



## MANAGING FARMLAND FOR GREAT BUSTARD

### Great bustard history

Great bustards were formerly widespread in the UK with records of birds from most English counties. The former strongholds were found in Wessex, East Anglia and the Yorkshire Wolds. During the 18th and 19th centuries, great bustards suffered a dramatic decline in numbers across their range due to changes in agricultural practises and persecution from humans and by the mid 19th century they had become extinct.

### UK re-introduction

The UK is obliged under EU legislation (Habitats Directive 1992) to reintroduce species where it is considered feasible. The Great Bustard Group (GBG) was set up in 1998 to explore the possibility of reintroducing the great bustard to the UK. In 2003, following a GBG feasibility study, Defra issued a 10-year trial-licence. So far, over 100 bustards have been released in the Wiltshire countryside. They are a long-lived bird, not breeding until they are typically five years old, and as anticipated the first successful breeding occurred in 2009, the first in the UK for 177 years.

The gently rolling landscape of Wessex with its arable fields and grasslands is ideal habitat for great bustards. Salisbury Plain, the largest open expanse of chalk grassland in Western Europe, provides suitable cover, animal and plant food and the surrounding arable fields bear crops that are important food plants. This land can also be managed under Environmental Stewardship, providing habitats suitable for bustards and a wide range of UK BAP and red listed farmland species.

### Great bustard requirements

This species depends on large areas of extensively managed, open and undisturbed farmland. Bustards will avoid trees, hedgerows, fences, power lines, roads, tracks and footpaths. Location is critical – habitat intended for bustards but wrongly situated will not be used. In the winter, the main requirement is an area of plant and seed rich habitat, with a preference for oil seed rape. During the breeding season, bustards need areas of invertebrate rich habitat close to safe nesting sites. This can be achieved through a mosaic of fallow, wild bird seed mixture, nectar flower mixture and grass. Any Environmental Stewardship agreement should provide all of these required habitat elements.

## 1. Safe nesting and summer feeding habitat

To be effective, the following options need to be provided in combination with one another, in the middle of large fields, towards the top of hills, with an uninterrupted view in at least three directions. Female great bustards are very faithful to their nest site, so the same area needs to be suitable for nesting each year.

- **Nectar flower mixture**

These plots can provide a secure nesting site and a valuable source of insect rich habitat for foraging great bustards and their chicks. They need to be sited as blocks in open landscapes or alongside linear features such as beetle banks. They should not be placed alongside tracks or hedgerows. The guidelines ask for half of the area to be cut in June, but it is **essential** to check for nesting birds before cutting such habitats at this time of year. To be particularly beneficial to great bustards, lucerne should make up the largest component of the seed mix up to a maximum of 50% by weight, as this is a favoured food plant.

Entry Level Stewardship (ELS)	Organic Entry Level Stewardship (OELS)	Higher Level Stewardship (HLS)
Nectar flower mixture (EF4) 450 pts/ha	Nectar flower mixture (OF4) 550 pts/ha	

- **Conservation headlands**

Autumn sown cereal crops can provide the right conditions for great bustards to nest. However, nests in cereals are vulnerable to in-field management, as incubating female bustards are particularly prone to disturbance. Used in an open landscape along buffer strips or beetle banks and away from hedgerows and fences, conservation headlands with a minimum width of 16m can be of benefit to great bustards. A strip around the edge of a cereal crop is left with no pesticide or herbicide applications, enabling beneficial insects to enter the crop and ensuring that any nesting birds will not be disturbed. The HLS option will benefit a wide range of species, both before and after the harvest.

Entry Level Stewardship (ELS)	Organic Entry Level Stewardship (OELS)	Higher Level Stewardship (HLS)
Unfertilised cereal headlands (EF9) 100 pts/ha	N/A	Unharvested fertiliser-free conservation headland (HF14) £440/ha
Unharvested cereal headlands (EF10) 330 pts/ha	N/A	

- **Wild bird seed mixture plots**

Autumn sown plots of wild bird seed mixture can also provide an alternative safe nesting site and foraging area, but are only available under HLS. The ideal minimum size would be 2ha, with the preferred mix predominantly composed of cereals. A range of farmland birds will benefit from the seed available in the second winter, and the plot could also provide a nesting site for corn buntings. Spring sown ELS plots will provide suitable feeding sites for bustards during the breeding season.

Entry Level Stewardship (ELS)	Organic Entry Level Stewardship (OELS)	Higher Level Stewardship (HLS)
Wild bird seed mixture (EF2) 450pts/ha	Wild bird seed mixture (OF2) 550pts/ha	Enhanced wild bird seed mix plots (HF12) £475/ha

- **Fallow plots**

Unmanaged fallow plots are another potential safe nesting site and provide an important foraging area. The same management will benefit both great bustards and stone-curlews. If the plots are managed in halves and left over the winter, the resulting weedy fallow on half the plot in spring could benefit bustards. This would also benefit other farmland birds over the winter. If managed correctly, fallow plots can also benefit a range of rare arable plants. The ELS option of extended overwintered stubble will through natural regeneration provide winter food and safe summer nesting and feeding habitat for bustards.

Entry Level Stewardship (ELS)	Organic Entry Level Stewardship (OELS)	Higher Level Stewardship (HLS)
Uncropped, cultivated areas for ground-nesting birds on arable land (EF13) 360pts/ha	Uncropped, cultivated areas for ground-nesting birds on arable land (OF13) 360pts/ha	Uncropped, cultivated areas for ground nesting birds on arable land (HF13) £360/ha
Extended overwintered stubble (EF22) 410pts/ha	N/A	Cultivated fallow plots or margins for arable plants (HF20) £440/ha

- **Buffer strips and beetle banks in arable land**

Grass margins and beetle banks, managed without pesticides and fertilisers and cut less than annually, can provide secure nest sites for great bustard if placed alongside wild bird seed mixture or nectar flower mixture. They can also supply a rich source of insects for newly hatched chicks, but will only be used by great bustards in open landscapes, not along hedgerows, tracks or fences. Where rare arable plants are known to be present, use cultivated fallow margins instead, as these will also provide suitable seeds and insects.

Entry Level Stewardship (ELS)	Organic Entry Level Stewardship (OELS)	Higher Level Stewardship (HLS)
2m buffer strips on cultivated land (EE1) 300pts/ha	2m buffer strips on cultivated land (OE1) 400 pts/ha	Floristically enhanced grass buffer strips (HE10) £485/ha
4/6m buffer strips on cultivated land (EE2/3) 400pts/ha	4/6m buffer strips on cultivated land (OE2/3) 500pts/ha	
Management of field corners (EF1) 400 pts/ha	Management of field corners (OF1) 500 pts/ha	
Beetle banks (EF7) 580pts/ha	Beetle banks (OF7) 750pts/ha	
Uncropped cultivated margins for rare plants (EF11) 400 pts/ha	Uncropped cultivated margins for rare plants (OF11) 460 pts/ha	

- **Unimproved/semi-improved grassland**

'Rougher', less improved grasslands will support good populations of invertebrates. Low intensity management (e.g. lower stocking levels and little or no fertiliser inputs) will produce suitable conditions for these invertebrates to thrive. Bustards may feed or nest in such grasslands. Although species-rich, semi-natural grasslands are targeted by HLS for their botanical value, such grasslands typically host many invertebrates, which are valuable as chick food.

Entry Level Stewardship (ELS)	Organic Entry Level Stewardship (OELS)	Higher Level Stewardship (HLS)
Permanent grassland with low inputs (EK2) 85pts/ha	Permanent grassland with low inputs (OK2) 115pts/ha	Maintenance, restoration or creation of species-rich, semi-natural grassland (HK6/7/8) £200/200/280/ha
Permanent grassland with very low inputs (EK3) 150pts/ha	Permanent grassland with very low inputs (OK3) 180pts/ha	Maintenance, restoration or creation of grassland for target species (HK15/16/17) £130/130/210/ha

## 2. Summer lekking habitat

Great bustards use traditional lek sites, which may be on bare ground or short grass. The condition of these sites must be maintained.

- **Unimproved/semi-improved grassland**

Tightly grazed grassland maintained for summer feeding of stone-curlew would also suit great bustards.

Entry Level Stewardship (ELS)	Organic Entry Level Stewardship (OELS)	Higher Level Stewardship (HLS)
		Maintenance of grassland for target species (HK15) £130/130/210/ha

- **Fallow plots**

Fallow plots, with bare ground created by the end of February, provide ideal conditions for lekking bustards.

## 3. Winter feeding habitat

- **Wild bird seed mixture plots**

Through the winter, great bustards require an area of plant and seed rich habitat within an open landscape. This can be provided using wild bird seed mixture plots, which would

ideally be placed alongside an area of nectar flower mixture or a fallow plot. These will also benefit a range of farmland birds by providing a source of food over the winter. To benefit great bustards, the HLS option (HF12) is preferred, with a suggested low density kale based mix, providing a two-year food source. This mix will also benefit grey partridge.

- **Overwintered stubbles**

Stubbles left over winter, particularly those with broad-leaved weeds, can be a very important source of food for many farmland birds, including great bustards. Bustards will feed on spilt grain and weed seeds and leaves found in these fields. There are several stubble options in Environmental Stewardship. The brassica fodder crop option would be particularly beneficial, as brassicas are an important food plant of great bustards.

Entry Level Stewardship (ELS)	Organic Entry Level Stewardship (OELS)	Higher Level Stewardship (HLS)
Overwintered stubble (EF6) 120pts/ha	Overwintered stubble (OF6) 150pts/ha	Brassica fodder crops followed by overwintered stubble (HG5) £90/ha
Reduced herbicide cereal crops followed by overwintered stubble (EF15) 195pts/ha	N/A	Fodder crop management to retain or recreate an arable mosaic (HG6) £150/ha
Extended overwintered stubble (EF22) 410pts/ha	N/A	Low input spring cereal to retain or recreate an arable mosaic (HG7) £250/ha
Cereals for whole crop silage followed by overwintered stubble (EG4) 230pts/ha	Cereals for whole crop silage followed by overwintered stubble (OG4) 250pts/ha	

- **Undersown spring cereals**

Great bustards will benefit from a mixed farming system, as it should automatically provide the mosaic of habitats they require. Undersown spring cereals, an option designed to encourage mixed farming, should be particularly beneficial for bustards as legumes are an important food plant. The undersown grass ley is required to contain between 10 and 30 per cent legume by weight.

Entry Level Stewardship (ELS)	Organic Entry Level Stewardship (OELS)	Higher Level Stewardship (HLS)
Undersown spring cereals (EG1) 200pts/ha	Undersown spring cereals (OG1) 150pts/ha	

- **Fallow plots**

Fallow plots left unmanaged through the winter can be a source of winter food for bustards, offering a variety of broad leaved weeds.

For further information on managing land for great bustards using Environmental Stewardship, please contact:

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