Breeding conditions for waders in the tundras of the USSR in 1988

P.S. Tomkovich

Tomkovich, P.S. 1998. Breeding conditions for waders in the tundras of the USSR in 1988. *International Wader Studies* 10: 97-100. (Reprinted, with corrections, from *Wader Study Group Bull.* 57: 40-41.)

Breeding conditions for waders in 13 study areas are summarised. Patterns of lemming abundance varied between different parts of the arctic. However, in all areas with high numbers of lemmings, the predation pressure on waders from Arctic Foxes was relatively low, and wader breeding success was correspondingly high. Weather conditions also varied between areas and therefore had varying influence on waders. In north-eastern Europe, Yamal, Gydan and Taimyr, spring was early and the summer was warm and dry. A rapid change of weather at the end of July in western Taimyr and a related rainy period in northern Yamal may have reduced wader breeding success. In north-eastern Asia spring was later than usual and this limited the opportunity for repeat nesting for some wader species. Generally, in this part of the continent the weather favoured wader breeding.

P.S. Tomkovich, Department of Ornithology, Zoological Museum of Moscow University, Bolshaya Nikitskaya Str. 6, Moscow 103009, Russia. (Foreword, conclusion and editing)
J. Gromadzka, Ornithological Station, 80-680 Gdansk 40, Poland. (Translation)

Томкович, П. С. 1998. Условия гнездования куликов в тундрах СССР в 1988 году. *International Wader Studies* 10: 97-100. (Статья перепечатана с исправлениями из журнала *Wader Study Group Bull.* 57: 40-41.)

Приведена общая картина условий размножения куликов в 13 районах, где проводились полевые исследования. Картина обилия леммингов варьировала между разными частями арктики. Однако, во всех районах высокой численности леммингов, пресс хищничества со стороны песца *Alopex lagopus* был сравнительно низким, а успех гнездования куликов соответственно высоким. Погодные условия тоже варьировали между районами и поэтому в разной степени влияли на куликов в различных районах. На Северо-Востоке Европы, Ямале, Гыдане и Таймыре за ранней весной последовало сухое, жаркое лето. Резкое похолодание в конце июля на Западном Таймыре и, соответствовавший ему, по-видимому, дождливый период на севере Ямала, могли заметно уменьшить высокие показатели размножения куликов. На всем Северо-Востоке Азии была отмечена значительная задержка весны, уменьшившая возможности для повторных кладок у некоторых видов куликов. В целом, погода в этой части материка была благоприятной для размножения куликов.

Introduction

The second *Bulletin of the Working Group on Waders* (1989) of the USSR Academy of Sciences (edited by A.Ya. Kondratyev), included (pp. 51-58) a summary by Pavel Tomkovich of information about the breeding season for Arctic waders across much of northern USSR in 1988. This article includes much of interest to wader-workers outside the USSR, particularly because of the effects of predation on breeding success mitigated by cycles in lemming populations. We are most grateful to Jaga Gromadzka of the Ornithological Station, Gdansk, Poland for providing this translation of the article from the original Russian.

Information was collected from ornithologists working in tundra habitats in different parts of the

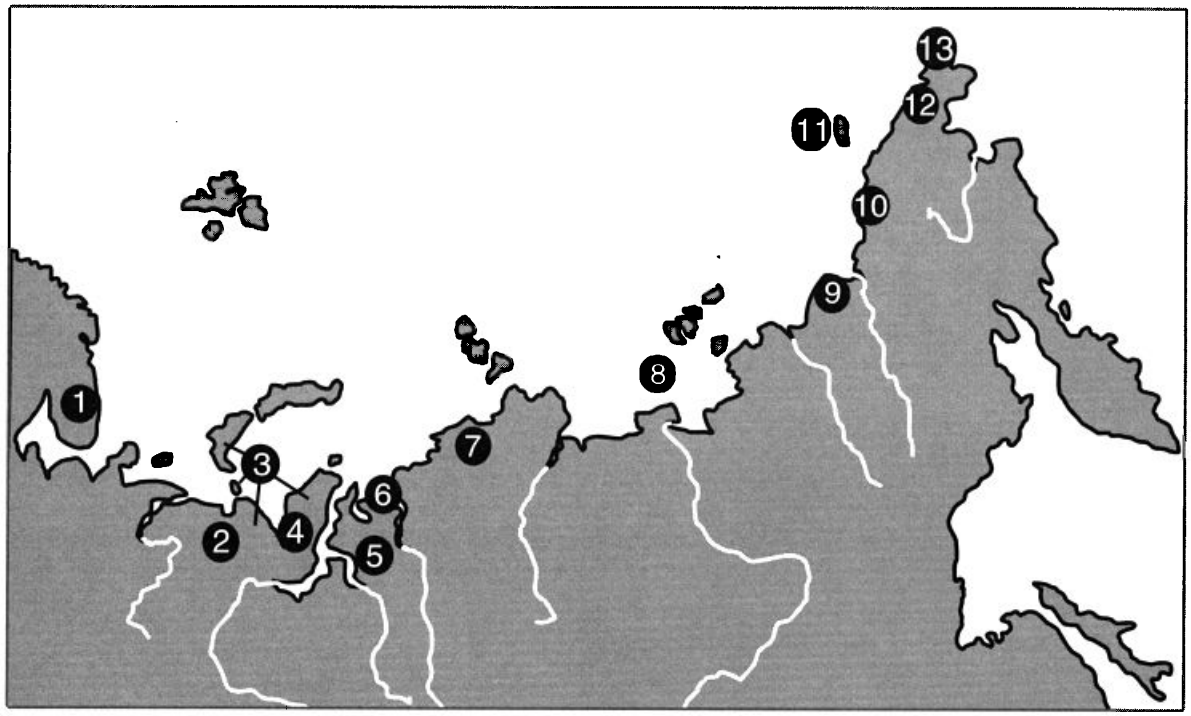

Figure 1. Location of study areas.

northern USSR in 1988. Numbers in the text refer to the areas shown on the map in Figure 1.

1. Northern coastal areas of Kola Peninsula (Murmansk region)

Low number of Norwegian Lemmings *Lemmus lemmus* (after a peak in 1987).

Yu.V. Krasnov

2. Eastern Bol'shezemel'skaya Tundra and western part of the Polarny Ural

Snow still covered 50% of the ground in mid-June, after a winter of heavy snow. However, spring phenology was typical, and the summer was hot and dry without rain until the end of July. Both lemming species peaked in their abundance (the Siberian Lemming *Lemmus sibiricus* was especially very numerous). Breeding density of waders typical for this area was normal and breeding success was good (on average not less than 50%). Only the density of Ringed Plovers *Charadrius hiaticula* was lower than average.

V.V. Morozov

3. Southern part of the Novaya Zemlya, Vaigach Island, Yugorskiy Peninsula, Southern Yamal

In over 20 sites visited in this area, the number of Arctic Foxes *Alopex lagopus* was low or very low. Snowy Owls *Nyctea scandiaca* (mostly not breeding at all), buzzards and skuas were scarce and irregularly distributed. The density of lemmings was increasing from low to higher than average. The summer was warm although snow melt was normal or even slightly later than average in some areas. The breeding season was very successful for ducks and ptarmigans *Lagopus* spp. Everywhere the numbers of Ruff *Philomachus pugnax*, Little Stint *Calidris minuta* and Red-necked Phalarope *Phalaropus lobatus* were high. The numbers of Purple Sandpiper *Calidris maritima*, Sanderling *C. alba*, Pacific Golden Plover *Pluvialis fulva* and Turnstone *Arenaria interpres* on Vaigach Island were earlier than normal. Juvenile Spotted Redshanks *Tringa erythropus* were very numerous in the Southern Yamal in September.

V.N. Kalyakin

4. Middle and Northern Yamal

Spring was early (snow cover disappeared in the first week of June), and the summer was warm and dry. The community of waders in the area of Kamenny Mys (Middle Yamal) was typical (in comparison with previous years). Ruffs and Red-necked Phalaropes were more numerous than usual, but Little Stints were almost absent (they moved more to the north). The density of lemmings, especially of Siberian Lemming, was very high, but there were very few mammal predators. Incubation success of waders was very high: 82% in studied nests. The situation in the northern part of the Yamal was similar. During heavy rain on 18 July many small Little Stint chicks and some other species died, and chicks were frequently taken by skuas. Generally, the breeding season was very good.

V.K. Ryabitsev, N.S. Alekseeva, A.Yu. Efimov, A.G. Lyakhov & Yu.A. Tyulkin

5. Near Tadebyayakha, Gydan Peninsula

In subarctic tundra habitats snow cover and frozen rivers melted at the normal time (mid-June). Later on the weather was warm and dry and the breeding season passed rather quickly. Lemming numbers (especially Siberian Lemmings) were very high, so wandering dogs and Arctic Foxes were not interested in eating bird eggs and chicks. Little

Stints, Ruffs and Red-necked Phalaropes were very abundant. Temminck's Stint *Calidris temminckii*, Dunlin *C. alpina* and Ringed Plover were also numerous. Grey Plover *Pluvialis squatarola*, Wood Sandpiper *Tringa glareola*, Curlew Sandpiper *C. ferruginea*, Pintail Snipe *Gallinago stenura* and Jack Snipe *Lymnocryptes minimus* were less common. Spotted Redshank, Turnstone, Pectoral Sandpiper *Calidris melanotos*, Sanderling, Great Snipe *Gallinago media* and Bar-tailed Godwit *Limosa lapponica* were present during the summer but were not breeding in the area. Generally the breeding conditions for waders were favourable.

V.S. Zhukov

6. Sibiryakova Island in Yenisey Gulf

Lemmings were absent in August, while on the mainland coast opposite to the island they were abundant.

E.E. Syroechkovsky jr.

7. Western Taimyr

In typical and Arctic tundras in the valley of the lower Pyasina river, spring was one and a half to two weeks earlier than usual. Lemming abundance was moderate, and should peak in 1989. Numbers of Arctic Foxes were about average and increasing. Between 20 and 22 July there was very bad weather (temperature -1° to 0° C, strong wind and snow up to 5 cm deep) and many wader chicks died. The density of waders was normal with only the Ruff being less numerous compared with 1987.

Ya.I. Kokorev

8. The delta of the Lena

The abundance of lemmings was low, although increasing.

A.I. Pulyaev

9. Lower Kolyma region in Yakutiya

Spring was later than usual and with much snow. Waders arrived for breeding five to ten days later than usual and the breeding season was prolonged. Up to the time of hatching the weather was warm. Lemmings were absent, but Arctic Foxes were quite common. It was a good season for Long-billed Dowitcher *Limnodromus scolopaceus*, Common Snipe *Gallinago gallinago* and Spotted Redshank, worse for Pectoral Sandpiper, Red-necked Phalarope, Pacific Golden Plover, Grey Plover, Temminck's Stint and very bad for the Ruff.

V.V. Gavrilov

10. The Chaun lowland

The abundance of lemmings suggested an early stage of an increasing population. At the East Siberian Sea coast lemmings had reached their peak numbers. Arctic Foxes did not influence the breeding success of waders to a great extent.

I.V. Dorogoi

11. Vrangel Island

Spring was later and colder than usual. Snow started to melt after 10 June, but the summer was warm. Leeming abundance was high for the third year running but had not yet reached its peak. Snowy Owls were breeding very numerously. The breeding season for waders was quite successful, *e.g.* for Knot *Calidris canutus*, Dunlin, Pectoral Sandpiper, Grey Plover and Turnstone.

12. Chukotka Peninsula, north-eastern part of the Kolyuchinskaya Gulf

In the northern part of the peninsula snow-melt was late, starting about 10 June. The summer was warm and dry. After two years of lemming absence, Collared Lemmings *Dicrostonyx torquatus* appeared in small numbers this year. The late spring influenced the species composition of breeding waders: Ruff, Curlew Sandpiper and Little Stint did not breed. There was a lower number of Ringed Plover, Temminck's Stint, and Dunlin. Breeding success was low for Grey Plover and Turnstone. The other breeding waders finished their breeding season successfully: over 70% of nests survived to hatching for Ringed Plover *Charadrius hiaticula*, Spoon-billed Sandpiper *Eurynorhynchus pygmaeus*, Dunlin, Temminck's Stint and Red-necked Phalarope. There were very good feeding conditions (many insects) for waders.

P.S. Tomkovich

13. Chukotka Peninsula, Chegitun river valley

Lemmings were not found.

L.I. Barsova

Conclusion

The information given above shows that the relation between breeding success of waders and lemming cycles is not always clear. However, in all places when the number of lemmings was high, the pressure of Arctic Foxes on waders was lower, and wader breeding success was higher. To summarise; lemmings were absent in the Kola Peninsula and the breeding season for waders was not good. In areas east from the White Sea lemming abundance was low or moderate. On Vaigach Island lemming numbers were higher, and in more eastern areas of the Gydan, lemming numbers were high. In these areas it was a good season for waders. On the Taimyr there were moderate to high lemming numbers and a good season for waders.
There were few precise data for the more eastern parts of the USSR; in the Lena delta the number of lemmings started to increase, but in the Kolyma valley they were absent and breeding success for waders was moderate there. To the east of Kolyma the situation varied: in Chaun lowland the number of lemmings was increasing, at the Nolde Bay there was a peak of lemmings and waders generally had good breeding season. On Vrangel Island the situation was similar. On the north-eastern part of the Gulf of Kolyuchinskaya the number of lemmings had started to increase and the breeding season for waders was quite good, but in the north-

eastern part of the Chukotka Peninsula there were no lemmings and the breeding season for waders was probably bad.

Weather conditions were different in different areas and the weather therefore had a varying influence on waders. In north-eastern Europe, Yamal, Gydan and Taimyr, spring was early and the summer was warm and dry. The rapid change of the weather at the end of July in western Taimyr and the rainy period in northern Yamal connected with it, may have had reduced breeding success. In north-eastern Asia spring was later than usual and this limited the opportunity for repeat nesting for some wader species. Generally, in this part of the continent the weather favoured wader breeding. Next year, in 1989, it is predicted that there will be a low number of lemmings in north-east Europe and in western Siberia. This may lead to a low breeding success for waders, so there may be few juvenile waders migrating during autumn.

P.S. Tomkovich