



LIFE Project Number
Life10/NAT/BG/000146

Final Report
Covering the project activities from 01/09/2011 to 30/06/2015

Reporting Date
17.11.2015

LIFE+ PROJECT NAME or Acronym
**Conservation of the Genetic Fund and Restoration of
Priority Forest Habitats in NATURA 2000 Sites**

Data Project

Project location	Bulgaria
Project start date:	01/09/2011
Project end date:	30/06/2015 Extension date: N/A
Total budget	589,602 €
EC contribution:	439,602 €
(%) of eligible costs	74,56 %

Data Beneficiary

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2. Executive Summary

1.1. Project brief

Project Conservation of the Genetic Fund and Restoration of Priority Forest Habitats in NATURA 2000 Sites aimed at improving the conservation status of priority Natura 2000 habitats in 2 Bulgarian SCIs as well as creating grounds for the ex-situ conservation of priority Natura 2000 species and habitats in other parts of Bulgaria. The project had four specific objectives:

- Conservation and restoration of deteriorated forest habitats with European importance (part of the Natura 2000 network in Bulgaria);
- Conservation of the genetic fund for rare and protected species with European importance;
- Raise awareness of the local and general public on Natura 2000 and the need to adapt forest management to climate change;
- Provide and exchange information on sustainable restoration methods and conservation management issues in the ecosystems concerned.

Key project activities were related to the establishment of gene bank for forest reproductive materials and pilot restoration of 40 ha of damaged forest habitats in two Natura 2000 sites – Dragoman (BG0000322) and Plana (BG0001307). Direct conservation activities were implemented for 2 priority habitats: 91H0* Pannonian woods with *Quercus pubescens*; and 91E0* Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior*.

The project was implemented by Forest Seed Control Station – Sofia acting as Coordinating beneficiary, Vitoshka Initiative Group Association and the Executive Forestry Agency both acting as associated beneficiaries. Main project activities were implemented on the territory and with the support of State Forestry Unit - Sofia. Project management was conducted by project team consisting of experts hired by all beneficiaries. Project team operated under the supervision of the Director of FSCS-Sofia and the Project Steering Committee including representatives of project partners, stakeholders and target groups – MOEW, MAF and its structures, NGOs.

1.2 Summary of implemented activities and achieved results

Project implementation started in the beginning of September 2011 after the signing of Project Grant Agreement. Despite some difficulties and delays all preparatory activities were completed within the reporting period. The analysis of threats and risk assessment for priority NATURA 2000 forest habitats was finalized under Action A1 and respective results were further used in project implementation. The technical documentation for renovation of the premises for project gene bank was finalized with delays under Action A2 and permission for reconstruction works was granted by respective authorities. Planned technical documentation for purchasing gene bank equipment (Action A3) was finalized ahead of schedule. The last preparatory activity (A4) was completed with the development of Restoration program and technological plans for pilot restoration of forest habitats in target NATURA 2000 sites. The program was submitted and approved by MOEW and forestry authorities in 2012 but subsequently was modified 3 times in 2013 and 2014 due to necessary changes in some of the

planned objects for habitat restoration.

The implementation of concrete project conservation activities started with the renovation of existing shed at Lokorsko tree nursery for gene bank needs (Action C1.1). Construction works were completed in time but expenses exceeded the planned amount in project budget due to unforeseen costs and additional technical/safety requirements. Action implementation was successfully completed and the gene bank was officially opened on April 2014 as part of the official agenda for celebrating of the National Forest Week. After project end (November 2015) MAF has transferred the management authority of the gene bank to FSCS-Sofia by issuing a special Act for state property for gene bank building.

Action C1.2 including delivery and instalment of gene bank refrigeration chambers was timely completed by project team. All necessary laboratory equipment and consumables for the gene bank under Action C.1.3 was purchased within project timeframe but with delays due to problems with the delivery of some items (i.e. storage bags for seeds). Action C1.4 Purchase and instalment of greenhouse was successfully completed with delays due to the lack of quality offers and the need to open a second tender procedure.

Following the completion of reconstruction works all necessary office equipment for the gene bank was purchased under Action C.1.5. The implementation of Action C.1.6 Setting up and stocking of seed orchard and clone collection was successfully completed but with delays due to a hail storm that destroyed nearly 50% of the engrafted seedlings in April 2014. Action C.1.7 including the development of written procedures for gene bank management was also successfully implemented within project timeframe.

Under Sub-action C.2.1 Selection of sources we have contracted forestry experts that performed number of field visits in project target area and prepared detailed survey reports. Based on their work 228 forest stands in 43 Natura 2000 sites were selected as base sources for the collection of forest reproductive material from priority tree & bush species. The implementation of sub-action C.2.2 targeting the collection of reproductive material from identified sources. The total collected amount of seeds under the project in the period 2011 - 2015 was 2 380.30 kg which is significantly higher than the quantity planned in project proposal (1 736.70 kg). After testing and certification of all collected seeds they were used for stocking the gene bank and production of seedlings for project habitat restoration works. Under Action C.3 a total of 254 140 seedlings were produced at Lokorsko nursery and used for reforestation. Number of produced seedlings was significantly higher than planned (120 000) due to higher afforestation density used than originally planned.

All produced seedlings were used for the implementation of Action C.4 Pilot restoration of priority forest habitats in the period 2013-2015. Within project timeframe we have reforested a total of 40 ha of the priority habitats 91H0* and 91E0* at Dragoman and Plana SCIs. Apart from the works undertaken by the contractor we organized several tree planting actions with the participation of more than 150 volunteers at both target Natura 2000 sites. After the completion of reforestation activities respective cultivation works were undertaken for all areas reforested under the project. Weather conditions after the reforestation in 2013 were hot and dry which had negative impact on seedling survival rates. In spring 2014 apart from our new reforestation works we replaced all dead seedlings (planted in 2013) with new ones to ensure the success of reforestation. Unlike 2013 the weather in next spring was rainy so the survival rates of all planted seedlings were excellent. In 2014 damages of grazing from livestock were identified at Dragoman SCI so we had to install wooden fencing for further protection of the damaged area. After project end SFU-Sofia has signed an agreement with FSCS-Sofia for the long term maintenance of all restored forest habitats under the project in favorable conservation status.

All planned information/dissemination activities were successfully completed within project timeframe. Under Action D.1 we have organized 18 educational workshops all over Bulgaria

with a total of 243 participants – forestry experts and high school students. As a direct result from project workshops several forestry structures decided to prepare project applications under LIFE+ Program related to restoration and management of forest habitats within the Natura 2000 network in Bulgaria.

Guidelines for the sustainable management of priority habitats were developed under Action D.2 a brochure/guidebook was printed in 500 copies and subsequently disseminated among project stakeholders and target groups. The production of educational film about priority forest habitats, Natura 2000 network and respective management challenges was also completed under Action D.3. Since we wanted to include footage of a longer period of project implementation the period for finalization of the film was extended until the end of 2014. The film was broadcasted twice on the Bulgarian National Television (BNT2) and provided to other TV channels for potential broadcasting. 50 DVD copies were produced and disseminated among project target groups and the film is also uploaded on the internet.

Under Action D.4 we organized the first project press conference on 11.05.2012 at MAF and another media event was organized on 09.04.2014 for the official gene bank opening. A final press-conference was organized at MAF premises on 16.06.2015 during which all project results were presented to project stakeholders and media. Project website (<http://forestgenefund.eu/>) was timely developed under Action D.5 and provided actual information regarding the project and its progress during the whole period of project implementation. Other implemented information activities include the design and printing of project leaflet (Action D.6) and the production of 7 notice boards (Action D.7) all of which were installed at FSCS-Sofia, Lokorsko tree nursery and habitat restoration sites.

Numerous management, monitoring and networking project activities (E type) were implemented since project start. The day to day project management was performed by project team under the supervision of the Director of FSCS – Sofia while overall project monitoring was implemented by FSCS – Sofia and project team under the supervision of the PSC.

As part of our networking activities we established relations with similar LIFE projects in Bulgaria, Cyprus and Greece. On the 5th of May 2012 together with WWF/ EFA we celebrated the 20th anniversary of LIFE Program with a symbolic action in Sofia. Project team members also participate in the yearly annual meetings of Bulgarian LIFE+ projects. In June 2014 FSCS-Sofia experts visited State Hunting Unit Balchik in order to get acquainted with their work under Project LIFE09 NAT/BG/ 000229 "Conservation and restoration of oak habitats along the Black sea coast". During the visit the specific challenges related to the sustainable management of oak forests were discussed and information, know-how and good practices were exchanged. Following EC recommendations we established contacts with LIFE09 NAT/GR/ 000326 VERENIKE and project team representatives participated in VERENIKE final conference held in Thessaloniki, 18-20 June 2014. Project team representatives also took part in all common meetings of LIFE projects held annually in Bulgaria in the period 2012-2015.

Since all planned project objectives were fulfilled and all expected results achieved we believe that the overall process of project implementation was effective and successful.

1.3 Financial summary

The total of incurred project costs is 571 516.90 € or 96.93% of planned project budget. During the process of project implementation we have encountered problems and unforeseen circumstances that caused both underspending and overspending in each project cost category. All such cases were communicated to/ discussed with EC (TDO and FDO) and all

transfers between cost categories or budget items were made with respect to the 30,000 € and 10% rule (cf. Article 15.2 of the Common Provisions).

EFA was the only beneficiary that hired state employees on special contracts as members of project staff – Project Director and Project Administrative Assistant. Respective EFA costs were incurred with respect to Article 25.2 from the Common provisions (so called 2% rule).

Performed independent audit by external auditor confirmed the overall conformity of project spending with applicable legislation and eligibility of project results.

Based on the overall progress we believe that project implementation was cost-effective and achieved results are proportional to incurred project costs.

3. Introduction

Main project objective was to improve the conservation status of priority Natura 2000 habitats in 2 Bulgarian SCIs as well as to create grounds for the ex-situ conservation of priority Natura 2000 species and habitats in other parts of Bulgaria. The project had four specific objectives:

- Conservation and restoration of deteriorated forest habitats with European importance (part of the Natura 2000 network in Bulgaria);
- Conservation of the genetic fund for rare and protected species with European importance;
- Raise awareness of the local and general public on Natura 2000 and the need to adapt forest management to climate change;
- Provide and exchange information on sustainable restoration methods and conservation management issues in the ecosystems concerned.

The project aimed at the pilot restoration of damaged forest habitats in two NATURA 2000 sites – Dragoman (BG0000322) and Plana (BG0001307). Direct conservation activities were implemented for 2 priority habitats: 91H0* Pannonian woods with *Quercus pubescens*; and 91E0* Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior*. The project indirectly benefited another 5 priority forest habitats: Tilio-Acerion forests of slopes, screes and ravines; Pannonic woods with *Quercus petraea* and *Carpinus betulus*; Euro-Siberian steppic woods with *Quercus* spp; (Sub-)Mediterranean pine forests with endemic black pines; Endemic forests with *Juniperus* spp.

For habitat type 91H0* the main addressed threat was related to the change of habitat type within Dragoman Natura 2000 site. Over the last decades this habitat was negatively affected by cutting of the natural forests of *Quercus pubescens* and replacing them with plantations of non-native species for the site. For habitat type 91E0* addressed threats were related to the deterioration of ecological conditions for the habitat and change of habitat type.

Common problems/ threats for both targeted habitats addressed by the project included: 1) lack of genetic resources from species represented in the habitats to allow timely and adequate restoration works in case of habitat damage or destruction; 2) increased frequency of natural disasters and related habitat damage and 3) low level of awareness among stakeholders (forest management administrations, forest owners, the general public) on the importance of natural habitats, the need and ways for their conservation and sustainable management.

The project had indirect positive socio-economic impact by the creation of temporary employment related to habitat restoration and cultivation works, creating fulltime employment for forest nursery and gene bank workers, and the restoration of 40 ha of forests that will provide long term economic, social and environmental benefits for the target region.

Expected longer term results are related to the restored 40 ha of priority forest habitats in the 2 target Natura 2000 sites, ensured ground for future conservation and restoration of priority habitats through the identification of sources of genetic material and the establishment of genetic seed bank storing reproductive material from hundreds of species; raised know-how and awareness among project stakeholders related to the sustainable management and restoration of priority forest habitats.

4. Administrative part

4.1. Description of the management system

The project was implemented following the working plan and timeframe developed during the preparation of project proposal. In the process of project implementation adaptive management approach was used and planning was done by project team on monthly basis following the actual progress with project implementation and the problems/challenges met.

Project implementation consisted of 3 main phases:

1. Preparation phase – including the forming of project team, setting up working arrangements and implementation of preparatory (A type) project activities;
2. Implementation phase – including the implementation of main project activities by project beneficiaries and external contractors;
3. Reporting phase - including the preparation of reports, presentation of achieved results and planning for the continuation of project activities after project end.

The project was submitted to EC by FSCS-Sofia as Coordinating Beneficiary and VIG as Associated Beneficiary. After signing of Project Grant agreement EFA has expressed willingness to participate in project implementation due to changes in forestry legislation and structure of Bulgarian forestry sector. In December 2011 Request for modification was submitted to EC by FSCS-Sofia and approved. On 27.02.2012 a Supplementary Agreement was signed and as of 01.11.2011 EFA was officially recognized as second Associated Project Beneficiary. Project beneficiaries are presented below:

Coordinating Beneficiary Forest Seed Control Station - Sofia is a specialized state service, subordinate to the Executive Forestry Agency. FSCS-Sofia executes specific functions provided by legislation related to establishing and management of Forest Seed Base and control over Forest Reproductive Materials (FRM) quality and identity. FSCS is responsible for the implementation of Directive 1999/105/EC on the marketing of forest reproductive materials. FSCS-Sofia executes specific control with regard to: quality of basic reproductive materials; undertaking of fellings and other forestry activities in seed production bases; forest management planning within the basic FRM sources; production and identity of FRM.

Associated Beneficiary 1 Vitosha Initiative Group Association is a non-governmental organization registered with main objectives to work for nature protection, conservation and restoration of biodiversity, and sustainable development. Since its registration VIG has developed and implemented several successful projects related mainly to the restoration of damaged forest habitats within protected areas/ Natura 2000 sites in Bulgaria.

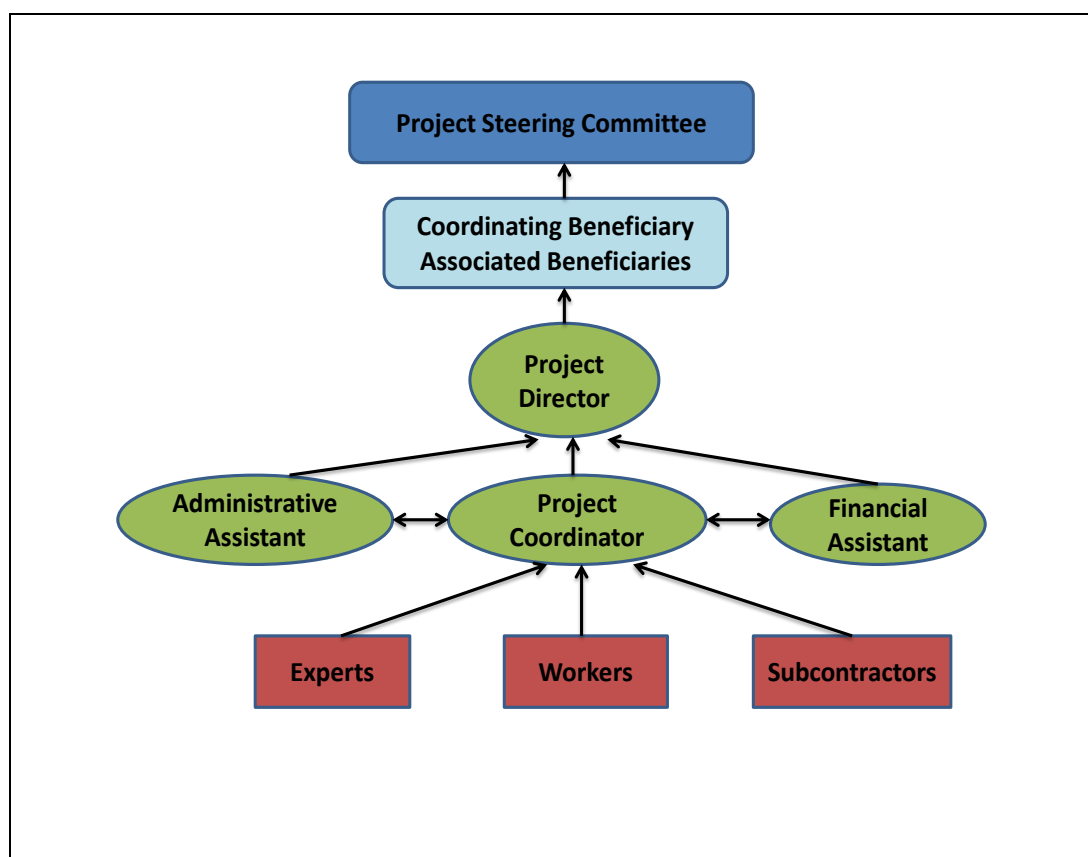
Associated Beneficiary 2 Executive Forestry Agency is a legal entity at the Ministry of Agriculture and Food funded by the state budget. EFA is responsible for execution of state policy in forest sector and control on the implementation of forest management plans, through: regeneration of forests, afforestation, anti-erosion activities, thinning; protection of biodiversity; protection of forests from pests and diseases; silvicultural activities. EFA's purpose is to implement the EU legal framework, relevant Resolutions of the Ministerial Conference for the Protection of Forests and the National Strategy for Sustainable Development of the forestry sector in Bulgaria.

Project organization was based on obligations and responsibilities of all beneficiaries

regarding project implementation as stipulated in signed partnership agreements (provided to EC together with the Inception report in 2012). Project team included representatives of all project beneficiaries based on Terms of Reference developed for each position. Forming of project team started in September 2011 with hiring of Project Coordinator and Financial assistant who started their work for project implementation in close cooperation with the Director of FSCS - Sofia. After the approval of project modification request EFA experts were hired for Project Director and Administrative Assistant as of April 2012. The team held regular meetings on which problems were discussed, tasks delegated to staff members and short term work planning was done. Director of FSCS – Sofia participated in all meetings and played an important role during the whole process of project implementation.

Overall monitoring and coordination functions regarding project implementation were implemented by Project Steering Committee. The Committee was formed on 11.05.2012 and included representatives of project partners, stakeholders and target groups – MOEW, MAF and its structures (SWSFE, SFU-Sofia, and FSCS-Sofia), EFA and RFB, NGOs.

The organigramme presenting the project team and the project management structure is provided bellow.



Project reports:

On 31.05.2012 Project Inception Report was submitted to EC/DG Environment. The report was approved and project implementation continued. In May 2013 a field visit to the project was organized with the participation of Mrs. Brunhilde Rack - FDO, Mr. Simon Goss – TDO and Mr. Ivaylo Zafirov – external monitoring expert. For the visit the project team prepared technical and financial overview of the status of project implementation (short report) which

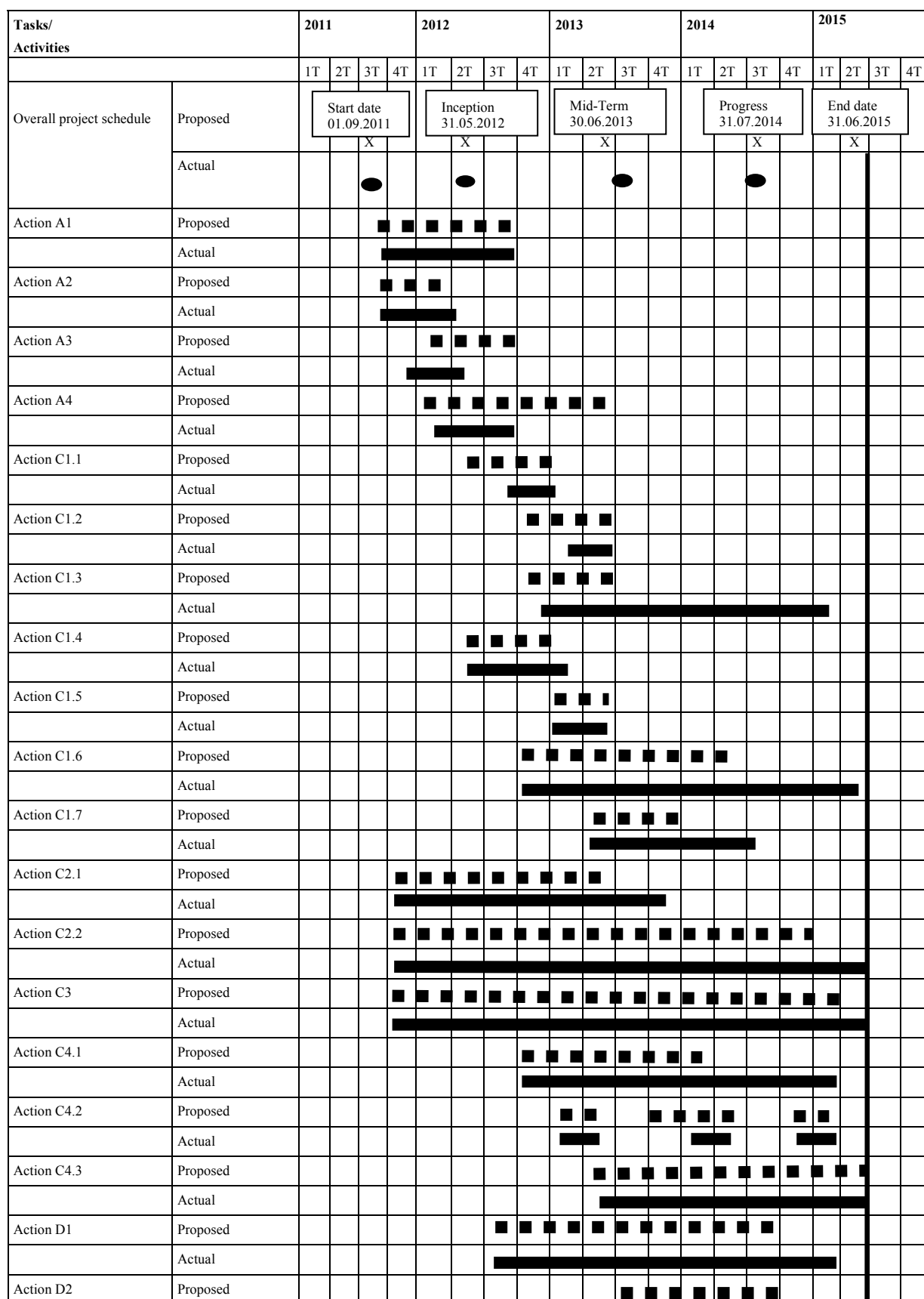
was presented and discussed with EC experts.

In August 2013 we submitted Project Midterm report which was approved by EC and respective Midterm payment was effected in the end of 2013.

On 11.07.2014 a third monitoring visit of the project was held by Mr. Ivaylo Zafirov – external monitoring expert for LIFE+ projects in Bulgaria.

On 31 July 2014 we submitted Project Progress report including information and clarifications on issues raised by EC/ DG Environment regarding Project Midterm report together with supporting documents.

The overall timeframe of project implementation by action against the set work plan is presented in the Ghant chart below:



4.2 Evaluation of the management system

Developed cooperation between beneficiaries and project management system proved to be effective for the overall process of project implementation. Certain problems were met related to unforeseen technical requirements and procedures, bureaucratic delays, underspending or overspending, technical problems related to the implementation of some activities. Based on the adaptive management and excellent communication between project beneficiaries, partners and EC, project team managed to overcome all encountered problems as described in details in the detailed description of each project action – section 5.1 below. There were some discrepancies between project budget and stipulated amounts for implementation of actions by project beneficiaries in partnership agreements (i.e. some costs like overhead were not included) which was addressed by signing annexes to PA in 2014.

Project Steering Committee included representatives of all key project stakeholders and proved to be a very effective tool for addressing project challenges, monitoring and evaluation of project progress as well as for providing added value and support during the whole period of project implementation.

As an integral part of the project, a monitoring and evaluation (M&E) system was introduced having four objectives: i) to monitor and evaluate results and impacts; (ii) to provide a basis for decision making on necessary amendments and improvements; (iii) to promote accountability for resource use; and (iv) to document, provide feedback on, and disseminate lessons learned.

In conducting the monitoring a two-tier approach was applied with regard to project progress and implementation; and project impacts. Project impacts were monitored based on a set of indicators which allow measuring the influence of project actions on target habitats and Natura 2000 sites. Monitoring on project progress and implementation had a more administrative scope and concentrated on: timely implementation of activities against work plan deadlines; achievement of project activities outputs; staff performance and subcontractor performance against specific ToR's, and effective resource use.

Internal monitoring and evaluation was done at ongoing basis and internal summary and reporting of monitoring results was done regularly at:

- Preparation of project reports to EC – project progress and achieved results were discussed by project team, progress was assessed against the work plan and set objectives, all reports were approved by all project partners, Project Director and the Director of FSCS-Sofia;
- PSC sessions - project progress was presented on each PSC session through presentations, diagrams and photographs, followed by discussions. Received feedback and input from PSC members was used for improving project management;
- Work meetings of project team – regular meetings were held on which project progress was evaluated and management decision were taken at operational level;
- Monitoring visits of Project Director – several visits were undertaken both to project office at FSCS-Sofia and to the field to monitor the progress with implementation of direct conservation activities. Following the visits Mr. Kamenov provided feedback and support to project team for the effective project management and successful implementation of further project activities.

Communication with EC and the Monitoring team was performed on ongoing basis during the

whole project timeframe. Received feedback and guidelines from TDO, FDO and monitoring experts were extremely useful for the successful project implementation and reporting.

5. Technical part (maximum 50 pages)

5.1. Technical progress, per task

Action A.1 Analysis of threats and risk assessment for priority forest habitats

The action aimed at the collection and analysis of information on forest habitats damaged by nature disasters, identification of risks and threats, GIS analysis and generation of maps as basis for future management of priority habitat management in Bulgarian forests.

Action implementation started with the development of detailed ToR and the identification of subcontractor by VIG. On 28.10.2011 contract was signed with Forest Art Ltd., on 31.01.2012 Midterm report for the assignment implementation was received including the required initial data on pilot sites for restoration in project target NATURA 2000 sites. The subcontractor also presented the developed GIS model for the analysis combining forestry data with NATURA 2000 layers and information about forest fires, damages and other threats for priority forest habitats. Several meetings of the Project Coordinator with GIS and biodiversity experts of the subcontractor were held in the process of assignment implementation in order to monitor the progress and make sure the work is completed following the ToR requirements. Based on the recommendations and feedback received from the project team, the subcontractor timely completed the assignment. Action objectives were fully achieved within the reporting period, the final report was approved and the full analysis is available at the project website at: <http://forestgenefund.eu/?p=21&id=22&l=2>. A full paper copy of the report was provided with project Progress report in 2014.

The action was timely implemented and main achieved results include:

- Processed information regarding the main problems and threats for priority forest habitats in project target area related to human activities and climate change;
- proposed areas for habitat restoration for the 2 project target habitats in Dragoman and Plana NATURA 2000 sites;
- recommendations for adequate management and restoration of threatened/damaged NATURA 2000 forest habitats within project target area and Bulgaria in general;
- baseline information (including GIS modelling and maps) for future assessments, decision making and planning related to the restoration and sustainable management of priority forest habitats within NATURA 2000 sites.

Among the main identified threats for priority forest habitats are human activities (setting to fire of agricultural fields and improper forestry practices), raising temperatures related to climate change, changes in the patterns of precipitation and soil humidity, changes in species composition, etc.

All action results were used for the adequate planning of project restoration activities and are already being used in project implementation in the process of restoration of damaged habitats (Action C.3.) and the development of guidelines for sustainable management of priority forest habitats in NATURA 2000 sites (Action D.2).

The action was targeting only NATURA 2000 sites falling within project scope so we plan to continue our work by broadening its scope on national level after project end.

Action A.2 Development of technical documentation for renovation of premises for the gene bank

This action aimed at providing the needed grounds for establishment of the gene bank by elaboration of detailed technical/engineering plans, precise bill of quantities, description and sequence of construction operations for reconstruction of existing shed for gene bank needs.

Subcontractor for action implementation was identified through competitive procedure announced by FSCS-Sofia and contract was signed on 16.12.2011 with EC Consulting Ltd. During action implementation we encountered problems related to construction details that were not initially thought of. After inspection of the existing shed a need was identified for repair of the steel construction of the building that was not initially planned in project application/ budget. In addition a need for the construction of septic pit for gene bank sewage waters was identified since during project preparation we were not aware that the existing building is not connected to the main sewerage. These details were included/ planned in the technical documentation but their construction was related to adding additional costs to project budget related to the implementation of Action C.1.1.

After all legally required technical documents were developed by the subcontractor a visa (permission) for technical planning for the re-construction was obtained by municipal authorities. The whole pack of documents was developed and submitted in January 2012 to respective authorities. After bureaucratic procedures and administrative delays other problems appeared related to the property and necessary capacity of the electric grid supplying Lokorsko nursery. In the process of communication with responsible institutions additional fire prevention requirements were imposed to us related to the capacity of water supply grid and the need to construct additional water supply shaft that also required changes in the technical documentation package.

In order to solve the identified problems project team with the support of the Director of FSCS-Sofia, SFU – Sofia and the contractor held numerous meetings and discussions with respective municipal, electricity and water supply authorities. Based on this the technical documentation was revised, submitted again and approved in April 2012. The technical documentation package is presented in Annex 7.2.2 to this report.

The objectives of this action were fully completed but with delays since we did not foreseen in project timeframe the periods for bureaucratic procedures and to the additional requirements imposed in the process of project implementation. However the delay did not have significant negative impact of the implementation of other project activities.

Action A.3 Development of technical documentation for purchase of equipment for the gene bank

The action objectives include providing the needed grounds for establishment of the gene bank by the development of detailed technical specifications for all the equipment needed: refrigerating chambers for mid-term and long-term seed storage with a system for control of conditions; greenhouse; shed for natural drying of seeds; drying machine with air circulation; apparatus for disinfection; cleaning sieves, vacuum machine; electronic scales; hygrometer scales; mill; storage containers; stereo microscope; laboratory sieves; office equipment, storage plastic bags and other small laboratory items.

The beneficiary responsible for action implementation was FSC-Sofia. The actual implementation was divided in 2 sub-assignments: 1) subcontractor (FT Engineering Ltd) was contracted on 25.11.2012 for the development of technical specifications for refrigeration equipment and rooms for their installment; and 2) forestry expert was hired for the development of technical specifications for the necessary technical & laboratory equipment and respective consumables.

The action was completed ahead of schedule and detailed technical documentation for purchasing the necessary gene bank equipment was prepared. The documentation included detailed technical specifications for all necessary equipment and gene bank refrigeration chambers (i.e. size, volume and storing capacity, operational temperature regimes, power supply and technical requirements, etc.).

The quick implementation of this activity was important since information based on the technical documentation was needed to plan the necessary capacity of the electricity grid as well as the overall arrangement of office space at the gene bank premises under Action A2. The objectives of this action were fully completed ahead of schedule. The developed documentation pack is provided in Annex 7.2.3 to this report.

Action A.4 Restoration program and technological plans for pilot restoration of priority forest habitats

The Action aimed at the identification of damaged sites with an area of 40 ha in need of restoration on the territory of SFU – Sofia and the development of respective Restoration Program including data for each selected site, technical specifications and technological plan for reforestation; map of the site and a copy of the forest inventory plan.

Action implementation started with the development of detailed Terms of reference and Request for offers by project team. Subsequently a contract between FSCS-Sofia and B&B Partners Ltd. was signed on 10.04.2012 and the assignment implementation started. As part of the action implementation subcontractor experts together with representatives of project team and SFU-Sofia organized field visits to damaged forest habitats in project target NATURA 2000 sites.

Based on the visits, recommendations from the conducted analysis under Action A.1 and the information from forest planning documentation, the sites for reforestation and restoration of target habitats in project target area were identified. For each identified site technical specifications and technological plans for reforestation were developed including data for species composition, type of the necessary ground preparation and tree planting works, age and origin of the seedlings, tree planting schemes, etc.

In the process of action implementation several meetings were organized with representatives of the National Service for Nature Protection at the MOEW, RIEW-Sofia, NGO representatives and experts involved in the process of surveying and mapping of priority habitats within Bulgarian NATURA 2000 network. The objective of these meetings was to make sure that the right locations for restoration/recreation of priority forest habitats will be selected and reforestation activities will not have negative impact on other protected habitats or species in Dragoman and Plana NATURA 2000 sites.

The program covering all project restoration sites with a total area of 40 ha was finalized in September 2012, submitted and approved by MOEW and state forestry authorities. Based on this we received official approval for restoration of priority forest habitats under the project and we started the implementation of Action C.4.

After the approval and start of program implementation we encountered problems with local population opposing the cutting/clearing of burned pine trees on one of the selected sites for reforestation. Since forestry authorities decided to comply with these objections we were obliged to find alternative reforestation sites in collaboration with SFU-Sofia in order to fully cover the planned area for restoration of priority forest habitats under the project.

In July 2013 we managed to identify the necessary replacement sites, developed respective technological plans for reforestation and received necessary approvals of the updated program version from relevant authorities. More changes in program scope had to be done in June and November 2014 since the terrain in one of the selected forest sub-compartments turned out quite rocky, and the soil in 2 other sub-compartments was completely destroyed by floods which did not allow reforestation. This forced us to search for additional areas/ sub-compartments that were included in the program after receiving clearance from respective institutions. The final version of the Restoration program is provided in Annex 7.2.4 to this report.

Action C.1: Establishment of gene bank

Sub-action C1.1 Renovation of existing shed in order to be adapted for the needs of the gene bank

This sub-action aimed at the re-construction, renovation and adaptation of the existing shed at Lokorsko tree nursery for the needs of gene bank facilities with project Coordinating beneficiary responsible for overall action implementation.

In the end of August 2012 FSCS-Sofia opened a tender procedure for the identification of contractor. As a result in September 2012 Enerja Build Ltd. was hired to carry on the planned reconstruction and renovation works at Lokorsko nursery. Under the contract all planned renovation works were fully completed following the detailed specifications in the technical documentation developed under Action A.2.

In the process of action implementation we encountered technical, administrative and financial problems that lead to delays and overspending. Encountered technical problems were related to unforeseen elements of the renovation works for the project gene bank (i.e. the necessity to repair the steel construction and the need to construct sewerage pit) lead to delays and unforeseen costs. The unforeseen bureaucratic procedures caused delays with the technical documentation for renovation of gene bank premises and the construction works. They were mainly related to obtaining information, documents and permissions from institutions. Other problems arose from the additional technical requirements for fire precaution, electricity and water supply imposed by municipality authorities in the process of project implementation. This caused difficulties also because FSCS-Sofia did not officially manage the premises of the nursery/gene bank by the time so we had to go through EFA and MAF structures for addressing each arising issue.

Despite the difficulties and respective delays we managed to comply with all additional requirements and construct the unforeseen construction elements by 11 July 2013. After the completion of renovation works a legal procedure was started in order to get permission for operation of the renovated building from respective municipality authorities. The permission was officially granted by municipality authorities on 05.06.2014.

Following a discussion during Project Steering Committee session the project team organized an official opening of the gene bank on 09 April 2014 as part of the agenda of National Forest week 2014. More than 60 representatives of various institutions attended the event and the gene bank was officially opened by Mr. Grigor Gogov, Executive Director of the Executive Forest Agency. The official opening was covered by national media including a national TV network (BTV) and the specialized forestry magazine Gora.

After the completion of renovation works FSCS-Sofia undertook the necessary legal steps for obtaining management and ownership rights over gene bank premises in order to ensure future sustainability of project results. The process proved to be quite time consuming but finally in November 2015 respective authorities issued an Act for state property of gene bank building stating that FSCS-Sofia is the building's owner/managing body. Copy of the act is provided in Annex 7.2.5.

We continue and will keep on using the gene bank after project end for the implementation of future conservation and restoration activities targeting priority forest habitats from the Natura 2000 network on national level.



Pictures No1-2 Before the renovation – outside and inside view of the shed



Pictures No 3-4 After the renovation – outside view and the newly constructed rooms for refrigeration chambers in the shed



Pictures No 5-6 Official opening ceremony for project gene bank, 09.04.2014

Sub-action C.1.2 Purchase and instalment of refrigerating chambers for the gene bank

The sub-action aimed at ensuring the necessary climate control equipment and internal space for adequate midterm and long term storage of seeds from priority tree species of conservation importance. FSCS-Sofia was responsible for overall action implementation.

Based on the held tender procedure in April 2013 a contractor for action implementation was selected and contract was signed with Frigothem Ltd.

Completed works include the construction of separate rooms within the premises of the gene bank with special thermal insulation for the walls/roof following all legal fire precaution requirements. Two refrigeration chambers (for midterm and long term seed storage) were constructed within the existing shed. Respective climate control and air-conditioning systems were timely delivered and installed by the contractor at the gene bank premises.

Technical protocols related to the installation and operation of refrigeration chambers are provided in Annex7.2.6.

After the installment of refrigeration chambers FSCS-Sofia continued the work for organizing /arranging the internal space through installation of shelves, tables and equipment. Purchase of necessary consumables for processing and storage of genetic material was also completed and thus action objectives were fully achieved within the project timeframe.

The refrigeration chambers were used for storage of seeds under the project and their use continues after project end. We plan to continue using the gene bank and the refrigeration chambers for future conservation and restoration activities targeting priority forest habitats from the NATURA 2000 network on national level.



Pictures No 7-8 Installed refrigeration chambers at gene bank premises

Sub-action C.1.3 Purchase of laboratory equipment and consumables

This Sub-action aimed at ensuring the necessary laboratory equipment, consumables and furniture for the gene bank functioning. FSCS-Sofia was responsible for overall action implementation.

Based on the technical specifications developed under Action A.3 the equipment was purchased from various suppliers and stored at the laboratory of FSCS-Sofia and project gene bank premises. Purchased equipment include: shelves (including removable shelves and shelf frame); table and chairs; laboratory professional freezer (-20°C), vacuum machine; electronic platform scales and laboratory scales; mill for seeds; storage containers (i.e. jars, boxes); stereo microscope; shaking machine with sieves; laboratory table, labels and label printer.

The supply of this equipment was essential for the adequate functioning of the gene bank which after the arrangements of the internal space is already operational. In the process of action implementation we encountered several difficulties (causing delays). Following EUFORGEN requirements for gene bank functioning we need to ensure storage bags for the seeds with foil thickness of at least 12 microns. However in Bulgaria only bags of 6 microns thickness are to be found and there are no importers of the type of storage bags that we need for the gene bank. Since these bags are considered as an industrial consumable (i.e. for food packaging) no foreign producer is willing to sell/export the limited amount of storage bags that we need for the gene bank operation under the project.

Due to the accumulated delays action implementation was finalized in February 2015 but nevertheless action objectives were fully achieved within the project timeframe.

Copies of FSCS-Sofia inventory books including lists and technical specifications of purchased laboratory equipment under this project action are provided in Annex 7.2.7.

We plan to continue using the gene bank, respectively the purchased laboratory equipment and consumables after project end for future conservation and restoration activities targeting priority forest habitats from the NATURA 2000 network on national level.



Pictures No 9-10 Purchased laboratory equipment under the project

Sub-action C1.4 Purchase and instalment of greenhouse

Sub-action objectives include the delivery and installment of greenhouse at the Lokorsko tree nursery. The greenhouse was planned to be used for production of seedlings necessary for restoration of priority forest habitats under the project as well as for the establishment of seed production garden. FSCS-Sofia was responsible for overall action implementation.

Project team started the action implementation with the preparation and opening of public tender procedure for the identification of contractor at the end of June 2012. Within the set deadline 3 offers were received but none of them covered the announced tender criteria. Based on this the tender procedure was suspended, a new procedure was announced in the end of September 2012 and a qualified contractor was hired for the construction of project greenhouse.

In November 2012 the selected contractor AKVAMAT 2000 Ltd. completed the construction and installation works of the project greenhouse at Lokorsko tree nursery. The greenhouse covers an area of 180 sq. m. and is equipped with modern irrigation technologies as well as with a system for monitoring and control of indoor climate conditions. After the finalization of construction works FSCS-Sofia undertook the necessary administrative steps and received permission from municipality authorities for greenhouse operation. Technical documentation (i.e. protocols) related to the construction and operation of project greenhouse is provided in Annex 7.2.8.

Following the finalization of the interior and supply of additional equipment (tables, containers, etc.) we have started the use of project greenhouse for the production of seedlings of priority tree and shrub species under the project. Furthermore, all necessary lime seedlings for the establishment of project seed production orchard were also grown at project greenhouse.

We plan to continue using the greenhouse after project end for future conservation and restoration activities targeting priority forest habitats from the NATURA 2000 network on national level.



Pictures No 11-12 Inside and outside view of project greenhouse

Sub-action C 1.5 Purchase and instalment of office equipment for the gene bank

This Sub-action aimed at ensuring all the office equipment and furniture necessary for the gene bank functioning. EFA was the project beneficiary responsible for overall action implementation.

Based on the technical specifications developed under Action A.3 the equipment was purchased from Tehnomarket Ltd and stored at the laboratory of FSCS-Sofia/gene bank premises. Purchased equipment include: shelves, laptop computer, desktop computer system, MFP (printer, copy and scanning machine), refrigerator and air conditioner.

Since the overall cost of the equipment was less than initially planned in project budget we purchased additional furniture that was described in project application but not mentioned in project budget – working desks and chairs. Copies of FSCS-Sofia inventory books including lists and specifications of all purchased office equipment under the project are provided in Annex 7.2.7.

Due to the significant underspending under this action FSCS-Sofia decided to buy additional table and visitors' chairs for gene bank office and this lead to delays with action implementation that did not affect the implementation of other project activities.

All action objectives were completed within the project timeframe and the office at project gene bank premises is currently fully operational.

We plan to continue using the office and the gene bank after project end for future conservation and restoration activities targeting priority forest habitats from the NATURA 2000 network on national level.



Pictures No 13-14 Purchased office equipment for gene bank office

Sub-action C 1.6 Setting up and stocking of seed orchard and clone collection

The sub-action aimed at the designation of special area within Lokorsko nursery and the establishment of generative orchard with clone collection that will provide the basis for vegetative breeding of selected priority tree species. FSCS-Sofia was the project beneficiary responsible for overall action implementation.

Action implementation started by technical arrangements with State Forestry Unit – Sofia (officially managing the Lokorsko nursery), the area was selected and ploughed, 320 lime seedlings necessary for the orchard setup were purchased, planted in containers and engrafted. Unfortunately in April 2014 a hail storm destroyed about 50% of the planted seedlings so we had to start the procedure again in order to produce the necessary number of mother trees. This caused a significant delay with action implementation but it was completed successfully just before project end in June 2015. The established vegetative orchard covers an area of 1.5 ha and will mainly be used for the future production of lime (*Tilia cordata*) seeds. In addition seedlings of several other forest species without economical value but of biodiversity importance (*Sorbus torminalis*, *Sorbus domestica*, *Pirus communis*) were also planted at the seed production orchard.

In the process of action implementation we encountered a financial issue similar to action C1.4 - in project budget we have planned costs only for personal while in reality we also need finance for workers, running costs and consumables. For this reason we had unforeseen ongoing costs that are reported in the financial part under the category “other costs”.

Another issue was related to the fact that in the project budget we have planned 1 800 EUR for fencing of the seed orchard but currently the whole nursery area is fenced and there is no need to make full inner fencing of the orchard. On the other hand the entrance gate for the nursery needed renovation to make the whole nursery safer (including the project gene bank and expensive equipment delivered under the project). We discussed this issue with LIFE FDO and TDO and received approval to renovate nursery gate under this sub-action instead of constructing another unnecessary fence. Based on this in 2015 an external contractor was hired and completed the renovation of nursery gate as well as partial fencing of the seed production orchard.

In addition in 2015 FSCS-Sofia installed an automated drip irrigation system at the orchard that was also not foreseen in project proposal but considered necessary for the effective functioning of the seed production orchard. Copies of technical documentation related to the establishment of project seed production orchard are presented in Annex 7.2.10.

Despite the described difficulties, unforeseen costs and accumulated delays we managed to achieve the set action objectives within project timeframe.

Based on the achieved progress we believe that the planned costs are proportional to expected action results. The establishment of seed production garden with clone collection is a long term investment and we plan to continue using it after project end for future conservation and restoration activities targeting priority forest habitats from the NATURA 2000 network on national level.



Pictures No 15-16 Engrafted and subsequently planted lime seedlings at project seed production orchard - Lokorsko nursery

Sub-action C 1.7 Establishment of management arrangements of the gene bank

This sub-action aimed at the development of management arrangements for the functioning of project gene bank including: rules for seed processing and storage for different species including respective treatment and time periods; rules for packaging and labelling the storage lots; rules for use of seeds and filling in the gene bank; health and safety rules, etc. FSCS-Sofia was the project beneficiary responsible for overall action implementation.

Action implementation started with hiring an expert for the development of all written protocols, rules and management arrangements necessary for the adequate gene bank functioning. Based on implemented work the prepared expert report including all written rules and procedures was finalized by the end of the reporting period. Copy of the developed report including detailed guidelines and arrangements for gene bank functioning is provided in Annex 7.2.11.

In addition in April 2013 FSCS-Sofia has initiated a legal procedure at the EFA/Ministry of Agriculture and Food for obtaining managing authority over the gene bank premises at Lokorsko state tree nursery. In June 2013 FSCS-Sofia received official letter with instructions from EFA including the list of all documents that we need to obtain/prepare and respective official procedures that we need to initialize in cooperation with SFU-Sofia. FSCS-Sofia initialized the necessary legal procedure for obtaining all necessary documents with the support and under the supervision of Project Steering Committee. The process proved to be quite time consuming but finally in November 2015 respective authorities issued an Act for state property of gene bank building stating that FSCS-Sofia is the building's owner/managing body. Copy of the act is provided in Annex 7.2.5.

Action objectives were fully completed during project timeframe which is a guarantee for the future sustainability and effective operation of established project gene bank for forest reproductive materials.

Action C.2: Collection of reproductive material

Sub-action C.2.1 Selection of sources

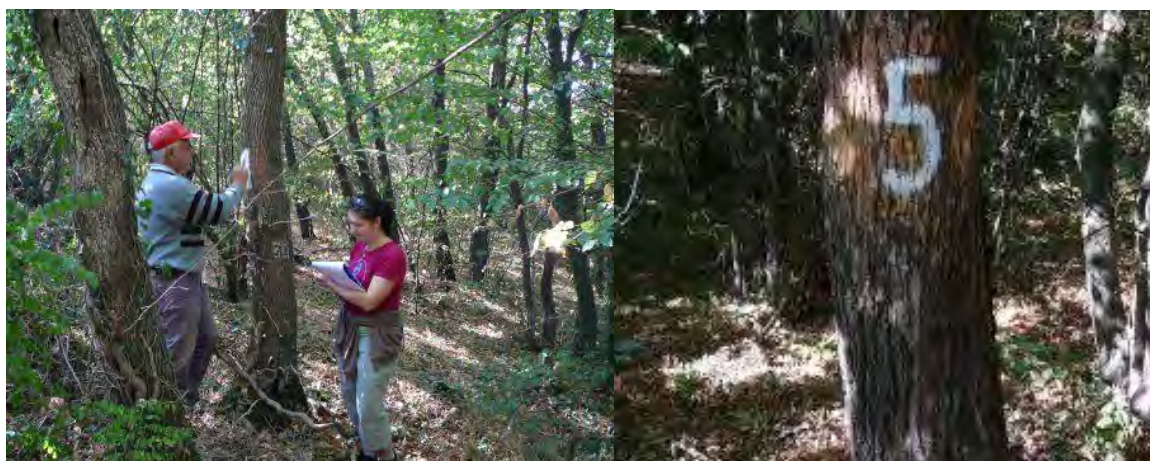
This sub-action aimed at the determining of basic sources for the collection of forest reproductive material from forest species dominating the priority habitats targeted (directly or indirectly) under the project. FSCS-Sofia was the project beneficiary responsible for overall action implementation.

Within the reporting period four forestry experts were hired, performed number of field visits in project target area and prepared detailed survey reports. Based on their work 228 forest stands in 43 Bulgarian NATURA 2000 sites were selected as base sources for the collection of forest reproductive material from priority tree & bush species targeted under the project. Project team representatives and FSCS – Sofia experts also participated in some of the field visits under this action and monitored the work of the hired forestry experts. The identified sources are already being used for seed collection under the project as part of the implementation of Action C.2.2.

Within planned action timeframe we were not able to identify sources for several priority species that are not very common or wide spread within project target area (i.e. *Acer monspesulanum*, *Alnus incana*, *Sorbus domestica*, *Ulmus glabra*, etc.). For this reason we needed to prolong the action implementation and we managed to complete it successfully (but with delay) in the end of November 2013. Thus, during the project timeframe set action objectives were fully achieved. Detailed table with all 228 identified sources of forest reproductive material under the project was provided with project Progress report in 2014.

All identified sources were officially registered in the data base of FSCS-Sofia according to respective legal requirements and standard procedures. Based on this we plan to continue using the identified sources after project end for future conservation and restoration activities targeting priority forest habitats from the NATURA 2000 network on national level.

FSCS-Sofia also continues its work for identification on additional sources of forest reproductive material on habitat type level in Bulgaria after project end.



Pictures No 17-18 Identification of sources for forest reproductive material

Sub-action C.2.2 Collection of reproductive material

This sub-action aimed at stocking project gene bank with reproductive material of species from priority habitats in order to ensure the long term conservation of respective genetic resources. Another important objective is to ensure seeds of forest species for the production of the seedlings necessary for the completion of planned project restoration activities. FSCS-Sofia was the project beneficiary responsible for overall action implementation.

Sub-action implementation started with the identification of subcontractor through competitive procedure. On 16.11.2011 a contract was signed with Al & Iv Forest Consult Ltd. and in addition 3 forestry experts were hired directly by FSCS Sofia to ensure independent monitoring and control over the process of seed collection by the subcontractor. In addition, project team and FSCS-Sofia also provided input for the action by collecting seeds during their monitoring visits on the field.

Detailed information regarding the collected seeds by species and years is presented in the table below:

Species	2011	2012	2013	2014	2015
Amount of seeds collected, kg					
Collected by hired subcontractor and experts					
<i>Acer campestre</i>		1.0		1.5	
<i>Acer pseudoplatanus</i>				9.0	
<i>Acer platanoides</i>		0.2		1.5	
<i>Alnus glutinosa</i>	1.0	1.0	1.4	4.0	
<i>Alnus incana</i>	0.2			0.3	
<i>Carpinus betulus</i>			1.5		
<i>Fraxinus exelsior</i>	1.5		2.5	8.0	
<i>Fraxinus oxycarpa</i>				3.0	
<i>Abies alba</i>				2.0	
<i>Quercus pubescens</i>	200	425		30.0	
<i>Quercus ceris</i>	500	200	420	380.0	
<i>Quercus frainetto</i>		50			
<i>Quercus robur</i>	50				
<i>Quercus petraea</i>				30.0	
<i>Sorbus domestica</i>		0.05			
<i>Sorbus torminalis</i>		0.05			
<i>Tilia cordata</i>		0.5	4.0	2.0	
<i>Tiliaplathyphyllos</i>				4.0	
<i>Tilia tomentosa</i>		0.5		2.0	
<i>Ulmus glabra</i>					2.15
<i>Ulmus minor</i>			1.3		0.9
<i>Ulmus laevis</i>			0.5		1.5
Collected by project team and FSCS-Sofia staff					
<i>Prunus divaricata</i>			0.5		
<i>Ulmus minor</i>		0.5			
<i>Fraxinus ornus</i>			0.9		
<i>Pyrus communis</i>	0.6	0.2	0.6		
<i>Syringa vulgaris</i>			0.2		
Total	752.1	678.2	433.4	512.05	4.55

Action implementation started in autumn 2011 and continued until project end with seed collection performed in 5 consecutive years. In order to ensure the maximum possible results FSCS-Sofia continued the work for seed collection until the very end of the project which was not originally planned in project timeframe. The reasons for varying collection results in different years are related to the fact that some of project main targeted species (i.e. *Q. pubescens* and *Q. frainetto*) do not yield enough seeds every year since oaks usually give high seed yields once in 3-4 years.

The total collected amount of seeds under the project in the period 2011 - 2015 is 2 380.30 kg which is significantly higher than the quantity originally planned in project proposal (1 736.70 kg). When accessing the overall quantity one should be aware that yields of seeds from different species are not really comparable (i.e. 1 kg of reproductive material from *Alnus* sp. contents multiple times more seeds than a kilogram of oak acorns). Detailed table including collected quantities of seeds under the project by species and habitat types as well as technical documentation related to action implementation (i.e. protocols) are presented in Annex 7.2.12 to the report.

All collected seeds were sorted, tested, labelled and certified in the laboratory of FSCS-Sofia. The major part of collected seeds was used for the production of seedlings at the Lokorsko nursery necessary for the restoration of priority habitats under the project.

Based on achieved results and the provided input for effective implementation of project restoration activities we believe that the action was successfully implemented and action objectives were fulfilled during project timeframe.

In order to keep the gene bank sufficiently stocked with genetic material from priority forest species FSCS-Sofia continues seed collection activities after project end. As a result after the official project end seeds from additional species (not collected under the project) were collected, processed and stored in project gene bank by the staff of FSCS-Sofia.



Pictures No 19-20 Collection of seeds from priority species

Action C.3: Production of seedlings for the restoration works

This action aimed at providing the seedlings necessary for undertaking project restoration measures envisaged under action C.4. FSCS-Sofia was the project beneficiary responsible for overall action implementation.

Action implementation started in autumn 2011 with hiring of nursery workers FSCS-Sofia for the necessary ground preparation, sowing and subsequent care for the seedlings at Lokorsko nursery. In spring 2012 the first project seedlings of oaks and other species came up but we encountered problems with the percentage of germinated oak seedlings (mainly seedlings of *Quercus pubescens*) which was lower than expected. After detailed analysis for the reasons of this problem, we implemented measures to address his problem in order to avoid shortage of planting material for the forthcoming restoration activities. The problem was successfully addressed in the next years of production germination rates were excellent.

Since we did not have enough space and technology at the nursery for growing all necessary seedlings we had to purchase seedlings from 3 species – *Q. cerris*, *T. tomentosa* and *P. nigra*. However grown in different nurseries they were produced using seeds collected under the project. All produced and purchased seedlings are presented in the table below.

Tree species	Planned	Produced	Produced by years			
			2012	2013	2014	2015
	Number of produced seedlings					
<i>Acer campestre</i>	1500	1200		1200		
<i>Acer pseudoplatanus</i>		3500				3500
<i>Alnus glutinosa</i>	7500	12590	140	950	9500	2000
<i>Fraxinus exelsior</i>	6000	3600			2200	1400
<i>Fraxinus ornus</i>		700			700	
<i>Quercus pubescens</i>	55500	80000	3200	72300		4500
<i>Quercus ceris</i>	39000	120200	25000	24500	40300	30400
<i>Quercus frainetto</i>	6000	8700		8700		
<i>Quercus petraea</i>	1500	1500				1500
<i>Salix alba</i>	1500					
<i>Tilia cordata</i>	1500	6150		400	5750	
<i>Tilia tomentosa</i>						
<i>Ulmus minor</i>	1500	9700	3600	6100		
<i>Prunus divaricata</i>		1050			1050	
<i>Pyrus communis</i>		3450	1800	400	1250	
<i>Syringa vulgaris</i>		1800			1800	
<i>Populus nigra</i>						
Total produced	120000	254140	33740	114550	62550	43300
Tree species	Number of purchased seedlings					
<i>Quercus pubescens</i>				11000		
<i>Tilia tomentosa</i>			2000			
<i>Populus nigra</i>					500	
Total purchased			2000	11000	500	

Presented number of produced seedlings does not include the ones that did not comply with quality requirements or were damaged during the process of extraction, transportation and temporary storage. Based on this the actual number of produced project seedlings is app. 10% higher than presented in the table.

The overall number of produced seedlings is significantly (more than twice) higher than originally planned in project proposal due to the fact that in the process of project implementation we have used higher afforestation density (4000 – 4500 seedlings per ha) than originally planned (2500 seedlings per ha). This decision was made by project team in order to reach higher survival rates of planted seedlings and ensure better chances for success of habitat restoration works.

As a pilot activity we have produced 1 500 seedlings of *Quercus pubescens* in containers that were planted in project target sites and showed very good survival rates on rocky terrain and shallow soil. Production of container seedlings from oaks is not common in Bulgaria but based on achieved results we plan to continue the promotion on this method in future.

FSCS-Sofia continued production works until project end since the seedling produced in 2015 will be necessary for replacement of dead seedlings in project target sites planned for the spring of 2016. Technical documentation related to seedling production under the project (i.e. protocols) is provided in Annex 7.2.13.

We plan to continue our work for the production of seedlings from priority species at Lokorsko nursery after project end in order to support future restoration activities targeting priority forest habitats from the NATURA 2000 network on national level.



Pictures No 21-22 Recently germinated seedlings from *Alnus glutinosa* (left) and seedlings from *Ulmus minor* ready for afforestation (right) at Lokorsko nursery

Action C.4: Pilot restoration of priority forest habitats

Action C. 4 consisted of 3 sub-actions that were closely related and were completed in the period 2012-2015. FSCS-Sofia was the project beneficiary responsible for overall action and sub-actions implementation. All sub-actions were planned and implemented in close cooperation with institution responsible for the management of forests and forest land in the 2 target Natura 2000 sites – State Forestry Unit Sofia. Since parts of all 3 sub-actions were assigned together to external contractors financial evaluation and reporting is done for the whole C.4 action and not by sub-actions.

Sub-action C.4.1 Soil preparation of the selected sites

This sub-action aimed at creating favourable conditions for the implementation of project reforestation activities in accordance with the requirements of respective forestry legislation and the technological plans produced under Action A.4.

Following the held tender procedure in November 2012 Murgash Ltd. was contracted by SFU Sofia/FSCS-Sofia for the preparation of project reforestation areas falling within Dragoman Natura 2000 site.

The clearing and soil preparation works began immediately in November 2012 following the technological reforestation plans and specifications included in the project Program for restoration of priority forest habitats within Natura 2000 network. The works included series of activities such as clearing of remaining deadwood, cutting of brushes, digging platforms for the seedlings, removal of stones, etc. The difficult terrain at Dragoman Natura 2000 site forced us to use mechanized tools in order to clear the brush vegetation and ensure the necessary platforms/holes for the seedlings with required size and depth. In result 8 ha were prepared for reforestation at Dragoman site until the end of 2012.

In 2013 additional contracts were signed and the soil preparation of another 27.3 ha was completed in autumn 2013. The soil preparation for the last 9.4 ha of habitat 91H0 planned for restoration under the project at Dragoman Natura 2000 site was completed in 2014.

The soil preparation for 91 E0 habitat at Plana Natura 2000 site was completed in 2014 (0.4 ha) and 2015 (0.2 ha) prior to actual reforestation. Additional sites were prepared for restoration of 91 E0 habitats at Dragoman Natura 2000 site in autumn 2014 with total area of 2.7 ha.

In the process of action implementation project team members held numerous field visits to restoration sites in order to monitor the quality of work performed by subcontractor workers and to give recommendations for improvement and corrections if and when necessary. After the completion of soil preparation works at each project site a commission including representatives of project team, SFU-Sofia and the subcontractor visited the site, assessed the quality of work and filled respective protocols according to the requirements of Bulgarian forestry legislation. Copies of such protocols for completed soil works under the project are provided in Annex 7.2.14.

Based on achieved results and the provided input for effective implementation of habitat restoration activities we believe that the action was successfully implemented and action objectives were fulfilled during project timeframe.



Pictures No 23-24 Soil preparation in progress and completed soil preparation for afforestation at Dragoman NATURA 2000 site

Sub-action C.4.2 Restoration of damaged habitats

This sub-action aimed at the restoration/recreation of 40 ha of damaged priority forest habitats (91H0* and 91E0*) within the 2 Natura 2000 sites targeted under the project.

Habitat restoration (recreation) activities started in spring 2013 with reforestation of the first 8 ha of the priority habitat 91H0* in Dragoman Natura 2000 site. The works were completed by external contractor (Murgash Ltd.) selected as a result of an open tender procedure held by FSCS-Sofia & SFU-Sofia. Despite the difficult terrain (rocky and dry, with little soil) and harsh weather conditions (drought and late spring snows with frosts) we managed to timely complete the reforestation works by the end of April 2013. As a result all 32 000 seedlings from various species (*Quercus pubescens*, *Quercus frainetto*, *Quercus cerris*, *Ulmus laevis* and *Tilia cordata*) produced at Lokorsko nursery under the project were planted at Dragoman site.

After the completion of restoration works record high temperatures were measured all over Bulgaria without any rain for several weeks which affected the survival rate of planted seedlings. A field inventory by a commission including representatives of project team and forestry authorities was held in October 2013 and showed a of survival rates of app. 42% at Dragoman site. The commission prepared written protocol evaluating the main reasons for the low survival rate of planted seedlings: high temperatures and drought combined with rocky terrain and insufficient soil (copy of the protocol was provided with the Progress report).

Apart from the reforestation works undertaken by the contractor in 2013 we organized several planting actions with volunteers in cooperation with Eco-community Foundation, Balkani Wildlife Society and the US Embassy in Sofia. More than 70 volunteers took part in the ground preparation work and reforestation activities at Dragoman site and were really satisfied to be able to contribute for project implementation and the restoration of damaged priority habitats. As a result 0.3 ha were reforested as an add-on to project activities and the subsequent inspection by project team and forestry experts confirmed the good quality of reforestation volunteer work.

Restoration works continued in spring 2014 following the technological specifications and plans included in the Program for restoration of priority forest habitats within Natura 2000 network. As a result another 28.7 ha of the habitat type 91H0* were restored in Dragoman Natura 2000 site which contributed to a total of 36.7 ha of this habitat restored in the period 2013-2014. Since this is the target area for restoration envisaged in the developed restoration program at this stage we have completed our objectives for pilot restoration of habitat type 91H0* under the project. Due to favorable weather in 2014 all newly planted seedlings showed excellent survival rates.

The rocky terrain and shallow soil at Dragoman site made it impossible to plant seedlings in many of prepared platforms so we decided to combine the tree planting with sowing of oak acorns. This method showed good results for 2 reasons: 1) many acorns germinated and respective young plants managed to survive in rocky places; and 2) even though some acorn saplings died in the first weeks after germination, the acorns were able of germinating again when more favorable conditions appeared which improved the overall survival rate.

In 2014 we have also started our work for the restoration of priority habitat 91E0* Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* at Plana Natura 2000 site. On 22.03.2014 we organized tree planting action with volunteers in cooperation with Eco-community Foundation. More than 40 volunteers took part in the action and planted 500 black alder seedlings produced at Lokorsko tree nursery from reproductive material collected under the project. As a result 0.4 ha of the habitat 91E0* - Alluvial forests with *Alnus glutinosa* and

Fraxinus excelsior were restored in the upper stream of Planshtica river. The restoration of this habitat continued in spring 2015 with the reforestation of another 0.2 ha in Plana Natura 2000 site and of additional 2.7 ha in Dragoman Natura 2000 site.

In the process of action implementation project team members held numerous field visits to restoration sites in order to monitor the quality of work performed by subcontractor workers and to give recommendations for improvement and corrections if and when necessary. After the completion of reforestation works at each project site a commission including representatives of project team, SFU-Sofia and the subcontractor visited the site, assessed the quality of work and filled respective protocol according to the requirements of Bulgarian forestry legislation. Copies of such protocols for completed reforestation works under the project are provided in Annex 7.2.14.

The overall areas of target habitats restored under the project by habitat type and Natura 2000 site is presented in the table below.

Natura 2000 site/ Restored habitat area	Dragoman (BG0000322)	Plana (BG0001307)
91H0* Pannonian woods with Quercus pubescens	36.7 ha	-
91E0* Alluvial forests with Alnus glutinosa and Fraxinus excelsior	2.7 ha	0.6 ha
Total	39,4 ha	0.6 ha

Action objective for the restoration of a total of 40 ha of the 2 target priority habitats was fully achieved within project timeframe. In project proposal we have planned the restoration of 5 ha of habitat type 91E0* mainly in Plana site while we actually managed to restore 3.3 ha under the project due to the following reasons:

1. Actual condition of priority habitat 91E0* was better than described in the Standard data form (SDF) of Plana site at the time of project planning (2010) and after project start we could not identify so many damaged areas that required restoration;
2. The habitat has linear occurrence only along riverbeds in project target sites and as such it does not cover significant areas (i.e. ha).

Based on achieved results we believe that the action was successfully implemented and action objectives were fully achieved during project timeframe.

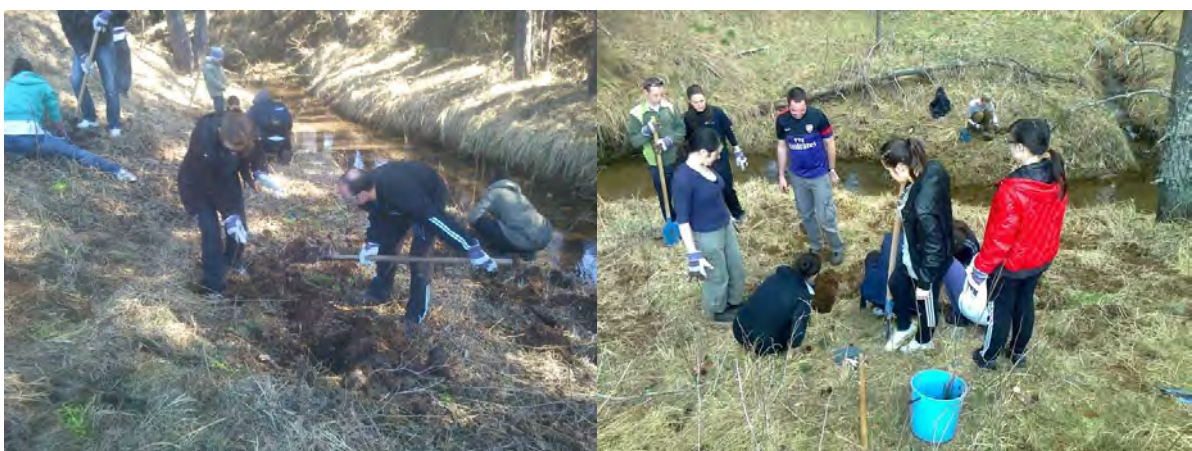
We plan to continue our work for the restoration of priority forest habitats from the Natura 2000 network on national level after project end and we have already identified potential sites with damaged habitats for future restoration.



Pictures No 25-27 Project tree planting actions with volunteers at Dragoman NATURA 2000 site, 2013



Picture No 28 Reforestation with container seedlings of *Q. pubescens* produced under the project at Dragoman Natura 2000 site, 2014



Pictures N 29-30 Project tree planting action with volunteers at Plana NATURA 2000 site, 2014

Sub-action C.4.3 Subsequent cultivation and care

The main aim of this sub-action was to ensure sustainability of restored habitats in the first several years after reforestation by replacing dead seedlings, weeding, soil cultivation and fencing.

The signed contract with external contractors for reforestation works also included the necessary measures for subsequent cultivation and care for all reforested areas. The volume of cultivation works and the number of seedlings for replacement at each project site were planned based on annual inventory of the condition of newly planted forests. This inventory was undertaken by project team in cooperation with SFU-Sofia following the requirements of forestry legislation at the end of each calendar year. Based on inventory results full sets of cultivation activities was carried out in the period June – September for the years 2013 – 2015. The low seedling survival rate identified in autumn 2013 forced us to replace high percentage of dead seedlings with new ones produced under the project in spring 2014.

This has put another stress of our seedling production process (both in organizational and financial aspect) and because of the limited production capacity at Lokorsko nursery (as described above in Action C.3) we had to purchase additional seedlings from other nurseries. Despite these difficulties we managed to replace all dead seedlings and a total of 4.6 ha (reduced area) were re-forested in spring 2014 at Dragoman site.

Based on the good results achieved with reforestation for the cultivation works we have also decided to use the combined method for reforestation by planting both seedlings and acorns (in places with rocks or shallow soil).

After the completion of reforestation works in spring 2014 we identified damages from livestock grazing in one of project restoration sites at Dragoman Natura 2000 zone. This forced us to set apart funds for fencing (600 meters) of the damaged area in order to ensure the survival of all planted seedlings. The fencing was implemented by selected contractor for restoration works and no further damages from livestock grazing were observed at this site.

Following the completion of cultivation works at each project site a commission including representatives of project team, SFU-Sofia and the subcontractor visited the site, assessed the quality of work and filled respective protocol according to the requirements of Bulgarian forestry legislation. Copies of such protocols were provided with project Progress report. In the process of action implementation project team members held numerous field visits to restoration sites in order to monitor the quality of work performed by subcontractor workers and to give recommendations for improvement and corrections if and when necessary.

In 2015 we have completed another round of cultivation activities and replacement of dead seedlings in reforested project areas. Apart from the work implemented by contractors on 09.04.2015 EFA organized tree planting action with volunteers in Dragoman Natura 2000 site. More than 60 volunteers participated in the event including EFA officials, experts from FSCS-Sofia, SFU-Sofia and Gora magazine. The action was part of the official celebration of the National Forest Week 2015 and focused on replacement of dead seedlings by planting new ones in a restored area of priority habitat 91 H0*.

After project end SFU-Sofia has taken over the responsibility for further care of the restored habitats following the requirements of applicable forestry legislation. In 2015 FSCS-Sofia has produced the seedlings necessary for reforestation (replacement of dead seedlings) in project target sites, planned for spring 2016. We continue the monitoring of the restored habitats after project end by participating in annual inventories and organizing monitoring visits to make sure that newly planted forests are maintained in favorable conservation status.



Pictures No 31-33 Annual inventory of reforestation success (upper), cultivation work in progress (middle) and fencing against grazing (lower) at Dragoman NATURA 2000 site

D type actions

Detailed information implemented information and awareness raising actions is provided in section 5.2 of this report.

Action E.1: Project management

This action aimed at ensuring smooth, timely, transparent, efficient and cost-effective process of project management and implementation. All project beneficiaries provided input for action implementation under the supervision of the Director of FSCS-Sofia.

Action implementation started in September 2011 with the development of detailed Terms of reference for each position by FSCS Sofia and VIG. Subsequently Project Coordinator and Financial assistant were hired and started their work in close cooperation with the Director of FSCS - Sofia. The hiring of experts for the rest 2 positions of the project team - Project Director and Administrative Assistant was delayed with several months due to the proposed inclusion of EFA as a second Associated Beneficiary in the project. After the submitted modification request was approved and a Supplementary Agreement was signed, EFA experts were hired for these positions and started/continued their work for project implementation.

The day to day project management was implemented by the project team under the supervision of the Director of FSCS – Sofia. The project team included representatives of all project beneficiaries and consisted of Project Director - Mr. Krassimir Kamenov from EFA and Administrative assistant - d-r Lubcho Trichkov also appointed by EFA. The position of Project Coordinator was held by Mr. Teodor Todorov appointed by VIG and the project Financial assistant was Mr. Julian Spirov – an external expert appointed by FSCS - Sofia.

Daily technical project management was performed by the Project Coordinator under the supervision of Project Director and the Director of FSCS – Sofia. Project Coordinator was the only staff member hired on fulltime labor contract. Financial project management was performed by the Financial Assistant in cooperation with the Chief Accountant of FSCS – Sofia and the accountants of VIG and EFA. Copies of special and labor contracts of project staff as well as detailed description of the way staff is hired by project beneficiaries were provided to EC with project Progress report in 2014.

Based on the achieved project results compared with planned project timetable, milestones and deliverables we believe that action implementation was cost effective and successful.

Action E.2: Monitoring

This action aimed at ensuring effective oversight of project implementation process both on the “inside” (by FSCS-Sofia and project team members) on one hand and on the “outside” (by Project Steering Committee) on the other hand.

Overall project monitoring was implemented by FSCS – Sofia and project team under the supervision of the Project Steering Committee. The Director of FSCS – Sofia supervised the daily project implementation as well as the work/ performance of project staff members through participation in staff meetings, daily observations and field visits to project area. Financial monitoring of project implementation is done by FSCS – Sofia Chief accountant and each project staff member implemented monitoring functions described in respective ToRs.

Unscheduled monitoring visits by Project Director and Administrative Assistant were also held to FSCS-Sofia office and project area in order to oversee the implementation process and compare project progress against the set timeframe, project milestones and deliverables.

After the delay related to project modification request and the signing of Supplementary Agreement, the first session of the Project Steering Committee (PSC) was held on 11.05.2012 in the premises of the Ministry of Agriculture and Food. PSC included representatives of main project stakeholders, project partners and NGOs working in the field of nature protection and sustainable forestry: EFA, MAF, MOEW as well as NGO representatives – WWF-DCP.

Main PSC objective was to synchronize the work of project beneficiaries and partners while guaranteeing transparency and effectiveness of project implementation. During PSC sessions project team presented to attending Committee members information regarding the project and the achieved progress with its implementation. Also identified problems, obstacles and other project related issues were discussed during the first PSC session.

The second session of the Project Steering Council was held on 07.12.2012 in the premises of the Executive Forest Agency. During the meeting project team presented the achieved progress in the implementation of project activities compared to the planned project timeframe and monitoring indicators & milestones. The agenda also included discussions of the encountered difficulties during the implementation of some project activities and ways for resolving them. At the end of the meeting PSC members discussed the possibilities for multiplication of achieved project results after its end and potential future joint initiatives. Concrete ideas for future joint LIFE+ projects were also shared and discussed. Other ideas for ensuring financial sustainability of project results and potential for replication/multiplication of project activities and impact on national level were shared.

Third and fourth PSC sessions were held respectively in December 2013 and May 2014 in order to keep PSC members regularly informed about project progress. Apart from the presentation of project progress and discussions on encountered difficulties, the agenda was focused on concrete ideas for new LIFE+ proposals for the new programming period. Following earlier discussion regarding possible including of priority habitat restoration activities as eligible under the Bulgarian Operative Program Environment for the next programming period (2014-2020) Mrs. Rossina Jmouranova from MOEW informed PSC members that in the process of OPE finalization one of the most important aspects is to avoid potential double EU financing. Nevertheless, habitat restoration activities were included as eligible in the final version of OPE (2014-2020) - under investment priority 6d related to restoration and maintenance of priority habitats and species where MAF and its structures were included as eligible beneficiaries.

The fifth PSC session was held on 09.11.2014 at the EFA/MAF premises with the participation of 12 committee members. After the presentation of project progress and project spending specific discussions were held related to the possibilities for relocation of project funds among budget items with under- and over-spending. Specific attention was given to the management arrangements of project gene bank and the bureaucratic problems related to the ongoing transfer of respective property rights to FSCS-Sofia by SWFE - Blagoevgrad. Another part of the agenda focused on presentation of the guidebook for sustainable management of priority Natura 2000 forest habitats developed under the project. At the end of the session the final draft of produced project film was presented to PSC members and respective feedback received.

The sixth PSC session was held on 20.04.2015 at the EFA premises with agenda focusing mainly on achieved project progress since last PSC meeting and respective management challenges for the remaining project period.

The seventh and last PSC session was held on 16.06.2015 following the closing project press conference. During the meeting the full process of project implementations as well as all achieved project results was presented to attending committee members. Copies of the printed project Layman's report as well as CDs with project film were also disseminated among all participants. The developed concept for future LIFE project proposal and the project after LIFE conservation plan were also presented and discussed during the meeting. Final arrangements and decisions were made regarding the ongoing process of gene bank management arrangements transfer to FSCS-Sofia by PPSC members and project team.

Protocols of all held PSC sessions are provided in Annex 7.2.16.

Based on the achieved project results we believe that the introduced monitoring and evaluation system proved to be an effective tool that improved the overall project management and contributed to the successful project implementation.



Picture No 34 First session of Project Steering Committee, 11.05.2012, MAF

Action E.3: Networking with other projects

The aim of this action was to establish working connections and exchange information, know-how and good practices with other LIFE funded projects addressing similar issues on Bulgarian and international levels.

During project lifespan contacts with the teams of other LIFE+ funded projects running in Bulgaria were made and ideas for cooperation and joint activities were discussed. In order to ensure better cooperation and improved overall effectiveness of project implementation representatives of project team participated in all yearly meetings of LIFE funded projects held in Bulgaria. Closer working relations were established with LIFE+ projects implemented by EFA and WWF that are related to biodiversity conservation in forest habitats.

On the 5th of May 2012 together with our colleagues from WWF and the Executive Forest Agency (EFA) we celebrated the 20th anniversary of the LIFE Program and the enforcement of the EU Habitats Directive 92/43 which started the elaboration of the European ecological network. Together with the attending volunteers from WWF, EFA and Forest Seed Control Station - Sofia we formed the silhouette of a tree symbolizing the NATURA 2000 network in front of the National Palace of Culture in Sofia.

Following EC recommendations we have contacted LIFE VERENIKE project in Greece and discussed opportunities for possible cooperation since our projects have similar objectives and activities. In 2013 we were contacted by BIO for LIFE Project in Cyprus with information regarding their project. We also established communication with ECOWEB initiative by the European Commission to increase the uptake of research results from Framework Programme, CIP and LIFE+ projects regarding the information about our project in their data base - <http://www.ecoweb.info/>.

In the beginning of June 2014 FSCS-Sofia experts visited State Hunting Unit Balchik in order to get acquainted with their work under Project LIFE09 NAT/BG/ 000229 "Conservation and restoration of oak habitats along the Black sea coast". During the visit the specific challenges related to the sustainable management of oak forests were discussed and information, know-how and good practices regarding the progress with the implementation of both projects were shared and exchanged.

Following our earlier communication project team members took part in the international conference "Enhancing biodiversity in Mediterranean ecosystems - from theory to practice" organized in Thessaloniki, Greece between the 18-20.06.2014 by project LIFE09 NAT/GR/ 000326 VERENIKE. Conference program included numerous presentations of projects and initiatives related to biodiversity conservation in the Mediterranean including restoration of priority forest habitats. As a result good working contacts with our Greek colleagues were established and ideas for future joint projects were discussed.

Based on the achieved results we believe that action implementation was successful and cost effective.

Action E.4: Audit

The aim of this action was to ensure independent external audit of project spending and financial documentation in accordance with respective legislation and EC/ LIFE+ Programme requirements.

After receiving clearance from EC/LIFE+ Unit we have identified and hired project auditor – Mrs. Sevdalina Velkova Paskaleva CPA registered independent auditor №605/2003, registered in the public register of Institute of Certified Public Accountants (ICPA), by "PASKALEVI AUDIT CONSULT" OOD. Project auditor was contracted and started her work earlier than planned in project timeframe in order to provide project team with sufficient time to address eventual discrepancies or problems with financial reporting before project end and reduce the chance that incurred project costs will be considered non-eligible by EC.

In December 2012 the auditor implemented the first audit check covering the first year of project implementation. In result an internal midterm audit report was prepared and all project beneficiaries have taken actions to reflect respective recommendations related to project documentation, procedures, etc. A second audit check covering the period 01.10.2012-31.12.2013 was performed in May 2014 and respective internal report was prepared by project auditor. Based on her work, the contracted auditor Mrs. Sevdalina Paskaleva prepared internal audit reports including main findings and recommendation for improvement on identified problems with project spending or financial reporting. Produced internal reports were not considered as official documents and did not follow the required EC structure for LIFE project audit reports. These reports were prepared only in Bulgarian with the sole objective to improve overall project financial reporting and as such were not provided to EC with official project reports.

The full audit report was developed after project end by project auditor based on full check of financial and accounting documentation provide by beneficiaries and review of the draft Technical and Financial Final reports developed by project team. The audit report was provided both in Bulgarian and English languages following the reporting template and respective LIFE+ Programme requirements as well as the stipulations of all applicable financial legislation on national level.

The report was presented to project team and respective findings were discussed with all project beneficiaries in order to make sure that auditor has correctly assessed project implementation and to solve potential unclarified issues or problems.

Full English version of project audit report developed by Mrs. Sevdalina Paskaleva is provided in Annex 8.

Action E.5: After-LIFE Conservation Plan

This action aimed at developing a vision for the continuation of project actions in the 5 years after project end and ensuring the long term management of the habitats and species targeted by the project.

As planned in project timetable, the implementation of this action was started in the beginning of 2015 by project team. During the sessions of Project Steering Committee we had discussions regarding future follow-up activities and potential LIFE project applications for the next programming period. After communication with all potential partners and beneficiaries we prepared a concept for follow-up project to be submitted for LIFE funding in order to ensure the continuation in our work for preservation of the genetic fund and sustainable management of priority NATURA 2000 forest habitats. Based on this concept and received feedback from Project Steering Committee members as well as expressed commitment from future project beneficiaries, the After LIFE plan for the project was developed by project team.

The plan covers a 5-year period after project end (2015-2019) and constitutes of description of planned future actions along with detailed timeframe of actions, planned costs and sources of funding, tasks and responsibilities of partners and beneficiaries, etc. The objectives of the plan are related mainly to ensuring sustainability, continuation and multiplication of project results in a broader target region and aiming at broader target audience on national level.

The plan was presented during the last PSC session. Copy of the project After LIFE conservation plan is provided in Annex 7.2.15.

5.2 Dissemination actions

5.2.1 Objectives

The overall objective of project dissemination activities was to present to project target groups, stakeholders and general public project topics, objectives, planned/implemented actions and achieved results. Project dissemination actions were related to the fulfilment of two of the specific project objectives as follows:

Specific objective 3: Raise awareness of the local and general public on Natura 2000 and the need to adapt forest management to climate change; and

Specific objective 4: Provide and exchange information on sustainable restoration methods and conservation management issues in the ecosystems concerned.

Information regarding the specific objectives of each implemented project dissemination action is provided in section 5.2.2 below.

5.2.2 Dissemination: overview per activity

Action D.1: On-site educational workshops

This action aimed at raising the awareness of project target groups and establish basis for the future success of project conservation activities. Activities foreseen are to address two specific target groups: 1) school children including students from professional forestry high schools and 2) experts and foresters from State Forestry Units in project target area and on national level. EFA was the project beneficiary responsible for overall action and sub-actions implementation.

In order to address the needs of both target groups we have designed workshops agenda in a different way: workshops for forestry experts included more specific information and discussion on best management decisions and practices related to biodiversity conservation in forests: presentations and discussions regarding the project and achieved results from its implementation, LIFE+ Programme and its potential for providing funding related to restoration and management of forest habitats, the needs of adapting forest management to the problems/challenges related to climate change, sustainable management of priority forest habitats within the Bulgarian NATURA 2000 network and the specifics of forest seed production in Bulgaria.

On the other hand workshops for students provided more general information on forestry, biodiversity conservation and project issues and focused on the principle “learn by doing” through the included interactive outdoor educative games.

Action implementation started with the organization of first round of 2 project workshops in November 2012. First project workshop took place on 22.11.2012 at the premises of the Executive Forest Agency - Sofia. Representatives of all project beneficiaries (EFA, FSCS-Sofia and Vitosha Initiative Group) as well as forestry experts from the South-West State Forest Enterprise, North-West State Forest Enterprise and their regional structures participated in the event. The second workshop was held on 29.11.2012 at the Regional Forest Directorate in Blagoevgrad with the participation of forest experts from State Forestry Units in the South-West region.

Based on the information presented by project team after the workshops we were contacted by

a number of our colleagues from structures of South-West State Forest Enterprise that were inspired to develop LIFE+ project applications related to priority management of forest habitats and biodiversity conservation.

In June 2013 EFA and project team organized the second round of project workshops targeting students and forest officials. A workshop with 17 students from the Professional Forestry High School in Berkovica was held on 11.06.2013. The workshop was led by EFA and FSC-Sofia experts and included theoretical part as well as practical field work in the Balkan Mountains around Berkovica. The next workshop was organized on 12.06.2013 with the participation of 10 officials from the Regional Forest Directorate Berkovica and the North-West State Forest Enterprise.

Following the workshops we were again contacted by forestry experts from North-West State Forest Enterprise that were inspired to prepare LIFE+ project applications based on the presented information for the program and our project.

The third round of project workshops started with 2 trainings for forestry experts from the North-West Forest Enterprise and students from the professional forestry high school in Teteven organized in Teteven and Lovech respectively on 21-22.10.2013. On 11.11.2013 another workshop was organized in Velingrad targeting experts from the Regional Forestry Board in Velingrad, State forestry Units Alabak, Smilyan, Rakitovo and Batak as well as State Hunting Unit Chepino. The last workshop for 2013 was held on 12.11.2013 with the participation of 15 students from the Professional forest highschool in Velingrad that also included interactive outdoor games and practical training in the forests around Yundola.

The fifth round started in the beginning of 2014 with a workshop organized on 23.01.2014 for students from the Professional high school of agriculture and forestry in the town of Chepelare. Main lecturer was d-r. eng. Anna Petrakieva - Chief expert in EFA department "Reforestation, management use and protection of forests". The workshop also included interactive outdoor games and practical training in the forests around Chepelare. On 24.01.2014 a second workshop was held in the town of Smolyan targeting forest experts and officials from the South-central Forest Enterprise. Lecturers were Mrs. Petya Slavchevska, d-r. eng. Lubcho Trichkov and eng. Krassimir Kamenov from EFA.

The next round of project workshops was held on 21-22.02.2014 with the participation of regional forestry experts and students from the professional high school of agriculture and forestry in Kurdjali. Workshops in Veliko Tarnovo followed on 02-03.06.2014 with the participation of regional forestry experts and students from the American Arkus College. The 8th round was held in Varna on 04-05.06.2014 with the participation of forestry experts and officials from the region and students from the professional forestry high school named after Nikolay Haitov.

The last 2 project workshops for high school students were held on 25-26 March 2015 in the town of Burgas. The workshop on 25.03.2015 was attended by 12 forest experts from the Regional Forestry Board - Burgas and the Southeast State Forest Enterprise – Sliven. The last project workshop held on 26.03.2015 was attended by 17 students from the professional timber processing high school in Burgas.

A total of 243 participants joined project workshops including 120 forestry experts and 123 students. Summarized data for all organized project workshops is presented in the table below.

No	Date	Location	Participants type	Participants number
1	22.11.2012	Sofia	Forestry experts	14
2	29.11.2012	Blagoevgrad	Forestry experts	14
3	11.06.2013	Berkovitsa	Students	18
4	12.06.2013	Berkovitsa	Forestry experts	10
5	21.10.2013	Teteven	Students	15
6	22.10.2013	Lovech	Forestry experts	11
7	11.11.2013	Velingrad	Forestry experts	13
8	12.11.2013	Velingrad	Students	15
9	23.01.2014	Chepelare	Students	14
10	24.01.2014	Smolyan	Forestry experts	11
11	20.02.2014	Kardjali	Students	16
12	21.02.2014	Kardjali	Forestry experts	13
13	02.06.2014	Veliko Tarnovo	Forestry experts	11
14	03.06.2014	Veliko Tarnovo	Students	15
15	04.06.2014	Varna	Forestry experts	11
16	05.06.2014	Varna	Students	13
17	25.03.2015	Bourgas	Forestry experts	12
18	26.03.2015	Bourgas	Students	17
Total participants				243

On all printed workshop materials (i.e. invitations, agenda, training materials and presentations as well as lists of participants) were present the LIFE+ and Natura 2000 logos. Copies of printed materials, individual reports and list of participants as well as pictures from all 18 workshops organized under the project are provided in Annex 7.3.2.

Based on received feedback from participants project workshops proved to be quite interesting and useful both for the involved forestry professionals and for high school students. Students were surprised and interested in learning about issues totally unknown for them like Natura 2000 network and forest habitats, activities related to the conservation of the forest genetic fund, climate change and its influence on natural ecosystems including forests, etc. Foresters and experts were more interested in the practical aspects of project implementation, issues related to management and restoration of Natura 2000 forest habitats as well as the funding opportunities provided by the LIFE+ Programme.

In addition the interest among the Bulgarian forestry sector for the development of LIFE+ project applications inspired by project workshops shows that our project completed its role as a pilot initiative aimed to establish and promote good practices for the effective restoration and sustainable management of priority forest habitats in the Bulgarian NATURA 2000 network.



Pictures No 35-36 Project workshops with forestry experts (left) and school students (right) in Kurjali, 20-21.02.2014



Pictures No 37-40 Project workshops with forestry experts and school students in Veliko Tarnovo 02-03.06.2014 (upper row) and Varna, 04-05.06.2014 (lower row) 20-21.02.2014

Action D.2: Booklet with guidelines for habitat management

The aim of this action was to develop written guidelines for the management of priority habitats targeted by the project including information on specific forestry measures for ensuring sustainability of forest ecosystems and enhancement of their environmental functions. Another aim was to outline the risks and threats for each habitat and to prescribe specific measures to address them, including the setting up of respective biodiversity monitoring schemes. VIG was the project beneficiary responsible for overall action implementation.

As planned in project timetable the implementation of this action has started with the development of detailed Terms of reference and in March 2014 a forestry expert (Mrs. Dobromira Dimova) was hired for guidelines development and started assignment implementation. The expert report with guidelines for habitat management was timely developed and incorporated the achieved results from risk analysis undertaken under the project (Action A.1) as well as the lessons learnt and the good practices developed and practically tested in the process of project implementation.

The second stage of action implementation included identification of contractor responsible for the design and printing of the booklet with the developed guidelines for habitat management. In the beginning of September 2014 GEOSOFT Ltd. was contracted and on 30.09.2015 the booklet was printed in 500 copies. Besides specific texts the booklet also included information regarding the project, the financial support of EC LIFE+ Programme as well as the logos of LIFE+, Natura 2000 and all project beneficiaries.

Subsequently the booklet was handed over to FSCS-Sofia which started its dissemination among forestry experts and officials from EFA/MAF structures. A printed copy of the booklet is provided in Annex 7.3.3 and electronic version of the booklet is also available on project website at: <http://forestgenefund.eu/?p=20&l=1&id=60>.

In addition to the developed expert report Mrs. Dobromira Dimova prepared an article regarding the project and the developed guidelines for sustainable management of priority habitats. The article was reviewed by 2 scientists from the University of Forestry and in October 2014 was published in issue No 10/2014 of the specialized Bulgarian forestry magazine Gora. Copy of the issue of Gora magazine including the article regarding the project and the developed guidelines for habitat management is also provided in Annex 7.3.3.

We plan to continue our work by issuing second volume of the guidelines after project end covering the several additional types of Natura 2000 forest habitats that can be found in Bulgaria and require special regimes for sustainable management and restoration in case of damages.

Action D.3: Production of educational film about the project, NATURA 2000 network and respective management challenges

The action aimed at the production and broadcasting of a short documentary film in order to address the low level of awareness among the general public on issues related to sustainable forestry, conservation of biodiversity and genetic fund, development and management of NATURA 2000 network as well as the impact of climate change on Bulgarian forests. This was to be achieved by filming project actions and promoting the project, achieved results and the issues it addresses. VIG was the project beneficiary responsible for overall action implementation.

In January 2013 we started the work of project film production by identification and hiring of external contractor - Edelweiss Club Association. The film was to present all project activities as well as the challenges related to the sustainable management of Bulgarian forests and priority forest habitats in NATURA 2000 sites, the impact of climate change on forests and the restoration of forest habitats damaged by nature disasters. Based on this a draft scenario/screen play and working plan for the filming sequence were developed and approved by project team.

Based on this numerous film scenes reflecting project implementation were captured along with the realization of project activities. The post-production phase was the most challenging since we had to squeeze hours of filming in a final film production of 26 minutes in order to stick to TV standards for broadcast of documentaries. The process of post-production took several months with numerous film versions being produced, discussed and modified by contractor following received feedback from project team. The film was scheduled to be completed until the end of the second quarter of 2014 but project team decided to extend the deadline since we wanted to present a greater part of project activities in the film.

On 09.12.2014 the final draft of the film was presented during the fifth session of PSC held in the premises of the Ministry of Agriculture and Food. Based on the received feedback from PFC members (mainly Mr. Kamenov) the film production was finalized and the action completed on 18.12.2014. The information in the final film version is presented by professional narrator in Bulgarian language and also includes interviews with project staff and stakeholders. Following ToR requirements the contractor provided original soundtrack for the film and translation of all the texts and interviews based on which a bilingual version was produced with English subtitles. After its finalization 50 CDs/DVDs with the Bulgarian and English versions of the film were produced by the contractor, provided to VIG and subsequently handed over to FSCS-Sofia for further dissemination with hand-over protocol (Annex 7.2.9). A copy of the CD with the film is provided in Annex 7.3.3. A technical mistake in the descriptive text of the proposal was made during project preparation phase, stating that the film will be produced in 500 copies instead of 50 as was our original intention. We have put the correct number of 50 copies in tender documentation and contract with the contractor since we believe that broadcasting via national TV networks and the internet is much more effective than dissemination of copies on CD. The film is also available online at: <https://www.youtube.com/watch?v=njCk1aUsTpM&feature=youtu.be>

After the finalization of the film production we started negotiations with numerous national TVs for broadcasting of the documentary. This was a difficult process since after 2010 when the proposal was developed national TV networks have drastically changed their broadcasting policies and broadcasting of productions for free proved to be a difficult if not impossible task, even for documentaries. Finally the film was broadcasted by the Bulgarian National Television - Channel 2 (BNT 2) on 22.05.2015 in relation to the celebration of the international Natura 2000 day (21.05.2015). A week later the film was broadcasted again by

the same TV channel. A copy of the broadcasting program of BNT 2 for 22.05.2015 is presented Annex 7.3.3. Following the final project press-conference (held on 16.06.2015) project team was contacted by AGRO TV with request for broadcasting of project film after project end. The request was granted but we did not get any feedback by them about the date and time of broadcasting.

Based on the achieved results we believe that action implementation met all set objectives and is cost effective.

We plan to continue the broadcasting of the film on the internet, TV networks as well as dissemination of film copies on CDs among project partners and target groups after project end.



Pictures No 41-42 Filming of project activities and target sites

Action D.4: Hold press conferences and media work

Two press conferences were planned in project proposal – one at project inception phase and one at the end of the project. The objectives of the first press-conference was to provide media with the aims of the project – its goals, objectives, actions and means to be involved as well as the expected results. The second press-conference aimed at covering cover these general aspects but will also provide facts for project implementation and achieved results. EFA was the project beneficiary responsible for overall action implementation.

The holding of the first planned press conference was delayed due to the proposed project amendment and the unclear role of EFA in the project. After the amendment was approved by EC and respective Supplementary Agreement was signed the first project press conference was organized by EFA and project team on 11.05.2012 in the premises of the Ministry of Agriculture and Forests. During the press conference all attending journalists were presented with information regarding the project and the achieved progress in its implementation. All media representatives showed high interest in the project and asked as to keep them informed with the progress of project implementation and forthcoming events.

Following the press conference information regarding the project was broadcasted by 3 radio stations, an article for the project was prepared and published by a specialized Bulgarian forestry magazine Gora and 8 online media also published information regarding the project. Detailed information regarding media coverage of the event was presented with the Progress report in 2014.

Another media event was organized on the 09th of April 2014 for the official opening of project gene bank. The event was part of EFA program for celebrating the professional holiday of Bulgarian foresters - Forest week - 2014. More than 60 experts and representatives of project partners, stakeholders and target groups attended the event. The official opening ceremony was performed by eng. Grigor Gogov, Executive Director of the Executive Forest Agency (EFA). In his speech he stressed on the important role of the gene bank for the future restoration of priority forest habitats within the NATURA 2000 network in Bulgaria. Symbolic tree planting at the gene bank entrance followed after which all guests had the chance to see the gene bank premises and equipment as well as the seedling production facilities and the greenhouse established under the project at the Lokorsko tree nursery.

Media attended the event and broadcasted respective information, including the national television network BTV Media group (evening news and online news), Bulgarian National Radio (Horizon Program), the specialized Bulgarian forestry magazine Gora, Bulgarian Telegraph Agency, etc. Detailed information regarding media coverage of the event was presented with the Progress report in 2014.

The final project press conference was held on 16.06.2015 in MAF prior to the last session of PSC. During the event the process of project implementations as well as all achieved project results were presented to attending media representatives. Copies of the printed project Layman's report as well as CDS with project film were also disseminated among all participants. Following the final press-conference project team was contacted by AGRO TV with request for broadcasting of project film after project end. The request was granted but we did not get any feedback by them about the date of broadcasting.

Press cuttings, pictures and more information regarding media coverage of project media events are provided in Annex 7.3.3.



Pictures No 43-44 Final project press-conference, MAF, 16.06.2015

Action D.5: Web page

The action aimed at the development and regular update of project web page to be used as a modern and effective tool for dissemination of project information and increasing public awareness about project activities and the issues it is trying to address. VIG was the project beneficiary responsible for overall action implementation.

Action implementation started with the development of detailed Terms of reference and Request for offers. A subcontractor was identified through direct contracting procedure and on 16.11.2011 a contract was signed with Pixel Flower Ltd. Following active joint work of the subcontractor and project team the project website <http://forestgenefund.eu/> was ready and operational in Bulgarian and English languages by 31.01.2012.

As requested in LIFE+ Common Provisions website design includes the logs of LIFE+ and Natura 2000 with links to respective websites as well as logos of all beneficiaries together with website links.

After website completion project team started publishing actual information regarding project progress, passed and forthcoming events, achieved results, etc. on a monthly basis. The regular website update continued throughout the whole project timeframe as an ongoing activity. Project news and events were presented on the website together with information regarding the overall progress with project implementation. Electronic versions of all project deliverables (i.e. expert reports, publications, information materials) were also uploaded on project website and are available for review and download.

Due to its specifics and scope the website had an average of 200 views per month within project lifespan. Higher visitors' interest and number of online sessions was registered during public project events covered by media or involving more participants and broader audience.

Following review of information regarding the project and LIFE+ Program published on project website in 2013 we were contacted by representatives of State Hunting Unit – Murgash (Northern Bulgaria). They shared their intention in preparing LIFE+ project application so we discussed specific questions regarding the process of project preparation and implementation. During project workshops and meetings with forestry experts we were also asked various questions regarding the project and LIFE+ Programme and in addition to personal conversations we referred to project website as a source of further information.

Based on the achieved results we believe that action implementation was implemented in a successful and cost effective way, and action objectives were fully completed within project lifespan.

Action D.6: Project leaflet

This information action aimed at addressing the low level of awareness among the general public on project issues and general problems related to sustainable forestry, conservation of forest biodiversity and genetic fund, development and management of Natura 2000 network and the impact of climate change on Bulgarian forests. VIG was the project beneficiary responsible for overall action implementation.

In January 2012 detailed Terms of reference were prepared and subcontractor was identified for design and printing of the project leaflet. Project team prepared all necessary texts and photographs as well as a concept for the leaflet design. As a result the leaflet was printed in Bulgarian language in 500 copies on recycled paper by 13.02.2012.

Project leaflet includes information regarding Natura 2000 network and sustainable forest management, the project (objectives, activities, expected results) and the financial support of LIFE+ Programme. As requested in LIFE+ Common Provisions leaflet design featured the logs of LIFE+ and Natura 2000 as well as logos of all beneficiaries together with link to project website.

Electronic version of the leaflet can be viewed online at project website: http://forestgenefund.eu/filebank/att_2.pdf and paper copy is provided in Annex 7.3.3.

The dissemination of the leaflet started during meetings with project partners and stakeholders, the sessions of the Project Steering Committee, media events and project workshops. Based on received feedback from project stakeholders the leaflet has proven to be an effective tool for dissemination of information regarding the project and the issues it is trying to address. During the period of project implementation there were no changes in the set action objectives and they were fully achieved within the set action timeframe.



Picture No 45 Project leaflet

Action D.7: Notice boards

The action aimed at the production and installment of notice boards at project restoration sites in order to ensure visibility and raise awareness among general public about Natura 2000 network, the project and implemented works at respective site as well as the support of LIFE+ Program for project implementation. VIG was the project beneficiary responsible for overall action implementation.

As planned in project timetable the work under this action started in March 2013 with the identification of 2 contractors: 1) Geosoft Ltd. was contracted for the design and printing of the information boards and 2) Enerdja Build Ltd. was contracted for the production of wooden carrying constructions and the installment of the boards at selected locations.

As a result 7 information boards were produced and 4 of them were installed at FSCS-Sofia (1) and Lokorsko tree nursery (3) – at nursery entrance, project greenhouse and the gene bank premises. These boards provide information in Bulgarian and English about the project, the implemented activities/ works at respective locations and the support of LIFE+ Program for project implementation.

Following the completion of the main part of planned project reforestation works the remaining 3 notice boards were installed at habitat restoration sites on the territory of Dragoman NATURA 2000 site – 2 at the restoration sites near Dragoman Lake and 1 at Ponor restoration site. These boards provide information in Bulgarian regarding the NATURA 2000 network, the project and project partners, the implemented works at respective site as well as the support of LIFE+ Program for project implementation. Photographs of installed boards are presented in Annex 7.3.3.

After action completion all installed notice boards were handed over by VIG to FSCS-Sofia for future maintenance with hand-over protocols. Copies of the protocols are presented in Annex 7.2.9. During the period of project implementation there were no changes in the set action objectives and they were successfully completed within the set timeframe.



Pictures No 46-47 Installed notice boards at the office of FSCS-Sofia (left) and Dragoman Natura 2000 site (right)

Action D.8: Layman's report

The action aimed at the development and dissemination of a bilingual report in order to raise public awareness about the project (main issues, objectives, scope, implemented activities and achieved results) as well as the importance of LIFE+ Program and NATURA 2000 network for conservation of nature and sustainable development of local communities.

Following the project timetable the implementation of this action started in April 2015 by the development of texts summarizing project objectives, implemented actions and achieved results. The texts were prepared by project coordinator with input from other team members and the Director of FSCS-Sofia. After the finalization of Bulgarian version the text was translated in English by project coordinator.

Despite the fact that in project budget we have foreseen costs only for translation of report texts, project team decided to contract printing house for professional design and printing of project Layman's report. There were two main reasons for this decision:

1. Identified general underspending in overall project budget;
2. Willingness to ensure better look and outreach of the report through printing it in the form of a color booklet.

Based on this decision in May 2015 FSCS-Sofia contracted an external company (GEOSOFT Ltd.) for the design and printing of project Layman's report. As a result the report was ready ahead of schedule (30.05.2015) and printed on recycled paper in the form of color booklet in 300 copies. After action completion all printed booklets were handed over by VIG to FSCS-Sofia for future dissemination with hand-over protocol (presented in Annex 7.2.9).

Project Layman's report was disseminated by FSCS-Sofia during project final press-conference and its dissemination continued and among project stakeholders and partners as well as through EFA structures. Electronic version of the report is at project website: <http://forestgenefund.eu/?p=20&id=70&l=2>.

Within project lifespan there were no changes in the set action objectives and we believe they were fully achieved. Based on the achieved progress and respective results we believe that action implementation was cost effective. A copy of project Layman's report is provided in Annex 7.3.1.

We plan to continue the dissemination of project Layman's report after the end of the project to all relevant governmental institutions dealing with nature protection and all interested parties (i.e. media, NGO, experts, institutions etc.).

5.3 Evaluation of Project Implementation

The project team applied a combination of management and conservation methods in order to ensure the effective project implementation and achievement of all planned results. Management methodology for overall project implementation was based on several main principles including:

- Implementation of project activities following the set work plan, timeframe and budget to the closest extent possible;
- Assessment and use of results of actions completed (including deliverables and lessons learned) for the effective implementation of following project actions;
- Constant monitoring of progress implementation, achieved results, encountered difficulties and potential problems as a basis for efficient and adaptive project management;
- Quick identification and immediate management response to encountered problems and difficulties in order to address them before they turn into potential threats for the achievement of project results (i.e. learning from mistakes made);
- Maintenance of effective constant communication among project beneficiaries, partners and stakeholders as well as with the Technical desk of DG Environment and external monitoring team in order to timely address potential issues and ensure effective project implementation;
- Ongoing monitoring of the level of project spending and adequate financial planning based on proposed project costs and the actual situation with uptake of funds (i.e. addressing issues related to overspending or underspending);
- Maintaining of strict records of project documentation (both financial and technical) in accordance with LIFE Programme Common provisions and the applicable national legislation in order to ensure transparency and accountability of the overall implementation process as well as to provide basis for effective reporting.

The use of this methodological approach ensured the smooth and effective overall project management which resulted in achievement of all planned results within project timeframe. Identified problems (i.e. low germination rates in project nursery in 2012, low survival rates of planted seedlings in 2013, unforeseen technological elements, bureaucratic requirements and delays) were adequately and timely addressed which prevented further risks for the successful project implementation.

As presented in details in section 6 below overall project costs stayed well within the set project budget, all necessary changes were made with respect to LIFE+ Programme Common provisions and all project actions proved to be cost-efficient.

The applied methodology for concrete conservation actions under the project included a combination of two types of methods:

- Ex-situ conservation methods: i.e. the identification of sources for reproductive material, collection and testing of FRM, establishment of a forest gene bank and stocking with FRM, establishment of project greenhouse together with seed production orchard and clone collection of lime;
- In-situ conservation methods: production of seedlings, restoration of priority habitats and subsequent care, etc.

The combination of above methods ensured the effectiveness of project actions as well as the high replication and sustainability potential of project results. In the process of project implementation project team also combined innovation approaches with best practices ones. Special attention in this respect was put on the implementation of habitat restoration works as the main focus of project conservation activities by applying variety of methods based on the concrete conditions in each restoration site (sub-compartment):

- Identification of FRM sources and seed collection – for the first time on national level we have identified FRM sources not only by focusing on one selected priority species but identifying sources of FRM on habitat level. Respectively the seed collection targeted the whole complex of tree and brush species typical for priority forest habitats and not only on main/flag species for respective Natura 2000 habitats;
- Soil preparation works – due to the shallow and rocky soil at some restoration sites we had to use combination of methods from digging by hand of platforms and small holes to the usage of motorized drill in order to ensure the success of following reforestation;
- Reforestation – we have used a complex of forest 6 species for the restoration of target habitat 91H0* Pannonian woods with *Quercus pubescens* instead of using only one main species following the common practices for forest regeneration in Bulgaria. Seedlings of various species were planted in groups based on relief specifics and soil conditions in each site in order to simulate the natural appearance and structure of the priority target habitats. We have also used a combination of planting of seedlings and sawing on acorns (on the rocky places where planting was practically impossible) to ensure better survival rates for newly planted forests. Another innovative method used was related to the production and planting of container seedlings from *Quercus pubescens* that has never before been applied in Bulgaria since for regeneration of oak forests on national level are used only bare root seedlings. The method proved to be effective on rocky and shallow soils and we plan to promote and use it further on national level after project end.

All project actions were implemented with respect to the set objectives and respective quality and quantity indicators which contributed for the overall project success. Detailed comparison of results achieved against the set objectives for each project action is presented in the table below:

Specific project objective	Foreseen results in project proposal	Achieved results	Evaluation
1. Conservation and restoration of deteriorated forest habitats with European importance (part of the Natura 2000 network in Bulgaria);	Identified sources of forest reproductive materials in Natura 2000 sites	228 forest stands in 43 NATURA 2000 sites selected as sources for forest reproductive material from priority tree & bush species	Objectives and expected results fully achieved. Identified sources are officially included in FSCS-Sofia lists for FRM base stands are were used for the collection of seeds for seedling production and stocking of the gene bank under the project.

	Collected 1,736.7 kg seeds from 23 forest species	Collected 2,380.30 kg from 26 forest species	Objectives and expected results fully achieved. Collected seeds were used for seedling production and stocking of the gene bank under the project.
	Produced 120,000 seedlings for reforestation works	Produced 254,140 seedlings for reforestation works	Objectives and expected results fully achieved. Produces seedlings were used for reforestation activities under the project. Number of produced seedlings is higher than planned due to higher afforestation density than originally planned.
	Developed restoration program for target priority habitats and sites covering an area of 40 ha	Developed, approved and implemented restoration program for target priority habitats and sites covering an area of 40 ha	Objectives and expected results fully achieved. The program was approved by respective institutions in 2012 and was 3 times modified and approved again until project end due to encountered problems and respective need of changing target sites.
	Restored 40 ha of 2 priority forest habitats: 91 H0* - 35 ha, 91 E0* - 5 ha	Restored 40 ha of 2 priority forest habitats: 91 H0* - 36.7 ha, 91 E0* - 3.3 ha	Objectives and expected results fully achieved. The difference in planned restoration areas by habitat type is due to the fact that less than expected deteriorated areas of 91 E0* were identified in project target Natura 2000 sites.
2. Conservation of the genetic fund for rare and protected species with European importance	Established forest gene bank: renovated building; purchased and installed refrigeration chambers, laboratory and office equipment.	Established forest gene bank: renovated building; purchased and installed refrigeration chambers, laboratory and office equipment.	Objectives and expected results fully achieved. Gene bank was officially opened in April 2014 and is already stocked with seeds and fully operational. Management authority over the gene bank was transferred by MAF to FSCS-Sofia after project end.
	Established project greenhouse (area of 175 sq. m.) equipped with irrigation and climate control systems	Established project greenhouse (area of 180 sq. m.) equipped with irrigation and climate control systems	Objectives and expected results fully achieved. The greenhouse is fully operational and was used for the production of seedlings for reforestation works and the establishment of seed production orchard.

	Established seed production orchard with clone collection - covering area of 1.5 ha	Established seed production orchard at Lokorsko nursery with clone collection - covering area of 1.5 ha and equipped with automated drip irrigation system	Objectives and expected results fully achieved. Orchard will be used for the production of lime (<i>Tilia cordata</i>) seeds, but seedlings of other forest species of biodiversity importance (<i>Sorbus torminalis</i> , <i>Sorbus domestica</i> , <i>Pirus communis</i>) were also planted.
	Long term management arrangements for forest gene bank developed	Long term management arrangements for forest gene bank developed	Objectives and expected results fully achieved. Developed management arrangements are officially endorsed by FSCS-Sofia.
3. Raise awareness of the local and general public on Natura 2000 and the need to adapt forest management to climate change	8 workshops organized and at least 100 pupils involved	8 workshops organized and 123 pupils involved	Objectives and expected results fully achieved. Pupils involved expressed high interest towards project topics and information presented.
	Project website presenting information regarding the project, Natura 2000, LIFE+ Programme, links to other projects, etc.	Developed project website presenting information regarding the project, Natura 2000, LIFE+ Programme, links to other projects, etc.	Objectives and expected results fully achieved. Based on received feedback from project target groups the website proved to be an effective dissemination tool.
	30 minutes long film produced; 50* DVD copies distributed; film presented on at least 3 TV channels	26 minutes long film produced; 50 DVD copies distributed; film broadcasted twice by Bulgarian National Television (BNT 2) and submitted to another TV channel for broadcasting	Objectives and expected results fully achieved. The film was produced 4 minutes shorter than planned in order to meet technical requirements for broadcasting of TV networks.
	Project leaflet – 500 copies	Project leaflet printed in 500 copies	Objectives and expected results fully achieved. Leaflet was disseminated during project events and uploaded on project website.
	7 notice boards placed at publicly accessible sites	7 notice boards placed at project office, gene bank and reforestation sites	Objectives and expected results fully achieved.

	Two press-conferences held	Two press-conferences and one project media event held	Objectives and expected results fully achieved. Sufficient media coverage was insured for project implementation and achieved results.
4. Provide and exchange information on sustainable restoration methods and conservation management issues in the ecosystems concerned	10 workshops organized with 100 foresters involved	Held 10 workshops organized with 120 foresters involved	Objectives and expected results fully achieved. Following participation in project workshops foresters from several State Forestry Units expressed interest in developing LIFE+ project applications.
	Guidelines for habitat management published in a booklet (500 copies) and uploaded on project webpage	Guidelines for habitat management published in a booklet (500 copies) and uploaded on project webpage	Objectives and expected results fully achieved. Besides the guidebook dissemination an article regarding the developed guidelines was published in the specialized forestry magazine Gora in 2014.
	Layman's report – 50 copies	Layman's report – 300 copies	Objectives and expected results fully achieved. The report was printed in a printing house and disseminated among project stakeholders, target groups and media.
	Networking with other projects: internal database with similar projects developed; regular managers' meetings held; links to other projects placed on website.	Networking with other projects: internal database with similar projects developed; participation in all annual LIFE projects meetings in Bulgaria; meetings and consultations with managers of other LIFE projects held; visits to other projects in Bulgaria and Greece organized; links to projects placed on website.	Objectives and expected results fully achieved. Implemented networking activities helped the dissemination of lessons learned and exchange of information, capacity and know-how with other organizations and institutions working in the field of sustainable forestry and biodiversity conservation.

Note:* in the description of Action D.3 in project proposal a technical mistake was made and 500 DVD copies were put down instead of 50

Visibility of project results: achieved results related to infrastructure development (i.e. renovation of gene bank building, instalment of refrigeration chambers, construction of

project greenhouse, erection of notice boards, etc.) or purchase of goods (i.e. laboratory and office equipment) were immediately visible for project target audience and general public.

Project results related to the conservation of the genetic fund were immediately visible since the established gene bank for forest reproductive material is already operational and stocked with seeds of numerous species. Along with the further increasing of the awareness among the Bulgarian forestry sector about the existing and potential of established forest gene bank its importance, visibility and impact will continue to grow both on national and EC levels.

Achieved results related to habitat restoration works are also immediately visible since planted seedlings are on target sites and erected notice boards inform visitors about implemented reforestation actions. However, due to the small size of planned seedlings and the long period of subsequent cultivation and care for reforested areas (3-5 years after reforestation) it is difficult yet to visualize the full project impact on habitat/protected site level. This impact will become more and more visible in 10-20 years period when individual seedlings will reach a size that will actually turn the planted fields with small trees into young forests with important environmental, habitat and ecosystem functions.

The results from project workshops related to improved awareness and raised capacity of forest workers for sustainable management and restoration of priority forest habitats from the Natura 2000 network in Bulgaria will become visible with the further implementation of similar projects/activities on national level and multiplication of project results.

Signed project amendment was related only to the inclusion of EFA as a second associated beneficiary. The need for this amendment was related to the changes in Bulgarian forestry sector that occurred after project submission. The inclusion of EFA as project beneficiary contributed for better communication, improved decision making, effective project management and smoother project implementation.

All project dissemination activities were implemented according to the set work plan and timeframe in project proposal. Activities targeting the general public (i.e. film production and film broadcasting on national TV networks) have made project results and topics visible on national level. There were no major drawbacks during project implementation and we believe that project dissemination proved to be effective.

5.4 Analysis of long-term benefits

5.4.1. Environmental benefits

Direct conservation benefits for the two Natura 2000 SCIs targeted under the project Dragoman (BG0000322) and Plana (BG0001307) are related mainly to the pilot restoration of a total of 40 ha of priority habitats 91H0* Pannonian woods with *Quercus pubescens*; and 91E0* Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior*.

At Dragoman SCI (BG0000322) project restoration activities were implemented for both target habitats in a region where during the last several decades forests were regenerated through planting of monocultures of species that are not typical for the region (i.e. *Pinus nigra*, *Gleditsia triacanthos*, *Robinia pseudoacacia*, etc.). Such improper forestry practices resulted in change of typical forest cover/habitat type that had immediate negative impact on biodiversity and the quality of environmental functions (ecosystem services) provided by forests in the region. Apart from the negative impact on biodiversity established monocultures proved to be vulnerable to natural disasters such as pest attacks and forest fires. In result significant areas of monocultures were either damaged or destroyed mainly by forest fires in the past decade which lead to overall reduction of forest cover in Dragoman SCI.

At Plana SCI (BG0001307) human activities (i.e. grazing and improper forestry practices) have led to damage or deterioration of priority habitat 91E0* Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* which is naturally spread along riverbeds. This has caused problems related to habitat connectivity and deterioration of environmental services provided by alluvial forests (i.e. stabilizing of river banks, erosion control, water supply, etc.).

Under the project target priority habitats were restored in a way simulating natural regeneration patterns by collecting genetic material from respective regions, reforestation with a broad complex of forest species typical for natural habitats in target SCIs, planting seedlings and sowing acorns in groups based on micro relief and soil conditions, etc.

Newly planted 40 ha of forests directly contributed for the increase of the overall coverage (total area) of the two target habitats within the 2 target SCIs. Further growth and development of newly planted forest is expected to enhance habitat connectivity and to contribute for the future improvement of conservation status of both target habitats at Plana and Dragoman Natura 2000 sites.

Habitat restoration works were implemented with respect to applicable legislation on national and EU levels after consultations and approval with all relevant institutions and structures (i.e. MOEW and MAF). Achieved results from implemented pilot restoration activities clearly demonstrated to the Bulgarian forestry sector/ stakeholders that reforestation / restoration of forest habitats with respect to the requirements of the Natura 2000 network is possible, economically viable and provides sustainable results with expected long term environmental, economic and social benefits.

In addition, the established project gene bank for forest reproduction materials will ensure the necessary ground for conservation of the genetic fund of priority species/habitats and the necessary genetic resources for habitat restoration in future.

5.4.2. Long-term benefits and sustainability

Under the project we started the work for subsequent cultivation and care for all restored forest habitats. Based on the stipulations of forestry legislation and the signed long term

agreement SFU-Sofia has taken over the responsibility to take care for all newly planted forests for 3-5 years after reforestation/ project end. The established seed collection from priority forest species at forest gene bank together with the seedlings produced by project end will provide the necessary grounds for further conservation of target priority habitats at Dragoman and Plana SCIs.

Based on the analysis of threats and risks conducted under the project, main remaining threats for project target habitats are related to climate change (raising temperatures and changing precipitation patterns) and human activities (i.e. forest fires caused by agriculture practices or improper management). During project implementation several cases of damages by forest fires were registered in target SCIs. In 2015 alone 50 ha of forest (monocultures of *Pinus nigra*) were destroyed by forest fire in Dragoman SCI and need respective restoration. In this relation the future continuation of project actions related to the conservation of the genetic fund and restoration of priority forest habitats in and out of the target project region was discussed in details by project partners and beneficiaries on meetings held in the period 2014-2015. This resulted in the development of Project After-LIFE Conservation Plan (Annex 7.2.15) which describes in details future actions, responsibilities, sources of funding and timeframe for continuation of project actions after project end.

Project investment for infrastructure and development (gene bank, green house, nursery, equipment and consumables) is expected to bring future conservation, economic and social benefits for the target region. The transfer of management arrangements for established gene bank from MAF to FSCS-Sofia is also a prerequisite for further financial and administrative sustainability of project results. The establishment of forest gene bank and the restoration of seedling production at Lokorsko nursery under the project have already created constant and temporary jobs for local population. Further economic and social benefits are related to the foreseen continuation of habitat restoration works and respective activities for seed collection and seedling production in project target region. The project is also expected to have indirect social and economic benefits through the services provided by recreated forests in decades to come i.e. timber production, source of mushrooms, herbs and game for local inhabitants, provision of recreational opportunities and the positive effects on human health and wellbeing related to other ecosystem services.

5.4.3. Replicability, demonstration, transferability, cooperation

Given the pilot role of implemented project conservation activities and the fact that remaining threats are still relevant both for the target region and on national level, achieved project results have clear replication potential. After the elaboration of Natura 2000 network in Bulgaria more than 50% of Bulgarian forests fall within the Natura 2000 network and require proper management and restoration in case of damages. Bulgarian forests host 27 types of Natura 2000 forest habitats out of which 10 are with high conservation priority as endangered on national and EU levels. Climate change is considered as the main reason for the intensification of nature disasters (fires, pest calamities, damages by strong winds and heavy snows, floods, etc.) during last several decades that affects forests in a negative way and calls for adequate adaptation and restoration measures.

Established forest gene bank and seed production orchard will provide the necessary grounds for the implementation of further conservation and restoration activities in Bulgarian forests. Under the project 228 forest stands in 43 Bulgarian Natura 2000 sites were selected as base sources for the collection of reproductive material from priority tree & bush species which covered nearly 50% of the territory of Bulgaria. Reproductive material from most of these

sources is already being collected and stored in the gene bank. In our After-LIFE conservation plan we have planned to cover the rest 50% of country's territory by the further selection of FRM sources and covering of all 27 types of Natura 2000 forest habitats represented in Bulgarian forests.

Developed model for cooperation between various state institutions and other stakeholders as well as used management approaches and conservation methods under the project proved to be effective and produced visible and positive conservation results. Based on the received feedback from biodiversity and forestry experts we believe that achieved project results have clear replication potential both in project target region and on national levels.

5.4.4. Best Practice lessons and demonstration value

The conservation of priority, protected or endangered plant species/habitats through the establishment of genetic seed banks is a widely used best practice all over the world. Setting and maintaining a genetic seed bank is considered as an ex-situ conservation method, but it has direct effect on the in-situ conservation or maintenance of priority habitats or populations of priority species with reduced capacity for natural regeneration. Establishment of seed orchards and clone collections together with seed banks is another widely spread best practice. The genetic material from the seed banks/orchards may be used for direct restoration of damaged habitats as well as for scientific research (i.e. through exchange and analysis of seeds, etc.) in important fields like the adaptation of priority habitats to climate change on EU level.

Until project implementation all EU countries had already established genetic seed banks and/or generative gardens of various size and purpose, while in Bulgaria this practice was not yet applied. Some collections with samples of seeds existed only for species of economic importance but most of the protected or important for priority habitats species were neglected. The project successfully applied best practices described above on national level by the development of a National genetic seed bank with a generative orchard, focusing on all species (trees and shrubs) important for the restoration of forest habitats and/or maintenance of their favourable conservation status. Gene bank storage is already being stocked with seeds of various forest species and some of them were already used for the production of seedlings and habitat restoration under the project.

5.4.5. Indicators for project success

The long term indicators for project success include the conservation status of targeted habitats and species (1) as well as the overall coverage of priority forest habitats (2) at Plana and Dragoman Natura 2000 sites. Habitat composition i.e. the number of forest species (3) constituting restored habitats in future is another indicator for measuring project success. Restored habitats are also expected to reveal their regeneration potential in the following decades. The extent to which forests will start regenerating naturally (i.e. by sprouts or seeds) is another indicator (4) for long term project success. Since in project target area there is still a serious replication potential for implemented habitat restoration works we believe that the project will serve as a stepping stone for the implementation of similar conservation actions which will be another indicator (5) for measuring project success in future.

Other indicators for project success are related to the established forest gene bank and may include: (6) number of forest species/habitats represented in the collection of forest gene bank (collected, certified and stored genetic material); number of projects/initiatives using

reproductive material for future conservation activities (7), number of initiatives on EU level related to exchange of best practices and genetic material (8), etc.

6. Comments on the financial report

6.1. Summary of Costs Incurred

As reported in the standard statement of expenditure the total of incurred project costs is 571 516.90 € or 96.93% of planned project budget. During the process of project implementation we have encountered problems and unforeseen circumstances that caused both underspending and overspending in each project cost category. All such cases were communicated to/ discussed with EC (TDO and FDO) and all transfers between cost categories or budget items were made with respect to the 30,000 € and 10% rule (cf. Article 15.2 of the Common Provisions).

Summary of incurred project costs by cost categories is presented in the table below:

PROJECT COSTS INCURRED			
Cost category	Budget according to the grant agreement	Costs incurred within the project duration	%
1. Personnel	201420,00	213379,24	105,94
2. Travel	27032,00	10508,36	38,87
3. External assistance	184300,00	176047,60	95,52
4. Durables: total <u>non-depreciated</u> cost	138650,00	139168,60	100,37
- <i>Infrastructure sub-tot.</i>	82800,00	86565,37	104,55
- <i>Equipment sub-tot.</i>	55850,00	52603,23	94,19
- <i>Prototypes sub-tot.</i>	0,00	0,00	
5. Consumables	3400,00	10529,80	309,70
6. Other costs	6800,00	6225,78	91,56
7. Overheads	28000,00	15657,52	55,92
TOTAL	589602,00	571516,90	96,93

Incurred total project costs for Personnel were slightly higher (5.94%) than originally planned due to the following:

1. After the submission of project application in 2010, SFU-Sofia stopped all production works at the Lokorsko nursery and the project had to cover all nursery operational and running costs related to production of seedlings (i.e. workers, electricity, and water supply) that were not foreseen in project budget;
2. Based on above we had to ensure enough workers to cover all aspects of seedling production in the nursery but the costs for nursery workers originally planned in project budget proved to be insufficient.

EFA was the only beneficiary that hired state employees on special contracts as members of project staff – Project Director and Project Administrative Assistant. Respective EFA costs were incurred with respect to Article 25.2 from the Common provisions (so called 2% rule) as

demonstrated in the table below:

EFA personnel costs/contribution	Total, €
Total costs - Action E.1 Project management	47 520.62
Own contribution to project budget	48 570.00
Ratio contribution/costs (%)	102.21

Incurred project costs for Travel were significantly lower (with 61.63%) than planned in project budget due to the fact that less travel than planned deemed to be necessary and travelled distances were shorter than initially expected.

Incurred project costs for External assistance were slightly lower (with 4.48%) than planned in project budget due to the fact that some of the contracted external companies offered lower prices than originally planned for the implementation of respective tasks.

Incurred total project costs for Durables proved to be very close to originally planned in project budget (0.37% higher).

Incurred total project costs for Infrastructure were slightly higher (with 4.55%) than planned in project budget due to unforeseen costs related to the repair and reconstruction of gene bank premises.

Incurred project costs for Equipment were slightly lower (with 5.81%) than planned in project budget due to lower market prices of purchased equipment than initially planned.

Incurred project costs for Consumables were significantly higher (with 209.70% or 7 129.8 €) than planned in project budget due to the fact that in project budget we did not foresee running costs for nursery consumables and materials related to the production of seedlings (i.e. chemicals, fertilizers, tools, gloves, hoses, compost, cover for seedlings, etc.). The process of seedling production continued for more than 3.5 years within project lifespan and therefore significant costs for related consumables were incurred. Furthermore some of the purchased consumables (i.e. shovels, axes, gloves, etc.) proved to wear out or break quickly so we had to purchase such several times during project implementation period.

Incurred Other direct costs were lower (with 8.44%) than planned in project budget mainly due to lower spending for the organization of project workshops (Action D.1) than initially planned.

Incurred project costs for Overhead were significantly lower (with 44.08%) than planned in project budget due to the fact that project beneficiaries did not report significant share of their running costs as overheads under the project.

During the process of project implementation unforeseen project costs were incurred and reported as such by cost categories in the standard statement of expenditure.

6.2. Accounting system

For project accounting no special accounting system was established and the regular accounting practices were applied by all beneficiaries in compliance with the stipulations of LIFE+ Common Provisions and applicable national legislation. For the identification of all project costs the project code LIFE 10 NAT/BG/146 was used in analytical accounting

systems of all beneficiaries.

The rules for project spending and obligation related to financial reporting were included in signed partnership agreements of project beneficiaries. Associated beneficiaries provided copies of accounting documents and information regarding project costs to the Coordinating beneficiary on monthly basis. This information was regularly processed by project Financial Assistant which allowed the performing of ongoing monitoring on spending levels against set project budget during the whole process of project implementation.

Incurred and foreseen costs were discussed on monthly basis during the regular working meetings of project staff with the participation of the Director of FSCS-Sofia. Costs were reported to and approved by the Director of FSCS-Sofia, Project Director and financial management of all project beneficiaries. The overall level of project spending was presented during the regular sessions of Project Steering Committee and respective issues were discussed with PSC members.

The levels of actual project spending and respective discrepancies with project budget were monitored on regular basis and financial reports/ overviews were prepared at the time of submission of official project reports to EC. All identified discrepancies (i.e. underspending or overspending) were communicated to/discussed with EC representatives and respective management decisions were made based on the received guidance and information.

Time recording system was based on electronically completed timesheets that were printed on paper, signed by respective experts and approved by contracting beneficiary. Personnel were hired under the project under 2 types of contracts: labor full time contracts and special (so called civil) contracts. Only the Project Coordinator was hired by VIG on fulltime contract. Since he had no other labor or special contracts with project beneficiaries and worked 100% for the project monthly timesheets were not filled under the project. Copy of the labor contract of Project Coordinator was provided with the Progress report in 2014.

All other personnel including project staff and short term experts were hired by project beneficiaries under part time special (civil) contracts and worked time was registered based on monthly timesheets. Upon completion of respective tasks/work periods filled timesheets were provided together with reports for the completed work to respective beneficiary. Timesheets and reports were approved by the management of project beneficiaries (i.e. Director of FSCS-Sofia, Executive Director of EFA, Chairman of VIG) and upon approval respective payments were done to contracted experts.

All invoices and other project financial documents (i.e. contracts, requests for offers, timesheets, bank statements, travel documents, etc.) were marked by beneficiaries with project stamp containing the following text "Project LIFE 10 NAT/BG/146". Some of those documents already included in their content text with clear reference to the project, nevertheless we have adopted the compulsory marking with project stamp as a unified approach for all financial documents and all project beneficiaries.

6.3. Partnership arrangements

The rules and obligations related to project costs, co-financing, spending, transactions and financial reporting were included in partnership agreements of project beneficiaries signed in 2011 (with VIG) and 2012 (with EFA). During the process of project implementations transactions were made only between FSCS-Sofia and VIG. After receiving initial and midterm payments from EC, FSCS-Sofia has executed 2 payments of respective amounts (as

stipulated in PA) to the bank account of VIG.

Since EFA and FSCS-Sofia (which is sub-structure of EFA) are state entities their bank accounts function in a specific way using the so called CEBRA banking system. Upon receiving of funds/incomes in the account of FSCS-Sofia all funds are immediately transferred to the state budget account of MAF. When necessary, FSCS-Sofia prepares payment requests to EFA and if approved respective payments are executed by EFA through its bank account. EFA uses similar system for approval of bank payments and initiation of transactions. In practice FSCS-Sofia has not executed payments of project funds directly to EFA since both entities use the funds already accumulated in state (MAF) budget.

Project financial reporting was implemented by Project Financial Assistant based on accounting information and copies of all project related spending documents provided by project beneficiaries. Financial tables were filled by Project Financial Assistant in cooperation with the accountants of all project beneficiaries. Filled tables are reviewed on staff meetings, discussed and if necessary changed or updated. Prior to their signing and submission to EC with official reports the final versions of financial tables were reviewed by the Director of FSCS-Sofia, Project Director and management of associated project beneficiaries.

Annexes to project Partnership agreements were signed by all project beneficiaries in 2014 in order to include some missing budget costs/items (i.e. overhead, etc.). Copies of these annexes are provided in Annex 7.1.

6.4. Auditor's report/declaration

The developed auditor's report by project auditor Mrs. Sevdalina Paskaleva follows the format of the standard audit report form and is provided in Annex 8. Detailed information regarding the implementation of project Action E.4 Audit is provided in section 5.1 above.

6.5 Summary of costs per action

The table bellow presenting the allocation of the costs incurred per action (by cost categories) is also provided in Annex 8 both in paper and Excel format.

Action No	Short name of action	1. Personnel	2. Travel and subsistence	3. External assistance	4.a Infrastructure	4.b Equipment	4.c Prototype	5. Purchase or lease of land	6. Consumables	7. Other costs	TOTAL
A.1	Threats & risks	0,00	0,00	2 965,54	0,00	0,00	0,00	0,00	0,00	0,00	2 965,54
A.2	Tech Doc Premis.	0,00	0,00	11 692,21	0,00	0,00	0,00	0,00	0,00	0,00	11 692,21
A.3	Tech Doc Equip	240,00	0,00	409,04	0,00	0,00	0,00	0,00	0,00	0,00	649,04
A.4	Rest Prog&Plans	0,00	0,00	3 061,05	0,00	0,00	0,00	0,00	0,00	0,00	3 061,05
C.1.1	Renov shed	0,00	0,00	1 472,54	68 993,51	0,00	0,00	0,00	0,00	714,39	71 180,44
C.1.2	Refr. Chambers	0,00	11,85	46,02	0,00	25 294,00	0,00	0,00	0,00	0,00	25 351,86
C.1.3	Lab equipment	0,00	16,68	0,00	0,00	19 537,32	0,00	0,00	4 618,77	0,00	24 172,77
C.1.4	Greenhouse	0,00	0,00	0,00	14 391,20	0,00	0,00	0,00	224,97	0,00	14 616,17
C.1.5	Office equip	0,00	0,00	0,00	0,00	4 214,87	0,00	0,00	0,00	173,84	4 388,72
C.1.6	Orchard	3 958,22	169,02	0,00	1 791,59	1 819,82	0,00	0,00	384,32	0,00	8 122,97
C.1.7	Manag arrang	3 000,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	3 000,00
C.2.1	Select sources	10 179,02	1 994,59	0,00	0,00	1 737,22	0,00	0,00	116,57	0,00	14 027,40
C.2.2	Collection	8 019,93	2 714,52	7 833,32	0,00	0,00	0,00	0,00	18,90	0,00	18 586,66
C.3	Prod seedlings	25 577,12	848,43	178,95	0,00	0,00	0,00	0,00	4 669,95	0,00	31 274,46
C.4	Pilot restor.	0,00	1 283,14	132 121,43	0,00	0,00	0,00	0,00	496,32	92,03	133 992,92
D.1	Workshops	1 979,97	127,82	0,00	0,00	0,00	0,00	0,00	0,00	4 349,90	6 457,69
D.2	Guidelines	797,63	0,00	0,00	0,00	0,00	0,00	0,00	0,00	401,88	1 199,51
D.3	Film	0,00	0,00	7 464,97	0,00	0,00	0,00	0,00	0,00	0,00	7 464,97
D.4	Press conf & med	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	167,33	167,33
D.5	Web page	0,00	0,00	1 687,29	0,00	0,00	0,00	0,00	0,00	0,00	1 687,29
D.6	Leaflet	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	300,64	300,64
D.7	Notice boards	0,00	0,00	0,00	1 389,07	0,00	0,00	0,00	0,00	25,77	1 414,84
D.8	Layman's report	0,00	0,00	570,61	0,00	0,00	0,00	0,00	0,00	0,00	570,61
E.1	Project management	159 627,35	2 591,83	0,00	0,00	0,00	0,00	0,00	0,00	0,00	162 219,18
E.2	Monitoring	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
E.3	Networking	0,00	750,48	0,00	0,00	0,00	0,00	0,00	0,00	0,00	750,48
E.4	Audit	0,00	0,00	6 544,63	0,00	0,00	0,00	0,00	0,00	0,00	6 544,63
E.5	After Life plan	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Overhead											15 657,52
	TOTAL	213 379,24	10 508,36	176 047,60	86 565,37	52 603,23	0,00	0,00	10 529,80	6 225,78	571 516,90

Summarized comparison (balance) of actual project spending by action and the summary of costs per action set out in the grant agreement (form FB) including underspending and overspending is presented in the table below.

Action number	Short name of action	Foreseen costs	Incurred costs	Balance +	Balance -	%
A.1	Threats & risks	3000	2965,54	34,46		98,85
A.2	Tech Doc Premis.	12000	11692,21	307,79		97,44
A.3	Tech Doc Equip	1240	649,04	590,96		52,34
A.4	Rest Prog&Plans	3000	3061,05		-61,05	102,03
C.1.1	Renov shed	59000	71180,44		-12180,44	120,64
C.1.2	Refr. Chambers	27000	25351,86	1648,14		93,90
C.1.3	Lab equipment	25800	24172,77	1627,23		93,69
C.1.4	Greenhouse	20600	14616,17	5983,83		70,95
C.1.5	Office equip	5200	4388,72	811,28		84,40
C.1.6	Orchard	5600	8122,97		-2522,97	145,05
C.1.7	Manag arrang	3000	3000,00	0,00		100,00
C.2.1	Select sources	25380	14027,40	11352,60		55,27
C.2.2	Collection	26810	18586,66	8223,34		69,33
C.3	Prod seedlings	10600	31274,46		-20674,46	295,04
C.4	Pilot restor.	140000	133992,92	6007,08		95,71
D.1	Workshops	8640	6457,69	2182,31		74,74
D.2	Guidelines	1700	1199,51	500,49		70,56
D.3	Film	7500	7464,97	35,03		99,53
D.4	Press conf & med	200	167,33	32,67		83,66
D.5	Web page	1700	1687,29	12,71		99,25
D.6	Leaflet	300	300,64		-0,64	100,21
D.7	Notice boards	1400	1414,84		-14,84	101,06
D.8	Layman report	100	570,61	-470,61		570,61
E.1	Proj management	164192	162219,18	1972,82		98,80
E.2	Monitoring	0	0,00			
E.3	Networking	640	750,48		-110,48	117,26
E.4	Audit	7000	6544,63	455,37		93,49
E.5	After Life plan	0	0,00			
TOTAL		561602,00	555859,38	41307,50	-35564,88	5742,62

Foreseen costs for Action A.1 were € 3 000, € 2 965.54 was spent under the signed contract. Based on the achieved progress we believe that the costs are proportional to action results.

Foreseen costs for Action A.2 were € 12 000, € 11 692.21 was spent under the project.

Foreseen costs for Action A.3 were € 1 240, € 649.04 was spent under the signed contract. Based on the achieved progress and the saving from originally planned costs (nearly 50% underspending) we believe that the costs are proportional to action results.

Foreseen costs for Action A.4 were € 3 000, € 3 061.05 was spent under the project. The overspending is due to unforeseen taxes for the approval of technological plans by the

Regional Forestry Directorate – Sofia.

Foreseen costs for Action C.1.1 were € 59 000 and a total of € 71 180.44 was spent under the signed contract. For the successful action implementation we had to make an overspending of € 12 180.44. Our expenses exceeded the planned amount in the project budget due to the following facts:

- 1) In project budget we did not foresee costs for repair of the existing steel construction of the shed renovated for the gene bank. However in the process of technical documentation development contracted engineers have identified the need of such repair and we were obliged to incur additional costs on it.
- 2) In project budget we did not foresee costs for the construction of septic pit for gene bank sewage waters since we were not aware that the existing building was not connected to the main sewerage. However in the process of technical documentation development (Action A.2) and respective approval by municipality authorities we were obliged to construct such pit and to incur respective unforeseen costs.
- 3) In the process of action implementation we were also obliged to comply with municipality fire precaution requirements and to construct additional elements (i.e. water supply shaft, etc.) that were not foreseen in project application/budget.

Foreseen costs for Action C.1.2 in project budget were € 27 000, a total of € 25 351.86 was spent within project timeframe.

Foreseen costs for Action C.1.3 in project budget are € 25 800 and a total of € 24 172.77 was spent within the project timeframe.

Foreseen costs for Action C.1.4 in project budget are € 20 600 and a total of € 14 616.17 was spent within the project timeframe. In the process of greenhouse operation we have incurred expenses for consumables, containers, geo-textile, compost, etc. necessary for the process of seedling production in the greenhouse but not foreseen in project budget. These costs are reported in the financial part under the categories “other costs” and “consumables” as unforeseen costs.

Foreseen costs for Action C.1.5 in project budget are € 5 200, a total of € 4 388.72 was spent within project timeframe.

Foreseen costs for Action C.1.6 in project budget are € 5 600 and a total of € 8 122.97 was spent within project timeframe. The incurred overspending is due to several factors:

- 1) The need to replace the seedlings destroyed by hailstorm in April 2014;
- 2) The need to undertake unforeseen leveling and ploughing operations necessary for the establishment of the generative garden at Lokorsko nursery;
- 3) The need to install an unforeseen automated drip irrigation system at the orchard.

Foreseen costs for Action C.1.7 in project budget were € 3 000 and a total of € 3 000 was spent until project end.

Foreseen costs for Action C.2.1 in project budget were € 25 380, a total of € 14 027.40 was spent until project end. The significant underspending is due to the fact that the incurred costs for travel related to the monitoring visits of project team under the action are much less than planned in project budget.

Foreseen costs for Action C.2.2 in project budget were € 26 810 and a total of € 18 586.66 was spent until project end. The underspending is due to the fact that the incurred costs for

travel related to the monitoring visits of project team under the action are much less than planned in project budget.

Foreseen costs for Action C.3 in project budget were € 10 600 and a total of € 31 274.46 was spent within project timeframe. The serious overspending is due to the following reasons:

1. The actual number of produced seedlings (254 140) is much higher than originally planned in project proposal (120 000);
2. After the submission of project application in 2010, SFU-Sofia stopped all production works at the Lokorsko nursery and the project had to cover all nursery operational and running costs (i.e. workers, electricity, and water supply) that were not foreseen in project budget;
3. Based on above we had to ensure enough workers to cover all aspects of seedling production in the nursery but the costs for nursery workers originally planned in project budget proved to be insufficient.
4. In project proposal/ budget we did not foresee running costs for nursery consumables and materials (i.e. chemicals, fertilizers, tools, gloves, hoses, compost, cover for seedlings, etc.).

Based on the achieved action results and provided input for the implementation of other project actions we believe that the costs are proportional to action results despite the fact that real costs are much higher than initially planned.

Foreseen costs for Action C.4 (including all 3 sub-actions) in project budget were € 140 000 and a total of € 133 992.92 was spent until project end. The reason for the underspending are related to the fact that actual prices of restoration and cultivation works were lower than planned in project proposal.

Foreseen costs for Action D.1 in project budget are € 8640 and a total of € 6457.69 was spent within project timeframe. The under spending is due to lower actual costs for workshop organization (i.e. travel, catering, materials, etc.) than initially planned. Based on the achieved progress we believe that the costs are proportional to action results.

Foreseen costs for Action D.2 in project budget were € 1 700 and a total of € 1 199.51 was spent under the project. The underspending is due to lower actual costs for printing of the guidelines booklet than originally planned in project budget. Based on the achieved progress we believe that the costs are proportional to action results.

Foreseen costs for Action D.3 in project budget were € 7500 and a total of € 7464.97 was spent within the project timeframe.

Foreseen costs for Action D.4 in project budget were € 200 and a total of € 167.33 was spent within project timeframe. Based on the achieved media coverage and publicity we believe that action results are proportional to action costs and that set action objectives were achieved within project lifespan.

Foreseen costs for Action D.5 in project budget were € 1 700 and a total of € 1 687.29 was spent within project timeframe.

Foreseen costs for Action D.6 in project budget were € 300, a total of € 300.64 was spent during the reporting period and no further spending is planned until project end. Based on the achieved results we believe that action objectives were fully achieved and action results are proportional to incurred costs.

Foreseen costs for Action D.7 in project budget were € 1 400, a total of € 1 414.84 was spent

during project lifespan. Based on the achieved progress and respective results we believe that action implementation was cost effective.

Foreseen costs for Action D.8 in project budget were € 100 and a total € 570.61 of was spent within project lifespan. The incurred overspending is due to the fact that in project budget we have foreseen costs only for translation of report texts but project team decided to contract printing house for professional design and printing of project Layman's report in the form of a bilingual booklet (300 copies).

Foreseen costs for Action E.1 in project budget are € 164 192 and a total of € 162 219.18 was spent within project lifespan. Underspending is related to the fact that project staff members from EFA were appointed 6 months after project start and there legal limitations to the time they can spend working under the project (i.e. the 2% rule/limitation for project salaries of state officials).

No costs were planned in project budget for Action E.2 and respectively no costs were incurred during project lifespan for the implementation of this action.

Foreseen costs for Action E.3 in project budget were € 640 and a total of € 750.48 was spent within project timeframe. The incurred overspending is due to unplanned visit to Greece for the participation in the international conference organized by VERENIKE LIFE project.

Foreseen costs for Action E.4 in project budget are € 7 000 and a total of € 6 544.63 was spent under the signed contract under the project.

No costs were planned in project budget for Action E.5 and respectively no costs were incurred during project lifespan for the implementation of this action.

Based on the overall percentage of project spending and the achieved project results as well as the conclusions in the developed audit report for the project by the hired external auditor we believe that the project was implemented in a successful and cost effective way.

7. List of Annexes

7.1 Administrative annexes

Annexes to Partnership agreements signed in 2014 (Partnership agreements were provided to EC with project Inception report in May 2012)

7.2 Technical annexes

- 7.2.1 List of keywords and abbreviations used
- 7.2.2 Technical documentation for reconstruction of gene bank premises
- 7.2.3 Technical documentation for purchase of equipment for the gene bank
- 7.2.4 Restoration program and technological plans for pilot restoration of priority forest habitats
- 7.2.5 Act for state property of project gene bank building
- 7.2.6 Technical protocols related to the installation and operation of gene bank refrigeration chambers
- 7.2.7 Copies of FSCS-Sofia inventory books including lists and technical specifications of all developed infrastructure and purchased equipment under the project
- 7.2.8 Technical documentation related to the construction and operation of project greenhouse
- 7.2.9 Copies of hand-over protocols from associated beneficiaries to FSCS-Sofia for office equipment, infrastructure and information materials produced under the project
- 7.2.10 Technical documentation related to the establishment of project seed production orchard
- 7.2.11 Expert report with developed management arrangements for project gene bank
- 7.2.12 Documentation (i.e. tables, protocols) for collected seeds under the project
- 7.2.13 Technical documentation related to production of project seedlings
- 7.2.14 Copies of protocols for completed reforestation works under the project; Long term agreement with SFU Sofia for management of restored habitats
- 7.2.15 After-LIFE Conservation Plan
- 7.2.16 Protocols of held sessions of Project Steering Committee

7.3 Dissemination annexes

- 7.3.1 Layman's report
- 7.3.2 Copies of individual agenda and list of participants from all project workshops
- 7.3.3 Other dissemination annexes
 - Project leaflet;
 - Booklet with guidelines for habitat management;

- CD with project photographs;
- CD with project film;
- Program of BNT 2 including reference to broadcasted project film;
- Media coverage of project events: copies of Gora magazine issues with information regarding the project, established gene bank and the developed guidelines for habitat management, broadcasting program of BNT2, etc.
- Project T-shirt.

7.4 Final table of indicators

8. Financial report and annexes:

- "Standard Payment Request and Beneficiary's Certificate" - duly signed original
- Signed originals of the "Beneficiary's Certificate for Nature Projects"
- "Consolidated Cost Statement for the Project" - originals signed by beneficiaries
- Signed originals of "Financial Statement of the Individual Beneficiary" for each project beneficiary
- Auditor's report using the standard reporting format
- Summary of costs per action