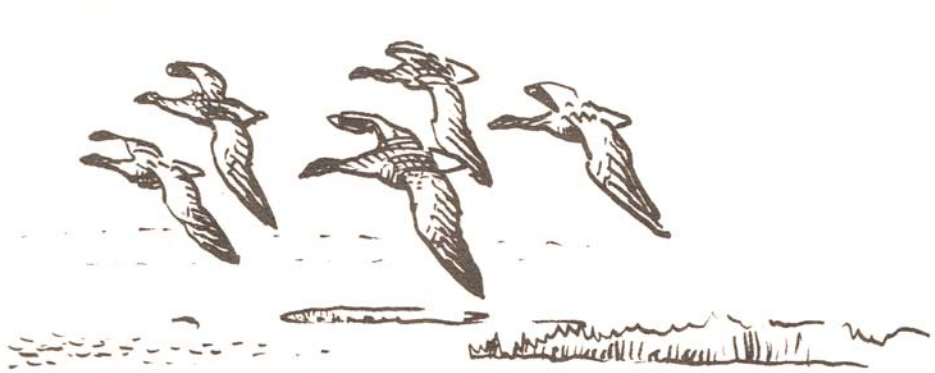

GOOSE BULLETIN

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GOOSE BULLETIN appears as required, but at least once a year in electronic form. The bulletin aims to improve communication and exchange information amongst goose researchers throughout the world. It publishes contributions covering goose research and monitoring projects, project proposals, status and progress reports, information about new literature concerning geese, as well as regular reports and information from the Goose Database.
Contributions for the **GOOSE BULLETIN** are welcomed from all members of the Goose Specialist Group and should be sent as a Word-file to the Editor-in-chief.
Authors of named contributions in the **GOOSE BULLETIN** are personally responsible for the contents of their contribution, which do not necessarily reflect the views of the Editorial Board or the Goose Specialist Group.

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Editorial

To produce a journal like this one, an editorial board needs manuscripts. To be able to plan the appearance of the journal, it is necessary to fix a deadline for the possible acceptance of these manuscripts. That's why you find the following message at the bottom of this page:

"The next issue of the GOOSE BULLETIN is planned to appear in May 2011, which means that material for this issue should have reached the editor-in-chief not later than the 31st of March 2011."

One of the problems of this "jour-fix" is that the editorial board has to wait until a few days before this date to receive the first manuscripts. Of course we understand that everybody has a lot of other things to do and that writing something for the Goose Bulletin is just a voluntary effort restricted to leisure time. But this is also equally true for the work of the Editorial Board.

The Editorial Board thanks all authors for their preparedness to write a manuscript for the Goose Bulletin and enjoys doing the editorial job.

BUT …… it is a little bit stressful, receiving most manuscripts shortly before the deadline and then doing the editorial job within a few weeks. Until a week before the deadline the board does not even know, if there will be enough manuscripts for a new issue of the Bulletin. It would be far more fun, just to receive manuscripts coming in spread over the year, to have the possibility to edit a manuscript without stress and then - after the deadline - to decide which manuscripts will be put together into the next issue of the Goose Bulletin.

AND ……. if you decided to send us a manuscript, please use "Times New Roman 12" in the ".doc" format for the text and ".xls" or ".jpg" for the figures. Photos (".jpg") are also welcome, otherwise you have to accept to see some pictures several times in future. In the past issues a certain "GOOSE BULLETIN style" has crystallised. The editorial board would be very happy to receive manuscripts for the Bulletin according this style/standard (see "Instructions to authors" at the end of this issue). It would make layout work much easier!

SO …… the Editorial Board would be very happy to receive manuscripts for the next issue in "GOOSE BULLETIN standard" starting from today.

The next issue of the GOOSE BULLETIN is planned to appear in May 2011, which means that material for this issue should have reached the editor-in-chief not later than the 31st of March 2011.....but earlier arrival is allowed!

The Editorial Board

Bean Goose flyways and stopover regions in Kazakhstan

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Introduction

Amongst the four recognized subspecies of the Bean Goose *Anser fabalis*, Kazakhstan hosts migrating Western Taiga Bean Goose *A. fabalis fabalis* (in the west and north of the country) and Eastern Taiga Bean Goose *A. fabalis sibiricus* (syn. *A. fabalis middendorffii*; in the east and south-east, GAVRILOV 2000). In the late 19th and first half of the 20th Century, the Bean Goose *Anser fabalis* was not considered common along the waterfowl flyways, being most frequently reported from eastern Kazakhstan, although there is a lack of detailed knowledge from that time (DOLGUSHIN 1960, GAVRILOV 2000, HEINICKE 2008). This review attempts to gather all known information about the distribution of the species on migration and in winter since then, supplementing our knowledge of this widespread northern Eurasian species (ISAKOV 1952; MADSEN ET AL. 1999, MOOIJ & ZOCKLER 1999).

Methods

This article is largely based on results of a literature survey supplemented by results obtained from a questionnaire survey of people involved with geese, including game inspectors, nature reserve staff, gamekeepers and goose hunters which resulted in 98 completed questionnaires from 6 regions of Kazakhstan.

Results

1. Abundance and distribution of Bean Geese in Kazakhstan in the 20th century

Bean Geese were considered common in eastern Kazakhstan, being numerous at certain sites such as Zaisan Lake during autumn passage (DOLGUSHIN 1960, GAVRILOV 1999, BEREZOVIKOV & SAMUSEV 1999, HEINICKE 2008). In western Kazakhstan, this species was considered a regular migrant in the upper reaches of the Ural River and its tributaries, the Utva and Ilek rivers and was met with annually in small numbers in the upper reaches of the Emba (DOLGUSHIN 1960). In north-western Kazakhstan (Kostanai) Bean Geese were common in places, but SUSHKIN (1908) only saw very few there in 1894 and 1898 when he thought "they looked lost". Small numbers of Bean Geese wintered in south-eastern and southern Kazakhstan as well, in the Kargaly and Shamalgan valleys, 40-60 km west of Almaty and on the Chardara reservoir, in the Syrdarya basin (DOLGUSHIN 1960). According to earlier reports (YABLONSKY 1904, 1914) the Eastern Taiga Bean Geese (*A. f. sibiricus*) bred in East Kazakhstan, in particular around Lake Markakol, but there is no evidence to confirm this (DOLGUSHIN 1960).

In the second half of the 20th century, particularly in the 1950-1960's, as a result of significant reductions in the breeding abundance of Taiga Bean Geese in Russia and Mongolia (BONDAREV 2005), numbers occurring during migration in Kazakhstan, including the eastern regions, fell substantially.

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In western Kazakhstan, in the upper Urals, during 1970-1990, the species became very rare in spring and autumn, where it had formerly been very common (SHEVCHENKO et al. 1993; BEREZOVIKOV et al. 2000). In the mid and lower Urals, during 4 years of regular migration observations around the village of Makhambet, we saw only one Bean Goose in mid-October 1974. The species has been historically absence from the Ural delta and adjacent Caspian coastline as is the case now (BOSTANZHOGLO 1911; DOLGUSHIN 1960, unpubl. data). Hunters in the Atyrau and Atyrau regions have killed no Bean Geese during 1990-2000 (A.N. IVASENKO, in litt.).

Our own observations from the Kostanay Region in north-western Kazakhstan during autumn migration from 1997-2008 have shown only single individuals and small groups of Bean Geese occur among larger flocks of migrating Greylag and White-fronted Geese, a status that has not changed in the last 50 years. Amongst 12-14 key migratory goose stopover sites, Bean Geese were only occurred at lakes in the Tyuntyugurskaja depression in 1997 (2) and 1998 (37). Finnish and Norwegian ornithologists recorded one bird in 1996 and four in 1998 in the same area (TOLVANEN et al. 1998, 1999) and seven (2005) and nine (2007) on the lakes in the Sypsyn-Agashskay depression (KELLOMAKI et al. 2005, 2007). Only four Bean Geese have been reported from the Naurzum lakes between 1996 and 1998 (BRAGIN & BRAGIN 2002). The Sankebay lakes of Sypsyn-Agashskaja remain the only area in Kostanay Region, where Bean Geese have regularly occurred in the last 10-15 years.

In northern Kazakhstan in the second half of the 20th century, autumn migrating Bean Geese were very rare (DROBOVTSEV & VILKOV 1997; GRACHEV 2002, GRACHEV & BEREZOVIKOV 2005), as is the case further east, in the Pavlodar Region, in the Irtysh river valley (SOLOMATIN 1999).

In Central Kazakhstan, Bean Geese were noted from the lakes of the Tengiz-Kurgaldzhinskaja depression: only two were observed between 1960 and 1980 on 16 April 1969 (KRIVITSKIY et al. 1985, KOSHKINA 1999). In the past 10-15 years, Bean Geese were observed only rarely in autumn (ZHULIY 1999), only 3-7 being shot each autumn in the Akmola Region during 1989-1997 inclusive. Special studies of the species composition of the hunting bag by Finnish and Russian ornithologists during the autumn migration period in 1999 found only 9 individuals (TOLVANEN et al. 2000; HEINICKE 2008). Further west in the Tersakkan valley in October 2004, 2 days of intensive counts amongst more than 250 000 White-fronted and Greylag Geese found only 1 Bean Goose (YEROKHOV & IVANENKO 2004). Approximately 200 km north of Lake Tengiz, on the Shortandy lakes, this goose was also occasionally observed in the last decade (BEREZOVIKOV & KOVALENKO 2001), as is the case further east in the middle reaches of the Irtysh River (PANCHENKO 1968, SOLOMATIN 1999).

In south-eastern Kazakhstan Bean Geese were rare on migration and winter (e.g. 12 birds feeding on Sorbulak lake (Ilye-Balkhash basin) in early March (EROKHOV 2002).
In summary, in the last decade of the 20th century, Bean Geese in Kazakhstan remained rare, sporadically occurring during migration and in winter.

2. Recent data on the seasonal distribution and abundance of Bean Geese

Since 2003 and especially in very recent years, information indicates a dramatic increase in the number of Bean Geese using eastern and south-eastern Kazakhstan during autumn migration and in winter.

2.1 The migration routes and abundance in eastern and south-eastern Kazakhstan

Bean Geese now occur on autumn migration throughout eastern Kazakhstan through to the Altai region of Siberia (BONDAREV 2005). The species also moves along the Irtysh river, where they fly to the west, north of Semipalatinsk, then turn south and fly along the northern foothills of Tarbagatai in the direction of the Ayaguz river valley to Lake Balkhash (see Fig.1).

From the eastern end of Lake Balkhash they continue southwards to Lake Sasykkol, Alakol Zhalanashkol, through the Zhongarskyi Alatau Pass, flying into north-western China via the Tarim river valley. Migration through the Alakol depressions occurs annually from 20-25 September throughout October, ending in early November. Geese may stop at Lake Alakol, despite the frozen water, and may even stay for the winter, as observed in 1953 (DOLGUSHIN 1960).

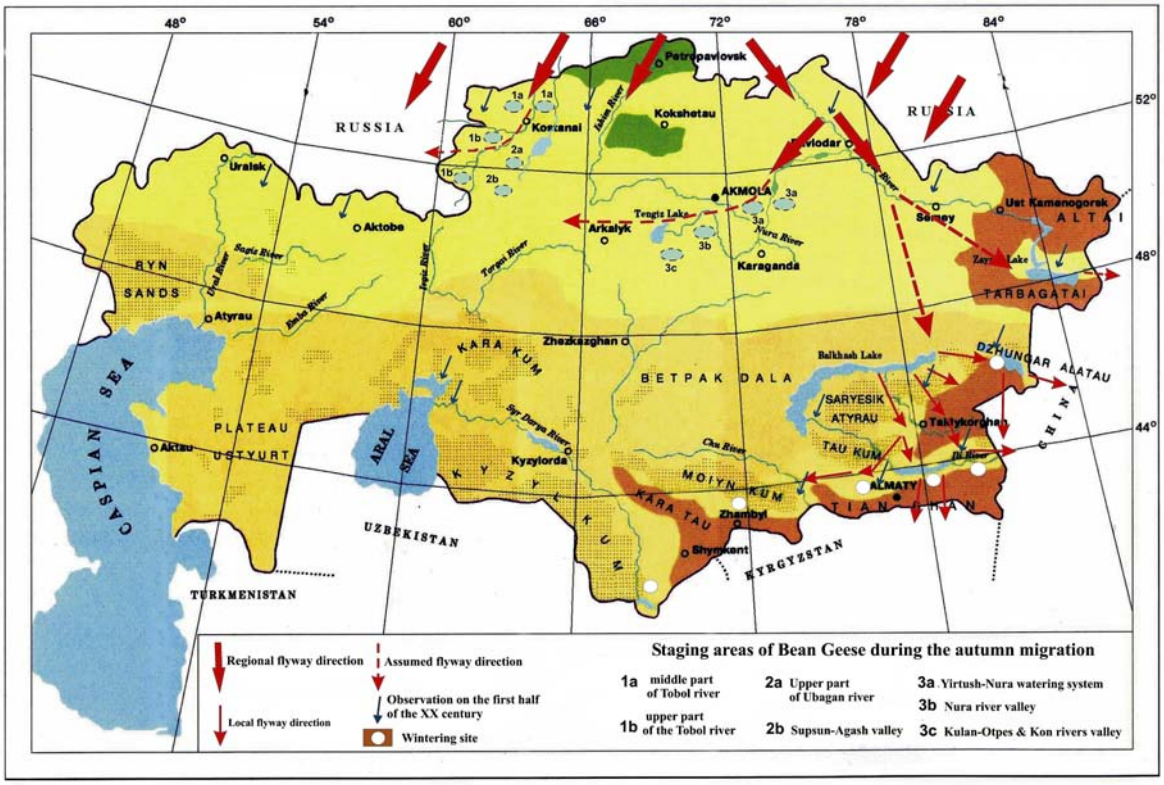

Fig. 1. The current distribution of Bean Goose (*Anser fabalis,* Lath.) in Kazakhstan

During October 2000-2003, on the south shore of Lake Alakol between Koktuma and the mouth of the Yrgayty River, Bean Geese were regularly observed not just flying into China via the "Dzhungar Gate", but also continuing south into the upper Yrgayty river system, crossing the Dzhungarskiy Alatau uplands at altitudes above 2000 m above sea level (see Fig.1).

Bean Geese also migrate from Lake Balkhash up the Lepsu river valley passing through the Dzhungarskiy Alatau Range. Thus, in early October 2000-2005, near Lepsinsk village, for 10-15 days Bean and Greylag Geese passed Lake Balkhash to cross the Zhamantas Mountains in the south-west China. On some days, according to hunters, tens of thousands of such geese flew in this direction.

Bean Geese were also seen migrating in autumn along the eastern and southern coast of Lake Balkhash (possibly including the northern foothills of the Dzhungarskiy Alatau) and further south up the valley of the Ilye River, from where a portion of the birds crossed the Tyan-Shan ranges to the Issyk-Kul lake valley in Kyrgyzstan (See Fig.1). A flock of 1700 Bean Geese was seen in the upper reaches of the Tekes River (Ilye river tributaries) between Sumbe and Narynkol in October 2005 on harvested wheat fields (A. PANOV, pers. comm.).

2.2. The abundance and migration routes in Northern and Central Kazakhstan.

Middle and Upper Tobol catchment

In 2009, we carried out a questionnaire survey of professional hunters and of State Hunting Wardens to determine the abundance of Bean Geese and other waterfowl in this region. This reported regular and significant numbers of staging Bean Geese in the two most important areas for migratory geese - Kostanay and Karaganda Regions.

In Kostanay, staging areas are located along the Tobol and Ubagan Rivers (tributaries of the Ob) and in Kraganda along the Irtysh-Karaganda channel system (see Tab. 1).

Tab. 1. Main Bean Goose resorts of the Upper and Middle Tobol catchment in north-western Kazakhstan, based on questionnaire surveys in 2009, showing peak numbers for the sites named.

Region	Lakes	Lat/long	Habitat	Migration period	Peak numbers
Middle Tobol River	Bolshoje Burla, Maloje Burla, Komsomolsk, Goreloje, Krasno-Presnenskoe and Zhaksy-Alakol	53°33'N 63°47'E	1.5-3 m deep, 30-50% emergent vegetation, area c. 45 km^2	29 Sept- 10 Nov	3 300
Upper Tobol River	Kovylnoje, Lesnoje and Stepnoje	52°27'N 61°53'E	Mean 1.3 m deep, salt, 50% emergent vegetation, c.33 km^2	15 Sept-29 Oct	3 300
Sypsyn-Agashskaja Depression	Bolshoe Koskopa, Maloje Koskopa, Baynazar Copa, Kazbek Karasu, Sarybulakskoe and Bolshoji Sankebay	51°28'N 63°16'E	Less than 1 m deep, freshwater, much emergent vegetation, c.17 km^2	21 Sept-5 Nov	800
Upper Ubagan	Nogaykol, Soldatskoje, Sulukol and Auliekol	52°20'N 73°24'E	2-3 m deep, freshwater, 4.4 km^2		10 250

Irtysh-Nurinskaya reservoirs

DOLGUSHIN (1960) reported Bean Geese as absent from the Karaganda region, but 20 years later, the construction of 11 reservoirs in 1972 along the Irtysh and Nura rivers provided habitat for migrating waterfowl, including geese. Based on counts from 2009, there are now substantial numbers using this area on migration (Tab. 2).

Tab. 2. Main Bean Goose resorts associated with the Irtysh-Nurinskaya reservoirs of east and central Kazakhstan, based on questionnaire surveys in 2009, showing peak numbers for the sites named.

Region	Lakes	Lat/long	Habitat	Migration period	Numbers
Molodezhnoje	13 lakes of varying size	52°20'N 73°24'E	1-3 m deep, mostly fresh-water, c. 76 km^2	2 Oct-5 Nov	15 000-20 000
NW of the Irtysh-Nurinskaja reservoirs	Batpakkol, Belo-dymovskoe, Tortko and Shalkarkol		1.5-2.5 m deep, fresh-water, c. 30 km^2	29 Sept-2 Nov	2 400
Middle Nura river	Zharlykol, Sasykkol, Karatomar,, Tuzkol, Izendy, Karakamys, Arykty, Tassuat, Sor and Sulukamys	50°41'N 71°30'E	Mostly freshwater, c. 51 km^2	1 Oct, peaked 12-15 Oct	1 200
Kulan-Otpes/Kon floodplain	Korpesh, Salmankol, Malaykuduk and Zhumak	50°06'N 69°16'E	Freshwater, c.10 km^2		500

3. Bean Goose wintering sites in Kazakhstan

Bean Geese are attracted to shallow fresh water lakes, usually surrounded by forest and scrub, so the species is absent from areas lacking shallow water systems (DOLGUSHIN 1960, KASHKAROV 1987, HEINICKE 2008). However, climate and agriculture also affect the distribution. In the middle reaches of the Ilye River, Bean Geese were relatively rare in the early 1990s, but in the last decade, relatively warm winters with little snow have enabled Bean Geese to winter regularly in the region, with up to 5000 gathering on Lake Kolzhatskoje, near the border with China, in November-December feeding on corn fields (YEROKHOV 2002), with increasing numbers wintering elsewhere (ZAINUTDINOV 2002, BORODIKHIN 2002, KOVALENKO 2002, EROKHOV 2002B; BELYALOV & KARPOV 2005, 2006, BEVZA 2005, BEREZOVIKOV et al. 2004).

Fig. 2. Western Taiga Bean Goose (*Anser fabalis fabalis*) after a picture in ALPHÉRAKY (1904)

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4. Which Bean Goose subspecies occur in Kazakhstan?

There is no common view as to the number of different geographical forms (subspecies) of Bean Geese that occur in Kazakhstan, their taxonomy and their breeding grounds. MOOIJ & ZOCKLER (1999) recognised 4 subspecies, the nominal subspecies and *A. f. rossicus* inhabit mainly the western half of the species' range as far as the Yenisei, with *A. f. serrirostris* and *A. f. middendorffii* occurring further east.
The Institute of Zoology collection currently houses 4 carcasses and fragments of the skeleton (head, with beaks) from 10 Bean Geese, 7 of which were gathered during September-October 1949-1950 by Dr. SAMUSEV on Lake Zaisan. Other specimens exist in private ownership, but there is a clear need to identify definitively the subspecies occurring in Kazakhstan in autumn (and increasingly in winter) throughout the country in order to relate these to breeding and wintering provenance and contribute to flyway conservation of these populations.

Fig. 3. Eastern Taiga Bean Goose (*Anser f. middendorffii*) after a picture in ALPHÉRAKY (1904)

Acknowledgements

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New data of Bean Goose *Anser fabalis* and White-fronted Goose *Anser albifrons* migration and wintering in Poland

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Introduction

Between 1991 and 1997, as part of the European coordinated goose counts, geese were counted throughout Poland during autumn migration and winter. Poland is of great importance for Bean Geese (90 000–240 000 individuals in November and 1200–115 000 in January) as well as White-fronted Geese (25 000–80 000 individuals in autumn and 150–15 000 during winter), reported in STASZEWSKI & CZERASZKIEWICZ (2001). Unfortunately, in subsequent years only Western Pomerania and Warta River Mouth National Park (late Słonsk Nature Reserve) were subject to regular count coverage, and as a result we lack information about the present overall goose situation in Poland. In recent years, counts in key goose areas in Poland (Wielkopolska, Silesia, Biebrza Basin) have been organized again, which gives us the opportunity to present new information about geese in Poland, drawing on recent counts, unpublished data, previous publications and material in the process of being written up.

Fig. 1. Map of Polish goose sites

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Changes in goose abundance in Western Pomerania (NW Poland) during last 20 years

During 1991–2008, 41 Bean and White-fronted Goose roosts in Western Pomerania were monitored, based on concentrations of at least 100 individuals. The major goose roosts were located in the Lower Odra River Valley, at Lake Miedwie, Szczecin Lagoon, Kamienski Lagoon and during the 1990s also at Lake Swidwie. During November, numbers of Bean Geese ranged from 5 088–45 005 and White-fronted Geese from 605–51 206. January numbers of Bean Geese varied from 503–51 056, while White-fronted Geese 10–8 783. During spring migration about 12 000–16 000 Bean Geese and 40 000 White-fronted Geese were also confirmed. Western Pomerania is important for both goose species in Poland that concentrates approximately 30% of Bean Geese and 60% of White-fronted Geese during autumn migration and about 50% of the Polish total during winter. Up to 6% of the Bean Goose population wintering in Europe occurs in Western Pomerania. Over a span of 20 years, there has been a decline in the numbers of geese during autumn migration in Western Pomerania, which is the result of changes in their migration route, as well as regional changes in their food supply. The overall trend for wintering geese is difficult to determine due to fluctuations in winter conditions and temperatures between years, especially because in mild years, mass returns of geese from wintering places west of Poland may occur in mid-January (LAWICKI et al. in press).

Increase of goose numbers in Wielkopolska (W Poland)

In Wielkopolska, gatherings in excess of 1 000 geese have been reported from around 80 sites between 2000 and 2009. Greatest numbers were reported from the Notec River Valley, Gniezno and Poznan lakeland and Middle Warta River Valley. Regular roosts were established at 29 of these sites, on lakes (17), fishponds (10) and reservoirs (2). At the biggest roost, on Kiszkowo ponds, up to 30 000 Bean Geese and White-fronted Geese gathered during spring. Throughout this period, dramatic increases in goose numbers have been witnessed during migration and in winter in Wielkopolska compared to 1980–1990. This is probably connected with the availability of feeding resources (extensive corn fields) and is likely linked to decreases in goose numbers in NW Poland. At the peak of spring migration there are now 90 000–120 000 geese in Wielkopolska, which makes it the region of greatest importance for the White-fronted Goose at that season, supporting 30–40% of the Polish population (WYLEGALA & KRAKOWSKI, in press).

Spring migration of geese in the Biebrza Basin (NE Poland)

In the Biebrza Basin (comprising the Biebrza River Valley and nearby Narew River Valley) spring migration is much more substantial than in autumn. Without doubt, White-fronted Geese are the most common in the area, most of them occuring at 15 sites within this particular region. Between 1970 and 1990, maximum numbers of White-fronted Geese here were estimated at 1 000 individuals (POLAKOWSKI 2009).
Nowadays, peak counts are far higher, often gathering in flocks of 12 000 or more, the largest concentration to date being c. 40 000 individuals (23rd March 2008, Grady Woniecko near Wizna). In the Biebrza Basin, White-fronted Geese dominate on spring migration, at peak constituting about 90–95% of all goose species present in that territory.

Bean Geese are less numerous, peaking in numbers usually at the beginning of the spring migration (reaching 5–25% of all geese). Later in spring their number usually do not exceed a few percent, their maximum concentration was estimated at 3 000 individuals (19th March 2008, at Osowiec on the Biebrza).

Between 2007 and 2009, 271 White-fronted Geese neck-bands have been read during spring migration, mainly in Biebrza Basin (most of them marked overwintering in Netherlands, Germany, Belgium and more rarely in breeding sites in Russia), only 6 Bean Geese neck-bands have been read (all of them marked during winter in Netherlands and Germany) (POLAKOWSKI, in prep.).

Fig. 2. Geese on the Objezierze fishponds, W Poland, spring 2003. Photo: *Przemek Wylegala*

Goose populations in Lower Silesia (SW Poland)

Lower Silesia, in the south-western part of the country, is characterized by a particularly mild climate, intensive agriculture, and availability of many water bodies, especially a dozen or so large artificial lakes. Six of these reservoirs (a total of 55.4 km^2 of maximum water surface) were built after 1970, which coincided with the increases in local goose numbers. These features of SW Poland, coupled with the supposed shift in goose distribution pattern, have meant that the region is increasingly important as staging and, in some years, wintering areas for goose populations. Dramatic increases in numbers have been observed during the 1970s and 1990s, and between these decades, although results are not fully comparable due to differences in field methods. More recently, a complete population assessment was conducted in autumn, winter and spring 2009/2010 for the regional core area, i.e. in (slightly enlarged) administrative borders of the Dolnoslaskie Voivodeship (20 511 km^2).
These counts gave the following seasonal totals: 72 000–75 000 geese in November, 7000–8000 in January (which was not representative due to the extremely harsh winter), and 120 000–130 000 in March (WUCZYNSKI & SMYK, in press). The first figure was similar to the results during autumn migration in the nineties, which suggest a stabilisation in goose numbers, also confirmed by other, fragmentary observations from some roosts.

The importance of three traditional strongholds was confirmed: a complex of four dam reservoirs on the Nysa Klodzka river, mainly the Otmuchow Reservoir (> 62 000 geese in total in March 2010), Mietkow Reservoir (up to 64 500 in November 1996 (DYRCZ et al. 1998), and recently 45 000 geese in March 2010), and fishponds in the Barycz Valley (about 33 000 in November 1996 and March 2010).

Fig. 3. Geese in the Biebrza Basin near Wizna, NE Poland, spring 2008. Photo: *Michal Polakowski*

In all years and seasons, the Tundra Bean Goose and the White-fronted Goose were the dominating species. However, the latter did not exceed 12% in flocks, irrespective of the season. Recently, numbers of White-fronted Geese seem lower than in the 1990s (WUCZYNSKI et al., in prep.), and in 2009/2010 the species constituted 9.3 % in November (=c. 6 500 geese), 0.3% in January (= 23), and 13.9% in March (= c. 16 600). The share of other species was insignificant, so the bulk of geese migrating and wintering in SW Poland are Bean Geese. These counts suggest that 11% and 18% of the entire *rossicus* population stage in Lower Silesia during autumn and spring passage, respectively.

Data presented in this report point out regional differences in goose distribution and abundance in Poland. In the case of the south-western part of the country, this relates to particularly strong increases in numbers in the 1970s to 1990s, the distinct predominance of Bean Geese compared to relatively small numbers of White-fronted Geese, and regular, large concentrations observed simultaneously in the best, traditionally-used roosts.

White-fronted Geese during spring migration in Poland

Within the last decade in Poland, number of White-fronted Goose on spring migration have clearly been more substantial than in the autumn. According to new count data from key regions for geese (Western Pomerania, Lubuska Land, Wielkopolska, Lower Silesia, Northern Podlasie) we estimate that at the peak of spring migration, the numbers of White-fronted Geese present is around 150 000–180 000 individuals (LAWICKI et al. in press, own unpublished data).

Geese in Important Bird Areas in Poland

A new book Important Bird Areas of international importance in Poland was published in 2010 (WILK et al. 2010). Among 174 IBAs, there are 21 created especially to conserve migrating and wintering Bean Geese (based on the criteria of BirdLife International; category C3 – 10 000 individuals), and 13 in the case of White-fronted Geese (category C3 – 6 000 individuals).
The most important goose sites in Poland are: Warta River Mouth (max. 90 000 Bean Geese and 45 000 White-fronted Geese), Biebrza River Valley (new data: max. 100 000 White-fronted Geese, M. POLAKOWSKI – unpublished data), Lower Odra River Valley (max. 38 000 Bean Geese and 33 000 White-fronted Geese), Otmuchow Reservoir (max. 65 000 Bean Geese) and Mietkow Reservoir (max. 60 000 Bean Geese).

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GOOSE BULLETIN is the official bulletin of the Goose Specialist Group of Wetlands International and IUCN

Pink-footed geese staging along the Eastern Frisian coastal area (Lower Saxony, Germany) in 2009/10

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Introduction

Up until the 1950s, Pink-footed Geese (*Anser brachyrhynchus*) regularly used the Eastern Frisian coastline as a "stepping stone" during autumn and spring migration. These geese used the Jadebusen as a night roost and flew far inland to marshes up to the (mainly flooded) Leda-Jümme lowlands near Leer, ca. 45 km away (ATKINSON-WILLES 1961, GERDES 2000). At that time, 3 000 - 4 000 (irregularly up to 10 000) Pinkfeet were seen in this area (RINGLEBEN 1950, 1957, HUMMEL 1980). In the Leda-Jümme-lowlands ATKINSON-WILLES (1961) reported 2 000 - 3 000 individuals. If disturbed by hunting, the geese left and moved to Dollard Bay. Because of winter flooding, gravel roads, poor access and lack of observers, the spatial distribution of geese was not documented or studied very well. In 1954, the Leda flood barrier was finished, winter flooding stopped and the Leda-Jümme lowlands were abandoned in the following years (HUMMEL 1980, GERDES 2000). Since the mid 1980s, however, for unknown reasons, the geese have also abandoned the Groden areas around the Jadebusen. Possibly a combination of intensification of agriculture (i.e. loss of semi-natural and pasture grassland), the construction of a motorway and the erection of several power lines across the area could explain their disappearance (DEGEN 1993).
However, the cessation of staging in Lower Saxony marked an important change in the migratory pattern of the Pinkfeet: they either started to cross the North Sea directly or began to fly along the coastline without any stopovers in Germany (HUMMEL 1980).
During the past 15 years, intensive monitoring of staging geese along the East Frisian coast, especially along the edges of the Dollard estuary and the Leybucht, has been carried out, and several times during this monitoring, staging Pink-footed geese were found (KRUCKENBERG et al. in prep). Here we report about comparatively high numbers staging along the East-Frisian coast during the cold winter of 2009/10. These results indicate that Pinkfeet possibly re-discovered the German North Sea coast as a staging area.

Winter 2009/10

Compared to those mild seasons of the later 1990s, the winter of 2009/10 was extraordinary cold in Eastern Frisia: the weather started to be frosty on 19th December and this continued up to end of February, during most of which time, the coastal marshes were mostly covered with snow. For a few days, stormy winds blew the snow from parts of the surface into ditches and smaller depressions. During this period Danish staging sites were also covered with snow and hence effectively inaccessible to the geese. For this reason, these Pink-footed geese had to move somewhere else to feed along their flight route. Although spring migration started later than in other years, the first Pinkfeet were seen at the East Frisian coast as early as mid January. Neckband observations showed a return flight of the birds during the following days, when snow fell again in our area. In February, Pinkfeet started to roost in the coastal area again. Some marked birds stayed from mid January until March in the observation area.

During February, staging number of Pinkfeet increased from 858 to 3 268 at maximum. During the first week of March 1 601 Pinkfeet were still present in the area, but by the 2nd week of March nearly all geese left the area.
Main staging sites were found along the East Frisian coastline and marshes used for agriculture and pasture. During spring migration most Pinkfeet were found between the towns of Norden and Esens especially at the Hagermarsch, near Norden, Bensersiel, around Esens and northwest of Norden (Westermarsch, Leybucht). Larger flocks of Pinkfeet were also recorded in the commune of Krummhörn (between Leybucht and Emden). In contrast, numbers of Pinkfeet in the Rheiderland (Dollard), one of the most important goose staging sites of Lower Saxony were relatively small. Unfortunately we were not able to cover some other potential staging sites like Großes Meer near Aurich or the coastline from Esens to Wilhelmshaven regularly.

Figures 1 and 2 show numbers and distribution of the Pinkfeet during spring migration 2010.

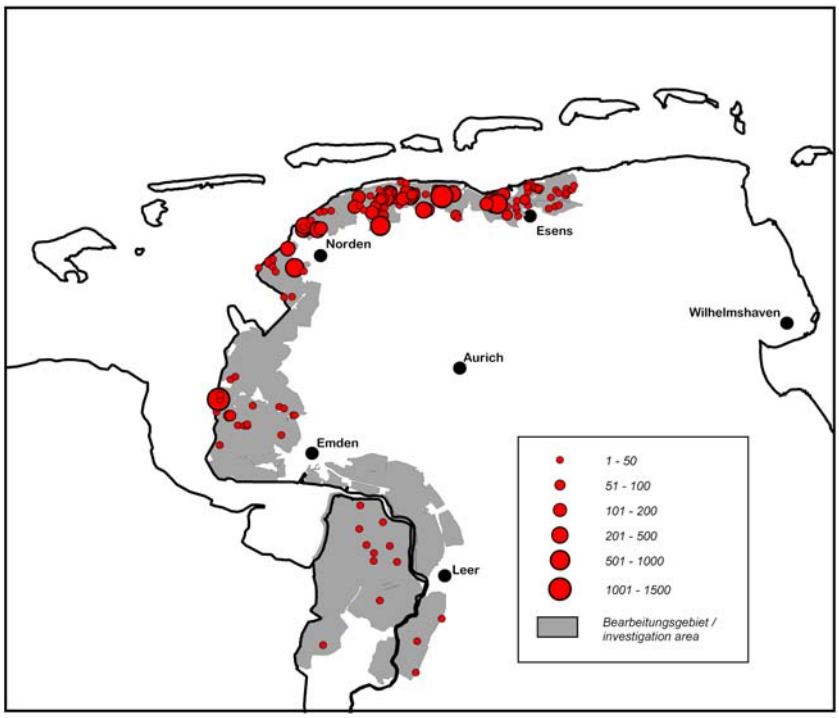

Fig. 1: Distribution of Pink-footed Goose in the winter 2009/2010 along the East-Frisian coast.

Discussion

During the last 15 years, observations of staging Pink-footed Geese along the North Sea coast of Lower Saxony have seemingly increased. This happened most regularly in unusual weather conditions, for example when late snowfall in Denmark forced the birds backwards or bad weather stopped them during migration. Whereas small flocks tended to roost with other goose or swan species, larger concentrations showed a more discrete pattern. Small flocks, families and/or pairs usually stayed just for one night or a few days whilst last winter large flocks staged for more than two weeks. It would therefore appear that the prolonged roosting of large groups of Pinkfeet is a new development, while the discovery of small flocks might be simply an artefact of the intensification of waterfowl monitoring. In any case there, it is important to keep an eye on the numbers of roosting Pinkfeet along the North Sea coast of Lower Saxony.

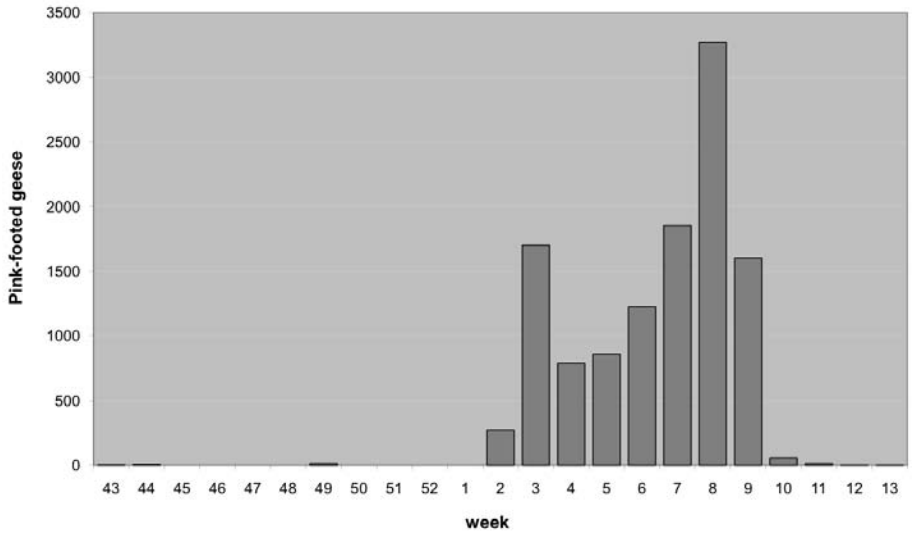

Fig. 2: Numbers of Pink-footed Goose Goose in the winter 2009/2010 along the East-Frisian coast

Special circumstances, such as severe weather, might be the basis for establishing new staging sites, which might also be necessary because of increases in the overall population. Given that it was well documented in the recent past that Pinkfeet flew long distances from night roosts to feeding grounds, an overall inventory of the potential staging sites along the whole Germany North Sea coast should be carried out as quickly as possible. Although our observed geese were roosting inside Special Protection Areas we cannot exclude the possibility that we missed more inland roosting flocks. However, such a coordinated extensive survey is beyond the capability of the current volunteer network possibilities and should be coordinated and state-aided.

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Geese in Latvia – past, present and future

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Latvia remains a largely unexplored region for geese. In *Goose populations of the Western Palearctic* (MADSEN et al. 1999), for instance, Latvia was hardly mentioned at all, and only one Latvian reference was given, BAUMANIS & KRUSTS (1996). The reason is not lack of geese, on the contrary, large numbers of staging geese occur in the country. However, they are widely dispersed, use inaccessible roosts and feed in areas with thin road networks, facts which combined with a lack of ornithologists with access to vehicles and fuel, with sufficient knowledge, interest and good telescopes are the main reasons for the lack of knowledge about geese in Latvia. Another difficulty is that the geese rarely occur in single-species flocks. Ninety percent of all migrating geese pass Latvia in mixed flocks of White-fronted Geese *Anser albifrons* and Bean Geese *Anser fabalis* (ĶERUS 2009b). Staging geese are most of the time reported as *Anser* geese, for example 15 000-20 000 at Lake Lubāns 9 May 2010 (V. VINTULIS), 16 000 at Užava 27 March 2009 (R. SEAMAN et al.), 14 000 at Nīca 18 March 2009 (K. MILLERS), 10 000 at Kodu-Kalpzemes, Oļļu and Pirtsmežu bogs (RAČINSKIS 1996) and 7 000 at Nīca 13 March 2009 (K. MILLERS).

Fig. 1. Map of Latvia (Source: United Nations Cartografic Section).

The aim of this contribution is partly to provide an easily accessible guide for anyone wanting to know more about geese in Latvia and partly to give a short presentation of the research needs. Although the literature search was based solely on publications in my own library, it is unlikely that any reference of importance was missed. The presentation is of necessity quite sketchy as it is impossible to make it more detailed than the sources allow.
In an attempt to compensate for the lack of survey data, each species account ends with information about the largest staging and/or migrating flocks. These data were taken from www.putni.lv (observer names given in brackets) or from my own field diary (abbreviated as HKP).

Red List species

The Lesser White-fronted Goose *Anser erythropus* is listed as endangered in the Latvian Red Data Book (ANDRUŠAITIS 2000). Before the crash of the Scandinavian and North Fennoscandian populations, tens of thousands of Lesser White-fronted Geese passed Latvia twice annually, in early autumn and in late spring (KAMPE-PERSSON 2009).
As late as the late 1960s, the numbers of Lesser White-fronted Geese passing through the Baltic countries were reported to number tens of thousands (KUMARI 1971). The latter figure is most likely an overestimate, because only about 5 000 Lesser Whitefronts were found staging in Hungary in 1967 from the same flyway (STERBETZ 1982). Nowadays, the main spring migration route of the Norwegian Lesser White-fronted Geese passes Latvia (TOLVANEN et al. 2009).
In the light of these facts, it is surprising to learn that there are only eleven accepted records of 17 individuals in Latvia in recent years (www.putni.lv). A plausible explanation for the extremely large discrepancy between actual occurrence and the number of birds seen might be that the geese mainly passed Latvia at night (KAMPE-PERSSON 2008 & 2009). It cannot fully be ruled out, however, that the species staged (and maybe still stages) at sites rarely visited by ornithologists (AARVAK et al. 1997). Moreover, due to identification problems, Lesser White-fronted Geese could easily have been overlooked in flocks of other goose species. The largest migrating flocks were 90 birds flying south-west along the Baltic Sea coast at Oviši 22 September 1958 (MIHELSONS et al. 1960) and two flocks numbering 60 and 40 birds, respectively, at Lake Kaņieris 29 September 1984 (AARVAK et al. 1997), while the largest staging flock was 43 birds in the Ozolu bog 26 September-4 October 1996 (AARVAK et al. 1997).

Fig. 2. Greylag Goose family (Source: BSKW)

The Greylag Goose *Anser anser*, listed as rare in the Latvian Red Data Book (ANDRUŠAITIS 2000), is the only goose species breeding in Latvia. It was a rare breeder in coastal waters and in bogs in the 19th century (MEYER 1815, GOEBEL 1873, RUSSOW 1880, LÖWIS 1893, VON TRANSEHE 1942), but ceased to breed about 1910 (RĀCENIS 1942, VON TRANSEHE 1965). In the following decades up to the 1950s there are no confirmed breeding records (TAURIŅŠ & VILKS 1949, MIHELSONS 1960), only unconfirmed ones from a small lake in northern Kurzeme and from Lake Engure in the beginning of the 1940s (VON TRANSEHE 1965). In 1957 or 1958, one brood was seen in Lake Kaņieris (VĪKSNE 1967). In the same lake, 2-3 released pairs bred in 1972-1973, but not thereafter (MEDNIS 1983c). A gradual re-colonisation started in Lakes Pape, Liepāja and Engure and in fish-ponds at Irlava, Saldus and in the Kuldiga district in the mid-1970s (MEDNIS 1983C, MEDNIS & KACS 1987, PRIEDNIEKS et al. 1989, LIPSBERGS 1989, 2000). The species spread eastwards during the following decades and during field-work for the *Latvian Breeding Bird Atlas* 2000-2004 was found distributed over the whole country (www.lob.lv). The Latvian population was estimated at ten pairs in the late 1970s (VĪKSNE & MEDNIS 1978, VĪKSNE 1986), 50-80 pairs in the mid-1990s (LIPSBERGS 1999 & 2000) and 50-100 pairs in the late 1990s (DICK et al. 1999), while Lake Engure housed more than 100 pairs in 2002 (KAMPE-PERSSON 2002).
The Latvian Greylag Geese are supposed to migrate along the Central European flyway (LIPSBERGS 1999, DICK et al. 1999), but supporting ringing records are lacking. Ringing of Greylag Geese in Lithuania yielded records from both the East Atlantic and the Central European flyways as well as from the Black Sea (KAMPE-PERSSON 2002). Very small numbers are regularly found in Latvia during mild winters, probably developing into wintering in the future, at least in the westernmost part of the country. Greylag Geese from breeding grounds in Estonia, Finland and north-westernmost Russia pass Latvia along the Baltic Sea coast (KAMPE-PERSSON 2002), just as they did 50 years ago (KUMARI & JŐGI 1972). The largest staging flocks were 600 birds at Nīca 22 March 2010 (K. MILLERS & B. MILLERS), 113 at Pape 16 March 2005 (I. MEDNIS) and 100 at Sātiņi 3 April 2000 (M. JAUNZEMIS & Z. JANSONE).

Taiga Bean Goose and Tundra Bean Goose

Taiga Bean Goose *Anser fabalis fabalis* and Tundra Bean Goose *Anser f. rossicus* are counted as one species in Latvia, and the subspecies *fabalis* and *rossicus* are rarely separated (ĶERUS 2009a, b; ŠTĀLS 2009), a fact which complicates an evaluation of the historical data. The Taiga Bean Goose, which probably bred at Lake Lubāns in the beginning of the 19th century (LAMSTERS 1932), is supposed to migrate through the westernmost parts of the country (LEO VAN DEN BERGH in litt.). That being the case, the most likely sites to find them staging are at Užava lowland, Nīca, Dunika bog and Pape. The only Taiga Bean Goose neck-collared in Scania and recorded in the Baltic countries was shot in westernmost Latvia in September the year after ringing (NILSSON 1984).
All five records in Latvia of Tundra Bean Geese neck-collared between 1999 and 2010 in the Netherlands, Germany, Russia and the Czech Republic were found close to the coasts of Riga Bay and Baltic Sea (HEINICKE 2010). In the lowland area around Lake Lubāns, 10 000-19 000 Tundra Bean Geese are reported to occur on autumn migration (SCOTT & ROSE 1996, VAN DEN BERGH 1999).
Among geese migrating through Latvia the Bean Goose was by far the most numerous taxon in the 19th and the first half of the 20th centuries (VĪKSNE 1983). In the 19th century, the Bean Goose was especially numerous in spring in the western part of Kurzeme, where it staged in large numbers, but only for short periods, in the Abava valley (RUSSOW 1880).

In the first half of the 20th century, it was seen in large numbers during 2-3 weeks in spring, for instance south of Ventspils and at Lake Durbe, while the autumn migration was much faster (GROSSE 1927). Thirty years ago it was still the most numerous goose taxon at the known staging areas in bogs, fish-ponds and large lakes, such as in the lowland area around Lake Lubāns, south of Riga Bay, south of Ventspils and in the south-western part of the country (MEDNIS 1983e). Obviously, the number of Bean Geese migrating through Latvia decreased between the first and second half of the 20th century (MEDNIS 1983d).

Tab. 1. Latvian Important Bird Areas (IBAs) in which Bean Goose was a qualifying taxon. Area (ha) and number of Bean Geese are given for each IBA. Based on data in RAČINSKIS 2004.

IBA	Area (ha)	Bean goose (individuals)
Augstroze*	4 007	1 000-5 000
Cena bog	2 448	1 000-5 000
Dunika bog*	1 807	500-3 000
Engure lake	12 726	500-5 000
Gauja national park	92 322	500-3 000
Ķemeri national park	36 366	3 000-5 000
Lielauce lake	885	500-3 000
Pape	10 416	1 000-5 000
Seda marsh	7 335	2 000-5 000
Svēte lower reaches	932	2 500-6 500
Teiči and Pelečāre bogs	26 263	4 000
Užava lowland	1 434	1 000-5 000
Ziemeļu bogs	6 791	3 000-10 000
Total for these 13 IBAs:	**203 772**	**20 500-64 500**

* = Bean Goose was the only qualifying taxon in this IBA.

In 13 of Latvia's 64 Important Bird Areas (IBAs), the Bean Goose is a qualifying taxon (Tab. 1). For each of these 13 IBAs a value is given, often as an interval, for the numbers of staging Bean Geese as far as known, but hardly any details are provided about when and how long the geese stay in autumn and spring. The same is true for published material in most of the books about these areas, such as Engure (VĪKSNE 1997), Gauja (PILĀTS 2007), Ķemeri (STRAZDS & ĶUZE 2006) and Teiči (AVOTIŅŠ 2005).

In view of how important the lowland area around Lake Lubāns is for staging Tundra Bean Goose (VAN DEN BERGH 1999), it is surprising to learn that Bean Goose is not a qualifying taxon for the 21,338 ha large IBA Lubāns and fish-ponds (RAČINSKIS 2004). Beyond the borders of these 13 IBAs more than 7,000 Bean Geese were found at Nīca, just north of the IBA Pape, 18 March 2009 (K. MILLERS).

Other species

The Pink-footed Goose *Anser brachyrhynchus* has been regularly recorded staging in low numbers since 2003, mostly among other *Anser* geese in spring (www.putni.lv). Were these birds on their way to unknown breeding sites in north-westernmost Russia (cf. VAN IMPE 2000)? The largest observed number was at least six individuals at Svēte 4 May 2005 (K. MILLERS & V. ROZE).

Fig. 3. Pink-footed Goose (Source: BSKW)

In the 19th century, the White-fronted Goose *Anser albifrons* migrated through the coastal regions in small numbers (RUSSOW 1880). In the first half of the 20th century, the species was found more in coastal areas rather than inland (VON TRANSEHE 1965), while by 1980 it was as numerous inland as along the coast (MEDNIS 1983d). An indication of which routes migrating White-fronted Geese take across Latvia can be obtained by satellite tracking (e.g. KRUCKENBERG et al. 2008). Around 1980, the best-known staging areas were bogs, fish-ponds and large lakes in the lowland area around Lake Lubāns, south of Riga Bay, around Ventspils and in the south-western part of the country (MEDNIS 1983d). The White-fronted Goose was less numerous than both Bean Goose and Greylag Goose in the first half of the 20th century (VON TRANSEHE 1965), and less numerous than the Bean Goose 30 years ago (MEDNIS 1983d) but nowadays it is very likely the most numerous goose species in Latvia.

Fig. 4. White-fronted Goose (Source: BSKW)

Along the lower reaches of the Svēte river, for instance, the maximum number of staging White-fronted Geese during the years 1995-1999 was 5 000-6 000 birds (RAČINSKIS & STĪPNIECE 2000). Nowadays the number of staging birds exceeds that figure during the entire main staging period. The largest staging flocks were > 20 000 at Svēte 29-30 March 2008 (HKP & G. KAMPE-PERSSON), c. 15 000 at Svēte 4 April 2007 (K. MILLERS & V. ROZE), 14 400 at Užava 27 March 2009 (R. MATROZIS et al.), > 10 000 at Svēte 2 April 2008 (HKP), > 10 000 at Svēte 30 April 2010 (HKP & GEORGE SHUTTER), 10 000 at Užava 4 April 2010 (R. MARTOZIS et al.), c. 7 250 at Svēte 3 May 2009 (HKP et al.), > 6 500 at Svēte 8-9 May 2010 (HKP et al.) and 5 000 at Svēte 30 March 2009 (HKP).

The Barnacle Goose *Branta leucopsis* was a rare migrant in the 19th century (RUSSOW 1880, LÖWIS 1893) as well as during the first 80 years of the 20th century (TAURIŅŠ & VILKS 1949, KUMARI 1971, MEDNIS 1983a), but is much more numerous nowadays. The majority is still found along the Baltic Sea coast, especially at Kolkasrags, where 7 035 migrating birds were counted on 20 May 2009 (ĶERUS 2009b) and 2 142 on 2 May 2007 (K. MILLERS & V. ROZE). However, now the species is also regularly found staging inland, for instance along the lower reaches of the Svēte, where about 100 birds were seen 9 May 2010 (HKP & G. SHUTTER).

Since first recorded in 1982, the Greater Canada Goose *Branta canadensis*, a migrant and winter visitor, has been observed in increasing numbers, especially in April-May (www.putni.lv). These birds are part of the small number of Finnish Canada Geese that migrate through the Baltic countries to wintering grounds in Poland and eastern Germany (ANDERSSON et al. 1999). The first two individuals recorded in Latvia had been ringed in Finland (LIPSBERGS & PĒTERHOFS 1983). One breeding attempt was recorded in 1991 (ĀDAMSONS & ROZE 1995). The largest staging flocks (all in the westernmost part of country) were 87 birds at Užava 22 March 2009 (K. MILLERS), 41 birds at Cīruļi 22 March 2008 (N. ZEIDAKS), 25 birds at Nīca 29 November 2009 (K. MILLERS), 24 birds at Lake Tāšu 25 March 2010 (S. BĒRZIŅŠ) and 22 birds at Ezere 23 March 2008 (M. JAUNZEMIS).

In the 19th century, the Brent Goose *Branta bernicla* migrated through both western and eastern Latvia in large numbers in autumn but rarely in spring (RUSSOW 1880). During the 20th century the species was mainly confined to the coast (TAURIŅŠ & VILKS 1949, VON TRANSEHE 1965), with a strong decrease in numbers between 1940 and 1980 (MEDNIS 1983b), and in the beginning of the 21st century, mainly along the Baltic Sea coast, rarely in Riga Bay. The species occurred in similar numbers as the Bean Goose and was more numerous than the White-fronted Goose during the first half of the 20th century (GROSSE & VON TRANSEHE 1929), but by 1980 numbers had become markedly lower than for Bean Goose and White-fronted Goose (MEDNIS 1983b). The largest day totals in spring were 355 birds at Pape 18 May 1990 (A. CELMIŅŠ), 134 birds at Akmensrags 20 May 1998 (M. STRAZDS et al.) and 101 birds at Ziemupe 20 May 1998 (M. STRAZDS et al.). The six largest migrating flocks in autumn, numbering 33-58 birds, were all recorded at Kolkasrags; three flocks by V. ROZE in 1986 (16 September, 28 September and 6 October) and another three flocks by H. HOFMANIS in 2010 (all 2 October).

The Red-breasted Goose *Branta ruficollis* is rare in Latvia, with five accepted records (www.putni.lv).

Future research needs

The research needs in Latvia are without any doubt very large and concern all aspects of the occurrence of the different goose species in the country. In my opinion, priority ought to be given to the following ones:

- Obtain more detailed knowledge of the different species' choice of roosting sites and feeding grounds, as well as their timing and duration of stay at each main staging area (cf. NILSSON & PERSSON 1984, KOFFIJBERG et al. 1997).
- Establish the differences between the Taiga Bean Goose and the Tundra Bean Goose regarding timing of migration, migration routes, choice of staging areas and duration of stay.
- Launch a neck-collaring project of breeding Greylag Geese to reveal which areas the Latvian population uses for staging, wintering and moulting (cf. ANDERSSON et al. 2001).
- Join the international monitoring scheme of mid-monthly counts in autumn (cf. MADSEN et al. 1999).
- Fulfil suggestions given in the Latvian Red Data Book (ANDRUŠAITIS 2000).

ANDRUŠAITIS (2000) gave the following suggestions for the study and protection of the Lesser White-fronted Goose: "Careful registration should be taken in case this species appears in Latvia during its transit migration. To locate the potential resting and feeding sites." and of the Greylag Goose: "To study the distribution of this species and the dynamics of population number; to control the state of localities; to eliminate presence of people within breeding sites starting from the ice thaw in spring until June; to create sanctuaries if localities of this species are threatened. Nature areas suggested for protection: "Lielupes grīva", " Krievu-Jersikas purvs"."

Hitherto, all attempts to fund goose research in Latvia have been unsuccessful. As it seems unrealistic to obtain funding for a nationwide project under the economic situation that prevails in Latvia at present, a site-based approach might be a fruitful strategy. So, instead of trying to cover the entire country, the focus could be on a number of the most important staging areas, preferably the IBAs listed in Table 1. If such a project could be launched in a near future, it would also benefit greatly from ongoing neck-collaring projects (for information of such projects, see Heinicke 2010, www.cr-birding.be). In such case, it would also be possible to check large flocks of staging geese for the occurrence of Lesser White-fronted Geese.

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Monitoring of geese in the UK. Results 2009/10

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Each year, the WWT Species Monitoring Unit update the latest information on the status of wild geese in the UK. These are uploaded onto the WWT website for external audiences including the public and government conservation bodies (see http://www.wwt.org.uk/research/monitoring/species.asp). A summary is also produced in a newsletter *GooseNews*, which is sent out to over 1 000 goose and swan counters and enthusiasts. Here are some of the highlights from the 2009/10 winter season.

During the 2000s, Taiga Bean Geese *Anser fabalis fabalis* were restricted to two regular wintering flocks, with sporadic occurrences elsewhere. In Norfolk, numbers have slowly declined to around 100 birds (81 in 2009/10), possibly as a result of birds remaining on the continent to winter, whilst in Scotland, the flock wintering at Slamannan, near Falkirk has slowly increased to over 250 birds (maximum 260 in 2009/10), although no interchange between the two sites is suspected. The result of the decline in the Norfolk flock and an increase in the Slamannan flock has been that the number wintering in Britain has stabilized at c. 350 birds, somewhat lower than the peak of c. 500 birds in the early 1990s. Periods of hard weather on the continent may cause additional movements into Britain, often in late January and February; these can comprise *A.f.fabalis* and/or Tundra Bean Geese *A.f.rossicus.*

Regular autumn counts of Pink-footed Geese *Anser brachyrhynchus* started in the early 1950s (systematic from winter 1960/61). During the early autumn, c. 90 % of the population can be counted on as few as 30 roost sites (MITCHELL & HEARN 2004). Annual censuses suggest that the population increased from c. 60 000 birds in the early 1960s to c. 364 000 on 2009/10. The winter distribution is essentially the east and south of Scotland, north west and east England. Range contraction in the wintering quarters from the early 1950s to the early 1970s (with increases in numbers in east central Scotland) was reversed from the late 1980s, with increasing numbers using agricultural land in Lancashire and, notably, sugar beet tops in north Norfolk.

Fig.1. Greater White-fronted Geese Anser albifrons albifrons

The north west European population of White-fronted Goose *Anser albifrons albifrons* has grown substantially (FOX et al., in press), but the number wintering in Britain has, since the late 1940s, declined. The British total remained relatively stable through the 1950s and early 1960s (c. 8 000 geese) and increased to more than 10 000 between 1967 and 1970. Thereafter, there was a decline, albeit with temporary peaks. The principal resort was Slimbridge on the Severn Estuary, in south west England, which formerly held internationally significant numbers (HEARN 2004). Whilst western sites have been affected by the short stopping exhibited by this population, the 20-fold population increase has resulted in a number of areas in eastern Britain supporting new, but small, flocks of geese, perhaps as sites in the Netherlands reach carrying capacity. Current monitoring of population size is undertaken through the Wetland Bird Survey (WeBS) and the most recent estimate of numbers wintering in Britain is less than 2 000 birds (1 638 in 2009/10).

Monitoring of Greenland White-fronted Geese *Anser albifrons flavrirostris,* through a count network covering all known wintering sites, began in 1982/83, since when numbers increased from 16 000-17 000 to 29 000-30 000 in 1993/94, an annual increase of 5.2 %. Numbers reached a peak of c. 35 600 birds in winter 1998/99, but have decreased since then to an average of 24 055 (2004/05 to 2008/09; 23 162 counted in 2008/09). Their present distribution principally remains restricted to the north and west of Scotland and the west and north midlands of Ireland, with the notable exception of Wexford Slobs. Several factors on the breeding grounds, including June weather and increasing intraspecific competition with Canada Geese *Branta canadensis*, show some correlation with recent declines in breeding success, but none convincingly explains the trends (FOX et al. 2006). The causes of the population decline are the subject of an on-going research initiative.

Fig. 2. Greylag Goose *Anser anser*

Regular autumn counts of Iceland Greylag Geese *Anser anser* suggest that the population increased from c. 36 000 birds in the early 1960s to c. 110 000 individuals in the late 1980s. However, in the early 1990s, numbers declined and c. 73 100 were counted in 2002/03. A northward contraction of the wintering range has occurred since around 1960, with an increase in importance of north and north east Scotland in the 1980s. A number of autumn roosts in north and north east Scotland became far more important than formerly in terms of actual numbers and the proportion of the total population they supported. Since the mid 1990s, increasing numbers have wintered on Orkney (north Scotland); by 2009/10, c. 70 000 Greylag Geese were counted on the islands amounting to over half of the total winter population.

With the recent shift in winter distribution, monitoring has become more problematic with over-wintering birds now recorded in south west Norway, the Faroes and most recently in Iceland. Despite a large hunting bag of up to 40 000-50 000 harvested each year in Iceland, the northward shift in winter range may have reduced the number shot during the winter in Britain. By 2009/10, the estimated population had recovered to 109 500 birds.

The Greylag is the only species of goose breeding in a native state in Britain and Ireland and formerly had a widespread but localised distribution. During the 19th century numbers began to decline, likely linked to the drainage and cultivation of the fens and excessive hunting, causing local extinction of the species. By the late 1800s, Greylag Geese only bred in the far north and west of Scotland and, by the 1930s, probably numbered no more than 500 birds. Thereafter, numbers recovered and, in 1999, the population was estimated at 10 000 birds. During the 1930s and 1950/60s, birds from the Scottish population were re-established in parts of Britain and numbers began to increase elsewhere, such that by 2008/09 it became sensible to count both populations and treat them as one British Greylag Goose population. A survey in 2008/09 found c. 34 000 Greylag Geese in north and west Scotland and an estimated c. 50 000 in the range of the re-established flocks, suggesting a total population of some c. 84 000 birds (MITCHELL et al. 2009).

The Greenland population of Barnacle Goose *Branta leucopsis* winters in Scotland, the range extending throughout the Inner and Outer Hebrides and north to Orkney, and in western Ireland. An international census of the population is undertaken every five years and numbers have increased more than eight-fold since the first full census in 1959; reaching c. 70 500 in March 2008. However, counts from five of the most important winter sites in Scotland suggest that numbers may have peaked in 2006/07 and have started to decline. Breeding success has been low in the last ten years (mean 8.8 %) and in Iceland 1 500-2 000 are shot each autumn and a further c. 1 000 birds are shot on Islay annually under a Scottish Government licence. In the early part of the 20th century, the Svalbard Barnacle Goose was said to be a common bird on the Solway Firth. However, by the 1930s a drastic decline had already occurred - the lowest ever count of being 300 in 1948. Through protection from hunting and site safeguard, numbers have steadily increased thereafter and in 2009/10, a record c. 32 800 birds were counted.

Fig. 3. Barnacle Geese *Branta leucopsis* in the breeing area

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Numbers of Dark-bellied Brent Geese *Branta bernicla bernicla* wintering in Britain increased from 40 000 to 60 000 birds in the late 1970s, in line with the increase of the overall population. Wintering sites are primarily distributed along the east and south coasts of England. Since the mid 1990s, the flyway population declined by about one-third to just under 200 000 birds (in 2003/04), partly as a result of low breeding success, but then increased again to c. 250 000 by 2008/09. The proportion wintering in Britain followed a similar pattern, declining to c. 64 400 in 2003/04, but recovering to c. 91 600 in 2007/08. However, the proportion of the global population wintering in Britain has declined from c. 50 % in the 1950/60s to c. 30-40 % in the late 2000s. The most recent winter count (collated through WeBS) was of c. 72 000 in 2009/10 (CALBRADE et al. 2010).

Fig. 4. Brent Geese Branta bernicla

The first complete Irish census of East Canadian High Arctic Light Bellied Brent Geese *Branta hrota hrota* found c. 11 900 birds in 1960/61. Counts during the 1960s varied between c. 7 300 (1965/66) and c. 11 000-16 000 in the 1970s. There was a marked increase to over 24 500 birds in 1985 followed by an apparent decline to as few as 8 300 geese in the early 1990s (although survey coverage in the early and mid 1990s was relatively poor). Strangford Lough in Northern Ireland hosts over 75 % of the entire population during the autumn and is by far the most important site for staging geese at that time. Coordinated counts were improved in the 1990s and numbers have increased steadily to c. 37 000 in 2009/10.

By the early 1950s, the whole population of Svalbard Brent Geese was estimated at c. 4 000 birds (SALOMONSEN 1958), declining to 1 600-2 000 birds in the late 1960s, the majority of which wintered in Denmark. Since 1980, annual coordinated counts have been made at the sites used by the geese in late autumn/mid-winter, and in Britain have shown a slow but steady increase from c. 1 500 birds in the early 1980s to nearly 4 000 by the late 2000s (3 964 in 2008/09). The principal regularly used in Britain since the 1960s is Lindisfarne, in north east England.

In 1959/60, there was an estimated 120 000 geese wintering in Britain and Ireland; by 2009/10 that number had risen to half a million. Challenges ahead lie in managing increasing goose populations and addressing the causes of decline in others, for example, the Greenland White-fronted Goose. The goose monitoring schemes in Britain and Ireland need to be flexible and alert to apparent shifts in winter distribution in some populations. Large scale ringing initiatives are not currently being undertaken for any goose population in Britain or Ireland (although small scale schemes do exist for Barnacle Geese (both populations) and Greenland White-fronted Geese). In addition, unlike in some European countries, systematic bag data are not collected in Britain and Ireland. These knowledge gaps have major implications for internationally agreed obligations to assess the sustainability of the management of these populations.

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Breeding success amongst Greater White-fronted Geese in 2009/10 – a progress report

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In the past decade, increasing efforts have been made to assess age ratios among flocks of wintering geese on the European continent. Today, especially for Greater White-fronted Geese *Anser a. albifrons,* large samples are collected by a small team of dedicated volunteer observers throughout major staging areas in western Europe. During winter 2009/2010, more than 213 000 White-fronts were individually aged. Total flock size out of which these samples were taken is even higher, about 268 000 birds. This represents a good proportion (22 %) of the overall population, which size was estimated at 1 200 000 birds during the last Goose Specialist Group meeting in Sweden, autumn 2009 (FOX et al., in press).

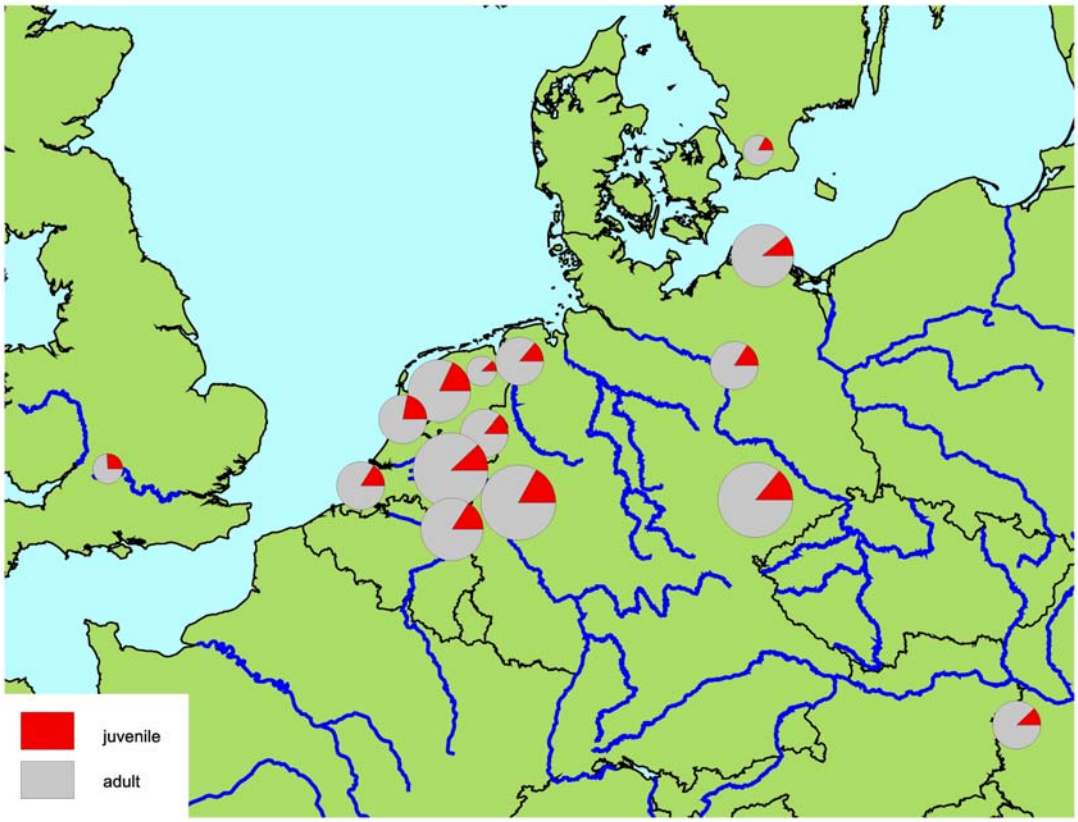

Fig. 1. Age ratios in Greater White-fronted Geese in Europe in 2009/10. Each pie shows the percentage of juveniles assessed. Size of the pies represents sample size, expressed in classes of < 3 000; 3 000-10 000; 10 000-25 000 and >25 000 birds. Total sample size 213 251 birds; total flock size in which samples were taken 268 273 birds (preliminary figures as not all data have been received yet). Data from March were not used to avoid bias that occurs when spring migration starts.

Overall, 14.6 % first-year birds were counted. Throughout the wintering range small differences occurred (Figure 1). The most remarkable outlier is represented by the UK-wintering (European) Whitefronts, that had 26.2 % juveniles among their flocks. Even if this a small sample, it is known from previous years that flocks staying on the western fringe of the wintering range, like UK, usually consist of more juveniles than those observed at the core wintering sites in e.g. The Netherlands and Germany.
Unfortunately, we do not have data from Belgium which, during the cold winter of 2009/2010, probably will have had larger numbers than usual, and also is expected to have a higher proportion of juveniles in its wintering population. On the lower end of the range were samples from Mecklenburg-Vorpommern in NE-Germany, with 11.2 % first-year birds. Many of the smaller differences between single sites will probably partly be the result of differences in flock sizes sampled. Usually, juvenile proportion decreases with flock size. Hence, large concentrations sampled in e.g. The Netherlands or the Lower Rhine area in Germany often show below-average age ratios compared to sites with smaller and more scattered flocks, that usually support a higher number of successful families and/or larger broods.

In many flocks, brood size was also assessed. However, these data are less well distributed over the wintering range since 58 % of the sample of 3 489 assessed broods originates from only two sites, both from the Dutch and German section of the Lower Rhine Area. Brood size ranged from 1-6 young per (successful) pair. Average brood size recorded was 1.67 young per pair. Most broods consisted of one (57 %) or two (27 %) young.

The amount of juveniles in 2009/10 was among the lowest recorded so far and the data fit well in the recent pattern of poor breeding seasons in Whitefronts (Figure 2). Since the beginning of the 1990s reproductive output in Greater White-fronted Geese has declined considerably. Until 1991 on average 31 % juveniles were observed. After 1991 on average only 20 % were first-year, after 2000 only 17 %.

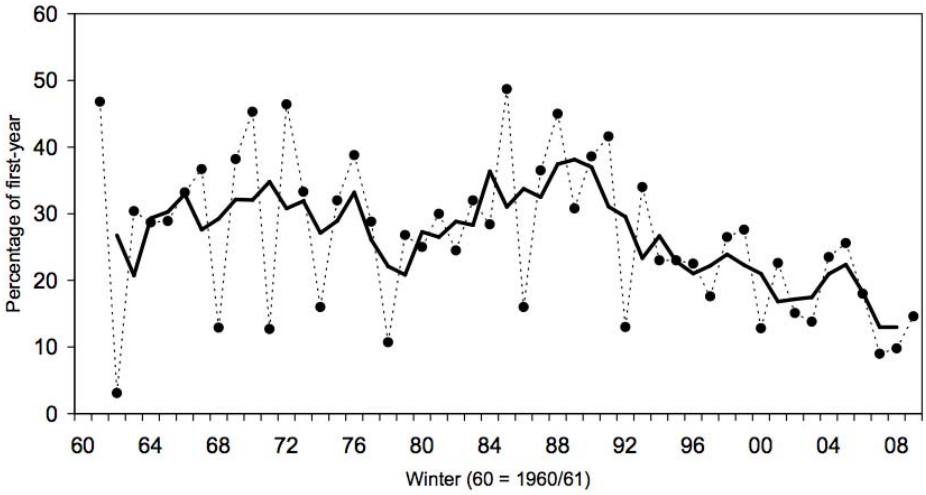

Fig. 2. Trend in age ratios in Greater White-fronted Geese in the past decades. Shown are data from The Netherlands, based on the data series started by Jules Philippona. Dots show assessed percentage of juvenile birds, line 3-yr running mean.

Besides Greater White-fronted Geese, a large number of Tundra Bean Geese *Anser fabalis rossicus* was also aged in 2009/2010. In a sample of 59 154 individuals collected in Sweden, Germany and The Netherlands 8.9 % juveniles were counted. However, there were large differences between the three countries with 5.2% in Sweden, 10 % in Germany (mainly Thüringen) and 15.1 % in The Netherlands. This implies that Tundra Bean Geese also show increasing juvenile percentages towards the western edge of the wintering range. However, extensive samples are not available from previous years, so it is unknown if this phenomenon is specific to 2009/2010 (a very cold winter) or fits with a more general pattern. Similar to Greater White-fronted Goose, reproductive success amongst Tundra Bean Geese has tended to decline in recent years (based on data collected in The Netherlands).

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Harnesses on geese.

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Introduction

Various types of harness have been used to attach satellite transmitters or GPS-data-loggers to several species of geese. The harness designs are such that, after about two years, some weak feature of their construction breaks (e.g. through rust or wear) and the harness will fall off of the bird.
But is this really the case? Sometimes the birds are seen again after the harness has dropped down and everyone thinks: okay, the system works!
But has anyone ever seen what really happens? We don't think so after what we have seen in our birds and we feel it is important to gather information on what has happened. We here present experiences and results of some studies on Greylag Geese from three different projects.

Fig. 1. Greylag with data-logger on its back attached with a harness. (photo: Loes van den Bremer)

Example 1, The Netherlands 2009

In the Netherlands, the team of the first author attached harnesses with GPS-data-loggers to five Greylag Geese in June 2009 (see fig. 1). This was a pilot-study in order to find out if the GPS-system worked. Of our five birds, three were male and two female. One of the males was shot within two months after ringing. The other four birds were still alive. But…..

The two males have taken apart the whole harness. One way or another, both succeeded in removing the data-logger from their back, most probably by biting through the harness material (see fig. 2). One of the birds, adult male dark green NEU, banded on 20 June 2009, was present in the area called Gelderse Poort close to the city of Nijmegen. After ringing, the bird was regularly observed. From the bird's behaviour, it was evident that it was regularly trying to bite through the harness. This behaviour was extreme when compared to that of its female mate and four young. While loafing at the resting area, the birds where often very easy to observe and the male was always preening while the other five in the family (three also with dark green neckbands) were only preening for very short periods. So early on, we had the impression the bird had problems with the harness. This was strange, because another bird in our study area, adult female dark green ZHH, had the same harness and was never seen preening in an abnormal way. Incidentally, both data-loggers failed to work, possibly because the birds destroyed (with their bill) essential parts of the logger.

Fig. 2. Greylag dark green NEU with the data-logger in front of his belly. The attach point on the backside of the logger have been broken by the goose. The only thing the bird has to do now is shake it over his head.

The first time we saw NEU with the logger in front of his belly was on 13 November 2009. We thought that it would take only a short time before he shed the logger, because the only thing he had to do was shake the whole thing over his head. So we tried to follow the bird as often as possible in order to retrieve our logger. However, the expected did not happen. The bird never managed to rid itself of the logger within a short period. In fact, the harness remained around his neck and the logger began to fall to pieces. More and more components broke off, initially there was a small gap on the backside of the logger, but some time later the casing was completely opened and it looked as if the contents were lost, although at that time, some metal was visible outside the logger casing. At last the goose shed the whole logger-box, first observed on 8 March 2010. So now the logger was completely off the bird, but the harness is still around his neck (fig. 3). Figure 3 was taken on 18 March 2010 and this was the last observation of the bird, so probably it did not survive the problem with the harness.

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Fig. 3. Greylag Goose NEU shed the logger, but the harness was still around his neck (photo: Otto Faulhaber)

Example 2, Czech Republic 2010

Another example comes from the Czech Republic. Here the second author and his team attached radio transmitters with a harness on one Greylag Geese on 15 January 2010. This goose was from the feral population in North-western Bohemia. This was the first attempt to attach a transmitter on a goose, using a Teflon ribbon harness. The next day this goose was preening its plumage around the harness, but was not trying to get rid of it. The next week its behaviour looked normal. The radio transmitter was hidden in the birds plumage (fig. 4). Radio receivers registered the signal. The bird stayed in a small area where it was regularly visible, so the radio receiver was not used to locate the bird. Therefore it is not exactly known when the harness with the radio transmitter fell off, but it did. The goose is still alive.

Fig. 4. Radio-transmitter used in Czech Republic.

On 5 June 2010 Greylag Geese were caught and marked in Southern Bohemia. Of these birds, six were attached with radio transmitters on harnesses. On 23 June 2010, three of these radio transmitters stopped working and two of them were found. Antennas of both of these radio transmitters had been ripped off and Teflon ribbons were discontented (fig. 5). The remaining three radio transmitters stopped working during August. There are no records that any of those geese died or was harmed in connection with the transmitter. One of these geese was shot in September. This bird did not have any part of the harness on it.

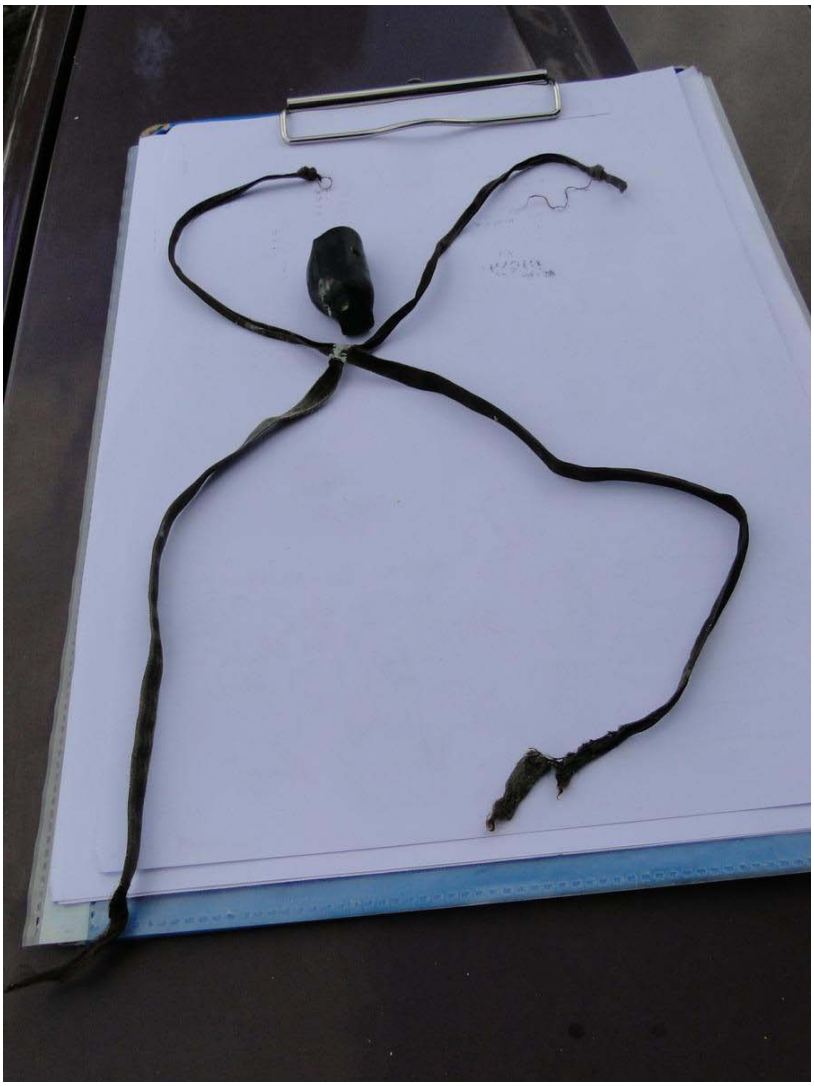

Fig. 5. Radio-transmitter destroyed by Greylag Goose in Czech Republic.

Example 3, The Netherlands 2010

The team of the third author banded Greylag Geese in the first half of June 2010 in the western part of the Netherlands. 15 birds were attached with satellite transmitters on their back using the same type of harness as the birds in example 1 (fig. 6). The harnesses were made of Teflon with a core of Kevlar. All satellite transmitters worked from the start with the exception of one transmitter due to a technical failure. After three weeks an observer mailed us that a goose had removed the antenna of the satellite transmitter but that the transmitter was still intact. This encouraged us to check as many birds as possible: at Spaarnwoude we found a bird with the transmitter below his abdomen, but we were not able to recover the transmitter, because the bird had no problems with flying.

Fig. 6. Bird with satellite-transmitter in the Netherlands.

By 20 July, 8 transmitters were still working. On 23 July we checked two birds with transmitters in the Kalverpolder, north of Amsterdam. The transmitter of Greylag Goose F81 had been completely removed by the bird, which was frequently preening and biting in the plastic leg ring. Greylag Goose F87 had succeeded in destroying one ribbon of the harness, but the transmitter was still on the back of the goose. This transmitter worked until the end of August.
Two geese with transmitters were found in the Amsterdamse Bos: Greylag Goose F00 had a broken wing and the transmitter had disappeared. Goose F06 had destroyed some parts of the harness and the transmitter was hanging behind the left leg.

Fig. 7. Satellite-transmitter bitten off by Greylag Goose in the Netherlands.

By 1 August, six transmitters were still working and on 1 September just 3 transmitters remained active. We succeeded in recovering three transmitters. One bird was found dead with a working transmitter. The weight of the bird was 3.08 kg and showed no signs of external injuries. Two other transmitters have been found by checking in the field the positions of birds, which did not change positions for several days. We found no birds but using a metal detector we recovered the transmitters. The harnesses had not been broken, but the connection between the metal rings used to attach the harness to the transmitter (fig. 7) had been damaged. This part had not been strengthened with Kevlar.

After four months we have only two functioning satellite transmitters. Two antennas have been destroyed by geese, seven birds succeeded in removing the transmitters, probably by destroying the connection between two metal rings, not by breaking throughthe harness, one transmitter didn't work from the start and one bird died from an unknown cause. We suspect that the two remaining birds have also lost their transmitters.

What can we learn from this?

It is clear from these examples that working with harnesses on Greylag Geese can give a lot of problems. Not only for the outcome of research projects, but also financially if the researchers fail to collect any data. More worrying is the fact that, at least in some cases, the birds may have died because of the device that has been put on its body.

All in all we also think that these examples show that it can take a lot of time before a goose finally sheds the harness. In our example 1, it took almost four months for the Greylag Goose to finally lose the logger-box. The result was that the bird died in its attempt to do so.

In our opinion, at least amongst the larger goose species, the method that we have used is not suitable. It may also be that even amongst the smaller species, like White-fronted and Barnacle Geese, it is good to rethink whether putting transmitters mounted with harnesses on the birds is the best method of choice for deploying transmitters and loggers.

Acknowledgements

The Dutch project from example 1 was financed by: the Dutch Ministry of Agriculture, Nature and Food Quality and Faunafonds. The field work was done by people from SOVON and Alterra.

The Czech project example 2 was financed by: Ministry of Environment of the Czech Republic, Project No. SP/2d3/109/07: "The long-term changes in numbers and distribution of waterbirds in the Czech Republic in relation to climatic and environmental changes" and Zoological garden in Prague.

The Dutch project from example 3 was financed by: Schiphol airport and the province of Noord-Holland.

A Norwegian research initiative for cooperation with China and some perspectives from the Shengjin Lake Natural Nature Reserve, Anhui Province, China

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In 2007, the Norwegian government launched a strategy to increase cooperation with China in education and research. In connection with that, the Ministry of Foreign Affairs has provided financial support which is managed by the Research Council of Norway. A joint call for proposals has now been drawn up (deadline 1st December 2010) between the Research Council and the Chinese Academy of Science (CAS) for research on climate and the environment. Joint proposals must be developed in cooperation between researchers representing a research institution in Norway and CAS (or partners of CAS).
These calls were followed up with a workshop on climate and environmental research at the Norwegian EXPO Pavilion in Shanghai 9-10 September 2010. The workshop was opened by the Norwegian Minister of Education and Research, Tora Aasland, and consisted of invited participants from Norway and China. Lei Cao from the University of Science and Technology of China and Ingunn Tombre from the Norwegian Institute for Nature Research, were invited to attend the workshop. We were selected based on a submitted draft, where we described the possibilities for a joint project in the wetlands of China.

Fig. 1.: Shengjin Lake and its wintering waterfowl in Anhui Province, China.

Our presentations were entitled *Environmental management and land use conflicts in wetlands systems*,
1) *A case study at Shengjin Lake* (Fig. 1.) and
2) *Norwegian perspectives and future plans*, respectively.

The wintering waterfowl along the Yangtze River and the human induced threats to their habitats were the main focus of our presentations. We also focussed on the need for an implementation of the ecological knowledge to management plans and restoration of the habitat, but also emphasised the challenges regarding this.

We hope to develop, in collaboration with others, a joint project in the Shengjin Lake system, focussing on the emissions and pollution loading of the lake and its consequences. We also hope to provide some constructive solutions to the problems, although we are aware of the challenges regarding this!

Fig. 2.: Lei Cao (to the right) and Ingunn Tombre at a workshop in Shanghai in September 2010, a workshop focussing on increased research cooperation between China and Norway. Taken at the official launch of a student network between the two countries (NorAlumni China).

The Yangtze Floodplain is one of the most unique wetland regions in the world. It is very large, stretching 1 850 km from the Three Gorges Dam to the estuary at Shanghai. Shengjin Lake is an important wetland national nature reserve within the Yangtze Floodplain.

Fig. 3.: Three Georges Dam in Hubei province, the largest hydropower dam of the world.

The water level variation between summer and winter is large in Shengjin Lake, is normally about 8 meters. During the summer flooding period, submerged plants dominate the lake, providing breeding habitat for fish and invertebrates, as well as producing nutritious underground tubers. In winter, the water level recedes providing very important habitats for birds returning from their breeding grounds in North China, Mongolia and Russia. These waterbirds are mainly grazers attracted by the recessional meadow, and grubbers which eat the tubers.

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The Shengjin Lake National Nature Reserve was established to protect wetlands and waterbirds, some which are unique, only occurring in this kind of system. The importance of Shengjin Lake is demonstrated by its support of more than 70 000 birds, which include 62 different species. Anatidae is the dominant group (more than 80 %), and cranes and storks are also present in globally important numbers.

Shengjin Lake, and its biodiversity, is subject to a long list of threats. The lake supports about 40 000 people within the reserve boundary, and there is an increasing pressure on the wetlands through land claim for agriculture, aquaculture, roads, house building etc. Most land claim occurred in the last century, but it is still occuring with recent wetland loss. Aquaculture, becoming extensive from 2005, has been the main reason for the fact that many tuber-feeding birds have disappeared. Increased nitrogen content in the water favours the growth of *Trapa*, which is a floating plant producing a fruit with sharp needles impossible for tuber-feeders to eat. The increase of *Trapa* is also supported by satellite images, documenting a doubling in total area covered by the plant over a recent five-year period (2002-2007).

Fig. 4. Swan geese (*Anser cygnoides*) wintering in China along the Yangtze floodplain. The species is categorised as vulnerable.

The general pollution from agriculture areas, such as nitrogen and phosphorus, is causing eutrophication of the lake. Another impact from agriculture is the buffaloes grazing around the lake. They compete for food with the birds during food shortage in the middle of winter. On the other hand, their grazing activity leaves the *Carex* short and profitable for the geese.
Another environmental pressure in the system is the large flocks of domestic geese and ducks. They may compete directly with the wild birds for food, also increasing the risk of transmitting viruses, such as H5N1.

Fig. 5. Domestic geese at the Shengjin Lake, Anhui Province, China.

The water control from Three Gorges Dam (operation since 2003) influences the natural hydrology pattern of the lake. This has led to extensive changes in the vegetation community which, in turn, affect the bird life of the area significantly.

In summary, there are huge management challenges in relation to Shengjin Lake. The big question is whether is it possible to ensure sustainable use of the wetlands resources in a way that the wetlands continue to support lots of people, while still maintaining the rich and unique biodiversity. Research, and the implementation of results in management, will hopefully be a step in the right direction in order to save these fantastic wetlands for future generations.

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Second Announcement of the 13th meeting of the Goose Specialist Group of the IUCN-SSC and Wetlands International

The 13th meeting of the Goose Specialist Group of the IUCN-SSC and Wetlands International will be held jointly with the Goose, Swan and Duck Study Group (GSDSG) of northern Eurasia in **Elista, Kalmykia (Russian Federation)** from

Thursday 24 March to Tuesday 29 March 2011

with a mid-conference excursion to the Manych Lake on Saturday 26 March.
If sufficient numbers of people are interested, a 5-day post-conference excursion will be organized.

But ……

time is running out !

If you are considering attending the 13th meeting of the Goose Specialist Group, but do not yet know whether you can afford it, pleas carefully read the following.

On the Russian Website or http://onlinereg.ru/site.php?go=153&lang=ENG (English) you can now register temporarily just to indicate that you are interested. On this website you can also see, which persons have already registered temporarily, though the names of Russian participants are spelled in Cyrillic.

This temporary registration does not require any payment, but helps the organisers to estimate how many people are interested.

Ultimately **Friday 3 December 2010** you will have to confirm whether you would like to make this registration permanent.

If you register temporarily before 15 October 2010 you will only be charged the reduced conference fee of € 300 (or € 150 for students), later temporary registrations will be charged the full conference fee of € 400 (or € 200 for students). Payment is possible through a bank in Finland.

The costs are as follows:

costs XIII GSG-conference in Elista	
conference fee	€ 300
hotel Elista	€ 200 – 250
travelling	
Moscow - Elista - Moscow (return ticket)	
by bus (20 hours one way)	€ 80
OR by plane	€ 280
2 nights hotel Moscow	€ 150
Visa support (invitation)	€ 70 - € 110
Total	**€ 800 - € 1100**

The conference fee also covers food during the conference. In addition, conference participants have to add the costs of getting from where you live to Moscow and back.

Individual financial support

The GSG-Board tries to get additional funding to support those who need some financial assistance. Though as yet we cannot guarantee anything. Those who require financial assistance should send a message to Ingunn Tombre (ingunn.tombre@nina.no) indicating how much assistance they need. By 1 December 2010, we will inform those who asked for assistance whether we can support them.

For more information check the GSG-website at www.geese.org/gsg

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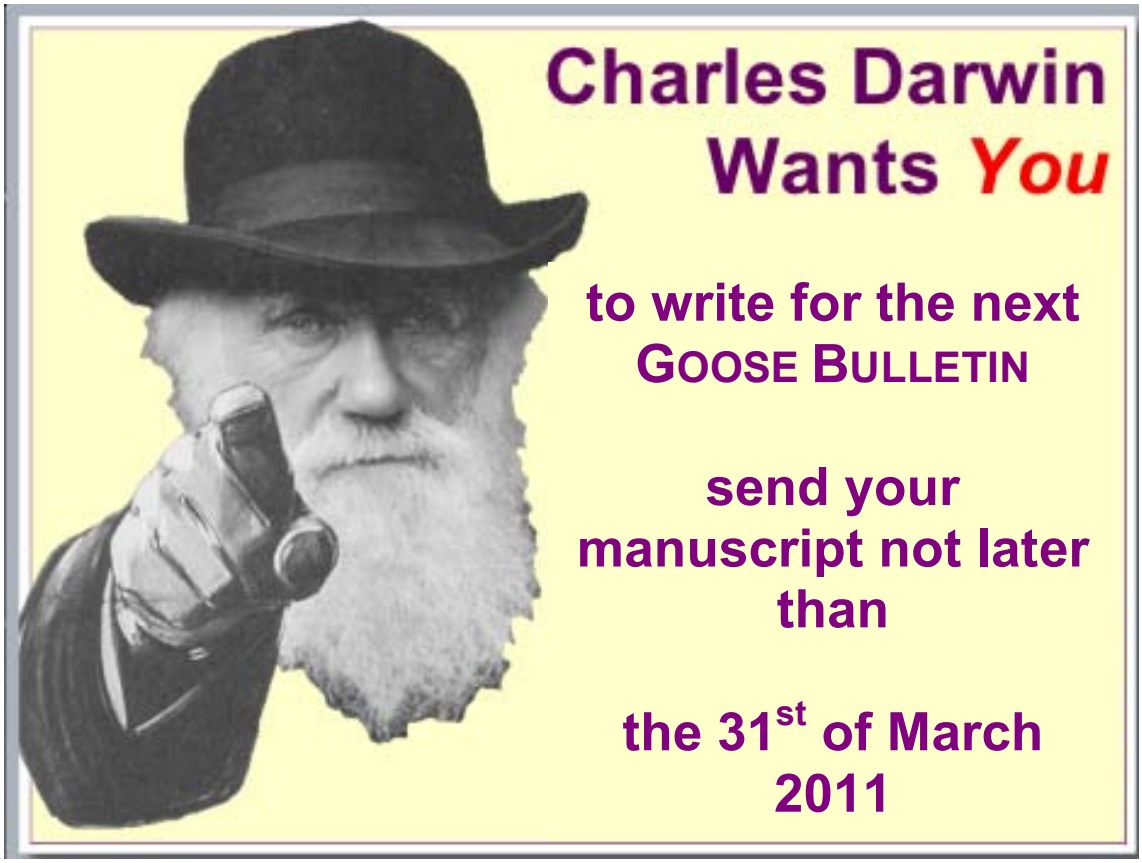
WILK, T., M. JUJKA, J. KROGULEC & P. CHYLARECKI (2010): Important Bird Areas of international importance in Poland. - OTOP, Marki. (Polish with English summary).

Call for help:

As discussed during the last meeting we invite all goose researchers to send their publications to our data bank of geese literature. Not only international but also local publications (including those in languages other than English) are most welcome.

Please send your publications, preferably as a pdf file, to Fred Cottaar: fred.cottaar@tiscali.nl.



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Instructions to authors

The Goose Bulletin accepts all manuscripts dealing with goose ecology, goose research and goose protection in the broadest sense as well as Goose Specialist Group items.
All manuscripts should be submitted in English language and in electronic form. Text files should be submitted in ".doc"-format, Font "Times New Roman 12 point", tables and graphs in ".xls"-format and pictures in good quality and ".jpg"-format
Species names should be written with capitals as follows: Greylag Goose, Greenland White-fronted Goose etc. Follow an appropriate authority for common names (eg Checklist of Birds of the Western Palearctic). Give the (scientific) Latin name in full, in italics, at first mention in the main text, not separated by brackets. Numbers - less than ten use words e.g. (one, two three etc) greater than 10, use numbers with blank for numbers over 1 000.
In case of doubt please look at the last issue of the Goose Bulletin.

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