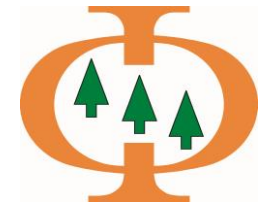




Project Partners



Deliverable: After-LIFE Conservation Plan

Action F.4: After-LIFE Conservation Plan

LIFE13/NAT/CY/000176 "Improving lowland forest habitats for Birds in Cyprus"

Konstantinos Dimitrakopoulos, Department of Forests

Nicosia, November 2017

ACTION F.4

AFTER-LIFE CONSERVATION PLAN

DELIVERABLE: After-LIFE Conservation Plan

LIFE-FORBIRDS: Improving lowland forest habitats for Birds in Cyprus

Project Data

Project location	Kavo Gkreko (CY3000005), Koshi - Pallourokampos (CY6000009), Stavrovouni – Potamos Panagias Stazousas (CY6000007)
Project start date:	01/10/2014
Project end date:	31/12/2017
Total budget	978.718 €
EC contribution:	489.359 € (50%)
(%) of eligible costs	100%

Beneficiary Data

Name of Beneficiary	Department of Forests, Ministry of Agriculture, Rural Development and Environment
Contact person	Mr Takis Tsintides
Postal address	Louki Akrita 26, 1414, Nicosia, Cyprus
Telephone	+357 22805501, +357 99 432686
Fax:	+357 22805542
E-mail	ttsintides@fd.moa.gov.cy
Project Website	http://www.lifeforbirds.eu

Beneficiary responsible for implementation:

Department of Forests



with the support of all consortium members

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1. Preface

This document titled “*After-LIFE Conservation Plan*” constitutes a deliverable of the LIFE – Nature project “Improving lowland forest habitats for birds in Cyprus” (Acronym: LIFE-FORBIRDS; Project code: LIFE 13 NAT/CY/000176). The “*After-LIFE Conservation Plan*” is based on the relevant requirements foreseen by the European Commission and the project’s proposal. It is largely based on actions drawn from the action scheme followed throughout the project, and maps future conservation and management needs.

The scope of this plan is to set out how the aforementioned Action Plan (prepared during the LIFE-FORBIRDS project) will continue to be implemented in order to ensure the continuation of the conservation efforts targeting the avifauna of the 3 project sites, safeguard the integrity and longevity of the infrastructures created throughout the project’s duration, and retain public awareness towards bird crime. In addition, this deliverable provides the cost of each activity and defines who is responsible for implementing each action.

It is envisaged that, if put side-by-side with the project’s final report, this text will illustrate the dedication of the Coordinating Beneficiary of the project; i.e. the Department of Forests, as well as the rest of the Associated Beneficiaries in addressing the future needs and in providing their support to all valid future efforts.

2. Introduction

The LIFE-FORBIRDS project (LIFE 13 NAT/CY/000176) was implemented between October 2014 and December 2017, and was co-funded (by 50%) by the European Commission under the framework of the LIFE+ programme. It was carried out by the following consortium:

- Two public bodies; i.e. the **Department of Forests** (DF), belonging to the Ministry of Agriculture, Rural Development and Environment, which is the competent authority of the Republic of Cyprus for forest management, and the **Game and Fauna Service** (GFS), belonging to the Ministry of Interior, which is the competent authority responsible for the protection of all wild birds and their Special Protection Areas (SPAs).
- One university: The **Frederick University** and its Nature Conservation Unit, actively involved in several biodiversity conservation projects.
- One non-governmental organization (NGO): The **Cyprus Forest Association** (CFA), an active NGO, involved in several LIFE projects (past and on-going).

The **major objectives** of the project were (a) to implement conservation/management measures that will substantially improve ecological conditions for selected bird species listed in Annex I of the Birds Directive occurring in the Natura 2000 (SPA) sites Kavο Gkreko (CY3000005), Koshi – Pallourokampos (CY6000009) and Stavrovouni – Potamos Panagias Stazousas (CY6000007), (b) to demonstrate to the Cypriot foresters and other stakeholders, the benefits of adopting a more holistic forest management approach that will address the needs of birds dwelling in or visiting the forest, and (c) to contribute towards, enhancement of public awareness on the need to conserve wild birds and combating bird crime within the broader project area.

The **specific objectives** of the project were:

- To improve food availability in the project sites, in terms of quantity, quality and diversity.
- To improve permanently water availability during the long dry period.
- To improve nesting conditions in the sites.
- To reduce human disturbance through enhanced awareness and limiting access in sensitive areas.
- To restore bird habitats in the sites.
- To introduce management practices that favor birds in routine forest management in Cyprus.
- To contribute toward combating bird crime through strict enforcement of legislation and implementation of an effective communication campaign.
- To improve public awareness on the need to conserve bird populations, the value of Natura 2000 network and the importance of the contribution of the LIFE financial instrument towards nature conservation.

In order to achieve the aforementioned goals four main categories of actions were foreseen in the project proposal:

- **Preparatory actions**, which were fundamental for accumulating the necessary field data for the implementation of the conservation actions and assessing the initial avifauna status of the 3 SPAs.
- **Conservation actions**, which were the project's core actions and contributed to the project's primary aim. Through these actions infrastructures that improve water, food and nesting conditions for the birds of the 3 SPAs were created. Restoration of natural habitats took place by removing invasive alien species (IAS) and replacing them with native ones. In addition, bird poaching inside the project areas was addressed with specific measures, and the foundations for the dissemination campaign targeting bird crime were established through a communication strategy plan.
- **Dissemination actions** which focused on: a) raising public awareness on the implications of bird crime (especially younger ages; i.e. elementary students of the local communities), and b) providing ample evidence to stakeholders (especially DF employees & Cypriot foresters) regarding the benefits of adapting a more holistic approach in forest management that favors bird populations, via the presentation of the project's results.
- **Monitoring actions** aiming at assessing the effectiveness of the concrete conservation and the dissemination actions of the project, quantifying their impact on the environment as well as on the local communities, and detecting project strengths and weaknesses.
- **Management actions**, which facilitated the coordination and cooperation among the beneficiaries, the involvement of the Scientific Committee of the project in the design of the latter's actions, and the successful networking establishment with other similar LIFE and/or non-LIFE European projects, that allowed knowledge and experience exchange in relevant project topics.

For more information on the actions and the development of LIFE-FORBIRDS, including photos, documented progress and a list of deliverables, please visit the respective website: www.lifeforbirds.eu and the Project's Facebook group [page](#)

3. Strengths, Weaknesses, Opportunities and Threats analysis

A Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis was used in order to facilitate an assessment of LIFE-FORBIRDS at the end of its duration, and to help identify future aims and objectives involved in the project venture through this deliverable. It aims to identify the key internal and external factors affecting lowland forest habitats in Cyprus and consequently birdlife, the Cypriot foresters' opinion regarding the role of the avifauna within the forests, and finally, the general public's opinion regarding bird trapping. Thus, the SWOT analysis illustrates the effort put on during the project's implementation, enables the evaluation of gained experience, as well as the direction of the future tasks that need to be implemented. The basic results that derive from this analysis are presented below in Table 1.

Table 1: SWOT analysis of the LIFE-FORBIRDS project

Helpful towards achieving project's goals	Harmful towards achieving project's goals
1. Strengths	1. Weaknesses
<ul style="list-style-type: none"> • Detailed mapping of infrastructures targeting the avifauna of 3 SPAs • Detailed mapping of the Invasive Alien Species (IAS) in 2 SPAs • Elaboration of a detailed management plan for "Koshi – Pallourokampos" SPA • Detailed mapping of habitat types for the above SPA • Estimation of the Favorable Reference Values (FRVs) for all bird species dwelling within 3 SPAs, and revision of the respective Standard Data Forms (SDFs) • Implementation of <i>in situ</i> conservation measures for the avifauna of 3 SPAs • Replicating the aforementioned measures to other lowland forest sites in Cyprus • Reduction of poaching related activities within the 3 project SPAs • Increased level of public awareness (especially elementary students) due to the project's dissemination campaign • Networking with other EU projects, thus enabling the establishment and communication of a knowledge base for developing <i>in situ</i> conservation measures that favor avifauna in lowland forest habitats • Staff specialized in bird life conservation • Skilled consortium (governmental bodies, universities, NGO) 	<ul style="list-style-type: none"> • Insufficient stakeholder (local communities, NGOs) involvement due to the short life-span of the project • Uninformed stakeholders (hunters) on environmental related issues • Uninformed stakeholders (DF employees) regarding holistic approaches in forest management (especially targeting bird life) • Uninformed public on bird trapping implications • Uninformed public on the LIFE+ programme • Unsatisfactory involvement of the local authorities in safekeeping the infrastructures created by the project

2. Opportunities	2. Threats
<ul style="list-style-type: none"> • Increasing environmental consciousness (especially in topics regarding birdlife and implications of bird crime) in young ages through the dissemination campaign of the project • Increasing <i>in situ</i> conservation of several endemic bird species of Cyprus through the operation of the project's infrastructures • Utilization of the experience gained by DF staff, and replicating C.1, C.2, C.3 actions to other locations/projects • Reaching hunters associations for disseminating project results 	<ul style="list-style-type: none"> • Possible restrictions or limitations for sufficient financing of proposed follow up actions • Vandalism of infrastructures, especially from hunters and poachers • Wild fires during summer months, especially in Potamos Panagias Stazousas SPA • Rehabilitation of the restored habitats by IAS from surrounding areas • Climate change further exacerbating drought conditions in Koshi – Pallourokampos and Kavogkreko SPAs • Touristic development of Ag. Napa and Paralimni municipalities deteriorating natural habitats for birds at Kavogkreko SPA

4. Objectives and methodology

The objective of the *After-LIFE Conservation Plan* is to ensure the durability of the project results and to describe how this will be assured. More specifically, to describe how the beneficiaries plan to continue the completed project actions (mainly the conservation, information and awareness actions, together with monitoring and management actions). The time span of these actions as described in the plan varies between three and five years after the end of the project, even though many of them fall under the duties of DF and GFS, thus they will continue in the foreseeable future. Although the *After-LIFE Plan* will be implemented by all beneficiaries, the key role will be assigned to the DF as the competent authority for the management of forest ecosystems in Cyprus. As for the funding sources of the *After-LIFE Plan*, each beneficiary's budget will be financially burdened, but additional funding sources i.e. crowdfunding, stakeholders, sponsors etc. will be explored as well.

The "*After-LIFE Conservation Plan*" illustrates:

- The foreseen *After-LIFE Plan* actions
- The beneficiary who is responsible for the implementation of each action
- The timeline for the implementation of each action

All efforts and actions performed following the project's completion should be solid and responsible, as were all activities during the project's implementation phase. In total, the "*After-LIFE Conservation Plan*" consists of three parts:

- Administrative
- Monitoring
- Dissemination and public awareness

4.1 Administrative part

Throughout LIFE-FORBIRDS implementation, the most sustainable practices have been acknowledged, and they will form the basis for preserving the beneficial project results in the future. The following planned administration activities will ensure the longevity of the project outcomes, and allocate resources that are necessary for the effective implementation of the *After-LIFE Plan*:

- I. Coordination and Management of the After-LIFE activities: The timely implementation of *After-LIFE* activities requires proper coordination, management and monitoring. **DF** undertook the role of the Coordinating Beneficiary during LIFE-FORBIRDS implementation, and will undertake the coordination and management during the *After-LIFE* period.

Responsible Beneficiary: **DF**

Timeline: **Implementation for five years**

- II. Enforcement continuation of the existing legal framework for the project sites, namely the Nature and Wildlife Protection and Management Law, 2003 (N. 153(I)2003), the Birds Directive 2009/147/EC and the Forest Law and Regulations, 2012. Compliance of the *After-LIFE* actions to the existing management plans of the respective 3 SPA sites of the project, namely CY3000005, CY6000007 and CY6000009. **GFS & DF** as the national competent authorities responsible for the sites, will take over this action.

Responsible Beneficiaries: **GFS and DF**

Timeline: **Annually**

- III. Management of the project's infrastructures and restored habitat types: During the project's implementation various infrastructures were created. These include traditional agricultural fields (TAFs), cereal/legume fields, water tanks, dry stone walls, artificial nests, water related infrastructures, restriction barriers, warning/information signs, and information kiosks. In addition, several hectares of natural habitat types were restored via removal of IAS. The aforementioned infrastructures and reforestations will be maintained, repaired and replaced as needed. The **DF** is the responsible beneficiary for this action.

Responsible Beneficiary: **DF**

Timeline: **Implementation for five years**

- IV. Replication of project's concrete actions to other lowland forest habitats in Cyprus: The knowledge acquired and the experience gained within the project's duration, are due to contribute towards future efforts aiming at

incorporating forest practices that benefit the avifauna of lowland forest habitats. Up to now, several concrete actions that the project demonstrated have already been replicated by DF in other state forest areas: water guzzler installations at Akamas and Rizoelia National Forest Park, creation of water ponds in Pafos forest, Adelfoi forest & Athalassa National Forest Park, nest box installations and water points creation in Akamas and Solea valley, and creation of small TAFs within the burned area of Solea valley to name a few. Similar activities will be carried out in the future in other state forest areas to promote the wellbeing of the Cyprus avifauna. The **DF** is the responsible beneficiary for implementing this action.

Responsible Beneficiary: **DF**

Timeline: **Implementation for five years**

4.2 Monitoring part

The implementation of specific monitoring and management measures will secure and further improve the conditions that favor the avifauna of the 3 SPA sites. The monitoring and management measures listed below, contribute towards the sustainability of the lowland habitats of the project sites' in the long term:

- I. Evaluation of the implementation of the management plan for “Koshi – Pallourokampos” SPA: The detailed plan developed for “Koshi – Pallourokampos” project site within the project’s framework was approved and became operational and will be carried on, so as to preserve the avifauna status as it is defined within this plan. **DF** and **GFS** are the responsible beneficiaries for this action.

Responsible Beneficiaries: **DF & GFS**

Timeline: **Every five years**

- II. Long-term monitoring of the conservation actions’ impact on the avifauna of the 3 SPA sites: The continuation of Action D.1 (monitoring the conservation actions’ impact) of the project is of crucial importance, since LIFE-FORBIRDS applied pilot actions that require recurrent evaluation. Potential actions include: a) visits to the TAFs and the rest infrastructures utilized by birds (cereal/legume fields, nests, guzzlers, water points etc.), so as to estimate any fluctuations in species numbers, b) visits to the areas where the IAS were removed to check for resprouting and vitality status, c) keep a track on bird crime related incidents within the 3 SPAS, so as to monitor any significant increase in numbers. **DF** and **GFS** are the responsible beneficiaries for implementing the aforementioned action.

Responsible Beneficiaries: **DF & GFS**

Timeline: **Implementation for five years**

4.3 Dissemination and public awareness part

The propagation of projects results to the general public will increase its awareness on: a) the importance of the Cyprus avifauna and the negative implications of bird trapping, b) the benefits of adapting a more holistic approach in forest management, incorporating management measures that favor birds, and c) on the EU's nature and biodiversity policy and its supporting financial instrument; i.e. the LIFE programme. The LIFE-FORBIRDS project adopted this approach through numerous activities in this direction, such as: printing of information material and distributing it to several target groups, organizing various stakeholder workshops and participating with posters in 2 conferences, publishing articles in local newspapers/magazines and online, posting highway billboards, participating in public events, etc. Moreover, the project reached several elementary schools of the study areas and incorporated them in several activities. Both dissemination and public awareness activities will be implemented during the *After-LIFE* period, through:

- I. ***Public information:*** Dissemination of the project's objectives and results will continue to be carried out through the project's website (www.lifeforbirds.eu) and Facebook Group [page](#). The two dissemination pages have been operating since the first operating months of the project (March, 2015) and have been constantly updated. These pages will keep operating for at least another five years (following the LIFE+ programme completion) and will provide a significant dissemination tool for the project's results and deliverables. The **FU** is the responsible beneficiary for this action.

Responsible Beneficiary: FU

Timeline: Implementation for five years

- II. ***Environmental education:*** A LIFE-FORBIRDS achievement was increasing the awareness of elementary students of the local communities of the project areas regarding bird life. Through Action E.1 (information & awareness campaign) numerous activities involving school children were carried out, such as lecturing at elementary schools, field visits of students at the project's infrastructures, and bird watching competitions to name a few. During the project's implementation timeframe, a significant number of schools visited the Kavo Gkreko Environmental Education Centre (KGEEC), where they attended small lectures for the birds of the area and the negative effects of bird trapping, watched the project's documentary, and visited the nearby TAF.

KGEEC facilities (operated by DF) are utilized by the Ministry of Education and Culture for the official Environmental Education Programme for students of primary education. Screening of the project's documentary, as well as visits to

the TAF of the project will continue to be carried out as part of the aforementioned Programme.

In addition, the Game and Fauna Service officers annually visit several elementary and high schools as part of the Service's awareness campaign. Lecturing students about bird life and bird trapping will continue to be carried out, as part of GFSs' operation schedule.

The **DF and GFS** are the beneficiaries that will undertake the implementation of this action.

Responsible Beneficiaries: DF & GFS

Timeline: Annually

- III. Public awareness: Through action E.1 of the project, 3 posters, 4 leaflets, 2 newsletters, notebooks, stickers and a Layman's report were published. Several hundred of the above were distributed throughout the project's duration. All of them contributed on raising the awareness of the general public regarding the negative implications of bird trapping on the avifauna of the island, and promoting the project's results. This information material will continue to be available for the general public at the Environmental Education Centres of Kavο Gkreko and Athalassa, and will be reprinted as needed. In addition, these publications will continue to be distributed in future public events that the project will be represented. Both **DF & CFA** are the responsible beneficiaries for implementing this action.

Responsible Beneficiaries: DF & CFA

Timeline: Implementation for five years

- IV. Stakeholder awareness: A goal of the project was to educate stakeholders (in particular DF employees and Cypriot foresters) regarding the benefits of adopting a holistic forest management approach, incorporating measures that favor the avifauna. The promotion of project results in various workshops served this cause, and will continue to do so via the participation of the project in events of other ongoing projects and the dissemination of related material. Both **DF, CFA** and **GFS** are the beneficiaries that will undertake the implementation of this action.

Responsible Beneficiaries: DF, CFA, GFS

Timeline: Implementation for five years

- V. Presentations in scientific conferences: Project results will be further disseminated to the scientific community through the participation of the beneficiaries to scientific conferences. A poster of the project is a commonly used promotion method in such cases. **All project beneficiaries** are responsible for this action.

Responsible Beneficiaries: DF, GFS, FU and CFA

Timeline: At least 1 presentation per beneficiary within a five year period

All the above detailed parts of the *After-LIFE Plan*, along with their responsible beneficiary, implementation timeframe, budget and funding source are listed below in Table 2.

Table 2: Financial outlook of the *After-LIFE* Conservation Plan

<i>After-LIFE</i> Conservation Plan Part	Action	Timeframe	Total Cost (€)	Funding Source	Beneficiary Responsible
Administrative Part	Coordination and management of the <i>After-LIFE</i> activities	5-year period	- Personnel: 5000 - Other costs: 1000	Department of Forests' budget	DF
	Maintenance of TAFs (plants, irrigation system, fencing, water ponds, feeders, nests, dry stone walls, water tanks)	5-year period	- Personnel: 36000 - Other costs: 1500	Department of Forests' budget	DF
	Cultivation of cereal/legume fields	5-year period	- Personnel: 7300 - Other costs: 5000	Department of Forests' budget	DF
	Maintenance of the dry stone walls	5-year period	- Personnel: 25000	Department of Forests' budget	DF
	Maintenance of the artificial nests	5-year period	- Personnel: 7500 - Other costs: 2000	Department of Forests' budget	DF
	Maintenance of the water related infrastructures (weir, water guzzlers, water points)	5-year period	- Personnel: 40000 - Other costs: 7500	Department of Forests' budget	DF
	Monitoring and returning control of IAS	5-year period	- Personnel: 10000 - Other costs: 1000	Department of Forests' budget	DF
	Maintenance of the project reforestations (watering, weeding, brace support, replacing sapling failures)	3-year period	- Personnel: 3000 - Other costs: 6000	Department of Forests' budget	DF

	Maintenance of the bird crime related infrastructures (info/warning signs, restriction barriers)	5-year period	- Personnel: 3500 - Other costs: 3000	Department of Forests' budget	DF
	Patrolling the 3 project SPAs	Annually	- Personnel: 6000 - Other costs: 3000	Game & Fauna Service's budget	GFS
	Maintenance of the dissemination infrastructures (information signs & kiosks)	5-year period	- Personnel: 2500 - Other costs: 3000	Department of Forests' budget	DF
	Update of the existing SDFs (if necessary)	Annually	- Personnel: 500	Game & Fauna Service's budget	GFS
	Replication of project's concrete actions to other lowland forest habitats in Cyprus	5-year period	- Personnel: 5000 - Other costs: 15000	Department of Forests' budget	DF
Monitoring Part	Evaluation of the implementation of Koshi – Pallourokampos SPA management plan	Once every 5-year period	- Personnel: 2000 - Other cost: 500	Each Beneficiary's budget	DF, GFS
	Long-term monitoring of the conservation actions' impact on the avifauna of the 3 SPA sites	5-year period	- Personnel: 5000 - Other cost: 2000	Each Beneficiary's budget	DF, GFS
Dissemination and Public Awareness Part	Hosting service for the project's websites	5-year period	- Personnel: 500 - Other costs: 1000	University's budget	FU
	Environmental education	Annually	- Personnel: 4000 - Other costs: 300	Each Beneficiary's budget	DF, GFS
	Public awareness	5-year period	- Personnel: 2000 - Other costs: 1000	Each Beneficiary's budget	DF, CFA

	Promoting stakeholder awareness via other ongoing projects	5-year period	- Personnel: 3000 - Other costs: 500	Each Beneficiary's budget	DF, CFA, GFS
	Poster presentation in scientific conferences	At least 1 presentation per beneficiary within a five year period	- Other costs: 300	Each Beneficiary's budget	DF, GFS, FU, CFA

Acknowledgments

This Plan has been prepared based on the relative output of a former LIFE+ project; i.e. **JUNIPERCY – LIFE 10 NAT/CY/000717 - Dimitrakopoulos K., Christodoulou C., Tsintides T. (2015) – After-LIFE Conservation Plan.**