological connectivity;
- Human disturbance: pressure from forestry activities in critical areas (e.g. shelter for species), off-road leisure activities, and pressure from people collecting non timber forest products;
- Lack of coordinated approach and conservation measures for protection of ecological corridors;
- Limited knowledge available and insufficient human resources.

Improving the natural conditions for wildlife species (via technical measures: planting of forest edge restoration, natural pasture restoration) has multiple benefits for the species but also reducing human-wildlife conflicts, as the wildlife species would be allured in the areas where these technical measures are implemented, away from communities.

2. Technical measures, activities and sub-activities carried out under the service contract:

During this activity A 2, we performed forest edge restoration - reinstallation of arbustive vegetation and forestry fruit trees according to natural composition on a length of 2127 m (according to contract the min required length was 2000 m; according to contract value paid was for 2000 liniar m). These technical measures benefit the ecological connectivity in Maramures improving ecological connectivity and functionality of corridors; the measures aim at (i) improving the mosaic of habitats serving as shelter habitats and food during the vegetative season for bear as an umbrella species; (ii) increasing the natural food diversification and iii) reduce human-wildlife conflict.

3. Sub-activities and technical measures carried out within Activity A 2:

The following sub activities (according to table below) have been implemented during the contract implementation period:

Sub activity	Results	Execution period
A.2.1. Procurement / harvesting of forest seedlings of the species specified in Annex 3, from the areas of the selected areas. In the situation where it will not be possible to ensure in this way all the necessary material, seedlings will be purchased from nurseries authorized according to the legal procedures;	The use of seedlings adapted to the conditions in which they will be planted.	April-May 2021
A.2.2. Loading, transport, unloading of seedlings, transport of seedlings by carrying them directly to the planting site, execution of ditches for storage of seedlings in the ditch, in optimal conditions before planting;	Using the seed material in the best conditions, without affecting its quality and neither reducing the chances of success	April-May 2021
A.2.3. Protecting the roots of seedlings by bathing;	Elimination of pests that could affect the development in the first period after planting	April-May 2021
A.2.4. Planting seedlings in the ground with prior preparation of the soil	Compact edge that can provide both food and shelter for wildlife in the area.	April-May 2021
A.2.5. Protecting tree seedlings against deer, rodents with repellents as well as their sleeves with local materials, eco-friendly materials, woven ropes or other specific materials for at least 100 medium-sized seedlings and mounting guardrails;	The best possible protection to last in the first period after planting	April-May 2021

A.2.6. Maintenance works	Over time resistance of the edge through proper maintenance	July-November 2021
A 2.6.1. Manual mobilization of the soil around the seedlings	Over time resistance of the edge through proper maintenance	*July-November 2021*
A.2.6.2. Revision, completion of plantations;	Over time resistance of the edge through proper maintenance	*July-November 2021*
A 2.7. Preparation of the technical report on the implementation of technical measures A 2 (DELIVERABLE 2)	Technical report	November 2021

4. Locations and technical aspects for the edging planting activity carried out: Following table includes technical measures of forest edge restoration performed in 2 phases (May 2021 and October-November 2021):

SERVICES OF FOREST RESOURCE MANAGEMENT (CPV code 77231100-9) / i) Restoration and improvement of areas intended for wildlife food and ii) forest edge restoration, in order to improve ecological connectivity., (called A 2.); contract no. 26/4.8.7;4.8.8/0010 din 27.04.2020, project „GRANITE DESCHISE PENTRU FAUNA SALBATICA IN CARPATI/OPEN BORDERS FOR WILDLIFE IN THE CARPATHIANS" (OBWIC), HUSKROUA/1702/6.1./0010; MoU signed with Maramures Forestry Directorate PC3/OBWIC/25.02.2020.

CALCULATION OF LENGTH OF FOREST EDGE RESTORATION A2 (planting activities, phase 1 May 2021, phase 2 October-November 2021)

	length of forest edge that was planted mai 2021 ((10 liniar m)	* percentage of effective planting (% of trees that survived planting) May 21	length of restored forest edge May 2021 (10 liniar m)	length of restored forest edge after planting completions in November 2021(10 liniar m)	Fruit trees species planted	Arbustive vegetation species planted
OS Strambu Baiut, UP I, 127V	65	85	55.25	9.75	Pyrus pyraster (Par paduret), Malus sylvestris (Mar paduret), Prunus avium (Cires paduret), Prunus cerasifera (Corcodus)	Crataegus monogyna (Paducel), Prunus spinosa (Porumbar), Rosa canina (Maces)
OS Strambu Baiut, UP 1, 86V1	14	60	8.4	5.6	Malus sylvestris (Mar paduret), Prunus avium (Cires paduret), Prunus cerasifera (Corcodus)	Crataegus monogyna (Paducel), Prunus spinosa (Porumbar)
OS Strambu Baiut, UP 1, 86V2	28	85	23.8	4.2	Pyrus pyraster (Par paduret), Malus sylvestris (Mar paduret), Prunus avium (Cires paduret), Prunus cerasifera (Corcodus)	Crataegus monogyna (Paducel), Prunus spinosa (Porumbar), Rosa canina (Maces)
OS Strambu Baiut, UP 1, 75A	11	70	7.7	3.3	Pyrus pyraster (Par paduret), Malus sylvestris (Mar paduret), Prunus cerasifera (Corcodus)	Crataegus monogyna (Paducel), Prunus spinosa (Porumbar), Rosa canina (Maces)
OS Strambu Baiut, UP 1, Baiut 77V1	9.4	75	7.05	2.35	Prunus cerasifera (Corcodus)	Crataegus monogyna (Paducel), Prunus spinosa (Porumbar)
OS Strambu Baiut, UP 1, 77V2	5	80	4	1	Malus sylvestris (Mar paduret), Prunus cerasifera (Corcodus)	Crataegus monogyna (Paducel), Prunus spinosa (Porumbar)
OS Baia Sprie UP III Cavnic, 96 V	26	80	20.8	5.2	Alnus incanna (Anin alb)	-
OS Sighet, UP IV Ronisoara, 87V	9.8	95	9.31	0.49	Malus sylvestris (Mar paduret), Prunus avium (Cires paduret), Prunus cerasifera (Corcodus)	Crataegus monogyna (Paducel), Prunus spinosa (Porumbar)
OS Sighet, UP IV Ronisoara, 74V	11	90	9.9	1.1	Malus sylvestris (Mar paduret), Prunus avium (Cires paduret), Prunus cerasifera (Corcodus)	Crataegus monogyna (Paducel), Prunus spinosa (Porumbar), Rosa canina (Maces)
OS Sighet, UP IV Ronisoara, 103C	9.5	95	9.025	0.475	Malus sylvestris (Mar paduret), Prunus avium (Cires paduret), Prunus cerasifera (Corcodus)	Crataegus monogyna (Paducel), Prunus spinosa (Porumbar), Rosa canina (Maces)
OS Sighet, UP I Huta, 80V	24	75	18	6	Malus sylvestris (Mar paduret), Prunus avium (Cires paduret), Prunus cerasifera (Corcodus)	Crataegus monogyna (Paducel), Prunus spinosa (Porumbar)
TOTAL	212.7		173.235	39.465		

	* percentage of trees that actually survived planting	percentage of total length of forest edge restored where trees and arbustive vegetation survived and are growing
NOTE:		
1	Total length of forest edge in selected areas	
2	length of forest edge restored -phase 1 May 2021	
3	length of forest edge restored -phase 2 May 2021 October-November 2021; According to service contract planting activities will be made on a length of min. 2000 m; at the end of service contract 2127 m were planted in selected areas, but payment was made according to contract for 2000 linia m, value of service contract is a fixed one.	

5. Other aspects to be mentioned regarding the implementation of technical measures:

During the implementation of these technical measures, the service provider permanently communicated with the forest fund administrators and with the WWF RO Maramures Branch team.

6. Problems encountered, situations that require attention:

No problems were encountered during the implementation of these technical.

7. Recommendations

- Ecological connectivity is an important instrument to maintain viable populations of wildlife species. There is a need to secure these ecological corridors in order to have healthy populations of wildlife species as well as a balanced ecosystem and provision of ecosystem services. These technical measures may also reduce human-wildlife conflicts as wildlife species will be kept in these places where they have a diversified mosaic of habitats offering shelter and food during the vegetative season.
- There is a good potential and need to replicate these technical measures in Maramures (and beyond) on larger scale, to have model of good practices for improving ecological connectivity and securing populations of large carnivores. Having these measures in place could reduce the anthropic intervention of hunting management units' administrators that are currently providing food for wildlife (under extreme weather conditions).
- There is need for support from stakeholders in order to have sustainability of measures (forest fund administrators, hunting management units etc). MoU signed within the project offered successful context for implementation of measures as well as a good intervention model for the future.

Economic operator: S.C. BKT FOREST S.R.L.

Date: 26.11.2021

Signature of legal representative: FLORIN BUDA

Annex 1 Pictures from the planting of forest edge