



**LIFE16 NAT/PT/000754**

**1<sup>st</sup> Progress Report<sup>1</sup>**

**Covering the project activities from 01/10/2017 to 31/08/2018**

Reporting Date  
**31/10/2018**

LIFE PROJECT NAME or Acronym



**Data Project**

<b>Project location:</b>	Portugal (Serra da Estrela, Mata da Margarça and Monchique)
<b>Project start date:</b>	01/10/2017
<b>Project end date:</b>	30/09/2022
<b>Total budget:</b>	1,654,899 €
<b>EU contribution:</b>	1,219,078 €
<b>(%) of eligible costs:</b>	73.66 %

**Data Beneficiary**

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## 7. ANNEXES

## 2. List of key-words and abbreviations

**ADRUSE** - Associação de Desenvolvimento Rural da Serra da Estrela

**CICYTEX** - Centro de Investigaciones Científicas Y Tecnológicas de Extremadura

**CMSeia** – Município de Seia

**CMMon** – Município de Monchique

**ECOMED** – Project; “Soil and water bioengineering, Hazard Assessment and Techniques Selection in Mediterranean Environment”

**ICNF** - Instituto da Conservação da Natureza e das Florestas

**SPECO** - Sociedade Portuguesa de Ecologia

**UÉVORA** – Universidade de Évora

## 3. Executive summary

### 3.1. General progress

The LIFE-RELICT project is in progress and most of its actions are been developed according to schedule and the partnership is well defined and working together well. The project started in October 2017, with the establishment of the working team, signature of **partnership agreements** with the four associated beneficiaries (**ANNEX I. Partnership agreements**), attendance to LIFE kick-off meeting in Brussels, designation of the Steering Comity and selection of the project manager. Also, in the first months, we were able to identify and contact all land-owners from Serra da Estrela areas (only private land), and provide all the 56 long-term commitment letters, making possible the project implementation (see action A1).

As foreseen, during this reporting time, priority was given to preparatory and monitoring actions and to the recollection and propagation of plant material. The update of the reference situation (A1) is almost finished, the Operational Plan is in progress (A2) and we found that *Rhododendron* seeds regeneration in Monchique is quite small, but we are still trying to understand the major factors that determine its presence/absence (A3), in order to optimize future plantations. The first campaign for recollection and propagation of plant material (C1), crucial for planned conservation actions, was implemented. Although the constrains referred bellow, we now have plants to carry out the first plantations. Regarding monitoring we were able to implant and survey all the transects that are going to be the bases for plant monitoring, (D1), in a total of 41 plots. Fauna first monitoring phase was also done (D3). Still, we established the socio-economic indicators that are going to be monitored in the next months (D2) and started to implement TESSA model to evaluate ecosystem services (D3).

During this period, we had to face an important unexpected situation: in October 2017, a fire consumed much of the LIFE area from Açor-Complexo da Margaraça. In consequence, we had to analyse the new situation and redefine local strategy, in order to ensure that the project objectives were achieved, but also that all the interventions were made for the best of the local area (including in soils protection against erosion). To redefine this new strategy, we had the help of ICNF (Mata da Margaraça authority), and bioengineering specialist from the UÉvora and from the ECOMED project. We also asked Dra. Sara Barceló (from the External Monitoring Team) to visit our project in January, in order to advise us in this process. In this report we include a document with the **changes** we propose **to the original project** in order to ensure all project objectives (**ANNEX II. Proposed alterations to the original project**). Those changes comprise the inclusion of a new area in Açor-Complexo da Margaraça with about 2 hectares.

Because of this fire, we anticipated the actions foreseen for Margaraça for the end of 2018. We improved the conservation state of the remaining *Prunus lusitanica* area (2ha, C2) and reduce the fire risk in 3,8 ha (C2 and C7).

Activities related to public awareness and dissemination also started well. The webpage is on-line since Mars 2018, and we have now more than 2000 visits. The first technical journey was done in Margaraça and it was a success (E4), with 35 participants from different entities. Our first seminar will take place on November 15, and we have now more than 100 registrations. It will be done in association with the meeting of SPECO, in order to improve our visibility.

Since the beginning of the project we have been showing the project in several conferences, seminars, reunions and university classes (the majority of them with no cost for Project). We have also made contact with other European projects and with 3 entities (2 from Portugal and 1 from Spain) that want to replicate some of our actions in order to improve habitat quality in their own territories.

All **Deliverables and Milestones** that were due in this reporting time have been completed (**ANNEX III. List of accomplishments in Milestones and deliverables**). The only exceptions were the milestone related to action C6 and to the 1<sup>st</sup> seminar, that was rescheduled to November 15.

### 3.2. Assessment as to whether the project objectives and work plan are still viable

Most of the LIFE-RELICT actions are carried out according to the Time Schedule and will be completed until September 2022. Only sub-action C.7.1 and related action C.6 are delayed. So far, we believe that the project objectives can be reached (with the referred adjustment in Açor- Complexo da Margaraça area) and that the original proposed work plan is viable.

### 3.3. Identified deviations, problems and corrective actions taken in the period

We do not anticipate financial or organisational problems. In the technical point of view, we had a few difficulties in some actions, which are described with detail in the Technical part of this report (point 5). Nevertheless, here we pointed out the biggest problems we faced so far:

- **Action C1.** We had initial difficulties with *Prunus lusitanica* germination, but the problem was identified and will be correct in the 2018/19 campaign. In consequence, we have less plants of this species than we expected. We are doing everything to make sure that we will collect an important amount of seeds this year, in order to compensate this lack. The plantation of this species in 2019 will be limited to the most important territories defined in the operational plan (A2). Also, the plants from *Rhododendron ponticum* are still too small to be planted this year. We think the best strategy will be to delay this plantation to the autumn/winter of 2019/20.
- **Action C2.** Since a large part of the Açor-Complexo da Margaraça burned in 2017, the total remaining area of *Prunus lusitanica* area has been reduced, preventing us from fulfilling the objective of improving 8 ha of this plant community. To get over this question, as mentioned before, we propose the inclusion of a new compensatory area;
- **Action C7.1.** For reasons external to the project, and that we were not able to control, was not possible to recovery and clean the trails in Estrela during the reporting period. This circumstance barred the execution of action C6 and compromises the execution of the other interventions in the area (C2, C5 and C7). However, trails recovery was started in October, and therefore, C6 will be execute in the beginning of 2019, and C2, C5 and C7 will start in the last trimester of 2019.

Despite these problems, we expect to implement the project in the foreseen schedule.

## 4. Administrative part

The Project is being coordinated by the UÉvora under the responsibility of professor Carlos Pinto Gomes. The current project team has been defined in the beginning of the project and partnership agreements signed. The administrative and financial structure from the coordinator beneficiary was also set in October 2017. Formally, the project manager started to work in January. In this reporting period the UÉvora hired, through public calls, two full time grants, as foreseen in the project proposal: Rui Cataño (pós-Doc) and Mauro Raposo (Master). However, Rui Castaño finished is grant in May and we had to launch a new call (to start working in September). In **ANNEX IV. Update organogram**, is present the updated organogram of the project management and execution structure.

Since the beginning of this project, the UÉvora coordination team keeps regular contact with all the beneficiaries, including by regular meetings. These contacts are mostly made by telephone or video-call. The first in-person meeting was done in October 2 (2017), to present team and overall project. A second general meeting was made in Seia, in November 14, where the UÉvora team explained the administrative and financial procedures (including instructions to fill timetables, travel summaries and other reports foreseen), as well as the work plan for the first year. In the end of November, the steering committee was already defined and the first meeting was done in January 24. In July 26, a new general meeting was conducted in the University of Évora focusing on the first progress report and the actions under way (including A2). Several other in-person meetings involving two or three beneficiaries also took place. Those were made mainly to analyse the post-fire situation in Açor area and for Operational Plan (A2). Within the UÉvora team, monthly formally meetings are held to schedule works and discuss project implementation. Within the other beneficiaries, regular meetings take place in order to analyse and define all the tasks related to LIFE-RELICT implementation.

The technical, administrative and financial structure from the UÉvora, gives all the support asked for the other beneficiaries. All documentation is shared between partners using a two shared folders, one for the financial/administrative part, and one for the technical component.

The first visit of our Project monitor, Dra. Sara Barceló, was made in January and was preceded by a letter from EASME, in April 2018. The **LIFE-RELICT answer to this letter** is present in **ANNEX V. Answer to EASME letter**.

## 5. Technical part

### 5.1. Progress per action

#### **A1. Territory characterization update - Collect and complement project crucial data.**

**1. Status:** This action is in progress and been developed as planned, coordinated by the UÉvora.

Foreseen start date: **Oct 2017**  
Foreseen end date: **Dez 2018**

Actual start date: **Oct 2017**  
Actual (or anticipated) end date: **Dez 2018**

**2. Progress:** The first task was to provide landowners long-term commitment letters to ensure the proper project execution. The Land Parcel Identification doesn't exist for this Portuguese territory, so CMSeia, with the help of local Parish Councils and residents, had to map and contact all the 56 landowners from the 61 land parcels identified. This work was already started during project preparation (before application; no costs for Project), but only in October to December 2018 was possible to identify and contact all owners. The project was taken with great satisfaction by the landowners and all the 56 **long-term commitment letters** were provided, making possible the project implementation (**ANNEX VI. A.1 - commitment letters - DELIVERABLE**).

The biophysical characterization of the target territories, other main goal of A1, has been mostly done by Plan2BeCompetitive company (External Assistance). This company was hired just in June, due to normal internal procedures and to changings in contracting legislation adopted in the beginning of 2018. Since then, work has been developed in close collaboration with the UÉvora team, led by Prof. Rute Matos (flora and landscape) and Prof. Pedro Santos (zoology). By the end of July, we were expecting to have all the necessary information in time to be used and included in the Operational Plan (A2).

The socio-economic characterization has been developed by ADRUSE, once they are also working in socioeconomic monitoring (D2). The following equipment necessary to carry out this action was purchased (as projected): UÉvora: one laptop, one personal computer, one GPS.

**3. Problems and delays:** The first problem we had was to identify all landowners, but with the locals help and the work of the CMSeia, this ambitious task was possible. The other major problem we faced was the time required in the contracting process for external assistance. However, with a close collaboration between the UÉvora and the hired company, it was possible to continue the other connected action (A2), even before the final work has been delivered. For example, in August we had access to habitat and land use cartographies to use in A2. For these reason, the initial contracting delay had no consequences in project execution.

**4. Next steps:** We expect that A1 final report and cartographies will be concluded until December 2018, as planned. The produced information is being used in A2.

## **A2. Operational Plan.**

**1. Status:** In Progress and been developed as planned, coordinated by ADRUSE.

Foreseen start date: **Oct 2017**  
Foreseen end date: **Dez 2018**

Actual start date: **Oct 2017**  
Actual (or anticipated) end date: **Dez 2018**

**2. Progress:** The Operational Plan is ongoing since October 2017 and is expected to be finalized in December 2018, as foreseen in the application. This plan implies the involvement and participation of all partners, so every effort has been made to define and formalize, in detail, the procedures to be followed in each of the areas of intervention, taking into account the objectives and outlined actions. In this sense, some work meetings were held on November 2017, February 2018, June 2018 and non-presence, on Mars 2018, whose purpose was to define and prioritize the guidelines of the operational plan namely, the implementation of concrete actions, the methodologies to be adopted, and the specific location of the interventions. The Plan is being made with the information obtained in Actions A1, A3 and D1. Supplementary information: just in September we had the cartographic information and start to define the particularities of the interventions, so this information will be joined to the next report.

**3. Problems and delays:** With regard to problems encountered in carrying out this action, it should be stressed that this depends on the basic information which must be sent by all partners, a situation which has already been taken into account and which will not call into question the deadline for its implementation or will affect other project actions. At this moment (August), we are waiting for necessary information (cartographies, data) and two new working meetings are planned for the month of September (the necessary information was delivered in the end of August and analyzed in September and October). The Operational Plan translates into a dynamic document, the result of teamwork, which will be duly monitored, allowing the necessary adjustments inherent to the project implementation.

**4. Next steps:** Continue with partner's meetings to finalize the Plan in December 2018.

## **A.3 Evaluating the regeneration capacity of *Rhododendron ponticum*.**

**1. Status:** This action is in progress and been developed as planned, coordinated by the UÉvora.

Foreseen start date: **Oct 2017**  
Foreseen end date: **Nov 2018**

Actual start date: **Oct 2017**  
Actual (or anticipated) end date: **Mars 2018**

**2. Progress:** Although the project foresees the execution of A3 through External Assistance, we decided to do it with the UÉvora staff, once the expected time required for the legal hiring process would put at risk its execution, because field work would have to be carried out since the beginning of 2018.

The first task was to prepare the evaluation methodology. The UÉvora team (including the contracted post-doc, Alexandre Castanho), with the support of CICYTEX team, started to read the available literature and define with more detail the fieldwork study. The established protocol includes two steps in

the search of rhododendron's regeneration: 1. a general area exploration; 2. and a more detailed approach inside the installed monitoring plots (D1). For both cases, protocol includes the registry of individual plant height, length and height of its biggest leaves, and local aspect, slope, soil type, % of vascular plant cover, and % of moss. This protocol also includes the GPRS geopositioning of all the individuals and the measurement of local soil water content, using a soil moisture sensor. Both devices were foreseen in the project.

The general exploration was made to understand the global extend of regenerations. The team searched in all accessible areas, in rhododendron's formations and its surroundings. The place was visited in February and in June. The overall assessment was extremely limited by: 1. height and density of local vegetation, in some cases almost impenetrable; 2. the difficulty to distinguish between seminal and vegetative regenerations, without dig up the plants. In the first exploration made in Mars, we were able to locate only 3 seminal regenerations (with more than one year, with 14 to 31cm of height) located in the border of rhododendron's formations. The results obtained from field measures and observations show that all the places were facing W, in a semi shadow position and one of this places was more humid than the general territory (water runoff zone). This first approach made us think that the existing regeneration would be small, confirming what was previously observed for Spain (Mejías *et al.*, 2002). For this reason (lack of regeneration) we chose not to buy the expected Soil moisture sensor, and measure the soil water content in a more traditional way (harvesting, immediate weighing, drying, and second weighing). According to the soil professors we consult, from the UÉvora, this method will be enough for our goal, and so the cost-benefit of buying the device it would be low. In the second exploration made in July we found 33 seminal regenerations distributed in three nearby nuclei. Those were also facing W, in an open area but protected from morning and midday sun. The soil was shallow, but very moisty, due to water runoff. The regenerations had in average 7.5 cm, which made us think that it would be regenerations from this year.

In the second approach we used the 24x1.5 m long plots installed randomly for monitoring (D1). We expected that this approach allowed us for a more detailed search, but the majority of the territory was occupied with spiny shrub formations that difficult the detection of small plants in its interior. After plot installation we looked in detail in all the plot area. We found no rhododendron's regeneration in all the 18 plots installed.

In conclusion, the results obtained so far, indicate that the seminal regeneration of *Rhododendron* is small in Monchique area, and the existing seedlings are present in semi-shadow areas, facing West and in humid soil (see main results in **ANNEX VII. A3 *Rhododendron*' regenerations – first results**).

**3. Problems and delays:** The major problem was the difficulty to detect these small seedlings in a place covered by dense, high, and spiny shrubs. Once a big part of this spiny shrubs will be cut in Next winter, it will be easier for us to confirm the presence, or not, of more regeneration, impossible to detect in this circumstances. **For this reason, we ask for an extension of this action from November 2018 to Mars 2019**, with no extra costs.

**4. Next steps:** In the last trimester of 2018 we will make another exploration, in order to detect the existence of more seedlings and monitoring the ones observed in the February and July. We will conclude the specific report in the next months.

### **C.1. Collection and propagation of plant material.**

**1. Status:** This action is in progress and been developed as planned by CICYTEX, with the help of the UÉvora, CMSeia and CMMonc. The overall progress within each task of C1 action is present in Table 1.

Foreseen start date: **Oct 2017**  
Foreseen end date: **Dez 2021**

Actual start date: **Oct 2017**  
Actual (or anticipated) end date: **Dez 2021**



**Table 1. Overall progress within each task of C1 action.**

<b>TASKS (2017-2021)</b>	<b>Foreseen start</b>	<b>Actual start</b>	<b>Foreseen end</b>	<b>Actual end</b>
Seed collection	Oct 2017	Oct 2017	Dec 2020	Dec 2020
Seed conservation	Dec 2018	Dec 2018	Oct 2021	Oct 2021
Seed germination	Dec 2017	Dec 2017	May 2021	May 2021
Stem Cuttings	Dec 2017	Dec 2017	Nov 2020	Nov 2020
Stem Cuttings rooting	Jan 2018	Feb 2018	Feb 2021	Feb 2021
Plant development	Feb 2018	Feb 2018	Sep 2021	Sep 2021
Plant achievement	Sep 2018	Sep 2018	Nov 2021	Nov 2021
Dissemination	May 2019	Dec 2018	Dec 2021	Dec 2021

**2. Progress:** Within this action, the tasks started in the 2017-2018 campaign were: Seed collection; Seed conservation; Seed germination; Picking of cuttings; Rooting of cuttings; Development of plants; and Obtaining plants.

For C1 implementation, first we had to ask for the ICNF license for recollection and detection of plant material, process launched by the UÉvora (**ANNEX VIII. Progress in Plant propagation (C1):1\_licences**). Then the recollection areas were defined by CICYTEX, UÉvora, CMSeia and CMMon (**ANNEX VIII. Progress in Plant propagation (C1): 2\_procedures; 3\_photos**). Seed recollection started in October 2017. In the 2017-2018 campaign, we were able to collect the following seeds: *Prunus lusitanica* (1782 seeds, from 8 locations); *Quercus broteroana* (300 seeds from 4 locations); *Quercus canariensis*. (400 seeds from 3 locations); *Quercus estremadurensis* (100 seeds from 1 location); *Quercus marianica* (320 seeds from 2 locations); *Quercus pyrenaica* 250 seeds from 2 locations); *Rhododendron ponticum* (3500 seeds from 3 locations). The seeds were collected by CICYTEX, UÉvora and CMSeia, in the surroundings of the area where they will be planted. No external assistance was required for transportation, since it was supported by the Project team. In some cases, we also collected species cuttings in order to ensure that we had plants with adequate development to install in the field. The number of cuttings collected for each species and their percentage of rooting was: *Arbutus unedo* (70 cuttings: 12%); *Phillyrea angustifolia* (60 cuttings: 26%); *Phillyrea media* (40 cuttings: 5%); *Prunus lusitanica* (80 cuttings, 11%); *Viburnum tinus* (50 cuttings: 67%); *Rhamnus alaternus* (450 cuttings: 100%). During this campaign, was not possible to collect seeds of *Acer monspessulanus*, once there were no seeds in the plants visited.

Complementarily, one additional species has been produced: *Quercus occidentalis* (about 230 plants from Monchique). This species was not foreseen in the Project, but its production makes sense, once it's part of the communities to be recovered. The production of these species didn't have any additional costs to project, and have been generated independently.

Also, up to date, we were able to preserve in a germplasm bank (Junta de Extremadura), the following seeds: *Prunus lusitanica* L. (6 locations); *Rhododendron ponticum* L. (3 locations).

At the end of July, we had the following plants: *Arbutus unedo* L. (5); *Phillyrea angustifolia* L. (8); *Phillyrea media* (0); *Prunus lusitanica* (287 from seeds; 8 rom cuttings); *Quercus broteroana* (195 (Julio); *Quercus canariensis* (185); *Quercus estremadurensis* (28); *Quercus marianica* (152); *Quercus pyrenaica* (214); *Quercus occidentalis* (230); *Rhododendron ponticum* (943); *Viburnum tinus* L. (14). The total number of plants to be ready for plantings foreseen in actions C2, C3, C4, C5, and C7, will be known by September 30th, which will be the time to evaluate globally the number of plants available after all the tasks and their problems.

**3. Problems and delays:** Seed collection permits only arrived in February 2018. However, the collection of plant material began in October, otherwise the first year campaign would be impossible to accomplish. These was possible because we had the ICNF support and the indication that we would have access to these permits. The major problem we faced was in seed germination of *Prunus lusitanica*, *Arbutus unedo*, *Phillyrea angustifolia* and *Viburnum tinus*. In the case of *Prunus lusitanica*, for seeds collected directly from the tree, the germination percentage did not exceed 0.5%. In this case, the best results were obtained with seeds collected directly from the soil, with percentages exceeding 30%. The seeds of *Arbutus unedo*, *Phillyrea angustifolia* and *Viburnum tinus* had a similar behavior. This means that a big part of the seeds collected from this species in 2017/2018 didn't develop. This aspect will be correct in the 2018-2019 campaign. In relation to the rooting of cuttings, the first tests carried out in *Arbutus unedo*, *Phillyrea angustifolia* and *Viburnum tinus*, showed a decrease in the degree of rooting in the stems with more than one year, so that the best stakes must proceed of branches of the last year. This aspect will also be correct in the 2018-2019 campaign. Due to this constraint, this in the 2018/19 season we will only plant *Prunus lusitanica* at the priority sites of Estrela (to be defined in the Operational Plan).

Another issue that we had to deal with, was the small development of *Rhododendron ponticum* plants, which at this moment, with less than one-year-old, are too small and may be too sensitive to be planted in the 2018/2019 season. **In this sense, we consider that this species plantation will be better to perform in the 2019-2020 season, in order to ensure more success in their local installation.** In relation to plant development, no other major problems have been observed. There have been occasional limitations in some species due to excessive irrigation, as in *Prunus lusitanica*, and in others because of outside temperature excess, like *Quercus broteroana*. But in all cases the problem has been coped and developments have been optimal.

**4. Next steps:** We planned to restart the recollection campaign in September 2018. We are making local contacts (volunteers to help us), to ensure that we are able to collect a larger quantity of plant material, in order to compensate the problems, we had in the previous year, especially in relation to *Prunus lusitanica*. In this context we already assure some support from volunteers of the local population of Serra da Estrela, to help us in this process. This new material will be propagated. During the next autumn/winter 2018, we will transport the existing plants to the plantation areas.

## C.2. Improving the conservation state of *Prunus lusitanica* areas.

**1. Status:** started by CMSeia with the collaboration of UÉvora. The Overall progress within each sub-action is present in Table 2.

Foreseen start date: **Jan 2018**  
Foreseen end date: **Mar 2022**

Actual start date: **Jan 2018**  
Actual (or anticipated) end date: **Mar 2022**

**Table 2. Overall progress within each sub-action of C2 action.**

\* we didn't mention the foreseen start of C2.1 in the project because we knew that it will depend on the weather

Sub-actions	Foreseen start	Actual start	Foreseen end	Actual end
C2.1	-*	-	Dec 2018	-
C2.2	Oct 2018	Jun 2018	Mar 2022	-
C2.3	Oct 2018	Oct 2018	Mar 2022	-

## **2. Progress:**

### ***C2.1 - Recover the feed flows of *Prunus lusitanica* areas***

Not started. The recovery of the "Levada" (water course built by man around the mountains to take water to the inaccessible agricultural lands) has December of 2018 as foreseen date. The recovery work in the

Levada catchment will start in the week of 15-19 of October, the only part of the Levada that highly dependent on the weather, especially in case of flash floods or by any substantial increase in the river flow. The remainder of the recovery work will be done with manual labor, which still depends on weather, but is independent of the river flow. The foreseen end of the Levada recovery will be the 31 of January of 2019 (1 month after project foreseen date). The intervention was done with the help of external assistance, by CMSeia (with collaboration of UÉvora).

### ***C2.2 - Selective control of vegetation***

Started. This action was not foreseen in the reporting period, but was made as a consequence of the fires in Açor-Complexo da Margaraça. It comprised the selective cut of the heliophilous vegetation in the unburnt site of the project area, in a total surface of 2 ha (**ANNEX IX. Progress in *Prunus lusitanica* areas (C2): 1\_location of intervention area**). We decided to start this work before the foreseen date in order to reduce local fire risk and associate the work execution with the 1<sup>st</sup> technical journey (Action E4), so that the participants could see the results of this management technique. The action was executed by the CMSeia follow-up by the UÉvora (**ANNEX IX. Progress in *Prunus lusitanica* areas (C2): 2\_Photos of C2 intervention**).

**3. Problems and delays:** The delay in the recovery of the "Levada" is justified with the commitment of the work teams in fire surveillance and fire combat tasks to which they are required to comply in the critical period for wild fires, in accordance with the law. The critical period for wild fires will end on the 15th of October, and so the teams will be available and will start the planned work.

**4. Next steps:** Execute the Levada until next January. Start or continue the interventions foreseen in the other sub-actions, including continuation of vegetation selective control and start plantations.

### **C.3. Improving the conservation state of *Rhododendron ponticum* areas.**

**1. Status:** not started

Foreseen start date: **Oct 2018**

### **C.4. Increase *Prunus lusitanica* areas**

**1. Status:** not started

Foreseen start date: **Oct 2018**

### **C.5. Increase *Rhododendron ponticum* areas**

**1. Status:** not started

Foreseen start date: **Oct 2018**

### **C.6. Control of invasive alien species.**

**1. Status:** not started.

Foreseen start date: **Jan 2018**  
Foreseen end date: **Mar 2022**

Actual start date: -  
Actual (or anticipated) end date: **Mar 2022**

**2. Progress:** not started.

**3. Problems and delays:** The first phase in the control of alien invasive species had as foreseen start date January of 2018 and foreseen end date June of 2018. Due to constant delays related to the C7.1 sub-action, we were unable to create proper access to the invasive species control sites. Since that difficulty

has been overtaken, as explained below, in the C7.1 sub-action, the new foreseen start date is expected to be in the 01st of March 2018 and the foreseen date to end Fase I is the 30th of June of 2019.

**4. Next steps:** Implement first phase in the beginning of 2019 and start phase II, if necessary.

## **C7 - Reducing the risk of fire**

**1. Status:** started by CMSeia, with the support of the UÉvora. The Overall progress within each sub-action is present in Table 3.

Foreseen start date: **Jan 2018**  
Foreseen end date: **Mar 2022**

Actual start date: **Apr 2018**  
Actual (or anticipated) end date: **Mar 2022**

Table 3. Overall progress within each sub-action of C7 action.

<b>Sub-actions</b>	<b>Foreseen start</b>	<b>Actual start</b>	<b>Foreseen end</b>	<b>Actual end</b>
C7.1	Jan 2018	-	Dec 2018	-
C7.2	Oct 2018	Apr 2018	Mar 2022	-
C7.3	Oct 2018	-	Mar 2022	-
C7.4	Oct 2018	-	Mar 2022	-
C7.5	Oct 2018	-	Mar 2022	-

## **2. Progress:**

### ***C7.1 - Recovery and cleaning of access roads in the study area***

Not started. Although we made all the effort to put in practice this sub-action it was not possible to start the recovery of the access roads.

### ***C7.2 - Selective control of vegetation.***

Started. This sub-action was foreseen to start just in October 2018, but it was started in Abril 2018 in Açor-Complexo da Margaraça. This was done in 1.8 ha, in the eastern part of the area, were ICNF and LIFE-RELICT team considered to be the most important area for intervention after the fire (**ANNEX X. Progress in fire prevention (C7): 1\_location of intervention area**). This action was done to promote rapid plant growth and regeneration, in order to indorse rapid forest grow (creation of native forests to protect *Prunus lusitânica* remaining areas against fire). Also, the intervention comprised cutting of the burnt trees and shrubs and the creation of cords according to the contour lines, with the aim of reducing erosion and protect soil (**ANNEX X. Progress in fire prevention (C7): 2\_Photos of C7 intervention**).

**3. Problems and delays:** The recovery and cleaning of trails in Estrela (sub-action C7.1) had as foreseen start date January of 2018 and foreseen end date December of 2018. However, it was not possible to do in this reporting period. To recover the road inside the project area we need to get from Cabeça village to the LIFE areas. In these sense we made a previous (before project) agreement with the local parish council: they will clean the road to get to our project area, and then we will be able to recover the road inside our LIFE territory. For this reason, in the LIFE project we only included the expenses inside the LIFE area. This parish council intervention needs the removal of some pines that grew up inside road and in the road rails. However, due to some constraints, most of them related with legislation/rules adopted after the fires occurred in 2017, this was not possible to do. The cut of unburned pines was limited and we had constant delays getting the forest authority to provide proper authorization to cut down and remove trees in selective cuts, given the legal measures taken to control the spread of the pine nematode

pest (*Bursaphelenchus xylophilus*). In consequence this sub-action is behind schedule, since the recovery and cleaning of trails only makes sense after all the trees are cut and removed from site, otherwise all the tracks would be damaged by the movement of tractors and trailers that will be used. This was a major problem, because it enabled the execution of C6. Additional information: this intervention has started in October 22.

**4. Next steps:** Finish the access recovery and start the others sub-actions, as planned.

## **D1. Monitoring Conservation Actions**

**1. Status:** This action is in progress and, in general, is been developed as planned. The results allowed us to follow plant production and establish the reference state for local vegetation.

Foreseen start date: **Jan 2018**                      Actual start date: **Jan 2018**  
 Foreseen end date: **Jun 2022**                      Actual (or anticipated) end date: **Jun 2022**

**2. Progress:** Action D1 is divided in 5 sections that expect to monitor the main objectives of the projected Conservation Actions. Except for one of this sections (Section I - Monitoring and evaluation of the production of plants –Action C1), the monitoring was planned to be done through the use of permanent transects installed in 2018, before the execution of the Conservation Actions.

### ***Section I - Monitoring Action C1.***

As planned, we monitored the success rate of seed germination and plant production for the plant propagation material (seeds and cuttings), collect in action C1 (**ANNEX XI. Monitoring “C” Actions: 1\_Germination and Plant Propagation Monitoring**). We also followed periodically the survival rate of each species. The work was developed by CICYTEX team, coordinated by Francisco Vasquez. In the 2017/18 campaign, the germination success was high for the majority of the seeds collected (Table 4). However, we had problems with the germination of *Prunus lusitanica*, like explained before: a big part of the seeds was collected directly from the tree, and for those the germination percentage did not exceed 0.5%; the best results were obtained with seeds collected directly from the soil, with percentages exceeding 30%. In relation to cuttings, the success was lower (Table 5). In this particular case *Viburnum tinus* was the most successful species.

**Table 4. Main details on seed collection, germination and survival rates.**

	<b>collected seeds (N.º)</b>	<b>Germination rate (%)</b>	<b>Survival rate (%)</b>
<i>Prunus lusitanica</i>	1782	32	98
<i>Quercus broteroana</i>	300	82	84
<i>Quercus canariensis</i>	400	77	90
<i>Quercus estremadurensis</i>	100	65	83
<i>Quercus marianaica</i>	320	84	93
<i>Quercus pyrenaica</i>	250	91	99
<i>Rhododendron ponticum</i>	3500	74	97
<i>Arbutus unedo</i>	2460	12	4
<i>Phillyrea angustifolia</i>	560	20	40

**Table 5. Main details on cuttings rooting and survival rates.**

	Cuttings	Rootings	Survival plants
<i>Arbutus unedo</i>	70	12	9
<i>Phillyrea angustifolia</i>	60	26	8
<i>Phillyrea media</i>	40	5	0
<i>Prunus lusitanica</i>	80	11	8
<i>Viburnum tinus</i>	50	67	42

**Sections II, III, and V - Monitoring Actions C2, C3, C4, C5, C7**

In January 2018 the UÉvora team started to define the protocol for plant monitoring, having as basis the methodology proposed in the project, but also the field and vegetation particularities of project areas. We used specific literature to look for the best approach and visited the target areas to verify, locally, the suitability and feasibility of this protocol. This first visits were made in: Açor (January 20); Monchique (February 7); Estrela (Mars 2).

As planned, we decide to install 5 transepts for each action (C2, C3, C4, C5 and C7), in each of the 3 project areas (Estrela, Margaraça and Monchique). The only exception was the C6 action were we only installed one transept (in *Acacia dealbata* area), but larger than it was predicted (100m<sup>2</sup>). Due to the high density of *Hackea*, and its big thorns, it was impossible to install any transept inside its formations, because they are impenetrable. However, we measure density and height and a monitoring transept will be installed as soon as it is cut.

During work planning we realized that the 10x1m transepts, proposed in project, were too small to be a significant sample of local vegetation. To correct these situation, we decided to install 24x1,5m transept. The original idea was to select randomly the position of each transept. However, in many cases that was impossible, because vegetation was impenetrable due to the high cover of *Rubus ulmifolius*.

Globally, between April and August we have installed 41 transepts in a total of 1540m<sup>2</sup> (). Specifically we installed: 16 transepts in Estrela areas [5 (C2) + 5 (C4) + 5 (C7) +1 (C6)]; 10 in Açor areas [5(C2)+5(C7)]; and 15 in Monchique areas [5(C3) + 5(C5) and 5(C7)]. The location and detailed monitoring protocol, including fieldwork sheets and results are present in **ANNEX XI. Monitoring "C" Actions: 2\_Monitoring Protocol for Vegetation; 3\_Survey sheet; 4\_Location of the implanted transepts; 5\_Monitoring photos**. For the installation and limitation of transepts, treated sticks, offered by a colleague of the University, were used, instead of the metal stakes initially foreseen by the project. This led to a reduction of costs and the impact of metal stakes on this natural areas: as the vegetation was generally very high, the metal stakes would also have to be high to assure better visibility. The treated sticks were painted on top with fluorescent paint and the transepts bordered by coloured thread. The limits of the transepts were also marked using a GPS (whose purchase was planned and was made for this purpose).

For the monitoring of actions C2, C3, C4, C5 and C7 each transept was divided into 16 square plots with 1.5x1.5m. Each of these plots was surveyed separately, since this approach to a smaller scale, allows to gauge more accurately the total of the transept. First, it was registered: total cover; tree cover; shrub cover; herbaceous cover; moss cover; and vegetation high. All the trees and shrubs, present inside each 1.5x1.5m squares, were registered. The respective cover (%) inside this squares was also recorded. For herbaceous plants, we selected randomly 5 of this 16 plots and register all species, and respective cover, present inside this selected plots.

At this moment we have finished the field work and collected all the information in a spreadsheet (**ANNEX XI. Monitoring "C" Actions: 6\_Data from surveys**). In the next step we will do its analysis. However, we have made a simple approach to integrate this report (**ANNEX XI. Monitoring "C" Actions: 6\_Data from surveys**) and the main results show a large presence of scrubs in all the installed transepts, including in the areas of *Prunus lusitanica* (C2), which should have a greater forestry character. We also detected the existence of a large cover of heliophile species, in a total of 32 species (**ANNEX XI. Monitoring "C"**

**Actions: 8\_Heliophile species present in project areas).** Moreover, the cover of *Prunus lusitanica* and *Rhododendron ponticum* is relatively low, even in C2 and C3 areas. We are convinced that this methodology, with permanent transects, due to its sensibility to changes, will allow us to monitoring the interventions success.

#### **Sections IV - Monitoring Action C6**

For action C6 we selected a plot with 100m<sup>2</sup> in order to monitor *Acacia dealbata* areas. In this areas, for all the trees present, we collected: species; location (Latitude and longitude); and diameter at breast height (2 perpendicular measures). For a sample of these trees, we also measured tree height, distance to canopy and canopy diameter. This measures will allow us to make the reference state of the local invasive community structure. For *Hakea* areas, as is very difficult to get inside this community, we will take the monitoring values when the species will be cut under action C6.

**3. Problems and delays:** The major problem we faced was the topography of the territory and the type of vegetation, which made the transects installation very time consuming. This situation happened mainly in the areas of Estrela and Monchique, where the vegetation is often characterized by extensive scrublands of *Rubus ulmifolius*. In the areas of Seia the situation was even worse due to slope. This extra effort was possible due to the regular collaboration of two volunteer's students, from the University of Évora, with no extra costs the Project.

## **D.2. Monitoring the Socioeconomic Impact**

**1. Status:** In progress. Is been executed by ADRUSE and the UÉvora. The overall progress within each task of D2 action is present in Table 6.

Foreseen start date: **Jan 2018**  
Foreseen end date: **Mar 2022**

Actual start date: **Jan 2018**  
Actual (or anticipated) end date: **Mar 2022**

**Table 6. Overall progress within each task of D2 action.**

tasks	Foreseen start	Actual start	Foreseen end	Actual end
I	Jan 2018	Jan 2018	Set 2022	-
II	Jan 2019	-	Set 2022	-
III	Jan 2018	Oct 2017	Set 2022	-

### **2. Progress:**

#### **Section I. Establishment of reference situation at the beginning of the project, through socioeconomic indicators, and evaluation of its evolution at the end of the project.**

In Progress. In order to monitor the socio-economic impact of the project at the local level, a set of indicators were defined by ADRUSE (**ANNEX XII. Socio-economic monitoring (D2): 1\_Socio-economic Indicators Proposal**). Those are included in the following sectors: Employment, Business Development, training, Ecotourism, Environmental Education Dissemination of the Project to the General Public, Awareness and Environmental Education.

## **Section II. Conduct surveys and questionnaires for web users, about the site, and its contents (E1).**

Not started. No activities were carried out in this sub-action, because we wanted to established the web site information and include data from tasks done during the first year. Work is expected to begin in January 2019.

## **Section III. Monitoring the knowledge of the population in the intervention territories about habitat 5230 (actions E1, E2, E3).**

In progress. This work in being carried by a multidisciplinary team from the UÉvora and ADRUSE. The work was organized in 3 steps: definition of surveys content; implementation of surveys; and results analysis. In November 2017 the team started the define surveys and strategy, with the support of a PhD student (no cost attributed). Several in-person meetings were made in the UÉvora since then, in order to define the best survey. For that, specialist professors from the UÉvora were consulted. ADRUSE also collaborated in this process through non-presential contacts. The team defined that, in order to be a more significant sample, we should make 60 samples (surveys) in each territory (Estrela, Margaraça and Monchique), for general public, and 20 for technicians. The structure of the survey for the general public had four parts: 1- Participants Characterization; 2- Evaluation of the population knowledge about habitat and *Rede Natural* 2000; 3- Characterization of major local activities and evaluation the population knowledge about natural vegetation heritage; 4 - Participation as a volunteer in the Life-Relict project (**ANNEX XII. Socio-economic monitoring (D2): 2\_Population survey; 2\_Technical survey**).

The general public surveys were taken randomly, with visits to the villages near the intervention area. In March 2017 ADRUSE visited 4 surrounding villages of Estrela areas: Cabeça; Casal do Rei; Vide; and Muro. Surveys in Monchique were carried out on May, by the UÉvora in: Marmeleite; Alferce; and Monchique villages. Surveys in Açor were carried out in August 2018 by ADRUSE: Benfeita; Cadafaz; Cerdeira; and Moura da Serra. All the data collected was compiled in Excel for further processing and analysis of statistical information. The major results from general public are schematized in **ANNEX XII. Socio-economic monitoring (D2): 3. Population surveys-main results**. Between inquired, more than 67% have more than 50 years old; 57% have basic education; 51% work; 65% do not know the existence of Nature 2000 network; 68% know that there is legislation to protect species and habitats; 40% already heard about LIFE-RELICT project; the vast majority knows the existence of the species targeted, and that they are rare plants; 82% want to participate in the project. The results from the technical survey are been analysed.

**3. Problems and delays:** The major difficulty was the existing population to respond to the surveys: in all the intervention areas we have low population density and increasing population aging. To improve time consumption, in some cases we previously contact the parish councils asking for their help to define places and people to visit.

**4. Next steps:** For Section I, the set of indicators previously defined by the ADRUSE team, will be analysed at the next meeting of the partnership (scheduled for September). In this sense, it may be necessary to make certain adjustments considered by the project partners. In order to continue the social and economic analysis of the impact of the project in the territory of intervention, during the months of October, November and December 2018, a SWOT analysis and a structural analysis will be carried out. Section II will be started in January 2019. The proximity to the stakeholders, from these action, revealed an added value for the planning of future complementary actions.

### **D.3. Monitoring the impact of the project ecosystems services**

#### **1. Status:** In progress

Foreseen start date: **Jan 2018**  
Foreseen end date: **Sep 2022**

Actual start date: **Fev 2018**  
Actual end date: **Sep 2022**

**2. Progress:** The slight delay in the beginning of this action, was due to the extra work we had in January, with the assessing of the post-fire situation in Açor-Complexo da Margaraça. In February, we started to



consult information on this topic and in March a specific team was established in the UÉvora, led by Prof. Conceição Castro. At this point we realized that we would lack data to implement **Step I**, which followed Marta-Pedroso & Domingos (2004) (especially the one related to actually monetary values attributed to the biological values associated to this habitat). In order to overcome this situation, in the beginning of April we contacted the project "LIFE in Common Land" (from Spain), which we had met at the kick off meeting in Brussels, and whose team had experience in implementing this action in LIFE projects (we talked to them in Brussels about this issue). We were advised to use the "Toolkit for Ecosystem Service Site-based Assessment (TESSA)", because they had already implemented it successfully. After read the documentation, we followed its advice, because it seemed to be well structured, to be feasible with the resources we have, and to be in line with life document "Assessing ecosystems and their services: a guide for LIFE projects". Since this date, the action has progressed adopting TESSA approach (**ANNEX XIII. Monitoring Ecosystem Services: 1\_Tessa\_general framework**), which aims at assessing the alternative status through the assessment of the different services identified. Nevertheless, this was made using the three steps strategy defined in the project: **Step 1** - Establishment of the initial economic value of the SE; **Step 2** - Establishment of the initial biodiversity of the target areas; **Step 3** -Monitor diversity to estimate changes in economic value.

In this process, it is essential to characterize the intervention areas (**Step 2**). Through the results of actions A1, D1 and E1, we were able to have access to several data about local flora and soil use, including cartographies. In relation to the initial fauna biodiversity in the target areas, a bibliographical review aiming at a meta-analysis of the available primary data, i.e., we have extracted quantitative information from the analysed empirical data. Also, several field trips were done, from November to June, in order to contribute with information useful for the characterization of the *reference situation*, in particular in what concerns the diversity of amphibians, reptiles, birds and mammals in each of the target Sites (**ANNEX XIII. Monitoring Ecosystem Services: 2. Fauna\_first results**). This work was done with the help of external assistance, with the coordination of professor António Pedro Santos, from the UÉvora. During Autumn/Winter 2018/2019 we will survey the lichens, mosses and mushrooms, as foreseen.

**3. Problems and delays:** As mentioned before, the lack of data compromised the methodology initially proposed for this stage. As an alternative, TESSA's model methodology will be used. The TESSA toolkit has been very beneficial for the development of this action to meet the established schedule. Scientifically, the analysis of other projects has demonstrated that this model has very good results that fit the purpose of the Life-Relict project. In relation to delays, today we realize that we will need more time to get and analyse all the necessary information needed for this complex process. In this sense, we think we need more time to make the reference states and for that **we ask for a 6 months extend of this first stage: the first report was planned to be delivered on Mars 2019, but we ask to be in Sep 2019.**

**4. Next steps:** Regarding the economic activity assessment of the current state, it has begun in September and is still ongoing. This activity includes the collection of data for the evaluation of the current state of the study areas; economic evaluation through means of cost methods as well as the strategy used in the communication of results. Also in this activity the alternative state for the study area will be defined so it can ensure better conditions of ecosystem quality. This economic state is expected to be completed by the end of December 2018. The obtained results will be communicated with the support of the strategies presented by TESSA model. In the autumn of 2019 we will make the lichens and mosses surveys, as well as the soil collection.

#### **D.4: Cost-efficiency monitoring**

**1. Status:** not started.

Foreseen start date: **Jan 2019**

## D.5: Monitoring project indicators

### 1. Status: In progress.

Foreseen start date: **Jan 2018**

Actual start date: **Jan 2018**

Foreseen end date: **Set 2022**

Actual end date: **Set 2022**

### 2. Progress:

During the report period we have estimated the project progress in relation to the indicators presented in the LIFE-RELICT project. The starting point and indicators progress are in **ANNEX XIV. Project Indicators: 1\_ Performance Indicators Call 2016\_PROGRESS\_August2018 (DELIVERABLE)**. The same was done to the KPI indicators (**ANNEX XIV. Project Indicators: 2\_KPI\_PROGRESS\_Aug2018**). As it was expected, according to the interventions schedule our biggest improvements have been in communication, dissemination and awareness rising indicators, although we have also some small progress in habitat and forests indicator values. We have no deviations in the starting point presented in LIFE-Project and the one present now.

### 3. Problems and delays: no problems.

### 4. Next steps: continue monitoring.

## E.1. Dissemination to the general public

1. Status: This action is in progress and, in general, been developed as planned. The overall progress within each sub-action of E1 is present in Table 7.

Foreseen start date: **Oct 2017**

Actual start date: **Jan 2018**

Foreseen end date: **Sep 2022**

Actual (or anticipated) end date: **Sep 2022**

**Table 7. Overall progress within each task of C1 action.**

Sub-action	Foreseen start	Actual start	Foreseen end	Actual end
E1.1	Oct 2017	Jan 2018	Sep 2022	-
E1.2	Jan 2019	-	Jun 2019	-
E1.3	Jan 2021	-	Mar 2022	-

2. Progress: In the context of this action, several contacts were developed with entities in the target territory for intervention in order to disseminate and increase project visibility, especially within the local communities. Thus, 31 entities were contacted and 26 letters of support/interest in the project (**ANNEX XV. LIFE support letters (E1): 1\_ 1\_list of entities contacted; 2\_ 2\_Support letters DELIVERABLE**) were received from different public and private entities. Some of this entities were identified in the proposal, others are new, but equally important. Those letters are from different sectors: Public bodies, including Municipalities that have the same habitat in their territories (11); ONG's, national and local (8); Universities and other educational establishments, including Spanish's universities (6); and local companies (1).

### ***Sub-action E1.1. Production and maintenance of project website and Facebook page***

In progress. It includes the creation of the Web and Facebook pages that aim to promote Life-Relict as well as habitats and RN2000 to the general public (**ANNEX XVI. Web and Facebook pages (E1): 1\_ Webpage Prints; 2\_ Facebook Prints**).

The Webpage [www.liferelict.ect.uevora.pt](http://www.liferelict.ect.uevora.pt), was on-line in Mars 2018, as foreseen. With 2104 views, has already exceeded the limit of 2000 that had been proposed until the end of the project. Is based in the page of the UÉvora and was created with own resources of the University, without extra costs for the project. This page provides all relevant project information, habitats and activities. It is also intended that

the "Reports" Link be a facilitator in the transfer of results obtained and so that others can benefit from the project experience.

The Facebook page [www.facebook.com/Life-Relict](http://www.facebook.com/Life-Relict), with 212 likes and 214 followers, has already surpassed the 200 tastes that had been proposed by the end of the project and has allowed a faster disclosure of the information, interaction with the public. With a start scheduled for the end of 2017, it was considered appropriate that this be launched after the logo of the project was created, however and despite all the efforts this was not possible, having been launched on February 20, 2018.

The Web and Facebook pages are updated regularly with content produced by ADRUSE and the UÉvora.

***Sub-action E1.2. Installation of informative panels on the project.***

Not started. This action has not yet been initiated, and it is expected to be carried out according to the schedule foreseen in the application.

***Sub-action E1.3. Execution of the Layman's Report***

Not started. This action has not yet been initiated, and it is expected to be carried out according to the schedule foreseen in the application.

**3. Problems and delays:** The only delay we had, was the one referred before in the facebook page launch.

**4. Next steps:** During next month's we will work in order to install the informative panels on project areas.

**E.2. Communication and nature tourism**

**1. Status:** This action has started and been developed as planned. The overall progress within each sub-action of E2 is present in Table 8.

Foreseen start date: **Oct 2017**  
Foreseen end date: **Sep 2022**

Actual start date: **Dec 2017**  
Actual (or anticipated) end date: **Sep 2022**

**Table 8. Overall progress within each task of E1 action.**

<b>Sub-action</b>	<b>Foreseen start</b>	<b>Actual start</b>	<b>Foreseen end</b>	<b>Actual end</b>
E2.1	Jan 2018	Jun 2018	Dez 2019	-
E2.2	Aug 2018	Oct 2018	Set 2022	-
E2.3	Jul 18	-	Dez 2021	-
E2.4	-	-	Set 2022	-
E2.5	Jan 2018	Dec 2017	Set 2022	-

**2. Progress:**

***Sub-action E2.1. informative flyers***

Started. The UÉvora team started the creation of contents in June, and is been done with the help of Mauro Raposo, contracted by the UÉvora within the Project. Despite the delay, we expect to have everything ready to be printed in January 2019.

***Sub-action E2.2. Creation of touring exhibitions***

Not started. This sub-action didn't start during the reporting period, but was started in October. The Uévora is now preparing suggestion of contents to be discuss in the beginning of November with CMSeia and CMMonc. This initial delay will not compromise the foreseen end of this sub-action.

***Sub-action E2.3. Implementation of interpretive trails***

Not started.

***Sub-action E2.4. Implementation of reports***

Not started.

***Sub-action E2.5. Dissemination action during the event "Cabeça, Aldeia Natal"***

Started. As programmed, during the event "Cabeça, Aldeia Natal", in the village of Cabeça, between December 16 of 2017, and January 1 of 2018, took place a dissemination action (**ANNEX XVII. Actions performed in "Cabeça Aldeia Natal" (E2 and E3): 1\_Photos from Cabeça Aldeia Natal**). During the event, we set an exhibition about the project, in which was included a video and several panels about *Prunus lusitanica* forests, and where the visitors were able to obtain information about the project and the importance of the habitats conservation (**ANNEX XVII. Actions performed in "Cabeça Aldeia Natal" (E2 and E3): 2\_Video\_CMSeia\_Projeto\_Life**).

**2. Problems and delays:** Although the creation of the required contents to sub-actions E2.1, E2.2 and E2.3 started after the foreseen date, we expect that all these sub-actions will be executed in the predicted time.

**3. Next steps:** In the next report period we will continue working on the contents required for this action implementation. We will print the informative flyers and get the majority of the exhibitions material done. We will also contact television programs, in order to obtain television reports.

**E.3. Awareness and Environmental Education**

**1. Status:** This action has started and been developed as planned. The overall progress within each sub-action of E3 is present in Table 9.

Foreseen start date: **Jun 2018**  
Foreseen end date: **Sep 2022**

Actual start date: **Jan 2018**  
Actual (or anticipated) end date: **Sep 2022**

**Table 9. Overall progress within each task of E3 action.**

Sub-action	Foreseen start	Actual start	Foreseen end	Actual end
E3.1	Jun 2018	Jun 2018	Jul 2020	-
E2.2	-	-	Jul 2020	-
E2.3	Dez 2017	Dez 2017	Dez 2021	-
E2.4	-	-	Set 2022	-
E2.5	Oct 2018	-	Set 2021	-

## 2. Progress:

### ***Sub-action E3.1. environmental education projects in schools***

Started. The preparation of the materials to be used in the environmental education projects, that will take place in the schools of Seia Municipality, began in June. We intend to schedule the foreseen action with schools, in the last quarter of 2018, in the beginning of the school year.

### ***Sub-action E3.2. School contest***

Not started. This action has not yet been initiated, and it is expected to be carried out according to the schedule foreseen in the application.

### ***Sub-action E3.3. informative sessions***

In progress. On December 28, 2017, took place in Cabeça, with the local population, a public session about the project. Several landowners and other interested residents were present. The session was made by the UÉvora and CMSeia. More than 30 persons were present. Professor Pinto Gomes (UÉvora) and Alexander Silva (CMSeia) led the session (**ANNEX XVII. Actions performed in "Cabeça Aldeia Natal" (E2 and E3): 1\_Photos from Cabeça Aldeia Natal**).

### ***Sub-action E2.4. Plantations for volunteers***

Not started. This action has not yet been initiated, and it is expected to be carried out according to the schedule foreseen in the application.

**3. Problems and delays:** No problems were found and we did not have major delays so far.

**4. Next steps:** In the next reporting period we will start the projects foreseen for local schools, make at least one session of tree plantation with volunteers and promote another informative session in Estrela territory.

## **E4. Scientific dissemination**

**1. Status:** This action is in progress and, in general, been developed as planned.

Foreseen start date: **Jan 2018**  
Foreseen end date: **Sep 2022**

Actual start date: **Out 2017**  
Actual (or anticipated) end date: **Sep 2022**

## 2. Progress:

### **Sub-action E4.1 - Organization of seminars**

In progress. In order to increase our audience, we will do our 1<sup>st</sup> Seminar in association with SPECO (Portuguese Society of Ecology). The meeting will be done in 15<sup>th</sup> and 16<sup>th</sup> of November, been the 15<sup>th</sup> the specific day for LIFE-RELICT (and in this sense is free for participants). This event is being published nationally since April, especially in several net platforms. SPECO created the advertising material, with our help, but without extra expenses for LIFE-RELICT (**ANNEX XVIII. Scientific dissemination (E4): 3\_Seminar information**). We have contacted some sponsors for material to give to the participants (including bags, pen drives, coffee, food) and we have already positive answer from some of them. In the beginning of October, we ad, just for October 15, more than 100 inscriptions. In **ANNEX XVIII** we present some information about this event.

### **Sub-action E4.2 - Organization of technical journeys**

In progress. As planned the UÉvora team held the 1<sup>st</sup> technical seminar in Mata da Margaraça (ICNF Interpretative Center), on June 8, 2018 (**Annex XVIII. Scientific dissemination (E4): 1\_Journey information**). The workshop theme was "Valorization and Management of Mediterranean *Prunus lusitanica* communities", and it was a great success. We planned this event for 25 participants (to maintain proximity) but we had to extend the entries number in order to admit all the ICNF members that wanted

to attend. The event was attended by 35 participants from different associations (Quercus, ICNF, Reflorestar Portugal, Cicytex, the Municipality of Oleiros, Center for Functional Ecology (university of Coimbra), and local associations members). The reception was made by Dr. João Boleu (responsible for Açor-complexo da Margaraça management, ICNF), that also attended to the journey. The journey was led by the UÉvora team. We also made questionnaires to the participants in order to know their degree of knowledge and the pertinence and interest of the journey. The results (**Annex XVIII. Scientific dissemination (E4): 1\_Journey information**), show that the majority already heard about *Prunus lusitanica* but didn't know those communities were in poor shape. The participants referred that they increased their knowledge in *Prunus lusitanica* communities and accomplished their main objectives.

#### **Sub-action E4.4 - Representation in national and international seminars and congresses**

In progress. So far we have been presented in 4 events (**Annex XVIII. Scientific dissemination (E4): 2\_participation on scientific meetings**): I Congresso Luso-Extremadurens, held in the UÉvora, with a poster presentation; European Meeting of Phytosociology, 5-7 de Novembro, Cabo Verde Islands, oral presentation (no costs associated); I Congresso Internacional em Planeamento Sustentável e Ordenamento Territorial, 4 a 6 junho, Madeira Islands, oral presentation (no costs associated); Séminaire international Gestion et conservation de la biodiversité, 10-17 July, Ordino, Andorra (with associated costs). Except for the last one, no other participation ad cost associated to LIFE-RELICT. The presence of 3 members of the UÉvora in a scientific event in 2018 was foreseen in the project. In this sense the team chose the "Séminaire international Gestion et conservation de la biodiversité", organized by a French institute in Ordino (Andorra). Our presence in this event was considered extremely important because this event brings together specialists in vegetation, plant conservation and habitat management from all the Mediterranean, specially from Spain and France, where the rare and relic *Prunus lusitanica* and *Rhododendron ponticum* habitat is found (main piece of our project). Attended to this event 75 participants and we presented 3 communications related to LIFE (**ANNEX XVIII. Scientific dissemination (E4): 2\_Scientific meetings**).

#### **Sub-action E4.4 - Promotion of talks**

In progress. So far we have made 4 talks for UÉvora students: in UÉvora, for Biology master students, landscape students, ecology students, Ecotourism students).

#### **Sub-action E4.5 – field Guide**

Not started as foreseen.

**3. Problems and delays:** In the project we predicted the execution of the 1<sup>st</sup> Seminar until July 2018. However, during the first months of the project we realized that it would be better to do it later in 2018, in order to: 1. have more time to better organize it; and so that it would not be done very close to the 1<sup>st</sup> technical journey, scheduled for June. After talk to our project monitor we scheduled it for November. We now believe it was the best option because it allows us to define a different approach and have much interest in this seminar.

**4. Next steps:** Continue the 1<sup>st</sup> Seminar dissemination and organization and execute it in the scheduled date. The next journey will be done in the beginning of 2019

### **E5. Replication efforts and networking with other projects**

**1. Status:** This action is in progress and been developed as planned.

Foreseen start date: **Out 2017**  
Foreseen end date: **Sep 2022**

Actual start date: **Out 2017**  
Actual (or anticipated) end date: **Sep 2022**

## 2. Progress:

### **Sub-action E5.1 - Establish a network of contacts with other projects**

In progress. During the reporting period we had the opportunity to established several contacts with other national and international projects. In October 2017, in LIFE Kickoff meeting in Bruxels, we were able to meet several other projects, exchanging information later with three of them. In October LIFE IAS Free Habitats (LIFE16 NAT/BG/000856), from Bulgaria (through Dimitrina Boteva), asked us about information on Invasive Allian species control. We send them the information we had (**ANNEX XIX. Networking with other projects (E5): 1\_emails\_other LIFE\_PROJECTS**). The same information was also sent to LIFE ALNUS (LIFE16 NAT/ES/000768), from Spain (through Jordi Camprodon). In April we changed information about ecosystem services with LIFE IN COMMON LAND (LIFE16 NAT/ES/000707), also from Spain (through Boris Hinojo). In May 2018 we were in Fundão in the meeting "INTER LIFE PT 18" promoted by LIFE PT CAPACITY (LIFE14 CAP/PT/000004) were we were able to contact with the projects: LIFE WW4ENVIRONMENT (LIFE08 ENV/P/000237); LifeCiP (LIFE12 ENV/FR/001113); LIFE AGUEDA (LIFE16 ENV/PT/000411); LIFE Food & Biodiversity (LIFE15 GIE/DE/000737); LIFE CERSUDS (LIFE15 CCA/ES/000091); and LIFE ELCN (LIFE16 PRE/DE/000005). We also maintain regular communication with the other LIFE projects developed by the UÉvora, including LIFE CHARCOS (LIFE12 NAT/PT/000997); LIFE LINES (LIFE14 NAT/PT/001081); LIFE SARAMUGO (LIFE13 NAT/PT/000786); and LIFE MONTADO ADAPT (LIFE15 CCA/PT/000043) (**ANNEX XIX. Networking with other projects (E5): 3\_Presentation\_INTER LIFE PT 18**). Those contacts are translated in experience exchanges and support.

CICYTEX also identify LIFE PRIOLO (LIFE12 NAT/PT/000527) as the project most important for us in this context, because they are also promoting laurissilva relicts in Madeira islands, using *Prunus*. We make the contact with them and we are planning a visit in the near future. Another important connection was with the European project ECOMED (<http://ecomedb.io>), a project that aims to generate a theoretical-practical sectoral program, essential for the specialization process of the Mediterranean Eco-engineering sector. We were able to bring Klaus Peklo (with no costs to the project), from ECOMED to visited the burned area of the Margarida Forest. The purpose was to help us to do our foreseen interventions in the best way possible to stop soil erosion after the fire of 2017 (**ANNEX XIX. Networking with other projects (E5): 3\_PHOTOS\_Networking with ECOMED**).

### **Sub-action E5.2 - Replication efforts**

In progress. We have contact some municipalities from the central Portugal, where the habitat is present, offering orientation in their habitat areas. The Municipalities of Oleiros is very interested in replicate our results in its territory. Two representatives from this municipality were even present in our 1<sup>st</sup> technical journey. We are also in contact with the municipality of Mação in order to promote the recovery of a *Prunus lusitanica* area, that burned last year.

**3. Problems and delays:** no problem or delay in the action

**4. Next steps:** In September we will visit area in León (Spain) to establish contact with the territory manager, that have a project for forest recovery (Actuaciones de Emergencia de Restauración Forestal y Medioambiental del Área Afectada por Incendio Florestal en los Términos Municipales de Fabero, Páramo del Sil, Peranzanes y Candin en la provincia de León, Programa Nacional de Desarrollo Rural 2014-2020-actuaciones financiadas por La Union Europea) and we hope to be able to motivate their interest in the recovery of this habitat in them on area. We expect to go also to Serra da Gata (Acebo) to speak to respective Municipalities.

## **F1. General coordination of the project by UÉvora**

**1. Status:** This action is in progress and, in general, is been developed as planned.

Foreseen start date: **Oct 2017**  
Foreseen end date: **Sep 2022**

Actual start date: **Oct 2017**  
Actual (or anticipated) end date: **Sep 2022**

**2. Progress:** As foreseen is sub-action F.1.1, the project is being coordinated by the UÉvora, led by Professor Carlos Pinto Gomes. The administrative and financial structure from the UÉvora was defined in October 2017, and started to be led by Dr. Liliana Rosmaninho, that was replaced in April 2018 by Dra. Isália Morais (for maternity reasons). As foreseen, a project Manager has been hired (Dr. Catarina Meireles) and started to work at full time since January 2018. In November Dr Rui Cataño was also hired to integrate the UÉvora team with the function of supporting the practical execution of the UÉvora tasks (pós-doc foreseen in project). See **ANNEX IV** that presents the general project team. As foreseen in sub-actin F.1.2 professor Carlos Pinto Gomes is coordinating the scientific component of the project.

Partnerships agreements (**ANNEX I**) with all 4 partners were firmed in November. The delay was due to the Municipality elections, and the necessity to wait for the new mayors.

A Kick-Off Meeting was attended in Brussels in 18 and 19 October 2017, by two members of the UÉvora (Dra. Catarina Meireles and Professor Conceição Castro). A presentation was made (**ANNEX XX. Project Coordination (F1): 2. KO\_LIFE16 Beneficiary NAT\_PT\_000754**) and we had the opportunity to change information with other projects and make some questions about procedures.

Since the beginning of this project, the coordination team keeps regular contact with all the beneficiaries, including by regular meetings as foreseen in sub-action F.1.3 (**ANNEX XX. Project Coordination (F1): 3\_Photos from Project meetings**). These contacts were mostly made by telephone or video-call. In the end of November, the steering committee was already defined. It includes one representative of each partner and the project Manager (**ANNEX XX. Project Coordination (F1): 1\_Steering Committee\_ Life-Relict**). The first meeting of the steering committee, happened in January 24. In August we defined our project Logo.

We keep regular contact with Sara Barceló, our NEEMO monitor. We make regular situation points with her, and always had her quick feedback and help. We had her first visit on the 24th and 25th of January. The first day was in Seia and the second was made in Açor project area.

**3. Problems and delays:** As mentioned before, in October 2017 a large forest fire affected the project area named Açor-Complexo da Margaraça. Since November the project coordination team carried out various meetings with the management responsible, from the ICNF, and with the CMSeia, in order to: 1. know the affected areas, 2. understand the impact of the fire on this place; 3. realize conservation needs; and to establish the measures needs to ensure compliance with the Project objectives. Those meetings were made in Açor-Complexo da Margaraça (ICNF offices) in January 20-21, February 5, Mars 20, April 18 and June 8.

**4. Next steps:** This action will continue to be carried out as planned. The second meeting of the steering committee is scheduled to take place in November 15, seizing the trip to Évora, for many of them, to the 1.<sup>st</sup> seminar of the project that will take place that same day.

## **F2. Scientific Committee**

**1. Status:** This action is in progress and, in general, is been developed as planned.

Foreseen start date: **Oct 2017**  
Foreseen end date: **Sep 2022**

Actual start date: **Oct 2017**  
Actual (or anticipated) end date: **Sep 2022**

**2. Progress:** In the end of November, the scientific committee was already defined. This committee includes now: one representative of each partner, a representative from ICNF and three representatives



of Universities from the Spanish and French territories with the same target communities (see constitution in **ANNEX XXI. Scientific Commission: 1. Scientific commission LIFE-RELICT**). As recommended by EASME in the first letter [Ref. Ares(2018)1882232 - 09/04/2018], in April 10, we wrote an email to ICNF, to ask for participation of the managers of the Natura2000 sites involved in the project, in the LIFE-RELICT Scientific Committee. At this moment we have no answer from the ICNF although we asked again in August 28.

**3. Problems and delays:** The only problem we had was the delay in the answer of ICNF.

**4. Next steps:** The first meeting of the scientific committee is scheduled to take place in November 15, seizing the trip to Évora, for some of them, to the 1.<sup>st</sup> seminar of the project that will take place that same day.

### F3. Audit

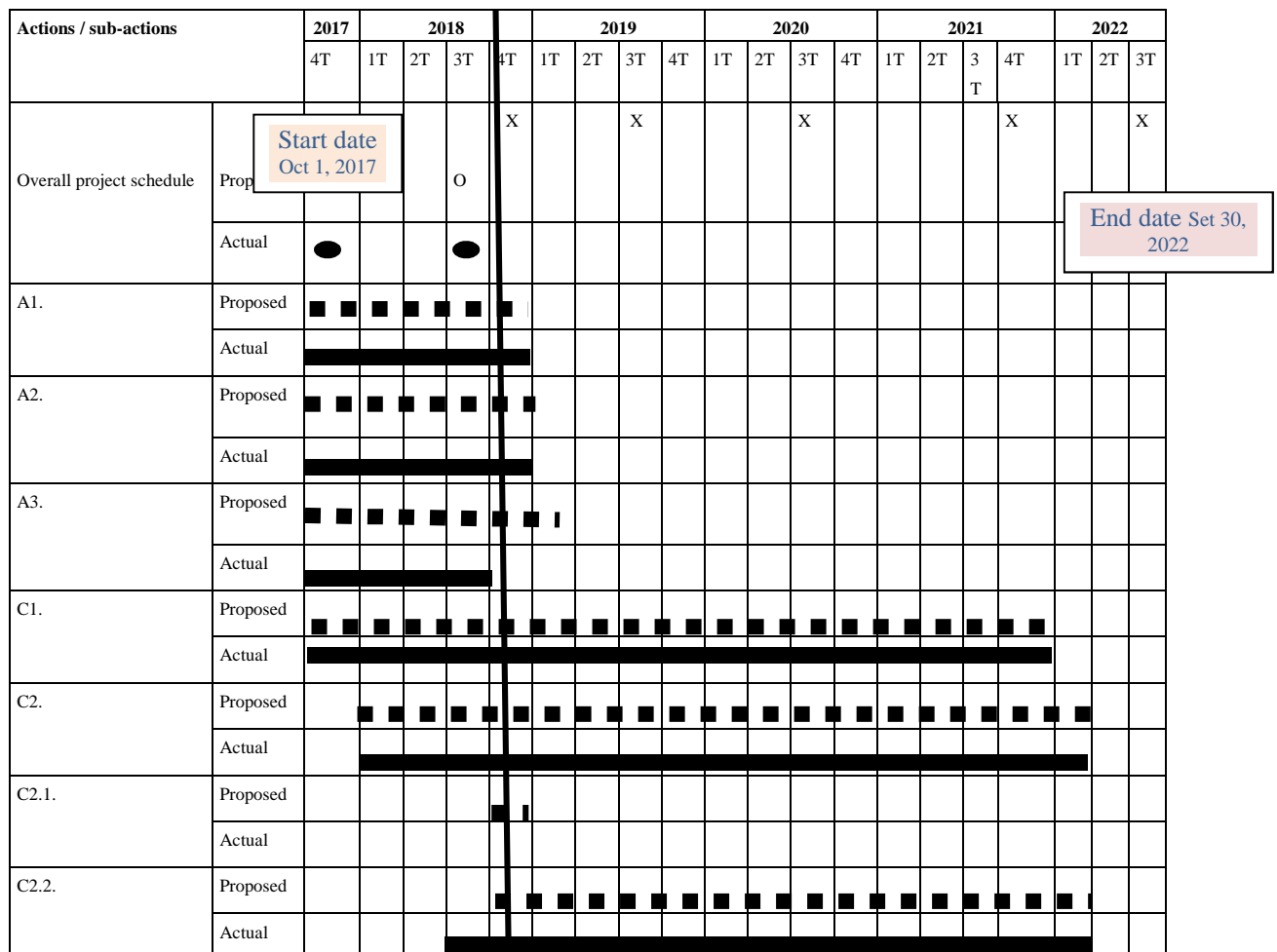
**1. Status:** Not started.

### F4. Post-LIFE Plan



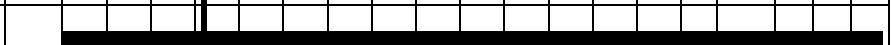

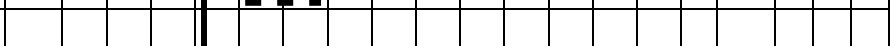

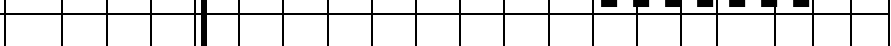






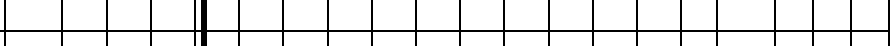

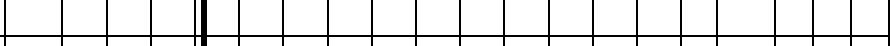
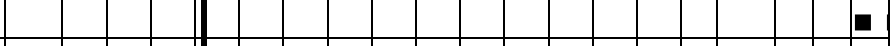
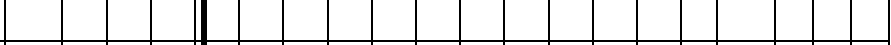

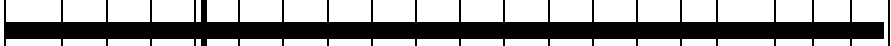

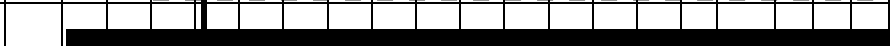



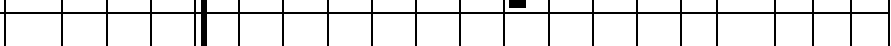


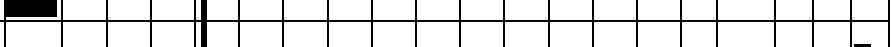
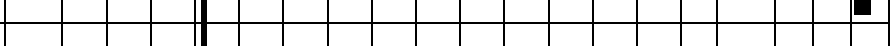

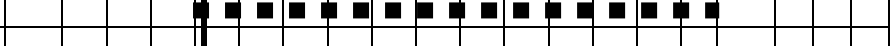
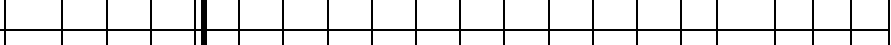
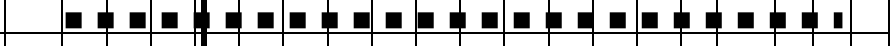
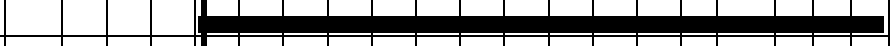

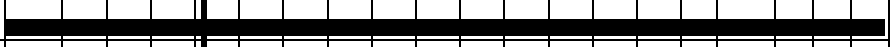


**1. Status:** Not started.

This action has not yet been initiated, and it is expected to be carried out according to the schedule foreseen in the application.

## Project Gantt chart





	Actual	
E1.1.	Proposed	
	Actual	
E1.2.	Proposed	
	Actual	
E1.3.	Proposed	
	Actual	
E2.	Proposed	
	Actual	
E2.1.	Proposed	
	Actual	
E2.2.	Proposed	
	Actual	
E2.3.	Proposed	
	Actual	
E2.4.	Proposed	
	Actual	
E2.5.	Proposed	
	Actual	
E3.	Proposed	
	Actual	
E3.1.	Proposed	
	Actual	
E3.2.	Proposed	
	Actual	
E3.3.	Proposed	
	Actual	
E3.4.	Proposed	
	Actual	
E3.5.	Proposed	
	Actual	
E4.	Proposed	
	Actual	
E5.	Proposed	
	Actual	
F1.	Proposed	
	Actual	
F2.	Proposed	
	Actual	



technical journey we were able to receive a group of nature guards, who had recently been hired by the ICNF and who had very little training in conservation. The journey made possible to increase their knowledge on the Natura network and habitats, and thus better accomplish their work.

**Key Project-level Indicators (KPIs):** we had finalised the inclusion of data into the KPI webtool. Despite the initial phase of the project, we believe that we already contributed to the achievement of the objectives set by the defined indicators: project area (improved 3.8 ha); Humans influenced by the project (14 frequently present in the area and 600 others); Broad leaf forests sustainability (2ha); soil organic matter (3.8 ha); Annex I habitat 5230 (2ha); Involvement of ONG's (11 persons) and public bodies (12 persons); website (2100 visits); print media (2); displayed information (12 PowerPoint; 2 Posters); Networking (13 professionals); professional training (26 professionals; 200 students); and jobs created (3);

**Policy implications:** The presence in scientific events, with the attendance of local and regional politicians and even national administration, made possible to pass the message that is the scientific knowledge that had to condition the policies, and not the opposite. This awareness about the importance of habitats preservation and the Natura2000 Network will certainly lead to management changes and to forwarding more funds for conservation.

## 5.4.Outside LIFE

By the influence of LIFE-RELICT some populations and public institutions are now collaborating with us in the collection of seeds (e.g. inhabitants from Casal de Rei, Cabeça, an association of forest producers in Oleiro and from the Municipality of Oleiros). We are also influencing a large Portuguese forestry company (Navigator, see support letter), to stop to explore a 5230 habitat potential area (in Mata do Alvaro, Oleiros).

Also, in Mata da Margaraça, the ICNF has replicate our C7 intervention in areas adjacent to LIFE-RELICT areas, inside Mata da Margaraça.

## 6. Financial part

### 6.1. Costs incurred (summary by cost category and relevant comments)

Budget breakdown categories	Budgeted costs in €* in €	Costs incurred from the start date to 31/08/2018 in €	% of Budget**
<b>1. Personnel</b>	782 514,00	152 725,42	20%
<b>2. Travel and subsistence</b>	165 393,00	14 169,62	9%
<b>3. External assistance</b>	399 018,00	3 726,00	1%
<b>4. Durable goods</b>			
<b>Infrastructure</b>	-	-	
<b>Equipment</b>	33 646,00	2 712,15	8%
<b>Prototype</b>	-	-	
<b>5. Land purchase / long-term lease</b>			
<b>6. Consumables</b>	83 503,00	5 665,46	7%
<b>7. Other Costs</b>	82 562,00		0%
<b>8. Overheads</b>	108 263,00	12 529,91	12%
<b>TOTAL</b>	<b>1 654 899,00</b>	<b>191 528,56</b>	<b>12%</b>

In this first year of the project (which will last 5 years), 20% of the budget for Personal was spent, in opposition to the other rubrics, where the amount of money spent is low. The major cause of this imbalance is the nature of the work done, once the first year of the project was stipulated to do the preparatory actions that are more Personal dependents. Also, some of the external assistance (A1) had not been paid in August (External assistance for A1), meanwhile the external assistance for A3 and C1 actions have been dispensed.

## 7. Annexes

### I. Partnership Agreements.

### II. Açor-Complexo da Margaraça – Proposed alterations to the original project.

*Includes a document with the summary of the events in Margaraça and its project implications (1), the proposal of alterations to the original project (2)*

### III. List of accomplishments in milestones and deliverables.

### IV. LIFE-RELICT Update organogram.

### V. Answer to EASME letter (Brussels, 09/04/2018; EASME B3/SD/D(2018)2098649).

### VI. Landowners long-term commitment letters – **DELIVERABLE (A1)**

### VII. Rhododendron' regenerations – first results (A3).

*Includes photos and data collect in the field work*

### VIII. Progress in plant propagation (C1).

*Includes the ICNF licences (1), data about location of recollection areas and propagation procedures (2), and some photos (3).*

### IX. Progress in *Prunus lusitanica* areas (C2).

*Includes location of the intervention area (1), and some photos of the intervention (2).*

### X. Progress in fire prevention (C7).

*Includes location of the intervention area, and some photos of the intervention.*

### XI. Monitoring C actions (D1).

*Includes data on seed germination and plant propagation monitoring (1), protocol for monitoring vegetation (2), field survey sheet (3); location of the implanted transects (4), photos (5), collected data (6), main results of vegetation monitoring (7), and the list of heliophile species found in the project area (8).*

### XII. Socio economic monitoring (D2).

*Includes socio-economic indicators (1), population and technical surveys (2) and main survey results (3)*

### XIII. Monitoring Ecosystem services (D3).

*Includes basic information on TESSA model (1) and first fauna evaluation results (2)*

### XIV. Project Indicators – **DELIVERABLE (D5)**

*Includes the monitoring of the indicators established in the proposal (1) and KPI indicators (2)*

### XV. LIFE support letters – **DELIVERABLE (E1)**

### XVI. Web and facebook pages (E1).

*Includes prints of the webpage (1) and facebook (2)*

**XVII. Actions performed in “Cabeça Aldeia Natal” (E2 and E3).**

**XVIII. Scientific dissemination (E4).**

*Includes journey information (1.1 invitation, 1.2 general information, 1.3 photos, 1.4 inquiry made to participants, 1.5 inquiries results, 1.6 participant list, 1.7 participants certificates); Information about participation on scientific meetings (2.1. photos; 2.2. PowerPoint presentations); and information about the first seminar*

**XIX. Networking with other projects (E5).**

*Includes information exchanged with other life projects (1); Photos from the presence of ECOMED Project in our territory (2); Presentation made in “INTER LIFE PT 18” (3)*

**XX. Project Coordination (F1).**

*Includes the Kick-Off Meeting presentation and steering committee structure*

**XXI. Scientific Committee (F2).**