



**ANNUAL REPORT 2024**

**INTERNATIONAL WING SURVEY**



*Photo: Jan Skriver*



## Colophon

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<b>Year of publication:</b>	2024
<b>Graphs and data processing:</b>	Heather Warrender
<b>Publisher:</b>	Waterfowlers' Network Molsvej 34, DK – 8410 Rønne
<b>Data sources:</b>	Sweden: The Swedish Hunters Association  Denmark: Danish Centre for Environment and Energy, Aarhus University (DCE/AU) <a href="https://fauna.au.dk/jagt-og-vildtforvaltning/vingeundersogelsen">https://fauna.au.dk/jagt-og-vildtforvaltning/vingeundersogelsen</a>  UK: BASC



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## Introduction

Every spring and autumn, migratory birds cross numerous manmade borders on their annual migration between breeding and wintering grounds. This cross-border journey presents challenges for management, as the birds rely on the preservation and sustainable management of habitats along their migration routes.

This was part of the reason behind the establishment of Waterfowlers' Network in 2019. Waterfowlers' Network is a collaboration that aims to unite hunters, researchers, and conservation organisations across borders with the shared goal of protecting and ensuring sustainable hunting of migratory birds. Many of our huntable migratory species travel long distances and cross multiple national borders, making a coordinated effort across countries essential to ensure that they are hunted sustainably.

Hunters' collection of data on migratory game species contributes to increasing our knowledge about population dynamics, particularly in terms of the age structure and sex ratio of various huntable migratory species, which is where our wing surveys come in. Individually our wing surveys provide us with only part of the picture when it comes to these migratory species but when linked together, we can gain much clearer insights into these populations and how they change over time and space.

By sharing research and data on migratory bird populations, different countries can gain a more accurate understanding of species' behaviour, population dynamics, and the threats they face. This knowledge can be used to make the best management decisions regarding hunting and species conservation.

The purpose of this report is to present data from wing collection, which is carried out in countries represented in the Waterfowlers' Network. The report also highlights the importance of collaboration between researchers and hunters in the data collection process.

Through systematic monitoring of migratory species, we can gain deeper insights into how climate change, habitat loss, and human activities affect the behaviour and survival of these species, and we can work towards securing a sustainable harvest. We face significant challenges in the future, and therefore, it is more important than ever to continue strengthening and expanding international collaboration.

Together, we can make a difference.

## Method

This report contains data from wings collected by Swedish, Danish and UK hunters. The Wing Surveys collects wings, voluntarily collected by hunters from a range of huntable bird species.

### Sweden

Since 1938, with the voluntary efforts of hunters, the Swedish Hunters Association have collected data on the number of birds harvested in Sweden. The collection of wings has been used to determine the age and sex of the harvested birds during periods, last in 2007. Historical data has provided knowledge, which has been crucial in discussions on matters such as the length of hunting seasons. In 2023 a new wing survey program was launched and data in this report reflect work during a pilot year when focus was on building up methodology and logistics.

To contribute to the Swedish wing survey, you must cut one wing from each harvested bird, which can be geese or ducks, but not released birds, as far as it is possible to determine. Cut the wing at the shoulder joint, ensuring that the surrounding feathers, known as scapular feathers, are included. After removing the wing, it is placed in a plastic bag. The hunters include a note in a separate bag, specifying the species, the date of harvest, and the location where the harvest took place. Once this is done, they must contact wing survey to arrange drop-off or transport of the wings.

Wings from derogation (geese) are also collected.

Species	Season
<b>Wigeon</b>	Aug – Nov-Dec*
<b>White fronted goose</b>	Oct 1 – Jan 31**
<b>Mallard</b>	Aug – Nov- Dec*
<b>Greylag goose</b>	Aug 11 – Jan 31
<b>Canada goose</b>	Aug 11 – Jan 31
<b>Golden eye</b>	Aug 21 – Jan 31
<b>Teal</b>	Aug – Nov ***
<b>Common scoter</b>	Sep 21 – Jan 31
<b>Tufted duck</b>	Aug 21 – Jan 31
<b>Barnacle goose</b>	General license (derogation) Jul 1 – Jun 30

\* Local hunting seasons.

\*\* Only huntable in Skåne.

\*\*\* Local hunting seasons.



## Denmark

In Denmark the Wing Survey is undertaken by DCE - Danish Centre for Environment And Energy, Aarhus University (DCE/AU). Since the 1970s, wings from selected bird species in Denmark have been collected in different ways. Hunters submit the wings, and Aarhus University compiles the results of the survey.

The Wing Survey adds more nuance to the mandatory game harvest reporting in Denmark, which all hunters must submit annually. Together with the game harvest statistics, the Wing Survey forms the scientific basis for managing hunting in Denmark and, along with national and international counts of huntable bird populations, plays a crucial role in determining hunting seasons.

It is free to submit wings to the Wing Survey, and you can request special envelopes with prepaid postage. You can also choose to drop off the wings at one of the freezers set up around the country. The Wing Survey requires one whole wing from each harvested bird, along with the date and location of the harvest.

Not all wings are relevant for the Wing Survey. Below is a list of the species from which wings are requested:

Species	Terrestrial	Territorial Sea
<b>Dabbling ducks *</b>	Sep 1 – Dec 31	Sep 1 – Jan 31
<b>Diving ducks **</b>	Oct 1 – Jan 1	Oct 1 – Jan 31
<b>Common eider</b>	Oct 1 – Jan 31 ***	Oct 1 – Jan 31 ***
<b>Greylag goose</b>	(Aug 1 – Aug 31) **** Sep 1 – Jan 31	Sep 1 – Jan 31
<b>Bean goose</b>	Sep 1 – Nov 30 *****	
<b>White fronted goose</b>	Sep 1 – Jan 31	Sep 1 – Jan 31
<b>Pink footed goose</b>	Sep 1 – Jan 31 *****	Sep 1 – Jan 31
<b>Canada goose</b>	(Aug 1 – Aug 31) **** Sep 1 – Jan 31	Sep 1 – Jan 31
<b>Barnacle goose</b>	Only derogation with permit	
<b>Egyptian goose</b>	Sep 1 – Jan 31 General license (derogation) all year	Sep 1 – Jan 31
<b>Coot</b>	Oct 1 – Jan 31	Oct 1 – Jan 31
<b>Woodcock</b>	Oct 1 – Jan 31	Oct 1 – Jan 31

<b>Common snipe</b>	Sep 1 – Dec 31	Sep 1 – Jan 31
<b>Herring gull</b>	Sep 1 – Jan 31	Sep 1 – Jan 31

- \* Dabbling ducks: mallard, pintail, gadwall, Eurasian wigeon, teal, shoveler, garganey.
- \*\* Diving ducks: common scoter, goldeneye, tufted duck, scaup.
- \*\*\* Only hunting season on male eider, and no hunting in SPA's designated for eider.
- \*\*\*\* Hunting allowed on arable area.
- \*\*\*\*\* Only hunting season in southeastern part of Denmark.
- \*\*\*\*\* Hunting season can change because of adaptive harvest management.

## UK

The BASC Wing Survey was started in 1965, and it ran annually up until 2002 when it was discontinued due to lack of funding. Over this time the species requested has changed with only wigeon and teal being consistently collected. The survey was restarted in 2017/18 and has run annually since with the aim to collect wings from all huntable waterfowl species within the UK, the below table outlines the quarry seasons for each country and the species of which wings are accepted. In the UK hunters are asked to remove one wing from each bird they shoot as close to the body as possible and label the wing with the date and county in which it was shot before posting to our head office.

<b>Species</b>	England, Scotland & Wales	Northern Ireland	Isle of Man
<b>Ducks and geese* inland</b>	Sep 1 – Jan 31	Sep 1 – Jan 31	Sep 1 – Jan 31 – Duck July 1 – Mar 31 – Geese**
<b>Ducks and geese* below HOST (see below)</b>	Sep 1 – Feb 20	Sep 1 – Jan 31	Sep 1 – Jan 31- Duck Jul 1 – Mar 31 – Geese **
<b>Common snipe</b>	Aug 12 – Jan 31	Sep 1 – Jan 31	Sep 1 – Jan 31
<b>Jack snipe</b>	Protected	Sep 1 – Jan 31	Protected
<b>Woodcock</b>	Oct 1 – Jan 31	Oct 1 – Jan 31	Oct 1 – Jan 31
<b>Golden plover</b>	Sep 1 – Jan 31	Sep 1 – Jan 31	Protected
<b>Coot/moorhen</b>	Sep 1 – Jan 31	Protected	Protected

HOST – high water mark of ordinary spring tides England, Wales and Scotland: Any area below high-water mark of ordinary spring tides

\*Gadwall, Goldeneye, Mallard, Pintail, Pochard, Shoveler, Scaup, Teal, Tufted duck, Wigeon, Canada geese, Greylag geese, Pink-footed geese, White-fronted geese.



\*\*Geese can only be shot under general licence under the Wildlife Act 1990.

### More wing surveys

It is not only Sweden, Denmark and UK, that are collecting wings from harvested ducks and geese. Wing surveys are also developing in the other countries represented in Waterfowlers' Network. Ireland will start to develop a wing survey this year, and Germany has developed an app, that in the future will be used to collect data. We hope to include as many surveys as possible in future reports.

### The first report

Please note that this is the first report presenting wing survey data from members of Waterfowlers' Network, and we have decided to start with a few shared huntable species, while we develop the format of this report. This report contain data about Eurasian wigeon, Teal and Greylag goose.

## Results

### Total number of wings collected

The number of wings collected per country and species are displayed in the below table. Currently sample sizes vary substantially between the countries due to the differing levels of establishment of the surveys in each country. The aim is to have representative samples of the harvest from each country.

	<b>SWEDEN</b>	<b>DENMARK</b>	<b>UNITED KINGDOM</b>
<b>GREYLAG GOOSE</b>	720	866	41
<b>TEAL</b>	30	1,946	332
<b>WIGEON</b>	25	2,989	896



Species summaries

Wigeon (*Mareca Penelope*)



Picture 1 & 2: Left: male, right: female

The percentage of the total sample per month is represented below in Figure 1 for Sweden, Denmark and the UK.

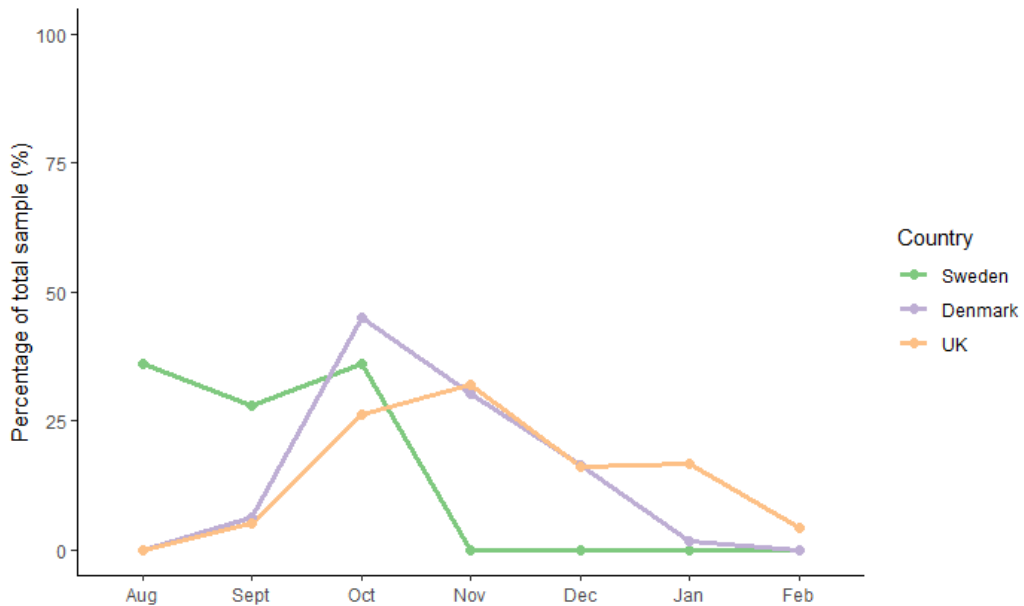


Figure1: The percentage (%) of the total wing sample per month per country for Sweden, Denmark and the UK in the 2023/24 season. Please notice, that wigeon is not huntable in February, in Sweden and Denmark.

### Age distribution in harvest bag

The age distribution shows the percentage of first-winter birds (juveniles) compared to the percentage of adult birds in the wing sample. The results for all three countries are shown below in Figure 1.

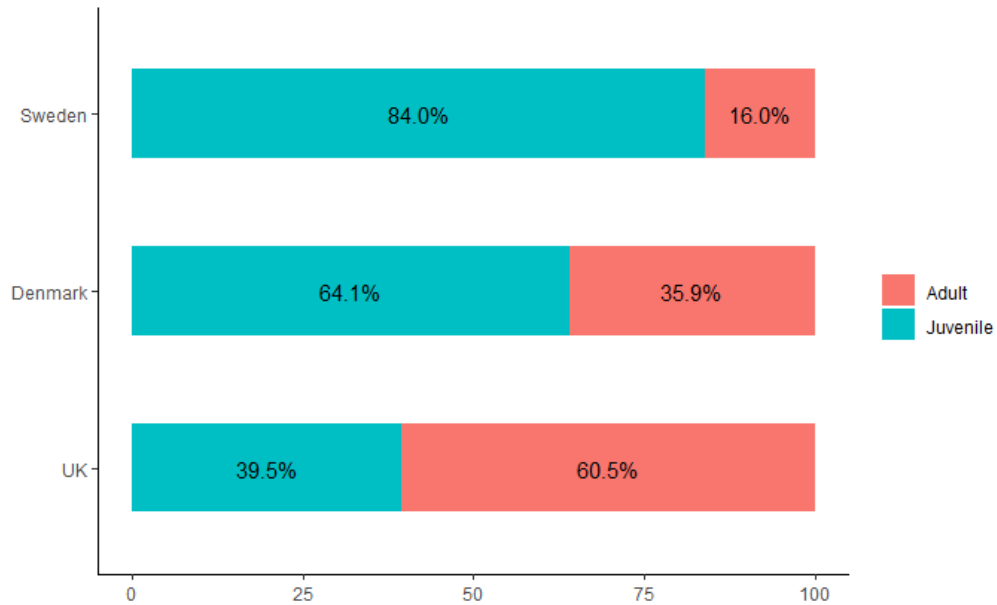
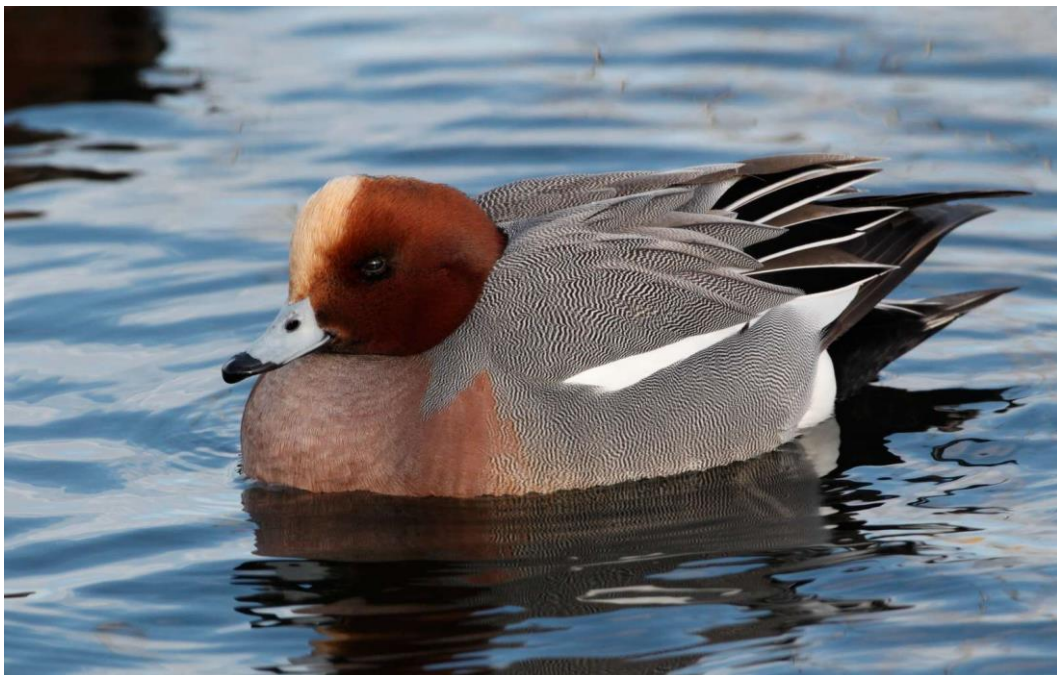


Figure 2: Age distribution of collected wing for wigeon in Sweden, Denmark and UK.



Picture 3: Eurasian wigeon

Age and sex distribution in harvest bag

In Denmark and the UK, age and sex distribution for the collected samples of wigeon is determined. In Figure 2 the results for the hunting season 2023/24 is shown. Low number in the samples from Sweden did not allow differentiation into 4 categories.

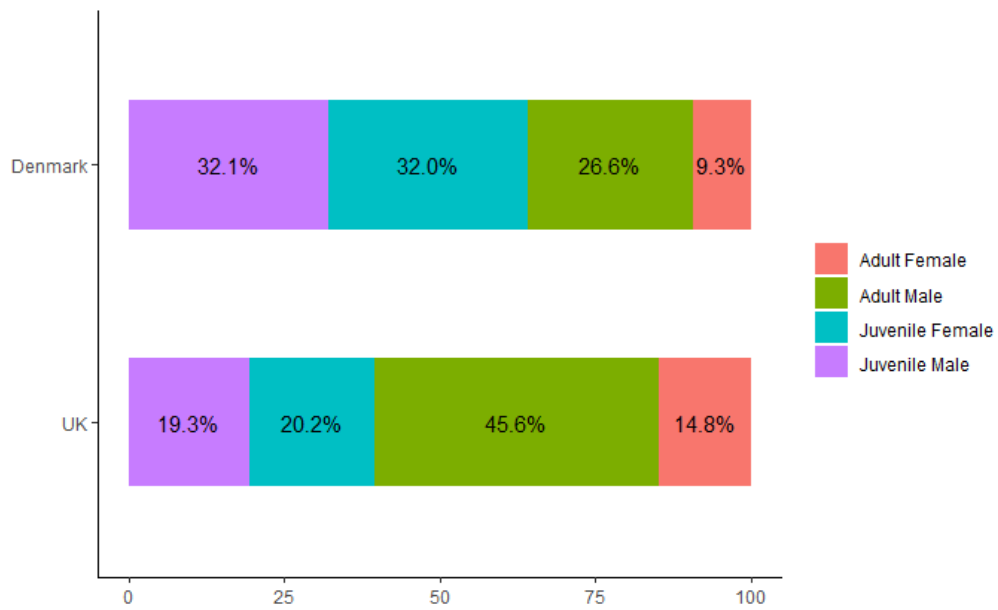


Figure 3: Age and sex distribution of collected wings from wigeon in Denmark and UK.

Teal (*Anas crecca*)



Picture 4 & 5: Left: male, right: female

The percentage of the total sample per month is represented below in Figure 4 for Sweden, Denmark and the UK.

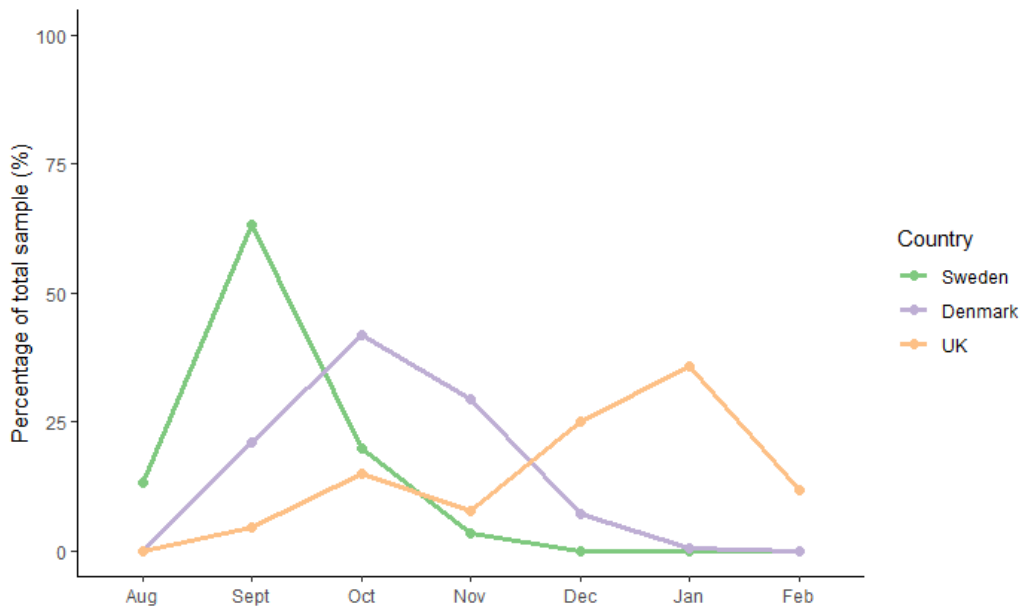


Figure 4: The percentage (%) of the total wing sample per month per country for Sweden, Denmark and the UK in the 2023/24 season. Please notice, that teal is not huntable in February, in Sweden and Denmark.

### Age distribution in harvest bag

The age distribution shows the percentage of first-winter birds (juveniles) compared to the percentage of adult birds in the wing sample. The results for all three countries are shown below in Figure 5.

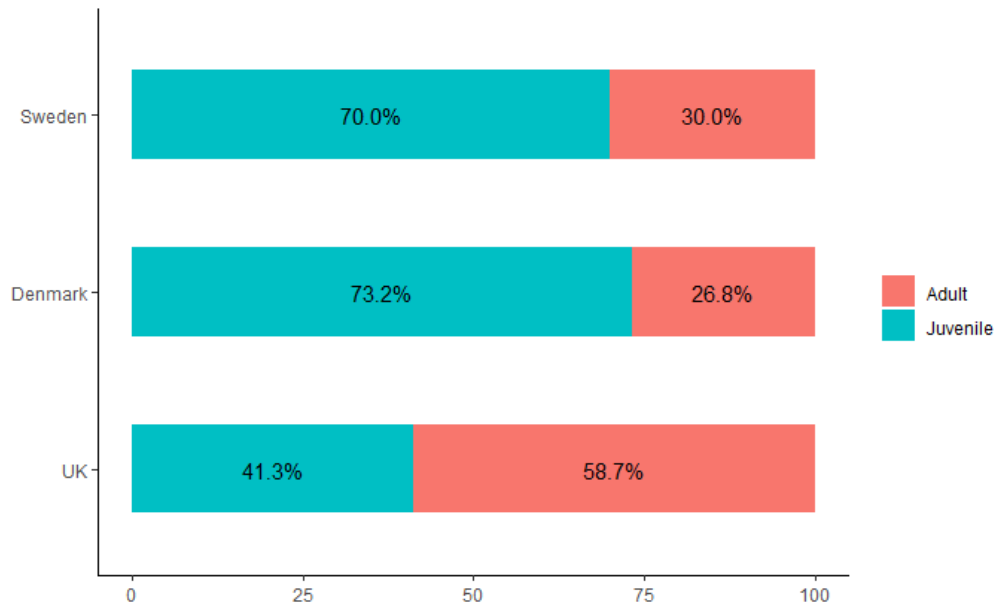


Figure 5: Age distribution of collected wings from teal in Sweden, Denmark and UK.



Picture 6: Teal

Age and sex distribution in harvest bag

In Denmark and the UK, age and sex distribution for the collected samples of teal is determined. In Figure 6 the results for the hunting season 2023/24 is shown. . Low number in the samples from Sweden did not allow differentiation into 4 categories.

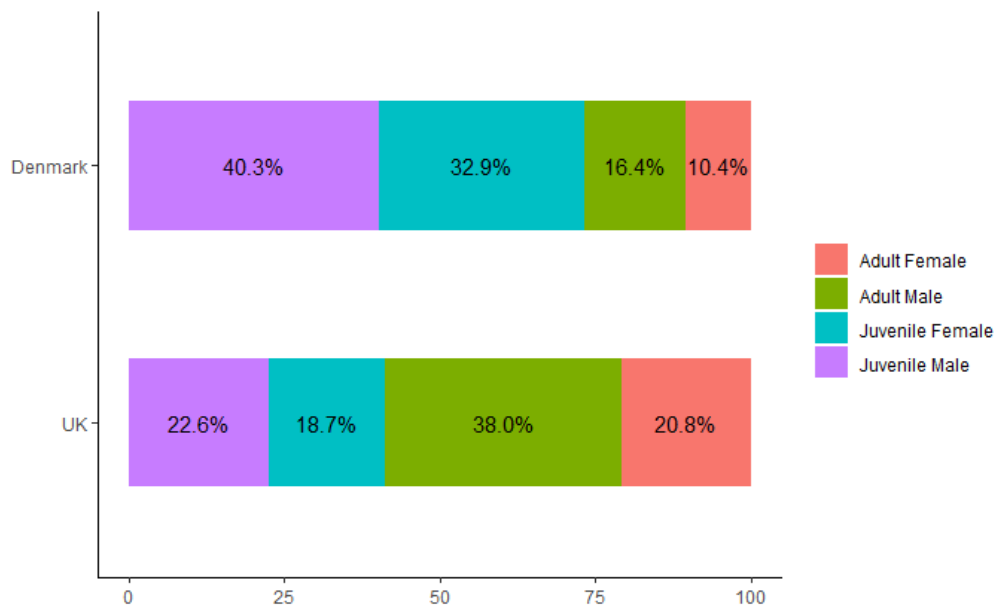


Figure 6: Age and sex distribution of collected wings from teal in Denmark and UK.

Greylag goose (*Answer answer*)

The percentage of the total sample per month is represented below in Figure 7 for Sweden, Denmark and the UK.

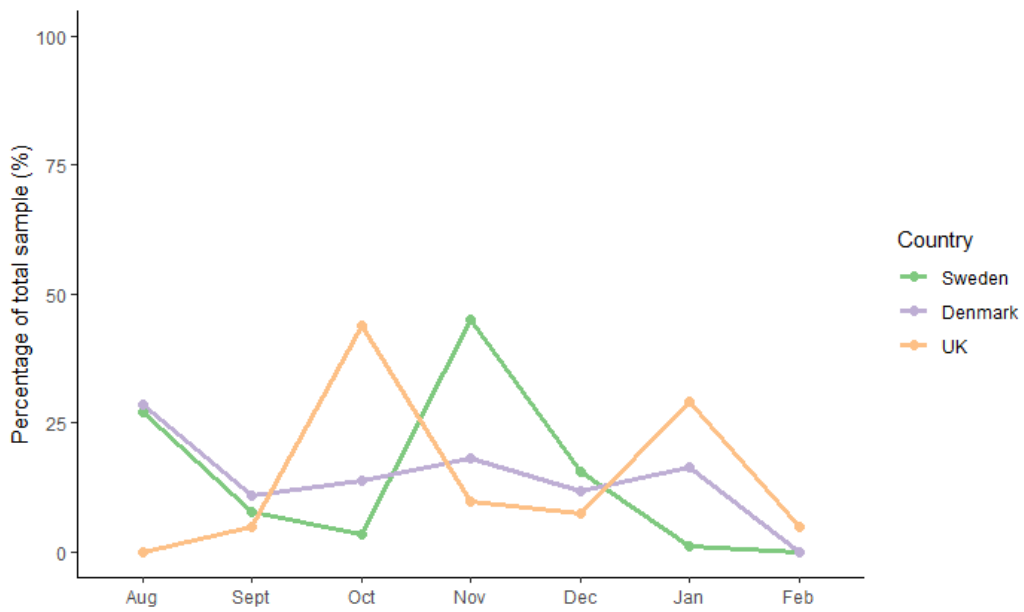


Figure 7: The percentage (%) of the total wing sample per month per country for Sweden, Denmark and the UK in the 2023/24 season. Please notice, that greylag goose is not huntable in February, in Sweden and Denmark.

Age distribution in harvest bag

The age distribution shows the percentage of first-winter birds (juveniles) compared to the percentage of adult birds in the wing sample. The results for all three countries are shown below in Figure 8. We have noticed that the age distribution in harvested geese from Denmark differs from Sweden and UK, and it might be relevant to investigate, if there are different approaches to age determination in the different countries.

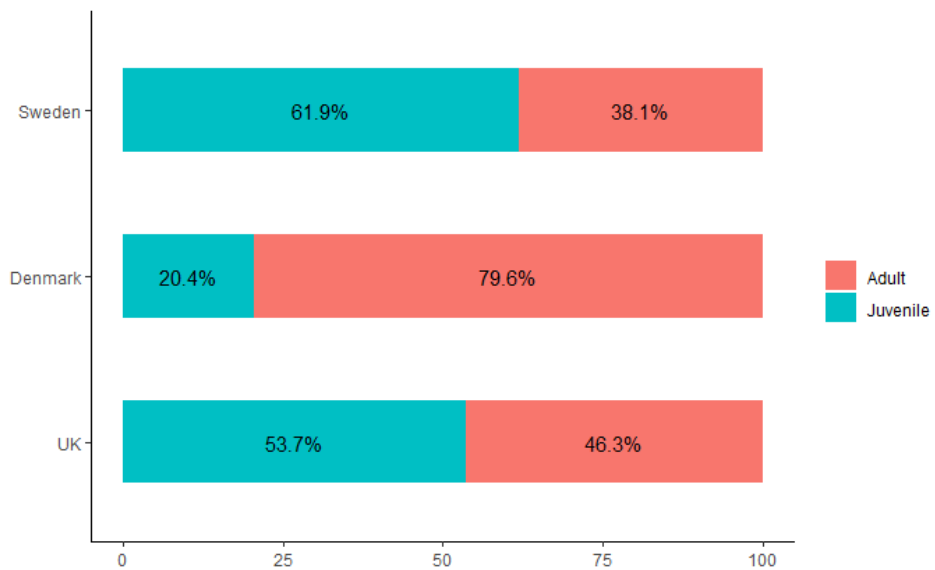


Figure 8: Age distribution of collected wings for greylag goose in Sweden, Denmark and the UK.



Picture 7: Greylag geese





## Discussion

Wing collection from migratory birds, is an important source of data, that has been used for several decades to monitor populations and harvest for various bird species. Data from wing collection contributes to a better understanding of the sex and age distribution of the harvested birds, providing valuable insights into population demographics and reproduction. This type of data is essential for making informed decisions, on the management and protection of migratory birds, especially in terms of ensuring the sustainability of hunting.

However, it must be acknowledged that the current data basis for wing collection is relatively limited and highly dependent on hunters' engagement. Moreover, this report only contains data from a restricted geographic area, and it can be debated whether a lack of standardization in the collection and reporting of wings across borders might potentially introduce bias in the data. This raises the question of whether the collected data in its current form, is sufficient to paint a reliable picture of the populations and their development. The central question is how we can ensure that the data is both representative and adequate for the future use of wing collection. Nevertheless, this is a starting point!

Despite the above-mentioned challenges, it is crucial to continue wing collection. Even though the data foundation is currently thin, continuity and long-term collection are necessary to establish a stable basis for future analyses. Historical data cannot be replaced, and without ongoing efforts, we will lose the opportunity to track long-term trends in the populations. In addition, new technological and organizational solutions, such as increased digitization and better incentives for hunter participation, can enhance both the quality of the data and the amount of material collected.

Furthermore, wing collection plays an important role in relation to our member states' international obligations regarding bird conservation. Monitoring of migratory birds is not only a national matter but also contributes to international initiatives, such as flyway programs, where data from many countries is collected and analyzed to gain a broader picture of population trends.

In this context, it is important to maintain and promote wing collection, even though there may be some current challenges with the data foundation. The present situation, with growing concerns about the sustainability of hunting, requires active efforts to strengthen participation and the quality of the collection, but the potential benefits in the form of long-term data and an improved understanding of population trends make it worthwhile. This supports the sustainable management and conservation of species, benefiting both nature and humans in the future.

