

# RECOVERING BONELLI'S EAGLE POPULATION IN WESTERN MEDITERRANEAN

PARTICIPANTES

COLABORADORES



AUTHORS: Ernesto Álvarez<sup>1</sup>, Joan Mayol<sup>2</sup>, Jokin Larumbe<sup>3</sup>, Carlota Viada<sup>2</sup>, Gloria Giralda<sup>3</sup>, Manuel Galán<sup>1</sup>, Alfonso Llamas<sup>3</sup>, Juan José Iglesias<sup>1</sup>, Pablo Izquierdo<sup>1</sup>, Itziar Almarcegui<sup>3</sup>, Paz Azkona<sup>3</sup>, Carmelo Fernández<sup>3</sup>.

PARTICIPANTS ENTITIES: GREFA<sup>1</sup>, GOBIERNO DE LAS ISLAS BALEARES<sup>2</sup>, COMUNIDAD FORAL DE NAVARRA<sup>3</sup>, COMUNIDAD DE MADRID, JUNTA DE ANDALUCÍA, UFCS, LPO/BirdLife France, DIPUTACIÓN DE ÁLAVA.

## Summary

The Bonelli's Eagle is evaluated as Endangered according to IUCN criteria in the Spanish Red List and as vulnerable according to the Spanish National Catalog of endangered species. The huge decline of the Iberian population suggests that captive breeding and reinforcement/reintroduction initiatives can be a useful tool to preserve the species in Western Mediterranean areas. In 2011 Navarra, the Balearic Islands and Madrid regions started a conservation program in their territories testing the releasing of individuals from captive breeding (GREFA in Madrid and UFCS in France), birds recovered in rescue centres and chicks rescued at nest in Andalusia region. Up to now the results of these tests are highly positive, thus an intense program is going to be developed. In that sense, a LIFE+ proposal has been developed by all the participant entities in 2012.

## Material and methods

Having the chance of releasing Bonelli's eagles as a solution for the decreasing of the Mediterranean population feasibility studies were carried on.

Bonelli's eagle's chicks come from captive breeding programs, wild nests with a low fledging rate in Andalusia and also rescued birds from recovery centers.

The releasing technique, when working with 45-50 day old chicks, was the hacking and the acclimatization cage when birds were rescued or already fledged where the birds were kept for variable time periods depending on their behavior (between 5 to 12 days). All the birds have been equipped with proper metallic and PVC rings (in order to identify the birds on the distance) and GPS-transmitters (Microwave-Northstar). The transmitters (<5%the weight of the bird) were set in a back pack on the birds. Once the birds have been checked for a veterinary and the necessary biological samples have been taken, they were ready to be set on the hacking platform/ acclimatization cage.

## Actions per region and Results

### Madrid region

With only two breeding pairs, the species is classified as Endangered. Facing the possibility to release captive bred individuals, a Reinforcement Viability study was asked to FICAS (Fondo para la Investigación de los Animales Salvajes y su Hábitat). After a positive conclusion, a releasing site was chosen within the Natura 2000 site "Cuencas de los Ríos Alberche y Cofo".

In 2009 two Bonelli's Eagle were bred in captivity in GREFA, the firsts in Spain through natural breeding. The releases started in 2010 and a total of 10 birds have been released between 2010 and 2012: 4 born in GREFA, 2 donated by Andalusia Government after being rescued from nests and 4 donated by a French breeding centre (in Vendée, part of UFCS -Union Française des Centres de Sauvegarde de la Faune Sauvage).

- In order to compare the individuals released within the Project and the wild eagles, we set GPS-transmitters in a breeding adult (2009) and a wild chick (2010).
- The first movements away from the nest happened when the eaglets were 57-64 days old (M=60,16, SD=2,48; n=6). Despite of the fact that these individuals are very active, they can't take proper flight yet.
- The eaglets stayed in the releasing area for 67-115 days after the first flight (M=94,67, SD=17,96; n=6) even though they wondered away from the reinforcement area a few times during this period.
- The reinforcement of the species has resulted on a congregation of wild birds around the releasing point and 7 Bonelli's eagles, external to the project, have been spotted. Their ages included adults and young birds.

### Navarra region

The Bonelli's Eagle showed a clear decline in this region, with only one breeding pair at the beginning of the project. Previous actions of habitat improvement were not enough to reverse the negative trend of the species. In 2011 the first two Bonelli's Eagle nestlings coming from captive breeding (GREFA and UFCS) were released using hacking. In 2012 two more individuals, captive bred in GREFA, were released by hacking too. The individuals which were released in 2011 lost the transmitters but they have been observed since then near the releasing point. The birds which were released in 2012 are still in their first stages of dispersion.

### Balearic Islands

Bonelli's Eagle became extinct in Mallorca in the 70's of the 20th century; only accidental birds are recorded from time to time. Between 2011 and 2012, 10 birds have been released, from captive breeding (GREFA, UFCS), nestlings and injured immatures from rescue centres (Catalonia and Andalusia). 6 out of 10 were released by hacking and 4 immatures using a large adapting cage after a period inside. As an island, Mallorca is expected to be the project's most successful releasing point. At the moment results are satisfactory:

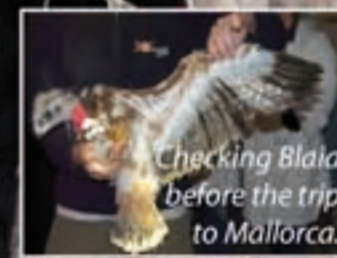
- An immature male has occupied a territory, and a subadult female recently joined it.
- Other 5 birds have perfectly adapted to the island and its habitats;
- 2 juvenile died electrocuted, 9 months after fledged, in the same electric transformer (instantly corrected by the electric company under request of the local government),
- An immature was recaptured malnourished 15 days after its releasing from the adapting cage (it will be released again after its complete recovery).

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### GRANÁ: Restless wonderer

We have found two different dispersive behaviors in the Iberian Peninsula: one corresponding to the animals that scatter from the releasing site only a few kilometers and the second corresponding to the animals that travelled hundreds of kilometers. The latter is Graná's scenario, which travelled from the releasing point in Madrid to the Eastern shore of Spain, returned to Madrid and finally headed south to Cadiz, La Janda, a typical dispersion area for the species.



Romero and Torvisca. Captive-bred eagles form GREFA in 2011. J.J. IGLESIAS