

The Sociable Plover *Chettusia gregaria* north of the Caspian Sea.

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Personal observations in western Kazakstan since 1953, as well as the literature, show that the Sociable Plover was formerly widespread in the area. There has been a serious decline in numbers and range since the mid 1970s, and possible causes are discussed.

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Translated by Geoffrey Harper, with assistance from Pavel Tomkovich. Explanatory notes and translations of transliterations in the references are given in square brackets.

The Sociable Plover is a globally threatened species. It is thought that its breeding area and numbers have been drastically reduced as a result of the virgin steppes being ploughed up in some areas and increased grazing pressure by livestock in other areas (e.g. Belik 1994). The following assessment of the general situation and of the changes that have occurred to this species in the area [north of the Caspian] is based on my work during 1953-96 in the Severny Prikaspiy [region adjacent to the northern part of the Caspian Sea] as well as some published sources.

According to Volchanetski (1937), the Sociable Plover was common in the steppe areas between the rivers Volga and Ural in the mid and late 1920s. He pointed out that this wader prefers steppe with a significant presence of fescue *Festuca valesiaca* or feather grasses [Stipa]. Varshavski *et al.* (1977) reported the abundance of the Sociable Plover in the Aktyubinsk steppes and the northern part of the semi-desert between the Emba and Irgiz rivers in the 1940s and '50s; they also mentioned sporadic nesting near the northern edge of the Ustyurt Plateau (Donguztau district - 1955 and '58) and on the northern shore of the Aral Sea (Ak-Espe district at the southern end of the Malyye Barsuki Desert). In addition, the Sociable Plover was found nesting in the Kul'mes and Ukulisay valleys on Karatyub Peninsula in 1947 and near Kok-kol liman [floodplain] in 1955 (A.P.Kuzyakin, pers.comm.).

In the 1950s and right up to the early '70s no significant changes in the numbers and distribution of the Sociable Plover were recorded. As early as the mid '70s, however, a tendency towards reduced range and numbers of the species was being noticed (Varshavski *et al.* 1977; Khrokov 1977; Lindeman 1991; Shevchenko *et al.* 1977, 1993; Shevchenko 1982; Shevchenko & Debelo 1991). At the same time, there were repeated reports between 1965 and 1970 of nesting on small and medium-size ashiks [Kazak name for level grassland areas

among dunes] in the central part of the Volga-Ural Sands [= Ryn Sands] (Shevchenko *et al.* 1977), which had not happened previously. However, all such cases known to me ended in the destruction of the clutch or young, usually by Corsac Fox *Vulpes corsac* or Red Fox *V.vulpes*. Nesting by Sociable Plover in the middle of the Volga-Ural Sands is symptomatic and might indicate an unfavourable situation in its usual breeding area.

The questions naturally arise, 'Why sand? Why this uncharacteristic habitat?' It happens that, in comparison with semi-desert/steppe areas [with a mosaic of semi-desert and steppe types of vegetation], the Volga-Ural Sands are less affected by severe droughts - mainly because of the relative proximity of ground water and the presence of a 'lens' of condensation moisture. The hilly relief and vegetation cover (bushes such as Jingil *Halimodendron halodendron*, Juzgun *Calligonum* sp. and Nitrebush *Nitraria schoberi*) are contributory factors. This is why, in years of severe drought when the vegetation almost completely dies off over enormous areas of semidesert-steppe, the Kazak herdsmen drive their herds and flocks into the Sands. The vegetation of the ashiks has a certain (admittedly not very close) resemblance to semi-desert grass/white wormwood associations, and this is probably a decisive factor in the Sociable Plover's attempts to become established as a breeding species in this unusual habitat.

In the last 15 years, the Sociable Plover has also become rare as a migrant. In this period, only solitary individuals or small flocks of 5-7 birds have been recorded. I have personally seen no more than 15-20 Sociable Plovers each spring-summer season. In the late 1950s, 250-300 would be seen in the same period. It is also worth noting certain changes in the character of the Sociable Plover's spring passage in the area between the Volga and Ural rivers. Whereas in the '50s and '60s spring migration was mostly northwards on a comparatively broad



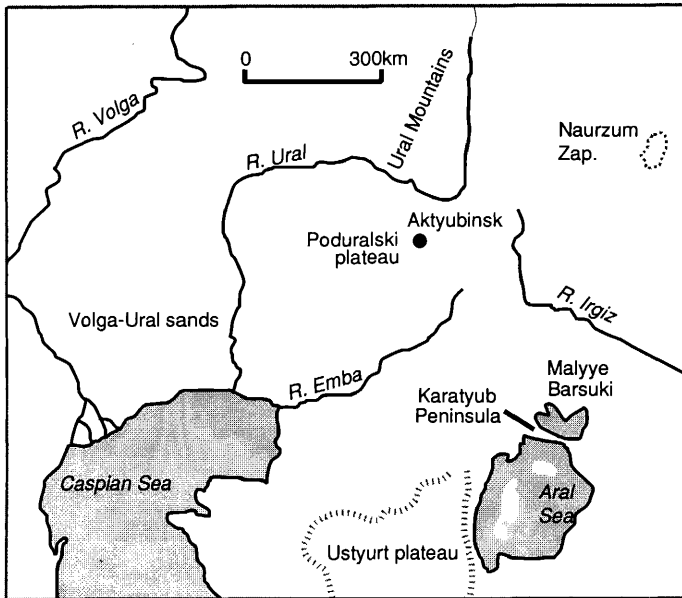


Figure 1. Study area.

front, in the last 10-15 years it has been in a predominately north-easterly direction, with only occasional individuals seen flying to the north and north-west. In other words, a single front has evidently disintegrated into 2-3 comparatively narrow routes along which only small numbers migrate. In the middle of the Volga-Ural Sands the spring passage of Sociable Plovers almost completely ceased in the early 1980s.

It is not clear why the Sociable Plover's numbers and breeding range have contracted. I should like to make the following cautious suggestions. The reduction of Sociable Plover numbers in recent decades has coincided with an intensification of a xerothermal period, of which there is clear evidence in the area north of the Caspian Sea. According to the *Agroklimaticheski Spravochnik* (1960) the probability of years of severe drought in the region used to be 5-8%, but over the last 40 years has increased to 20%. Moreover, as noted by Ivanov (1958), desert vegetation associations moved northwards in dry years while steppe associations moved south in wet years. The increasing incidence of drought-adapted plants naturally brought about a significant deterioration in the Sociable Plover's normal breeding areas. The main effect was the suppression or even complete elimination of steppe associations and desertification of the landscapes. It is worth repeating that Volchanetski (1937) emphasized the association of the Sociable Plover with steppe habitats including a significant proportion of narrow-leaved grasses.

The reduction in area of Sociable Plover habitats as a result of drought should increase the attractiveness to the birds of the relatively small remaining areas more or less meeting the species' requirements - riverside meadows, limans, and a few others. However, modern conditions mean that these natural refuges have too often been subject to excessive grazing pressure. In this connection I have to agree with the view that trampling of the eggs by stock is one cause of the Sociable Plover's poor breeding success; several cases were described

by Golovanova (1978). According to Gordiyenko (1991), Sociable Plovers in the Naurzum Zapovednik [strict nature reserve] also had to leave their usual sites in years with high water levels (1981 and 1983) on account of increased disturbance by humans and livestock - a consequence of the reduction in area of habitat suitable for breeding by Sociable Plover due to flooding of large areas and trampling of clutches by stock in the few remaining natural refuges.

The ploughing up of large areas of virgin territory in the 1960s undoubtedly took its toll on the numbers of Sociable Plovers, denying them access to many traditional breeding sites. It should however be borne in mind that a tendency towards a reduction in range and numbers of this species is also evident where there was no new ploughing or only a little (in zapovedniks and zakazniks [special-purpose reserves], over a large part of the semi-desert and steppe country between the rivers Volga and Ural and east of the Ural Mountains, adjoining the north shore of the Aral Sea, etc.).

All these considerations suggest that the primary cause of the reduction in Sociable Plover numbers and breeding range is the sharp increase in the aridity of the climate, which has occurred over a vast area. To some degree this also explains the discovery of Sociable Plover nests in the sandy steppes of the Podural'ski Plateau, for instance in the neighbourhood of Almaznoye village in 1996 (V.P.Belik, pers.comm.), in other words in places where the increasing incidence of drought-adapted plants is hardly noticeable and where little of the land has been ploughed up. Other explanations for the sharp reduction in Sociable Plover populations may have to do with events outside the breeding range, but it has not been possible to locate relevant information.

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