

ARCTIC TUNDRA

THE Arctic tundra is immensely rich in breeding waterbirds, in particular shorebirds. The Asian section extends across northern Russia from Taymyr to Chukotka and Koryakia, and supports breeding populations of four threatened waterbird species. The breeding ranges of two of these extend westwards outside the Asian region, Lesser White-fronted Goose to northern Europe, and Siberian Crane into western Siberia (although only tiny numbers of the crane breed outside the Asian region). Two species have highly specialised habitat requirements and localised distributions, Siberian Crane, which breeds in lacustrine depressions in north-east Yakutia, and Spoon-billed Sandpiper, which nests only coastal tundra on the Chukotka Peninsula.

- **Key habitats** Tundra wetlands.
- **Countries and territories** **Russia** (Taymyr, Krasnoyarsk, Yakutia, Chukotka, Koryakia).

	Threatened species			Total
	CR	EN	VU	
●	1	—	3	4
✈	—	—	—	—
🐦	—	—	—	—
Total	1	—	3	4

Key: ● = breeding in this wetland region.
✈ = passage migrant.
🐦 = non-breeding visitor.

Much of this region is remote and relatively undisturbed, and large areas of tundra are still pristine. PHOTO: AXEL BRÄUNLICH



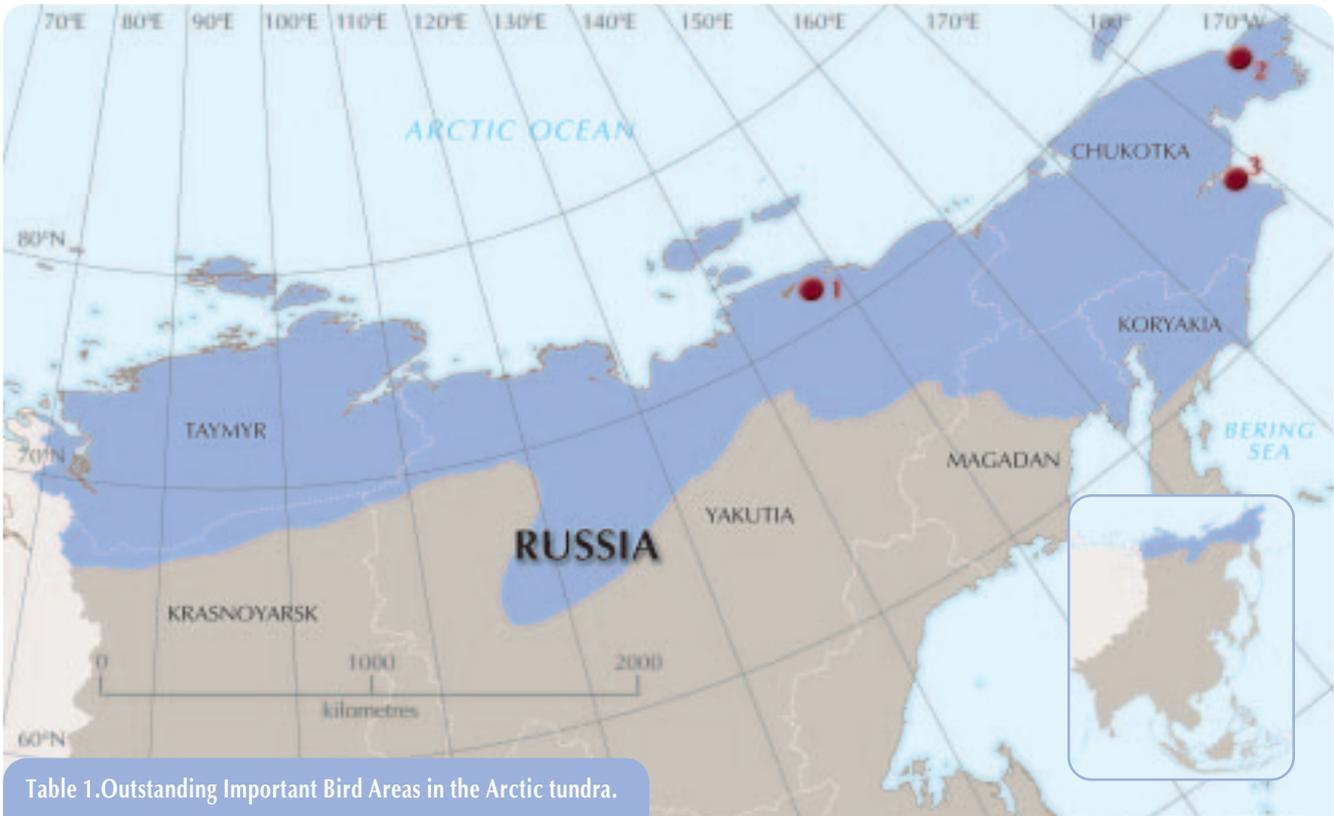


Table 1. Outstanding Important Bird Areas in the Arctic tundra.

IBA name	Status	Territory	Threatened species
1 Khroma-Indigirka tundra	(PA) ^{AP}	Yakutia	Large area of tundra with many nesting Lesser White-fronted Goose, Baikal Teal and Siberian Crane (most of the eastern population)
2 Vankarem lowlands and Kolyuchin bay	—	Chukotka	Important breeding site for Spoon-billed Sandpiper
3 Lower Anadyr' plains	—	Chukotka	Important breeding site for Spoon-billed Sandpiper

Note that more IBAs in this region will be included in the *Important Bird Areas in Asia*, due to be published in early 2004.

Key Status: PA = IBA is a protected area; (PA) = IBA partially protected; — = unprotected; AP = IBA is wholly or partially an Asia-Pacific waterbird network site (see p.35).

Spoon-billed Sandpiper breeds only in a few areas of suitable coastal tundra in Chukotka and Koryakia.



PHOTO: CHRIS SCHENK

Almost the entire global population of Siberian Cranes nests in tundra wetlands in north-east Yakutia.

PHOTO: EUGENE POTAPOV



Table 2. Threatened birds of the Arctic tundra.

Species			Distribution and population
Lesser White-fronted Goose <i>Anser erythropus</i>	○	VU	Breeds in wooded tundra in Taymyr, Krasnoyarsk, Yakutia and Chukotka
Baikal Teal <i>Anas formosa</i>	?	VU	Breeds (or formerly bred) in tundra from Taymyr to Chukotka, as well as in boreal forest (see F01)
Siberian Crane <i>Grus leucogeranus</i>	●	CR	The entire eastern population (>95% of global total) breeds in lake depressions in tundra in Yakutia
Spoon-billed Sandpiper <i>Eurynorhynchus pygmeus</i>	●	VU	Breeds on sandy ridges near lakes and marshes in coastal tundra in Chukotka and Koryakia

● = region estimated to support >90% of global breeding population, ○ = 10–50%, ? = proportion of global breeding population unknown

OUTSTANDING IBAS FOR THREATENED BIRDS (see Table 1)

Three IBAs have been selected, which together support a high proportion of the global population of the highly threatened Siberian Crane, and important populations of the other three threatened species.

CURRENT STATUS OF HABITATS AND THREATENED SPECIES

Much of this region is remote and relatively undisturbed, and large areas of pristine habitat survive. However, human disturbance may be affecting Siberian Cranes and Spoon-billed Sandpipers at some nesting sites, lead shot appears to be poisoning Siberian Cranes and other birds in parts of Yakutia, and there is a potential threat from oil exploration and development. In the 1970s and 1980s, pollution by mining operations greatly reduced the species diversity and abundance of aquatic life-forms in the Khroma river, and similar pollution may still affect this and other rivers in the region.

CONSERVATION ISSUES AND STRATEGIC SOLUTIONS (summarised in Table 3)

Habitat loss and degradation

■ OIL EXPLORATION AND DEVELOPMENT

Oil has been discovered in and near the areas where Siberian Crane nests in Yakutia, and further exploration

and development pose a significant threat. Tundra habitats are fragile and take a long time to (or never) recover if they are damaged: any oil development must be carefully planned and implemented to minimise its impact on the environment.

■ POLLUTION

Oil development in and near the breeding grounds of Siberian Crane could lead to pollution of the tundra wetlands. The breeding habitat of Spoon-billed Sandpiper is also under threat from oil pollution of the continental shelf (e.g. in the Anadyr' bay and Khatyrka areas). In the recent past, industrial pollution affected the Khroma river, and similar pollution may affect some of the river valleys where Lesser White-fronted Geese nest. Industrial projects need to be carefully managed and monitored to minimise the risk of pollutants being released into the environment.

■ DISTURBANCE

Although human populations are generally sparse in the tundra, some activities cause significant disturbance to nesting birds. For example, during the spring migration of wild reindeer *Rangifer tarandus* and, especially, when domesticated reindeer are being driven, Siberian Cranes are disturbed and forced to leave their nests, leaving their eggs vulnerable to predation by skuas or large gulls. Nests of Spoon-billed Sandpiper are sometimes destroyed by reindeer herds and herders' dogs or by other human activities. There is a need for awareness campaigns for local

villagers and administrators, to help minimise disturbance on the nesting grounds of threatened birds during the breeding season. Reindeer herders should be encouraged to adjust their herding schedule to avoid key areas when there are eggs or young chicks in the nests.

Protected areas coverage and management

■ **GAPS IN PROTECTED AREAS SYSTEM**

There are 13 federal and regional protected areas on the breeding grounds of Siberian Crane in north-east Yakutia; particularly important are Kytalyk Resource Reserve and Chaygurino and Khroma State Reserves, which together support about half of the global population. However, coverage of this highly threatened species should be increased by extending Kytalyk Resource Reserve in the south (to Kubalah and Alysardah lakes) and in the north-east (to Russkoye Ustie settlement and the Indigirka river), and Chaygurino State Reserve should be extended southwards to include the Siberian Crane nest sites between the Alazeya and Chukochia rivers. Three new (lower status) reserves should be established in important breeding and passage areas, at Nizhneyansky (the eastern part of the Yana delta and adjacent areas of the Yana-Indigirka lowlands), at Kuoluma (the northern part of the Aldan-

Amga) and at Chabda. The reserves established for Siberian Crane also benefit Lesser White-fronted Goose and Baikal Teal, and additional reserves proposed for the goose include its breeding grounds in the upper Ozhogina, Tyung and Ercha rivers. Several local wildlife refuges protect breeding Spoon-billed Sandpipers on the Chukotsk peninsula, but further locally designated protected areas are needed at the most important breeding sites of the species, e.g. Ukouge lagoon, Cape Rekokaurer, Khatyrka estuary and Russkaya Koshka.

Exploitation of birds

■ **HUNTING**

Hunting in Yakutia appears to have contributed to the decline of Lesser White-fronted Goose. Although spring hunting of the species has been banned in Yakutia since 1995, hunters are unable to distinguish it from Greater White-fronted Goose *Anser albifrons* (which it is still legal to hunt). To reduce pressure on both species, the timing of the spring hunting season should be adjusted, to open later in the season after the main goose migration.

■ **POISONING WITH LEAD SHOT**

The stomachs of two moribund Siberian Cranes in Yakutia in 1995 contained lead shot, presumably ingested as grit; the birds apparently died of lead poisoning. Subsequent studies have found lead shot in waterfowl and in deposits on the bottom of waterbodies, with the highest levels in the Kolyma lowlands. Alternatives to lead shot should be promoted, and laws enforced to reduce levels of hunting at important sites.

Gaps in knowledge

■ **INADEQUATE DATA ON THREATENED BIRDS**

Numerous ground and aerial surveys have been conducted of the eastern breeding population of Siberian Crane in Yakutia, and its population demography and the status of its breeding habitat should continue to be monitored. Studies are required at the sites most favoured by hunters (usually near the larger settlements) in north-east and central Yakutia, to evaluate the level of threat posed by lead poisoning and the measures required to counter this problem. Further surveys of Spoon-billed Sandpiper are needed on the Chukotka and Koryakia coasts to improve understanding of the species's population, and its numbers regularly monitored at the most important breeding sites.

Shooting in Russia may have contributed to the decline of Lesser White-fronted Goose, but hunting pressure is much more severe on its wintering grounds in China.



PHOTO: INCAR JOSTEN ØIEN/BIRDLIFE

Table 3. Conservation issues and strategic solutions for birds in the Arctic tundra.

Conservation issues	Strategic solutions
Habitat loss and degradation	
<ul style="list-style-type: none"> ■ OIL EXPLORATION AND DEVELOPMENT ■ POLLUTION ■ DISTURBANCE 	<ul style="list-style-type: none"> ➢ Manage oil and other development projects to prevent habitat loss and pollution ➢ Conduct awareness campaigns to minimise disturbance of nesting Siberian Cranes and Spoon-billed Sandpipers
Protected areas coverage and management	
<ul style="list-style-type: none"> ■ GAPS IN PROTECTED AREAS SYSTEM 	<ul style="list-style-type: none"> ➢ Increase protected areas coverage of nesting Siberian Cranes in north-east Yakutia ➢ Establish additional local reserves to protect nesting Spoon-billed Sandpipers
Exploitation of birds	
<ul style="list-style-type: none"> ■ HUNTING ■ POISONING WITH LEAD SHOT 	<ul style="list-style-type: none"> ➢ Adjust the timing of the spring hunting season to open after the main goose migration ➢ Promote alternatives to lead shot and reduce hunting at important sites
Gaps in knowledge	
<ul style="list-style-type: none"> ■ INADEQUATE DATA ON THREATENED BIRDS 	<ul style="list-style-type: none"> ➢ Continue monitoring Siberian Crane population and breeding habitat ➢ Study the impact of lead poisoning on Siberian Crane in Yakutia ➢ Survey Spoon-billed Sandpiper on the Chukotka and Koryakia coasts