Numbers and distribution of wild geese in The Netherlands, 1979–1984

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Introduction

The extreme importance of The Netherlands as a goose wintering area in western Europe has been shown by Rooth *et al.* (1981). Since then another five seasons have passed by and it seems appropriate for the Dutch goose working group to summarize again the results of their goose counts (Ganzenwerkgroep Nederland 1981, 1983, 1984a, 1984b, 1986).

For a general description of the climatic and environmental conditions making The Netherlands in winter an ideal "goose country", and of the phenology of the six geese concerned, the reader is referred to Rooth *et al.* (1981).

The present paper covers the period from autumn 1979 to spring 1984. During four out of the five seasons the winter weather was of the usual mild type, although the onset of the winter of 1980–1 was unusually cold. This cold spell, however, lasted only until 9 December, whereafter a usual mild winter followed. Only the winter of 1981–2 brought more prolonged periods of frost and snow, especially from 9 to 27 December and again from 4 to 15 January (Fig. 1).

Quite often a good indicator of the degree of severity of the winter is the number of Bean Geese wintering in The Netherlands (see Table 1), but only a short cold spell early in the season, as in 1980–1, sufficed to bring more than the usual number of Bean Geese to The Netherlands.

In the following section the separate species will be dealt with in more detail.

Greylag Goose *Anser anser*. Jan Rooth

This species, as in the previous five-year period, is most abundant in the autumn (October/November). The major concentration, over 40,000 individuals, can then be found in the Oostvaardersplassen Nature Reserve in the Flevopolders. The geese both rest and feed within this extensive marsh area, but they also feed on the surrounding agricultural fields. This same reserve is becoming more and more important as a moulting area for Greylag Geese with up to 20,000 birds renewing their flight feathers in it.

During the actual winter months up to 10,000 Greylags stay in The Netherlands, almost exclusively in the southwestern part of the country. In March the Oostvaardersplassen reserve is again of prime importance with up to 12,000 geese.

These numbers do not reflect the actual changes in the entire population passing through The Netherlands very effectively since migration is at its peak when the highest numbers are present in this country. The population breeds primarily in Norway, Denmark, and Germany, and has increased from about 30,000 in the 1960s (Rooth 1971) to 120,000 in 1983–4 (J. Castroviejo, pers. comm.). The most complete counts stem from their major wintering grounds in southern Spain: the Marismas of the Guadalquivir. However, a severe drought from the spring of 1980 until the autumn of 1983 caused a temporary decline in numbers in this area. Increased numbers were then

Table 1. Peak counts of geese in The Netherlands.

	1979–80	1980–81	1981–82	1982–83	1983–84
Greylag Goose	51,000 (Oct.)	37,000 (Oct.)	47,500 (Oct.)	51,000 (Nov.)	43,000 (Nov.)
White-fronted Goose	232,500 (Feb.)	251,000 (Jan.)	190,500 (Feb.)	320,000 (Jan.)	302,000 (Jan.)
Bean Goose	60,000 (Jan.)	103,000 (Jan.)	144,500 (Jan.)	50,000 (Jan.)	72,000 (Jan.)
Pink-footed Goose	9,400 (Nov.)	18,500 (Feb.)	17,400 (Nov.)	17,000 (Feb.)	17,200 (Nov.)
Barnacle Goose	40,000 (Oct.)	48,000 (Jan.)	51,000 (Dec.)	59,000 (Jan.)	71,000 (Jan.)
Brent Goose	63,900 (Apr.)	54,000 (May)	45,500 (May)	91,000 (May)	69,900 (May)

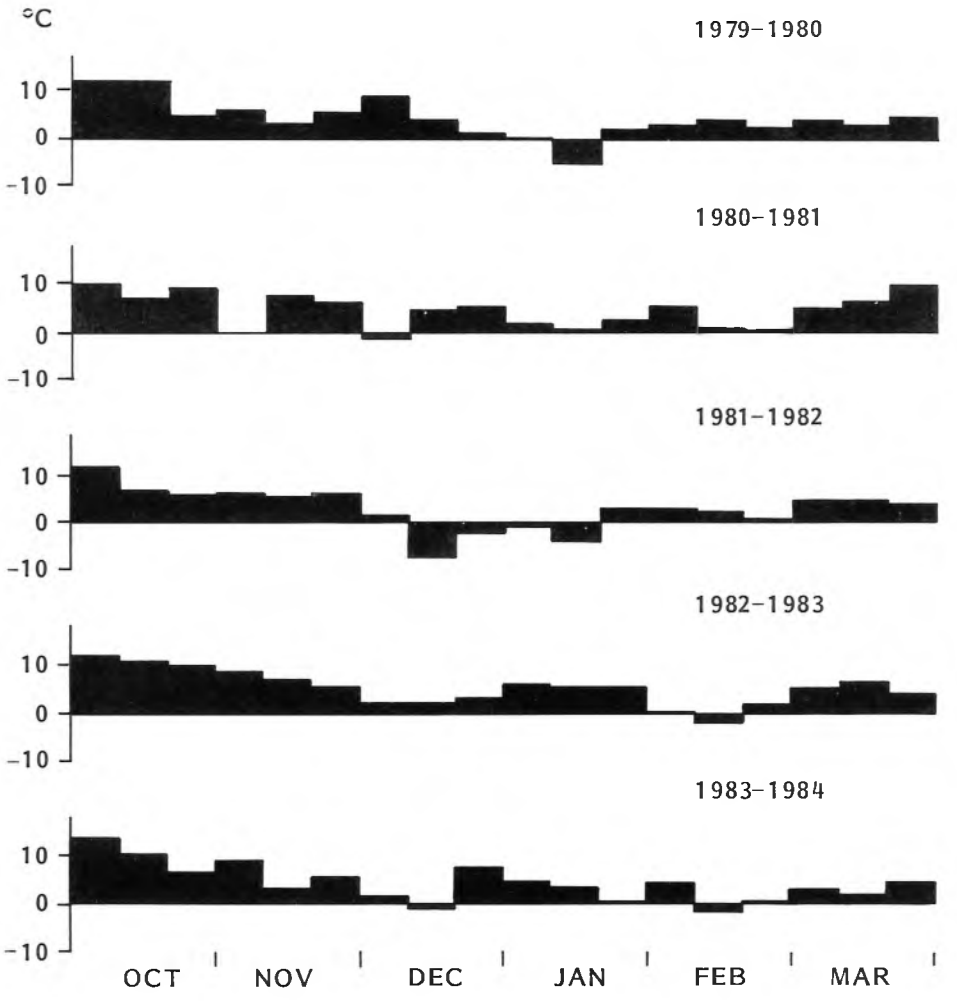

Figure 1. Mean daily temperatures every 10 days in the northeastern part of The Netherlands (weather station Eelde).

reported in northern Spain and western France. After the rains in the summer and autumn of 1983 revived the vast *Scirpus* fields in the Marismas, the number of Greylag Geese wintering there in 1983–4 was higher than ever.

European White-fronted Goose *Anser albifrons albifrons.* Jules Philippona

The timing and spatial distribution of wintering White-fronted Geese in The Netherlands has not altered appreciably since the previous five-year period. The only changes worth noting are the present occurrence of the species in the lake district of the provinces Utrecht and Zuid-Holland in the centre of the country and the increased numbers staging along the River Rhine and its branches. The province of Friesland is still a major stronghold for this species, but prolonged periods of frost and snow, as in 1981–2, cause a shift towards the southwestern part of the country. Fig. 2 shows the midwinter distribution for this species. The increased numbers and the many shifts between the various haunts

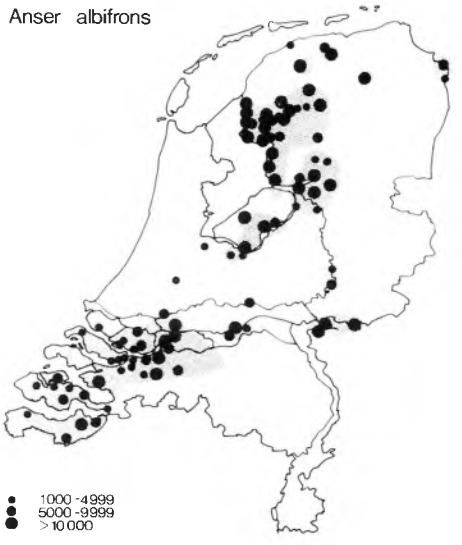

Figure 2. Distribution of White-fronted Goose in The Netherlands.

make complete counts of the species increasingly difficult, since it is very hard to have all sites counted on a single day. As mentioned in our previous report (Rooth *et al.* 1981) the increase in size of this population is most likely primarily due to the ban on spring hunting coming into effect in 1970 in the USSR. However, another additional explanation could be a westward shift of Whitefronts habitually wintering in central and eastern Europe. The reported decrease in number of Whitefronts over the period 1979–82 in Hungary (I. Sterbetz, *in litt.)* would fit this hypothesis.

Bean Goose *Anser fabalis*. Leo van den Bergh

Within the Bean Geese wintering in The Netherlands, two races can be discerned. The smaller tundra-breeding Russian Bean Geese *A. f. rossicus* are by far the commoner of the two. Their increased number has not only resulted in an increase in number on the regular haunts, but also in the expansion of the range of this subspecies into adjacent areas and even in the occupation of entirely new areas (Fig. 3), like the Wieringermeerpolder, Texel, and the peaty grassland areas to the south of Amsterdam. Recent observations of neck-collared Russian Geese, marked in the GDR, indicate that at least some of the birds wintering in The Netherlands visit Hungary on spring migration (van den Bergh 1984).

The other subspecies, the Western Bean Geese *A. f. fabalis,* typically occur in rather small flocks on the few remaining moorlands in The Netherlands. No apparent change in numbers has occurred since the previous five-year period. Cold winters like that in 1981–2 bring their numbers to peak values of about 18,000 birds. The restricted occurrence of this subspecies is shown in Fig. 3. The majority of the birds belonging to this race winters in southern Sweden with up to 60,000 birds (Nilsson 1979, 1981) and in the GDR and coastal areas in Poland.

The first Western Bean Geese arrive earlier in the season than the Russian ones, but peak numbers of the latter are usually reached in January, whereas the number of the former usually peaks in February.

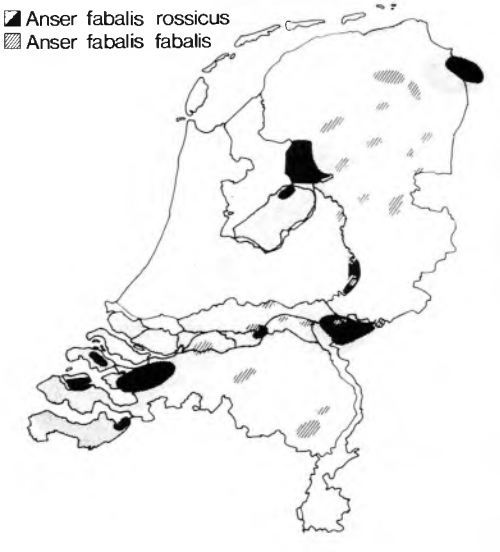

Figure 3. Distribution of Western Bean Goose and Russian Bean Goose in The Netherlands.

Pink-footed Goose *Anser brachyrhynchus* Arend Timmerman Azn

This species still shows a remarkably restricted distribution within The Netherlands (Fig. 4). It is only in the southwestern part of the province of Friesland that sizeable numbers occur. Elsewhere in the country usually only stray birds can be found in flocks of other goose species or, in the Delta area, small flocks of several tens of birds occur. In the cold winter of 1981–2, up to 2000 Pinkfeet stayed in this area. This makes the regular occurrence of substantial numbers of this species on adjacent Belgian goose haunts even more puzzling (Kuyken 1984).

Over the period 1979–80 until 1983–4 peak numbers in The Netherlands were stable at about 18,000 birds, whereas the entire Svalbard-breeding population consists at present of 20,000–25,000 birds. Over the same period, however, the Belgian counts show a definite gradual increase from 3500 up to 7700 birds.

Compared with the situation in the 1970s, the first major flocks of Pinkfeet arrive about 2–3 weeks earlier in the season, which means that in Friesland as early as the first half of October, several thousand Pinkfeet may compete with farmers' livestock for grass. Since this species is protected in The Netherlands but still hunted in Denmark the creation of autumn reserves in Denmark would certainly help to lessen conflicts between agricultural interests and geese as early in the season as October.

Barnacle Goose *Branta leucopsis*. Martin Lok

In spite of the growth (Table 1) of the Russian breeding population of this species that winters primarily in The Netherlands, and local redistribution caused by reclamation activities (Rooth *et al.* 1981), the overall picture of its distribution within The Netherlands shows relatively little change. They still arrive in the autumn in the coastal area of the Wadden Sea, then spread in the course of December into the central and southern parts of Friesland and the Noordoostpolder, and also to their southernmost area in the southwestern part of the country. Fig. 5 depicts a typical midwinter

Figure 4. Distribution of Pink-footed Goose in The Netherlands and Flanders (Belgium).

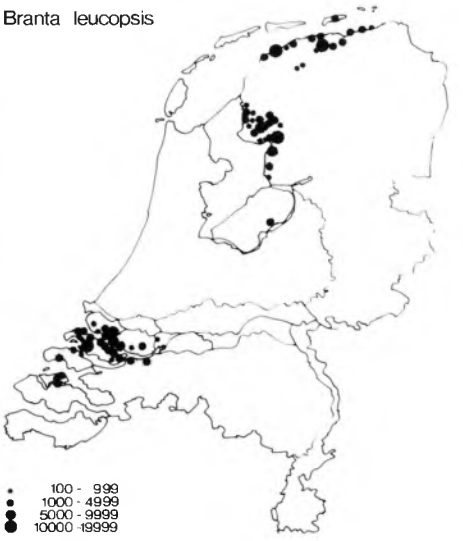

Figure 5. Midwinter distribution of Barnacle Goose in The Netherlands.

distribution. Only in cold winters the southwestern part of the country may serve as a refuge area for the entire population (Fig. 6).

The main local change in distribution that has taken place recently is the occurrence of large flocks on the Slikken van Flakkee. This former intertidal zone along the Grevelingen estuary developed after the closure of this estuary in 1971 into a vast *Salicornia*-covered plain attracting large numbers of Wigeon *Anas penelope* but only a few thousand Barnacle Geese. So this is quite a contrast with a similar situation in the more northerly Lauwersmeer area, where almost the entire Russian Barnacle Goose population gathered in the early 1970s. Presumably most *Salicornia* ears in the Slikken van Flakkee had already been consumed by the earlier arriving Wigeon, making this site less attractive to the Barnacle Geese. The situation changed, however, after the gradual desalination of the flats and the resulting expansion of grasses and clover. Since then up to 10,000 Barnacle Geese frequent the area for prolonged periods, feeding in particular on clover stolons (Lok 1985).

By the end of January, the first birds start to leave in a northeasterly direction, but the final departures can be witnessed in the end of April when the last birds leave from Schiermonnikoog and the Haringvliet area.

Brent Goose *Branta bernicla*. Bart Ebbinge & Anton van Haperen

Brent Geese staging in The Netherlands are primarily Dark-bellied Brent *B. b. bernicla*. The number actually wintering in The Netherlands varied between 15,000 and 40,000 birds in the period. Two separate wintering areas can be discerned: the Wadden area in the north and the Delta area in the southwestern part of the country. Though the latter is a typical wintering area with peak numbers during midwinter, the former usually holds twice as many birds during mild winters due to its larger size. In the cold winter of 1981–2, however, most birds left this Wadden area and only in the westernmost part of it – in and around the island of Texel – did up to 4500 birds stay. In the Delta area no change in numbers occurred.

This same cold period also brought another race of the Brent, the Light-bellied Brent *B. b. hrota,* to The Netherlands, though in small numbers. Van den Berg (1984) estimated their total at about 190.

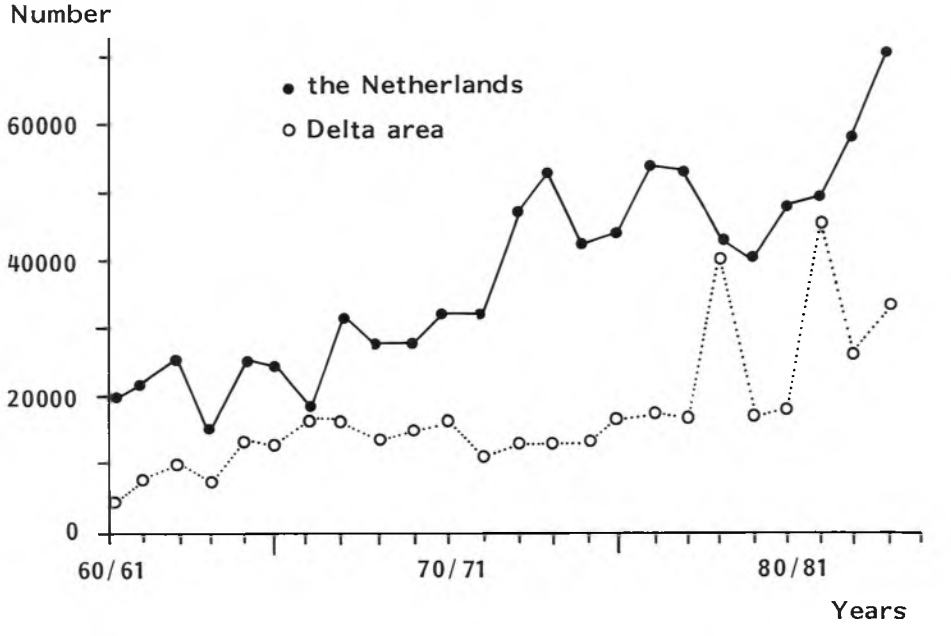

Figure 6. Annual peak numbers of Barnacle Goose in The Netherlands (total) and in the southwestern Delta area.

Table 2. Mean peak counts of geese in The Netherlands per five-year period.

	1974–1979	1979–1984	Change
Greylag Goose	30,200	45,900	+ 52%
White-fronted Goose	143,000	259,200	+ 81%
Bean Goose	47,400	85,900	+ 81%
Pink-footed Goose	9,600	15,900	+ 66%
Barnacle Goose	47,800	53,800	+ 13%
Brent Goose	46,600	64,900	+ 39%

Table 3. Proportion of first-year birds in wild geese wintering in The Netherlands.

	1979–80	1980–81	1981–82	1982–83	1983–84
White-fronted Goose	27%	25%	30%	25%	32%
Barnacle Goose	17%	22%	11%	13%	31%
Brent Goose	30%	0%	8%	50%	4%

It is not until springtime that peak numbers of Dark-bellied Brent occur in The Netherlands (see Table 1), when 85–95% congregate in the Wadden area. This still leaves 4000–7000 birds spending the spring in the Delta area, a recent development.

Discussion

Within this period two species, the European White-fronted Goose *Anser albifrons* and the Barnacle Goose showed an increasing trend in numbers (see Table 1), whereas the numbers of the other four common goose species, the Greylag Goose, the Bean Goose, the Pink-footed Goose and the Brent Goose remained fairly stable. However, the mean peak number over this five-year period is, for all six species, considerably higher than over the previous five-year period (see Table 2). Particularly the four *Anser* species have increased by 50–80%, whereas the two *Branta* species did so to a much lesser degree. Both Rooth *et al.* (1981) and more recently Ebbinge (1985) concluded that the present restoration of goose numbers is mainly caused by a relaxation of the high hunting pressure. At the present population levels, density-dependent reduction of the breeding success is becoming apparent in some populations (Ebbinge 1985). Data on breeding success are available for three of the six species (Table 3).

Acknowledgements

The authors gratefully acknowledge the co-operation of all Dutch goose-counters and the local coordinators for generously gathering the actual data, the National Forestry Service for their help in getting the data computerized, Arjan Griffioen for preparing the figures and Mrs. L. Klerks-Lohstroh for typing the manuscript.

Summary

This paper deals with the numbers of wild geese in The Netherlands during the period 1979–84. This period comprises four mild winters and one cold winter, 1981–2. The cold resulted in a higher number of both Bean Goose *Anser fabalis* subspecies, a lower number of Dark-bellied Brent Geese *Branta b. bernicla* and an influx of small but unusual numbers of Light-bellied Brent Geese *B. b. hrota*. Moreover all other wintering species of geese tended to shift to the snow-free southwestern, and mildest, part of the country during the cold spell.

When compared with the previous five-year period the four *Anser* species (Greylag *A. anser*, Whitefront *A. albifrons*, Bean and Pinkfoot *A. brachyrhynchus)* have further increased by 50–80%, whereas the two *Branta* species showed an increase of 13% in the Barnacle Goose *B. leucopsis* and 39% in the Brent.

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