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Executive Summary

The main goal of the LIFE+ Cantabrian capercaillie project has been to stop the decline of the subspecies native to the Iberian Peninsula and to promote its recuperation. Specifically, this initiative has been aimed at keeping the Cantabrian capercaillie's habitat in a good state of conservation through actions to restore and improve it: setting up a specific captive breeding programme for the subspecies; promoting reproduction and survival among adults; and raising public awareness, getting people involved and promoting knowledge regarding the subspecies and its habitat.

Unfortunately, there is no proof that the decline in the species has been halted and there seems to be a downward trend. The capercaillie has disappeared from 70% of the places where it used to live just three decades ago, with extinct populations in Lugo and Palencia. Although there has been no survey conducted recently, it is estimated that there are between 200 and 300 male specimen in the forests of the Cantabrian Mountains. There are many different reasons behind their decline, which makes it difficult to draw up universal strategies for conserving the capercaillie, since many things are leading them to disappear. However, within the framework of the project, all efforts have been put towards the same goal established by the Spanish National Conservation Strategy for the species, and a solid basis to ensure that this continues into the future has been created.

Regarding the completion of the specific objectives, following should be pointed out:

1. Promoting actions to improve the habitat in the 16 SPAs included where the capercaillie is found in the Cantabrian Mountains.

Within the framework of the actions to conserve and improve the habitat of the capercaillie (action C1), developing a land stewardship programme (action C8) and actions to promote traditional land uses (action C9), actions have been carried out to improve the habitat, on a total of 889 ha of land in the 12 SPAs, meeting the established indications (except for the SPAs in Somiedo, Ubiña-La Mesa and Ponga-Amieva, where the habit has been managed with the support of other European funds, and Muniellos, which is an integrated reserve and, therefore, any intervention is prohibited). All the actions were carried out based around the technical document on the conservation and improvement of the capercaillie's habitat in the Cantabrian Mountains (action A1). The evaluation conducted by the University of Valladolid confirms that actions implemented have improved the capercaillies' habitat and, therefore, also benefit other species that inhabit the same area (the brown bear, the grey partridge and the broom hare). Habitat management has helped towards the development of key plant species for the capercaillie, such as the bilberry, and to achieve forest areas with a better variety of structures in which there are open spaces, clearings, pastures, woodland and shrubbery. Furthermore, hatched broods and capercaillies have been seen in 17 areas treated as part of the project in the Alto Sil and Omañas SPAs.

2. Reducing the effect of predators and competition with other herbivores on the species

The effect of the main competition and predators has been reduced (action C2). Regarding the competition, the population density of deer in areas with capercaillies has been reduced



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(3,776 deer killed) and the effect of cattle farming in areas where there are capercaillies has been controlled. Regarding predators, 26 marten specimen in Cantabria and 8 more in the Picos de Europa SPA and Castilla y León have been caught and relocated to support the release of three females from the captive breeding centre. 2,871 boar and 981 foxes have been killed. All of these actions have been carried out based around the technical document that stipulates the main actions to be conducted to determine the situation of the predators of the capercaillie and the technical document that stipulated the main actions to be carried out to determine the predator situation and their effect on the capercaillie population (action A2). Following the recommendations in the report drawn up by Sociedad Española para la Conservación y Estudio de los Mamíferos (SECEM), it has been found that it is important to predators in the areas set out for releasing specimen into the wild. Alongside this, it was also noted that reducing the competition in the growth of bilberry bushes using fenced-off control areas in the Picos de Europa had an effect. This is beneficial to the quality of the bilberry and holly shrubs, increasing the amount of food available and improving the structure of supportive habitat that would protect it from predators. Lastly, 351 monitoring days have been held during hunts to avoid non-game species, such as the capercaillie or the grey partridge, from being accidentally shot.

Along the same lines, actions have been implemented to reduce other causes of the capercaillie dying due to unnatural causes:

- All livestock fences have been removed or signposted (action C3). The 60km mentioned in the initial report has been surpassed by 500m.
 - The risk of electrocution has been removed and noise impact has been reduced by 12.8dBA at the electricity substation in Collado La Vieja (action C4). As a special action, bird safety devices have been attached to 3.4km of electricity cables in Oseja de Sajambre in León (Picos de Europa SPA) reducing the risk of collision on days with low visibility.
3. Drawing up and setting up a captive breeding and creating a genetic reserve for the subspecies.

The functioning of the Cantabrian capercaillie captive breeding centre has been consolidated and a created a genetic stock has been created made up of 23 specimens (action C5). 22 specimen in the Sobrescobio breeding centre and one specimen in the wildlife recuperation centre in Cantabria, of which 15 are adult specimen (5 males and 10 females) and 8 are sub-adults (3 males and 5 females). For such purpose, the criteria from the working plan for the Cantabrian Capercaillie Breeding and Genetic Reserve Centre (action A3) has been followed, the technical document on the genetic characterisation of the Cantabrian capercaillie (action A5) and the protocols set in the National Strategy regarding captive breeding. Since 2010, 204 eggs have been laid, of which 34 were not suitable for incubation because they were laid without shells or were broken. 170 eggs (84% of those laid) were incubated and 56 hatched (35%), of which 23 survived (16% artificially incubated eggs and 85% of naturally incubated eggs). Of the 65% unhatched eggs, 25% were due to embryo death and 75% did not have any embryo development. The main problems detected were the eggs without embryo development and the high mortality rate of the newly hatched during artificial incubation. Over the years, data of interest regarding the species have been collected, as well as its reproduction, behaviour, feeding habits and healthcare aspects, and the facilities have been improved by including a park for chicks, where the specimen can get acclimatised before being



moved to the aviaries and a pre-release enclosure for keeping the specimens to be released into the wild.

4. Strengthening the existing population with specimen bred in captivity.

The first two attempts at releasing Cantabrian capercaillie specimens into the wild have been carried out (action C7). The first one took place in Picos de Europa SPA in Castilla y León 2014. Three females from the breeding centre were reintroduced into the wild and were able to feed themselves self-sufficiently for at least two months. In 2016, two females into the lek in the Alto Sil SPA (León) have been released, as a way of increasing the possibility of them mating in the right season. All the actions have been implemented based around the technical document that stipulated the main actions to be carried out to complete the Cantabrian capercaillie population strengthening programme (action A3); the technical document that stipulated the main actions to be carried out to determine the situation with predators and their impact on the capercaillie populations (action A2) and the protocols stipulated in the National Strategy regarding population strengthening, collecting eggs, as well as the guidelines included in the SPA management plan or the approved plans for recovering the species. Despite the fact that four of the five females eventually died and the other one lost signal, the data obtained have provided information about the adaptation of the specimen to their new environment, their movement and their use of one habitat compared to others. The low survival rate for chicks raised in the centre means that we have not been able to release many specimen into the wild to boost the wild population. However, this experience has shown that the feeding protocol followed in the Breeding Centre is correct, since the specimen reached the correct body mass, which shows that they were able to feed themselves in the wild and that the release programme is suitable. This means that, once the centre produces enough specimens to release, the Autonomous Communities involved now have the right knowledge and protocols in place for capturing, transporting and monitoring to ensure that the release is a success.

To help meet this target, we have run 10 campaigns in which we have captured 13 Cantabrian capercaillie specimens: 6 males and 7 females (action C6). Currently we have 7 specimens with active tags (5 male and 2 female). Monitoring these specimens has increased knowledge on the species, the places they normally go, the distances they travel and, above all, it makes it possible collect eggs to increase the variety of the captive genetic stock. In June 2016 we carried out the only partial collection (two eggs) which were artificially incubated in the breeding centre and are currently part of the breeding stock.

5. Making tradition land uses in the Cantabrian Mountains compatible with the conservation of the subspecies.

We have set up a land stewardship programme for the Biosphere Reserves in the Cantabrian Mountains to promote the use of this conservation tool (action C8), following the criteria established in the last custody programme for the Biosphere Reserves in the Cantabrian Mountains and the basis of the land custody programme within the framework of the LIFE+ Cantabrian capercaillie project (Action A6). We have got Neighbourhood Associations, forest wardens, beekeepers, livestock farmers, hunters, young entrepreneurs, NGOs and rural residents involved and created collaboration networks which will allow us to keep working on sustainability and conserving the capercaillie in the area. We have signed 29 stewardship agreements and two collaboration framework agreements with the two main hunting



institutions in Spain, Unión Nacional de Asociaciones de Caza (UNAC) and Fundación para el Estudio y Defensa de la Naturaleza y la Caza (FEDENCA). We have implemented 19 collaboration projects with 13 stewardship institutions which have helped to act to improve habitats in 148.60 ha (clearings and forestry treatments), establish 7 pollination stations (2 static and 5 mobile) and develop a consultancy and advice service to support the custody programme. We have held 15 workshops on land stewardship and the capercaillie which 235 people attended. These initiatives have contributed towards improving the environment, creating jobs and boosting social involvement and traditional activities in the Cantabrian Mountains. We have also drawn up a silvopastoral planning system to coordinate the use of the forest and livestock farming and make them compatible with the conservation of the capercaillie in the Autonomous Community of Cantabria (action C9). Specifically, 34 planning instruments have been created, 13 for forest planning and 21 for pastoral planning to promote traditional land use in Cantabria. Furthermore, 40 exemplary actions have been implemented on 332 ha of land. These plans have been approved by the Chief Executive for the Natural Environment of the Government of Cantabria, which will ensure that silvopastoral land use is compatible with capercaillie conservation.

6. Publicising the results of the project and establishing environmental awareness raising and education programmes, improving knowledge about the Cantabrian capercaillie and its habitat.

One of the plans in the project was to implement communications actions with the aim of raising awareness socially and publicise the results of the project, as well as allowing active participation from experts in the field and society in general. All the planned actions have been completed correctly. Thanks to the project, we have noticeably raised awareness about the Cantabrian capercaillie and we have managed to get more media focus on the capercaillie and the threats to its survival. Specifically, the results obtained were as follows:

- Information has effectively been provided and awareness has been raised thanks to the guidelines contained in the communications plan (action D1). We drew up a communications plan that has been revised and updated over the course of the project. We have written up and published 24 press releases and we have published 110 updates on the project on our website. Overall, the media has created 543 informative reports on the Life+ Cantabrian capercaillie project and what it does. Additionally, we held a press meeting, which was attended by 20 professionals from 15 media outlets and resulted in 39 reports being published/issued regarding the meeting and the project.
- A useful tool has been created for publicising information regarding the species, the threats to its survival and the actions promoted within the framework of the LIFE+ Cantabrian capercaillie project to conserve it (action D2). We produced a documentary on the project (37') and a short version (6'). It was published on the project website and on YouTube, where it has had over 5,600 views. Furthermore, we sent 800 copies to schools, interpretation centres, institutions, land custody bodies and to conferences.
- A reference document has been drawn up that will be used for publicising the project and the subspecies in various forums (action D3). The Layman report sums up what has gone into the project and its results in a short, simple and visual way. We have



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made 250 copies in Spanish and a further 150 in English which will be sent out to the main stakeholders in the project.

- Four informative seminars have been held, open to the general public, with an average attendance of 70 people per seminar (action D4).
 - Inaugural seminar. In Madrid, 20 July 2010.
 - Seminar “The capercaillie and stewardship custody in the Cantabrian mountains”. In Potes (Cantabria), 18 February 2014.
 - Seminar “Developments in the LIFE+ Cantabrian capercaillie project”. In Potes, 22 April 2015.
 - Seminar “Presentation of the results of the LIFE+ Cantabrian capercaillie project”. In Ponga (Asturias), 15 November 2016.

Additionally, on 19 May 2012, the Biodiversity Foundation organised a meeting in the Royal Botanical Gardens in Madrid to celebrate the 20th anniversary of the LIFE programme. During the meeting the travelling exhibitions was presented for the first time.

- An awareness raising campaign has been run which has been very effective with school children, the economic sectors in the project and the general public regarding the situation with the Cantabrian capercaillie and the importance of conserving it (action D5). We have successfully created three educational campaigns for the academic years 2011-2012, 2012-2013 and 2013-2014, visiting 40 schools throughout the Cantabrian mountains, raising awareness among 1952 students; we have created and presented a travelling exhibition regarding the Cantabrian capercaillie, made up of 10 panels, which has travelled through 51 towns and villages in the Cantabrian Mountains, getting over 120,000 visits; we have organised 8 informative meetings regarding the compatibility of traditional activities and the conservation of the capercaillie, we have created and edited educational material aimed at local residents, school children and socio-economic sectors. 2000 pins, 1000 t-shirts, 20,000 stickers, 2,000 stories, 5,000 manuals, 1,000 educational units, 3,000 leaflets for livestock farmers, hunters and tourist businesses, 100 personalised notebooks, 350 pens, and 600 land custody leaflets. We have held 8 information sessions aimed at the livestock, hunting and tourism sectors with 167 people in attendance.
- Eight meetings and technical visits have been held with specialists in capercaillie conservation in Scotland, Poland, France and the Pyrenees which have provided in-depth knowledge on the species and how it is managed in other regions (action D6). Specifically, we held two technical meetings with the Gallipyr project team in 2011. Between 2012 and 2014, we held four interesting meetings with experts from the LIFE+ Tétrás Vosges project and the experts on the capercaillie from the Royal Society for the Protection of Birds (RSPB). Furthermore, on 17 June 2014, we held a technical meeting in Villablino (León) on “The capercaillie and the bilberry shrub in the Cantabrian Mountains” to exchange knowledge and experience regarding forestry treatments currently in use to increase the productivity and spread of the bilberry (*Vaccinium myrtillus*), which is a key aspect of the Cantabrian capercaillie’s diet. In October 2016, experts from the LIFE project for conserving the capercaillie in Poland visited our project and the vets from the Spanish project went to find out about the experience in Poland.



- Three volunteering campaigns have been run in which 72 people have taken part (action D7). Awareness has been raised among the younger generations about the importance of conserving the Cantabrian capercaillie and its habitat.
- A website has been created: [Http://lifeurogallo.es](http://lifeurogallo.es) which has had over 1,695,000 hits since it was created 6 years ago (action D8). This has turned out to be a key tool for raising public awareness about the dire situation that the Cantabrian capercaillie is in and the importance of the measures that have implemented within the framework of the LIFE+ Cantabrian capercaillie project to prevent its decline and promote the future recuperation of the species. The project has also been promoted on the social media accounts of the Biodiversity Foundation.
- Educational materials have been published, as planned to go alongside the other communications actions for raising awareness of the species' situation, where it can be found and the importance of promoting projects such as LIFE+ Cantabrian capercaillie to work towards its recuperation (action D9). We have created three promotional videos about the project, the species and its habitat, which are available on the website. We have put up 19 information panels throughout the Cantabrian Mountains about the species and the project and we've created four information gazettes which were published as a special supplement about the project in Quercus magazine.

Therefore, **from a technical standpoint**, the project has been correctly implemented and we have met 90.62% of the set indicators. Regarding capture, tagging, egg collection, captive breeding and releasing of specimens into the wild (actions C5, C6 and C7), these goals have been partially met. The long-term tasks have not been without difficulties and risk factors though there has been an effort to minimise as far as possible, through *ad hoc* actions to ensure that the planned objectives are met. This hasn't always been possible since, in this case, the natural rhythms of the species come into play, which cannot be changed or intensified, so they have their own dynamics for producing results.

From a management standpoint, the LIFE+ Cantabrian capercaillie project has been a pioneer project in bringing together the efforts of the Central Government, the Autonomous Communities, civil society and the business sector for the conservation of this native species on the Cantabrian Mountains. We have managed to get all the actions implemented in coordination between all the partners and the other associated institutions. The measures put in place within the framework of the coordination and monitoring action have allowed partners to know what is happening with other partners' actions and whether the planned indicators are being met at any given time, as well as to detect the difficulties faced and coordinate the implementation of the contingency plans (actions E1, E2, E4 and E7). Internal communications between staff members have been fluid and transparent, allowing us to find synergies between various activities and helping us to get the most out of all of our efforts, which means that we have been able to meet 100% of the planned deliverables. Many of them were high-quality technical documents, which will still be used even after the LIFE+ project. We have had external advice from the top experts in various fields regarding capercaillie conservation: scientists, lecturers from various universities and experts in captive breeding (action E3). All of the recommendations made at the Scientific Committee meetings have been taken into account when implementing the project actions. Additionally, we created a specific Committee for dealing with matters regarding captive breeding. The Scientific and Breeding Committee has held 11 meetings (in person). We have drawn up a Conservation Programme



for the Cantabrian capercaillie for after the end of the LIFE project, which includes recommendations to be followed by the Autonomous Communities and the other stakeholders involved in the species' recuperation (action E6). Similarly, we have got a definite commitment from the Autonomous Communities to continue implementing such recommendations. The document contains information regarding habitat management, reducing threats and natural and unnatural causes of death, *ex situ* conservation actions and interaction with other sectors, specifically, the continuity of the land custody programme in the Biosphere Reserves and promoting tradition land uses that are compatible with the conservation of the Cantabrian capercaillie and its habitat.

Lastly, it should be pointed out that we have created a framework for dialogue with the various sectors involved in the conservation of the species: The Public Authorities, NGOs, civil society and private business, and we have set up new lines for collaboration with other conservation projects for the capercaillie in Europe (Scotland, Poland, France and the Pyrenees) with the aim of raising awareness of the project as widely as possible, generating synergies and maximising the results of the project. The project has been present at 44 events and we have participated in the MAPAMA Capercaillie Work Group meeting, which were held during the timeframe of the project, 6 in total.

However, the project has had to overcome some difficulties; it should be pointed out that the severe financial crisis has had a huge and direct effect on the stakeholders in the project and, therefore, on how the project has been implemented, which lead the EC to make a series of changes to the initial project. The main changes that have affected how the project was implemented were:

- 27 month extension of the project, meaning that it lasted a total of 75 months (October 2010 to 31 December 2016).
- Changes to the partnership structure, with the Galician Government pulling out and Consorcio Interautonómico para la Gestión Coordinada del Parque Nacional de los Picos de Europa (CIGPNE), Tragsa and Tragsatec joining and the Organismo Autonomo de Parques Nacionales going from a partner to co-financing partner. The project was coordinated by the Biodiversity Foundation of the Spanish Ministry of Agriculture, Fishing, Food and Environment and other partner were the Autonomous Communities Cantabria, Asturias and Castilla y León, the latter through the Fundación Patrimonio Natural de Castilla y León; CIGPNE; SEO/Birdlife, Tragsa and Tragsatec, with co-financing from the Organismo Autónomo Parques Nacionales and Fundación Iberdrola España.
- Reduction of the budget from €7,028,505 to €5,963,554.

Despite the cumulated delays during the first years, all the predicted targets have been met and all the planned actions have been successfully implemented.

From a financial standpoint, the project has been a success since it was well implemented, despite taking place during the severe financial crisis in Spain. We have even created local work, both directly and indirectly. Specifically, 20 jobs have been created and over a hundred people have been involved in the project over the six years it has been running. We have carried out very rigorous financial checks. Not only it has been ensured that that the Common Provisions were being complied with, but also we have taken into account the internal



instructions for each organisation, which in many cases are more demanding than those of the LIFE programme itself, such as state and regional legislation regarding public tendering and subsidies. As part of the project we have had to review 1,350 invoices and other documents regarding expenses with third parties. Additionally, an external review of the financial transactions for the entire lifespan of the project was also conducted. Partial audits were conducted during the years 2010-2014 and 2015-2016, ensuring that all the expenses presented complied with the requirements in the Common Provisions.