

ACTION PLAN FOR THE BLUE CHAFFINCH
(Fringilla teydea)



Compiled by:

CRISTINA GONZÁLEZ (SEO/BirdLife Spain, Tenerife)

ACTION PLAN FOR THE BLUE CHAFFINCH (*Fringilla teydea*)

Compiled by:

CRISTINA GONZÁLEZ (SEO/BirdLife Spain, Tenerife)

With contributions from:

J. Carrillo (University of La Laguna, Tenerife)
G. Delgado (Natural History Museum, Tenerife)
G. Díaz (Vice Council for the Environment, Gran Canaria)
F. Domínguez (Vice Council for the Environment, Tenerife)
K. W. Emmerson (ORNISTUDIO, Tenerife)
B. Heredia (BirdLife International, U.K.)
E. Hernández (Vice Council for the Environment, Tenerife)
J. A. Lorenzo (University of La Laguna, Tenerife)
A. Martín (University of La Laguna, Tenerife)
A. Moreno (Vice Council for the Environment, Gran Canaria)
M. Nogales (University of La Laguna, Tenerife)
V. Quilis (Vice Council for the Environment, Tenerife)
F. Rodríguez (Vice Council for the Environment, Gran Canaria)
J. L. Rodríguez (Vice Council for the Environment, Tenerife)
L. Rose (Royal Society for the Protection of Birds, U.K.)
C. Sunyer (SEO/Birdlife, Spain¹)

Timetable

Workshop: July 1993 - La Laguna, Tenerife

First Draft: July 1994

This version: September 1995

Reviews

This document will be reviewed and updated by BirdLife International every four years. An emergency review will be undertaken if sudden major environmental changes, liable to affect the population, occur within the species' range.

Geographical scope

The islands of Tenerife and Gran Canaria in the Canary Islands archipelago (Spain).

¹ now Jorge Manrique 1, 28240 La Navata, Madrid

CONTENTS

SUMMARY	- 3 -
INTRODUCTION	- 4 -
PART 1. BACKGROUND INFORMATION	- 4 -
Distribution and population.....	- 4 -
Life history	- 5 -
Taxonomic status	- 5 -
Breeding	- 5 -
Feeding.....	- 5 -
Habitat - 5 -	
Threats and limiting factors.....	- 6 -
<u>Tenerife Blue Chaffinch</u>	
Illegal trade.....	- 6 -
<u>Gran Canaria Blue Chaffinch</u>	
Habitat loss and fragmentation.....	- 6 -
Forest fires.....	- 6 -
Small population size.....	- 6 -
Social pressure on the habitat	- 6 -
Natural predation	- 6 -
Predation by cats.....	- 7 -
Lack of water	- 7 -
Conservation status and recent conservation measures	- 7 -
PART 2. AIMS AND OBJECTIVES	- 9 -
AIMS	- 9 -
OBJECTIVES	- 9 -
1. POLICY AND LEGISLATIVE.....	- 9 -
2. SPECIES AND HABITAT PROTECTION	- 10 -
3. MONITORING AND RESEARCH.....	- 11 -
4. PUBLIC AWARENESS AND TRAINING	- 12 -
REFERENCES	- 14 -

SUMMARY

Background

The Blue Chaffinch *Fringilla teydea* is endemic to the Canary Islands and comprises two subspecies, one found on Tenerife (*F. t. teydea*) and the other on Gran Canaria (*F. t. polatzeki*). Its habitat is Canary pine *Pinus canariensis* woodland which is listed in Annex I of the EU Habitats Directive. Although there has not been a census of the Tenerife population, its situation is thought to be stable, while the estimated population on Gran Canaria is 185–260 birds (Moreno 1991), which means that the latter subspecies is classified as Endangered both nationally and internationally.

Threats and limiting factors

Tenerife Blue Chaffinch

- * **Illegal trade - unknown**

Gran Canaria Blue Chaffinch

- * **Habitat loss and fragmentation - critical**
- * **Forest fires - high**
- * **Small population size - medium**
- * **Social demand for recreation space in Gran Canaria - medium**
- * **Natural predation and predation by feral cats - low**
- * **Lack of water - low**

Conservation priorities

- * **Include the Blue Chaffinch in CITES - high**
- * **Ensure adequate protection under the new Countryside Law and Wildlife Protection Law- high**
- * **Complete the National Endangered Species List - high**
- * **Eradicate illegal trade - high**

Gran Canaria Blue Chaffinch

- * **Undertake habitat restoration - essential**
- * **Prevent forest fires - essential**
- * **Continue the current monitoring programme - high/essential**
- * **Continue and expand the current research programme - high/essential**

* **Draw up an official action plan - high**

INTRODUCTION

The Blue Chaffinch is endemic to the Canary Islands and comprises two subspecies *Fringilla teydea teydea* on Tenerife and *F. t. polatzeki* on Gran Canaria. The status of the Tenerife subspecies is good, while the Gran Canaria subspecies presents serious conservation problems.

The species is classified as Rare by IUCN (Groombridge 1993) and as Conservation Dependent in *Birds to Watch 2* (Collar *et al.* 1994). At European level the species is classified as Vulnerable (Tucker & Heath 1994) and it is listed in Annex I of the EU Wild Birds Directive and in Appendix II of the Bern Convention. Its habitat is included in Annex I of the EU Habitats Directive (42.9 Macaronesian Pine Forest(endemic)).

This action plan incorporates the conclusions of the workshop held in July 1993 in La Laguna (Tenerife) which considered the situation of the Blue Chaffinch and the four other globally threatened Canary Island species. It also includes the measures established in the Gran Canaria Blue Chaffinch Conservation Programme which is being implemented by the Vice Council for the Environment of the Canary Islands Government. The action plan is aimed at all those involved in the conservation of the Blue Chaffinch and includes measures needed to maintain and boost the populations of this species. Some of the actions are already being implemented.

Except where otherwise specified any information or recommendations apply to both sub-species.

PART 1. BACKGROUND INFORMATION

Distribution and population

The Blue Chaffinch is found on Tenerife and Gran Canaria. Until now no full census of the population has been made but the population is estimated to be around 1,000 to 1,500 pairs (Tucker & heath 1994).

It appears that by dispersing and/or being patchily distributed or concentrated in its pine forest habitat, this species has given varying impressions of its abundance to different observers over the last 100 years on Gran Canaria and Tenerife, ranging from rare to common (Collar & Stuart 1985).

Tenerife Blue Chaffinch

The habitat covers a wooded belt between 1,000 and 2,000 m around the whole island. The pinewoods in the north, and those of Vilaflor and Arico in the south, are particularly noteworthy (Martín 1987).

Although no full census has been carried out, this sub-species is not considered as threatened (Blanco & González 1992).

Gran Canaria Blue Chaffinch

This subspecies is restricted to just a few woods. The current population is estimated at 185–260 birds (Moreno 1991) which justifies its status as an Endangered subspecies. It is mainly found in the pinewoods of Ojeda, Inagua and Pajonales with a few pairs thought to inhabit the woods of Tamadaba (Moreno 1991).

Life history

* **Taxonomic status**

The Blue Chaffinch comprises two subspecies one found on Tenerife (nominate *teydea*) and the other on Gran Canaria (subspecies *polatzeki*). The Gran Canaria birds are up to 10% smaller and with duller plumage (Cramp & Perrins 1994).

* **Breeding**

Birds on Tenerife pair up in April (Martín 1979) and breeding lasts until the end of July or the beginning of August. The nest is built by the female, usually located in pine trees or sometimes heath *Erica arborea* or laurel *Laurus azorica* (Martín 1979). Nests are formed from pine needles and branches of broom *Chamaecytisus proliferus* and lined with moss, feathers, grasses and rabbit hair (Martín 1979). The clutch generally consists of two eggs; in the case of the Tenerife subspecies they are laid during the first fortnight in June although in the south they may be laid as early as April (A. Martín pers. comm.); in Gran Canaria eggs are laid in the last half of April and the first half of June (Rodríguez and Moreno 1993). The female incubates for 14–16 days (Martín 1979, Rodríguez and Moreno 1993). The chicks are blind and covered in down on hatching and are fed by both the male and the female. The chicks remain in the nest 17–18 days (Martín 1979).

* **Feeding**

Canary pine seeds constitute the main food source. The birds feed both in the trees and on the ground, extracting the seeds from the half-open cones by breaking them open with their thick, powerful bills. They occasionally feed on other types of fruit and also eat a large amount of insects (mainly nocturnal butterflies and some beetles) taken from cracks in pine bark. In the breeding season the birds eat more insects and larvae than at other times, probably due to the rich source of protein that this provides for the chicks.

* **Habitat**

The area of pinewoods on Gran Canaria has decreased due to various factors especially past felling of trees and forest fires. They currently cover approximately 10,875 ha. (Nogales 1985). Reafforestation has been going on since the 1940s and Blue Chaffinches have colonised areas planted with Canary pine where these fall within the area of the tree's natural distribution (Martín 1979).

Chaffinches will occasionally feed outside the pinewoods during severe weather conditions, and during the breeding season they are found in high pinewood areas with a high proportion of broom in the undergrowth where they search for insects and seeds.

Threats and limiting factors

Tenerife Blue Chaffinch

* **Illegal trade**

The species is still kept as a cage-bird on the island. Birds are also illegally caught and exported to other European countries (Italy, Belgium, Germany are thought to be the main destinations) and this may have an effect on population levels.

Importance: unknown

Gran Canaria Blue Chaffinch

* **Habitat loss and fragmentation**

In the past the pinewoods were subjected to intense commercial exploitation. This led to a substantial decrease in the area of pinewood on Gran Canaria which inevitably affected the Blue Chaffinch population. These commercial activities also caused habitat fragmentation and, therefore, population isolation.

Importance: critical

* **Forest fires**

Forest fires have in the past played an important role in the destruction of Gran Canaria's pinewoods. At present, a fire in one of the critical Blue Chaffinch areas could have catastrophic results due to the small areas and population involved.

Importance: high

* **Small population size**

The current population is so small that the subspecies runs the risk of becoming extinct due to random population fluctuations. The smallness of the population must also have led to reduced genetic variability.

Importance: medium

* **Social pressure on the habitat**

The lack of space for recreation and leisure on Gran Canaria has led to a lot of pressure against the limitations on use of the protected natural areas (e.g. pinewoods) for leisure purposes.

Importance: medium

* **Natural predation**

Predation does not appear to be limiting the Blue Chaffinch population, although some species are known to feed on it occasionally: Long-eared Owl *Asio otus* (Nogales *et al.* 1986; Rodríguez and Moreno 1993), Great Spotted Woodpecker *Dendrocopos major* (A. Moreno and F. Rodríguez pers. comm.) and Raven *Corvus corax* (Rodríguez and Moreno 1993).

Rodríguez and Moreno (1993) observed that nests within 20 m of the nearest clearing were subject to greater predation of eggs and chicks than were others, suggesting that nests near the edge of woodland are more vulnerable to predation than those in its interior.

Importance: low

* **Predation by cats**

Although feral cats are relatively frequent in Ojeda, Inagua and Pajonales pinewoods, studies of their feeding habits (Nogales 1985, Rodríguez and Moreno 1993) have revealed little evidence of Blue Chaffinches being eaten.

Importance: low

* **Lack of water**

The natural lack of water in summer could be a limiting factor. Some authors give it as a possible reason for the bird's scarcity on Gran Canaria (Bannerman 1963, Collar and Andrew 1988). The piping of water on forested slopes has led to a decrease in the number of drinking places available.

Importance: low

Conservation status and recent conservation measures

At national level the Blue Chaffinch is classified as Not Threatened and the subspecies *F. t. polatzeki* as Endangered in the Red Data Book of Spanish Vertebrates (Blanco and González 1992). At regional level *F. t. polatzeki* is considered to be Endangered (Martín *et al.* 1990). Under current Spanish law the Blue Chaffinch is classed as Of Special Interest in Annex II of Royal Decree 439/90 on which the National List of Threatened Species is based.

Recent conservation measures are listed below in chronological order:

1980: Royal Decree 3181/80 banned hunting, capture, trade, collecting of eggs or young, and the preparation of and trade in parts, including stuffed specimens.

1982: Royal Decree 1740/1982 declared the hills of Inagua, Ojeda and Pajonales a National Refuge.

1987: The Canary Islands Countryside Law was passed and included the declaration of Natural Parks and Natural Areas in the following important Blue Chaffinch areas: El Teide forest (Tenerife), Inagua, Ojeda and Pajonales, Ayagaures and Pilacones, Tamadaba and the Macizo de Tauro (Gran Canaria).

1988: Work began on the designation of SPAs. To date three Blue Chaffinch areas have been designated: one on Tenerife (the Tenerife forest) and two on Gran Canaria (Tamadaba and Ojeda/Inagua/Pajonales).

1989: The Countryside and Wildlife Conservation Law 4/89 was passed establishing the National Threatened Species List thereby giving priority to endemic species and subspecies.

1990: The Vice Council for the Environment of the Canary Islands Regional Government prepared drafts of Recovery Plans for five threatened Canary Island species, including the Gran Canaria Blue Chaffinch, as well as a subsequent revision.

1991: The Vice Council initiated a Gran Canaria Blue Chaffinch Conservation Programme based on the Recovery Plan which includes research studies and the implementation of conservation and management measures both *in situ* and *ex situ*. A study was carried out on the distribution, biology and essential habitat characteristics of the Gran Canaria Blue Chaffinch (Moreno 1991), since there was very little information. These studies continued in subsequent years together with others on population, breeding, habitat and the effect of predation. The results of these studies were compiled by Rodríguez and Moreno (1993).

Four artificial drinking points, each with a capacity of 2,000 litres, were installed in the Inagua, Ojeda and Pajonales pinewoods as part of this Conservation Programme. These drinking points were used in the summer of 1993 by the birds in the pinewoods, including Blue Chaffinches.

1992: The Vice Council prepared a plan for experimental captive breeding of the Blue Chaffinch with birds taken from Tenerife. The breeding facilities came into operation in 1993.

1994: The Vice Council implemented the following as part of the Conservation Programme:

- * Captive breeding attempts;
- * Continuation of research on population, breeding success and habitat use;
- * Evaluation of potential habitat;
- * Control of non-natural predators;
- * Installation of more drinking points;
- * Approach to CITES authorities;
- * A publicity campaign.

That same year the Vice Council for the Environment of the Canary Islands Regional Government received funding from the EU under LIFE regulation to finance the Gran Canaria Blue Chaffinch Conservation Programme. This project includes the following objectives:

- * Improvement of the infrastructure needed to carry out the captive breeding programme;
- * Provision of the infrastructure needed for reintroductions;
- * Habitat improvement in current and potential distribution areas;
- * Increase in the survival chances of current populations;

The new Canary Islands Countryside Law was also approved.

PART 2. AIMS AND OBJECTIVES

AIMS

In the short term to conserve the Blue Chaffinch range and populations in the Canary Islands at no less than the present level and in the medium to long term to increase the Gran Canaria population to the level where it is no longer classified as an endangered subspecies.

OBJECTIVES

1. POLICY AND LEGISLATIVE

1.1. To draw up an official action plan for the Gran Canaria Blue Chaffinch

Spanish wildlife conservation legislation (Law 4/80) provides for four kinds of legally binding action plan according to the degree of threat to the species or subspecies: Recovery Plans, Habitat Conservation Plans, Conservation Plans and Management Plans. As the Blue Chaffinch is classified as Of Special Interest it deserves at least a Management Plan that will determine the measures necessary to maintain populations at a suitable level.

Priority: high
Time-scale: short

1.2. To complete the National Endangered Species List

Law 4/89 established the National Endangered Species List which classified species, subspecies and populations under various categories of threat. As a preliminary step in the drawing up of the law, Royal Decree 439/90 was passed classifying endangered species and including all the rest in the category Of Special Interest. The current classification of Blue Chaffinch as Of Special Interest does not reflect the extent to which the Gran Canaria population is threatened. As five years have passed since the passing of the law, it is advisable now to complete the classification process and initiate the legally binding action plans that the law provides for.

Similarly, it is recommended that the Regional List of Threatened Species be drawn up in accordance with Art. 30.2 of Law 4/89.

Priority: high
Time-scale: short

1.3. To ensure that the New Canary Islands Wildlife Protection Law adequately protects this species

The draft of the new Wildlife Law is at the consultation stage and includes the Regional List of Threatened Species and the new status of Biological Refuge as a precautionary measure. This legislation should ensure the protection of the species, in the wider countryside as well as within protected areas, as required under Law 4/1989 on the Conservation of the Countryside, Wildlife and Plants.

Priority: high
Time-scale: short

1.4. To ensure that Blue Chaffinch habitat is adequately covered under the new Canary Islands Countryside Law

The new Canary Islands Countryside Law has just been passed, reclassifying the existing areas but not creating any new ones. The planning instruments for such areas - Use and Management Plans, Master Plans (Planes Directores), Conservation Regulations and Special Plans - should aim to address all threats to species' habitat and promote its recovery.

Priority: high
Time-scale: short

1.5. To include the Blue Chaffinch in CITES

The inclusion of the Blue Chaffinch in CITES would provide a legal tool at international level for the protection of this species and would help in the control of illegal trade. Steps towards this have already been made by the Vice Council for the Environment of the Canary Islands and its approval is imminent. TRAFFIC's European offices should also be aware of the existence of this illegal trade.

Priority: high
Time-scale: immediate, ongoing

2. SPECIES AND HABITAT PROTECTION

2.1. To eradicate illegal trapping and trade

Illegal trade in this species must be thoroughly investigated, with increased surveillance of Blue Chaffinch areas and periodic monitoring of specific pet shops, animal collections, zoos, etc. International action to identify the trade routes and the destinations of Canary Island birds is equally necessary. The collaboration of Italy, Belgium and Germany is needed as these countries are thought to be the main destinations of exported birds.

Priority: high
Time-scale: short

Gran Canaria Blue Chaffinch

2.2. To initiate a habitat recovery programme

This programme would consist of an intense reforestation campaign to join up the different patches of forest that represent the current and potential habitat of the subspecies. This would enable birds to recolonise and settle in other potential areas. Replanting should include open areas in the Inagua, Ojeda and Pajonales pinewoods which would possibly reduce the risk of nest predation near woodland edge as well as providing additional habitat.

EU Regulation 2080/92 which established an aid system for forestry activities related to agriculture could be a useful instrument in achieving this objective.

Priority: essential
Time-scale: medium

2.3. To prevent forest fires

Fires are a major risk as they could result in the total extinction of the Gran Canaria Blue Chaffinch. For this reason, it is essential to carry out an intensive fire prevention programme and have available suitable means to fight fires when they occur. The LIFE project for the Blue Chaffinch includes a section which seeks to increase the surveillance and fire prevention measures within the pine forests.

Priority: essential

Time-scale: short

2.4. To provide the people of Gran Canaria with recreation and leisure areas

Pressure for leisure areas should be deflected away from the pinewoods where the Blue Chaffinch lives, and current access restrictions maintained. In order to do this it would be advisable to set aside several recreation areas in places where integral habitat protection is not needed.

Priority: low

Time-scale: medium

2.5. To monitor and limit the movement of people through the Ojeda, Inagua and Pajonales pinewoods

Enforcement of the current access restrictions should contribute to the reduction of the number of people in the pinewoods with a consequent reduction in the risk of fire, nest robbing, disturbance, etc. The rubbish and waste that attract crows (which may prey on Blue Chaffinch nests) would also decrease. Monitoring access to the woods will provide the information needed to decide if further restrictions are necessary.

Priority: medium

Time-scale: short

2.6. To control the cat population in the Ojeda, Inagua and Pajonales pine forests as a precautionary measure

Potential predation by feral cats should be prevented. Control may be either by shooting or by trapping the cats alive. Traps of proved efficiency exist which have been used by the hunting lobby on Gran Canaria over the last few years with good results.

Priority: low

Time-scale: medium

3. MONITORING AND RESEARCH

Tenerife Blue Chaffinch

3.1. To carry a full census of the population followed by regular monitoring

It would be advisable to set up a monitoring system utilising transects, listening stations or other means to determine variations in population density and size. An accurate population estimate for this species is not available and is needed to confirm its present status of "not threatened".

Priority: medium

Time-scale: short

3.2. To better understand its biology and ecology

Some specific aspects which call for a thorough investigation are habitat requirements and feeding habits. As the population of this sub-species is larger, detailed studies including individual marking could be carried out. The experience and information gained would be useful for the conservation of the Gran Canaria subspecies.

Priority: medium

Time-scale: short

Gran Canaria Blue Chaffinch

3.3. To continue census work and periodic monitoring

The size and state of the population should be assessed regularly and in the different distribution areas. This will provide information on the effect of conservation measures as well as other factors.

Priority: high/essential

Time-scale: ongoing

3.4. To continue with the study of limiting factors

Especially those factors that are having a negative effect on breeding with particular attention given to identifying any predators that may have an impact on eggs and chicks.

Priority: high/essential

Time-scale: ongoing

3.5. To continue and complete studies of habitat selection

It is important to know what the Blue Chaffinch's optimum habitat is so that areas of potential habitat can be identified which could be the target of a reintroduction programme should the IUCN criteria for reintroductions be satisfied (Kleiman *et al.* 1994).

Priority: high

Time-scale: short, ongoing

3.6. To implement a captive breeding programme

This is not a priority at the moment but would be needed if the population declined further. Some steps are already being taken under the Conservation Programme for this species.

Priority: low

Time-scale: ongoing/long

4. PUBLIC AWARENESS AND TRAINING

4.1. To prepare educational and publicity information

Such a campaign would involve various kinds of publicity material (posters, stickers, etc.) as well as a programme of talks and lectures to inform people about the Blue Chaffinch's conservation problems and emphasise the need to protect and improve its habitat.

Priority: medium

Time-scale: medium

4.2. To initiate an awareness-raising campaign

People's attention should be drawn to the Blue Chaffinch as something unique to the Canary Islands and the conservation activities that are being carried out should be publicised. The need for restricted access to pinewoods should be explained to overcome resistance to these measures.

Priority: medium

Time-scale: medium

REFERENCES

- Bannerman, D. A. (1963) *Birds of the Atlantic Islands*, 1. Edinburgh: Oliver and Boyd.
- Blanco, J. A. and González, J. L., eds. (1992) [*Red Data Book of Spanish vertebrates*.] Madrid: Instituto Nacional para la Conservación de la Naturaleza. (In Spanish.)
- Collar, N. J. and Andrew, P. (1988) *Birds to watch: the ICBP world check-list of threatened birds*. Cambridge, U.K.: International Council for Bird Preservation (Techn. Publ. 8).
- Collar, N. J. and Stuart, S. N. (1985) *Threatened birds of Africa and related islands: the ICBP/IUCN Red Data book*. Cambridge, U.K.: International Council for Bird Preservation and International Union for Conservation of Nature and Natural Resources.
- Cramp, S. and Perrins, C. M., eds. (1994) *The birds of the western Palearctic*, 8. Oxford: Oxford University Press.
- Groombridge, B., ed. (1993) *1994 IUCN Red List of threatened animals*. Gland, Switzerland and Cambridge, U.K.: International Union for Conservation of Nature and Natural Resources.
- Kleiman, D. G., Stanley Price M. R. and Beck, B. B. (1994) Criteria for reintroductions. In: *Creative Conservation: Interactive management of wild and captive animals*. Olney P. J. S., Mace, G. M. & Feistner, A. T. C., eds. London, U.K.: Chapman & Hall.
- Martín, A. (1979) [Contribution to the study of the Canarian avifauna: the biology of the Blue Chaffinch (*Fringilla teydea teydea* Moquin-Tandon).] Tenerife: Universidad de La Laguna (thesis). (In Spanish.)
- Martín, A. (1987) [*Atlas of the breeding birds of the island of Tenerife*.] Santa Cruz de Tenerife: Instituto de Estudios Canarios (Monogr. 32). (In Spanish.)
- Martín, A., Hernández, E., Nogales, M., Quilis, V., Trujillo, O. and Delgado, G. (1990) *El Libro Rojo de los vertebrados terrestres de Canarias*. Santa Cruz de Tenerife: Servicio de Publicaciones de la Caja General de Ahorros de Canarias.
- Moreno, A. C. (1991) [Distribution, biology and essential habitat requirements of Blue Chaffinch on Gran Canaria.] Gran Canaria: Gobierno de Canarias, Viceconsejería de Medio Ambiente (unpublished). (In Spanish.)
- Nogales, M. (1985) [Contribution to the study of the flora and fauna of the Pajonales, Ojeda and Inagua mountains (Gran Canaria).] Tenerife: Universidad de La Laguna (thesis). (In Spanish.)
- Nogales, M., Suarez, C. and Diaz, G. (1986) [Blue Chaffinch of El Teide (*Fringilla teydea*): presence of *Fringilla teydea polatzeki* in *Asio otus* pellets.] *Ardeola* 33: 213. (In Spanish.)
- Rodríguez, F. and Moreno, A. C. (1993) [Conservation programme for the Blue Chaffinch *Fringilla teydea polatzeki* (Hartert, 1905) on Gran Canaria 1991–1993. 1: Populations, reproduction, habitat characteristics and predation.] Gran Canaria: Gobierno de Canarias, Viceconsejería de Medio Ambiente (unpublished). (In Spanish.)
- Tucker, G. M. and Heath, M. F. (1994) *Birds in Europe: their conservation status*. Cambridge, U.K.: BirdLife International (BirdLife Conservation Series no. 3).