

BREEDING CONDITIONS FOR WADERS IN THE TUNDRAS OF THE USSR IN 1988

Pavel Tomkovich (translated by Jadwiga Gromadzka)



The second *Bulletin of the Working Group on Waders (1989)* of the USSR Academy of Sciences, reviewed by Mike Wilson elsewhere in this *Bulletin*, 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 interest in the effects on breeding success of predation mitigated by cycles in lemming populations. We are most grateful to Jaga Gromadzka of the *Ornithological Station, Gdansk 40, 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 northern USSR in 1988. Numbers in the text refer to the areas shown on the map in Figure 1.

1. Coastal areas of Kola Peninsula (Murmansk region).

Low number of lemmings (after a peak in 1987).

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

Snow still covered 50% of the ground in mid-June, after a winter of heavy snow. Spring phenology was, however, typical, and summer was hot and dry without rain until the end of July. Both lemming species peaked in their abundance (the Arctic Lemming 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 was lower than on average.

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

In over 20 sites studied in this area, the number of Arctic Foxes was low or very low. Snowy Owls (often 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. Everywhere the density of the Ruff *Philomachus pugnax*, Little Stint *Calidris minuta* and Red-necked Phalarope *Phalaropus fulicarius* was high. The density of the Purple Sandpiper *Calidris maritima*, Sanderling *C. alba*, Lesser Golden Plover *Pluvialis dominica fulva* and Turnstone *Arenaria interpres* on the Vaygach Island was higher than normal. Juvenile Spotted Redshanks *Tringa erythropus* were very numerous in the Southern Yamal in September.

4. Middle and Northern Yamal.

Spring was slightly 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 Arctic Lemming) was very high, but there were

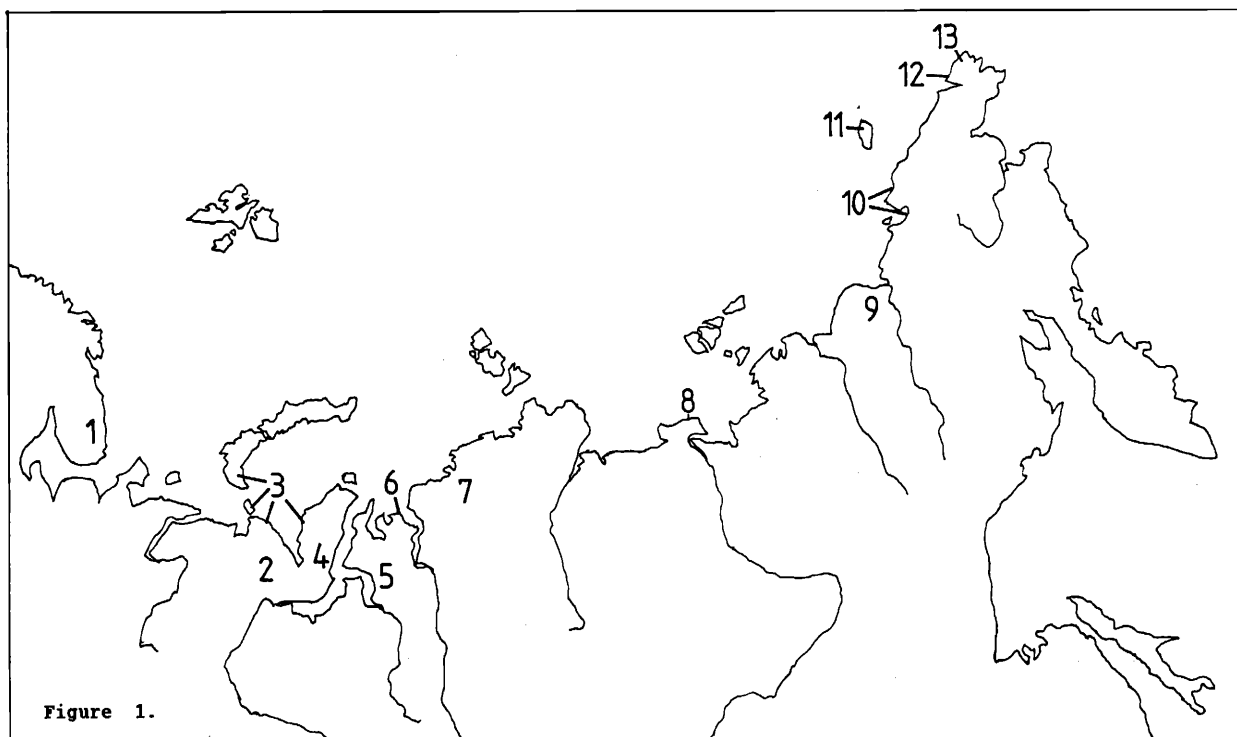


Figure 1.

very few mammal predators. Breeding success of waders was very high (in some areas studied more than 80%). The situation in the northern part of the Yamal was similar. During heavy rain on 18 July many nestlings of Little Stints and some other species died and these later provided good food for skuas. Generally the breeding season was good.

5. 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 Arctic Lemmings) were very high, so wandering dogs and Arctic Foxes were not interested in eating bird eggs and nestlings. Little Stints, Ruffs and Red-necked Phalaropes were very abundant. Temminck's Stints, Dunlins and Ringed Plovers also were numerous. Grey Plovers, Wood Sandpipers, Curlew Sandpipers, Pintail Snipe *Gallinago stenura* and Jack Snipe were less common. Spotted Redshanks, Turnstones, Pectoral Sandpiper *Calidris melanotos*, Sanderling, Great Snipe 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 very good.

6. Sibiriyakova Island and Yeniseyskiy Gulf.

Lemmings were abundant in August.

7. Western Taymyr.

In typical and arctic tundras in the valley of the Pyasina river spring was 1.5-2 weeks earlier than usual. Lemming abundance was moderate, and should peak in 1989. 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 juvenile waders died. The density of waders was normal with only the Ruff being less numerous compared with 1987.

8. The delta of the Lena.

Abundance of lemmings was low.

9. Yakutya and lower Kolyma region.

Spring was later than usual and with much snow. Waders arrived for breeding 5-10 days later and the breeding season was prolonged. Up to the time of hatching the weather was warm. Lemmings were not numerous, but Arctic Foxes were quite common. It was a good season for the Red-breasted Snipe, Common Snipe and Spotted Redshank, worse for Pectoral Sandpiper, Red-necked Phalarope, American Golden Plover, Grey Plover, Temminck Stint and very bad for the Ruff.

10. The area between Chuan and Palyavaam rivers.

The abundance of lemmings suggested an increasing population. At the *East Siberian Sea Coast* lemmings had reached their peak numbers. Arctic Foxes did not influence breeding success of waders.

11. Wrangel Island.

Spring was later and colder than usual. Snow melted after 10 June, but the summer was warm. Lemming 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 the Knot, Dunlin, Pectoral Sandpiper, Grey Plover and Turnstone.

12. Chukotsskiy Peninsula, north-eastern part of the Kolyuchinskaya Guba.

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 lower lemming abundance, lemmings were more numerous

this year. The later spring influenced the species composition of breeding waders: Ruff, Curlew Sandpiper and Little Stint did not breed. There was a lower number of the Ringed Plover, Temminck Stint, Dunlin. Breeding success was low in the Grey Plover and Turnstone. The other breeding waders finished their breeding season successfully: over 70% of nests survived to hatching in the Ringed Plover *Charadrius hiaticula*, Spoon-billed Sandpiper *Eurynorhynchus pygmaeus*, Dunlin, Temminck's Stint and Grey Phalarope *Phalaropus fulicarius*. There were very good feeding conditions (much insect food) for waders.

13. Chukotskiy Peninsula, Chegitun river valley.

There were almost no lemmings.

ADDITIONAL COMMENTS BY PAVEL TOMKOVICH

The information given above shows that the relation between breeding success of waders and lemming cycles is not always clear. In all places when the number of lemmings was high, however, 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. On the eastern coasts of the White Sea the lemming abundance was low or moderate. On Vaygach Island lemming numbers were higher and in more eastern areas to the Gydan lemming numbers were high. In these areas it was a good season for waders. On the Taymyr 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 was increasing, but in the Kolyma valley their abundance was low. Breeding success for waders was moderate there. To the east of Kolyma the situation varied: in Chaunskaya lowland the number of lemmings was increasing, at the Nolde Bay there was the peak of lemmings. Waders generally had good breeding season. On Wrangel Island the situation was similar. On the north-eastern part of the Gulf of Kolyuchinskaya the number of lemmings had started to increase and breeding season for waders was quite good, but in the north-eastern part of Chukotskiy Peninsula there were no lemmings and the breeding season for waders was 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 Taymyr spring was early and summer was warm and dry. The rapid change of the weather in the end of July in western Taymyr and connected with it the rainy period in northern Yamal may have had reduced breeding success. In north-eastern Asia spring was later than usual and this limited the opportunity for repeat clutching for some waders species. Generally in this part of the continent the breeding season was fair.

In the next year, 1989, it is predicted that there will be a low number of lemmings in NE Europe and in western Siberia. This may lead to a low breeding success of waders, so that there may be few juvenile waders migrating during autumn.

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