

Recent changes in numbers and distribution of the Swedish population of Greylag Geese *Anser anser*

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Regular goose counts have been organised in Sweden since 1977/78, first covering October – March, later being concentrated to the months October, November and January with a special Greylag Goose count in September from 1984 onwards. During the years the population increased from about 20,000 at the start of the September counts to about 200,000 in September 2005. Similar changes have been noted in October and November as well as in January, the Greylag Goose having established a wintering tradition in the south of Sweden. Changes in the distribution within the country are also elucidated. The Swedish data have been compared with counts from other countries and currently the overall population in NW Europe in September is estimated to be about 600,000 individuals.

Key words: Greylag Goose *Anser anser*; autumn censuses, distribution changes, population increase.

1. Introduction

The population of Greylag Geese *Anser anser* in Sweden as in other parts of Europe has increased markedly in recent decades, the species still being considered as a rare species in Sweden during the 1960s before the increase started during the 1970s (NILSSON *et al.* 1999). The marked increase in the population and the establishment of new concentrations of geese especially in the agricultural areas of south Sweden (and the other Nordic countries) with real and potential conflicts with especially agricultural interests led the Nordic Council for Wildlife Research (NKV) to start a special research programme in 1984. The main emphasis of the programme was in neck-banding of Greylag Geese in different areas in the Denmark, Finland, Norway and Sweden (ANDERSSON *et al.* 2001), but special September counts of Greylag Geese were also started as was the case in some other countries (NILSSON *et al.* 1999). Regular counts of staging and wintering geese had already started in Sweden during 1977/78 as a part of the International Goose Counts organized by Wetlands International (NILSSON 2000) and the September counts of Greylag Geese was added to this programme. Even though the Greylag Goose programme started as a five-year project the study still continues with the aim to follow long-term changes in the Greylag Goose populations.

During the years of the programme marked changes in numbers, distribution and migration patterns have been seen among the Greylag Geese (ANDERSSON *et al.* 2001; NILSSON 2000, 2006; NILSSON *et al.* 1999). ANDERSSON *et al.* (2001) found marked changes in the migration patterns of the Greylag populations in the Nordic countries at the same time as the populations increased. The knowledge of the continuing changing of the migration habits of the Swedish Greylag Geese will not be discussed here as a recent update has been published by NILSSON (2006). In the present contribution I will concentrate on the changes in population levels both at the national and

international level as illustrated by the annual goose counts. I will also illustrate the changes in distribution of staging and wintering Greylag Geese in Sweden during the last two decades. Finally, in this contribution, I will compare the picture the Swedish Breeding Bird Census (LINDSTRÖM & SVENSSON 2007) gives of the population increase compared with the goose counts.

2. Material and methods

Regular counts of staging and wintering geese started in Sweden during 1977/78 with the aim to cover all important sites for the Bean Goose *Anser fabalis* on a monthly basis from October to March (April) each year. In 1984 the counting programme was extended with the September count of Greylag Geese, which aimed at as full coverage as possible for all staging areas of the species. After the first ten years the counting programme was reduced to three autumn counts (September, October and November) and the midwinter count undertaken simultaneously with the midwinter duck counts. The autumn counts had the aim to get as full coverage as possible of all grey geese (*Anser* species).

In September 2005, an extended survey of staging geese and cranes was undertaken in Sweden to establish the population sizes of Greylag Goose and Common Crane *Grus grus* in relation to agricultural interests. This involved special searches for new sites for geese.

3. Results

3.1. Autumn counts

When the September counts started in Sweden in 1984, the total number of Greylag Geese counted on all sites was close to 20,000 individuals. After that there was a steady increase over the subsequent years to a September population of about 50,000 individuals (Fig. 1). During the following five years there was not much change in numbers but from 1996 onwards there was a very marked

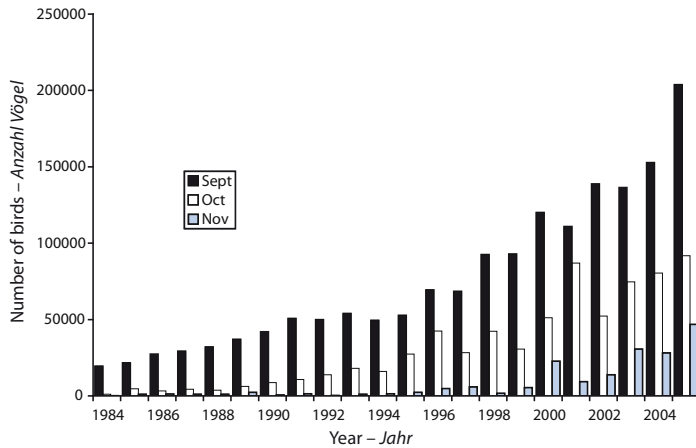


Fig. 1: Total numbers of Greylag Geese counted on staging sites in Sweden in September, October and November 1984–2005. – Anzahl von Graugänsen an schwedischen Rastplätzen im September, Oktober und November 1984–2005.

low until the late 1990s, reaching more than 20,000 birds in November 2000.

Parallel with increase in numbers there has been a marked change in the distribution of staging Greylag Geese in Sweden (Fig. 2). When the counts started in 1984 there was a marked concentration of the staging areas to the eastern part of Sweden and especially the Kalmarsund region, with a few larger sites used in Scania and on the west coast. From this easterly stronghold a dispersal from eastern to the western part of the country can be seen exemplified for September 1994 and 2005. In September 2005, the Greylag Goose was well spread over the entire southern Sweden with the exception of the forested parts in the southern highland area mainly in the provinces of Småland and Västergötland, where only few

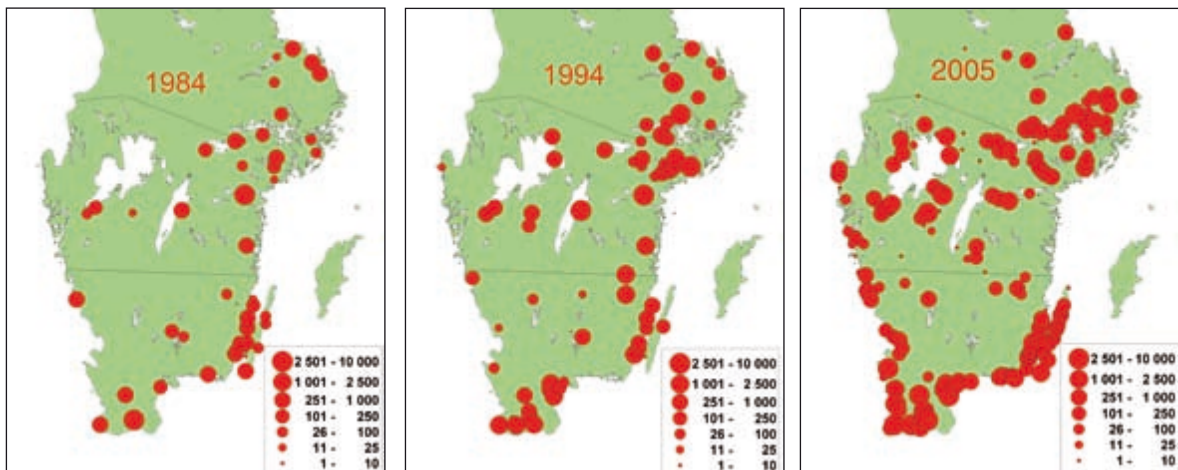


Fig. 2: The distribution of Greylag Geese at September counts in south Sweden 1984, 1994 and 2005. – Verbreitung der Graugans bei den Septemberzählungen im Süden Schwedens 1984, 1994 und 2005.

increase to the highest count up to now of about 200,000 in September 2005.

In general, the most important sites were covered but inevitably some sites have been overlooked in some years, especially in an increasing and spreading population, where it might be some time-lag between the establishment of a new staging area and the first count of that area. Thus the marked increase between 2004 and 2005 is most certainly an effect of a very efficient search effort made in 2005. It is however my opinion that the error in the counts is less than about 10%, i.e. the total numbers staging in Sweden might be up to 10% higher than the counts suggest.

During the first years the number of Greylag Geese in Sweden later in the autumn was quite small. October totals were around 1,000 birds in 1984, but increased to more than 90,000 in 2005 (Fig. 1). November totals remained

sites were found. The recent establishment of a number of staging sites on the west coast is clearly seen.

The maps in Fig. 2 only show the southern parts of Sweden, to which Greylags were restricted during the 1980s. In 2005, when a large effort was made to cover new sites quite good numbers were also found along the coasts of the Bothnian Sea and Bothnian Bay in the north of Sweden. More than 3,600 birds were counted there, with no less than 500 birds in the province of Västerbotten.

Later in the autumn, only small numbers were counted in Sweden during the first years, so I only show maps for October and November 1995 and 2005 (Fig. 3). In October 1995, the main difference compared to September was the small numbers counted in Kalmarsund. Between 1995 and 2005, the main difference for October was the many sites recorded for the west coast, in the same way as for September 2005. In November 1995 very few Greylags were

recorded in the country, whereas the species was well-spread at the counts in November 2005.

3.2. Wintering Greylag Geese in Sweden

When January counts of geese started in Sweden in 1978, hardly any Greylag Geese were found in the country. Numbers remained very low until late in the 1990s when still only small numbers were found. In January 2000, more than 3,500 birds were counted, and in the subsequent years a number of birds stayed in the country during January (Fig. 4). More than 20,000 were counted in January 2005, and preliminary results from 2007 show a winter total of more than 30,000.

In January 1995, Greylag Geese were found on a few sites along the coasts in the south, especially at Foteviken and Skanör in the southwestern-most corner of the country, but in January 2005 the species was well spread along the coasts in the south (Fig. 5), with some geese also occurring in inland Sweden.

4. Discussion

The population increase found in the Sweden has its counterpart in other European countries. Annual counts from Denmark, Sweden and the Netherlands show a population increase from about 70,000 for the three countries taken together in 1985 to about 400,000 for 2004 (Fig. 6). There are some differences between the three countries, as the Greylag Goose population in Sweden increased at a higher rate than the populations in the other two countries, especially compared to Denmark.

The Greylag Goose population has shown similar increases in the other countries at the September counts, but for these countries annual totals for the more recent years are not yet available. The most recent estimate of the September population for the NW European Greylag Goose population is 600,000 for September. The totals (estimates) for the different countries are as follows: Norway 25,000 birds, Sweden >200,000 birds, Denmark 90,000 birds, Germany 130,000 birds, The Netherlands 130,000 birds and Belgium 25,000 birds with the reservation that some results are highly preliminary. Poland

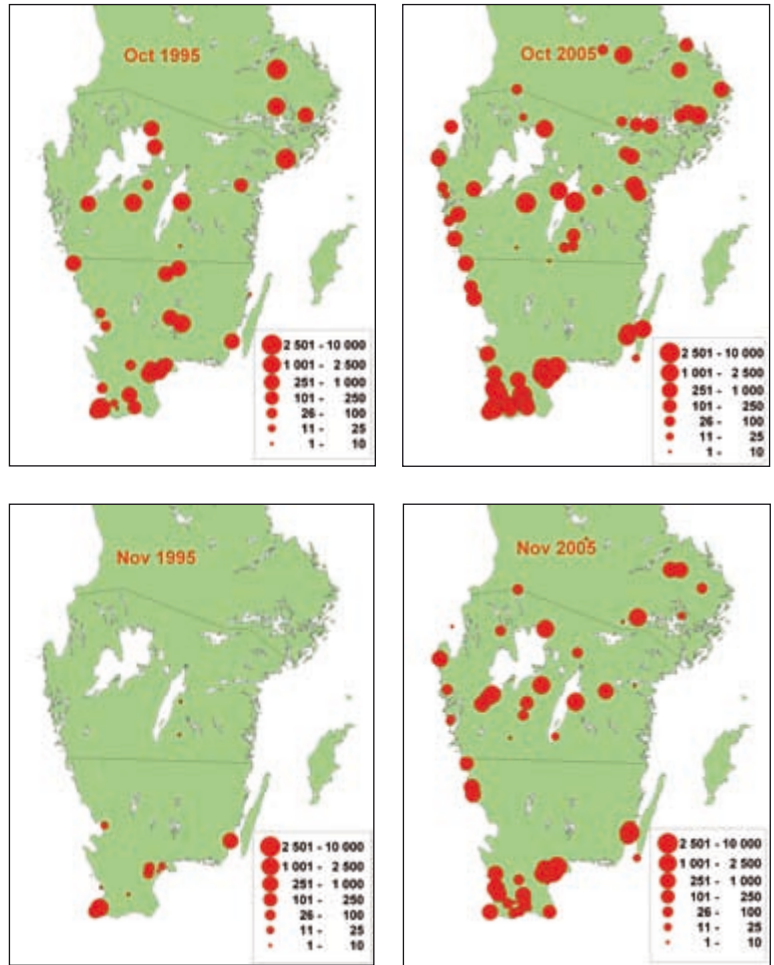


Fig. 3: The distribution of Greylag Geese at counts in south Sweden during October and November 1995 and 2005. – *Verbreitung der Graugans im Süden Schwedens während der Oktober- und Novemberzählungen 1995 und 2005.*

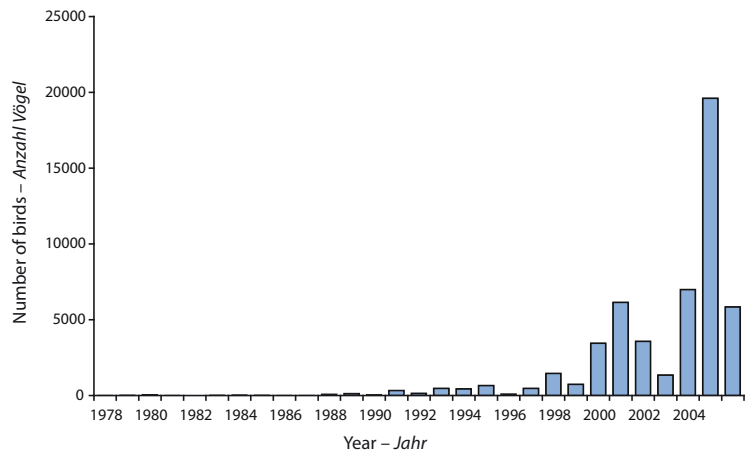


Fig. 4: The number of Greylag Geese counted in January in southern Sweden 1978–2006. – *Anzahl der Graugänse in Südschweden, Januar 1978–2006.*

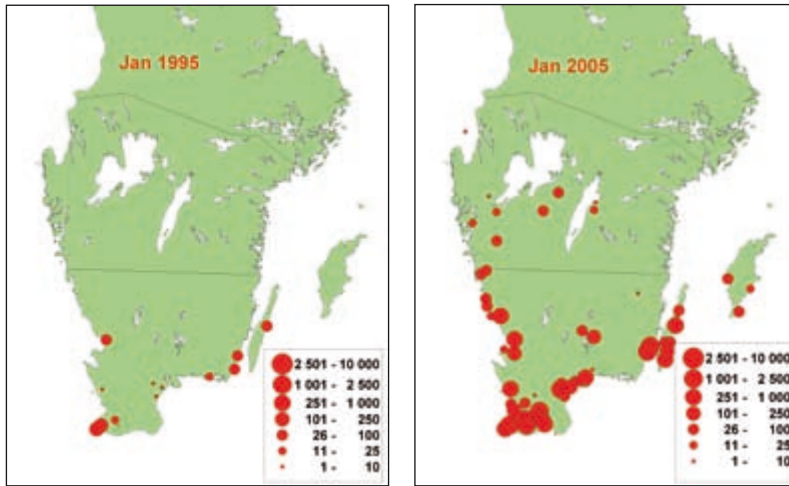


Fig. 5: The distribution of Greylag Geese in southern Sweden in January 1995 and 2005. – *Verbreitung der Graugänsen in Südschweden in Januar 1995 und 2005.*

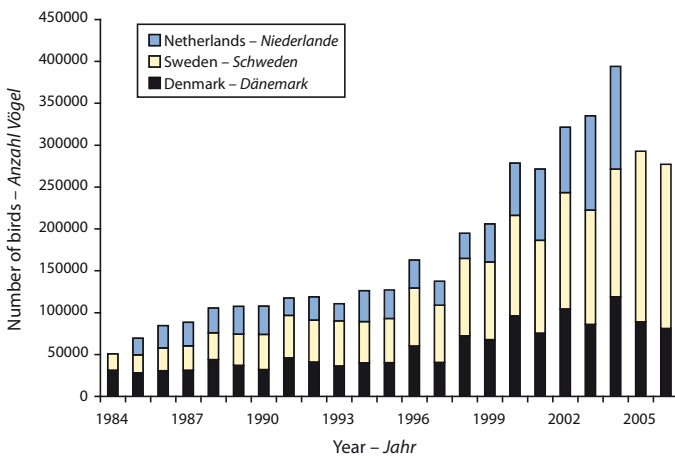


Fig. 6: The total number of Greylag Geese counted in south Sweden (this study), Denmark (S. PIHL pers. comm.) and The Netherlands (B. VOSLAMBER pers. comm.) in September 1984–2006. – *Anzahl der Graugänsen in Südschweden (diese Arbeit), Dänemark (S. PIHL pers. Mitt.) und den Niederlanden (B. VOSLAMBER pers. Mitt.) im September 1984–2006.*

was not included in the overall estimate, but parts of western Poland should most probably be included in the Atlantic flyway.

In Sweden as in some other countries, the population development of the Greylag Goose is also measured with a national breeding bird monitoring programme. The Greylag Goose is well covered by the point counts of the Swedish bird monitoring scheme (LINDSTRÖM & SVENSSON 2007). Both the point counts and the national September counts show clearly increasing trends for the Greylag Goose population (Fig. 7), with a four-fold increase for the point counts and a ten-fold increase in the September counts. The indices of the two measures are not unexpectedly highly correlated (Fig. 8).

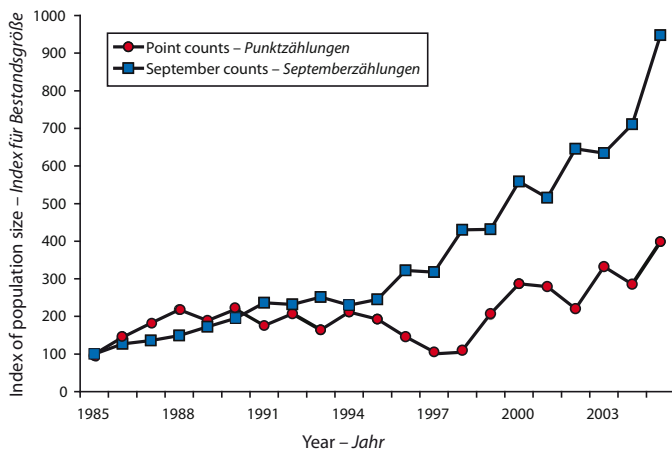


Fig. 7: The development of the Swedish population of Greylag Goose illustrated by the September counts (this study) and the point counts of the Swedish breeding bird survey (LINDSTRÖM & SVENSSON 2007). For both data-sets the index value for 1985 has been set to 100. – *Entwicklung des schwedischen Graugäns-Bestandes, abgeleitet aus den Ergebnissen der September-Zählungen (diese Arbeit) und der Punktzählungen der schwedischen Brutvogelmonitorings (LINDSTRÖM & SVENSSON 2007). Für beide Datenreihen wurde der Indexwert des Jahres 1985 auf 100 gesetzt.*

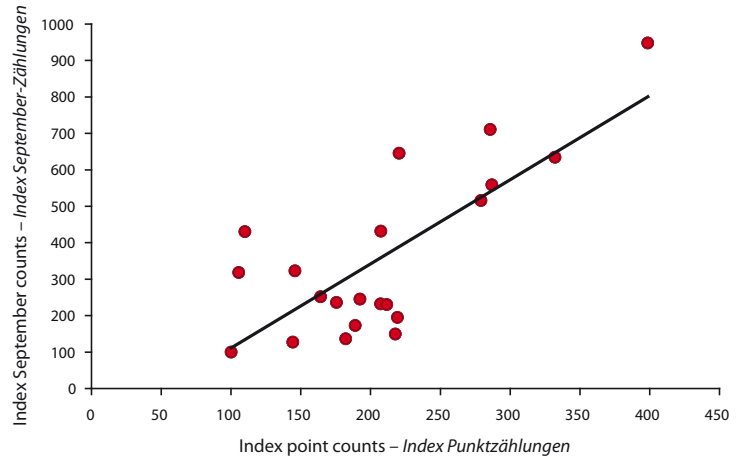


Fig. 8: The relationship between the population indices for the Greylag Goose in Sweden 1985–2006 according to the September counts (this study) and the Point Counts of the Swedish breeding bird survey (LINDSTRÖM & SVENSSON 2007). For both data-sets the index value for 1985 has been set to 100. – Relation zwischen den Populationsindizes für die Graugans in Schweden 1985–2006, abgeleitet aus den Ergebnissen der September-Zählungen (diese Arbeit) und den Punktzählungen der schwedischen Brutvogelerfassung (LINDSTRÖM & SVENSSON 2007). Für beide Datenreihen wurde der Indexwert des Jahres 1985 auf 100 gesetzt.

5. Zusammenfassung

Nilsson, L. 2008: Rezente Änderungen von Anzahl und Verbreitung der schwedischen Population der Graugans *Anser anser*. Vogelwelt 129: 343–347.

Regelmäßige Gänsezählungen werden in Schweden seit dem Winter 1977/78 organisiert. Anfänglich wurde die gesamte Periode von Oktober bis März abgedeckt, aber später konzentrierten sich die Zählungen auf die Monate Oktober, November und Januar, während seit 1984 im September eine spezielle Erfassung der Graugans gewidmet wird. Im Erfassungszeitraum nahm der Graugans-Bestand von ca. 20.000 Vögeln zu Beginn der Septemberzählung bis auf ca. 200.000 Vögel im September 2005 zu. Vergleichbare Änderungen wurden bei den Oktober-

November- und Januarzählungen festgestellt. Diese Daten weisen darauf hin, dass die Graugans im Süden Schwedens eine Überwinterungstradition entwickelt hat. Zudem wurden Änderungen in der Verbreitung festgestellt: Zusätzlich zu den bereits zuvor bevölkerten Gebieten entlang der Ost- und Südküste trat die Art zunehmend auch im Binnenland und an der Westküste auf. Die schwedischen Daten werden mit den Zählergebnissen anderer Länder verglichen. Die gesamte nordwest-europäische Graugans-Population wird gegenwärtig auf ca. 600.000 Vögel geschätzt.

6. References

- ANDERSSON, Å., A. FOLLESTAD, L. NILSSON & H. PERSSON 2001: Migration patterns of Nordic Greylag Geese *Anser anser*. *Ornis Svecica* 11: 19–58.
- LINDSTRÖM, Å. & S. SVENSSON 2007: Monitoring population changes of birds in Sweden. Annual Report 2006. Department of Ecology, Lund University, Lund.
- NILSSON, L. 2000: Changes in numbers and distribution of staging and wintering goose populations in Sweden, 1977/78–1998/99. *Ornis Svecica* 10: 33–49.
- NILSSON, L. 2006: Changes in migration patterns and wintering areas of south Swedish Greylag Geese *Anser anser*. In: BOERE, G. C., C. A. GALBRAITH & D. A. STROUD (eds.): *Waterbirds around the world*: p. 514–516. The Stationery Office, Edinburgh.
- NILSSON, L., A. FOLLESTAD, K. KOFFIJBERG, E. KUIJKEN, J. MADSEN, J. MOOIJ, J. B. MOURONVAL, H. PERSSON, V. SCHRICKE & B. VOSLAMBER 1999: Greylag Goose *Anser anser*: Northwest Europe. In: MADSEN, J., G. CRACKNELL & A. D. FOX (eds.): *Goose populations of the Western Palearctic. A review of status and distribution*. Wetlands International Publication No. 48: 182–201.