



GOOSE BULLETIN

ISSUE 15 – NOVEMBER 2012

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

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

Three years ago, at the 12th meeting of the Goose Specialist Group in Höllviken, Sweden, the participants decided to revive the GOOSE BULLETIN to intensify contacts within the goose community and to optimise the exchange of information and knowledge about the goose populations of the northern hemisphere.

Since then, we have produced six issues of the GOOSE BULLETIN with a great variety of items. About 115 authors produced c. 65 articles on more than 250 printed pages, dealing with goose research methods (catching, marking, monitoring), results (counts, distribution, population development, ecology) as well as conservation items (poaching, hunting, hunting regulations, protection regulations).

The Editorial Board wants to thank all authors for their valuable contribution(s)!

The high engagement level of the GSG members in producing manuscripts for the GOOSE BULLETIN gives the Editorial Board the good feeling that the GOOSE BULLETIN really is filling a gap and is highly valued by the GSG members.

But at the same time there is one point of constant worry: Most manuscripts reach the Editorial Board at the eleventh hour. On the one hand this fact makes it a game of pure chance if we will have enough manuscripts for the next issue until the very last moment and on the other hand it makes it very difficult for the members of the Editorial Board to do their (voluntary) job of editing the manuscripts properly.

To improve the situation the Editorial Board would be very happy to receive a steady flow of manuscripts independent from manuscript deadlines, so that we can do more long term planning and preparation of the future issues of the GOOSE BULLETIN.

In this spirit we hope you will help us to do our job and enjoy reading GOOSE BULLETIN 15!

The next issue of the GOOSE BULLETIN is planned to appear in May 2013, which means that material for this issue should have reached the editor-in-chief not later than the 28 February 2013.....but earlier arrival is allowed!

The Editorial Board



Geese and ducks killed by poison and analysis of poaching cases in China

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Abstract

Geese and ducks are widely distributed birds in China. They have long migration routes and large overwintering areas along the Yellow and Yangtze rivers. Geese and ducks are a very important food resource for the public, but at the same time, these birds suffer from wide-scale hunting by poachers. More than ten hunting methods are used by poachers. Poisoning is the most dangerous form of poaching, causing the complete destruction of natural resources. We estimate that between 80,000 and 120,000 waterbirds of about 40 species are hunted every year. Geese, ducks and swans account for the greatest numbers. All provinces except Tibet have suffered bird-hunting between 2002 and 2012. Poaching activities are still very common during spring and autumn in China.

Keywords: Geese, ducks, poaching, poison, steel trap, cases, price



Fig. 1. Thousands of wild geese and ducks captured by poison in Aksu, the south of Xinjiang, 28 March 2012 (© MaMing)

Introduction

Many wild animals including birds are still suffering from illegal killing, despite the Chinese Government investing human, material and financial resources in wildlife protection. Poaching, indiscriminate hunting, illegal selling and undocumented transport of waterbirds still occur frequently in many regions of China.

According to our field investigations, literature reviews, consultation with researchers and internet news gathering from all over China, we found that poachers captured large numbers of birds every year, especially geese and ducks. Various methods and tools were used for hunting such as guns, nets, steel traps, electric traps, poison bait, dazzling lamps and so on. These methods are used illegally and frequently along the Yellow and Yangtze rivers. The mainstream media and the public focus on economic growth and improving living standards, so they pay little attention to poaching activities. Large-scale hunting cases take place annually. Wildlife conservation will not succeed as long as the legal framework is insufficient and where the laws are adequate, as long as these are not enforced.

Capture tools and methods

1. Guns

Guns were commonly used by people in China before the 1990s and sport hunting was very popular. Scatterguns, pneumatic guns and shotguns were widely used legally by local people. Large numbers of wild animals and rare birds were killed by hunters. The situation didn't improve until the complete ban on fire arms was enacted by the government in 1996. All civil arms were confiscated by the government and hunting with guns has been well controlled since then.

However, shotguns continued to be used by some special social groups, such as government officials, the police, soldiers and some poachers making a living from hunting. This hunting behavior still exists and it is difficult to completely stop it.

The shooting of wild geese by policemen was recorded in Xinjiang in March 2011. Cases involving soldiers poaching geese on the islands near Shandong Province have also been documented. A special gun, called a 'blunderbus', was also used during hunting around lakes. Tens of firearms were set on a board side by side and over a hundred steel balls could be shot from these firearms at one time. Dozens of passing geese may be hit at once, giving the potential to be very destructive.



Fig. 2. Hunting in Liaoning, March 2012
(© Yizhixiaoniao)

2. Crossbow

Because guns cannot be used by the public, some hunters have resorted to using a crossbow, which is a more damaging weapon than a bow and arrow. The cross-bow has been recently used to shoot geese and ducks. Such events have been reported by newspapers in northeast China many times. Many advanced crossbows can be bought via the internet at present.



Fig. 3. Cross-bow hunting near Urumqi,
March 2012 (© Honggang Bao)



Fig. 4. Crossbow like it is used for waterbird
hunting (© Honggang Bao)

3. Nets (Wing snare)

Hunters establish wing snares in the air in the form of a large wall of netting. If birds hit the netting wall, they become entangled in the nets and cannot escape. Cylinder traps, also called a “maze net”, are often designed like a maze. If birds fly or swim into the trap, it is difficult for them to escape.

Geese are attracted to trammel nets by playing goose calls as a lure. Hundreds of waterfowl can be captured by hunters every day, especially as nets can be hundreds of metres long. Over 1700 birds were caught by one wing snare trap alone once in Tianjin.

4. Steel trap

During the investigations at the Altun Mountain Nature Reserve, we found that almost every family of herdsmen has a steel trap, which was used for capturing small mammals and large birds. We have found several steel traps around the lake. There was no doubt that they use these traps to capture waders and waterfowl, including cranes, swans, ducks and geese. A similar situation is common in every province of China.

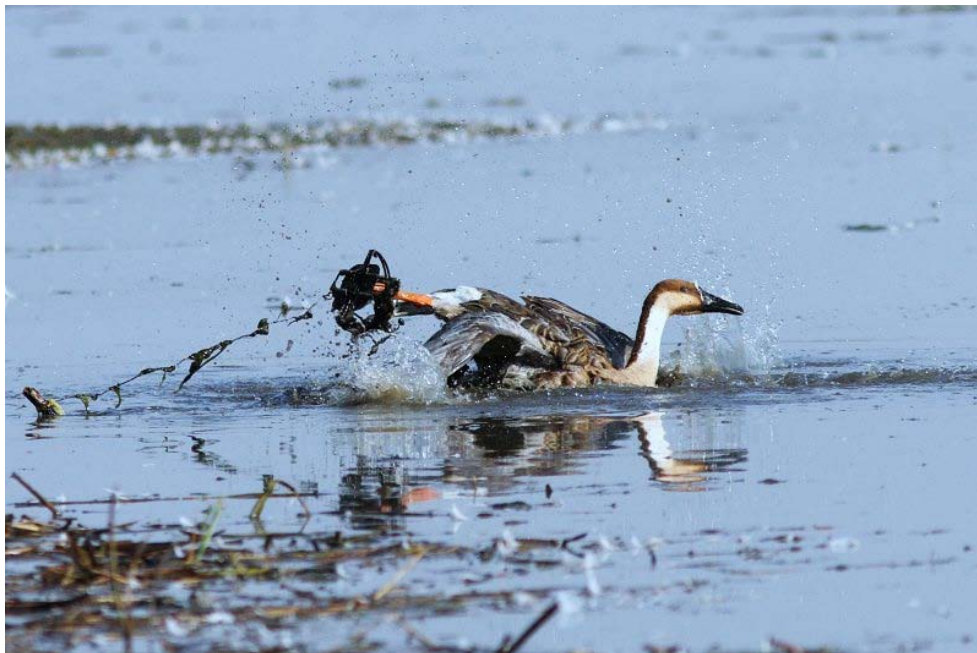


Fig. 5. A Swan Goose *Anser cygnoides* captured in Inner Mongolia, October 2011 (© Hongyu Shan)

5. Electric trap

In addition to traditional tools, poachers are always trying out new hunting methods. In recent years, electric traps have been used frequently in remote areas. Hunters set traps at night and collect prey on the second day. When animals short circuit across the wires, they are electrocuted. Many animal species were caught in this way irrespective of their usefulness as food. When these devices are arranged along the waters edge, most waterfowl are unable to avoid the risk of electrocution.

6. Poison bait

Poisoning is a very dangerous, indiscriminate and highly destructive form of poaching. The most commonly used poison bait is Furadan ($C_{12}H_{15}NO_3$). Poison is mixed with cereal to attract feeding wild birds. Birds lose consciousness after eating the bait, are caught and injected with an antidote. Atropine Sulfate [$(C_{17}H_{23}NO_3)_2 \cdot H_2SO_4$] is the most widely used antidote but numerous dead birds can be found because the antidote injection was not applied in time.



Fig. 6. Dead ducks as a result of poisoning in Aksu, March 2012 (© MaMing)

At stopover sites of migratory wildfowl, tens of thousands of birds were hunted by poachers in this way. In Liaoning, two hundred metres of poison bait was the longest witnessed in March 2012. Dozens of migratory birds were killed every day. Several species of geese were involved, such as Greylag Goose *Anser anser*, Bean Goose *Anser fabalis*, Swan Goose *Anser cygnoides* and White-fronted Goose *Anser albifrons* etc. Some other waterfowl species were also

taken, for example, White Stork *Ciconia ciconia*, Siberian Crane *Grus leucogeranus*, Common Crane *Grus grus*, White-naped Crane *Grus vipio* and almost all species of ducks.

7. Searchlight

Birds confronted with a bright light at night are temporarily dazzled, and will cease their activities. Using searchlights, people catch large numbers of wild geese at night. Such equipment is readily available to anybody in the markets around China.

8. Slip noose

The slip noose is made from iron wire, and also used by fowlers. A cord or rope is formed as a loop with the slipknot, which binds tighter when the cord or rope is pulled. Numerous slip nooses are placed in wetlands and geese are caught when their foot is caught in the trap.

9. Fishing lures

Typically, a metal fishing lure with one or more hooks is usually deployed on the bottom of a lake or sea. These hooks are used mainly for fish, feeding in deep waters. Recently, they have been used for bird-catching as well. Fishing lures are spread out on the bottom of shallow waters, where waterfowl are active. Geese and ducks may step on the hooks and struggling further entangle hooks into their bodies.



Fig. 7. About 600 wild geese and ducks captured by poison in Xinjiang, March 2012 (© MaMing)

10. Other methods

An artillery weapon, 3.8 m long and 7-8 cm in diameter, was developed as an indigenous method to shoot geese in Handan City in December 2011. The weapon can be filled with 350g gunpowder and 450 steel balls, with a range of over a hundred metres, although it was rarely used, this method has the potential to have devastating effects.

In the breeding season, local residents collect bird eggs in wetlands. If they find geese on the nests, they will kill them with long bamboo poles directly.

Large-scale cases of hunting

China is located on major bird migration routes and huge numbers of birds come to winter or pass through every year. Unfortunately, almost all of the waterfowl species are the target of hunting by poachers. According to our investigations, more than forty waterfowl species are regularly caught by hunters (Table 1). More than 150 000 waterfowl birds were caught by illegal poaching every year until 2005. The situation has improved slightly during recent years, but poaching is still very common and popular among local people, soldiers and army officers. According to our estimates, poachers killed at least 200 000 waterbirds in the last three years.

Table 1 Species and number of waterfowl which were hunted by poachers during last three years (Incomplete statistics from 2009 to 2012).

Scientific name	Number	Scientific name	Number
<i>Tachybaptus ruficollis</i>	20	<i>Anas strepera</i>	970
<i>Phalacrocorax carbo</i>	20	<i>Anas penelope</i>	1 150
<i>Casmerodius alba</i>	30	<i>Anas querquedula</i>	90
<i>Egretta eulophotes</i>	1	<i>Anas clypeata</i>	130
<i>Nycticorax nycticorax</i>	6	<i>Netta rufina</i>	3 280
<i>Ardea cinerea</i>	397	<i>Aythya ferina</i>	2 000
<i>Ixobrychus minutus</i>	23	<i>Aythya nyroca</i>	70
<i>Ciconia ciconia</i>	5	<i>Aythya fuligula</i>	3 200
<i>Cygnus cygnus</i>	240	<i>Aix galericulata</i>	18
<i>Cygnus bewickii</i>	360	<i>Mergus squamatus</i>	2
<i>Anser cygnoides</i>	23	<i>Grus grus</i>	160
<i>Anser fabalis</i>	260	<i>Grus nigricollis</i>	3
<i>Anser erythropus</i>	80	<i>Grus vipio</i>	2
<i>Anser albifrons</i>	110	<i>Grus leucogeranus</i>	6
<i>Anser anser</i>	2 240	<i>Grus japonensis</i>	5
<i>Tadorna ferruginea</i>	8 760	<i>Anthropoides virgo</i>	41
<i>Tadorna tadorna</i>	1 320	<i>Otis tarda</i>	30
<i>Anas acuta</i>	16 000	<i>Rallus aquaticus</i>	3
<i>Anas crecca</i>	600	<i>Gallinula chloropus</i>	20
<i>Anas platyrhynchos</i>	14 000	<i>Fulica atra</i>	1 260
<i>Anas poecilorhynchos</i>	170	Waders	18 000

Distribution of poaching cases

Although our statistics are incomplete, hundreds of counties from all provinces of China except Tibet are involved in the illegal hunting of birds (Fig 8). About a hundred hunting cases occurred in the areas of the natural waterfowl habitat, especially along the Yangtze and Yellow rivers. The larger the area of wetlands, the more waterfowl are present and consequently the greater the attraction to the numerous poachers during spring and autumn.

The most active poaching areas are in Liaoning, Xinjiang, Henan, Shandong, Hubei, Hunan and Jiangxi provinces.

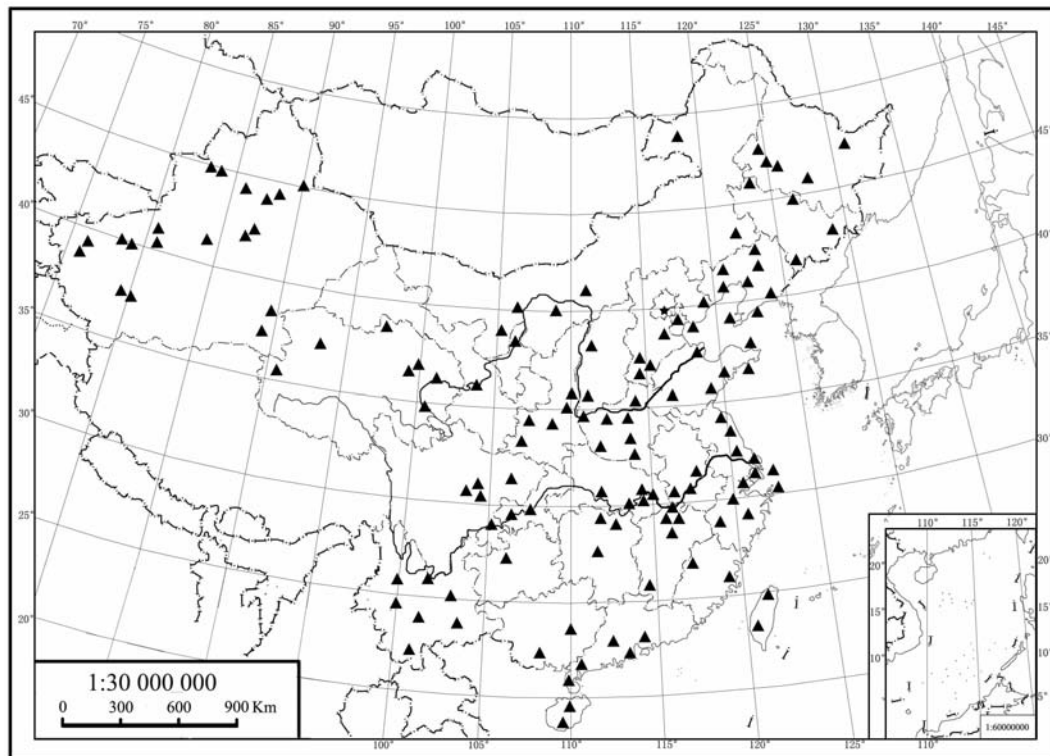


Fig. 8. Distribution of poaching cases in China 2009-2012.

Poison is the poaching method used most often

Poachers may use several methods simultaneously. Among these methods, poison bait is the most widely used by poachers. About 46% of poaching cases and 68% of captive waterfowl involved poisoning. Due to the low cost and easy implementation, poison is the method most frequently used by poachers. Furthermore, poisoning is a public health concern since toxic geese and ducks are dispatched to large cities as a delicacy to restaurants as a food for people. Several villagers nearly died after eating poisoned ducks and geese in Daqing and Shenyang in September and November of 2011. Similar events have occurred in other cities, as well.

The second most common method in poaching is netting. Nearly 35% of poaching used nets, usually two or three sometimes even five kilometres long. Tens of thousands of geese, ducks and swans have been wounded during net catching (www.nddaily.com).

Trophy and sport hunting are forbidden in China. Legally, a few people can have permission to use guns. However, a considerable portion (8%) of registered poaching cases involved the use of guns. Such cases mainly occurred in Xinjiang, Heilongjiang, Liaoning, Jilin, Jiangxi, Jiangsu, Hunan, Hubei and Guizhou provinces.

Other methods, such as steel and electric traps, searchlights and others methods are relatively less used by poachers and accounted for 11% of total poaching cases (www.nddaily.com).

Price in restaurants

Geese and ducks, captured in northern China, are transported to southern cities, such as Guangzhou, Shenzhen, Ningbo, Haikou and Changsha. These areas are the main consumers outlets for the products of poaching. Here we take Urumqi, Changsha and Guangzhou cities as examples. The distances between these cities are about 3 000 - 5 000 km. The price of one duck, which is paid to poachers in the field, is 4–5 US \$ on average. Geese and swans are much more expensive. Waterfowl are generally transported to Guangzhou and Changsha cities by air. The price of air transport is about 1 US \$ per duck (6-8 Yuan/kg for 4 000 km by air, 1 US \$ = 6.3 Yuan). In the markets of Changsha or Guangzhou cities, the price rises to 50 US \$. Commonly, the waterbirds are transported as domestic poultry that are more easy and cheap to dispatch. There are usually 600 - 800 wildbirds per batch. Tens of thousands of wild birds are transported in this way every year.

This is just the initial price before the restaurant processing. When wild birds are placed on the restaurant table, the price will rise several times compared to the initial one. A goose and swan can fetch several hundred Yuan, and up to a thousand Yuan in restaurants in Guangzhou City. Businessmen now purchase wild waterfowl from all over the country every year, and make a large profit.

Discussion

1. Poachers break national laws and regulations. Hunting of large mammals has become more and more difficult, forcing poachers to switch their attention to waterfowl which are widely distributed in wetlands and still occur in large numbers.
2. Consumers have the impression that wild animals taste better and are more healthy than domestic poultry. Some regions even have gastronomic traditions built around wild fauna.
3. Laws and regulations protecting wildlife and natural resources remain incomplete and are often not enforced. Poaching activities often go unpunished and hence the law has little real deterrent effect. Politicians are not willing to strictly enforce the conservation laws. Poachers often have tacit permissions to hunt and keep wildlife species, even being issued with wildlife breeding licences, poultry permits and inspection and quarantine certificates. These procedures all involve the collusion of government departments who issue such documents. So, in some respects, many poaching activities are made to appear legal.
4. In recent years, the modern logistics industry has developed quickly but without regulation. Wild birds can easily be transported under the guise of being poultry especially by railway or air. Most wild geese and ducks are transported to southeastern China. The Chinese transport traffic system provides a more convenient distribution channel for the products of poaching than any form of illegal traffic system.
5. Local people lack awareness about conservation laws. Many poachers even don't know that their activities for hunting of protecting birds are illegal. Three people arrested in Chongqing City in 2008 were unaware that what they were doing was wrong and similar cases have occurred in other places.

In China, agricultural development on the breeding grounds has resulted in wetland destruction and increasing disturbance to waterfowl. Egg collection on wetlands together with habitat loss as a consequence of agriculture has also had a considerable negative impact on Anatidae and led to a decline in the numbers of breeding birds.

Droughts on the breeding grounds also have a negative impact and have contributed to decreasing numbers of birds. However, we contend that waterfowl poaching remains the most serious problem for many wild bird populations throughout much of China.

Acknowledgements

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A swan with trap in Inner Mongolia, spring 2011 (© Hongyu Shan)



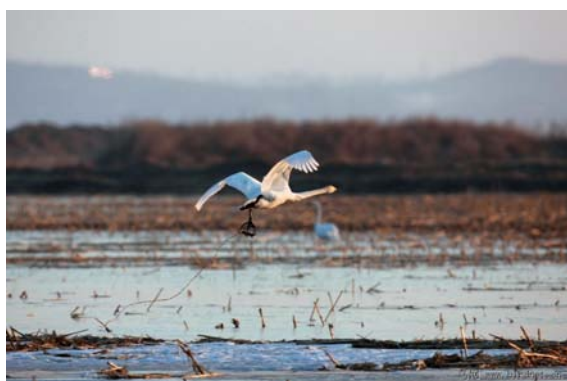
Corn kernels with poison Furadan ($C_{12}H_{15}NO_3$) in Liaoning (© Haixiang Zhou)



A Bean Goose killed by the poison Furan ($C_{12}H_{15}NO_3$) in Liaoning Province, March 2012
(© Haixiang Zhou)



Wheat kernels with poison Furan ($C_{12}H_{15}NO_3$) in Liaoning Province (© Haixiang Zhou)



A swan with steel trap in Liaoning Province, March 2012 (© Haixiang Zhou)



Bean Geese killed by local poachers in Liaoning Province, March 2012 (© Wuyuxing)



Bean Geese killed by the poison Furan ($C_{12}H_{15}NO_3$) in Liaoning Province, March 2012
(© Haixiang Zhou)



Bean Goose killed by poison in Liaoning Province, March 2012
(© Haixiang Zhou)



The local police driving a speedboat to hunt raptors with guns in wetlands of the south of Xinjiang, March 2012 (© Rui Xing)



Aircraft cargo warehouse and dens of wild geese and ducks near Urumqi, there are about 600 cages and one cage can be loaded with 10 ducks (© MaMing, April 2012)



Special large-scale poaching activities with impunity in the Poyang Lake
(The information from local newspaper and network)



Lesser White-fronted Geese *Anser erythropus* in The Netherlands in winter 2011/12

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The majority of the Lesser White-fronted Geese (LWG) *Anser erythropus* of the Swedish reintroduction programme winter in The Netherlands. In that country more than 120 individuals were counted in winter 2011/12, a new record since the start of the programme in 1980. During the period 2000-2009, no new birds were released by the Swedish LWG-team to strengthen the existing population. In 2010, LWG of Russian origin were released. In summer 2011 again seven first-year and three second-year birds were released. Moreover, in summer 2012 the breeding results in Lapland were reasonable.

In The Netherlands the wintering LWG stay for 5-6 months. A team of enthusiastic observers try to follow their movements through the country. As most of the observations and counts are placed on the site www.waarneming.nl and the wintering LWG concentrate on a handful of known locations, nowadays the Dutch are well informed about the abundance and distribution of the LWG in the country.

On 30 June 2011, two adult unringed LWG's were reported near the town of Zwolle among a small flock of Greater White-fronted Geese *Anser albifrons*. They stayed at that location along the river IJssel until the end of October. This was the fourth year in succession that a couple of LWG arrived on that location close to the beginning of July. In Swedish Lapland the LWG without hatchlings used to leave their breeding grounds at the end of June, so perhaps some of these birds fly directly to The Netherlands.

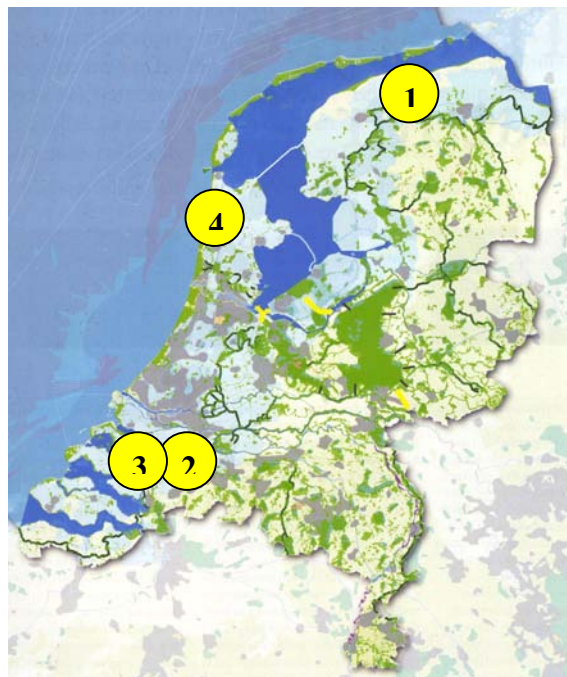


Fig. 1. Map of Lesser White-fronted Goose locations in the Netherlands (1. Anjummer Kolken, 2. Strijen, 3. Goudswaard, 4. Camperduin).

Strijen

In Autumn 2011, the first flock of LWG was observed near Strijen in Southwest Netherlands on 2 October. Subsequently, numbers increased quickly, from 9 on 2 October to 26 on 8 October and 38 on 9 October. Some years ago the Anjumer Kolken area in North Friesland was the first stopping place for the LWG arriving from the north. The LWG could stay there for several weeks. Apparently the importance of Anjum has decreased in the last few years. It looks like many geese pass that location and migrate to Strijen directly or only have a short stop in Anjum. In 2011, 62 LWG seen on 9 October were the first observed in Anjum. However, on 11/12 October only 43 birds were left and soon afterwards all were gone.

Meanwhile the numbers in Strijen increased steadily. Table 1 shows that from mid-October until the end of December, almost all the LWG were concentrated in Strijen. In that area the LWG's stay in small groups, spread out over a large area with Greater White-fronted Geese and Barnacle Geese *Branta leucopsis*. As the LWG strongly prefer the most undulating parts of the grasslands, a full count takes several hours. Knowledge of both the terrain as well as the behaviour of the LWG is essential. Fortunately the van der Linden brothers both have the patience to undertake the LWG-counts several times a month. Most of the counts in Strijen mentioned in Table 1 were registered by the van de Linden brothers. The maximum was 96 birds (84 adults and 12 juveniles) on 30 November. However, due to the great mobility of the LWG within the polder Strijen, the brothers were not sure about a possible double-count during one visit, so that a maximum number for Strijen could be 103 LWG.



Wintering Lesser White-fronted Geese in the Netherlands (© Eric Menkveld)

Between October and December, Strijen did not have the exclusive rights for LWG. While studying Pink-footed Geese *Anser brachyrhynchus* in Southwest Friesland, Fred Cottaar discovered 7 LWG (two families with two and one juvenile respectively) on 5 November. He succeeded in finding these 7 birds during three later visits to that locality, so apparently this group stayed in Southwest Friesland for more than two months.

On 4 December, 6 LWG were observed near Limmen (province of Limburg) and 5 LWG were found near Gouderak (province of Zuid-Holland) on 17 December. Both locations are not traditional sites. During the first half of December near Strijen there was no dip in the numbers.



Lesser White-fronted Geese in the Netherlands (© Eric Menkveld)

Camperduin

Around the turn of the year, the majority of the LWG moved from Strijen to Camperduin along the North Sea-coast in the province of Noord-Holland. This happened in previous years as well, though usually under the influence of ice-spells (cold weather). Perhaps the noise of the New Years Eve celebrations in the village of Strijen, in combination with kite-flying above the polder a few days earlier made the LWG move in 2011/12.

Up to 30 January, the majority of the LWG stayed at Camperduin. On 25 January, Eric Menkveld counted 116 individuals. During the serious freezing spell for a fortnight from 30 January, the LWG disappeared from the traditional Dutch locations and there was a continued absence of any observations until 13 February. On that date, 71 LWG were counted near Moerdijk in the province of Noord-Brabant, which indicates that during the cold spell the LWG moved to the southern part of the Netherlands or possibly to Belgium.

During mid-February, the LWG transferred to Camperduin again, after a brief stop in Strijen. On 3 March, 103 individuals were counted near Camperduin, while 66 birds were still present on 9 March.

The last observation near Strijen was on 5 March (5 individuals). Notable were 4 LWG near Anjum on 11 March. In the last few years there have been no spring records from this area.

If we try to calculate the maximum number of LWG nationwide on one day, we have to be aware that the birds can move rapidly several times each winter between locations. Including the 7 birds in Southwest-Friesland, in late November there were 100-110 individuals in The Netherlands and in January more than 110-120 birds. On 18 February, Strijen and Camperduin together probably held over 100 birds and possibly over 120.

After the first week of March numbers started to decrease quickly. After 11 March, no LWG were counted in The Netherlands, which is rather early compared with former springs.

Åke Andersson from Sweden mailed on 18 April that the result of a simultaneous-count on 11/12 April in that country resulted in the arrival of about 116 LWG. It is not known if during winter 2011/12 any LWG died in The Netherlands.

From the former traditional LWG wintering sites of Goudswaard and from Putten, both situated in the southwestern part of the Netherlands, no LWG were observed in 2011/12.



Swedish Lesser White-fronted Geese wintering in The Netherlands (© Eric Menkveld)

Rings

In the flocks of LWG wintering in The Netherlands in 2011/12 were two veterans, birds released before 1999. The oldest was ring number 081, a female released in Lapland in 1995. Both, 081 and the other veteran with ring number 439 were observed near Strijen on several dates in November/December by the van der Linden brothers.

In summer 2010, 19 birds were ringed in Sweden, 9 from the existing population and 10 of Russian origin. All those LWG were fitted with red rings with white engraved characters; letters for the Russian individuals and figures for the LWG from the existing population. One of them, red 5, was found dead in The Netherlands near Moerdijk on 23 December 2010. Of the 19 birds ringed in summer 2010, 13 were observed in The Netherlands in winter 2010/11. Five of those 13 were of Russian origin, which suggests a survival rate of 50%.

In summer 2011, 10 birds of Russian origin were released in Lapland. They were fitted with white rings with black figures. Only 5 of those arrived in late summer 2011 on the Swedish staging-area near Hudiksvall. Three were observed in The Netherlands in winter 2011/12. White 3 was observed on 14 November and 20 December near Strijen and in February in Belgium. Two others stayed near Camperduin in mid-January 2012.

In The Netherlands the small flock of LWG in Southwest-Friesland needs special attention. All these birds were unringed. It was unclear if these birds belonged to the Swedish re-introduction group. Perhaps they came from elsewhere.

The Swedish re-introduction programme has run for over 30 years now. The results are encouraging but it looks like the population development runs slowly.

Table 1. Maximum number of Lesser White-fronted Geese *Anser erythropus* from October 2011 up to and including March 2012 per decade on the four main roosting sites in the Netherlands.

Site	Anjum	Strijen	Camperduin	SW-Friesland
Month				
October				
1-10	62 (09-10)	33 (10-10)	-	-
11-20	43 (11/12-10)	77 (18-10)	-	-
21-31	-	50 (24-10)	-	-
November				
1-10	-	42 (01-11)	-	7 (05-11)
11-20	-	88 (14-11)	-	7 (12-11)
21-30	-	96 (30-11)	-	-
December				
1-10	-	94 (09-12)	-	-
11-20	-	89 (20-12)	-	7 (18-12)
21-31	-	15 (29-12)	-	-
January				
1-10	-	25 (07-01)	86 (06-01)	7 (08-01)
11-20	-	8 (11-01)	103 (several dates)	-
21-31	2 (28-01)	3 (27-01)	116 (25-01)	-
February				
1-10	-	-	-	-
11-20	-	59 (18-02)	63 (20-02)	-
21-29	-	49 (21-02)	58 (26-02)	-
March				
1-10	-	5 (03-03)	103 (03-03)	-
11-20	4 (11-03)	-	-	-
21-31	-	-	-	-

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A flock of Swedish Lesser White-fronted Geese in The Netherlands (© Eric Menkveld)



Wintering wild geese in Belgium: an update on numbers and trends (1990/91 – 2011/12)

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Introduction

Situated near the southern North Sea and blessed with a mild winter climate and rather low hunting pressure, Belgium offers some favourable wintering conditions for wild geese. On the other hand, suitable areas with large complexes of open and low lying grasslands are not widespread and largely confined to the north of the country, close to The Netherlands. In these Belgian winter resorts, several goose species reach the southwestern edge of their winter range on the European mainland. Five species can be regarded as regular and common winter visitors: White-fronted Goose *Anser albifrons*, Pink-footed Goose *Anser brachyrhynchus*, Tundra Bean Goose *Anser fabalis rossicus*, Greylag Goose *Anser anser* and Barnacle Goose *Branta leucopsis*. Canada Goose *Branta canadensis* and Egyptian Goose *Alopochen aegyptiacus* are considered as non-native species and are not included in this review.

Goose counts have a long tradition in Belgium and give us reliable information on distribution and abundance of the different species (MEIRE et al. 1988, MEIRE & KUIJKEN 1991, DEVOS et al. 2005, KUIJKEN et al. 2006). In this paper, we present a brief update on the numbers and trends of wintering geese during the period 1990/91-2011/12.

Material & methods

Geese are counted in Belgium within the framework of more general waterbird counts, coordinated by the Research Institute for Nature and Forest (INBO) (Flemish region) and Aves (Walloon region). These counts are conducted on a monthly basis between October and March and rely mainly on the participation of specialised volunteers.

The distribution of wild geese in Belgium is largely confined to some specific areas in the polders along the coast and along the rivers Schelde, IJzer and Maas (Fig. 1). Because of this limited distribution area, count coverage of wild goose species is thought to be close to 100%. Numbers counted can therefore be regarded as national totals. The very small numbers in Wallonia (mostly occurring irregularly and during cold spells with < 1% of total goose numbers in Belgium) (DEROUAUX et al. 2010) are not included but this has only a negligible effect on these totals.

Trends are based on winter maximum numbers and the number of goose days (based on all available counts). As a relative measure of the number of goose days, the sum of the monthly species totals was calculated and converted to an index. Although some of the main wintering areas are counted more frequently, these additional counts were not included in the trend analysis. Annual growth rate figures are based on the number of goose days and were calculated by log linear regression.

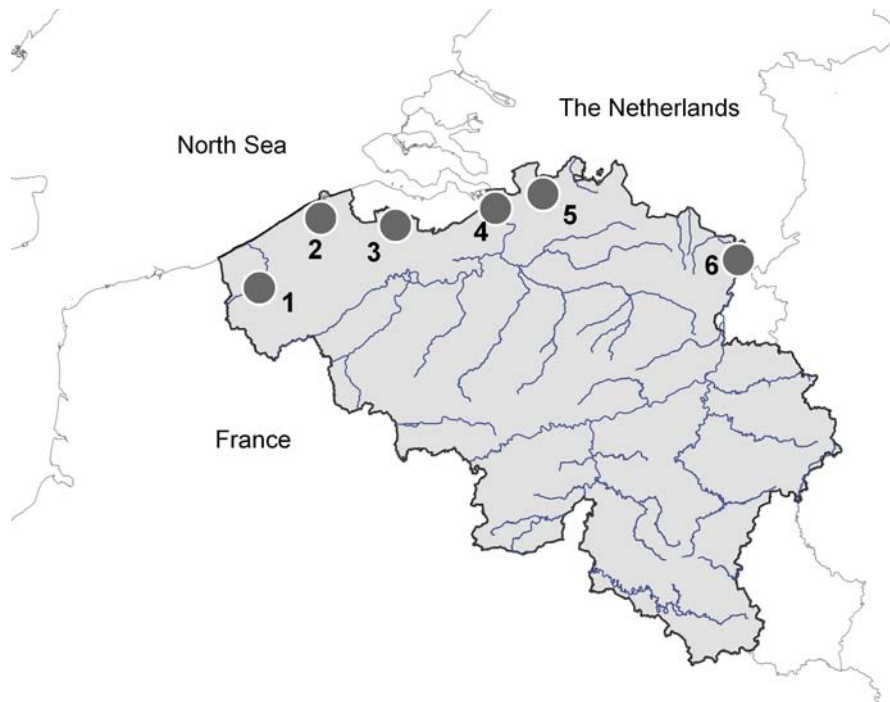


Fig. 1. Map with location of main wintering areas of wild geese in Belgium.

1. IJzer valley (mainly White-fronted Goose)
2. Eastern coastal polders Brugge-Oostende-Knokke (Pink-footed Goose, White-fronted Goose, Greylag Goose, Barnacle Goose)
3. Polders North East Flanders (White-fronted Goose, Tundra Bean Goose)
4. Lower Schelde area (Greylag Goose, White-fronted Goose)
5. Northern Campine region (White-fronted Goose, Tundra Bean Goose)
6. Maas valley (White-fronted Goose, Greylag Goose, Tundra Bean Goose)

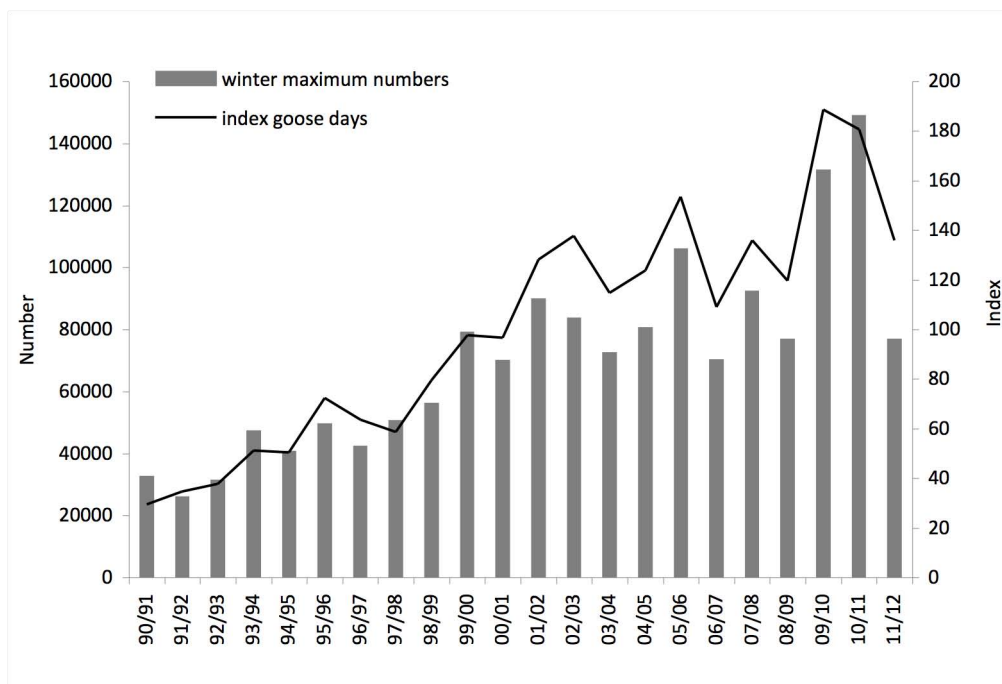


Fig. 2. Trend in total goose numbers and number of goose days in Belgium based on mid-monthly winter counts during the period 1990/91 – 2011/12.

Results

The total number of wild geese in Belgium increased from an average of 30 000 birds at the beginning of the 1990s to more than 70 000 since 2000, with peak numbers occasionally exceeding 100 000 (Fig. 2). An exceptional high number of 230 000 geese was recorded in late December 2010, just outside the official mid monthly count dates.

The number of goose days showed an almost five fold increase since the early 1990s with an average annual growth rate of 7.8%.

This increase was seen in all goose species (Table 1) but with substantial variation between species and the two periods considered. In the 1990s, the highest rate of increase was recorded for Greylag Geese and Pink-footed Geese. The first years of the 21st century seemed to be a turning point and both species showed slightly negative trends during the last decade. In contrast, two species with somewhat less rapid growth rates in the 1990s – Tundra Bean Goose and Barnacle Goose - showed continuing and even more significant increases during the last 10 years, although this is at least partly influenced by large cold weather influxes in recent winters.

Table 1. Numbers of wild geese during mid-monthly waterbird counts in Belgium in two different time periods. Numbers in brackets were recorded outside mid-monthly counts. Annual growth rate figures are based on the number of goose days and were calculated by log linear regression.

	1990/91 – 2000/2001			2001/02 – 2011/12		
	Average winter maximum number	Highest count	Annual growth rate (%)	Average winter maximum number	Highest count	Annual growth rate (%)
Tundra Bean Goose	541	1 405 (4 500)	6.9	2698	10 851	21.3
Pink-footed Goose	21 051	36 803	8.9	33 594	38 810 (48 500)	-2.1
White-fronted Goose	25 023	34 362	7.2	50 512	90 048 (149 600)	4.9
Greylag Goose	7 265	13 447	16.5	16 534	22 215	-1.5
Barnacle Goose	177	799	6.9	2 569	10 350 (15 880)	23.5
Total number of geese	48 036	79 300	11.7	93 867	149 315 (230 000)	2.4

The proportion of the total flyway population size recorded in Belgium is listed in Table 2. With over 50% of the Svalbard population of Pink-footed Goose (and more than 80 % during the period 1998-2004), the Belgian wintering areas have a major international responsibility for this species. The percentage of White-fronted Geese wintering in Belgium slightly decreased from nearly 5% to 3.5%. However, during cold weather influxes, this figure can increase to 12.5%. Despite increasing long and short term trends, numbers of Tundra Bean Geese and Barnacle Geese remain very low in an international context.



Table 2. Proportion of the total flyway population size recorded in Belgium during the mid- 1990s and the years 2007-2009 as estimated by (1) MADSEN et al. (1999) and (2) FOX et al. (2010). Percentages for Belgium are three-year averages of winter maximum numbers at the time of the total population estimate. For Pink-footed Goose (for which yearly populations estimates are available), the proportion of the total flyway population size recorded in Belgium showed a considerably, but temporary, higher level (over 80%) in the period 1998-2004 (databases J. Madsen, E. Kuijken & C. Verscheure).

	Mid-1990s			2007-2009		
	Total population estimate (1)	Belgian population	Proportion Belgium (%)	Total population estimate (2)	Belgian population	Proportion Belgium (%)
Tundra Bean Goose	600 000	450	< 0,1	522 000	2 100	0,4
Pink-footed Goose	37 000	19 000	51,4	63 000	33 000	52,4
White-fronted Goose	600 000	28 500	4,8	1 200 000	41 400	3,5
Greylag Goose	200 000	6 100	3,1	610 000	14 400	2,4
Barnacle Goose	267 000	260	< 0,1	770 000	3 700	0,5

Tundra Bean Goose

Tundra Bean Goose is a common winter visitor to Belgium with maximum numbers in December-February. Observations of Taiga Bean Goose *A. f. fabalis* have become increasingly rare since the mid 1980s (mainly individual birds with characteristics of *fabalis*).

The distribution of this species differs from other goose species with only very low numbers in the coastal polders and larger groups in the north-eastern part of the country. Average winter maximum numbers showed an almost five-fold increase but remain rather small in an international context. Peak numbers in some years can be due to favourable feeding conditions (non harvested crops on arable land) or to cold weather movements as in 2009/10 (with numbers exceeding 10 000 birds).

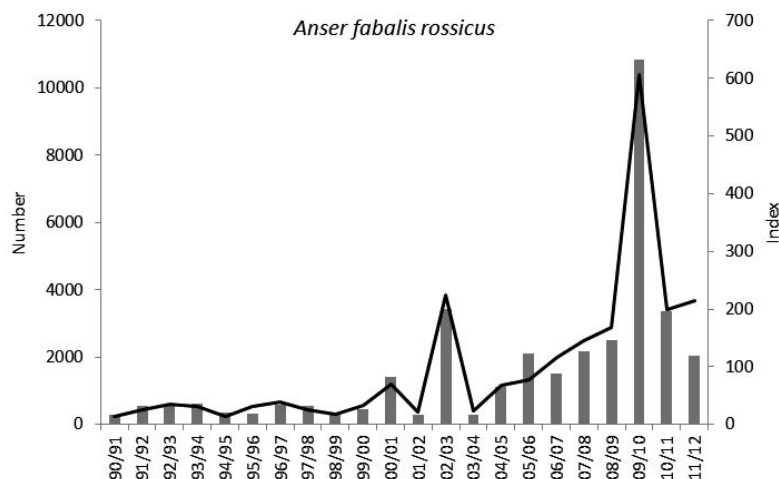


Fig. 3. Trend in winter maximum numbers (bars) and relative number of goose days (line) of Tundra Bean Geese *Anser fabalis rossicus* in Belgium, based on mid-monthly counts during the period 1990/91 – 2011/12.

Pink-footed Goose

The coastal polders in Belgium are the most southerly wintering area of the Svalbard population of Pink-footed Goose. The distribution is confined to a rather limited area between Oostende, Knokke and Brugge. Peak numbers usually occur in December.

This species showed a strong increase in the 1990s with numbers rising from 10 000 to more than 35 000 birds. During the last 10-15 years, numbers seemed to stabilize (average winter maximum number of 33 000). The highest number recorded during the mid-monthly counts was 38 810 in 2004/05. In some years, slightly higher numbers occurred during additional counts. An exceptional high number of 48 500 was counted during a severe cold spell in late December 2010 (KUIJKEN & VERSCHURE 2012). In 2011/12, much smaller numbers arrived, only staying for a short time, which resulted in a large drop in the number of goose days.

The more than three-fold increase in the 1990s corresponded with a total population increase in that period. The further increase of the Svalbard population in more recent years is however not reflected any more in the Belgian wintering area, resulting in a smaller proportion of the flyway population wintering in Belgium (< 50%). Rather than the result of reaching the maximum carrying capacity of Belgian staging sites, this phenomenon can probably be attributed to distribution shifts on a larger scale, with lower numbers migrating to Belgium and The Netherlands and higher numbers remaining in Denmark (COTTAAR 2011, SCHEKKERMAN et al. 2012, KUIJKEN & VERSCHURE 2012).

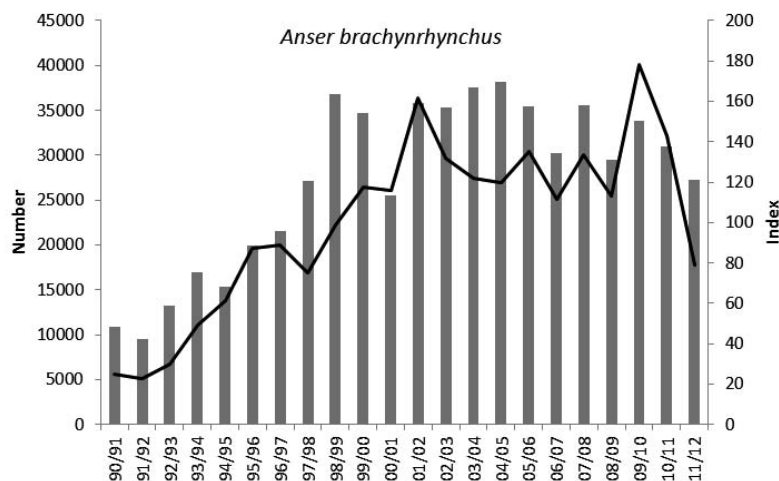


Fig. 4. Trend in winter maximum numbers (bars) and relative number of goose days (line) of Pink-footed Geese *Anser brachyrhynchus* in Belgium, based on mid-monthly counts during the period 1990/91 – 2011/12.

White-fronted Goose

The White-fronted Goose is the most abundant wintering species in Belgium with the highest numbers in December-February. Peak numbers increased from less than 20 000 in the early 1990s to over 40 000 in the years 2000s. Together with increasing numbers, new areas (valleys of IJzer and Maas) were colonized and evolved to traditional staging sites.

With only very small numbers in France (DECEUNINCK & MAILLET 2012) and strongly declining numbers in Britain (MITCHELL et al. 2010), winter resorts in Belgium are situated at the most south-westerly edge of the European wintering range. As short-stopping is probably the main cause of the decrease in Britain, this phenomenon could also have an effect on numbers in Belgium in the future. However, cold spells in recent winters showed that Belgian resorts still function as important cold weather refuges for geese from The Netherlands and Germany. As a result of cold weather movements, exceptionally high numbers were recorded in 2009/10 (73 700) and 2010/11 (149 600).

Due to extensive snow cover in important goose areas in The Netherlands and Germany, many White-Fronted Geese moved to southern regions. In such unfavourable circumstances, Belgian resorts are often the last safe havens because of the very high hunting pressure on waterbirds (including geese) in France (PAEPEGAEY 2012).

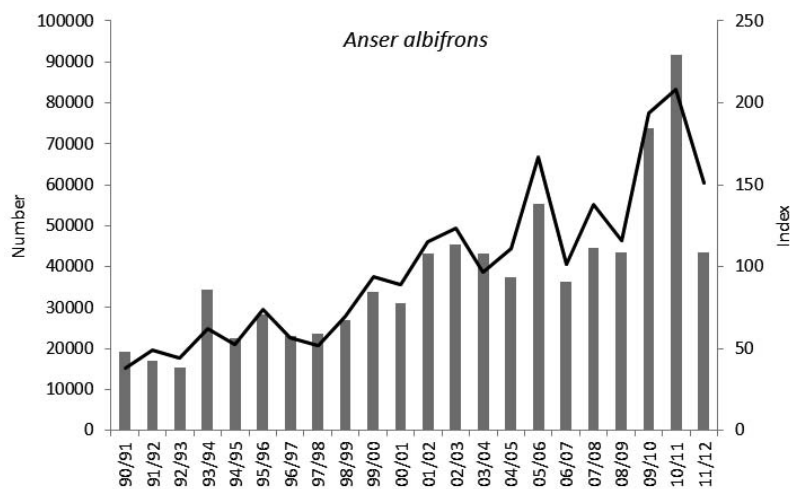


Fig. 5. Trend in winter maximum numbers (bars) and relative number of goose days (line) of White-fronted Geese *Anser albifrons* in Belgium, based on mid-monthly counts during the period 1990/91 – 2011/12.

Greylag Goose

The winter population in Belgium can be considered as a mix of local, mainly residential (breeding) populations and migrating birds from northern countries. An introduction programme in the Zwin area in the late 1950s led to the establishment of a small local breeding population, followed by a gradual expansion of the breeding area in the north-western part of Belgium and adjacent parts of The Netherlands. During the last few decades, other breeding populations have settled and breeding numbers have increased at an exponential rate. In 2002, the breeding population was estimated at 1200-1300 pairs (DEVOS et al. 2005b). During autumn and winter, these breeding birds (and immature birds) are joined by birds from other countries. The main wintering area north of Antwerp borders the Saeftinghe area which is a stronghold for this species in The Netherlands (with up to 77 000 birds in 2003, CASTELIJNS & JACOBUSSE 2010).

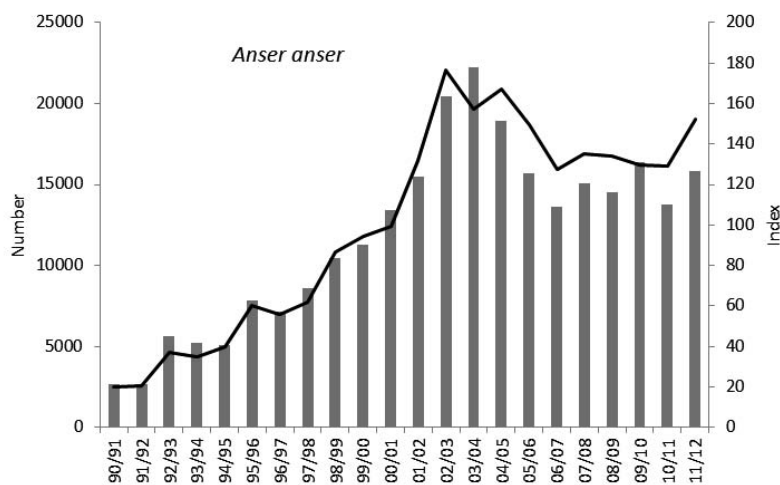


Fig. 6. Trend in winter maximum numbers (bars) and relative number of goose days (line) of Greylag Geese *Anser anser* in Belgium, based on mid-monthly counts during the period 1990/91 – 2011/12.

There was a large increase in the Belgian wintering population in the 1990s to a record number of 22 215 birds in November 2003. Since then, numbers have declined slightly to reach a rather stable level during the last 7 winters. This pattern is very similar to the trend in the Dutch Saeftinghe area (CASTELIJNS & JACOBUSSE 2010). At many places, local breeding populations in Belgium are subject to increasing fox predation or have decreased as a result of human measures to reduce the breeding success. This is probably also reflected in declining winter population numbers.

Barnacle Geese

For a long time, Barnacle Geese were regular but rather scarce winter visitors, belonging to the Russian-Baltic population. Small groups of some tens of birds were regularly seen in large flocks of other species. Today, the situation is quite different and much more complicated.

Wintering numbers started to increase since the end of the 1990s. This increase was probably linked to the establishment of the so-called ‘North Sea population’ with a breeding core area in Zeeland (The Netherlands), very close to the main Belgian staging sites. There are indications (including some ringing records) of a regular exchange of Barnacle Geese across the Dutch-Belgian border. Numbers in the Belgian staging areas normally peak in February-March. In recent cold winters, especially 2010/11, unusually high numbers were recorded as a result of cold weather influxes. In late December 2011, at least 15 880 birds were counted which is in line with large scale movements during that winter within The Netherlands (HORNMAN et al. 2012).

Part of the winter population in Belgium – especially those birds that occur at inland sites - can be linked to the establishment of small breeding populations which are in most cases more or less resident. Most of these breeding birds originate from captive birds; there is one record of a Baltic bird breeding for several years in the Zwin area near Knokke. In 2000-2002, the breeding population was estimated at 120-150 pairs (ANSELIN 2004).

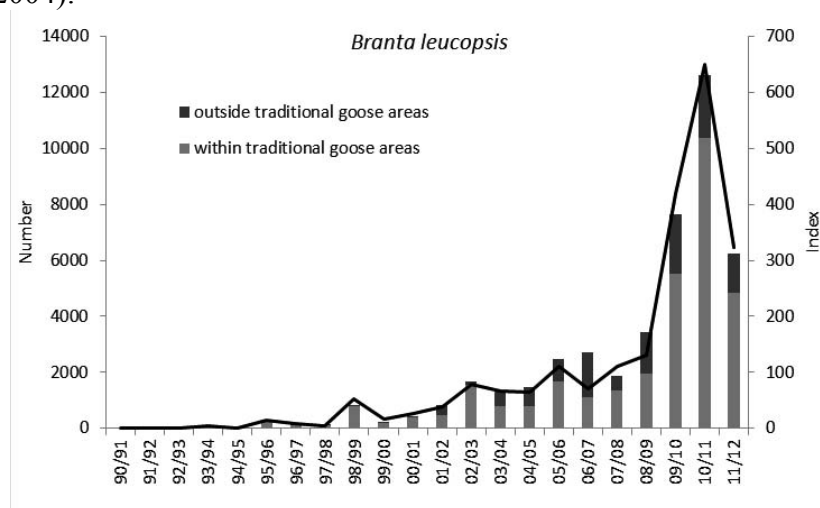


Fig. 7. Trend in winter maximum numbers (bars) and relative number of goose days (line) of Barnacle Geese *Branta bernicla* in Belgium, based on mid-monthly counts during the period 1990/91 – 2011/12.

Other (sub)species

Dark-bellied Brent Geese *Branta bernicla bernicla* migrate in large numbers along the Belgian North Sea coast but very few birds (< 50) winter here because of the short coastline (67 km) and the lack of suitable coastal habitats. In severe winters, small flocks of Pale Brent Geese *Branta bernicla hrota* sometimes settle along the coast (at

least 45-50 in 2010/11). Species such as Lesser White-fronted Goose *Anser erythropus* and Red-breasted Goose *Branta ruficollis* are rare but annual visitors (usually no more than a few individuals).

Discussion

With some 4.77 million (wild) geese wintering in the Western Palearctic (FOX et al. 2010), it is clear that absolute numbers of geese in Belgium are rather small, despite a considerable rise in numbers during the last decades. For species such as Pink-footed Goose (more than 50% of the flyway population) and White-fronted Goose (up to 12.5% in severe winters), the international responsibility of Belgian staging sites is however obvious. In Belgium, all wild goose species show positive long-term trends with annual growth rates varying between 7 and 30%. These increasing numbers fit with a more widespread and general trend of goose populations in North West Europe (FOX et al. 2010). Protection measures (including a reduction in hunting pressure) and favourable feeding conditions on agricultural land are considered as key factors in this development, not only on the international level but also in Belgium (KUIJKEN 2010).

Most of the important core areas and polder complexes for wintering geese are the subject of protective measures such as physical planning ‘nature zones’ and the designation as a ‘Special Protection Area’ under the EU Bird Directive. Some sites are recognised as Ramsar wetlands (Zwin, Blankkaart+IJzer, Lower Schelde estuary). Since a goose shooting ban was implemented in 1981, all arctic goose species are fully protected. Moreover, in some designated areas in Flanders with internationally important waterbird numbers, further hunting restrictions came into force in 2003 to guarantee undisturbed feeding and resting conditions during the winter period (no hunting allowed from mid-November onwards). This shooting ban allows wild geese to move freely in a cyclical way between several feeding sites within a large wintering area. This results in lower goose densities and reduced grazing pressure on grasslands.

Damage to grasslands is also limited because the majority of the geese have left the Belgian wintering areas by mid March. Despite grasslands still being the favourite habitat, there is a tendency of increased foraging on arable fields with crops of winter wheat, silage grass or potatoes. This shift is probably related to the disappearance of many permanent grasslands during the last decades (KUIJKEN & VERSCHURE 2008). The main causes of increasing agricultural damage are however the expanding populations of breeding and/or non-native species (mainly Greylag and Canada Geese). Hunting possibilities for these largely resident populations have been extended significantly. Other measures to control local populations include destruction of eggs and catching of moulting concentrations (with euthanasia of the captured birds). This tends to stabilise breeding numbers in some regions.

It is difficult to predict future developments. In the short term and for various reasons, increase rates of some species in Belgium have slowed down considerably or even became slightly negative. This is also seen in The Netherlands (KOFFIJBERG & HORNMAN 2011). This could be the result of either a similar trend at the flyway level or large scale distribution changes within the flyway. Global warming and mild winter temperatures could lead to a northward shift of the distribution area or to earlier departure from southern wintering grounds such as the Belgian wintering geese areas (TOMBRE et al. 2008). On the other hand, there are indications that a warmer, more moisture-laden Arctic atmosphere in the autumn might contribute to an increase in Eurasian snow cover during that season (COHEN et al. 2012).

In that case, cold weather movements of geese – which are often driven by snow fall - could become more frequent, enhancing the importance of Belgian refuges (as in 2010/11).

Therefore, the availability of suitable feeding and resting areas for geese must also be guaranteed in the near future, also taking into account the high degree of site fidelity of some species.

Acknowledgements

Goose counting in Belgium largely depends on the efforts made by many specialised volunteers. We thank all these people for their dedicated count work, not in the least the regional coordinators. Most of the local and regional counting networks are supported by Natuurpunt (Flanders) and Aves (Wallonia).

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First Greylag Geese *Anser anser rubrirostris* ringed in Greece

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Abstract

Within the framework of a joint study by the Society for the Protection of Prespa (SPP), Greece and the Dutch Centre for Field Ornithology (SOVON), The Netherlands, 57 Greylag Geese were captured using cannon nets, and individually marked with plastic and metal leg rings and plastic neck collars, while four were fitted with solar-powered GPS transmitters. These birds belong to the resident or locally-dispersive population of Prespa National Park, northern Greece, which numbers up to 300 individuals. These are the southernmost population of Greylags in Europe and a very isolated one with possible genetic particularities, and which deserves a special care for its conservation. These are the first geese captured and marked in Greece.

Key words: Prespa, Greylag Geese, canon nets, GPS transmitters, neckbands

Introduction

In Greece, breeding of single pairs of Greylag Geese were first reported in 1917 at the now drained Lake Artzan (Macedonia) and later in 1938 in the Axios Delta. During the 1960s, some pairs were known to breed at the Evros Delta and Lake Mikri Prespa and single pairs at the lakes Ismaris and Kerkini (HANDRINOS & AKRIOTIS 1997). At present (2012) the only regularly breeding population of Greylag Geese in Greece is found in Prespa (ca 18-30 pairs, 200-280 individuals) while a few pairs breed irregularly at Lake Kerkini (0-3 pairs). Greylags of Prespa belong to the oriental race *A.a. rubrirostris*.

The population of Greylag Geese in Prespa is important for Greece since it is the sole viable breeding population of any goose species in the country. It has also an international importance since it is one of the few entirely resident or locally-dispersive populations in the world and the southernmost population of this species in Europe (SCOTT & ROSE 1996). However, this population is geographically isolated by more than 400 kms from its nearest neighbours and this isolation might have interesting genetic implications that add to its importance.

Study area

The Prespa National Park is located at the borders of Greece with the Former Yugoslav Republic of Macedonia and Albania, and encompasses the Greek parts of the sister lakes Mikri (Micro) and Megali (Macro) Prespa, and their catchment basin in Greece (Fig. 1).

Mikri Prespa is a wetland of international importance listed under the Ramsar Convention, an Site of Community Importance (SCI) and an Special Protection Area (SPA). The overall joint drainage basin of both Prespa lakes (Micro and Macro) is 2519.1 km². Prespa lakes and the nearby lake Ohrid are the oldest lakes in Europe and host high numbers of endemic fresh-water invertebrates, as well as fish, while the area is home to an extremely rich flora and fauna as well as internationally important breeding waterbird populations.

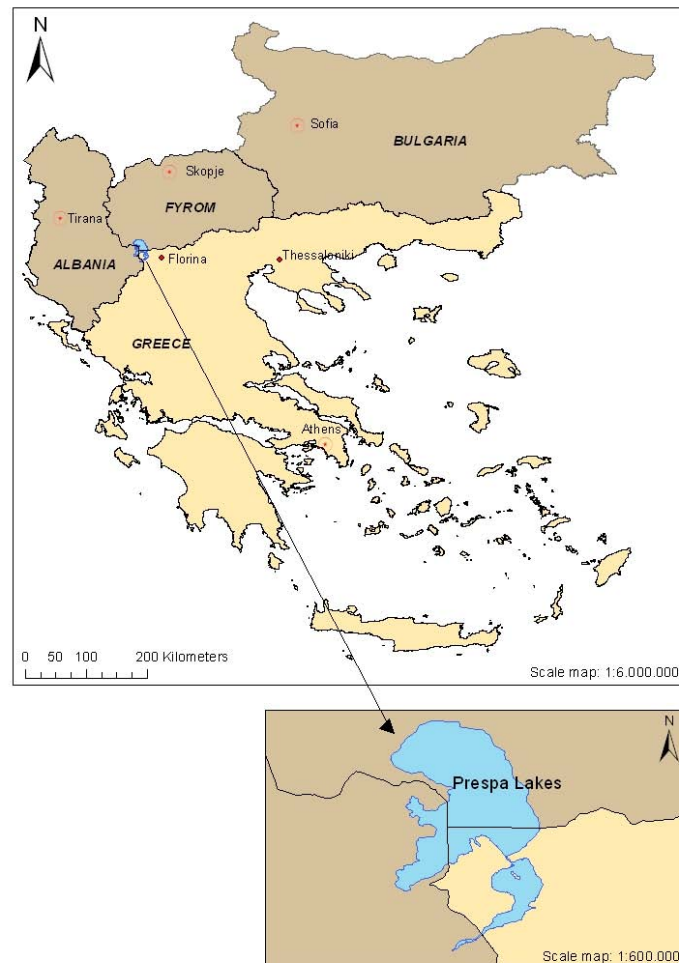


Fig. 1. Map of Prespa basin in the northwestern part of Greece on the border with Albania and FYROM.

The ringing project

Greylag Geese have been studied extensively in central and northern Europe but in Greece little is known about their ecology. The Society for the Protection of Prespa (www.spp.gr) in collaboration with the SOVON, Dutch Centre for Field Ornithology (www.sovon.nl) launched a joint research programme in 2011 to study the isolated and resident Prespa population. The aim is to get insight into the ecology of the species and propose necessary conservation measures. To do so it was considered necessary to mark the birds with plastic and metal leg rings, neckbands as well as 4 GPS neckband transmitters in order to answer questions related especially to spatial distribution and use of space in and outside Prespa.

Though normally Greylags are captured during moult, (ANDERSSON et al. 2001, VOSLAMBER et al. 2010), in Prespa this was not feasible as they tend to withdraw in the dense reedbeds surrounding the lake, where it is impossible to be captured and where there might be disturbance to other important breeding birds such as the Dalmatian and Great White Pelican (*Pelecanus crispus*, *Pelecanus onocrotalus*), Pygmy Cormorant (*Phalacrocorax pygmaeus*), Glossy Ibis (*Plegadis falcinellus*), Great White Heron (*Ardea alba*), Little Egret (*Egretta garzetta*), Squacco Heron (*Ardeola ralloides*), Night Heron (*Nycticorax nycticorax*), Purple Heron (*Ardea purpurea*) and Grey Heron (*Ardea cinerea*).

Thus, it was decided to capture them with cannon nets on their feeding grounds after the end of the moulting season. The necessary equipment was transported from The Netherlands to Prespa and the catching effort took place between 8 and 13 October 2012.



Fig. 2. Natural meadow at Slatina, Prespa (Loes van den Bremer, SPP archive)

The month before the attempt, barley and wheat seeds were put on the feeding areas used mostly by the birds every second day in order to attract birds and ensure their presence on the specific field on a daily basis. Additionally, a strip of straw was placed on the field exactly simulating the strip under which the nets would be finally covered. The field is a natural meadow mown during late summer (figure 2).

On 11 October, 57 Greylag Geese were caught. Metal and white plastic rings with engraved codes in black as well as white neckbands (G00-G57) were placed on each bird caught. Four male birds were fitted with GPS neckband transmitters (H00-H03) powered by 5 solar panels (figure 3).



Fig. 3. GPS transmitter neckbands waiting for a goose (Fotini Vakitsidou, SPP archive).

Males were selected to exclude the possibility of having both members of a pair mounted with transmitters but also because males are stronger than females to carry the 45g transmitters. The data from the transmitters will be retrieved with Bluetooth telemetry, from as far as 1 kilometer. The transmitters will be able to get one position up to every 10 minutes according to the levels of battery charge and shall provide information on date, time, WGS84 coordinates, altitude above sea level, movement, estimated horizontal accuracy, number of satellites used for positioning and the battery voltage. Observations of all ringed birds can be entered on the Goose Specialist Group website www.geese.org.

Expected results

Since 1997, SPP carried out censuses of goose numbers to obtain estimates of population trends and their distribution. The individually marked birds together with the four transmitter-mounted birds will enable the research team to collect data to answer a series of important questions about the ecology of the species.

The transmitters particularly will provide information on the local and regional movements of the birds but also will help disclose their destinations during periods they leave Prespa. Moreover, monitoring will be carried out to obtain data such as brood size, productivity, distribution and activity patterns. Additionally, the marked individuals will help identify factors affecting the breeding success, the mortality rates and the survival of young. In order to have an in depth understanding of the survival of young, a study on the assessment of the quality of grasslands used by the geese for raising of young will be implemented. Finally, a genetic analysis will be undertaken in order to check for genetic isolation and the possible occurrence of particular genetic features.

Acknowledgements

Gerard Muskens, Loes van den Bremer, and Jan Vegelin offered their expertise on the use of cannon netting and ringing. The SPP team helped during the preparation phase but also during ringing. Theo Gerrits (Made-by-Theo) produced the GPS-neckbands and the Hellenic Bird Ringing Center provided the metal rings.

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Third announcement on the 15th meeting of the Goose Specialist Group, 8-11 January 2013, Arcachon, France

Vincent Schricke, on behalf of the conference organizers.

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This meeting will be hosted by the Palace of Congress of Arcachon, which is the best place for this kind of meeting, very close to the basin and facilities to watch birds.

All accommodations are possible in the Palace. Besides there are many hotels located close to the Palace. All conference participants must arrange their own accommodation.

Arcachon is situated on the Atlantic coast of France, about 60 kilometers south-west of Bordeaux. Participants can arrive by car, train from Paris to Arcachon and/or flights from Paris as well as from several other European airports directly to Bordeaux (Mérignac airport). Free shuttle from Bordeaux-Mérignac airport to Arcachon Palace of Congress. To use the free shuttle on Monday, 7th and Friday 11th, please send your flight information to cneraam@oncfs.gouv.fr.



The main topic of the meeting will be Brent Geese and Eelgrass (*Zostera*). In January 50.000 Brent Geese feed on the extensive eelgrass-beds in the Bassin d'Arcachon.

The scientific team is composed of scientists who studied Pacific Black Brant, Atlantic Light-bellied Brent and Dark-bellied Brent :

- . Bart Ebginge (Netherlands)
- . David Ward (Alaska)
- . Kendrew Colhoun (Northern Ireland)
- . Vincent Schricke (France)

The meeting will consist of two and a half full days of talks and posters. There will also be a mid-conference excursion by boat (visit of the basin) and by bus to the ornithological reserve of Teich.

Summaries of oral presentations and posters have to be sent not later than November 15th, to be published in the abstract book.

Programme

Monday, January 7th

- . Arrival / Registration
- . 19:00 Evening cocktail offered by the Council of Arcachon

Tuesday, January 8th

- . 9:00 to 12:30 and 14:00 to 18:00 : Oral presentations and poster sessions
- . Lunch and dinner included

Wednesday, January 9th

- . 9:00 to 12:30 and 14:00 to 18:00 : Oral presentations and poster sessions
- . Lunch and dinner included

Thursday, January 10th

- . 9:15 to 21:00 Conference excursion by bus to the ornithological reserve of Teich and by boat (visit of the Bassin d'Arcachon)
- . Conference dinner at Cap Ferret and return trip by boat

Friday, January 11th

- . 9:00 to 12:30 Oral presentations
- . Lunch
- . Departure after lunch

Registration

The registration form for booking can be filled on the ONCFS-website from 01-10-2012 to 15-11-2012 (<http://www.oncfs.gouv.fr/CNERA-Avifaune-migratrice-ru89/Reunion-du-Goose-Specialist-Group-en-janvier-2013-ar1302>.)

Registration fee

Registration fee (not including hotel accomodation) is 360€ (payable by Credit card or Bank Transfer: IBAN : FR76 1007 1780 0000 0010 0427 858 - BIC : TRPUFRP1) and includes:

- Welcome cocktail
- Participation to all presentation and poster sessions
- Conference excursion
- All meals (lunch, dinner, coffee breaks)
- Conference dinner
- Participant case (abstract book and other documents)
- Proceedings of the meeting

The registration fee does not include hotel accomodation. All conference participants must arrange their own accommodation.



New Publications 2010/2011/2012

- HEMETSBERGER, J., I.B.R. SCHEIBER, B.M. WEIß, D. FRIGERIO & K. KOTRSCHAL (2010): Influence of socially involved hand-raising on life history and stress responses in greylag geese. - *Interaction Studies* 11:3: 380-395.
- KEHMEIER, S., C. SCHLOEGL, I.R.B. SCHEIBER & B.M. WEIß (2011): Early development of gaze following into distant space in juvenile Greylag geese (*Anser anser*). - *Animal Cognition*, DOI 10.1007/s10071-011-0381-x
- KRALJ-FISER, S., I.B.R. SCHEIBER, K. KOTRSCHAL, B.M. WEIß & C.A.F. WASCHER (2010): Glucocorticoids enhance and suppress heart rate and behaviour in time dependent manner in greylag geese (*Anser anser*). *Physiology and Behaviour* 100, 394-400.
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- SCHEIBER, I.B.R., A. HOHNSTEIN, K. KOTRSCHAL & B.M. WEIß (2011): Juvenile Greylag Geese (*Anser anser*) Discriminate between Individual Siblings. - *PLoS ONE* 6(8): e22853. doi:10.1371/journal.pone.0022853
- SCHEKKERMAN, H., M. HORNMAN & E. VAN WINDEN (2012): Monitoring van het gebruik van ganzenfoerageergebieden in Nederland in 2010/11. - *Sovon-rapport* 2012/03. Sovon Vogelonderzoek Nederland, Nijmegen.
- VOSLAMBER B., E. KNECHT & D. KLEIJN (2010): Dutch Greylag Geese *Anser anser*: migrants or residents? - *Ornis Svecica* 20: 207–214.
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Proceedings of past GSG meetings

Proceedings of the 14th GSG meeting

Post-conference publishing following the 14th GSG meeting held in Steinkjer, Norway

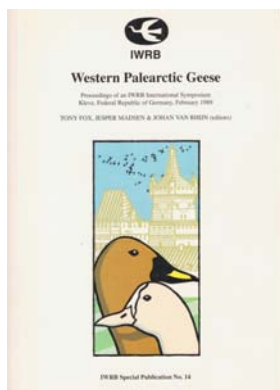
During the 14th GSG meeting, which was held in Steinkjer in Norway in April 2012, those participants who wished to publish their results were invited to do so in the Norwegian journal “Ornis Norvegica”.

“Ornis Norvegica” is a peer-reviewed journal of the Norwegian Ornithological Society (*Norsk Ornitologisk Forening – NOF*). Formerly, the journal appeared in paper format, although today’s journal is now exclusively online. Access is open, and there are no subscription fees.

Readers of Goose Bulletin will, towards the end of 2012, be able to find articles relating to the 14th GSG meeting, as well as other articles about “non-geese”(!) at the following web address: <https://boap.uib.no/index.php/ornis/index>

Happy reading,
Paul Shimmings

Proceedings of earlier GSG meetings still available



Proceedings Goose Meeting 1989
(Kleve, Germany)

Interested? Please contact:
johan.mooij@bskw.de



Proceedings Goose 2007
(Xanten, Germany)

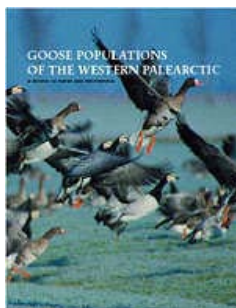
Interested? Please contact:
johan.mooij@bskw.de



Proceedings Goose 2009
(Höllviken, Sweden)

Interested? Please contact:
leif.nilsson@zooekol.lu.se

Literature



The Goose Specialist Group made an impressive compilation (edited by Jesper Madsen, Tony Fox & Gill Cracknell) of our knowledge on the status and distribution of the goose populations of the western palearctic. This book is not for sale anymore, but a digital copy can be downloaded for free from:

http://issuu.com/jesper_madsen/docs/goosepopulationswestpalearctic
or from

<http://bios.au.dk/en/knowledge-exchange/about-our-research-topics/animals-and-plants/mammals-and-birds/goose-populations-of-the-western-palearctic/>

The latest edition of the Wildfowl journal are now also available online, for free, at <http://www.wwt.org.uk/what-we-do/publications/wildfowl/archive/wildfowl-issue-61/>.

Call for help:

As discussed during the Höllviken 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



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 (e.g. 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.



