

# Breeding and migratory Great Bustards *Otis tarda tarda* persist in the Zaisan lake basin, eastern Kazakhstan

KONSTANTIN PAVLOVICH PROKOPOV

**Summary:** In eastern Kazakhstan the Great Bustard *Otis tarda tarda* occurs in the Zaisan lake basin, Shilikti valley, foothills of the Saur, Tarbagatai and Manrak mountains and in the Alakol' depression. According to interviews, small flocks of Great Bustards are recorded annually in the Zaisan depression, most often in harvested wheat fields in autumn, during post-breeding movements. In the Shilikti valley, on the northern apron of the Saur, Tarbagatai and Manrak mountains, Great Bustards are recorded annually in wheat and barley fields between the Kenderlyk and Aksair rivers. Almost all records have been made in autumn, when birds leave the region. The landscape is an undulating feathergrass steppe, where groups of shrubs can be found in long gullies with gentle sides. The territory is used as pasture. Up to 30 Great Bustards inhabit the Alakol' depression, where the species nests every year. Active development of the area led to a sharp decrease in Great Bustard numbers, to the verge of extinction. Indeed, the species is now absent from most of its historical range in eastern Kazakhstan. In eastern Kazakhstan, losses of the species peaked when a wide network of roads was built. Unrestricted and uncontrolled hunting using cars and rifles had an especially strong negative impact on the Great Bustard. Anthropogenic disturbance negatively affects this species. There are also records of individuals dying on powerlines. The critical situation of the Great Bustard population in eastern Kazakhstan requires urgent conservation steps from the hunting inspectorate and general public.

## FORMER ABUNDANCE AND DECLINE IN EASTERN KAZAKHSTAN

In the 19th and first half of the 20th centuries, the Great Bustard *Otis tarda tarda* was a typical bird of the semi-desert and steppe landscapes of eastern Kazakhstan. It was found commonly in the basin of Zaisan lake (hereafter 'Zaisan basin'), northern foothills of the Saur mountains, Shilikti valley, Tarbagatai foothills, low spurs of the Kurchumskii range, Bukhtarminskaya and Kurchumskaya valleys, foothills of the western Altai and Kalbinskoe plateau, and steppes of Semipalatinsk Priirtysh'e (the region west of the Irtysh river; Berezovikov 1986). Writing about the Great Bustard in the Shilikti valley at the beginning of the 20th century, Plotnikov (1905) gave a striking account of its abundance:

'There is no bird that occurs in such enormous numbers in the Shilikti valley as the Great Bustard. Suffice it to say that, before migration, the valley is completely covered with them; at this time of year—at any time of day when you pass through the valley—you can observe them in the thousands. The Great Bustard is not particularly timid and, in order to kill one, there is absolutely no need to use any kind of stratagem; their trustfulness is such that they sometimes tolerate 5–7 shots and only take off when a bullet strikes very close and sprays them with tiny stones. Generally, Great Bustard hunting here is not at all difficult; a good hunter specifically targeting this species can (as I have seen several times) kill 12–15 in a day.'

Even so, it is the Zaisan basin, 300 km long by 150 km wide, that represents the primary region for the Great Bustard in eastern Kazakhstan, as well as being the most north-easterly outpost of the species in Central Asia. It is located in the semi-desert zone at 400–1000 m above sea level. Its northern edge is defined by the southern Altai mountains, the western edge by a spur of the Kalbinskoe plateau, and the south by the Saur, Tarbagatai and Manrak mountains (Gvozdet'skii & Nikolaev 1971). In the 19th century, the Great Bustard was encountered here in 'enormous flocks.' According to Khakhlov (1928), until 1905 Great Bustards 'were still encountered in large numbers some 7–8 versts

[7.5–8.5 km] from Zaisan city. The further from the city, the larger the number that could be encountered. The road connecting Zaisan city with Topolevyi Mys was oftentimes alive with these birds.’

The creation of settlements at the beginning of the 19th century, the plowing of land, haymaking, pasturing of livestock, and hunting disrupted the breeding of these birds in many districts, and served to reduce their populations. In this manner, as a result of progressive reductions in the numbers of Great Bustards in a large portion of the species’ historical range in eastern Kazakhstan, the species largely disappeared, remaining only in a handful of areas in the south-western foothills of the southern Altai, Shilikti valley, north Prizaisan’e (the region west of lake Zaisan) and Tarbagatai. The sharpest declines in Great Bustard numbers in eastern Kazakhstan coincided with the appearance of automobiles and the development of a large-scale network of roads, penetrating areas that had previously been poorly accessible. Excessive and uncontrolled shooting of Great Bustards from automobiles with rifles had a particularly negative effect on Great Bustard populations, leading to the widespread destruction of the remaining Great Bustards in the Zaisan depression (Scherbakov 1976).

**Table 1.** Current population estimate for Great Bustards in the Zaisan basin, eastern Kazakhstan. These numbers are an expert evaluation of the number of individual birds appearing in the region in each season based on field investigations and conversations with local people and researchers.

Location	Season	Number of Great Bustards	Number of sites	Quality of estimate, from 1 (low-quality) to 5 (high-quality)
Karagiya area	Breeding	0	–	
	Gathering for migration	5–7	2	3
	Wintering	0	–	
Alkhon sands, near the Black Irtysh river	Breeding	4–6	1	3
	Gathering for migration	6–8	1	
	Wintering	0	–	
Near Ulken-Karatal village	Breeding	0	–	
	Gathering for migration	10–15	1	3
	Wintering	0	–	
Near Priozernoe village	Breeding	0	–	
	Gathering for migration	4–6	1	3
	Wintering	0	–	
Shilikti valley	Breeding	10–15	3	3
	Gathering for migration	20–30	3	4
	Wintering	0	–	
Total	Breeding	14–21	4	3
	Gathering for migration	45–66	8	3
	Wintering	0	0	

## RECENT SURVEYS AND STATUS IN AND AROUND THE ZAISAN BASIN

The international project 'Eurasian Bustard Alliance,' is working to evaluate the contemporary population size of Great Bustards in Asia, including those in eastern Kazakhstan, with our contribution. We carried out field research on the present status of the Great Bustard in eastern Kazakhstan from 9 to 20 May 2017, and 3 to 7 August 2017, travelling thousands of kilometres through the eastern, northern and southern portions of the Zaisan basin and the Shilikti valley. We also gathered information from local people, interviewing dozens of farmers, herders and hunters, and each time received a similar answer: 'We see Great Bustards, but only very rarely... most often in autumn on harvested wheat fields... In earlier days we used to see birds during haymaking and each year we killed 5–7 of them. Where have they gone?' Our estimates of the current population size in each region are presented in Table 1. The critical status of the eastern Kazakhstan population of Great Bustards demands immediate action for its protection by both the hunting inspectorate and the wider community.

### *Zaisan basin*

We began our data collection in the eastern portion of the Zaisan basin, in the area known as Karagiya, 25 km north of Buran village in Kurchumskii district. The existence of Great Bustards in Karagiya was brought to our attention by MK Agiekov, who has a farm in the area. For the past several years he has encountered from 4–6 Great Bustards each spring and autumn. At the time of our observations, the area was being sown with wheat, soy, sunflower and melons; no fertiliser was used. Anthropogenic pressure has undoubtedly damaged the Great Bustard population here. One bird died in a collision with a powerline in the spring. A shepherd and hunter from the neighbouring village of Karachilik, AA Aimbaev, counted 15 Great Bustards in Karagiya in autumn 2015, noting differences in their sizes, but in spring 2017, he saw only two. However, he mentioned that when the feathergrass blooms the birds become difficult to observe.

On the left bank of the Black Irtysh, in the east of the Zaisan basin, there is a flat, wide, sandy feathergrass–*Artemisia* steppe known as Akzhon. This area, within the international border zone, is subject to little human disturbance. Here, border guards and herders say, individual Great Bustards are sighted in spring, summer and autumn.

According to local people, only the Asian Houbara *Chlamydotis undulata* is found in the northern portion of the Zaisan basin, which is composed of a clay-schistose and sandy-schistose semi-desert and *Artemisia*-grass steppe. KK Kysaubaev and AT Sarsenbaev, hunters from the villages of Egilik and Chengel'dy respectively, showed us sites where they had observed houbara.

East of the village of Ulken-Karatal in Zaisan district, in the eastern portion of the southern half of the Zaisan basin, in grass-brush steppe, 5–6 Great Bustards are observed each year in wheatfields after harvest. The maximum number observed at a single time was 23.

FK Karamullin, director of the Zaisan Game Enterprise, and hunters with whom we spoke, indicated that the Great Bustard only occurs in the Zaisan valley during more irregular movements in autumn. Near the village of Priozerne, in the southern half of the Zaisan basin, both Great Bustard and Little Bustard *Tetrax tetrax* are occasionally observed.

### *Shilikti valley*

FK Karamullin and other interviewees unanimously confirmed that the Great Bustard nests in the Shilikti valley. According to observations of hunters, herders and other local people over many years, Great Bustards are observed every year in the valley in the northern alluvial plain of the Saur mountains, on the section between the emergence of

the Kenderlyk and Aksyir rivers on sown wheat and barley. Sightings largely coincide with the autumn migration, more rarely in spring. It is possible that the birds nest along the northern foothills of the Saur mountains, but because of their wariness when breeding they are not noticed by local people.

SV Starikov, a senior ornithologist who has studied the avifauna of eastern Kazakhstan for many years, has observed a small number of Great, Little and Asian Houbara Bustards in the Shilikti valley and the foothills of the Saur, Tarbagatai and Manrak mountains. According to Starikov, there are three sites in the Shilikti valley where Great Bustards are more frequently encountered. The first is the alluvial plains along the southern foothills of the Manrak range, which are covered with dry feathergrass steppe and used intensively as sheep pasture. The second is the more elevated and damp eastern portion of the valley, an immense area covered by feathergrass steppe, sometimes with brushy *Spirea* and *Caragana* scrub, and used for haymaking and pasture. The third is pasture in the south-west corner of the valley, flanking and partially encompassing the foothills of the Tarbagatai range, where the steeply sloping terrain is covered by feathergrass steppe with bushy thickets in long river valleys with gently sloping banks. At all three sites, the Great Bustard is encountered both in the breeding season and on migration, but more frequently in fall than in spring or summer. Numbers of the species are, however, so low that during a targeted search it was virtually impossible to find them.

#### **ACKNOWLEDGEMENTS**

The Ornithological Society of the Middle East (OSME) and National Geographic Society provided funding for field surveys.

#### **LITERATURE CITED**

- Berezovikov, NN. 1986. [Contemporary status of the Great Bustard in eastern Kazakhstan.] *In*: Gabuzov, O (ed). *Bustards and Approaches to their Conservation: Collection of Research Works by the Central Research Laboratory at the Glavokhota of the RSFSR*. TsNIL, Kalinin, pp48-52. [In Russian]
- Gvozdetskii, NA & VA Nikolaev. 1971. [*Kazakhstan*.] Mysl', Moscow. [In Russian]
- Khakhlov, VA. 1928. [*Zaisan Depression and Tarbagatai*.] Krasnoe znamya, Tomsk. [In Russian]
- Plotnikov, VN. 1905. [Ornithological sketch of the Shilikti valley and adjacent Tarbagatai.] *Nature and Hunting* 1: 17. [In Russian]
- Scherbakov, BV. 1976. [Some information about rare birds in East Kazakhstan oblast'.] *In*: *Proceedings of the Conference on Game Ornithology*. Moscow, pp155-157. [In Russian]

*Konstantin Pavlovich Prokopov, Amanzholova East Kazakhstan Province State University, 34 - 30th Guards' Division Street, Ust'-Kamenogorsk, East Kazakhstan Province, 070002, Kazakhstan. prokopov\_uk@mail.ru*