

**Project of Range Expansion, and Population Size of the
Priority Species *Fringilla teydea polatzeki***

LIFE14 NAT/ES/000077

LIFE PINZON

Action F4: AFTER-LIFE conservation plan

Annex LII. Deliverable. Plan After-Life

May 2020



LIFE PINZÓN LIFE14 NAT/ES/000077



LIFE PINZÓN LIFE14 NAT/ES/000077

Produced by:

Laura Comes Aguilar
LIFE+Pinzón Technical Director

Collaborations:

Maps

Ángel Moreno,
Biologist, Canary Islands Government (Figure 5)
Ruth de Oñate,
Forestry engineer, Cabildo of Gran Canaria (Figure 2)

Photography

José M. Caballero (Photo 1)

Las Palmas de Gran Canaria, May 15th 2020



Table of content

1. Project Data	1
2. Introduction	1
3. Project area	2
4. Project objectives.....	3
5. Project actions	3
5.1. Review of the implemented actions in the framework of the LIFE+Pinzón project.	4
7. SWOT Analysis at the end of the LIFE+Pinzón project.	15
8. After-LIFE conservation plan – Objectives and actions.....	18

List of abbreviations

CGC: Consejería de Medio Ambiente y Emergencias del Cabildo de Gran Canaria
VMA: Viceconsejería de Medio Ambiente del Gobierno de Canarias
BOC: Boletín Oficial de Canarias
CSIC: Consejo Superior de Investigaciones Científicas
SPA: Special Protection Area
SAC: Special Area of Conservation
CS: Central Summit
I: Inagua

1. Project Data

Project location	Las Palmas de Gran Canaria, España
Project start date	09/16/2015
Project end date	02/15/2020
Total budget	1.123.860 €
EU contribution	674.316 € (60%)
(%) of eligible costs	100
Name of Beneficiary	TRAGSA
Name of the associated beneficiaries:	Consejería de Medio Ambiente y Emergencias del Cabildo de Gran Canaria Viceconsejería de Medio Ambiente del Gobierno de Canarias
Project website	http://lifepinzon.org/

2. Introduction

Life+Pinzón Project, LIFE14 NAT/ES/000077, Project of range expansion, and population size of the priority species *Fringilla Teydea polatzeki*

The population of the Blue Chaffinch of Gran Canaria (*Fringilla polatzeki*) is closely linked



Photo 1. Blue Chaffinch ringed male

to the Canary Island pine forests (*Pinus Canariensis*), which currently have a very fragmented and reduced surface area compared to the original. The whole habitat of this subspecies is integrated into the Canary Islands Network of Natural Protected Spaces, also protected by Natura 2000 Network* (under the protection figures SACs and SPA).

Naturally, the pine forests that make up the Natural Reserve of Inagua (I) are very heterogeneous, due to an altitudinal gradient and exposure according to slopes orientation. This, combined with the decreasing area they have suffered due to the boom in some economic activities developed on the island for centuries, inadequate forestry treatments, grazing activities and frequent forest fires, such as the one in July 2007 where the Blue

Chaffinch population was reduced to half, makes pine forests a limiting factor for the population of the target species.

The fact that this subspecies has a small population size, has a high habitat specificity and is subject to the negative pressure of predation, both by native (sparrowhawks and crows) and non-native predators (feral cats), is a determining factor for its status as "Endangered" by the IUCN, and as a priority species in the Annex I of the Bird Directive (79/409/EEC).



Photo 2. Reforestations

LIFE14 NAT/ES/000077 project, Range expansion, and population size of the priority species *Fringilla Teydea polatzeki*, beneath the acronym LIFE+Pinzón, has implemented a series of preparatory, conservation, monitoring, dissemination of results and management actions with the aim of restoring and conserving the habitat of the Blue Chaffinch of Gran Canaria, as well as increasing its population size and distribution. These objectives are in line with the Conservation Programme implemented by the Viceconsejería de Medio Ambiente del Gobierno de Canarias in 1991 and whose conservation measures were financially supported by the European Union through two LIFE projects, carried out between 1995 - 1997 and 1999 - 2002. This subspecies, as a consequence of one of the LIFE actions, has been benefited with two Recovery Plans managed through the Cabildo de Gran Canaria and approved by the Canary Islands Government during the periods 2005- 2012 and 2013-2018.

3. Project area

Over the period of the project, September 2015 – February 2020, reforestation actions were carried out to link the different pine forest throughout ecological corridors with the aim of allowing displacements of the Blue Chaffinch population between them. The Special Areas of Conservation (SACs) listed below are contained in the LIFE+ Pinzón project area, (Figure 1):

- [ES7010006] Los Marteles (included with the modification).
- [ES7010018] Riscos de Tirajana.
- [ES7010019] Roque Nublo.
- [ES7010039] En Nublo II.
- [ES7010040] Hoya del Gamonal.
- [ES0000041] Ojeda, Inagua y Pajonales.
- [ES0000111] Tamadaba.

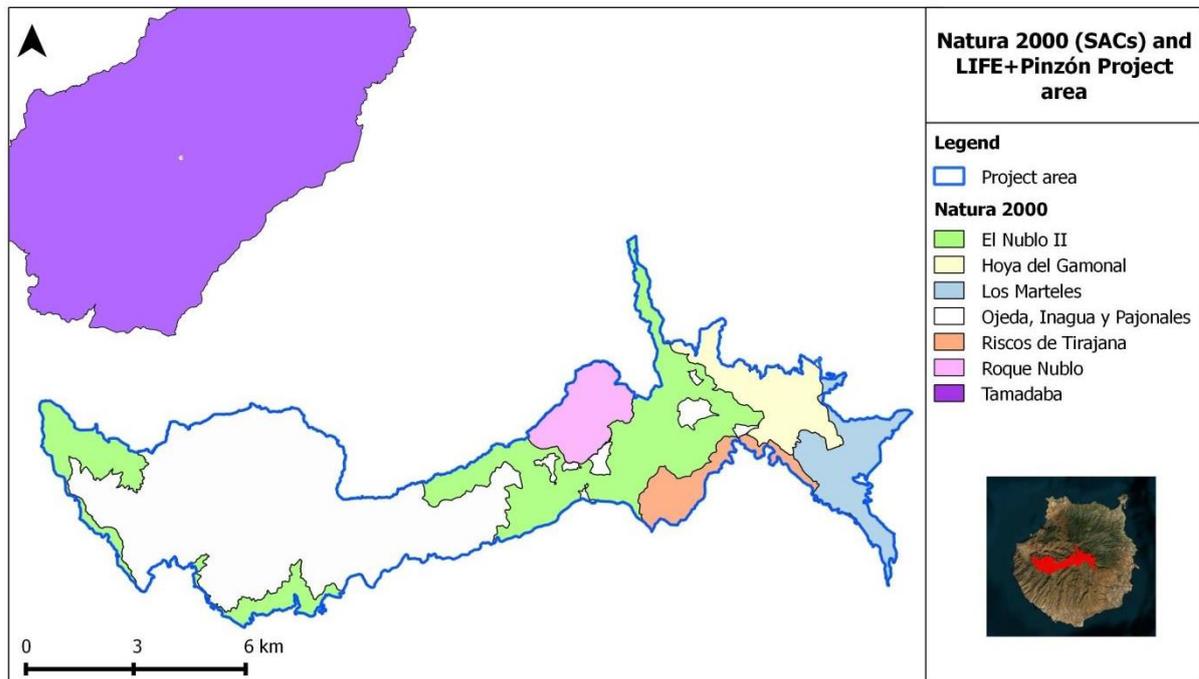


Figure 1. Special Areas of Conservation (SACs) and LIFE+Pinzon Project area.

4. Project objectives

Taking into account the purpose for which the project was launched, to achieve a viable population size in the long term, by enhancing the increase of its population and distribution through the restoration and conservation of the subspecies' habitat, the following objectives were set:

1. Creation of sustainable population centres of Blue Chaffinch in the pine forests of the summit of Gran Canaria.
2. Improvement of the productivity of viable individuals for their release into the wild from the captive breeding centre.
3. Increase of the population size of Blue Chaffinch in the island of Gran Canaria.
4. Environmental restoration for the operation of ecological corridors set out by the project LIFE07 NAT/E/000759.

5. Project actions

The project actions carried out to achieve the above objectives are presented below (Table 1):

Table 1. Overview of the actions of the project

A. Preparatory Actions	<p>A1 Analysis, evaluation and writing of protocols for translocations from the Gran Canaria Blue Chaffinch source population.</p> <p>A2 Selection and evaluation of new locations to release bred in captivity and translocated specimens.</p>
-------------------------------	---



LIFE PINZÓN LIFE14 NAT/ES/000077

	A3 Improvement strategies for reproduction of the Gran Canaria Blue Chaffinch in the captive breeding centre.
C. Conservation Actions	<p>C1 Release of bred in captivity and translocated specimens in the pine forests of the Gran Canaria Central Mountain.</p> <p>C2 Control of non-native predators in the release area of the Gran Canaria Central Mountain pine forests and in the Fully Protected Natural Reserve of I.</p> <p>C3 Implementation of the necessary plantations to put in use the ecological corridors analysed by the Project LIFE07 NAT/ES/000759</p> <p>C4 Including the pine forest of the central mountain region of Gran Canaria under the Special Protection Area (SPA) status</p>
D. Monitoring Actions	<p>D1 Monitoring of the Gran Canaria Blue Chaffinch population.</p> <p>D2 Evaluation of the releasing, reforestation and habitat improving actions.</p> <p>D3 Socio-economic impact assessment of the project actions on the local population and economy, and the restoration of ecosystem functions.</p> <p>D4 Monitoring and evaluation of feral cat control in the working areas.</p>
E. Dissemination Actions	<p>E1 Project Website.</p> <p>E2 Project dissemination material.</p> <p>E3 Dissemination and environmental volunteer actions for the monitoring of the Gran Canaria Blue Chaffinch and the creation of ecological corridors.</p> <p>E4 International conference about recovery of endangered island birds. Breeding in captivity processes and new populations instaurations.</p> <p>E5 Informative panels.</p> <p>E6 Layman report.</p> <p>E7 Working tables with professional and local social sectors involved in conservation and the sustainable use of the area's resources.</p>
F. Project management and monitoring of project progress Actions	<p>F1 Project management.</p> <p>F2 External Auditory.</p> <p>F3 Networking.</p> <p>F4 After-LIFE conservation LIFE.</p>

5.1. Review of the implemented actions in the framework of the LIFE+Pinzón project.



To reach objective 1, there are two preparatory actions which, by means of simulation models, have allowed the evaluation of the risks of collecting specimens from source population of Blue Chaffinch for translocation (Action A1) as well as, the selection of the released areas that fulfill the optimum requirements of the Blue Chaffinch's habitat (Action A2). The documents "Analysis, Evaluation and Writing of Protocols for Translocations from the Gran Canaria Blue Chaffinch Source Population" and "Selection and Evaluation of New Locations to Release Bred in Captivity and Translocated Specimens" were redacted within these actions.

Objective 2 is based on Preparatory Action A3, aimed at incorporating wild individuals (eggs and/or flying chickens) into the captive breeding centre to increase genetic variability within it. This action was cancelled in 2018 after reporting to EASME the problems with the breeding centre and the opinions of the consultations made to different specialists about the best methodology for conservation. Therefore releases were mainly based on translocation, although captive-bred individuals produced during the project were also released in the CS pine forest.

To achieve objective 3, the actions carried out are aimed at the release of bred in captivity and translocated from I specimens in the CS (Action C1). Some tasks were implemented in order to reduce the negative pressure that feral cats exert by placing traps in the Blue Chaffinch's distribution areas (Action C2), as well as monitoring of the project areas (Action D2) and starting procedures for the recognition of some additional Blue Chaffinch habitat areas as SPA (Action C4). In addition, through Action D1, a monitoring of the subspecies' population in I and CS pine forest was carried out.

Linked to this objective other actions were run in order to contribute to the awareness of different sectors about the issues of the Blue Chaffinch and the necessity of its conservation. These dissemination actions included the setting up of information panels, the preparation of informative material, environmental volunteering and workshops with children and adults, information stands and the Website of the project. Moreover, the evaluation of the socio-economic impact of the actions of the project, as well as the restoration of ecosystem functions in the project area. The exchange of information with specialists and interested sectors was conducted through the international conference and the working tables.

In order to achieve Objective 4, the plantations necessary to implement the ecological corridors that communicate the population centres of the species was carried out (Action C3).

A1. Analysis, evaluation and writing of protocols for translocations from the Gran Canaria Blue Chaffinch source population.

Over the period of the project two Plan of Viability, Risks and Translocation were redacted in 2016 and 2018, respectively. The study considered habitat requirements, biological necessities, characteristics from source population and their availability, diseases, parasites and animal well-being. In the first study, five possibilities were studied, all of them showed that in 3 years the population would be recovered. In the study carried out in 2018, the new scenario was assessed and the impact of forest fires on the wild population was also analysed,



based on their frequency and intensity in the last years, guaranteeing that if a new disaster occurs in the future the species would be able to recover.

A2. Selection and evaluation of new locations to release bred in captivity and translocated specimens.

Within this action, the document "Selection and Evaluation of New Locations to Release Bred in Captivity and Translocated Specimens" was written.

The results showed that pine height, tree cover, altitude, and rainfall during the driest trimester (July-September) are variables that affect the habitat preference of the Blue Chaffinch. Taking this data into account, a habitat suitability model was made, showing that the South and West CS pine forests, such as Los Marteles, Pilancones and Tamadaba pine forests, may be used by the Blue Chaffinch for reproduction. This document served as a background for the selection of release sites for the Blue Chaffinch. Moreover, two scientific papers were produced, "Habitat suitability-density relationship in an endangered woodland species: the case of the Blue Chaffinch (*Fringilla polatzeki*)" and "Striking resilience of an island endemic bird to a severe perturbation: the case of the Gran Canaria blue chaffinch".

A3. Improvement strategies for reproduction of the Gran Canaria Blue Chaffinch in the captive breeding centre.

This action is intended to ensure genetic variability within the captive breeding centre, producing specimens able to breed. This input of genetic variability to the breeding centre would come from wild individuals obtained by collecting eggs and/or juveniles from the source population. This action did not succeed due to several diseases presented by the birds in the captive breeding centre during the first year of the project and because of a lack of synchronization between reproduction periods of wild and captive populations; moreover, juveniles need a long time, 3-4 years, to breed in captivity. The action was cancelled in 2018, although all the individuals produced in the breeding center during the LIFE period were released in La Cumbre.

C1. Release of bred in captivity and translocated specimens in the pine forests of the Gran Canaria Central Mountain.

The breed in captivity tasks were developed by the CGC. The methodology employed to release the bred in captivity individuals was "soft release" while for translocated specimens from I the methodology employed was "hard release" and these tasks were developed by VMA. All the releases throughout the project were carried out in the pine forest of the CS in accordance with the documents from Action A1 and A2.

Over the period of the Project, 107 specimens were released, 42 from the captive breeding centre (18 males and 24 females) and 65 from translocation (30 males and 35 females). The sex ratio, considering all released individuals, is slightly biased towards females (in a proportion of 0.56), a fact considered favourable because at the beginning of the project the population was biased towards males. The CS population is made up of 68 specimens.



C2. Control of non-native predators in the release area of the Gran Canaria Central Mountain pine forests and in the Fully Protected Natural Reserve of Inagua.

This action aims to control feral cat population through selective trapping (using Tomahawk traps) in the project areas. Over a period of 3.5 years, 170 cats have been captured, and although it is not possible to say that the population of this predator has been reduced, surely its pressure on the Blue Chaffinch over reproduction time was effective. The captured animals were transferred to the animal shelter of the CGC.

C3. Implementation of the necessary plantations to put in use the ecological corridors analysed by the Project LIFE07 NAT/ES/000759

The aim of "building" ecological corridors by means of Canarian pines (*Pinus canariensis*) and brush (*Chamaecytisus proliferus*) plantations pretends to promote and facilitate communication between the population centres of the Blue Chaffinch. The ecological corridors areas are made up of smallholdings, which mean that in order to carry out reforestation work it is necessary to make agreements between LIFE+Pinzón project and private owners. 89,79 ha were authorized to be planted during the project by 30 different private owners and 2,86 ha in Anden del Toro (Cruz de Tejeda) will be planted during the After-LIFE. Moreover, seven more landowners are expected to allow planting in 29 ha over the After-LIFE period.

The total planted by 4 fieldworkers and volunteers was 44,490 plants on a surface of 156.26 ha. There were also 11,802 pine trees planted in Los Marteles and 8,671 in I (53,7 ha), under the commitment signed by CGC to do all in its power to ensure the successful reforestation of the project areas and its maintenance during the project and after it ends. Taking into account both reforestation actions, 64,963 trees were planted throughout the project on a surface of 210 ha (Table 2). The number of planted trees, re-planted trees and percentage of survival is shown in Table 3. The reforested area during the project, the area where is possible to carry out reforestation during the After-LIFE period and that area where planting tasks are unauthorized are show in Figure 2.

From 2017, on every planted plot, 15 trees were measured at least once a year to collect data on their growth; the medium growth of planted and living trees in the plots is 3 - 8 cm/year in 2018 and 2 - 9 cm/year in 2019 (depending on the corridor). Some growth-plots were replaced during the last measures made due to the low rate of survival of the pines selected. Results on growth monitoring have shown that trees root and growth more strongly when the weather was favourable, as happened in 2018.

Table 2. Total surface, number of trees planted in each ecological corridor and planting surface during the After-LIFE period.

Ecological corridor	2015-2020		2020-2025
	Total surface (ha)	Number of planted trees	Planting surface After-LIFE (ha)
Central Summit	46.08	17,723	29



LIFE PINZÓN LIFE14 NAT/ES/000077

Pilancones	42.15	10,249	
Cruz Tejada	67.03	15,267	2.86
Marteles	44	13,060	
Inagua	11	8,671	
Tamadaba			64.14*
TOTAL	210	64,963	96

*The Tamadaba planting area is outside of the project area.

Table 3. Number of planted trees, number of replanted trees and percentage of survival throughout the project

	2016-2017	oct-17		2017-2018		oct-18	
Ecological corridor	Nr. Planted trees	Nr. Plants alive	% Survival	Nr. Replanted trees	Total Nr. Planted trees	Nr. Plants alive	% Survival
Central Summit	7,033	911	12.95	4,100	5,748	2,808	48.85
Pilancones	3,498	903	25.81	845	845	724	85.68
Cruz Tejada	2,160	226	10.46	2,015	4,683	2,947	62.93
Marteles					400	40	10
TOTAL	12,691	2,040	16.41	6,960	11,676	6,519	65,82

	2018-2019		oct-19		2019-2020	
Ecological corridor	Nr. Replanted trees	Total Nr. Planted trees	Nr. Plants alive	% Survival	Nr. Replanted trees	Total Nr. Planted trees
Central Summit	1,148	2,577	2,016	78.23	2,358	2,358
Pilancones	285	2,921	690	23.53	1,171	2,985
Cruz Tejada	697	6,102	3,088	50.6	922	2,322
Marteles	369	469	147	31.35	389	12,191
Inagua						8,671
TOTAL	2,499	12,069	5,941	45.95	4,851	28,527

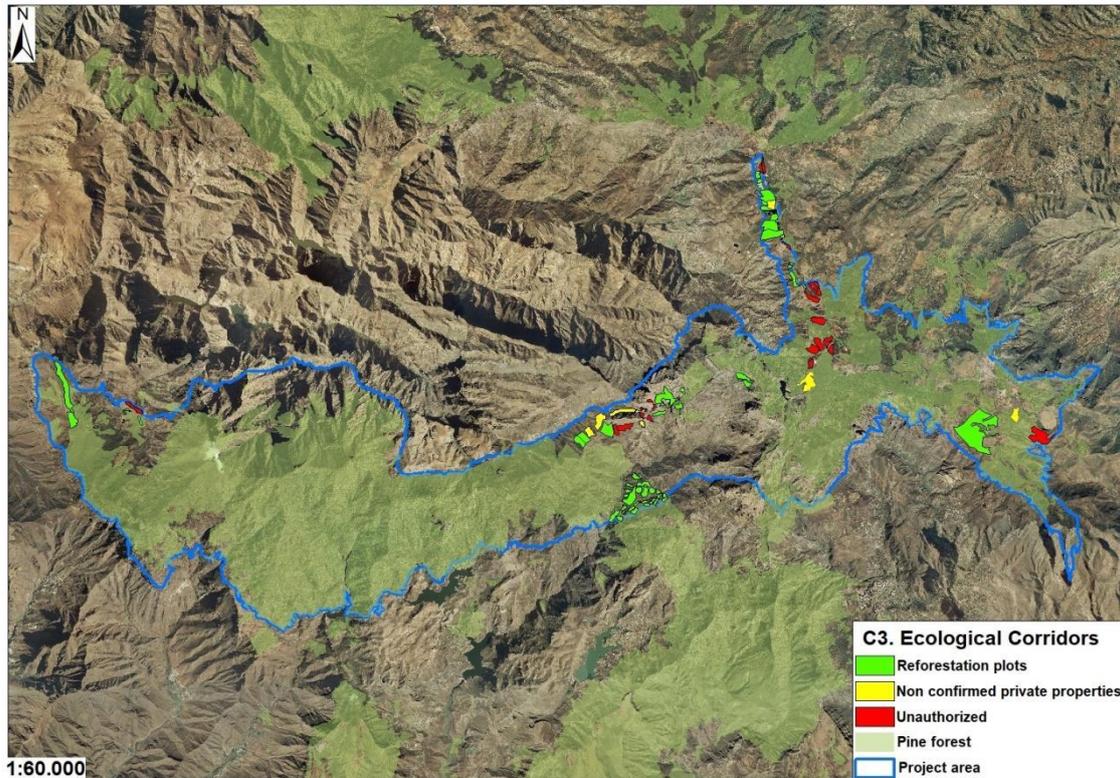


Figure 2. Map showing the reforested area throughout the project (light green), the possible area to carry out reforestation task during the After-LIFE (yellow), unauthorized areas (red) and the pine forest surrounding the project area (dark green).

C4. Including the pine forest of the central mountain region of Gran Canaria under the Special Protection Area (SPA) status.

The benefit to designate Special Protection Area (SPA) in the CS is to create a legal framework in the area where a new population nucleus of the Blue Chaffinch has been created, which allows implementation of conservation actions and regulation of the actions that can be a risk for the habitat or the species itself. The announcement of the draft Decree, in which the declaration of Special Protection Areas (SPA) is made public in the Autonomous Community of the Canary Islands and new areas are declared on the island of Gran Canaria, which includes ES 0000551- Cumbre de Gran Canaria proposed for the LIFE+Pinzón commitment, was published in the BOC on the 7th of April 2020.

The map displaying the delimitation of the SPA is shown in Figure 3. The limits defined during the project for the SPA cover an area of 3,613.69 ha. It is located amongst municipalities of Tejeda, San Bartolomé de Tirajana, Vega de San Mateo, Valsequillo, Ingenio, Agüimes and Santa Lucía de Tirajana. The SPA borders with other SPA's, with ES0000041 Ojeda Inagua and Pajonales at west and with ES0000110 Ayagaures and Pílancones to the south.

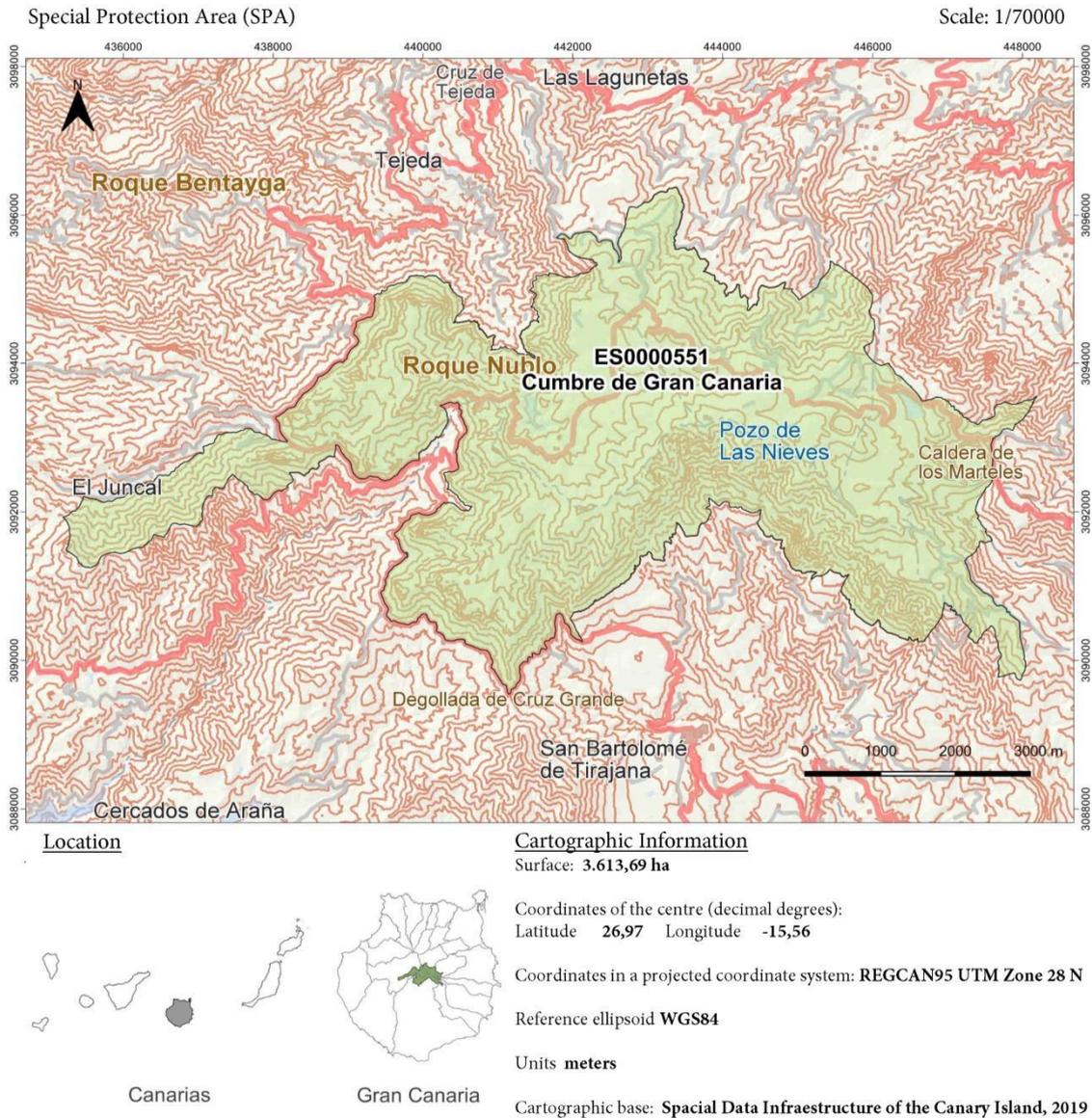


Figure 3. Map showing delimitation of ES0000551-Cumbre de Gran Canaria SPA.

D1 Monitoring of the Gran Canaria Blue Chaffinch population.

The monitoring of the two population centres allows the assessment of population trends and the successful release of both captive breeding centre and translocations. This action includes monitoring during the breeding season nests and censuses, annual ringing campaigns, prospecting in other pine forests susceptible of hosting the Blue Chaffinch and radio-tracking of some individuals released at the CS to identify dispersal routes. To facilitate the settlement of the released individuals, artificial feeder troughs were established in the CS during the winter.

The total estimated population at the end of the project was 430 individuals, 68 specimens in the CS and 362 in I. The density of the Blue Chaffinch increased in both pines forests

throughout the project period, reaching the highest value ever recorded. The rate of recapture of the birds from the captive breeding centre in the following spring after its release in the CS was higher compared to that recorded for the translocated birds captured in I. Data on successful breeding was collected from 2016 to 2017 in the population of both pine forest, CS and I. Results showed that breeding is similar in both pine forests in stable conditions. However, in 2018 and 2019 it was only monitored in the CS, in order to have more time for monitoring and finding released individuals. Captive specimens survived in a similar way to the translocated ones during the first weeks after their release. During this time, translocated specimens occupied broader area than captive birds, which were more linked to the release area and feeding troughs. Results obtained in Action D1 throughout the project are shown in Table 4.

The monitoring results also showed that the Blue Chaffinch population apparently had three dispersal routes: two to the Inagua Reserve and one to Cañada de la Cruz (Los Marteles pine forest). It is also worth mentioning that probably more dispersal routes can be found if increasing the ringed specimens.

Within this action ecological information was also provided on the winter biology of the Blue Chaffinch in the pine forests of La Cumbre, specifically on its dependence on supplementary food resources, inter-individual variations in the use of feeders (according to sex, age, and wild vs. translocated), the relationship with meteorology, circadian rhythms, levels of intra-specific competition, and the interaction of the Blue Chaffinch with other forest species. The results suggested that there is no general trophic limitation in the pine forests of La Cumbre for this species although the specimens were slightly more present at feeders on days of higher rainfall. The rest of evaluated parameters did not show significative results.

Table 4. Results on monitoring of the Blue Chaffinch population in Gran Canaria throughout the project. (I, Inagua; CS, Central Summit).

	2016		2017		2018		2019	
	I	CS	I	CS	I	CS	I	CS
Estimated population	278	38	363	41	272	60	362	68
Individuals/km²	16.1	1.12	12.7	2.51	8.3	2.69	17.7	3.3
Reproductive breeding pairs monitored	17	16	17	10		21		28
Failed nests (%)	25	23	15	25		25		27
Productivity (chicks/pair)	1.53	1.06	1.82	1.67		1.40		1.29
Successful breeding (%)	58	59	72.73	49.39		50.59		47.49
Breeding period	Apr-Aug	May-Aug	5 Apr-Aug	19 Apr-Aug		19 Apr-Aug		Apr-Aug
Wild ringed individuals	20	4	14	24	10	28	21	63
Total ringed individuals	56		68		60		107	



D2. Evaluation of the releasing, reforestation and habitat improving actions.

Through this action, Actions C1 and C3 were followed up to ensure that the objectives were correctly achieved, by monitoring the Blue Chaffinch population and the reforestation tasks (number of planted trees, irrigated plants and their survival as well as the growth of the planted trees).

D3. Socio-economic impact assessment of the project actions on the local population and economy, and the restoration of ecosystem functions.

The action aims to determinate the impact of the project on the local economy, the social perception of it and the improvement of the ecosystems where the project was carried out. The methodology TESSA was implemented to develop this action.

D4. Monitoring and evaluation of feral cats control in the working areas.

Through this action, Action C2 was followed up, by analysing the compiled results in a database filled in during the project. This data contains information on the locations of the traps (GPS data) and the results obtained in Action C2 (bait used and description of the cats captured as i.e. sex, age, colour).

Most of the traps were settled under bushes and rocks, and the main bait used was “chorizo of Teror”, although meat and sardine were also used. 170 cats were captured and 2,031 traps were placed during the project, thus its effectiveness (cats captured/settled traps) was 8.4%. Data on captures showed that there are no differences in the sex of the cats captured, a fact that can be explained by cats being solitary animals. There was a greater capture of adults cats than juveniles (96 and 62 cats, respectively), which may be because adults cover larger territories than juveniles, although these last ones could make bigger displacements outside the breeding season. The presence of cats of several colours during the last years of captures could indicate that cats coming from nearby towns are occupying the space left by the feral cats. Therefore, in order to prevent an increase in the number of cats within the project area, an effort should be made to control the cat populations in the areas near the project.

The map displayed below has information on the location of traps and captures throughout the project (Figure 4).

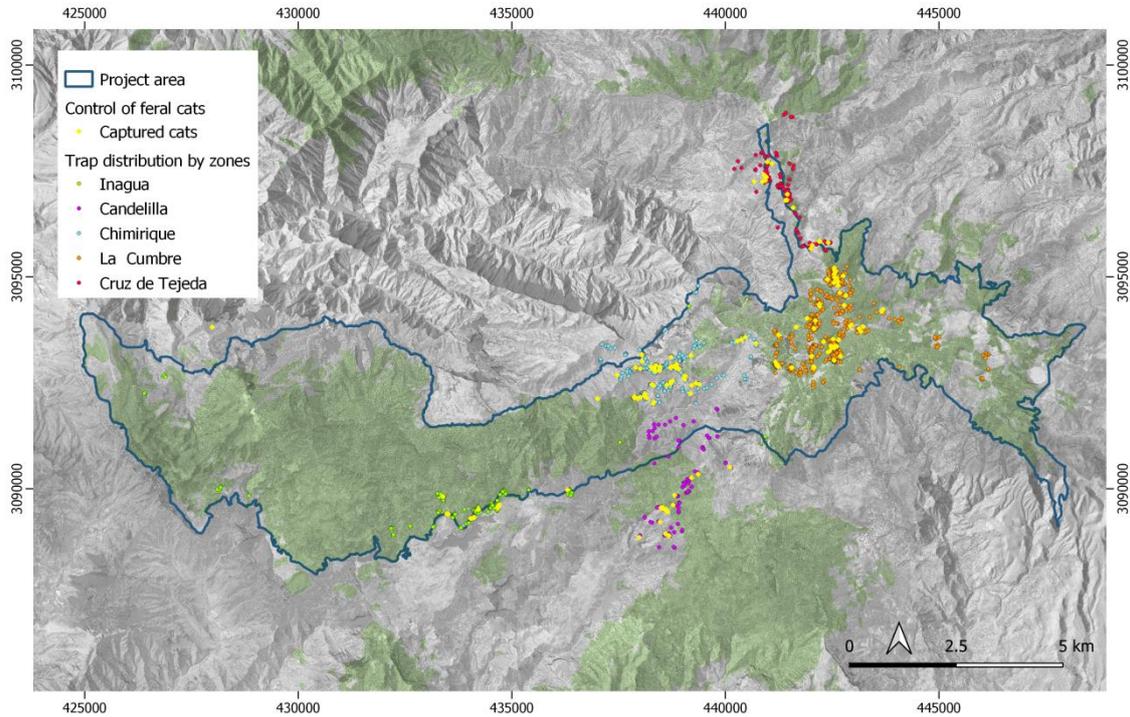


Figure 4. Location of traps distributed in the project areas (zones) and captured cats (yellow) within the project.

E1. Project Website.

With this webpage, the proposed objective was achieved of informing the population about the LIFE+Pinzón project, its actions, objectives, progress and results which were regularly updated. Since the beginning of the project until February 15th 2020, 40,478 visitors went through the Website; its Facebook page had 1,053 followers and Twitter 216.

E2. Project dissemination material.

In a project of this nature it is essential to involve the local population and sectors affected by it, in order to achieve the objectives of the project. Therefore, awareness actions must be carried out in order to involve the population, and these must be supported with the appropriate material to achieve the objectives. Therefore, it is essential to have dissemination material, both in paper and digital format, to allow the population to become aware of the current Blue Chaffinch situation and the need to protect its habitat, as well as the actions developed to reach the objectives. In table 5, the dissemination material developed during the project is shown.

Table 5. Dissemination material developed during the project.

Material	Copies
T-shirt	2,000
Caps	2,000
USB	1,000
Pens	1,000
Bags	1,000
Notebooks	1,000



LIFE PINZÓN LIFE14 NAT/ES/000077

Brochure	10,000
Leaflets	10,000

E3. Dissemination and environmental volunteer actions for the monitoring of the Gran Canaria Blue Chaffinch and the creation of ecological corridors.

Within the LIFE+Pinzón project, volunteering activities and informative workshops were carried out in different municipalities close to the project area. The total attendance at the volunteering events, where reforestation and irrigation activities were carried out, was 1,293 people. The workshops developed over the project (197) had an attendance of 8,073 people. All the activities performed in this action were very successful among the attendees, thus enabling the transfer of the knowledge generated over the project about the Blue Chaffinch and its habitat to people of different ages.

E4. International conference about recovery of endangered island birds. Breeding in captivity processes and new populations instauration.

It was carried out in order to give international visibility to the project, as well as to encourage exchanges of experience with similar projects that would help to improve the present project and others. In March 13-15th 2019 the International Conference "Conservation of threatened island birds through the establishment of new populations and habitat restoration" was held in the Salón de Actos of the Usos Múltiples building of the Canary Islands Government. Conservation of island threatened bird experts, habitat restoration experts and 7 different LIFE projects participated in the International Conference. In total, 24 speakers and 325 attendees took part in this event.

E5. Informative panels.

Through this action, notice boards were designed in Spanish and English in order to inform the local population and visitors about the activities developed within the Life+Pinzón project. 5 panels were placed in strategic locations within the project area. Three roll-ups were also designed and placed in the CGC and VMA halls. Other one was used for dissemination actions.

The recreation areas where the 5 notice boards were set up for the dissemination of the project are listed below:

1. Llanos de la Pez.
2. Cruz de Tejeda.
3. Embocada del Nublo parking.
4. Candelilla parking.
5. Tejeda bus station.

E6. Layman report.



LIFE PINZÓN LIFE14 NAT/ES/000077

This action was carried out during the last quarter of the project's life in order to disseminate the objectives and actions of the project to stakeholders. The document was designed in Spanish and English and 2,000 copies were printed. The document started to be distributed during an Act of Appreciation to land owners that supported the project.

E7. Working tables with professional and local social sectors involved in conservation and the sustainable use of the area's resources.

The objective of holding the working tables was to exchange experiences that allowed, on the one hand, to make the project visible at a social level and on the other hand, to acquire experiences from the different professional and social sectors.

5 working tables were made throughout the project (2016, 2017, 2 in 2018 and 2019). Representatives of organizations (environmental NGOs), enterprises (environmental and tourism companies), public administrations (local administrations, Cabildo de Gran Canaria, Canarian Government, Forest and Tourism Departments, Biosphere Reserve of Gran Canaria organism, LIFE project), University of Las Palmas, professionals and local stakeholders attended the working tables. The themes discussed at the working tables were implementing dissemination and local participation in the project, pushing tourism promotion, developing habitat improvement activities for the Blue Chaffinch, socio-economic impact and ecosystem functions in the project area, increasing knowledge of the traditional, current and potential activities in the project area that could be developed and should be strengthened. Moreover, an extra working table took place with all the speakers and experts of the International Conference and SEO Birdlife, which focused on assessing the best conservation strategies for the Blue Chaffinch, including habitat management during LIFE and After-LIFE term.

7. SWOT Analysis at the end of the LIFE+Pinzón project.

The SWOT summarizes information on the achievements of the project and the difficulties found in reaching the objectives. It allows the identification of priorities and needs in order to ensure, in the long-term, that conservation results are consolidated or extended. The SWOT analysis results have been presented in Table 6.

Table 6. Results from SWOT analysis.

Strengths	Weaknesses
<ul style="list-style-type: none"> ● Habitat enhancement, there are pine trees established in every ecological corridor. ● The monitoring of the population of the Blue Chaffinch shows an increase of the population in both pine forests, reaching the highest number of individuals registered so far. ● Knowledge on the winter biology of the Blue Chaffinch in the pine forests of the CS, related to its dependence on supplementary food resources, inter-individual variations in the use of artificial feeders, the relationship with meteorology, circadian rhythms, levels of intra-specific competition, and its interaction with other forest species. ● Draft of scientific documents with an important value for the conservation of the species. ● Increasing acknowledgement by the people of the natural, heritage and symbolic value of the island's endemism, such as the Blue Chaffinch of Gran Canaria. It was also helped by including the studying of the species in the educational plan. ● Developing of birdwatching tourism in the CS pine forest thanks to the higher number of specimens on it. A fact that reduces the presence of tourists in the Fully Protected Nature Reserve of I. ● Direct positive effects on the conservation status of the Blue Chaffinch due to the declaration of a new SPA in the island of Gran Canaria that will allow enhancement of the conservation status of the target species. ● A wide list of co-workers to exchange information, contacts and experiences was created throughout the project with a common goal: endemic threatened fauna conservation. 	<ul style="list-style-type: none"> ● Habitat restoration is a slow process. To assess if natural regeneration is occurring, long-term evaluation on establishment and plant growth is required. ● Relevant information on population trends and successful breeding requires an extensive database with annual information on ringing, capture-recapture, biometric data, census and nest monitoring. Supplying this database to get long-term results requires an investment of time and money. ● An important part of the ecological corridors areas is made up of smallholdings, which delays the reforestation work because of the need to make agreements with private owners. ● Limited economic capacity of public administrations to buy land for reforestation actions. ● Incompatibility of planting in areas where grazing is allowed or increased cost of reforestation by having to put up livestock fences to each plant. ● Part of the population rejects reforestations with pine trees. ● Differences in surface and difficulty of the ground between the pine forests of I and the CS caused difficulties to estimate the survival of the specimens in both pine forests taking into account the probability of recapture (higher in CS although there were less ringed specimens). ● Problems to create an ecological corridor directly from I to Tamadaba pine forest due to the presence of wild goats and the difficult access to the reforestation areas. ● Difficulties to carry out irrigation tasks: lack of sufficient human resources, availability of water and distance from roads to the irrigation areas. ● The number of cats captured during the project did not go down during the project, which could mean that cats from near local areas are being occupying the space left by feral cats.
Opportunities	Threats



LIFE PINZÓN LIFE14 NAT/ES/000077

- | | |
|---|--|
| <ul style="list-style-type: none">• Formation of a new population hub for the Blue Chaffinch, La Cumbre, as well as prospecting other pine forests where its presence would be possible.• Translocation as a methodology to set up a new population nucleus.• Creation of new ecological corridors through the planting of pines and brushes that will allow movements between the different hubs of the Blue Chaffinch population.• Increasing knowledge of the optimum requirements of the Blue Chaffinch's habitat allows us, through forestry treatments, to help the pine forests supply its needs while preventing disasters during forest fires.• Good opportunity for environmental education development.• Technicians from VMA plan to approve the Recovery Plan for the Blue Chaffinch of Gran Canaria. | <ul style="list-style-type: none">• Private properties where reforestation work was carried out and the owners wanted to allow grazing.• Possible presence of abandoned or escaped feral livestock in reforested plots.• Area susceptible to suffering another forest fire.• Water deficit and heatwaves episodes in the reforestation areas, which implies carrying out more irrigation tasks in the plantations to ensure their settlement. |
|---|--|

8. After-LIFE conservation plan – Objectives and actions

The After-LIFE plan sets the following objectives for the maintenance of the conservation of the Blue Chaffinch and its habitat.

Objectives

1. Maintenance of reforestations set during the project and achieving new ones
 - Irrigations, arrangement of pots and replacement of dead plants.
 - New agreements with private owners in order to increase the plantation area of ecological corridors.
 - Land acquisition.
 - Increasing plantation area outside the project area.
2. The Blue Chaffinch conservation
 - Control of non-native predators in an indirect way; making an effort to push municipalities to take measures to reduce the impact of predators on the autochthonous fauna through cat sterilization campaigns and awareness-raising activities about cats with the local population.
 - Maintenance and installation of 1 or 2 drinkers within the distribution area of the Blue Chaffinch.
 - Forestry treatments to adapt pine forest to the requirements of the Blue Chaffinch while preventing disasters during forest fires.
 - Prospecting of the pine forests of the CS and its surroundings, those of I closest to La Cumbre and Tamadaba.
 - Technicians from VMA plan to approve the Recovery Plan for the Blue Chaffinch of Gran Canaria.
3. Monitoring actions.
 - Monitoring of the Gran Canaria Blue Chaffinch population in I and La Cumbre (CS):
 - o I: ringing, capture and recapture, biometry and biannual census
 - o CS: monitoring of all nests during the breeding period (April-August), ringing, capture and recapture, biometry and annual census.
 - Collect data on growth-plots set up within LIFE+Pinzón project.
 - Winter monitoring of the Blue Chaffinch.
 - Analysis to find out the genetic diversity of the Blue Chaffinch individuals of Gran Canaria through samples of collected feathers (200 samples).
4. Public awareness and dissemination of results.
 - Maintenance of the website www.lifepinzon.org, Facebook and Twitter.
 - Dissemination actions.



LIFE PINZÓN LIFE14 NAT/ES/000077

The following table gives an overview of the actions which must be implemented in the 5 years after the project end in order to achieve the After-LIFE objectives. These actions were determined in the last Monitoring Committee meeting based on the achieved results and analyzed data in the framework of the LIFE+Pinzón project and also taking into account the SWOT analysis. The CGC, will be the main institution responsible for carrying out the actions indicated below, implementing them with its staff or through external assistance (Table 7).

The foreseen budget that the CGC will use to develop the actions is:

- € 250,000 per year for reforestation and maintenance tasks.
- € 40,000 per year for monitoring of the Blue Chaffinch population.
- € 1,500 per year for the maintenance of the website.



LIFE PINZÓN LIFE14 NAT/ES/000077

Table 7. Action programme in the After-LIFE period listed according to specific objectives. Inagua (I) and Central Summit (CS)

Code	Objectives and actions	When, How often	Where	Who	Sources of finance	Needed finances	Priority
1.	Maintenance of reforestations set during the project and achieving new ones						
1.1	Irrigations, arrangement of plots and replacement of dead plants	2020 - 2025	Candelilla, Chimerique, Degollada de Becerra, Marteles, I, Cruz de Tejada, Corral de los Juncos, Roque Nublo	External Assistance	CGC	€€€€€	***
1.2	Reforesting plots belonging to private owners.	2020-2015	Ecological corridors (Cruz de Tejada, Los Marteles, Pilancones, CS and I)	External Assistance	CGC	€€	*
1.3	Land acquisition	2020-2015	Ecological corridors (Cruz de Tejada, Los Marteles, Pilancones, CS and I)	External Assistance	CGC	€€	**
1.4	Increasing plantation area outside the project area	Occasional volunteers actions 2020-2025	Ecological corridor to Tamadaba pine forest (private plots)	SEO BirdLife, Cruz Roja, Fundación Foresta (*)	SEO BirdLife grant	€	*

(*) But also any other NGO interested in carrying out reforestation or irrigation activities.



LIFE PINZÓN LIFE14 NAT/ES/000077

	Objectives and actions	When, How often	Where	Who	Sources of finance	Needed finances	Priority
2.	The Blue Chaffinch conservation						
2.1	Indirect control of non-native predators (cat sterilization campaigns and awareness activities about cats with the local population)	2020-2025	I and CS	City councils	CGC	€€€€€	*
2.2	Maintenance and installation of 1 or 2 drinkers within the distribution area of the Blue Chaffinch	Heatwave periods (June-September) 2020 - 2022	CS	CGC	CGC	€€€€	**
2.3	Forestry treatments to adapt pine forest to the requirements of the Blue Chaffinch while preventing disasters during forest fires.	2020 - 2022	Cortijo de Hornos	CGC	CGC	€€€€€	***
2.4	Prospecting of the pine forests of La Cumbre and its surroundings, those of I closest to CS and Tamadaba.	2020 - 2025	CS, I and Tamadaba	External Assistance	External Assistance	€€€	*
2.5	Recovery Plan for the Blue Chaffinch of Gran Canaria.	2020 - 2025	-	VMA	VMA	€€€	**



LIFE PINZÓN LIFE14 NAT/ES/000077

Code	Objectives and actions	When, How often	Where	Who	Sources of finance	Needed finances	Priority
3.	Monitoring Actions						
3.1	Monitoring of the Gran Canaria Blue Chaffinch population in I and La CS. I: ringing, capture and recapture, biometry and biannual census. CS: monitoring of all nests during the breeding period (April-August), ringing, capture and recapture, biometry and annual census.	2020 - 2025	I and CS	External Assistance	CGC	€€€€€	***
3.2	Collect data on growth-plots set up within LIFE+Pinzón project	2020 - 2025	Ecological corridors (growth plots)	External Assistance (3 fieldworkers + supervisor)	External Assistance	€€	*
3.3	Analysis to find out the genetic diversity of the Blue Chaffinch individuals of Gran Canaria through samples of collected feathers	2020-2022	CS	CSIC (Consejo Superior de Investigaciones Científicas)	CSIC (Consejo Superior de Investigaciones Científicas)	€€	*
3.4	Winter monitoring of the Blue Chaffinch	December - February 2020-2022	CS, I and Tamadaba	External Assistance (2 people)	External Assistance	€€€	*



LIFE PINZÓN LIFE14 NAT/ES/000077

Code	Objectives and actions	When, How often	Where	Who	Sources of finance	Needed finances	Priority
4.	Public awareness and dissemination of results						
4.1	Maintenance of the website (www.lifepinzon.org)	2020 - 2025	-	External Assistance	CGC	€€	***
4.2	Dissemination actions	2020-2025	Tejeda, Artenara, Aldea de San Nicolás y San Mateo	External Assistance	CGC	€€	*

Legend of the table:

Budget needed: € = up to 5.000 euro; €€ = between 5.000 and 10.000 euro; €€€ = between 10.000 and 50.000 euro; €€€€ = between 50.000 and 10.000 euro; €€€€€ = more than 10.000 euro. Priority: *** = the action is absolutely necessary and crucial for reaching the objectives; ** = it would be very good to implement this action - it will lead to enlarged scope and efficiency of the project; * = this action may be implemented if there are free financial means.