

# Breeding populations of Great Bustard and Little Bustard in South Kazakhstan province, Republic of Kazakhstan

THOMAS EDWARD MARTIN, ROMAIN GUERIN, FABIENNE FAGES, ALEXIS MARTINEAU & YVES HINGRAT

We report here the existence of breeding populations of the globally Vulnerable Great Bustard *Otis tarda* and the Near Threatened Little Bustard *Tetrax tetrax* in South Kazakhstan province, Kazakhstan. Both populations inhabit an area of natural temperate grassland and arable farmland located in the plains to the west of the Karatau mountains, c70 km north of the regional capital of Shymkent. This location is centered around a 735 ha walled area where all agricultural activities are excluded. The Great Bustard population here is comprised of at least 31 birds, with a minimum of eight displaying males having been observed simultaneously. Breeding has been observed annually within this population 2015–2017, with records being made of male leks, active nests, and chicks. The Little Bustard population appears to be smaller, with two displaying males having been observed in 2017, and an active nest observed in 2015. Although both species are historically known in the vicinity of Karatau, current ornithological sources do not indicate either species to be breeding there. Our records therefore represent a substantial contribution towards a better assessment of Central Asian breeding ranges of both species. Our observations of Great Bustard may be of particular importance, given that a maximum of just 300 individuals is estimated to remain in Kazakhstan.



**Figure 1.** Map showing the location of the Sheikh Khalifa Houbara Breeding Centre (yellow star)—the central point of our observed Great Bustard *Otis tarda* and Little Bustard *Tetrax tetrax* breeding localities in South Kazakhstan province, Republic of Kazakhstan.



**Plate 1.** Temperate grasslands within the Sheikh Khalifa Houbara Breeding Centre, Kazakhstan, April 2015. © Fabienne Fages

## **STATUS OF GREAT BUSTARD AND LITTLE BUSTARD IN KAZAKHSTAN**

The Great Bustard *Otis tarda* is listed as globally Vulnerable due to threats posed by habitat loss and hunting (BirdLife International 2017a), and is considered to be regionally rare in Kazakhstan (NASK 1996, Ayé *et al* 2012, Wassink 2016). The species was formerly abundant in the temperate grasslands which occur in the north and east of the country, as well as in the foothills of the southern mountain ranges (Kessler & Smith 2014). This former range included healthy populations within the foothills of the Karatau mountains of South Kazakhstan province (Gubin & Vagner 2009). However, the national population of Great Bustard declined sharply in the second half of the 20th century, principally due to habitat loss driven by the Former Soviet Union's 'Virgin lands' campaign, which saw 35 million ha of Kazakh and Siberian grasslands converted to arable farmland between 1953 and 1961 (Kamp *et al* 2016). The impacts of this habitat loss were compounded by increased hunting pressures facilitated by improved infrastructure in the region following agricultural expansion and increased use of chemical pesticides (Kessler & Smith 2014). The species now occupies only a small proportion of its former range in Kazakhstan, with the most optimistic total national population estimated at a maximum of 300 individuals (Alonso & Palacín 2010, Wassink 2016) with some sources estimating a maximum population of just 50 birds (NASK 1996, Alonso 2014, BirdLife International 2017a). While breeding Great Bustards were observed in the foothills of the Karatau mountains in the last decade (Kessler & Smith 2014), the species' presence in South Kazakhstan remains overlooked by most consulted authoritative guidebooks and global databases. Ayé *et al* (2012), Wassink (2016) and KBWC (2018) only map this species as breeding in northern and eastern parts



**Plate 2.** Two female Great Bustards *Otis tarda* seen flying over grasslands adjacent to the Sheikh Khalifa Houbara Breeding Centre, Kazakhstan, May 2017. © Tom Martin

of the country (with the exception of a recently discovered population at Kenes, within the Zhualinskaya valley), while BirdLife International (2017a), and Collar & Garcia (2018) also (perhaps erroneously) map it as breeding within a large belt of the arid and semi-arid deserts that occupy the central part of the country. Some of these sources map Great Bustard as occurring as a winter visitor in South Kazakhstan province (Ayé *et al* 2012, Wassink 2016, Collar & Garcia 2018), although none indicate it to breed here.

Little Bustard *Tetrax tetrax*, while globally Near Threatened, retains a fairly large population in Kazakhstan (c20 000 individuals), which may be increasing (BirdLife International 2017b, Collar *et al* 2018). The species is mapped as breeding throughout the northern two-thirds of the country (BirdLife International 2017b, Collar *et al* 2018) as well as in the foothills and in one higher altitude plateau (Jirsu-Daubaba, c1450 m asl) of the Tien Shan range in the far south (Ayé *et al* 2012, Wassink 2016, KBWC 2018). Wassink (2016) and KBWC (2018) also indicate the species to occur as a breeding visitor in the plains immediately to the north of the Karatau range, although Wassink (2016) is the only source to show this in a species distribution map. This population winters in Iran and the Indian subcontinent; some sources also indicate that it winters in southern Central Asia (BirdLife International 2017b, Collar *et al* 2018), while others indicate that it only occurs as a passage migrant there (Ayé *et al* 2012). Only a single recent record of this species wintering in Kazakhstan (Karakol lake on the eastern Caspian coast 10 December 2014) is identified by Wassink (2016), suggesting its status as a wintering visitor is very rare on a national scale.

## STUDY SITE AND OBSERVATIONS

Our observations of Great Bustard and Little Bustard were made within and in the immediate vicinity of the Sheikh Khalifa Houbara Breeding Center (SKHBC, 42° 58' 47 N 69° 30' 04 E), a breeding centre for the globally threatened Asian Houbara *Chlamydotis macqueenii*. SKHBC is located within South Kazakhstan province, 70 km north of the regional capital of Shymkent, 10 km southeast of Shayan town, and 20 km west of the outlying foothills of the Karatau mountains. The centre is surrounded by a 3 m high



solid perimeter wall that is 7.3 km in length and encompasses an area of 735 ha. All agricultural and grazing activity within this area has been excluded since the completion of the wall in 2012, and the temperate grassland habitats which naturally occur in these foothill areas (Ayé *et al* 2012, WWF 2017) are re-establishing themselves (Plate 1). The area immediately outside the walled area is comprised of both arable farmland (particularly wheat cultivation) and areas of natural grasslands which are subject to moderate grazing by livestock (chiefly sheep, goats and cattle).

Great Bustards have been observed here between March and July in 2015, 2016 and 2017, both within the enclosed area of SKHBC and in the immediate surrounding agricultural and grazing land (Plate 2). A maximum number of 31 birds have been observed at the same time. Observations include flocks of up to 17 female birds (typically sighted within the enclosed area), leks of up to eight displaying males (typically observed on a prominent ridge of low hills located just outside the enclosed area), three active nests found within the enclosed area, and annual observations of juvenile birds within the enclosed area (Plate 3).

Little Bustard has been observed between March and July in the enclosed area of SKHBC in 2014, 2016, and 2017, but not outside the enclosed area (Plate 4). Displaying males have been observed annually in this period (with a maximum of three individuals being sighted at the same time), as have female birds (only single birds observed at any given time). A juvenile bird was observed in May 2014.

## DISCUSSION

Our records of both Bustard species within and in the vicinity of SKHBC represent notable extensions to their currently defined distributions in Kazakhstan, at least with respect to all consulted range maps. With the exception of the known population at Kenes, 160 km to the east (Wassink 2016), we believe our records of a breeding population of Great Bustard in Southern Kazakhstan province are the first to be reported since 2006 (Kessler & Smith 2014), and we also highlight that these earlier observations appear to have been overlooked by most other consulted sources. These records are particularly important given low estimates of remaining individuals of the species in Kazakhstan (Alonso & Palacín 2010), calls to improve the knowledge of the distribution of the species nationally (Kessler & Smith 2014) and the distance of our study area from other known Kazakh breeding populations (aside from the relatively close site at Kenes). The nearest populations identified by Ayé *et al* (2012) and KBWC (2018), for example, lie respectively 550 km and 1000 km to the north. Given that the SKHBC population is not included in



**Plate 3.** A young Great Bustard *Otis tarda* found in grasslands within the grounds of the Sheikh Khalifa Houbara Breeding Centre, Kazakhstan, June 2017. © RENEKO



**Plate 4.** A male Little Bustard *Tetrax tetrax* observed in grasslands within the grounds of the Sheikh Khalifa Houbara Breeding Centre, Kazakhstan, May 2017. © Fabienne Fages

the maximum national population estimate of 300 birds, the 31 observed birds reported here raise this estimate by 10.3%. It remains uncertain whether Great Bustards were historically extirpated from the area surrounding SKHBC and have since recolonized with the regeneration of the grassland ecosystem following the construction of the walled area, or if the species has always persisted here, and simply remained undetected until the area was prospected by ornithologists visiting SKHBC. However, we would suggest the latter possibility to be likely, given that agricultural pressure in the surrounding farmland is not intense, and that wheat fields (the predominant crop here) are known to represent suitable habitats for the species in Kazakhstan (BirdLife International 2017a, KBWC 2018).

The breeding population of Little Bustard at SKHBC represents a more modest extension to its usually defined range. The species is already mapped by most sources as breeding in Southern Kazakhstan province in the foothills of the Tien Shan mountains, c140 km to the east (Ayé *et al* 2012; KBWC 2018), and by Wassink (2016) and KBWC (2018) on the northern slopes of the Karatau range, 75 km to the northeast.

Our observations of these two breeding Bustard species at SKHBC represent a useful contribution to the understanding of their status in Kazakhstan, although additional research would yield further valuable information. In particular, the wintering status of Great Bustard here is in need of further investigation. Most sources (Ayé *et al* 2012, Wassink 2016, BirdLife International 2017a, Collar & Garcia 2018, KBWC 2018) indicate the species as wintering in South Kazakhstan province, although some sources state that this only occurs when conditions are favorable (Gubin & Vagner 2009, Kessler & Smith 2014, KBWC 2018). To date, no Great Bustards have been observed wintering at SKHBC; this may be because they have a tendency to migrate, or alternatively might simply be because no dedicated winter survey has been completed to detect them. Further key research

goals would therefore be the completion of targeted winter surveys here (preferably over multiple years), as well as potentially trapping breeding birds and fitting them with satellite transmitters in order to yield key information on the migratory routes and wintering grounds of the species, as recommended in Kessler & Smith (2014).

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Thomas Edward Martin & Yves Hingrat, Reneco Wildlife Consultants, PO Box 61741, Abu Dhabi, UAE. [tom\\_martin\\_2010@yahoo.co.uk](mailto:tom_martin_2010@yahoo.co.uk)

Romain Guerin, Fabienne Fages & Alexis Martineau, Sheikh Khalifa Houbara Breeding Center, Shayan, South Kazakhstan Province, Republic of Kazakhstan.