

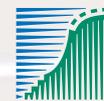
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Waterbirds around the world

A global overview of the conservation,
management and research of the
world's waterbird flyways

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Cover photography: Whooper Swans *Cygnus cygnus* arriving at Martin Mere, England. Photo: Paul Marshall.
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The Lesser White-fronted Goose *Anser erythropus* at the verge of the millennium

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This paper analyses the current state of the Lesser White-fronted Goose *Anser erythropus* in Russia, discusses present threats and proposes conservation measures.

Members of a specially formed Lesser White-fronted Goose group undertook a number of field trips to ring and mark Lesser White-fronted Geese in breeding areas in Western Siberia, Taimyr, and Yakutia and the Bolshezemelskaya tundra.

One of the main goals of the field studies was to obtain information on the current migration stopover sites of the Lesser White-fronted Goose and on the location of their wintering grounds. Previously, we had postulated the existence of several geographical populations of the Lesser White-fronted Goose which differed greatly in numbers and habitats (Morozov 1995). New data did not confirm this supposition: on the contrary, the results of satellite tracking of birds marked in Fennoscandia and ringed on the Polar Urals favoured the concept of a single population inhabiting the territories from the north of the Scandinavian peninsula to the east of Taimyr. Nevertheless, the structure of mtDNA of the Fennoscandian Lesser White-fronted Geese differs considerably from that of the birds from other areas of the species' breeding range (Ruokonen & Lumme 1999), indicating a great degree of isolation and allowing us to consider them as a separate geographical population.

Lesser White-fronted Geese inhabiting the tundras of European Russia, like some Fennoscandian ones, cross the Ural mountains in autumn heading to the Turgaiskaya depression. Migration routes of Lesser Whitefronts with satellite transmitters demonstrate that geese from breeding grounds located in the European part of the Russian tundras cross the Ural and migrate along the Ob River valley to the stopover sites in Northern Kazakhstan (Morozov & Aarvak in press).

The migration stopovers in Northern Kazakhstan gather Lesser White-fronted Geese not only from Taimyr, Gydan and Yamal but also from the Bolshezemelskaya tundra and even Fennoscandia, as demonstrated by the structure of mtDNA of the birds hunted in Kazakhstan (Ruokonen & Lumme 1999). Unfortunately, no data on migrations of the Lesser White-fronted Geese nesting east of Taimyr confirmed by ringing or marking results are available. The structure of mtDNA of the geese shot in China indicates a considerable genetic isolation of these birds (Ruokonen & Lumme 1999). However, we know nothing about the distribution of these individuals within the breeding grounds because no samples have been collected there. Thus, we can only assert that the eastern part of the breeding range of this species is occupied by at least one geographic population, though the existence of more than one is also possible.

The total estimate presented in the previous review was 30 000–50 000 individuals at the end of the breeding season (Morozov 1995). The number of 50 000 birds was rather an assumption, because we had no data on the Lesser White-fronted



Developing awareness of the conservation needs of waterbirds, including the requirement to limit hunting, is key in Russia and neighbouring countries. Awareness mural, Dunaiskie Plavni Nature Reserve, Danube Delta, Ukraine. Photo: David Stroud.

Goose numbers on Taimyr, which was supposed to be inhabited by one of the largest territorial groups of these geese. The first special studies carried out on Taimyr have yielded quite different results: numbers of Lesser White-fronted Geese appear to be much lower than expected (Syroechkovski Jr. 1996), and the total number inhabiting Taimyr and the areas west of it was re-estimated at 8 500–17 000 birds (Lorentsen *et al.* 1999).

Analysis of the current estimates made on the migration stopovers in Kazakhstan suggest that the present numbers of the species may be estimated by the end of the breeding season as follows: Western Siberia and Taimyr, including the Putorana Plateau - 8 000 to 11 000; Kanin Peninsula and Taimyr - 9 000 to 12 000. Winter censuses conducted in China over the last years are fairly reliable, and we agree with the mid-winter estimate of 12 000–17 000 inhabiting Yakutia and the Far East. The total world population of the Lesser White-fronted Geese in the post-breeding period may thus be 20 000 to 25 000 individuals in different years, although the estimate of our colleagues from Western Europe is 24 000–30 000 individuals (Lorentsen *et al.* 1999, Markkola 2001).

Increased mortality of birds due to the hunting pressure along the migration routes and on the wintering grounds is considered now the main and virtually the only cause of the decline in numbers. The losses of the marked birds during migration vividly demonstrate a very high mortality rate in this population after the breeding season (Lorentsen *et al.* 1998, 1999, Øien *et al.* 1999). However, other populations also suffer from both legal and illegal hunting. For example, in autumn 2000, eight people using poisoned grain baits killed 667 Lesser White-fronted Geese at Lake Dongting (Lei 2001): 5 to 10% of the total number of this species wintering in China. Population losses on the wintering grounds will be considerably higher, taking into account the difficulties in distinguishing the Lesser White-fronted Geese from the White-fronted Geese in flight, the low level of the public hunting standards, and the fact that the hunting legislation is very often violated in Russia and in a number of neighboring countries (Ukraine, Kazakhstan and Azerbaijan).

Hunting pressure, especially in spring, is a crucial factor in the dramatic decline of the Lesser White-fronted Goose, which is the rarest goose species in Eurasia. The following measures seem realistic and constructive:

- wider advocacy of Lesser White-fronted Goose protection by hunters' societies and the Department of Game Management at the federal and regional levels;
- strict regulation and banning of hunting on all goose species in spring and autumn along the migration routes, on the breeding grounds and in the stopover sites; and
- support for professional and qualified amateur ornithologists in Lesser White-fronted Goose studies.

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