The Great Bustard in Spain: current distribution and population estimate

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Distribution

The extensive dry farmland of central Spain (regions Castilla y León and Castilla- La Mancha) are the largest and most continuous distribution areas of great bustards in the Iberian Peninsula. Around these regions there are peripheral populations that are increasingly isolated due to habitat degradation. In some of these regions, numbers have decreased in the last two decades, and currently the species shows a very fragmented distribution in Madrid, Extremadura, Andalucía, Aragón and Navarra. In Valencia and Murcia the species is very scarce (Palacín & Alonso, 2021; Palacín et al. 2023; Fig. 1).
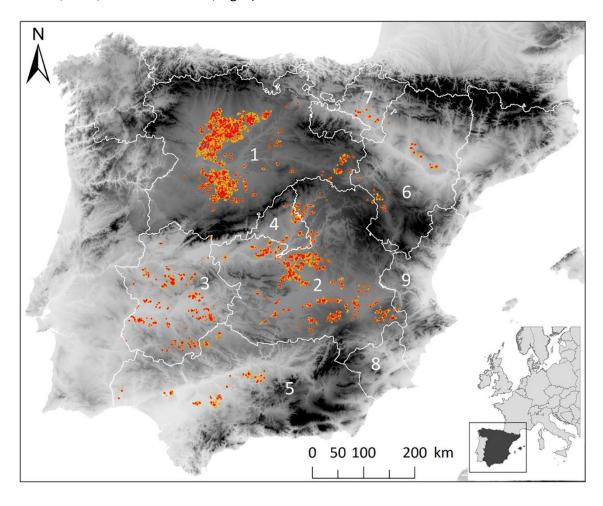

Figure 1. Map of Spain showing the location of the Great Bustard home ranges (orange areas, KDE 95 %) and activity centres (red areas, KDE 50 %) estimated using the Kernel method. Regions (ordered following great bustard abundance): (1) Castilla y León; (2) Castilla-La Mancha; (3) Extremadura; (4) Madrid; (5) Andalucía; (6) Aragón; (7) Navarra; (8) Murcia; and (9) Valencia. (downloaded from Palacín et al. 2023)

Population trends

Over the last two decades (2004-2019 period), significant demographic declines have been observed in practically all Spanish regions (Table 1).

Table 1. Current great bustard population and recent trends in Spain

(based on 2018 counts and trends estimated over the last 1-2 decades). Sources: Palacín & Alonso 2021, Alonso & Palacín 2022

TOTAL in Spain (2019 estimate)	**22,000 – 24,000** individuals
decrease 2004-2019:	**-28%**

region	% of total Spanish population	% decrease/increase over the last 1-2 decades	province
Castilla y León	**62-67 %**		
		- 59 %	Burgos
		-23 %	León
		-18 %	Segovia
		-14 %	Salamanca
		+3 %[1]	Ávila
		+10 %[1]	Palencia
		+7 %[1]	Valladolid
		+16 %[1]	Zamora
Castilla-La Mancha	**20 %**		
		-11 %	Guadalajara
		-40 %	Toledo (north)
Extremadura	**4-7 %**		
		-67 %	Cáceres
		-70 %	Badajoz
Madrid	**4 %**		
Andalucía	**<2 %**	**-17 %**	
Navarra	**0.1 %**	**-36 %**	
Aragón	**0.5 %**	**?**	

[1] Probably erroneous estimates, due to larger coverage in more recent surveys compared to previous ones; in well-controlled areas (e.g. Villafáfila Reserve, Zamora province), a negative trend (-5%) was also observed

Main threats

- **Agricultural intensification**

- **Power line fatalities**

- **Photovoltaic and wind energy production facilities**

- **Infrastructure and urban development**

- **Ineffectiveness of conservation strategies, non-compliance with conservation legislation, conflict between biodiversity conservation legislation and CAP**

Recommended conservation measures

- **Development of specific measures linked to agricultural uses**: conservation of boundaries, wastelands, and development of measures to allow the conservation of fallow land managed to promote biodiversity in at least 30% of the cultivated área

- **Burying power lines and Marking all dangerous sections with high mortality**. New lines should avoid great bustard areas and migratory / dispersal corridors

- **Appropriate planning of infrastructures** avoiding the species' distribution áreas

- **Designation of new SPAs or extension of existing ones** in areas with significant populations

- **Review and upgrade the protection category of the species** at regional, national and international level

- **Drawing up and approval of the mandatory Recovery or Conservation Plans** in the Autonomous Regions where the species is present

- **Monitoring of the population** and study of the causes of decline

- **Research** to understand the causes of the species decline, and to develop measures to mitigate or avoid causes of direct mortality

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