

## White-tailed laurel pigeon *Columba junoniae*

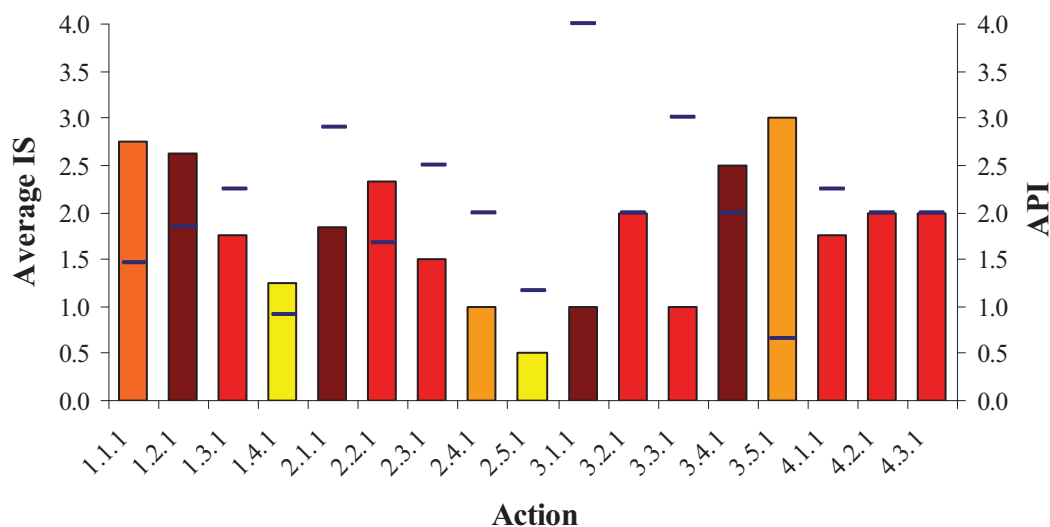
### **Background**

The white-tailed laurel<sup>211</sup> pigeon Action Plan was adopted in 1996 (Gonzalez, 1996) by the Ornithology Committee and endorsed by the Bern Convention. The implementation of the action plan was reviewed in 2001 (Gallo-Orsi, 2001) and 2004 (Nagy & Crockford, 2004).

This review evaluates the implementation of the species Action Plan from 2004 to 2010, in the Canary Islands archipelago, Spain, therefore covering the entire range of the species.

### **General overview**

Progress in the overall implementation of the action plan is moderate and further work is still needed (Average IS=1.9). The most progress in implementing actions and the action reported to have had the most positive effect on the population has been in ensuring the species is given adequate legal protection.



**Figure xx Average implementation score (IS) and Action Priority Index (API) for each action listed in the white-tailed laurel pigeon species action plan. Colours represent Priority Score.**

### **Status review**

The size and trend of the species' population is still poorly known as there has never been a proper census of the species. The most recent estimate is the same as the 2004 estimate (BirdLife, 2004) and was obtained through the 1997-2000 LIFE project<sup>212</sup>. During surveys, it is difficult to distinguish between the white-tailed and dark-tailed laurel pigeon, particularly when in flight. Therefore the most recent population estimates are relative abundances and are of poor quality. However, estimates of relative abundance have identified the best habitat areas for this species in each of the four islands where it is present (Martín *et al.*, 2001). In one of them, the small island of El Hierro, the species was recorded for the first time in the late 1990s. It is unknown whether the species breeds on the island. Furthermore, to date, no white-tailed pigeon

<sup>211</sup> Research has established that this species is not an exclusive to laurel forests since it also inhabits other forest environments of the Canary Islands (Martín *et al.*, 2001). Therefore it is proposed to refer to the species as 'white-tailed pigeon' rather than 'white-tailed laurel pigeon'

<sup>212</sup> LIFE project code: LIFE96 NAT/E/003095

nests have been found on the island. Since the 1997-2000 LIFE project has been no major population studies or censuses.

The population is believed to have been recovering over the last 20 years, since the species now has a larger area of occupation but there is no quantitative data on the population increase. The distribution of the white-tailed laurel pigeon was previously believed to be closely linked to the distribution of laurel forests, but a research team of ornithologists from the University of La Laguna in the late 1990s found that the species has a wider habitat range, including pine and termophile forest (Martín et al., 2001), and thus it has been proposed to change the name to ‘white-tailed pigeon’.

**Table 49 Breeding population estimates by country**

Country	Population at the time of the 1996 SAP	Year	Population at the time of the 2004 review	Year	Current population	Year	Population trend	Reference
Spain (Canaries)	1,240-1,480 ind	1985	1,000-2,499 pairs <sup>213</sup>	1997-2000	Unknown	-	Unknown	-

### ***Objective(s)***

In the short term to conserve the white-tailed laurel pigeon population at no less than its 1985 level and in the medium to long term to promote the expansion of its range.

### ***Evaluation***

The short term target has been met as the 1985 population was 1,240-1,480 pairs and the current population is estimated to be larger than this. However, this estimate is not recent, is of poor quality and the increase in numbers may reflect increased sampling effort (more habitat types sampled in the 1997 census) rather than an actual population increase.

It is difficult to say whether the medium to long term target has been met as it is not quantifiable. However, it has been found that the species occurs in habitats outside of laurel forest and so has a larger range than previously believed. Therefore the known range of the species has increased but this is likely due to increased knowledge of the species’ habitat. Populations have been studied more thoroughly and this is reflected in the identification of new areas, however, it is clear that potential habitat (laurel and pine forest) has genuinely increased.

### ***Conservation and Legal Status***

The Global IUCN Red List Category of the white-tailed laurel pigeon is Endangered under criteria B1a+b(iii) because it has a very small range on just four islands, within which the extent and quality of its habitats is continuing to decline.

The species is listed as Endangered (SPEC 1) under criteria B1a+b(iii) in the European IUCN Red List (BirdLife International, 2004), and is listed in Annex I of the EU Council Directive on the Conservation of Wild Birds (79/409/EEC, ‘Birds Directive’) and in Appendix III of the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention). Regional conservation law has recently changed, downlisting the species from “Sensible a la alteración del habitat” (‘sensitive to habitat alteration’) to “Vulnerable”. The national law is being updated and prevails over regional law, and for now, the species is nationally listed as “Sensible a la alteración del habitat”. A draft submitted for public information reveals that the

<sup>213</sup> Refers to no actual figures, only represents the estimated size of the population in BirdLife International (2004), taken from the 1997-2000 LIFE project census.

species will be downlisted to “Vulnerable”, which, if approved, would give precedence to regional law, and so the species would be ultimately considered as “Vulnerable”. The Red Book of Birds in Spain evaluated this pigeon as "En peligro " (Madroño et al., 2004).

### *Overview of past and current threats*

Although there is evidence of predation by rats, feral cats and potentially European ferret *Mustela furo* (on the island of La Palma - Medina & Martín, 2009) affecting the species, there are no data on the level of importance of this threat. Predation is thought to be a critical/high threat for the white-tailed laurel pigeon as it breeds on the ground and so is very vulnerable to predation. Predation is the primary threat the white-tailed laurel pigeon, with rats having the largest impact of all introduced predators (Hernández et al., 1999; Delgado García et al., 2005).

Another main threat to this species is human disturbance from leisure activities, particularly abseiling and climbing, causing disturbance to breeding sites that were previously unreachable (a new threat identified in 2010). There is no specific breeding season so threats from leisure activities can affect the breeding in spring and summer months and makes it difficult to set limits on human disturbance.

Although the threat of habitat loss is still present, it has been down listed to a medium threat since the majority of the species’ habitat is now protected. Habitat change, listed as a critical threat in the SAP, is now considered to be of medium importance as abandoned agricultural land is reclaimed by laurel forest and so has a positive effect on the species. Though laurel and pine forests have gradually recovered their previous range in recent decades, it is not the case with thermophile forests. Thermophile forest is currently the worst preserved and most threatened (due to past human habitation, livestock and agriculture). It is suspected that this type of forest was the original historic habitat of the white-tailed pigeon (Martín et al., 2001).

The increased awareness of the species’ protection status combined with increased surveillance has led to a reduction in the level of illegal hunting and trapping so these threats are now considered low/not relevant. The threat of lack of drinking areas has also significantly reduced as laurel forest areas have increased so there are now more drinking sites. However, it is still important to maintain water sources throughout the thermophile, pine and laurel forest.

Forest fires are a newly identified threat to the species but since laurel forest is less susceptible to fire than other areas, this threat is important in predominantly in pine and thermophile forests. Poisoning is a low threat but is suspected to be increasing, particularly in La Palma, as the species is persecuted for crop damage (vineyards, avocado and fruit plantations). The latter could also induce a local increase in illegal hunting.

There are currently no known cases of Newcastle disease so this threat is low, however if there were to be an outbreak, the threat could be potentially high. Other diseases, particularly avian pox (Medina et al., 2004), are a medium threat as they are increasing, likely linked to transmission from common pigeons.

### *Assessment of the implementation*

#### **National and regional species action plan**

There is no national action plan for the species.

#### **Species conservation**

##### ***Drinking points***

There are now more drinking sites available, also related to the expansion of the species, but there is not a regional scheme as to preserve them (see Management Plans section above, all these actions depend on the management plans to be approved).

#### ***Rat and alien species control***

Some islands have rat control plans in place. Rats are linked to presence of people and so are controlled in recreational areas because it is impossible to implement rat control in the laurel and pine forests, considering its extension. No action in has been taken in recreational areas to control other predators such as feral cats and dogs.

#### ***Prevention of illegal hunting***

Hunting is no longer a threat since hunting-free zones (coinciding with reserves) have been implemented. It is therefore thought to be residual only and not relevant.

#### ***Health control of imported birds***

There are no disease-control schemes in place in the Canary Islands that could prevent the dark-tailed laurel pigeon suffering major declines caused by Newcastle disease (although there are no recent records) or avian pox (recent records exist - Medina et al., 2004). There has been very little work carried out to ensure efficient health controls on imported birds or to detect the presence of Newcastle disease in bird rearing facilities. There are ongoing efforts to reintroduce the species in Gran Canaria (there are historical records of the species occurring here), with birds from La Palma.

#### ***Captive breeding***

There is a programme of the Cabildo of Gran Canaria (island government) to reintroduce the species on the island. Some eggs and chicks from La Palma have being fostered by Java Doves and they have started to breed by themselves in January 2010. However the definitive breeding centre has not yet been built. Facilities are expected to be finished at the end of 2010 and preliminary work will be probably carried out in 2011 (A. Martín, pers. comm.).”

#### ***Diversion of recreational activities***

In the ford islands, the closure of tracks and recreational areas during the hottest days of summer to prevent fires benefits the species, but the rest of the year there are many disturbances in the laurel and pine forests due to local visitors and tourists.

#### **Site conservation**

The majority of the distribution areas for the species have already been protected according to regional or national law. Most of the distribution range (including all breeding sites) is classified as Natura 2000 sites and Canary’s Regional Protected Sites Network, and around 50-90% of the population is included in IBAs (11 sites), SPAs (8 sites) and areas protected under national law. Land ownership still remains an issue and management of privately owned lands could represent a threat.

In 2006, the Deputy Ministry of Environment of the Government of the Canary Islands proposed new SPAs in the Official Gazette de Canarias<sup>214</sup> (BOC). This proposal included the peaks and cliffs of the north of La Palma, Bco. del

---

<sup>214</sup> More information available at: <http://www.gobcan.es/boc/2006/226/027.html>

Cedro and Liria in La Gomera, and forest and peaks in Tenerife as priority areas for conservation of the white-tailed laurel pigeon. Some work has been done to establish new hunting reserves in appropriate areas, but more is needed. Management plans for these sites have been drafted but not approved (including site management, forest management, recreational site management rules, etc), so it is urgent for these to be approved and implemented. However, this is relative because most of the plans of protected areas at regional level have been approved, but to date no plans of SPAs have approved.

Regional plans are not being implemented and restoration of pine-tree forest and thermophile forest is still pending full implementation. Pine and thermophile forests are secondary habitat for this pigeon and restoration actions are carried out by the island authorities. In Tenerife, there are areas where laurel forest has been cleared and repopulated with Canary Island pine (*Pinus canariensis*). Now the idea is to replace the pines with the natural laurel forest.

### **Habitat conservation**

Commercial forestry has decreased markedly in all islands, but has remained constant (although low) in Tenerife. Forestry management is pending of approval by Regional authorities. Island Governments are now implementing management schemes, but without regional guidelines. As part of the LIFE project<sup>215</sup> (2005-2008), work has been carried out to eradicate exotic plant species, plant native species, raise public awareness and increase knowledge of the survival of different native species present in thermophilous forests.

In Tenerife, Canarian pine tree plantations are partly cleared (thinned) which makes them more like the natural habitat of the species. This is especially important in areas where laurel forest existed in the past but have now been replaced with pine trees, since the idea is to gradually enhance the natural vegetation (laurel forest) of these areas.

The abandonment of agriculture has meant that abandoned land becomes colonised by laurel forest and later by the white-tailed pigeon. This has led to increased extension of thermophile forest and therefore an increase in the species' range.

Tenerife has also undertaken a major effort in eradicating Monterey pine and replanting with native species, with this island previously having the largest area of planted Monterey pine and Canary Island pine of all the Canary Islands.

### **Monitoring and Research**

The Island Ecology and Evolution Research Group IPNA-CSIC<sup>216</sup> (Tenerife) has been carrying out research on ecological aspects of Macaronesian pigeons from 1996 to present, however there are no national survey or monitoring programmes in place for the species.

Regular monitoring of the species, at least every 4 years, is probably the top priority for this species, along with conducting a census covering all utilised habitat types of the species.

Regional authorities are not identifying this as a priority and this needs much more attention.

More precise information on the distribution of this species is given in Martin et al. (2001), and is summarized in the Canary Island breeding bird atlas (Lorenzo, 2007).

All work carried out investigating the effect of predation on breeding success is pre-2004 (Hernández et al. 1999) and much more research is needed to effectively control alien predators at priority sites for the species (such as breeding areas, recreational sites, etc). Since the species breeds on the ground on cliffs and hard to reach areas, surveying is more difficult for this species.

---

<sup>215</sup> LIFE project code: LIFE04 NAT/ES/000064

<sup>216</sup> For more details see: <http://www.ipna.csic.es/departamentos/agro/eei/index.php/es/>

### **Public awareness and stakeholder involvement**

Communication campaigns were carried at the beginning of the LIFE project (1997-2000), but nothing else has been implemented since. There is still a high demand for public information about the species and the importance of the laurel forest to both locals and island inhabitants.

### **Community financial support**

One LIFE project<sup>217</sup> has been implemented since 2004 which benefits the dark-tailed laurel pigeon. The project focused on restoration of *Juniperus* spp. forests on Tenerife, running from 2005-2008 with a total budget of 373,295 Euros, of which the total European Union contribution was 279,971 Euros.

The species has also benefited from an additional project funded by the Autonomous Organisation of National Parks, Ministry of Environment and Rural and Marine Affairs, Spain (Ref. 80/2005) focussing on the trophic ecology of Canary Island endemic pigeons (*Columba bollii* and *Columba junoniae*) and seed dispersal in the laurel forest of Garajonay National Park (La Gomera, Canary Islands). The project ran from 2006-2009 with a total budget of 85994.25 Euro.

### **Conclusions**

Progress in the overall implementation of the action plan is moderate and further work is still needed (Average IS=1.9).

A scores table of the implementation of each action (including a break-down of all actions into measurable targets) is provided in Appendix 1.

There are still major gaps and further implementation of the following actions is needed:

- Approval of the national ‘Ley del Patrimonio Natural y de la Biodiversidad’. This law includes the publication of a Species Action Plan for the species that could list all the major conservation actions needed.
- Approval of the Regional forestry management plan.
- Improvement of the conservation status of the species.
- Establishment of an alien species control plan.
- Establishment of a full monitoring scheme (monitoring at least every 4-5 years) and conduct a full census of the species including all utilised habitat types.
- Improvement of hunting season monitoring with increased wardens and penalties imposed.
- Establishment of a regional awareness-raising campaign.

### **Contributors**

Patricia Marrero (IPNA-CSIC); Cristina González (SEO/ BirdLife); Iván Ramírez (BirdLife International); Juan Antonio Lorenzo (SEO/BirdLife); Mia Derhé (BirdLife International).

---

<sup>217</sup> LIFE project code: LIFE04 NAT/ES/000064.

*Appendix 1*

**Table 50 Implementation of the action plan in The Canary Islands. PS = Priority Score; ES-C = Spain (Canaries); API = Action Priority Index; National IS = National Implementation Score.**

Action	Measure	PS	ES-C	API
<b>1.1.1</b>	<b>To ensure the white-tailed laurel pigeon is given adequate legal protection</b>	<b>3.5</b>	<b>2.8</b>	<b>1.5</b>
	a. All areas important for the species are designated as protected under the Canary Islands Countryside Law (1994), with Use and Management Plans, Master Plans (Planes Directores), Conservation Regulations and Special Plans addressing all threats to the WTLF.	4	3	1.3
	b. The Canary Islands wildlife law adequately protects the species, in the wider countryside as well as in PAs.	3	2.5	1.5
<b>1.2.1</b>	<b>To ensure, through Countryside Planning Plans, that exploitation of the countryside is compatible with the conservation of the species and its habitat</b>	<b>4</b>	<b>2.6</b>	<b>1.8</b>
	a. Commercial forestry in mature laurel forest discouraged and guided towards suitable alternative areas.	4	2.5	2.0
	b. Regeneration of degraded laurel forest favoured over commercial forestry.	4	2.5	2.0
	c. Commercial forestry no longer damages laurel forests.	4	2.5	2.0
	d. Programme of alternatives to commercial forestry practices implemented.	3	3	1.0
<b>1.3.1</b>	<b>Establishment of new hunting reserves in appropriate areas</b>	<b>3</b>	<b>1.8</b>	<b>2.3</b>
	a. New Hunting Reserves established.	3	2	2.0
	b. Human activities likely to have negative effects in the new Hunting Reserves minimised or removed.	3	1.5	2.5
<b>1.4.1</b>	<b>Increased health controls on imported birds.</b>	<b>1</b>	<b>1.3</b>	<b>0.9</b>
	a. Health controls on birds imported are efficient.	1	1	1.0
	b. Controls in place on bird rearing facilities to detect the presence of Newcastle virus.	1	1.5	0.8
<b>2.1.1</b>	<b>Control of illegal hunting</b>	<b>4</b>	<b>1.8</b>	<b>2.9</b>
	a. Number of wardens increased to provide greater surveillance of important areas.	4	1.5	3.3
	b. The support of SEPRONA sought and information provided on places most frequented by hunters.	4	2.5	2.0
	c. Penalties imposed under current law applied when charges are brought.	4	1.5	3.3
<b>2.2.1</b>	<b>Promote the restoration and expansion of laurel forest</b>	<b>3</b>	<b>2.3</b>	<b>1.7</b>
	a. Eradication of Monterrey pines completed.	3	2.5	1.5
	b. Forestry practices most beneficial for the environment are used, following prior analysis.	3	2	2.0
	c. Re-afforestation with native plants ongoing.	3	2.5	1.5
<b>2.3.1</b>	<b>Purchase of some of the important areas for the white-tailed laurel pigeon</b>	<b>3</b>	<b>1.5</b>	<b>2.5</b>
	Important areas for the species acquired from private owners.	3	1.5	2.5
<b>2.4.1</b>	<b>Provide additional drinking points to reduce the number of pigeons gathering at existing natural drinking areas</b>	<b>2</b>	<b>1</b>	<b>2.0</b>
	Additional drinking points provided.	2	1	2.0
<b>2.5.1</b>	<b>Initiate a captive breeding programme for the white-tailed laurel pigeon</b>	<b>1</b>	<b>0</b>	<b>0</b>
	Contact with zoological collection established in view of a captive-breeding programme.	1	0	0
<b>3.1.1</b>	<b>Conduct a full census of the species</b>	<b>4</b>	<b>1</b>	<b>4.0</b>
	Full census of the species carried out, including data on the different breeding groups in the Canary Islands and an up-to-date inventory of all breeding areas.	4	1	4.0
<b>3.2.1</b>	<b>Improve white-tailed laurel pigeon monitoring methods</b>	<b>3</b>	<b>2</b>	<b>2.0</b>
	Monitoring methods improved through information exchange with experts in Madeira.	3	2	2.0

<b>3.3.1</b>	<b>Undertake regular population monitoring of the white-tailed laurel pigeon</b>	<b>3</b>	<b>1</b>	<b>3.0</b>
	Monitoring of the population ongoing with overall census repeated every 4 years.	3	1	3.0
<b>3.4.1</b>	<b>Research into breeding success and the factors affecting it</b>	<b>4</b>	<b>2.5</b>	<b>2.0</b>
	Factors affecting the breeding success (particularly predation and food availability) understood.	4	2.5	2.0
<b>3.5.1</b>	<b>Evaluate the economic importance of commercial forestry for the local population, and its repercussions on the conservation of the biotope</b>	<b>2</b>	<b>3</b>	<b>0.7</b>
	a. Economic importance of forestry evaluated.	2	3	0.7
	b. Alternatives to current forestry practices identified.	2	3	0.7
<b>4.1.1</b>	<b>To undertake a public awareness campaign aimed at local people, particularly those living near areas important for the species</b>	<b>3</b>	<b>1.8</b>	<b>2.3</b>
	a. Public awareness campaign targeted at general public carried out.	3	1.5	2.5
	b. Awareness campaign targeted at hunters to gain their support carried out.	3	2	2.0
<b>4.2.1</b>	<b>Promote ongoing dialogue between the different bodies involved in the conservation of the species and its habitat</b>	<b>3</b>	<b>2</b>	<b>2.0</b>
	Dialogue between the bodies involved in the conservation of the species and its habitat strengthened.	3	2	2.0
<b>4.3.1</b>	<b>Increase the effectiveness of wardens</b>	<b>3</b>	<b>2</b>	<b>2.0</b>
	Wardens trained and motivated and staff motivation emphasised during the selection process for additional wardens	3	2	2.0
	<b>National &amp; Average IS</b>		<b>1.9</b>	<b>1.9</b>

## References

- BirdLife International, 2004. *Birds in Europe: population estimates, trends and conservation status*. Cambridge, UK: BirdLife International (BirdLife Conservation Series No. 12)
- BirdLife International 2008. *Columba junoniae*. In: IUCN 2010. IUCN Red List of Threatened Species. Version 2010.2. <[www.iucnredlist.org](http://www.iucnredlist.org)>. Downloaded on 09 August 2010.
- Delgado García, J.D., Arévalo, J.R. & Fernández-Palacios, J.M. (2005) Patterns of artificial avian nest predation by introduced rats in a fragmented laurel forest (Tenerife, Canary Islands). *Journal of Natural History*, 38, 2661–2669.
- Gallo-Orsi, U. ed. (2001) *Saving Europe's most threatened birds: progress in implementing European Species Action Plans*. Wageningen, The Netherlands: BirdLife International.
- Gonzalez, C. 1996 *Action Plan for the white-tailed laurel pigeon (Columba Junoniae)*. BirdLife International report to the European Commission, unpublished. (Document available at: [http://ec.europa.eu/environment/nature/conservation/wildbirds/action\\_plans/docs/columba\\_junoniae.pdf](http://ec.europa.eu/environment/nature/conservation/wildbirds/action_plans/docs/columba_junoniae.pdf)).
- Hernández, M. A. , Martín, A. and Nogales, M. (1999) Breeding success and predation on artificial nests of the endemic pigeons Bolle's Laurel Pigeon *Columba bollii* and White-tailed Laurel Pigeon *Columba junoniae* in the laurel forest of Tenerife (Canary Islands). *Ibis* 141 , pp. 52-59.
- Lorenzo, J. A. (Ed.) 2007. Atlas de las aves nidificantes en el archipiélago Canario (1997-2000). Dirección General de Conservación de la Naturaleza – Sociedad Española de Ornitología. Madrid. 520 pp.
- Madroño, C. González Y J. A. Atienza. 2004. *Libro Rojo de las Aves de España*. Dirección General para la Biodiversidad-SEO/BirdLife. Madrid.
- Martín, A., Hernández, M. A., Lorenzo, J. A., Nogales, M., & González, C. 2001. *Las Palomas endémicas de Canarias*. Conserjería de Medio Ambiente y SEO/BirdLife
- Medina, F. M. & Martín, A. 2009. A new invasive species in the Canary Islands: a naturalized population of ferrets *Mustela furo* in La Palma Biosphere Reserve. Short communication. *Oryx*. 44(1). 41–44. doi:10.1017/S0030605309990743.
- Medina, F. M., Ramírez, G. A, & Hernández, A. 2004. Avian Pox in White-tailed Laurel-pigeons from the Canary Islands. *Journal of Wildlife Diseases*, 40(2), 2004, pp. 351–355.
- Nagy, S & Crockford, N (2004) *Implementation in the European Union of species action plans for 23 of Europe's most threatened birds*, BirdLife International, Wageningen, The Netherlands.

[http://www.mma.es/secciones/biodiversidad/especies\\_amenazadas/catalogo\\_especies/vertebrados\\_aves/pdf/ver216.pdf](http://www.mma.es/secciones/biodiversidad/especies_amenazadas/catalogo_especies/vertebrados_aves/pdf/ver216.pdf)

[www.grancanaria.com](http://www.grancanaria.com)

[www.tenerife.es](http://www.tenerife.es)

[www.seo.org](http://www.seo.org)

[www.gobiernodecanarias.org](http://www.gobiernodecanarias.org)