



## France

### Tracking the little bustard, *Tetrax tetrax*

The little bustard, *Tetrax tetrax*, is a medium-sized Palearctic bird.

Until the early 1900s, it was common in open fields in many parts of Europe; since then, it has disappeared from a large portion of its former range. Remaining populations show continuous declines, especially in France, Italy, Ukraine, and some parts of Spain. Formerly considered as Globally Threatened, it is currently classified as Vulnerable in Europe. In France, the little bustard is red-listed because its population has declined from 7,200-8,500 breeding males in 1978-79 to 1,200 in 1996 (an 85 percent decline in 17 years), associated to the corresponding range reduction.

Given this critical situation, a conservation program financed by the European Union and French collectivities was started in 1997 and was led by the Ligue de Protection des Oiseaux. The main aim of the program was to determine the reasons for this decline.



Vincent Bretagnolle

Because the little bustard population in France is migratory, we had to investigate the possibility that the birds may winter in a particularly unsafe area. We used three PTTs (in 1997 and 1999) on our birds as well as 20 conventional radio-tags, and found that all were wintering in high plateaus of central Spain. Thus, we were able to definitively rule out the possibility that the decline was due to winter conditions. Instead, the main explanation for little bustard decline in France is a decrease in food (insect) abundance as a result of agricultural intensification.

We are now exploring the possibility of reinforcing our French populations using eggs from Spain. Using two solar PTTs, we are testing the migratory behavior of little bustards hatched from Spanish eggs (that are resident) but raised in France (where the population is migratory).

Vincent Bretagnolle, Centre d'Études Biologiques de Chizé



Female little bustard being equipped with a 20g PTT

Photos courtesy of Vincent Bretagnolle

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## Spain

### Tracking Bonelli's eagle in Spain

The Bonelli's eagle, *Hieraetus fasciatus*, is a medium-sized agile raptor that lives in the Mediterranean area; the main European population of about 700 pairs is concentrated in Spain. It is often found in the neighborhood of man, where it competes to a certain degree with hunters for rabbits and red-legged partridge. This fact causes direct persecution which accounts for more than 30 percent of mortality of this eagle species, although the main number of bird deaths is caused by power lines—especially dangerous for young eagles during dispersal.

In the last 20 years, population size decreased significantly in the northern half of Spain resulting in a loss of 33 percent in the last decade. Therefore the regional Government of Aragón, in northern Spain, decided to carry out a series of studies and measures to explain and combat this trend.

One of the measures was the tracking of young Bonelli's eagles by satellite transmitters, a study that was conducted by BIOMA T.B.C.



From left to right: Ernesto Ferreiro and Andrea Gardiazábal from BIOMA T.B.C. and Manuel Alcántara from the regional Government of Aragón

The first results showed surprising wandering routes of up to 3,000 km through the Iberian Peninsula including non-Mediterranean climate-zones. Most of the birds spent their first year of life in southern Andalusia or in the central Spanish Tajo Valley. All of these dispersal areas hold a high density of prey—and of dangerous power lines.

Although the population decrease is more pronounced in the northern part, a solution of this problem must comprise all autonomous regions of Spain and requires legal measures by the national Government.

Andrea Gardiazábal, Ernesto Ferreiro, Manuel Alcántara



Adult Bonelli's eagle

Photos courtesy of Alberto Portero and Andrea Gardiazábal, respectively

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