TOGETHER PROTECTING STEPPE BIRDS

"Conservation of the Great Bustard, Little Bustard and Lesser Kestrel in the Baixo Alentejo cereal steppe."
LIFE07/NAT/P/654

THE CEREAL STEPPE

The steppe is known for being a landscape of mild relief dominated by plains, where herbaceous vegetation and a scarcity of trees predominate. In Portugal there are no real steppes but the centenary existence of extensive farming "created" a habitat of similar characteristics, located essentially on the Alentejo plains, which is called **pseudo-steppe**, **cereal plains** or **cereal steppe**.

The cereal steppe is a result of extensive farming, characterized by the rotation between dry cereal farming (wheat and oat) and fallow land (pastures).

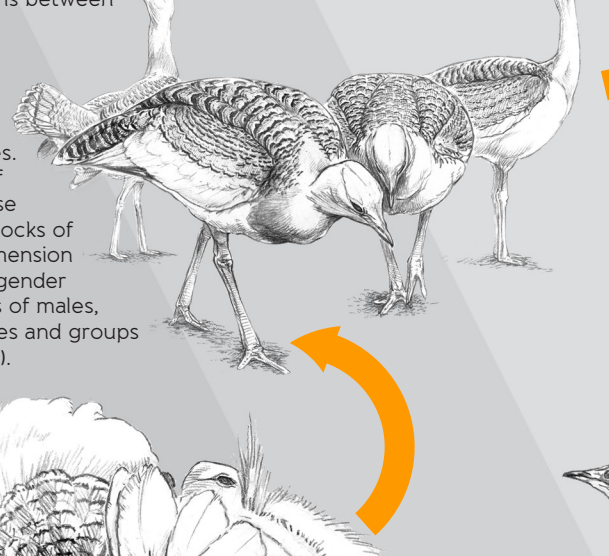
Over the past centuries, many species have adapted to this habitat creating an ecosystem that depends on the maintenance of extensive agricultural activity. The Great Bustard, the Little Bustard and the Lesser Kestrel are three of the species considered in the group of "steppe birds" and they have been adopted as flagship species for the conservation of this unique ecosystem.

ENDANGERED

Conservation status

The Great Bustard has an accentuated sexual dimorphism: males can be twice as large as females, weighing up to 16kg. Total length is situated between 75 and 105cm, and the wingspan is between 190 and 260cm.

It feeds mostly on green spontaneous plants, seeds and invertebrates. During most of the year, these birds form flocks of variable dimension according to gender and age (groups of males, groups of females and groups of young males).

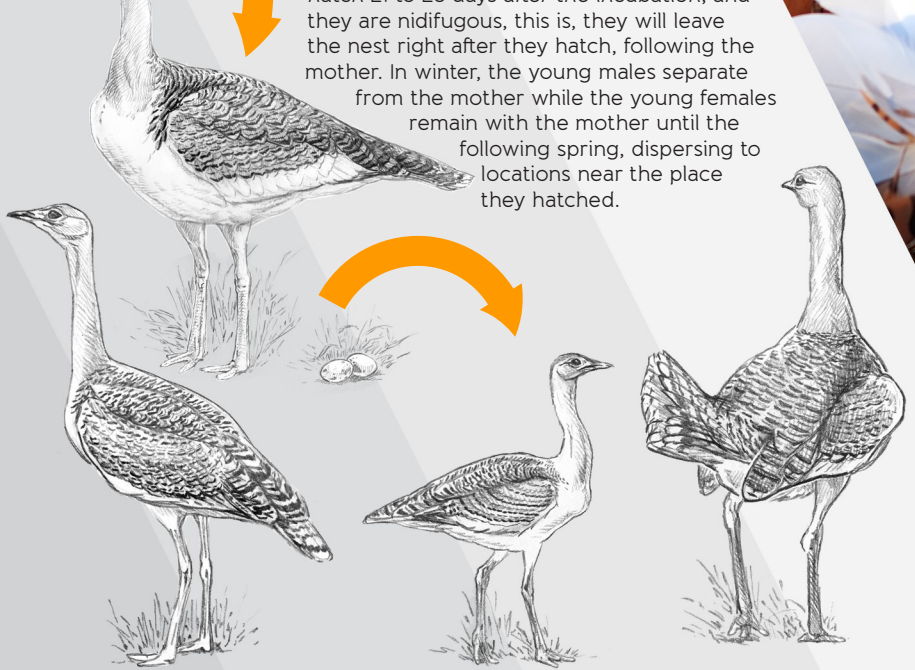


The Great Bustard (*Otis tarda*)

The Great Bustard is the most emblematic of all the steppe birds, for its rarity, beautiful feathering and large size, being the heaviest flying bird in Europe. Sometimes called the "Queen" of the steppe, it is not always easy to observe because it is very sensitive to human presence.

In late winter, the males disperse, moving to specific areas, called "lek" areas, where they perform an exuberant courtship display. Females visit these areas to mate and afterwards, alone, they incubate the eggs and take care of the hatchlings.

The Great Bustard's breeding season takes place between the end of March and June, and the females will lay between two and three eggs on the ground in crops or fallow land with well developed vegetation. The hatchlings will hatch 21 to 28 days after the incubation, and they are nidifugous, this is, they will leave the nest right after they hatch, following the mother. In winter, the young males separate from the mother while the young females remain with the mother until the following spring, dispersing to locations near the place they hatched.



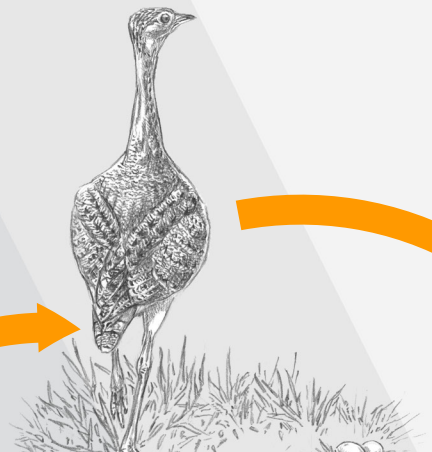
The Little Bustard (*Tetrax tetrax*)

The Little Bustard belongs to the same family as the Great Bustard but is considerably smaller. It is a medium sized bird with a length between 40 and 45cm and a wingspan between 105 and 115cm. It weighs between 700 and 950g, although females are slightly smaller than males. During spring, these birds feature an evident sexual dimorphism, when the male displays a feathering with a black neck with two white collars.

The Little Bustard feeds mostly of leafs, flowers, stalks, seeds and invertebrates.

In the end of March, the males abandon the large flocks formed during winter and establish territory in fallow land. Males defend territories on the "lek" areas, where they perform a courtship display that involves a calling and leaping in the air while flapping their wings.

Females visit these areas, select a male for mating and, afterwards, they seek for a place to nest, ideally in pastures with high and dense vegetation, where they lay 3 to 4 eggs directly on the ground. After a 22 days incubation period, the hatchlings hatch and leave the nest. During their first weeks of life, the hatchlings depend totally on their mother's care, having the need for a diet exclusively consisting of insects.



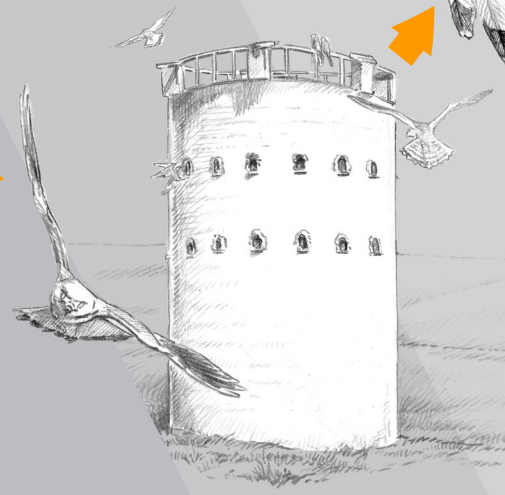
VULNERABLE
Conservation status

Lesser Kestrel
(*Falco naumanni*)

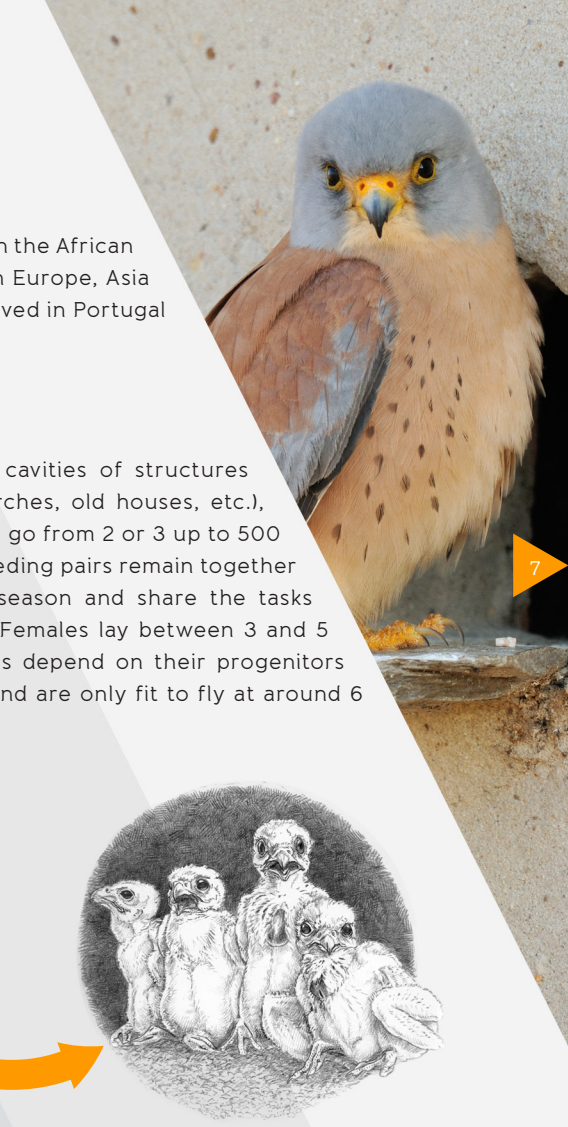
The Lesser Kestrel is a small falcon of long and narrow pointed wings. It can reach a length of 30cm, 58 to 72cm of wingspan and 200g of weight.
This species presents sexual dimorphism, in feathering (males present a greyish tone on the head, upperparts and tail while the females are totally brown with dark spots), and size (females are slightly larger).

It feeds on insects, mostly grasshoppers and mole crickets, but it can also hunt small mammals, birds, reptiles and amphibians.

It's a summer migrant, wintering in the African continent and breeding on southern Europe, Asia and African Northwest. It can be observed in Portugal between February and September.



Currently, these birds nest in cavities of structures built by man (castles, churches, old houses, etc.), forming colonies that can go from 2 or 3 up to 500 breeding pairs. The breeding pairs remain together during the breeding season and share the tasks inherent to nesting. Females lay between 3 and 5 eggs, the hatchlings depend on their progenitors after they hatch and are only fit to fly at around 6 weeks of age.



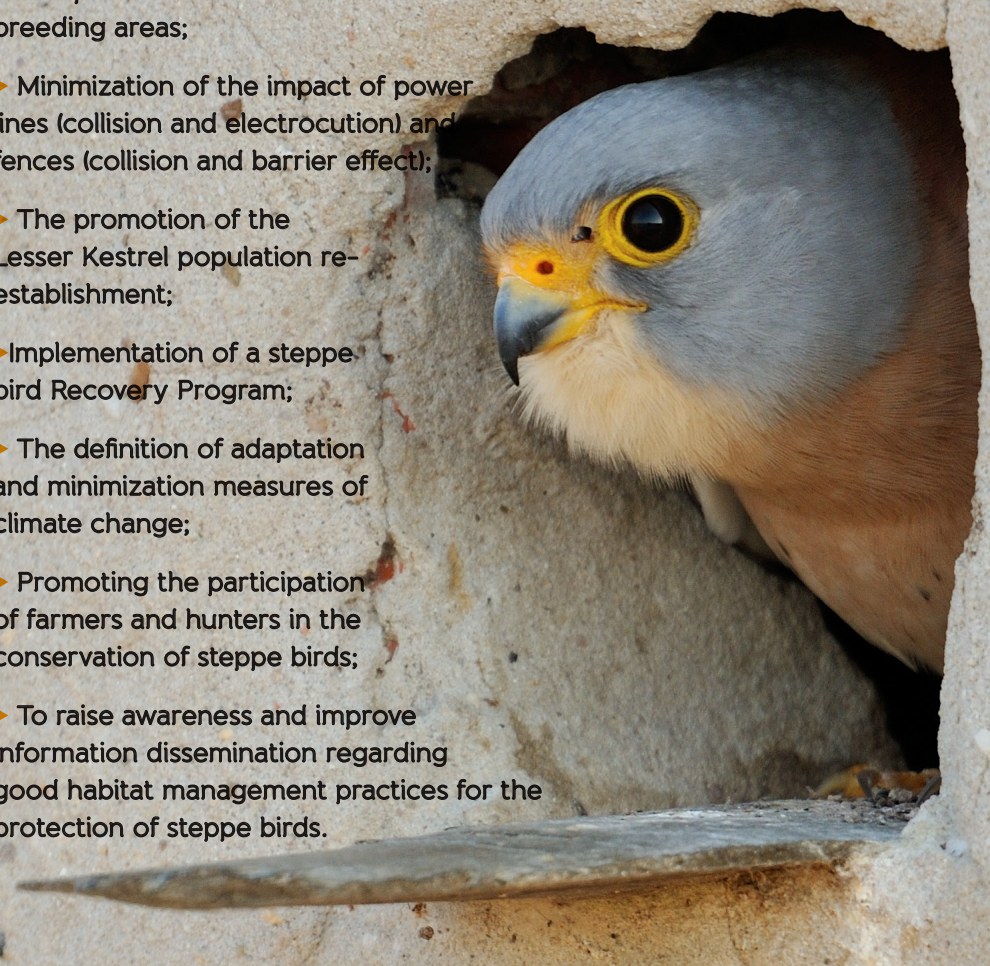
Project LIFE Estepárias

Project LIFE Estepárias intends to contribute for the **long term conservation of the steppe birds in Baixo Alentejo**, through measures meant for three threatened species: the Great Bustard, the Little Bustard and the Lesser Kestrel. These birds are extremely sensitive to changes in the agricultural practices, namely to the intensification of agriculture, which, in the recent past, has lead to the loss and fragmentation of their habitat throughout all Europe.

However, the changes in agriculture are not the only problem that these birds are facing. The threats to their conservation include the afforestation of farming lands, the abandonment of the rural areas, the collision with power lines and fences, the electrocution in power poles, the fragmentation of populations caused by fences and roads, the human disturbance, the predation and the climate changes.

The **main goals** of this project are:

- The protection of the Great Bustard breeding areas;
- Minimization of the impact of power lines (collision and electrocution) and fences (collision and barrier effect);
- The promotion of the Lesser Kestrel population re-establishment;
- Implementation of a steppe bird Recovery Program;
- The definition of adaptation and minimization measures of climate change;
- Promoting the participation of farmers and hunters in the conservation of steppe birds;
- To raise awareness and improve information dissemination regarding good habitat management practices for the protection of steppe birds.



Intervention locations

Under the scope of this project, actions are being carried out in four Special Protection Areas (SPA) in Baixo Alentejo: Castro Verde, Piçarras, Vale do Guadiana and Mourão/Moura/Barrancos. These SPA integrate the Natura 2000 Network, which constitutes the European Natural Spaces Network.

The **Castro Verde SPA** (85.345 ha) comprehends the municipalities of Castro Verde, Aljustrel, Beja, Ourique, Almodôvar and Mértola. Here, the landscape, stretching out to the horizon, is dominated by the vast plains with cereal crops and pastures. It represents the larger steppe habitat area of the country, where the most important display areas for the Great Bustard are located, as well as the larger densities of Little Bustard. It holds around 70% of the breeding population of Lesser Kestrel, as well as important populations of European Roller, Calandra Lark, Montagu's Harrier and Black-bellied Sandgrouse.

The **Piçarras SPA** (2.827 ha) is located in the Ourique, Castro Verde and Almodôvar municipalities. It is a small and predominantly agricultural area with extensive cereal crops and pastures intercalated with open cork oak and holm oak groves (called "montado"). This SPA was classified in 2008 in order to protect the steppe birds that occur there, in particular a breeding population of Great Bustard.

In the **Mourão/Moura/Barrancos SPA** (84.909 ha), with an area that comprises the municipalities of Barrancos, Moura, Mourão and Serpa, the landscape is rather heterogeneous, being composed by a mosaic of pastures, oak groves, vineyards and olive plantations. The areas with steppe characteristics are scarce and fragmented due to agricultural intensification that also includes the conversion of annual crops into irrigated intensive olive plantations. These habitat changes are a serious threat for the steppe birds that occur in this SPA.

The **Vale do Guadiana SPA** (76.547 ha) coincides almost totally with Vale do Guadiana Natural Park, and comprises the municipalities of Mértola, Beja, Serpa and Alcoutim. The area is characterized by the wide open valleys of the Guadiana River and its affluents, with scarps and Mediterranean scrublands with holm oak groves. Although the cereal plains are very localized, they are very important for the Great Bustard, Little Bustard, Lesser Kestrel and Black-bellied Sandgrouse.

Threats to the conservation of steppe birds

▶ The **intensification of agriculture** is one of the main factors that have lead to the decline of the Great Bustard, Little Bustard and Lesser Kestrel populations in Europe.

Changes in agriculture have caused great **habitat loss and fragmentation** through the disappearance of fallow land, increase in cattle density, afforestation of agricultural areas, increase of irrigated crops or conversion of arable crops into vineyards or olive plantations.

With these changes, the habitat loses its favourable conditions for the reproduction and feeding of birds, namely in what concerns vegetation structure and habitat availability.

▶ Other factors, such as **farm mechanization**, the use of **pesticides, herbicides and fertilizers**, as well as **predation**, contribute for the increase of egg, hatchling and juvenile mortality.

▶ The **increase of human pressure** along with the proliferation of roads, power lines, fences, dams and drainage ditches, also contribute for the loss and fragmentation of these species' habitat.

▶ The **lack of nesting locations** due to the obstruction or destruction of cavities during remodelling and demolitions of the buildings where the birds nest, is one of the most permanent threats for the Lesser Kestrel.

▶ Despite of the existing legal protection, **nest-pillaging** is still a threat for this species.

▶ In recent years, the number of fences in agricultural explorations has increased significantly.

The **fences can be insurmountable barriers**, especially for non-flying juveniles, given that they stop the birds' free circulation and access to feeding and water areas.

In the Great Bustard courtship display areas, the building of new fences may cause the extinction of those sites given that the Great Bustard males need wide spaces without barriers where they can walk in order to exhibit their feathering to the females or to fight among themselves and establish group hierarchies.

On the other hand, there is the danger of **collision with barbed-wire fences**.

▶ The **electrical energy transportation and distribution lines** represent a danger for the birds, since they frequently die due to collision with the cables or electrocution in the supports.

Due to the characteristics of their sight and reduced flight mobility, the Great Bustard and the Little Bustard are particularly vulnerable to collision with power lines, making this the prime cause of unnatural mortality of these species.

▶ **Climate change** represents a new threat, due to the increase of extreme droughts or out of season intense climate phenomenon, which presents consequences in what concerns habitat quality levels (for example, in what concerns structure and vegetation cover) and bird survival, more specifically of small chicks.

Project LIFE Estepárias on the ground

Protection of the Great Bustard breeding areas

Great Bustard males use very specific locations for performing their courtship displays.

Disturbance during spring months and the construction of structures, such as roads or fences, may lead to the extinction of these sites that are of high importance for the conservation of Great Bustard populations. So, with this project, we intend to acquire new lands in the Castro Verde SPA, which will be reserved for the long term protection of this species.

Improve the nesting habitat of the Lesser Kestrel

Once the Lesser Kestrel was a common bird in the skies of many Alentejo cities and villages, but due to the lack of good nesting locations, its area of distribution has decreased.

With the construction of a new nesting tower in the Mourão/Moura/Barrancos SPA we intend to encourage the natural re-colonization of the species in the Moura municipality.

Similarly, in the new lands acquired in the Castro Verde SPA, we will improve its breeding conditions with the construction of a new nesting tower.

Project LIFE Estepárias on the ground

Minimize the impact of power lines

Through the correction of 40km of power lines in the Castro Verde SPA, we intend to decrease the impact of these infrastructures on the Great Bustard and Little Bustard.

The effectiveness of different types of anti-collision markers for these species will be tested throughout the project. The protection of the supports will decrease the possibility of electrocution of Lesser Kestrels and other birds of prey that frequently sit on these structures.

Reduce the physical barriers on the feeding and breeding areas

Through agreements with farmers and landowners, we intend to reduce the impact of the high density of cattle fences, which results in the collision of birds against the barbed-wire and in a barrier effect.

When possible, the fences will be removed. In other cases, the fences will be signalized in order to reduce collisions and we will install fauna pass ways to allow their transition through the fenced areas.

Project LIFE Estepárias on the ground

Implementing a Recovery Plan for wounded steppe birds

With the recovery of wounded individuals or of individuals that present weak physical conditions, namely juveniles, we intend to potentiate the reproductive success and productivity of these species.

As these birds require special care, we will invest in the training of human resources in order to consolidate the practices for their recovery.

Minimize the effects of climate change

The increase of the average temperature and the changes in precipitation can lead to events of extreme drought during summer.

In collaboration with game managers, we will test different methodologies in order to understand which are the best ways to provide additional food and water points during periods of scarcity, to make them accessible not only for game species but also for steppe birds.

Disseminate and Raise Awareness

The raising of awareness for environmental issues is essential for the direct involvement of local populations, from children to farmers, rural workers, hunters and society in general. It is intended to motivate farmers into adhering to agro-environmental measures that promote the maintenance of extensive dry farming systems, encourage the hunters to participate in the active conservation of these species and involve several school groups in environmental education activities.

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Project LIFE Estepárias
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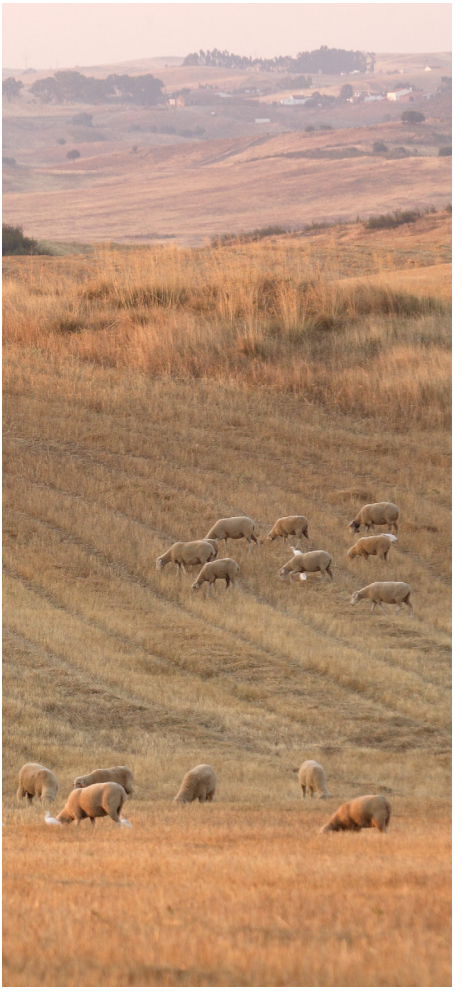

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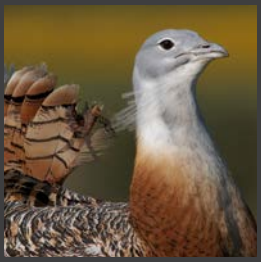

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