TRENDS OF MIGRATORY AND WINTERING WATERBIRDS IN THE WADDEN SEA

1987/1988 - 2022/2023

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TREND CALCULATIONS

Erik van Winden (Sovon, The Netherlands) performed the UINDEX and TrendSpotter operations to calculate trends and to provide the imputed numbers for the calculation of maximum estimates and distributions.

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THIS PUBLICATION SHOULD BE CITED AS

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1. INTRODUCTION

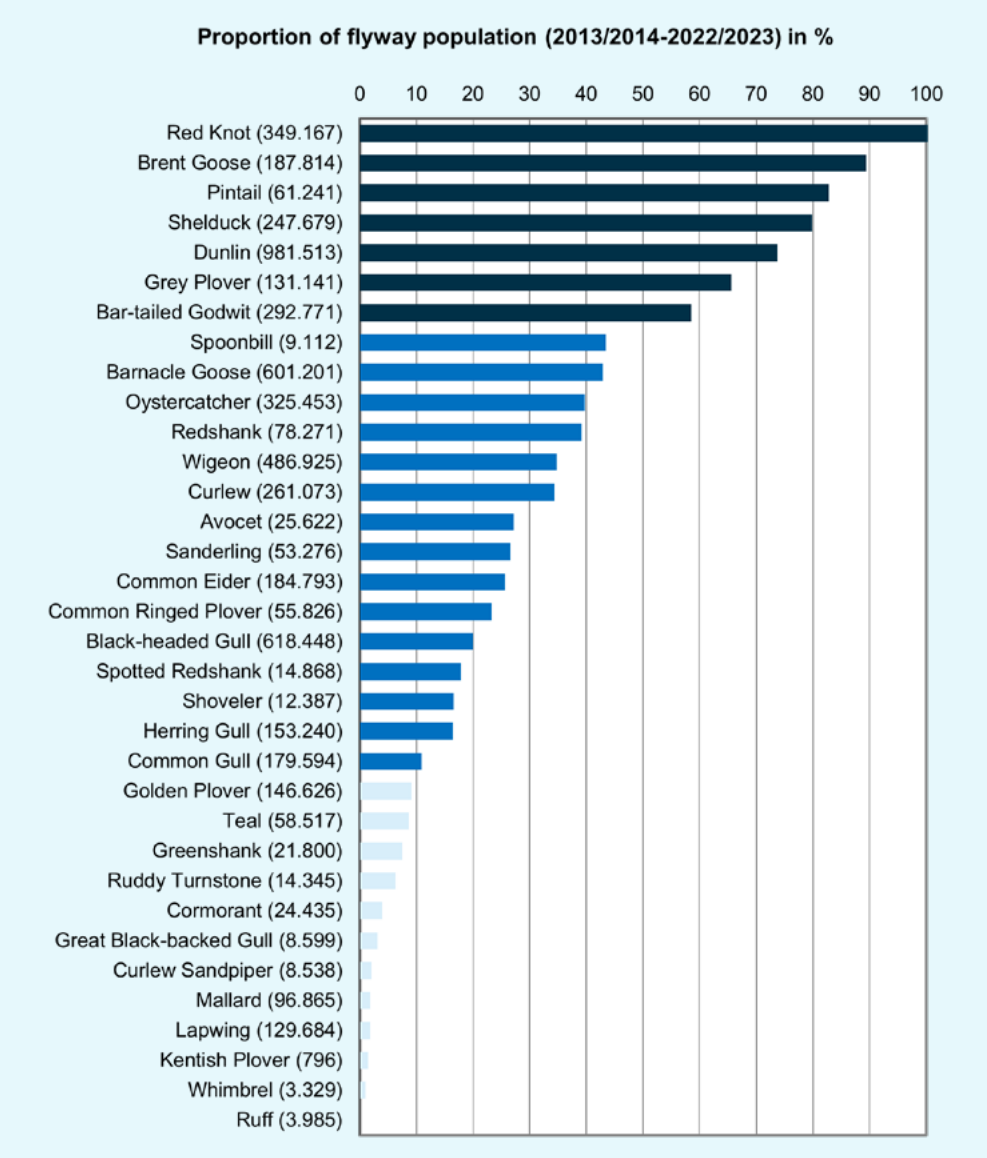


Figure 1. *Proportion of flyway population with regard to estimated numbers (Wetlands International 2021)*

MONITORING MIGRATORY AND WINTERING BIRDS, THE EB MB PROGRAM

INTRODUCTION

The Wadden Sea World Heritage Site is one of the world's most important wetlands for migratory waterbirds. It is the single most important staging and moulting area and an important wintering area for waterbirds on the East Atlantic Flyway from the Arctic to South Africa. The monitoring efforts by the Expert Group Migratory Birds (EG-MB) are being carried out in the framework of the Trilateral Monitoring and Assessment Programme (TMAP) and constitute an internationally coordinated long-term monitoring programme. It covers the large tidal ecosystem stretching from Den Helder in the Netherlands to Esbjerg in Denmark. Regular ground counts for most species and areas are being conducted, plus aerial and boat counts for sea ducks, involving hundreds of observers and several institutes and agencies.

Migratory bird trends, comprehensive species accounts and assessments are published roughly every four years in Quality Status Reports (Blew et al. 2016, Kleefstra et al. 2022). To monitor any short-term changes, the EG-MB agreed to publish an update of these trend calculations every three years on the Wadden Sea World Heritage website. Here, trends of 34 waterbird species for the Wadden Sea, including the four regions - the Netherlands, the Federal States of Germany, Lower Saxony/Hamburg and Schleswig-Holstein, and Denmark - will be presented.

Details of the "Joint Monitoring Programme of Migratory Birds in the Wadden Sea" are given in Rösner et al. (1994) and updated in Laursen et al. (2010). This programme, consisting of international synchronous counts, spring-tide counts and aerial winter counts (only Common Eider), has been carried out by all Wadden Sea countries since 1992. Some differences between the countries' programmes exist, due to different national approaches and older already existing counting programmes, but these do not hamper the overall goal for calculating trends. As many usable counting data exist before 1992, it has been decided to include counts back to the season 1987/1988.

The area considered is the Wadden Sea Cooperation Area. This is, in general terms, the area seaward of the main dike (or, where the main dike is absent, the spring-high-tide-water line, and in the rivers, the brackish-water limit) up to 3 nautical miles from the baseline or the offshore boundaries of the Conservation Area (Essink et al. 2005). The total area covers 14,700 km², with 4,534 km² of tidal flats.

2. DATA AND METHODS

DATA AND METHODS

Data used in the analyses are a mixture of total counts (two international, up to five national) and counts of a selection of sites which are counted more frequently (12-25 times per season). At present a total of 594 counting units are defined in the Wadden Sea, which are included in the analyses. For this report, the original counting data, available at the smallest level have been used.

Trends are calculated and presented for 34 waterbird species. These are species for which large parts of their flyway population (Fig. 1) use the Wadden Sea during stop-over on migration or as a wintering area (Fig 1). Trends are also calculated for 10 subspecies of 5 of these 34 species, since the subspecies can be separated by their presence in the Wadden Sea area during different times of the year. Trends for subspecies are calculated for Common Ringed-Plover, Red Knot, Bar-tailed Godwit, Redshank and Ruddy Turnstone. Species which only occur in low numbers or species which cannot be counted with sufficient representativeness have been excluded from the analyses (for a more detailed explanation see Rösner et al., 1994). This progress report presents data of the period 1987/1988 - 2022/2023.

Despite a large dataset with lots of count data, data for some counting units are missing. A complete dataset involves counts for all counting units in all months of the year. To analyse the waterbird count data, UINDEX (Bell 1995) was used to account for missing counts in the dataset, by estimating bird numbers for missing counts (imputing) taking into account site-, year- and month-factors (Underhill & Prys-Jones 1994). Sites are grouped in four regional strata representing the four different Wadden Sea regions. The counted and imputed values for each month are added to yearly averages for the respective "bird-years", covering the period from July to June of the following year (Fig. 2.1). TrendSpotter was used to calculate so-called flexible trends. These are particularly suitable for time series data with different periods of decreasing, stable or increasing trends (Visser 2004, Soldaat et al., 2007). A trend line calculated by TrendSpotter hardly deviates from a moving average or a smoothed trend line as calculated by a Generalized Additive Model (GAM). TrendSpotter calculates also confidence intervals and differences between the trend level of the last year and each of the preceding years can be assessed (Soldaat et al. 2007). This way trend estimates can be given for any period, as for example the last 10 years and the whole 36 year-time period, as in the current analyses. Trend estimates given within the text are assigned to categories (Fig. 2.2). To quantify the number of individuals staging in the Wadden Sea, average maximum numbers per species are calculated based on synchronous or monthly counts summarised per region (Laursen et al. 2010). To avoid outliers, the arithmetical mean of the three highest values within each season between 2013/2014-2022/2023 is calculated. The maximum estimates contains a counted and an imputed fraction. Estimates in which the imputed fraction exceeds 50% were excluded from the calculation.

Figure 2.1

Example of the treatment of data for the trend analyses. First the seasonal pattern is reconstructed by using counted numbers and imputed numbers for each month for a certain species (left graph of the figure, dark blue is counted, light blue is imputed). Than the average over all months is taken and this is the 'yearly estimate' to be used in the trend analyses (right graph). The trend line and confidence limits are calculated over all year estimates.

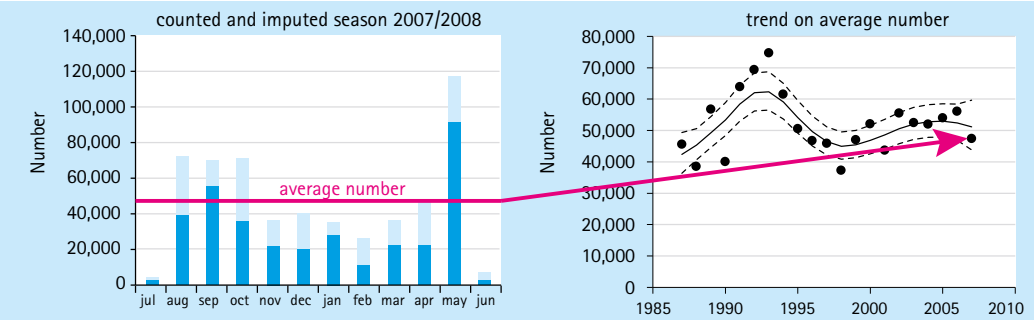
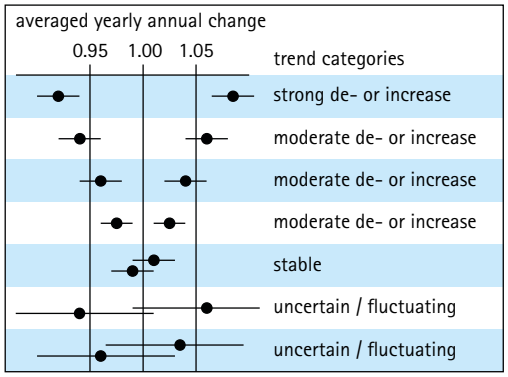


Figure 2.2

Trend classification used to express annual changes in waterbird numbers. Dots represent trend values, horizontal lines their 95% confidence limits.



3. OVERVIEW TRENDS

Changes over 36 years (1987/1988 - 2022/2023) in % (Common Eider since 1992/1993)

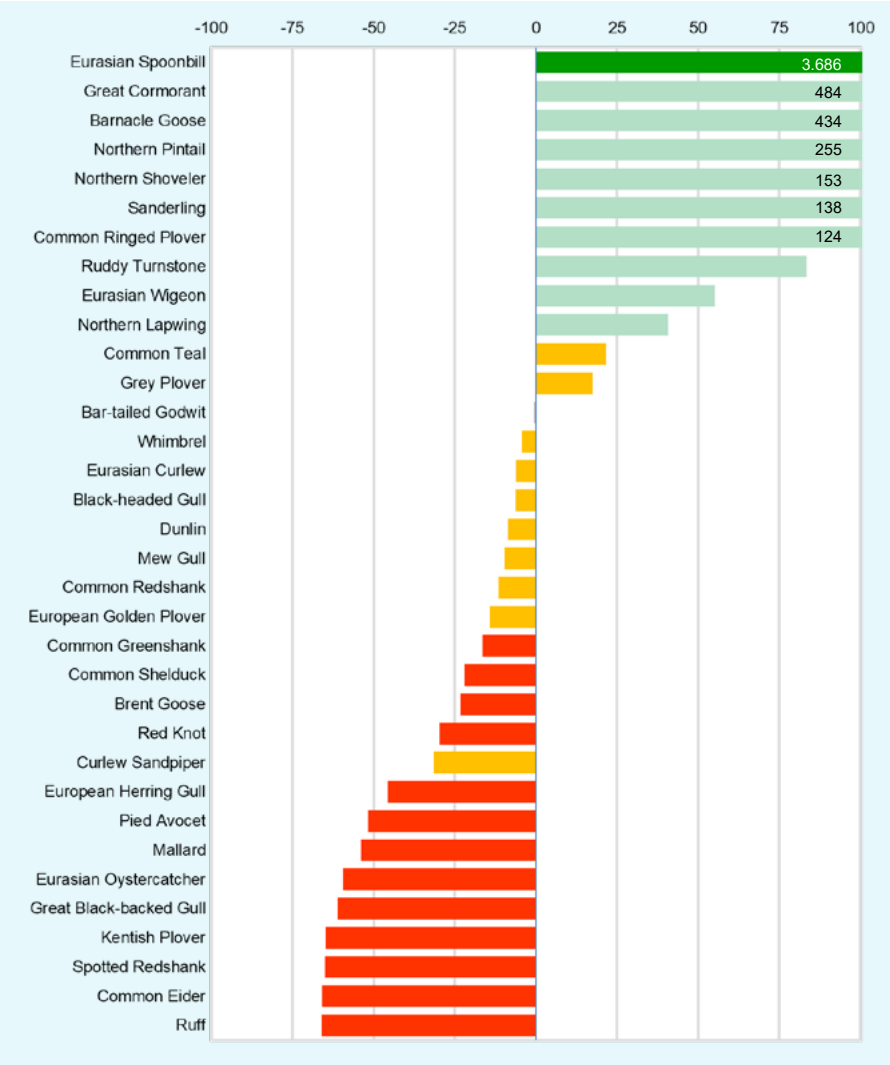


Figure 3.1
Trend categories for the 36-year period for the Wadden Sea, calculated with TrendSpotter on yearly estimates, ranked after trend category and value.

Changes over recent 10 years (2013/2014-2022/2023) in %

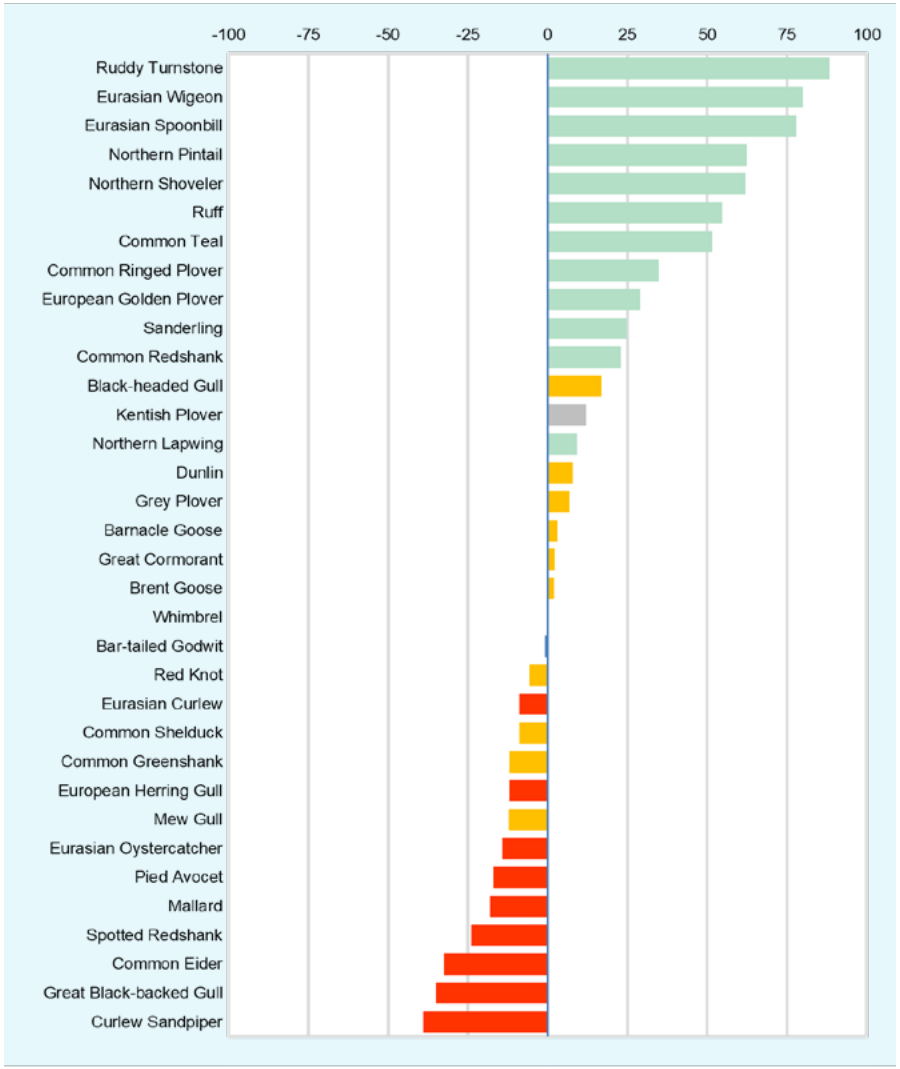
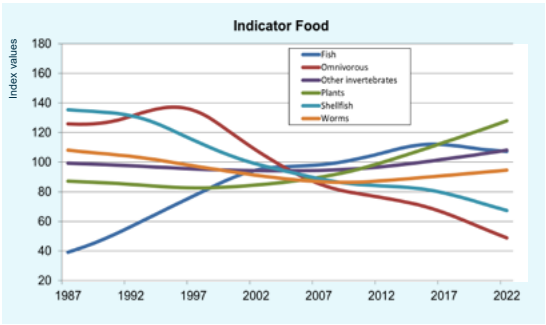
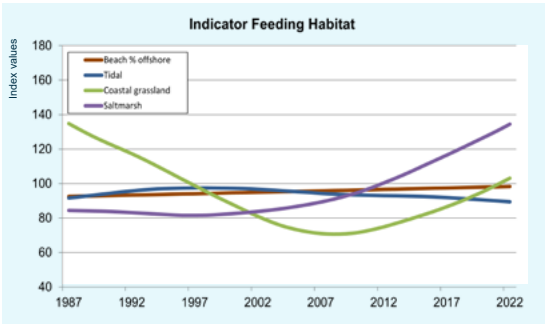


Figure 3.2
Trend categories for the 10-year period for the Wadden Sea, calculated with TrendSpotter on yearly estimates, ranked after trend category and value.





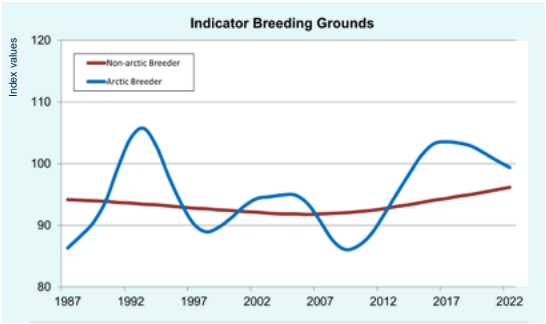


Figure 3.3
Combined trends according to food guilds, feeding habitat, and breeding range. Trends were aggregated by using the geometrical mean of TrendSpotter trend lines of single species within each category.

OVERVIEW TRENDS

Fig 3.1 and Fig 3.2 illustrate the development of the species trends in last 36 years and the last 10 years, respectively. To help identify possible relationships between the species' trends and their ecological traits, trends of single species were combined. Each bird species has been allocated to each of three different categories (see table A1, p59), namely food, feeding habitat and breeding grounds. The decisions for these allocations have not been straight forward in all cases; for food or feeding habitats, the choice was to pick those which represented the main food or feeding habitat, respectively. For the combined indices the geometrical mean of species-specific indices has been used (Fig 3.3).

Food

Fish-eating bird species showed a long-term increase, but a stabilisation over the last ten years. This trend is driven by the trends of the Great Cormorant and Eurasian Spoonbill. The trend of herbivores shows a moderate increase in both the long and short terms, mainly due to increases in the Barnacle Goose, Northern Pintail, Eurasian Wigeon and Common Teal. Both the long-term and short-term trend of worm-eating species are stable for the entire Wadden Sea, but vary greatly per country/federal state. The group of shellfish-eating birds shows a moderate decline over the whole monitoring period, in the last ten years mainly negative in the German parts of the Wadden Sea and the western Dutch Wadden Sea. For more detail see Kleefstra et al. (2025).

Feeding Habitat

Over the whole period, species utilising beaches and tidal areas show a stable trend, while species of salt marshes increase. The trend of species of coastal grasslands is uncertain in recent years.

Breeding Range

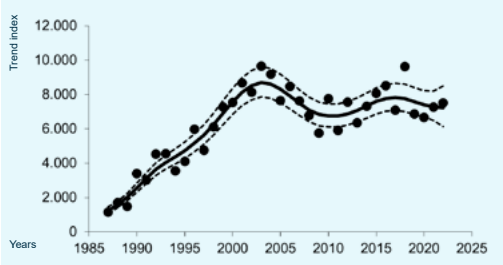
Arctic breeders show a highly fluctuating trend, ranging from stable to increasing, although recent years have not shown a significant trend. The trend of non-arctic breeders is calculated to be stable over the whole monitoring period.

4. SPECIES ACCOUNTS

4.1 GREAT CORMORANT

00720 ***Phalacrocorax carbo*** DK: Skarv D: Kormoran NL: Aalscholver

Great Cormorant numbers increased significantly from the late 1980s until 2003, but then its numbers stabilised, in line with a stabilizing breeding population. The population trend is largely determined by developments in the Dutch part of the Wadden Sea, where the largest numbers reside.



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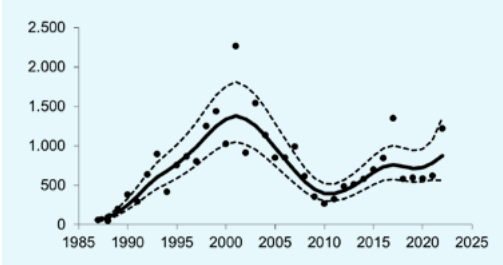
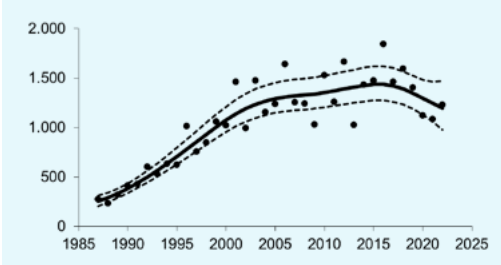
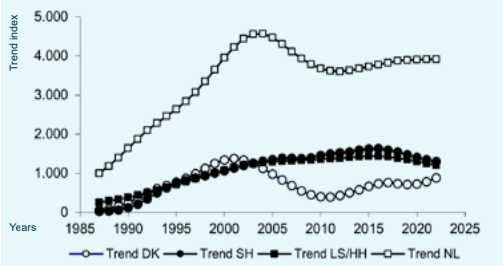


(C) Denmark



(E) Lower Saxony/Hamburg



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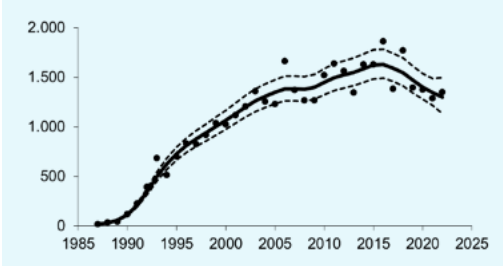
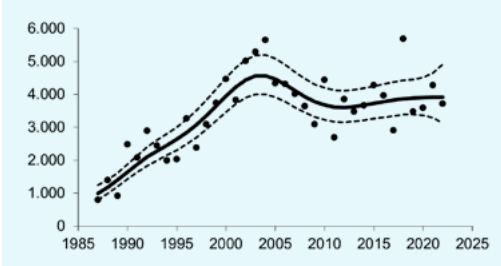


(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.1.1-4.1.6
Trends of Great Cormorant in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Great Cormorant in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↑	→
(C) Denmark	↑↑	↑
(D) Schleswig-Holstein	↑↑	→
(E) Lower Saxony/Hamburg	↑	→
(F) The Netherlands	↑	→

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease uncertain

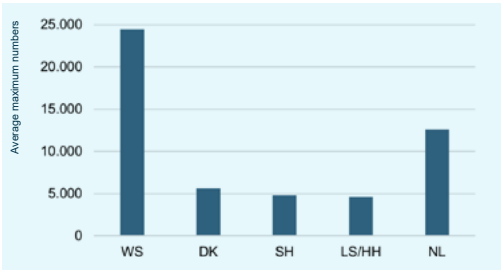
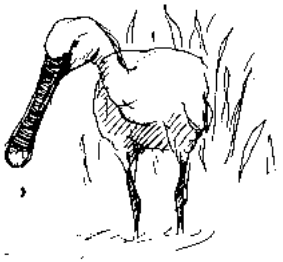


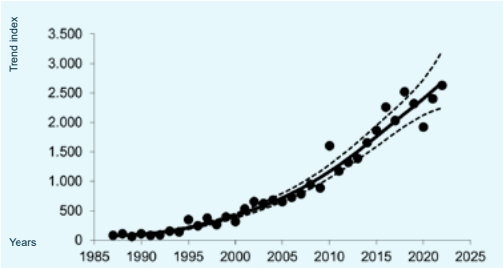
Figure 4.1.7
Absolute numbers of Great Cormorant in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

4.2 EURASIAN SPOONBILL

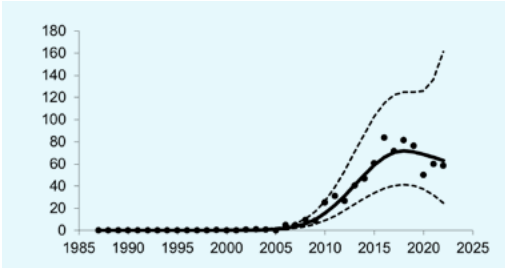


01440 ***Platalea leucorodia*** DK: Skestork D: Löffler NL: Lepelaar

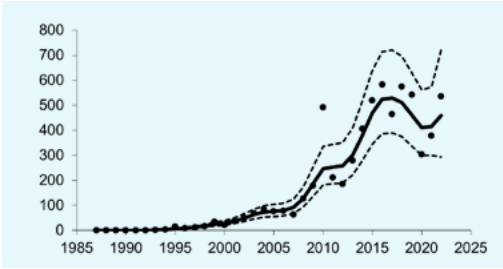
The Eurasian Spoonbill shows the strongest increase of all monitored species in the Wadden Sea since the late 1980s. It reflects the trends in all four Wadden Sea regions and also the growth of the breeding population in the Wadden Sea. In the period 1987/1988-1994/1995 the average maximum number of non-breeding Spoonbills was 930, while this was 9,100 in the period 2013/2014-2022/2023. The short-term trend for Spoonbills in the Danish and Lower Saxon part of theWadden Sea is, however, uncertain.



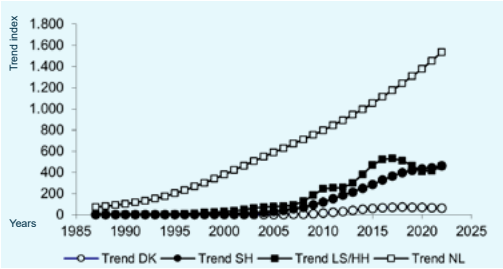
(A)



(C) Denmark



(E) Lower Saxony/Hamburg



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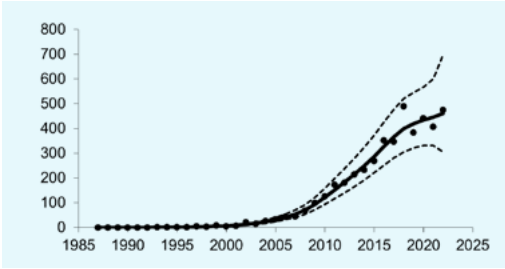
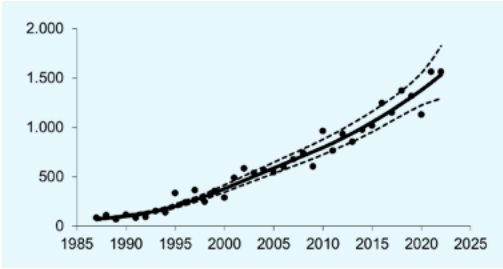


(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.2.1-4.2.6
Trends of Eurasian Spoonbill in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Eurasian Spoonbill in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↑↑	↑
(C) Denmark	↑↑	–
(D) Schleswig-Holstein	↑↑	↑
(E) Lower Saxony/Hamburg	↑↑	–
(F) The Netherlands	↑↑	↑

↑↑ strong increase ↑ moderate increase → stable
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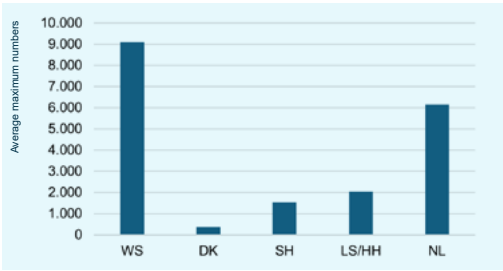
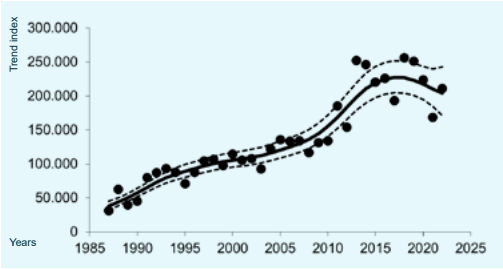


Figure 4.2.7
Absolute numbers of Eurasian Spoonbill in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

4.3 BARNACLE GOOSE

01670 ***Branta leucopsis*** DK: Bramgås D: Weißwangengans NL: Brandgans

Since the start of the monitoring series, the Barnacle Goose population has grown significantly. Although the long-term trend for the Barnacle Goose in the Wadden Sea remains positive, the short-term trend shows that growth has stalled. Numbers in the Danish and Dutch part of the Wadden Sea are stagnating, while they continue to increase in German parts of the Wadden Sea. In the seasons of 2020/2021 and 2021/2022, high mortality among Barnacle Geese in the Wadden Sea occurred due to Highly Pathogenic Avian Influenza epidemics.



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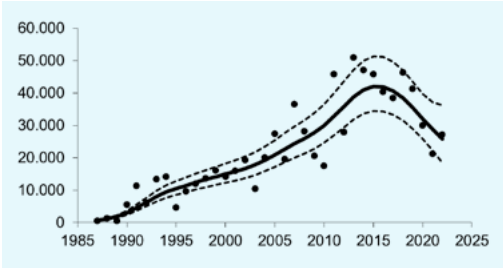
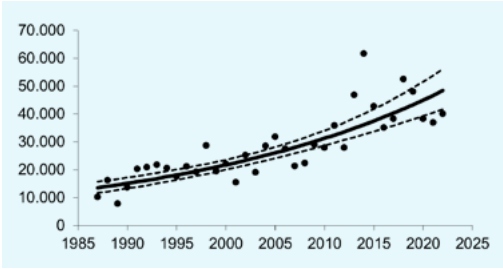
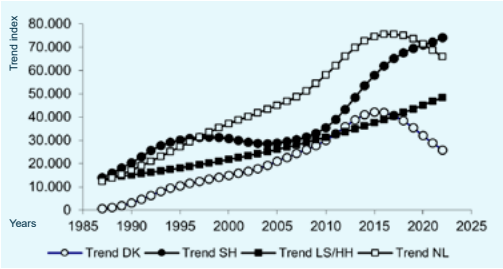


(C) Denmark



(E) Lower Saxony/Hamburg



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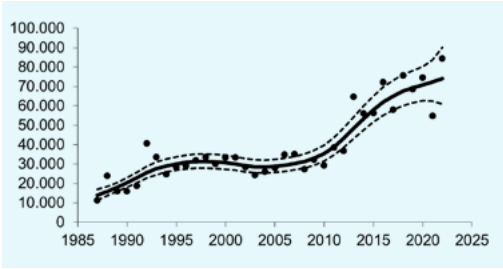
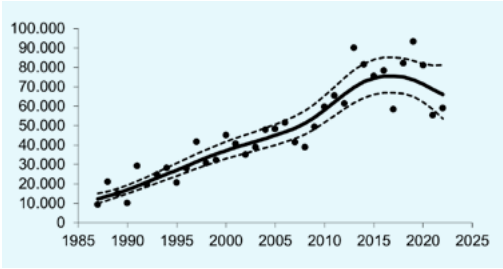


(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.3.1-4.3.6
Trends of Barnacle Goose in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Barnacle Goose in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↑	→
(C) Denmark	↑↑	↓
(D) Schleswig-Holstein	↑	↑
(E) Lower Saxony/Hamburg	↑	↑
(F) The Netherlands	↑	→

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease ▬ uncertain

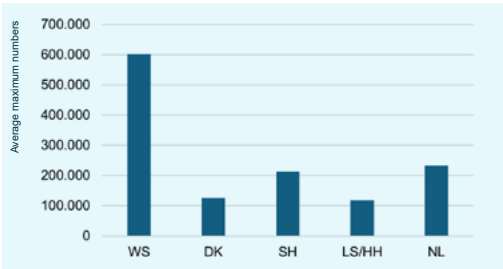
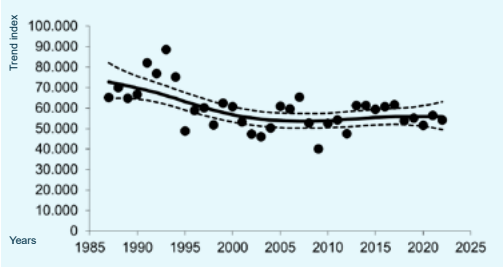


Figure 4.3.7
Absolute numbers of Barnacle Goose in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

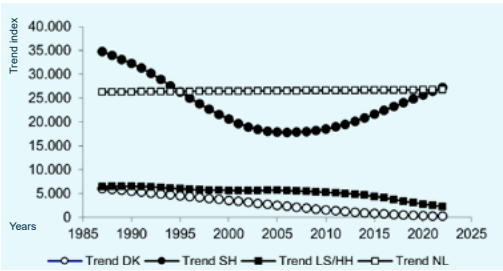
4.4 DARK-BELLIED BRENT GOOSE

01680 ***Branta bernicla bernicla*** DK: Mørkbuget Knortegås D: Dunkelbäuchige Ringelgans NL: Rotgans

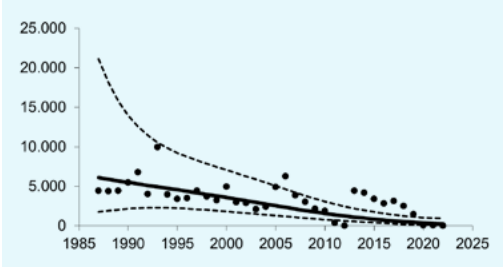
The long-term trend for the Dark-bellied Brent Goose in the Wadden Sea is negative, but in the short-term between varies in different parts of the Wadden Sea. In Schleswig-Holstein, numbers are increasing again after years of decline, while in Lower Saxony/Hamburg numbers are declining sharply. In the Netherlands the trend is stable, with consistently high numbers.



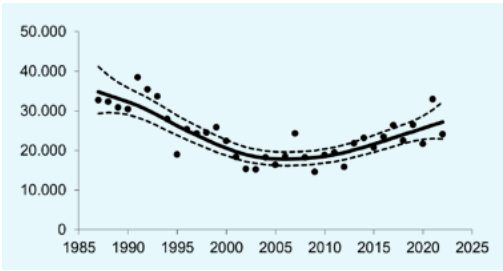
(A)



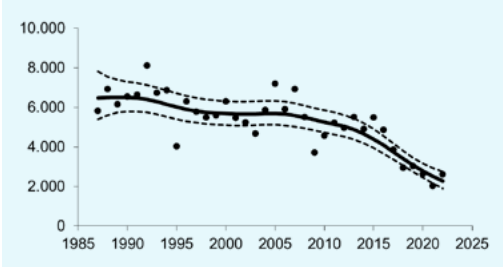
(B)



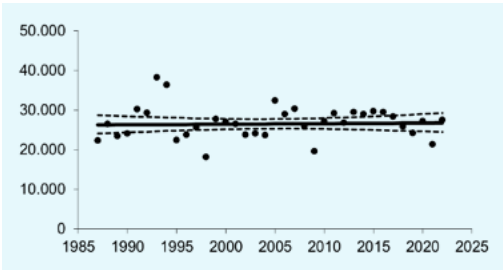
(C) Denmark



(D) Schleswig-Holstein



(E) Lower Saxony/Hamburg



(F) The Netherlands

Figure 4.4.1-4.4.6
Trends of Dark-bellied Brent Goose in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Dark-bellied Brent Goose in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A)/ Wadden Sea	↓	→
(C) Denmark	↓	↓
(D) Schleswig-Holstein	↓	↑
(E) Lower Saxony/Hamburg	↓	↓↓
(F) The Netherlands	→	→

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease uncertain

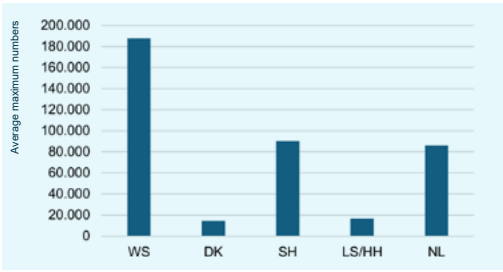
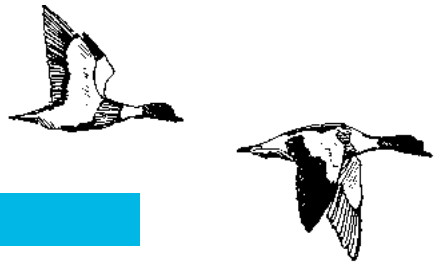


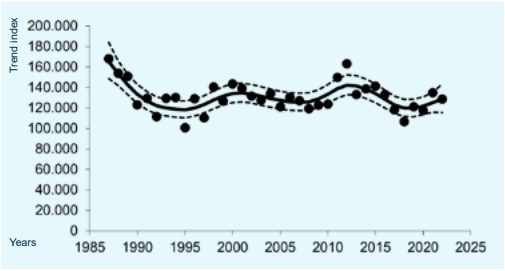
Figure 4.4.7
Absolute numbers of Dark-bellied Brent Goose in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

4.5 COMMON SHELDUCK

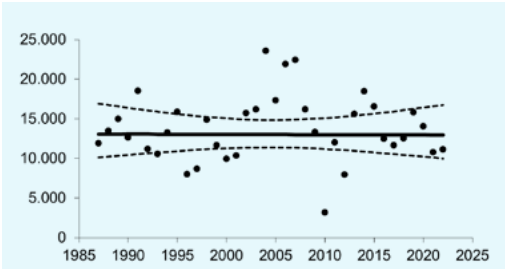


01730 ***Tadorna tadorna*** DK: Gravand D: Brandgans NL: Bergeend

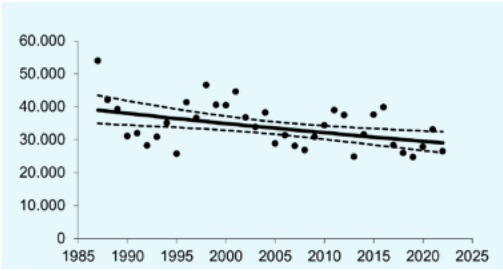
The Common Shelduck is a priority species, with about 80% of its flyway population using the Wadden Sea. While the long-term trend shows a moderate decrease, the short-term trend is stable. This picture, and absolute numbers, are fairly consistent with the numbers of moulting Common Shelducks, for which separate counts are conducted in the German and Dutch part of the Wadden Sea (resp. N. Kempf and R. Kleefstra).



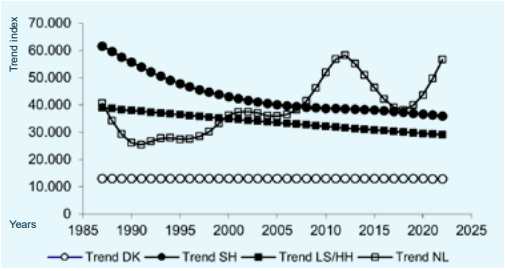
(A)



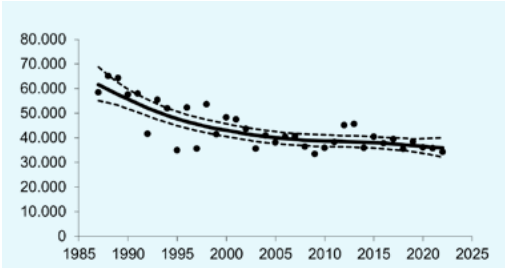
(C) Denmark



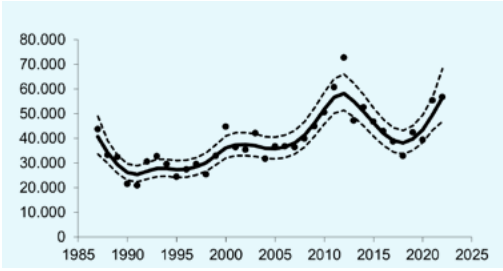
(E) Lower Saxony/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.5.1-4.5.6
Trends of Common Shelduck in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Common Shelduck in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↓	→
(C) Denmark	→	→
(D) Schleswig-Holstein	↓	→
(E) Lower Saxony/Hamburg	↓	↓
(F) The Netherlands	↑	→

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease uncertain

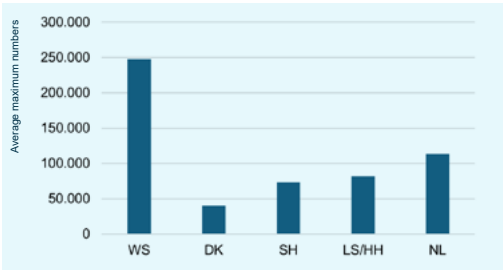
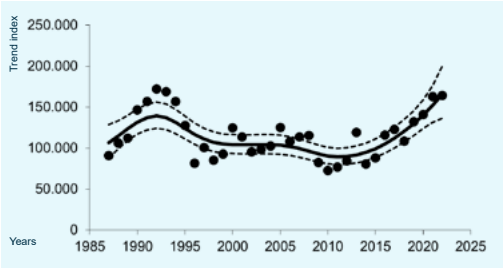


Figure 4.5.7
Absolute numbers of Common Shelduck in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

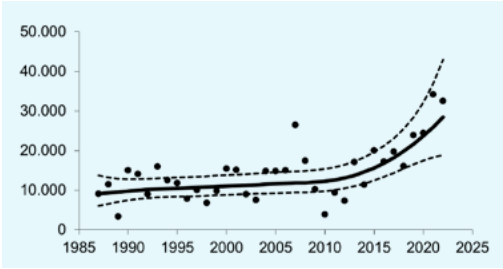
4.6 EURASIAN WIGEON

01790 ***Mareca penelope*** DK: Pibeand D: Pfeifente NL: Smient

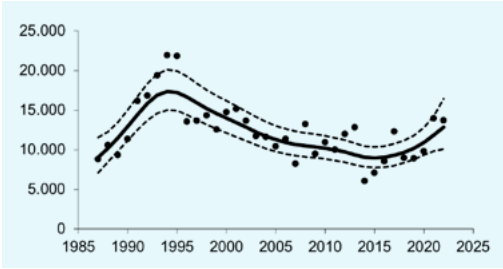
Over the past ten years, the Eurasian Wigeon has shown a remarkable increase in all parts of the Wadden Sea, although the short-term trend in the Netherlands is uncertain. The increase is strongest in the northern part of the Wadden Sea (Denmark, Schleswig-Holstein). Between 1987/88-1994/95, Eurasian Wigeons reached peak numbers of 327,500 in autumn. Over the past ten years, this peak increased to 487,000 individuals.



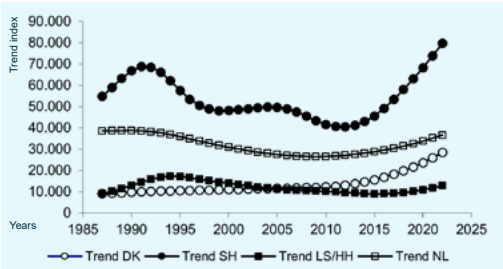
(A)



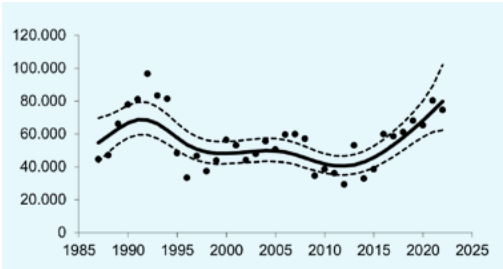
(C) Denmark



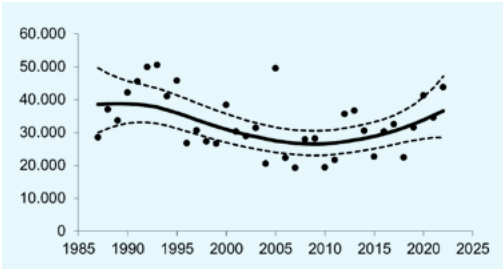
(E) Lower Saxony/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.6.1-4.6.6
Trends of Eurasian Wigeon in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Eurasian Wigeon in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↑	↑
(C) Denmark	↑	↑
(D) Schleswig-Holstein	↑	↑
(E) Lower Saxony/Hamburg	↑	↑
(F) The Netherlands	→	–

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease – uncertain

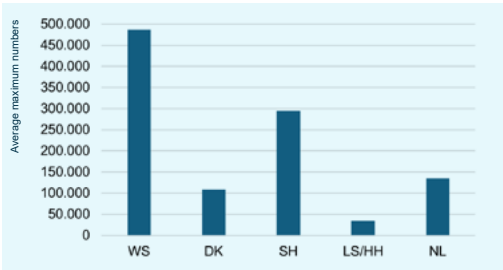
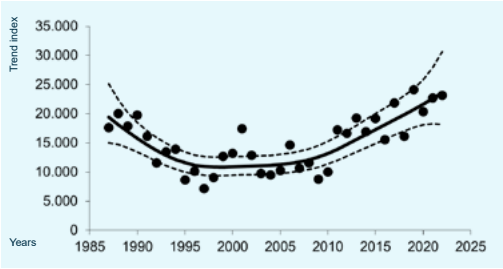


Figure 4.6.7
Absolute numbers of Eurasian Wigeon in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

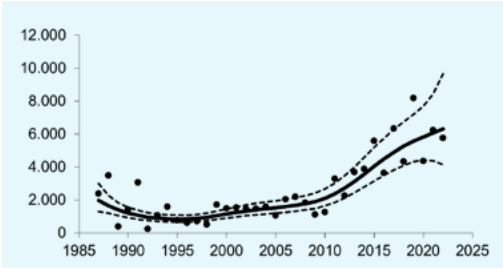
4.7 COMMON TEAL

01840 ***Anas crecca*** DK: Krikand D: Krickente NL: Wintertaling

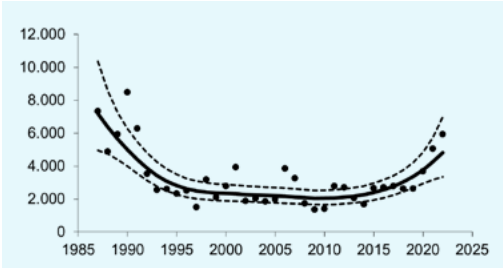
The long-term trend of the Common Teal in the Wadden Sea is stable, with moderate short-term increases observed in the Danish and Lower Saxon part of the Wadden Sea in the last ten years. In the Dutch and Schleswig-Holstein part of the Wadden Sea, the short-term trend is unclear.



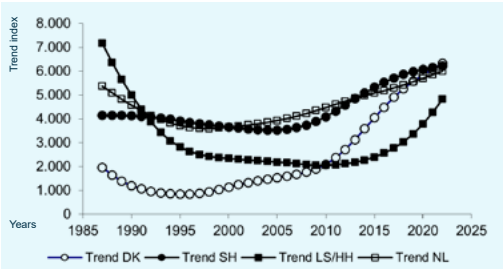
(A)



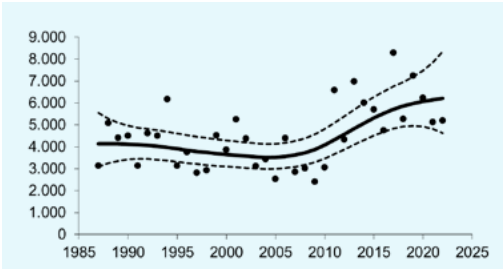
(C) Denmark



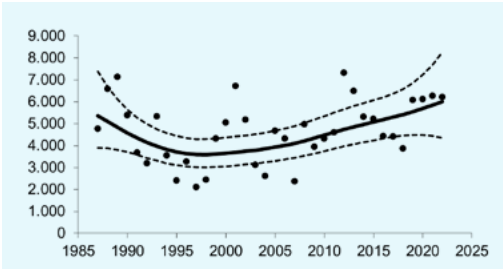
(E) Lower Saxony/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.7.1-4.7.6
Trends of Common Teal in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Common Teal in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	→	↑
(C) Denmark	↑	
(D) Schleswig-Holstein	→	↑
(E) Lower Saxony/Hamburg		
(F) The Netherlands	→	–

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease – uncertain

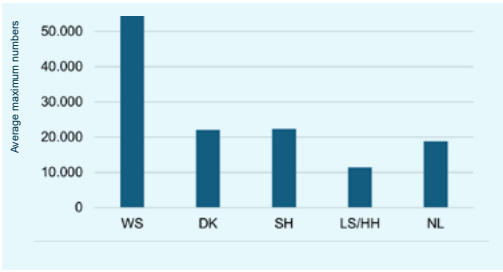
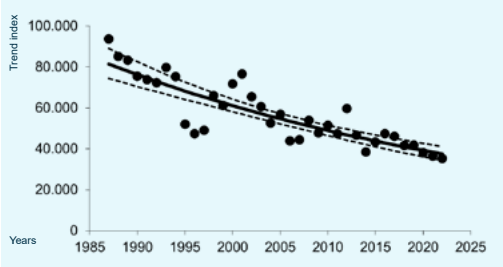


Figure 4.7.7
Absolute numbers of Common Teal in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

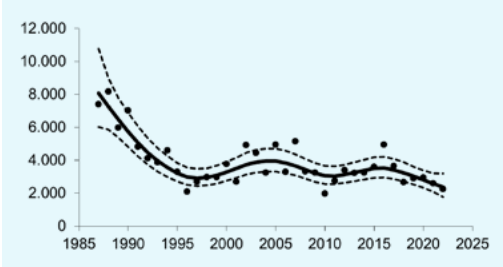
4.8 MALLARD

01860 ***Anas platyrhynchos*** DK: Gråand D: Stockente NL: Wilde Eend

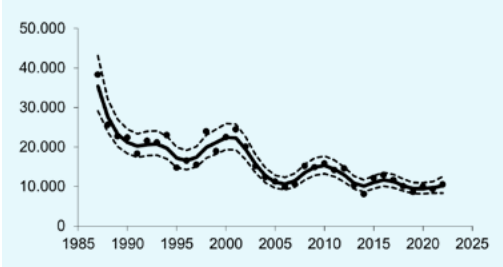
Mallards have decreased significantly in the Wadden Sea since the mid-1980s. In the short-term, numbers in the German parts of the Wadden Sea appear to have stabilised, but the decline continues in the Dutch part of the Wadden Sea. Peak winter numbers were nearly 180,000 Mallards in the period 1987/88-1994/95, but this number dropped to barely 97,000 in the period 2013/2014-2022/2023.



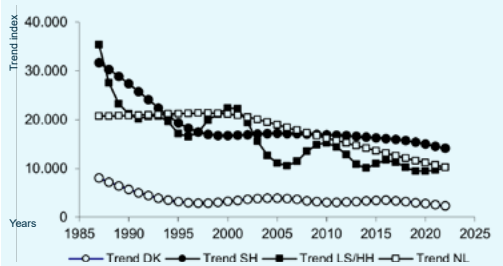
(A)



(C) Denmark



(E) Lower Saxony/Hamburg



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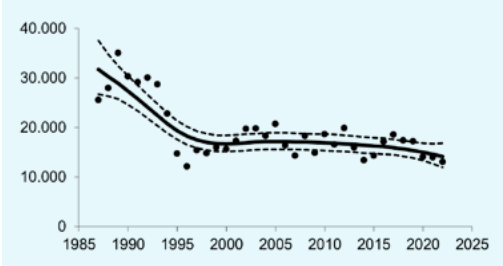
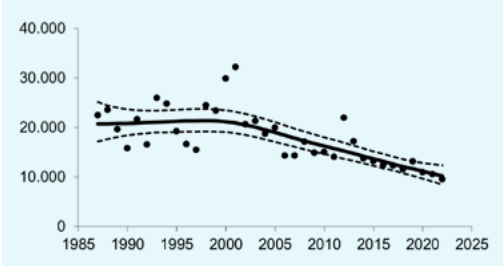


(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.8.1-4.8.6
Trends of Mallard in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Mallard in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↓	↓
(C) Denmark	↓	–
(D) Schleswig-Holstein	↓	→
(E) Lower Saxony/Hamburg	↓	→
(F) The Netherlands	↓	↓

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease – uncertain

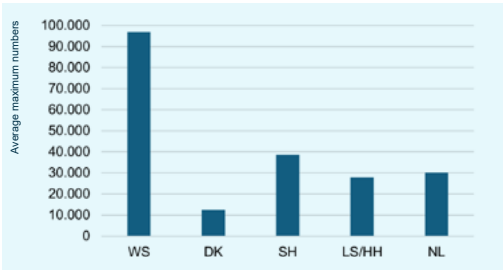
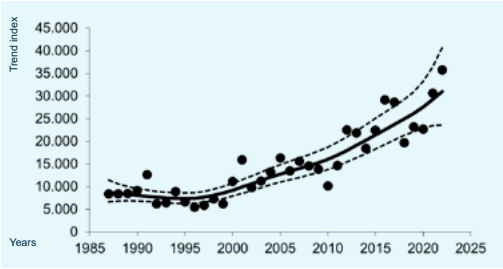


Figure 4.8.7
Absolute numbers of Mallard in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

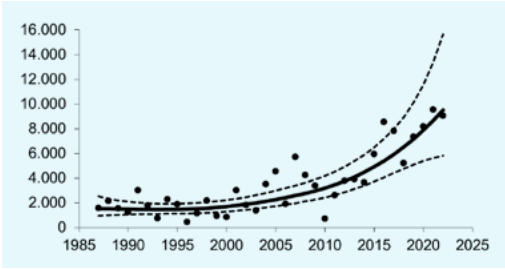
4.9 NORTHERN PINTAIL

01890 ***Anas acuta*** DK: Spidsand D: Spießente NL: Pijlstaart

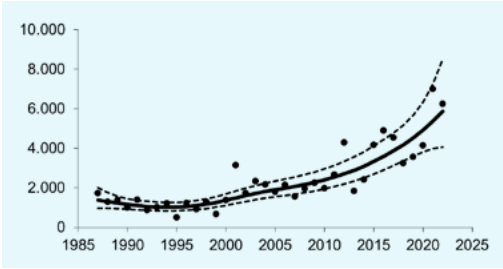
Over 80% of the Northern Pintail flyway population uses the Wadden Sea. Since 1987/1988, they have shown a moderate increase in all parts of the Wadden Sea, except for the Dutch part of the Wadden Sea where the short-term trend is uncertain. The species is among the top three species with the strongest increase, with estimated maximum numbers rising from 18.500 in 1987/1988-1994/1995 to 61.200 in 2013/2014-2022/2023.



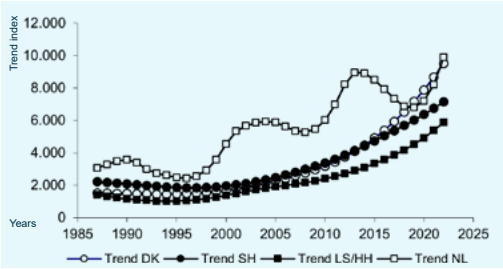
(A)



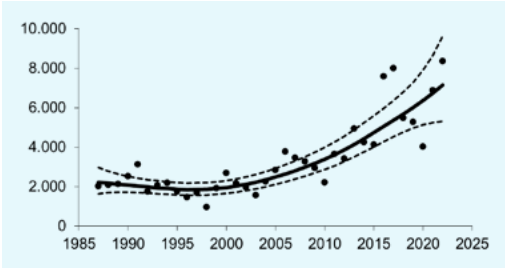
(C) Denmark



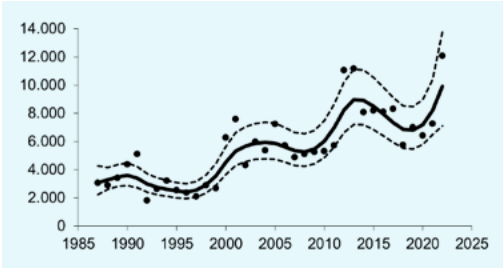
(E) Lower Saxony/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.9.1-4.9.6
Trends of Northern Pintail in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Northern Pintail in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↑	↑
(C) Denmark	↑	↑
(D) Schleswig-Holstein	↑	↑
(E) Lower Saxony/Hamburg	↑	↑
(F) The Netherlands	↑	–

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease – uncertain

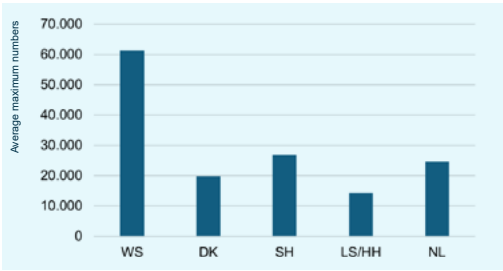
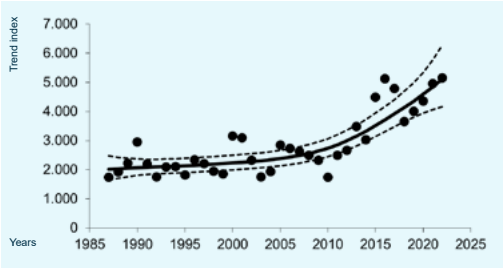


Figure 4.9.7
Absolute numbers of Northern Pintail in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

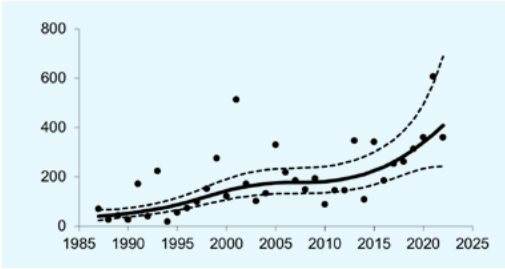
4.10 NORTHERN SHOVELER

01940 ***Spatula clypeata*** DK: Skeand D: Löffelente NL: Slobeend

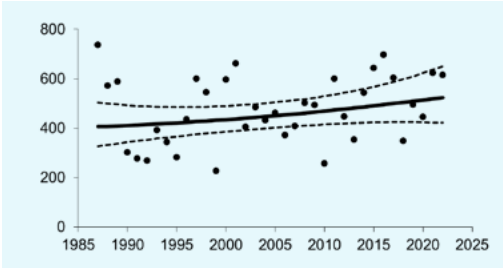
Absolute numbers of the Northern Shoveler have continously increased over the years, from 5,655 in the period 1987/88-1994/95 to 12,400 in 2013/2014-2022/2023. This moderate increase occurs throughout the Wadden Sea, besides Lower Saxony/Hamburg where numbers are stable.



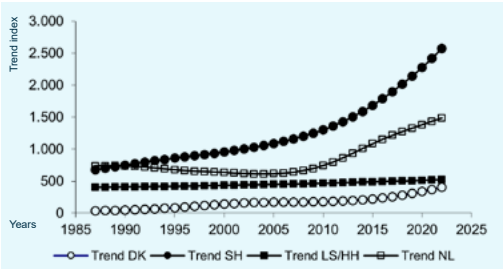
(A)



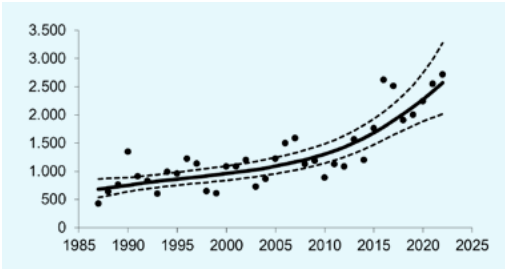
(C) Denmark



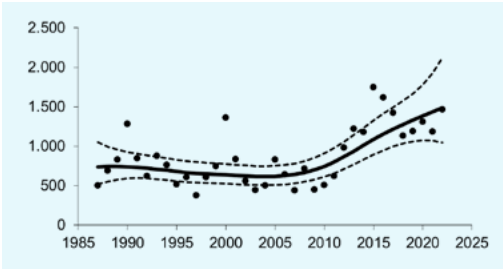
(E) Lower Saxony/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.10.1-4.10.6
Trends of Northern Shoveler in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Northern Shoveler in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↑	↑
(C) Denmark	↑	↑
(D) Schleswig-Holstein	↑	↑
(E) Lower Saxony/Hamburg	→	→
(F) The Netherlands	↑	↑

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease uncertain

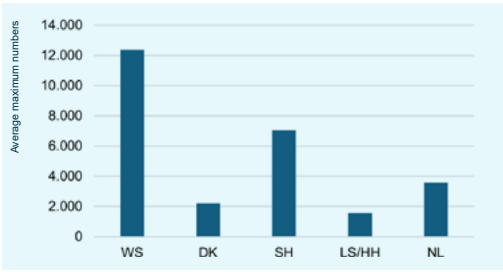
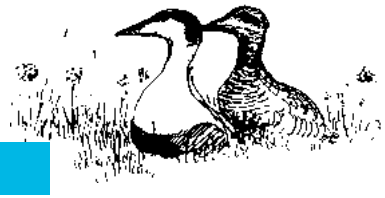


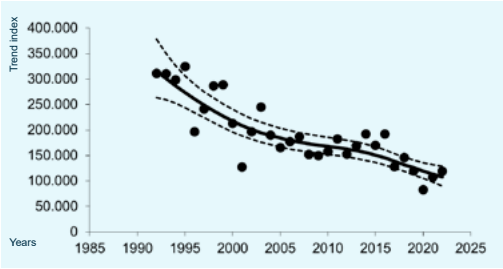
Figure 4.10.7
Absolute numbers of Northern Shoveler in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

4.11 COMMON EIDER

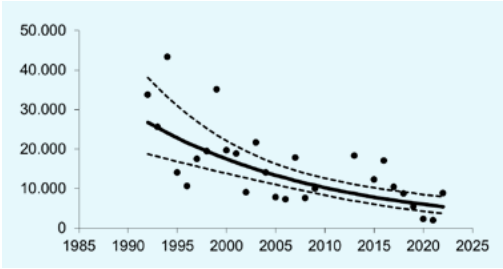


02060 ***Somateria mollissima*** DK: Ederfugl D: Eiderente NL: Eidereend

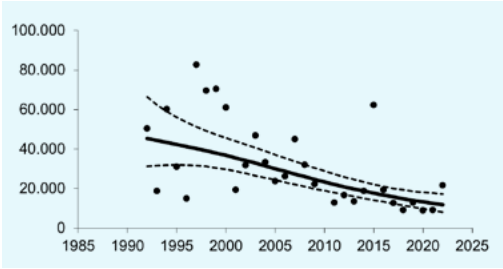
The Common Eider is one of the species with the strongest decline in numbers (>-40%) since the late 1980s. While estimated maximum numbers in 1989/1990-1998/1999 exceeded an average of 282,000 individuals, this average was hardly 185.000 in the period 2013/2014-2022/2023. The decline is continues on the short-term across the entire Wadden Sea, although the short-term trend in Schleswig-Holstein is uncertain.



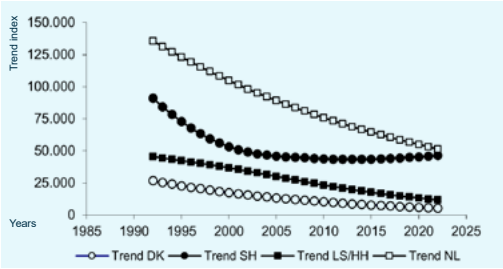
(A)



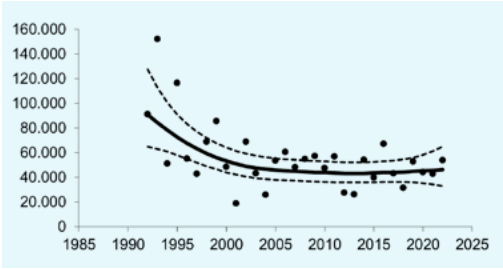
(C) Denmark



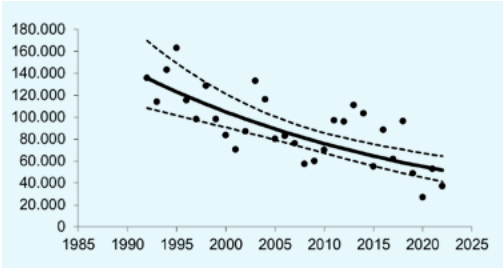
(E) Lower Saxony/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.11.1-4.11.6
Trends of Common Eider in the Wadden Sea (a) and the four regions 1992/1993-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Common Eider in the Wadden Sea
The table shows the trends from 1992/1993 to 2022/2023, both the 31-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1992/1993-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↓	↓
(C) Denmark	↓	↓
(D) Schleswig-Holstein	↓	–
(E) Lower Saxony/Hamburg	↓	↓
(F) The Netherlands	↓	↓

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease – uncertain

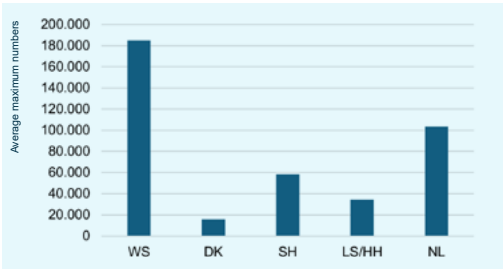
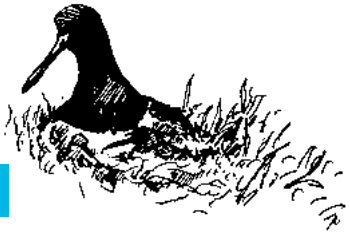


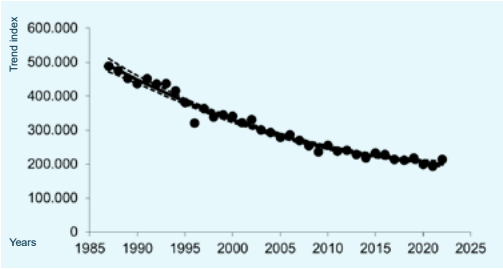
Figure 4.11.7
Absolute numbers of Common Eider in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

4.12 EURASIAN OYSTERCATCHER

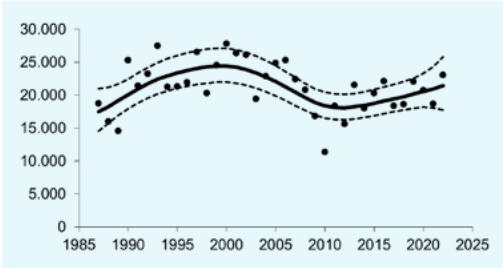


04500 ***Haematopus ostralegus*** DK: Strandskade D: Austernfischer NL: Scholekster

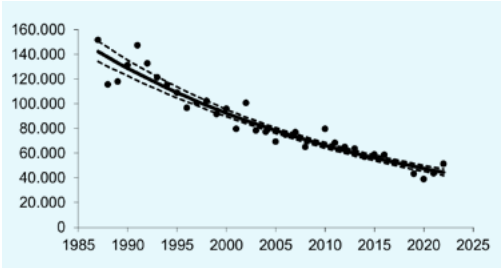
The Wadden Sea represents approximately 40% of the Eurasian Oystercatcher flyway population, but the species has shown an alarming decline for a long time. In the period 1987/88-1994/95, absolute numbers in autumn and winter accounted for 650,000 individuals, compared to roughly 325,000 Oystercatchers counted in the last ten years. This decline occurs throughout the Wadden Sea, except for the Danish part, where numbers have remained relatively stable at a low level.



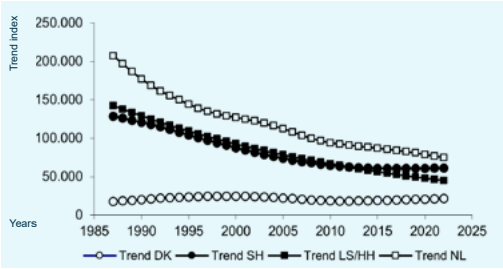
(A)



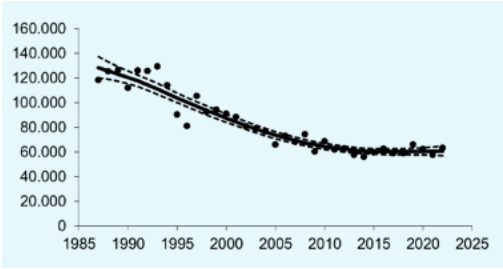
(C) Denmark



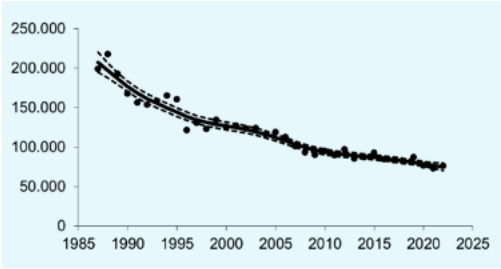
(E) Lower Saxony/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.12.1-4.12.6
Trends of Eurasian Oystercatcher in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Eurasian Oystercatcher in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↓	↓
(C) Denmark	→	→
(D) Schleswig-Holstein	↓	→
(E) Lower Saxony/Hamburg	↓	↓
(F) The Netherlands	↓	↓

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease uncertain

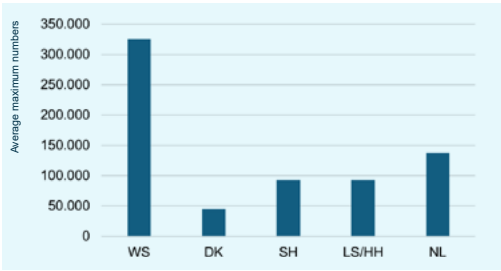
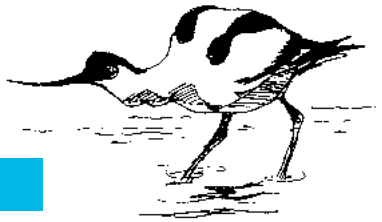


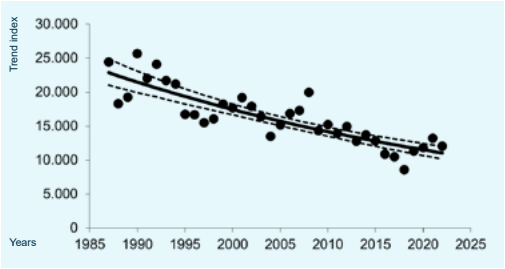
Figure 4.12.7
Absolute numbers of Eurasian Oystercatcher in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

4.13 PIED AVOCET

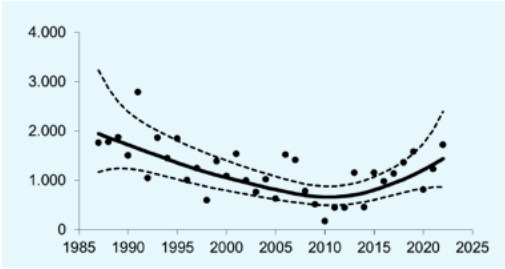


04560 ***Recurvirostra avosetta*** DK: Klyde D: Säbelschnäbler NL: Kluut

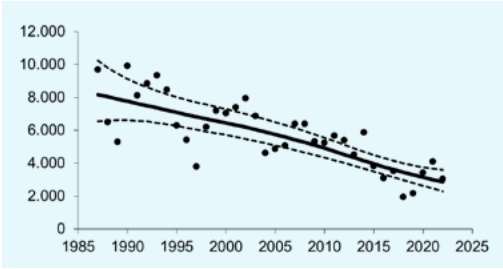
The Wadden Sea hosts over a quarter of the Pied Avocet flyway population. Aside from the Danish part of the Wadden Sea, numbers are declining everywhere in the Wadden Sea, both in the long- and short-term. The estimated average maximum number of Avocets in the period 1987/1988-1994/1995 was 54,000, while in the last ten years this figure has fallen to barely half (25,600 individuals).



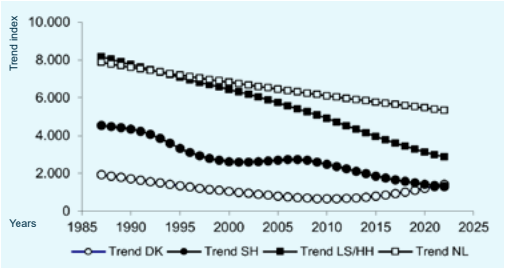
(A)



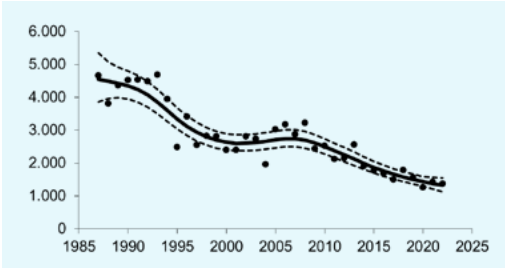
(C) Denmark



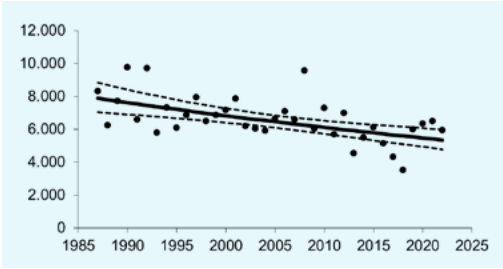
(E) Lower Saxony/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.13.1-4.13.6
Trends of Pied Avocet in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Pied Avocet in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↓	↓
(C) Denmark	→	↑
(D) Schleswig-Holstein	↓	↓
(E) Lower Saxony/Hamburg	↓	↓
(F) The Netherlands	↓	↓

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease uncertain

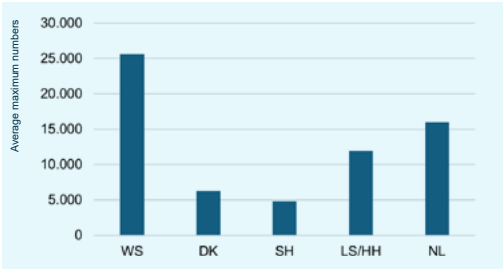
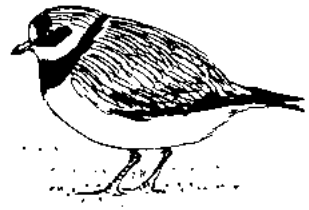


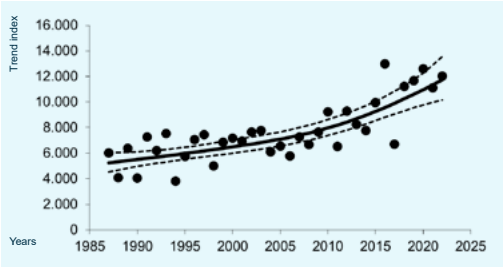
Figure 4.13.7
Absolute numbers of Pied Avocet in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

4.14 COMMON RINGED PLOVER

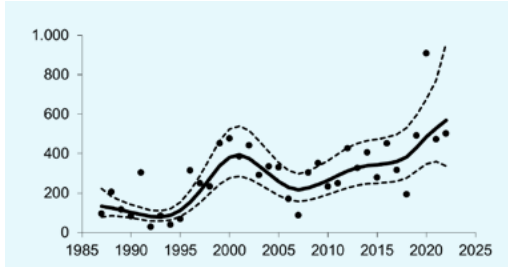


04700 ***Charadrius hiaticula*** DK: „Stor“ Praestekrave D: Sandregenpfeifer NL: Bontbekplevier

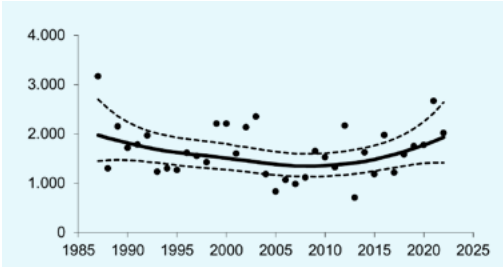
Already since the 1980s the Common Ringed Plover shows a moderate increase. This increase is mainly taking place in the Wadden Sea regions of Schleswig-Holstein and the Netherlands. Three different populations of Common Ringed Plover pass the Wadden Sea during migration; *C.h. hiaticula* is present from October to April, while both Arctic breeding populations of *C.h. tundra* and *C.h. psammodroma* peak in May during spring migration. Trends for the subspecies are shown in Chapter 5.



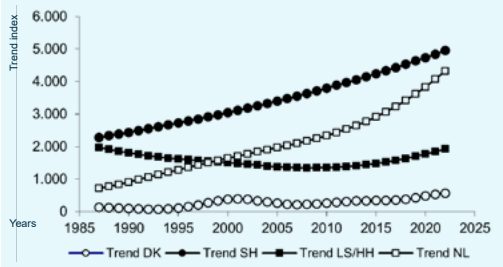
(A)



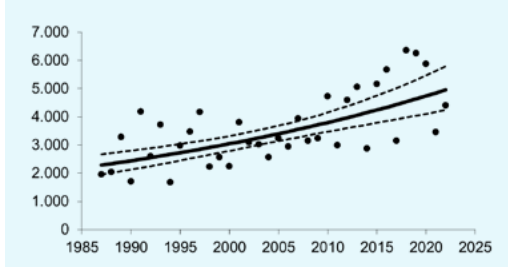
(C) Denmark



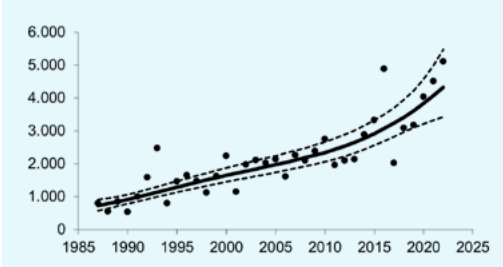
(E) Lower Saxony/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.14.1-4.14.6
Trends of Common Ringed Plover in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Common Ringed Plover in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↑	↑
(C) Denmark	↑	–
(D) Schleswig-Holstein	↑	↑
(E) Lower Saxony/Hamburg	→	–
(F) The Netherlands	↑	↑

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease – uncertain

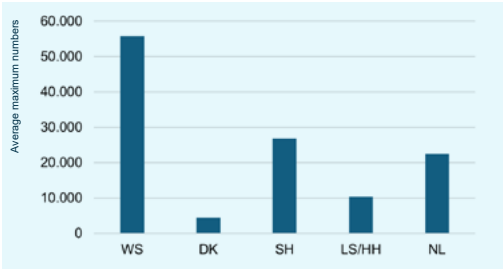
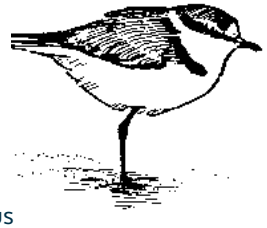


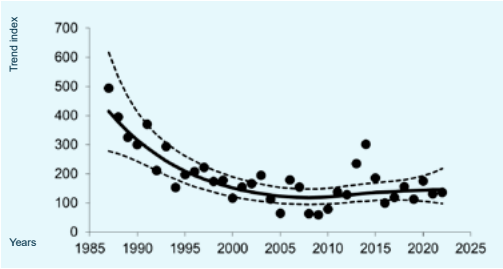
Figure 4.14.7
Absolute numbers of Common Ringed Plover in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

4.15 KENTISH PLOVER

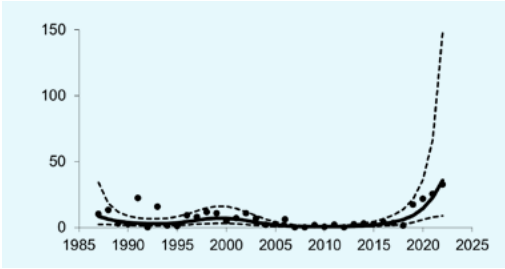


04770 ***Charadrius alexandrinus*** DK: Hvidbrystet Præstekrave D: Seeregenpfeifer NL: Strandplevier

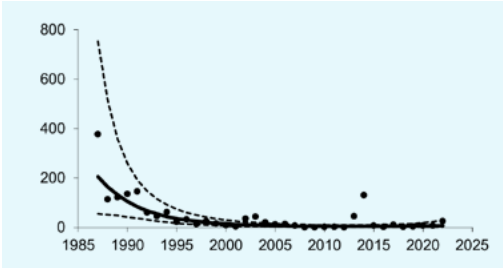
For the Kentish Plover, the Wadden Sea holds less than 2% of the flyway population, and overall low numbers are recorded during the synchronous counts. Both during spring and autumn these birds represent the local breeding population. The absolute number in the period 2013/2014-2022/2023 was nearly 800, which corresponds to species-specific counts at important moulting sites in late August 2023 in the Wadden Sea and the Dutch Delta (Blüm et al. 2025). Numbers in the Wadden Sea decreased during the 1980s and 1990s; trends are currently unclear.



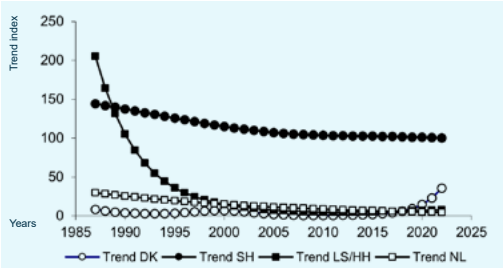
(A)



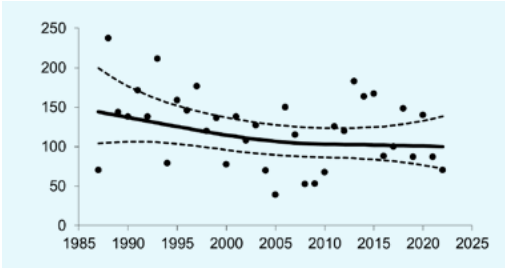
(C) Denmark



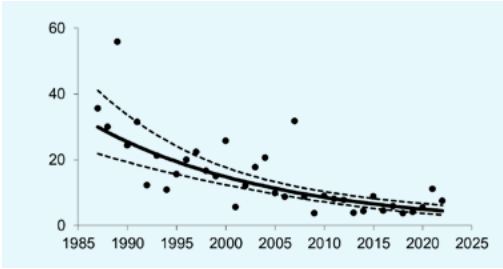
(E) Lower Saxony/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.15.1-4.15.6
Trends of Kentish Plover in the Wadden Sea (a) and the four regions 1987/1988-2019/2020 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Kentish Plover in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↓	–
(C) Denmark	?	↑↑
(D) Schleswig-Holstein	→	→
(E) Lower Saxony/Hamburg	↓	–
(F) The Netherlands	↓	↓

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease – uncertain

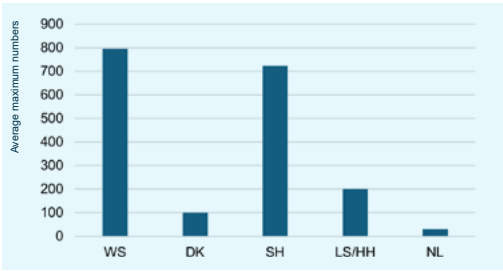
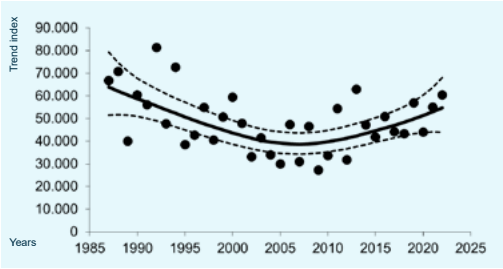


Figure 4.15.7
Absolute numbers of Kentish Plover in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

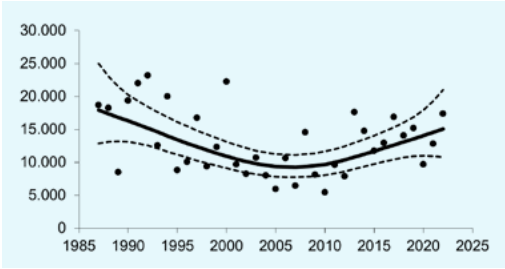
4.16 EURASIAN GOLDEN PLOVER

04850 ***Pluvialis apricaria*** DK: Hjejle D: Goldregenpfeifer NL: Goudplevier

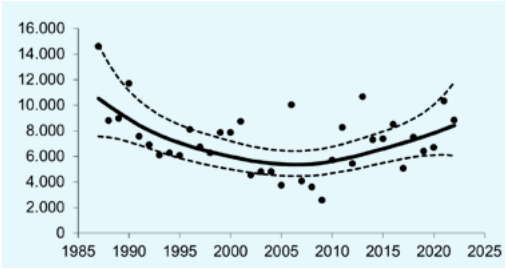
While the Eurasian Golden Plover shows a stable trend in the long-term, the short-term trend is increasing. This pattern has been influenced by developments in the Danish and German parts of the Wadden Sea, where the species showed a dip around 2005 and seems to have recovered since then, although no clear regional trends have been detected. The Golden Plover trends in the Dutch part of Wadden Sea have been stable over the entire monitoring period.



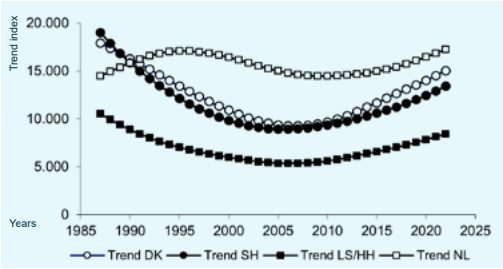
(A)



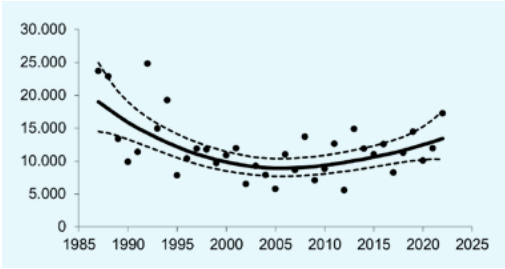
(C) Denmark



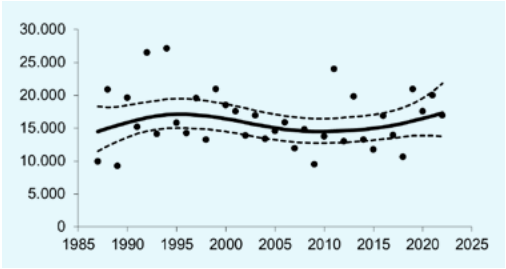
(E) Lower Saxony/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.16.1-4.16.6
Trends of Eurasian Golden Plover in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Eurasian Golden Plover in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	→	↑
(C) Denmark	→	–
(D) Schleswig-Holstein	→	–
(E) Lower Saxony/Hamburg	→	–
(F) The Netherlands	→	→

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease – uncertain

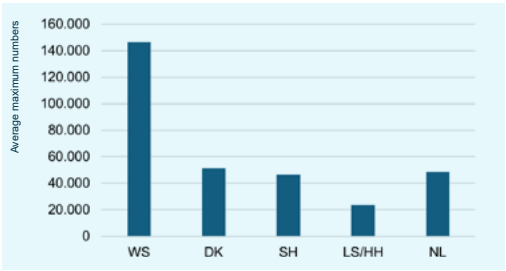
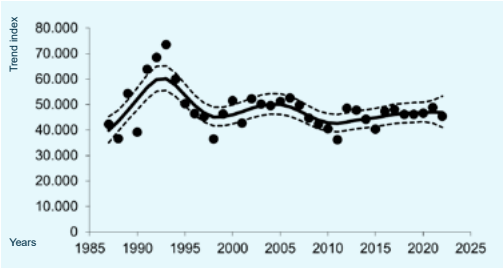


Figure 4.16.7
Absolute numbers of Eurasian Golden Plover in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

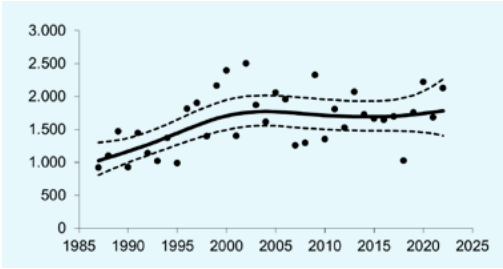
4.17 GREY PLOVER

04860 ***Pluvialis squatarola*** DK: Strandhjejle D: Kiebitzregenpfeifer NL: Zilverplevier

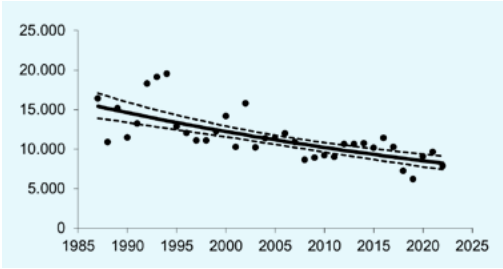
Over 65% of the total flyway population of Grey Plover uses the Wadden Sea outside the breeding season, indicating the area as high importance for the species. The long- and short-term trends are stable, although this varies between Wadden Sea regions. The long-term trends in Denmark and the Netherlands are positive, but negative for Schleswig-Holstein and Lower Saxony/Hamburg. Over the last ten years numbers have been stable in all Wadden Sea regions, except for Lower Saxony/Hamburg.



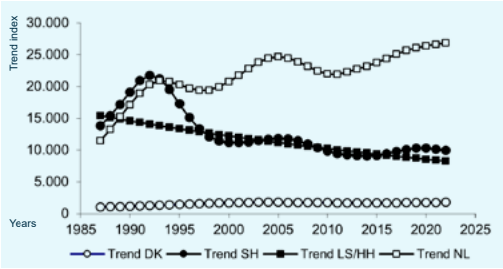
(A)



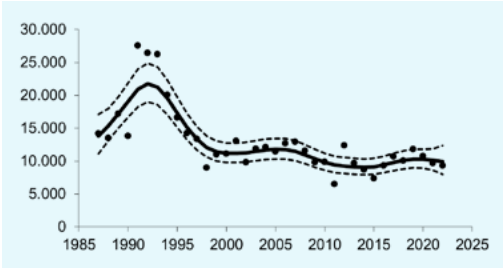
(C) Denmark



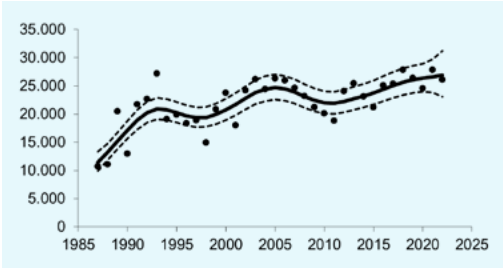
(E) Lower Saxony/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.17.1-4.17.6
Trends of Grey Plover in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Grey Plover in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	→	→
(C) Denmark	↑	→
(D) Schleswig-Holstein	↓	→
(E) Lower Saxony/Hamburg	↓	↓
(F) The Netherlands	↑	→

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease uncertain

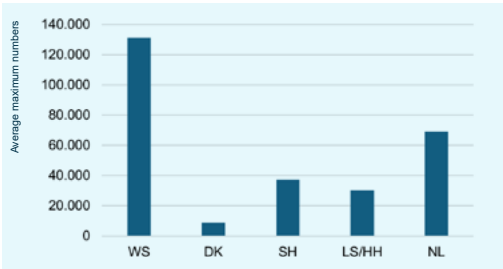
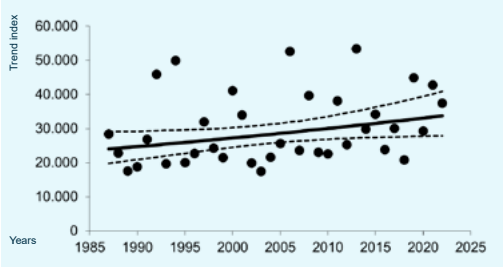


Figure 4.17.7
Absolute numbers of Grey Plover in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

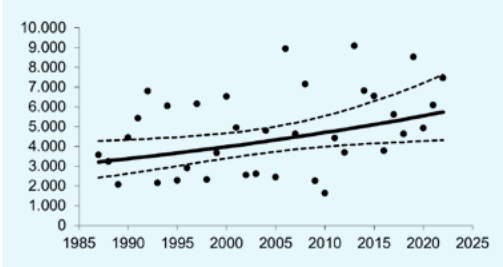
4.18 NORTHERN LAPWING

04930 ***Vanellus vanellus*** DK: Vibe D: Kiebitz NL: Kievit

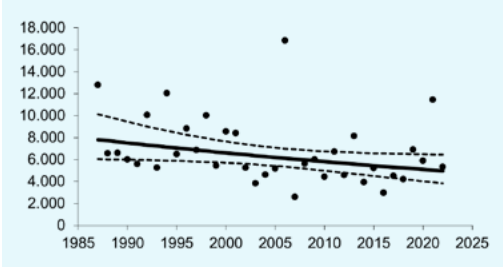
Less than 2% of the Northern Lapwing flyway population uses the Wadden Sea. Aside from Lower Saxony/Hamburg where a moderate decline has been detected, Lapwings have been increasing throughout the Wadden Sea. The short-term trend in the Dutch part of the Wadden Sea, which along with the Schleswig-Holstein accounts for the majority of lapwings, is stable.



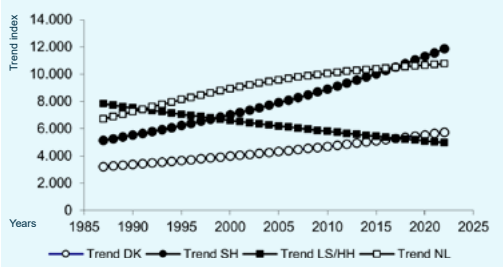
(A)



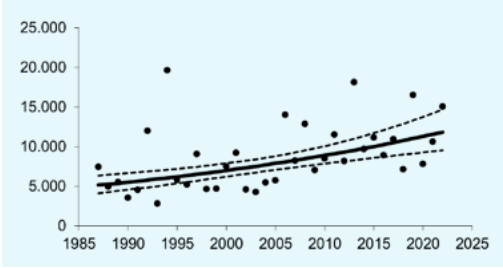
(C) Denmark



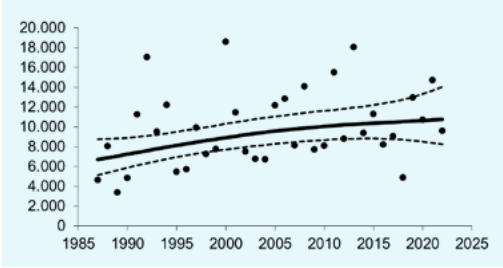
(E) Lower Saxony/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.18.1-4.18.6
Trends of Northern Lapwing in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Northern Lapwing in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↑	↑
(C) Denmark	↑	↑
(D) Schleswig-Holstein	↑	↑
(E) Lower Saxony/Hamburg	↓	↓
(F) The Netherlands	↑	→

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease uncertain

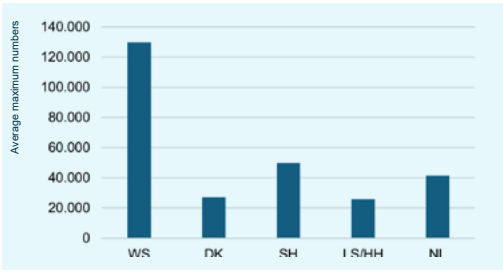
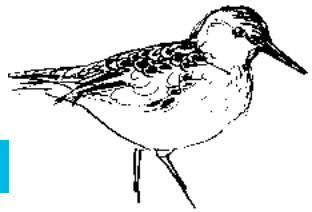


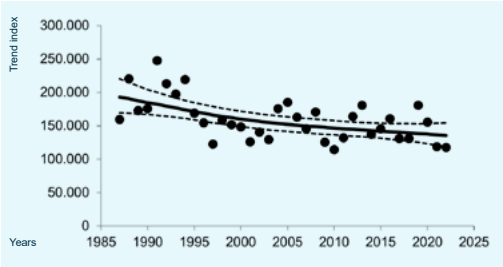
Figure 4.18.7
Absolute numbers of Northern Lapwing in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

4.19 RED KNOT

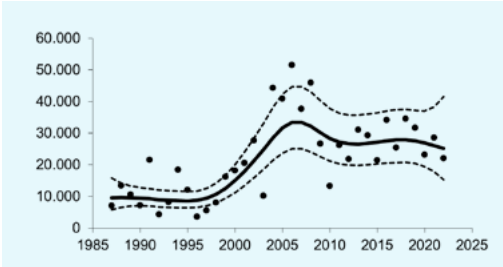


04960 ***Calidris canutus*** DK: Islandsk Ryle D: Knutt NL: Kanoet

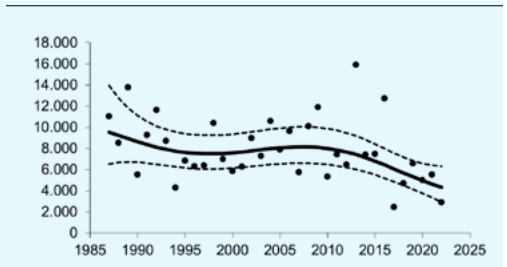
Both flyway populations of the Red Knot, the C.c. *canutus* migrating from Africa to Siberia and the C.c. *islandica* wintering in the European regions and breeding in Greenland and Canada, use the Wadden Sea. The proportion is almost 100% of the flyway population. This makes both subspecies priority species in the Wadden Sea. The overall long-term trend is decreasing, while the short-term trend is stable, with differences between the Wadden Sea areas. Trends by subspecies are shown in Chapter 5.



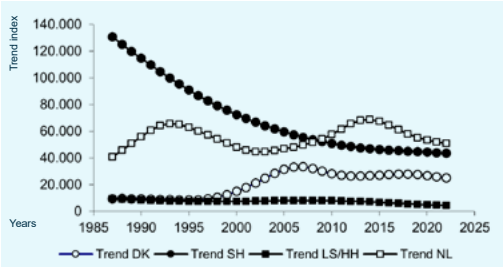
(A)



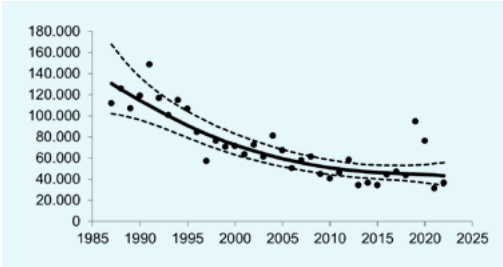
(C) Denmark



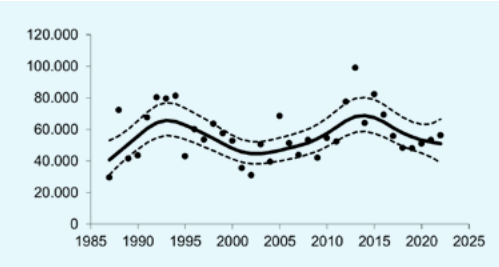
(E) Lower Saxony/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.19.1-4.19.6
Trends of Red Knot in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Red Knot in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↓	→
(C) Denmark	↑	–
(D) Schleswig-Holstein	↓	→
(E) Lower Saxony/Hamburg	↓	↓
(F) The Netherlands	→	–

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease – uncertain

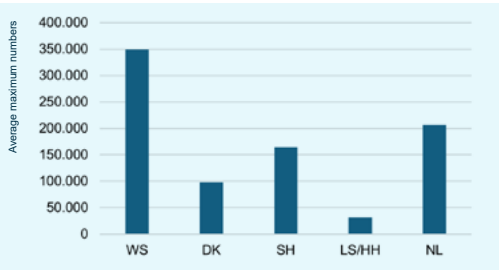
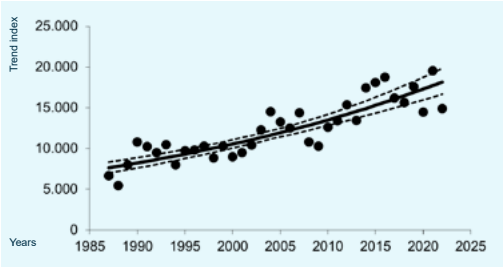


Figure 4.19.7
Absolute numbers of Red Knot in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

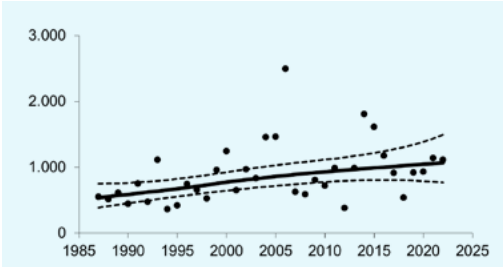
4.20 SANDERLING

04970 *Calidris alba* DK: Sandløber D: Sanderling NL: Drieteenstrandloper

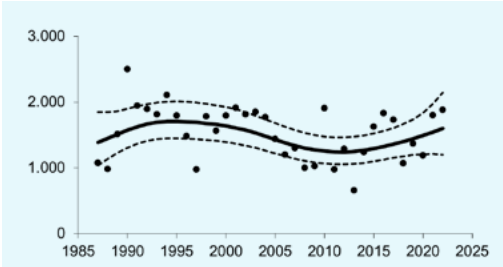
The long-term trend of the Sanderling is increasing, mostly on account of moderate increases in the Dutch part of the Wadden Sea. In the northern part of the Wadden Sea short-term trends are stable, while the trend in Lower Saxony/Hamburg is uncertain. Where in the early period of 1987/1988-1994/1995 the spring maximum was 21,500 Sanderlings, it is now 53,300 individuals.



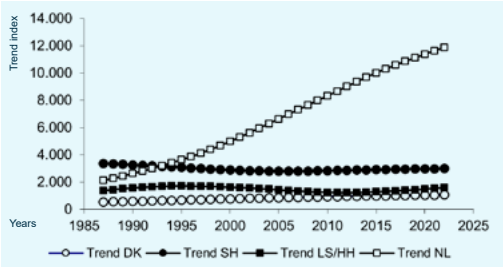
(A)



(C) Denmark



(E) Lower Saxony/Hamburg



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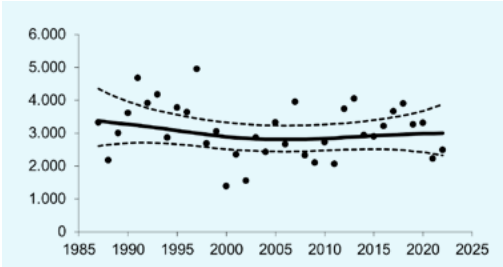
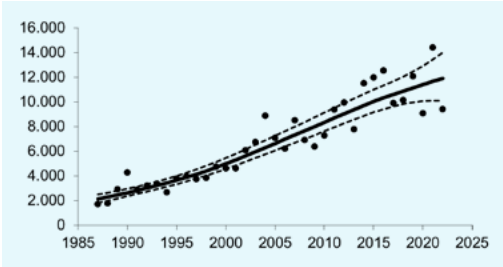


(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.20.1-4.20.6
Trends of Sanderling in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Sanderling in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↑	↑
(C) Denmark	↑	→
(D) Schleswig-Holstein	→	→
(E) Lower Saxony/Hamburg	→	–
(F) The Netherlands	↑	↑

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease – uncertain

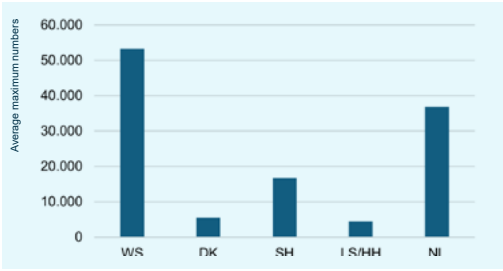
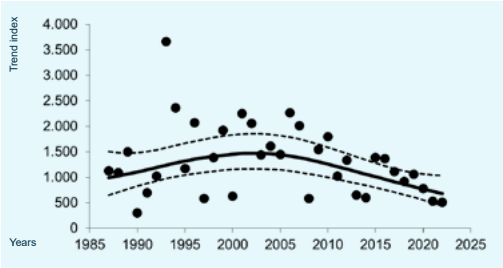


Figure 4.20.7
Absolute numbers of Sanderling in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

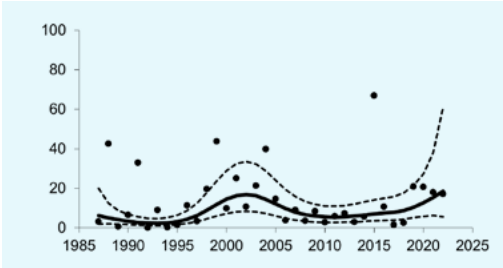
4.21 CURLEW SANDPIPER

05090 ***Calidris ferruginea*** DK: Krumnæbbet Ryle D: Sichelstrandläufer NL: Krombekstrandloper

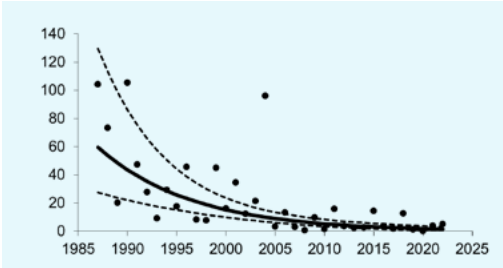
Only 2-3% of the Curlew Sandpiper flyway population visit the Wadden Sea during southbound migration. They migrate through the Wadden Sea in a very short period during July/August, using a small number of sites, making them hard to count with the regular high tide roost counts. The long-term trend is stable, but in the short-term, the Curlew Sandpiper is becoming scarcer. This is due to declining numbers in the German parts of the Wadden Sea, especially in Lower Saxony/Hamburg where numbers are declining strongly in the long- and short-term. Only in the Dutch part of the Wadden Sea numbers appear to be stable.



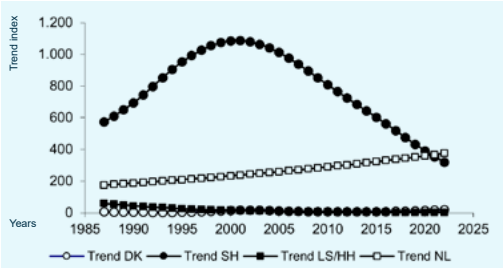
(A)



(C) Denmark



(E) Lower Saxony/Hamburg



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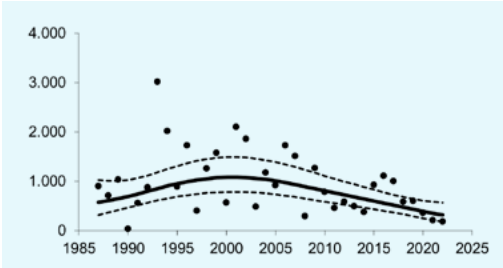
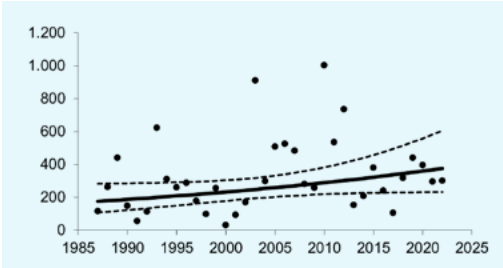


(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.21.1-4.21.6
Trends of Curlew Sandpiper in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Curlew Sandpiper in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	→	↓
(C) Denmark	?	–
(D) Schleswig-Holstein	→	↓
(E) Lower Saxony/Hamburg	↓↓	↓↓
(F) The Netherlands	→	→

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease – uncertain

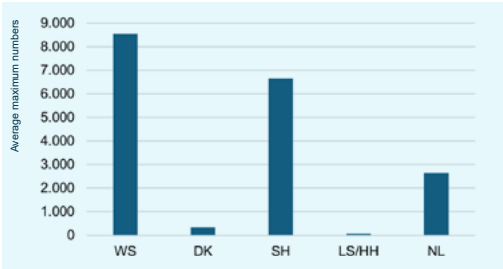
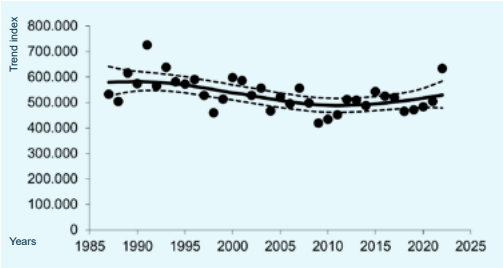


Figure 4.21.7
Absolute numbers of Curlew Sandpiper in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

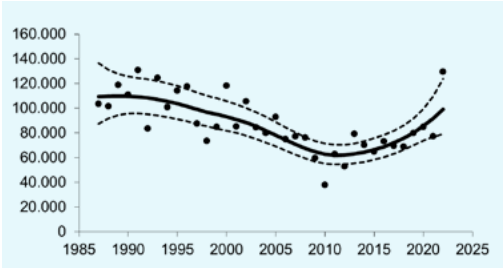
4.22 DUNLIN

05120 ***Calidris alpina*** DK: Almindelig Ryle D: Alpenstrandläufer NL: Bonte Strandloper

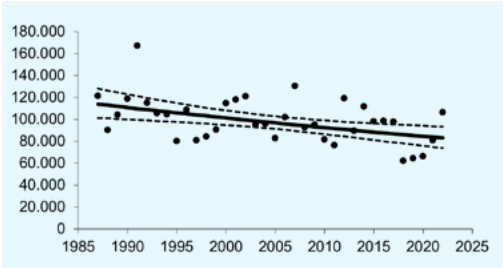
Nearly three-quarters of the Dunlin flyway population uses the Wadden Sea. Their numbers are stable in both the long- and short-term. On the short-term, the Dutch and Danish parts of the Wadden Sea show increasing trends. Due to overlap in migration periods no seperate trend calculations are shown for the Dunlin subspecies (*C.a. alpina, C.a. schinzii, and C.a. arctica*) although they show different trends at the flyway level (van Roomen et al. 2025).



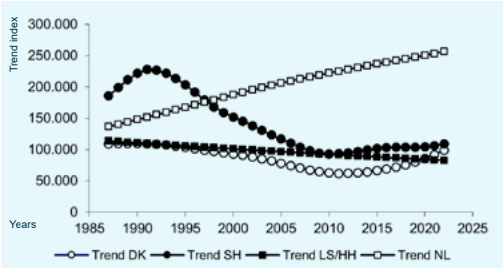
(A)



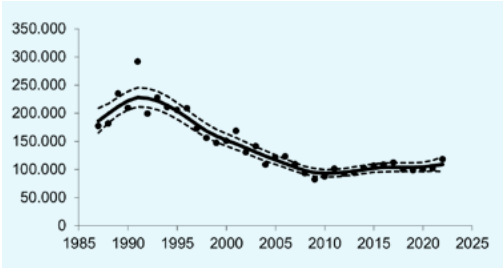
(C) Denmark



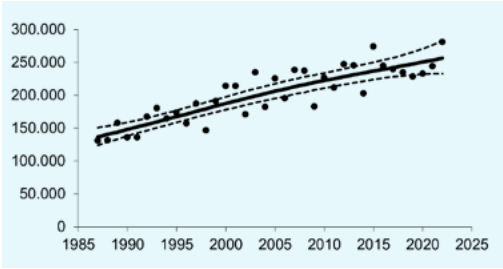
(E) Lower Saxony/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.22.1-4.22.6
Trends of Dunlin in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Dunlin in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	→	→
(C) Denmark	→	↑
(D) Schleswig-Holstein	↓	→
(E) Lower Saxony/Hamburg	↓	↓
(F) The Netherlands	↑	↑

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease uncertain

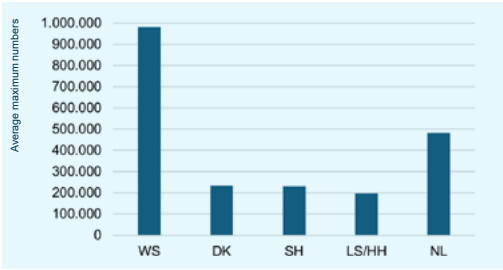
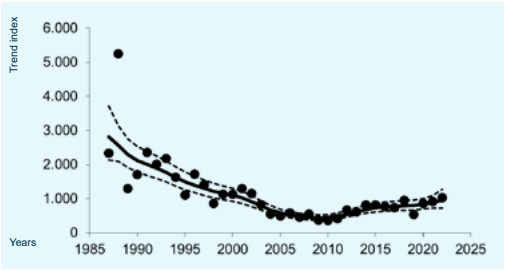


Figure 4.22.7
Absolute numbers of Dunlin in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

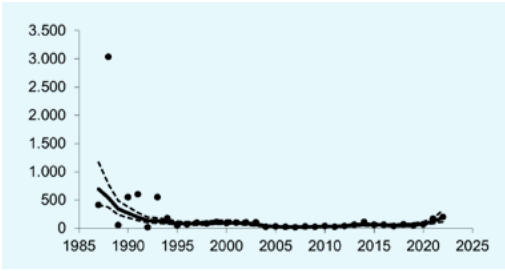
4.23 RUFF

05170 *Philomachus pugnax* DK: Brushane D: Kampfläufer NL: Kemphaan

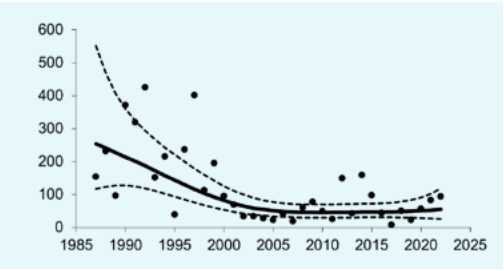
Only 0.1% of the Ruff flyway population migrates through the Wadden Sea. In the long-term, this number is declining, but in the short-term, there is an increase due to larger numbers in the Danish and Dutch parts of the Wadden Sea. While the absolute number of birds in the period 1987/1988–1994/1995 was 19,000, it currently stands at almost 4,000.



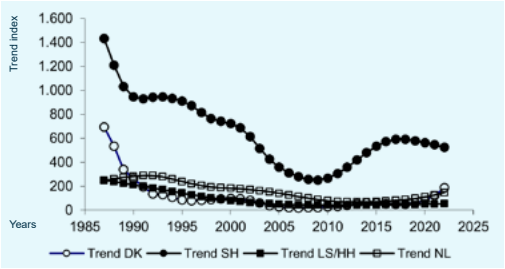
(A)



(C) Denmark



(E) Lower Saxony/Hamburg



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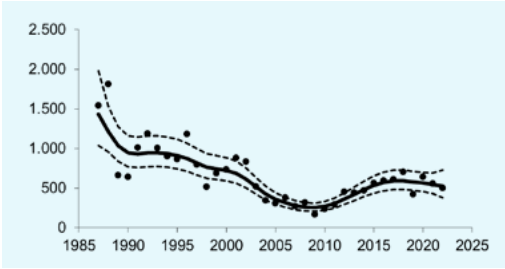
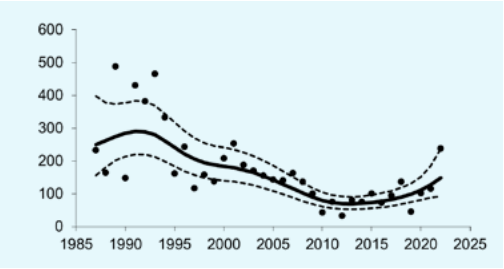


(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.23.1-4.23.6
Trends of Ruff in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Ruff in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↓	↑
(C) Denmark	↓	↑↑
(D) Schleswig-Holstein	↓	–
(E) Lower Saxony/Hamburg	↓	–
(F) The Netherlands	→	↑

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease – uncertain

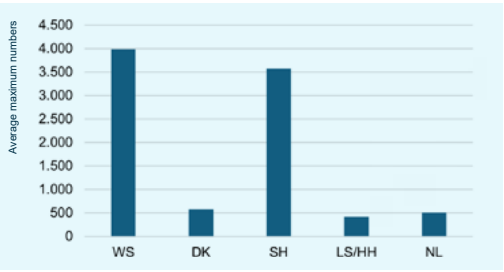
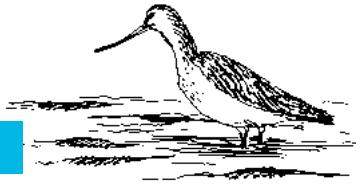


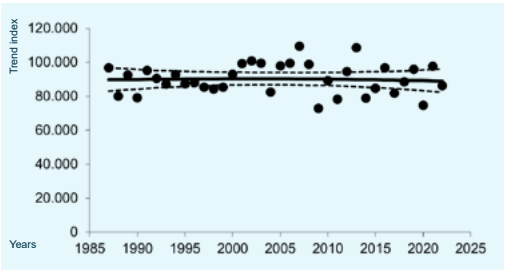
Figure 4.23.7
Absolute numbers of Ruff in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

4.24 BAR-TAILED GODWIT

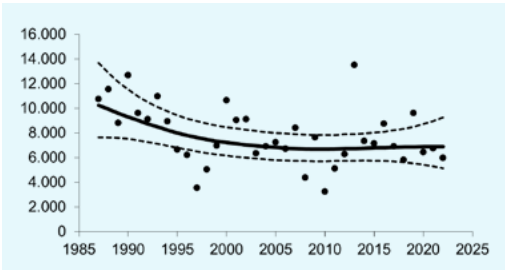


05340 ***Limosa lapponica*** DK: Lille Kobbersneppe D: Pfuhlschnepfe NL: Rosse Grutto

The number of Bar-tailed Godwits in the Wadden Sea remains constant in both the long- and short-term. There are differences between the various parts of the Wadden Sea, with a long-term increase in the Dutch part and a short-term decrease in the Lower Saxon part of the Wadden Sea. The two subspecies involved (*L.l. taymyrensis* and *L.l. lapponica*) show different trends (see Chapter 5).



(A)



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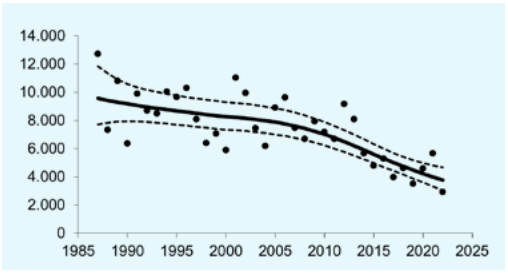
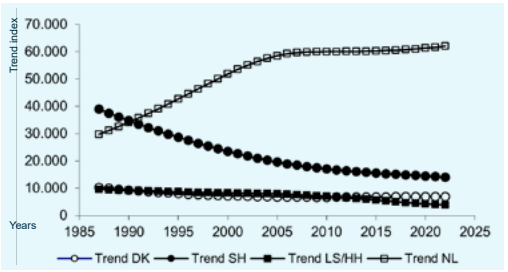


(E) Lower Saxony/Hamburg



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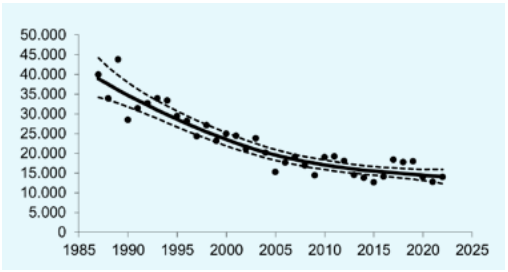
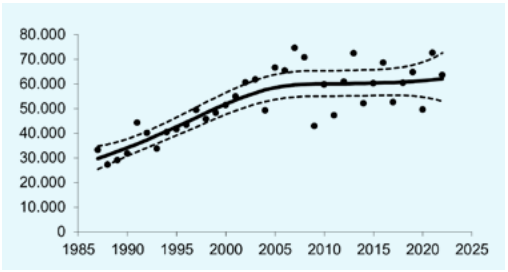


(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.24.1-4.24.6
Trends of Bar-tailed Godwit in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Bar-tailed Godwit in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	→	→
(C) Denmark	→	→
(D) Schleswig-Holstein	↓	→
(E) Lower Saxony/Hamburg	↓	↓
(F) The Netherlands	↑	→

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease uncertain

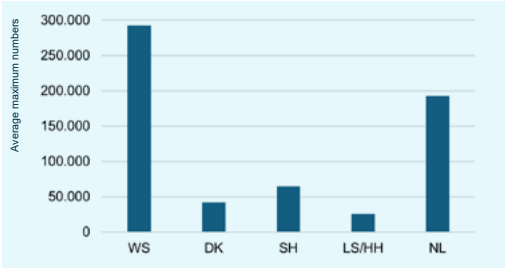
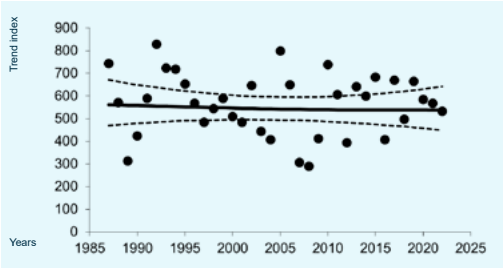


Figure 4.24.7
Absolute numbers of Bar-tailed Godwit in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

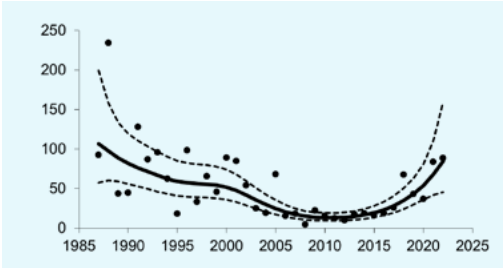
4.25 WHIMBREL

05380 ***Numenius phaeopus*** DK: Lille Regnspove D: Regenbrachvogel NL: Regenwulp

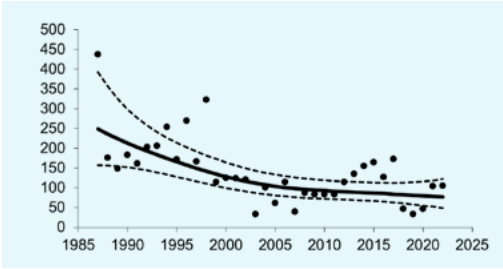
Only 1% of the Whimbrel flyway population is counted in the Wadden Sea. Numbers are hard to monitor, because spring migration peaks shortly at the end of April. Long- and short-term trends are currently stable in the Wadden Sea. In the northern parts the short-term trend is positive (Denmark, Schleswig-Holstein), in the southern parts the short-term trend is uncertain (Lower Saxony/Hamburg, Netherlands).



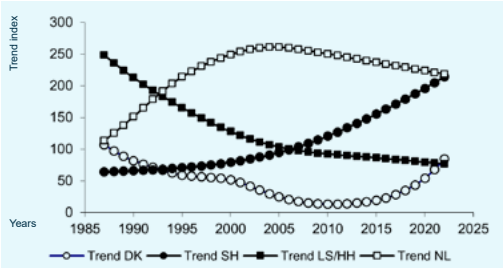
(A)



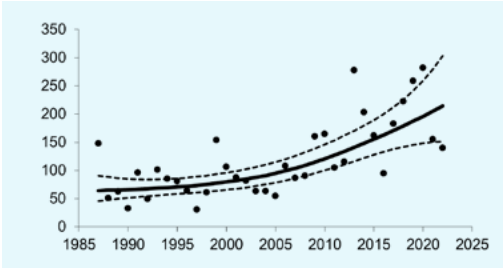
(C) Denmark



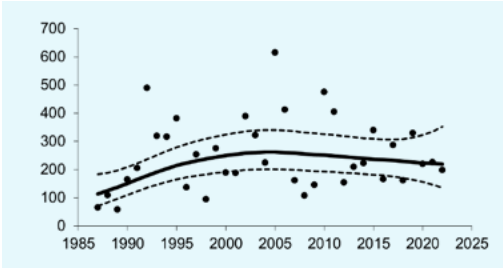
(E) Lower Saxony/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.25.1-4.25.6
Trends of Whimbrel in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Whimbrel in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	→	→
(C) Denmark	→	↑↑
(D) Schleswig-Holstein	↑	↑
(E) Lower Saxony/Hamburg	↓	–
(F) The Netherlands	→	–

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease – uncertain

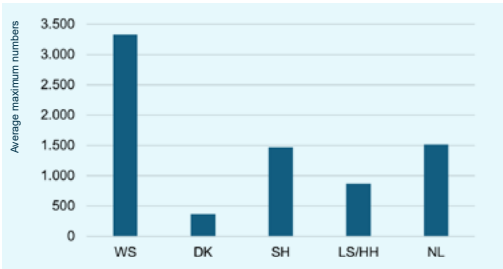
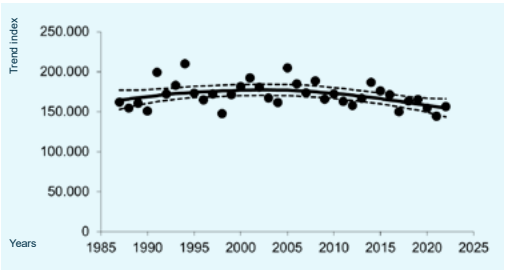


Figure 4.25.7
Absolute numbers of Whimbrel in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

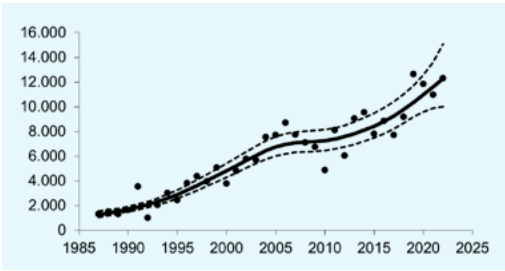
4.26 EURASIAN CURLEW

05410 ***Numenius arquata*** DK: Stor Regnspove D: Großer Brachvogel NL: Wulp

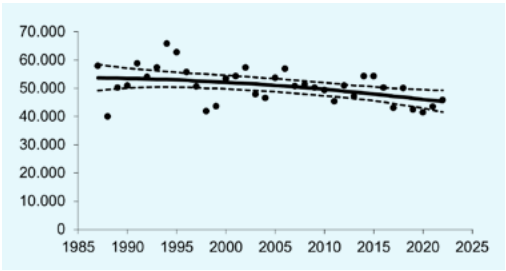
The Eurasian Curlew flyway population is in serious decline (van Roomen et al. 2023). While the Wadden Sea population, representing around 35% of the flyway population, has a stable long-term trend, the short-term trend is also negative. This is mainly due to recent declines in the Dutch part of the Wadden Sea, where the largest numbers of Curlews reside. Short-term trends in the German part of the Wadden Sea are stable, while numbers are increasing in the Danish part of the Wadden Sea.



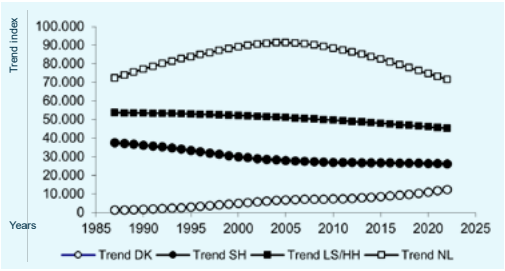
(A)



(C) Denmark



(E) Lower Saxony/Hamburg



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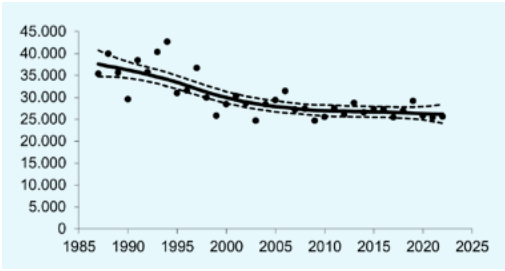
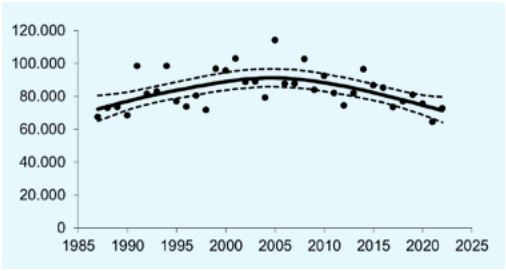


(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.26.1-4.26.6
Trends of Eurasian Curlew in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Eurasian Curlew in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	→	↓
(C) Denmark	↑↑	↑
(D) Schleswig-Holstein	↓	→
(E) Lower Saxony/Hamburg	↓	→
(F) The Netherlands	→	↓

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease uncertain

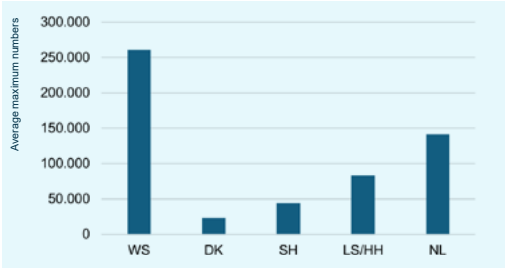
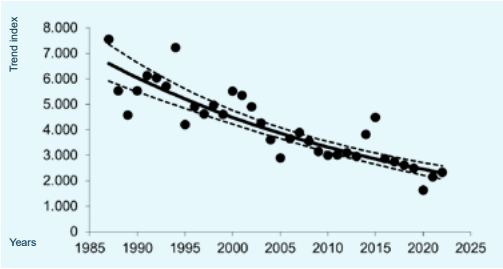


Figure 4.26.7
Absolute numbers of Eurasian Curlew in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

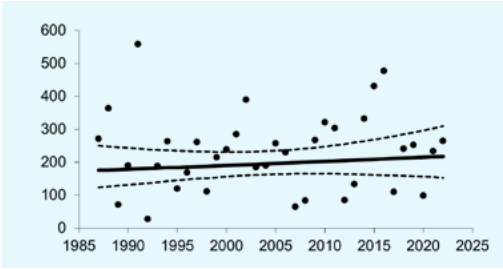
4.27 SPOTTED REDSHANK

05450 ***Tringa erythropus*** DK: Sortklire D: Dunkler Wasserläufer NL: Zwarte Ruiter

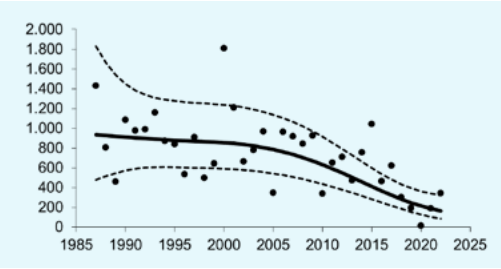
The Spotted Redshank is difficult to monitor due to its short passage time, with large numbers being observed at only a few sites. In addition, redshanks also use inner-dike pools during high tide that fall outside the counting units. Wadden Sea numbers represent about 15-20% of the flyway population and are decreasing long-term and short-term, with the exception of the Danish part of the Wadden Sea. During the period 1987/1988-1994/1995, the autumn migration numbered around 20,000 individuals, while now there are just under 15,000.



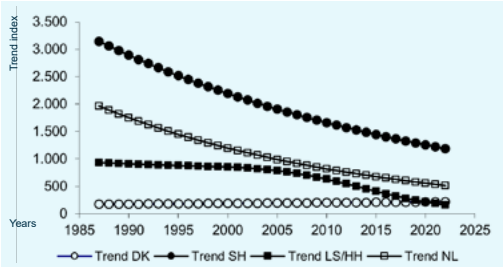
(A)



(C) Denmark



(E) Lower Saxony/Hamburg



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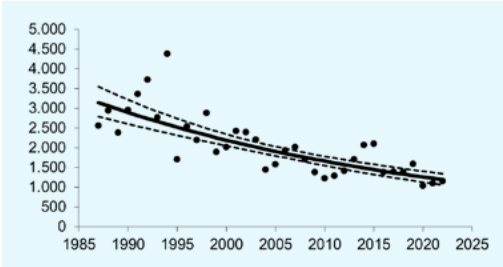
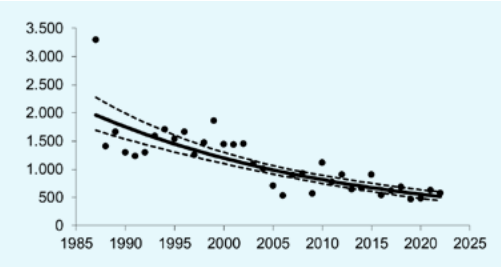


(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.27.1-4.27.6
Trends of Spotted Redshank in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Spotted Redshank in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↓	↓
(C) Denmark	→	→
(D) Schleswig-Holstein	↓	↓
(E) Lower Saxony/Hamburg	↓	↓
(F) The Netherlands	↓	↓

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease uncertain

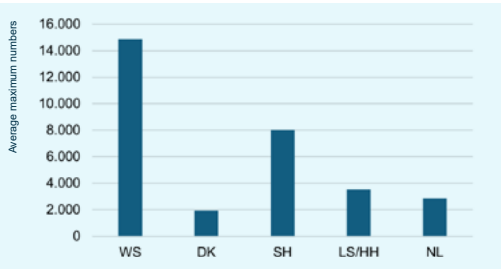
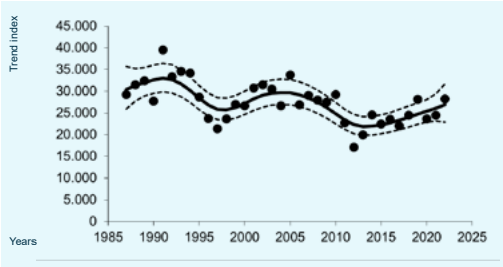


Figure 4.27.7
Absolute numbers of Spotted Redshank in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

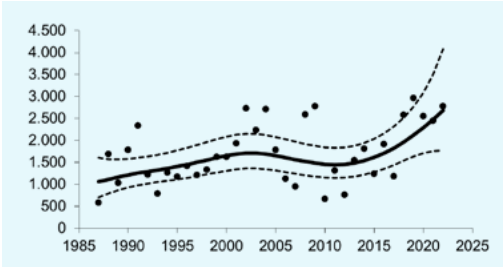
4.28 COMMON REDSHANK

05460 ***Tringa totanus*** DK: Rødben D: Rotschenkel NL: Tureluur

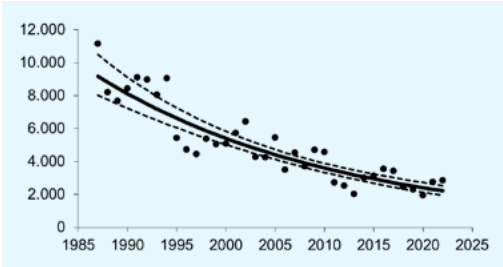
The Common Redshank occurs in the Wadden Sea with three populations, thus numbers and trends are not easy to assess in relation to the respective flyway populations. The overall long-term trend is stable, but positive in the short-term. This is related to increasing numbers in the northern part of the Wadden Sea (Denmark, Schleswig-Holstein). In the Dutch part of the Wadden Sea, where the largest numbers of Common Redshanks reside, the trend is stable in both the long- and short-term. A decreasing trend is observed in Lower Saxony/Hamburg. The different trends per subspecies are discussed in Chapter 5.



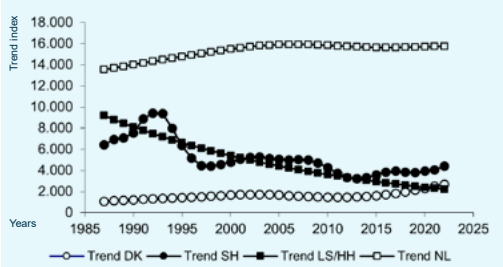
(A)



(C) Denmark



(E) Lower Saxony/Hamburg



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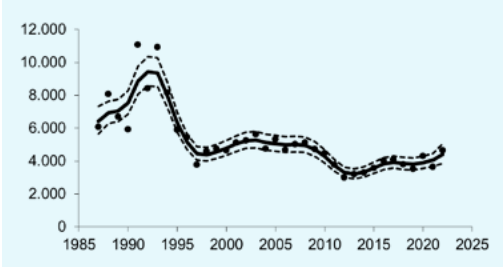
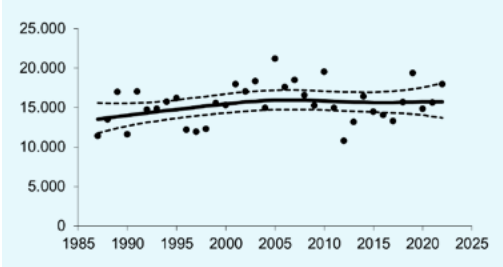


(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.28.1-4.28.6
Trends of Common Redshank in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Common Redshank in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	→	↑
(C) Denmark	↑	↑
(D) Schleswig-Holstein	↓	↑
(E) Lower Saxony/Hamburg	↓	↓
(F) The Netherlands	→	→

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease uncertain

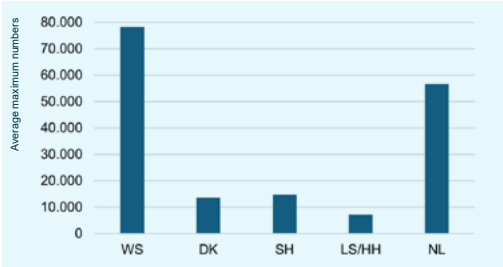
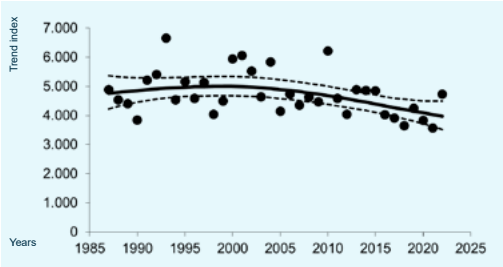


Figure 4.28.7
Absolute numbers of Common Redshank in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

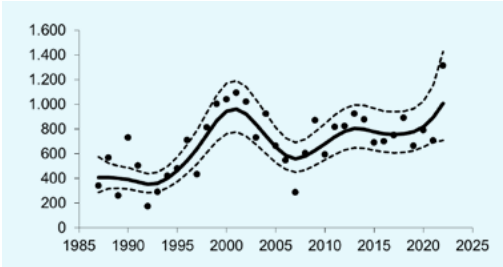
4.29 COMMON GREENSHANK

05480 ***Tringa nebularia*** DK: Hvidklire D: Grünschenkel NL: Groenpootruiter

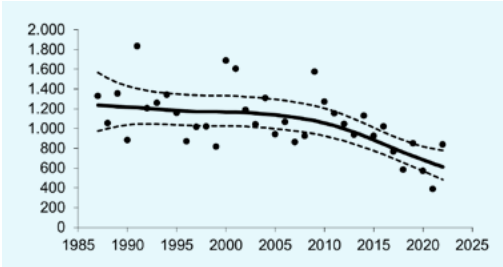
The Wadden Sea plays a minor role for the Common Greenshanks with 7.5% of the flyway population staging during autumn, and fewer during spring. The long-term trend in the Wadden Sea is negative, but in the past ten years the trend has stabilised. This does not apply to the southern parts of the Wadden Sea (Lower Saxony/Hamburg and the Netherlands), where the trend is also negative in the short-term.



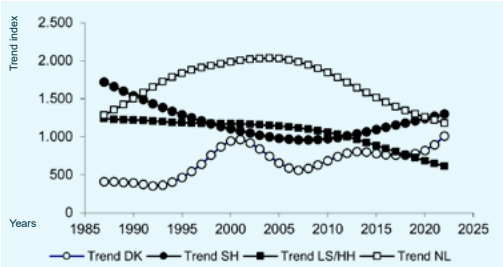
(A)



(C) Denmark



(E) Lower Saxony/Hamburg



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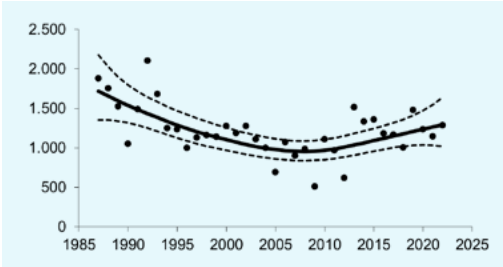
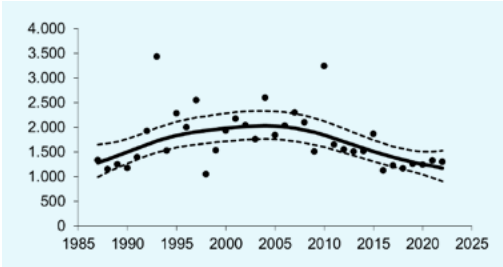


(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.29.1-4.29.6
Trends of Common Greenshank in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Common Greenshank in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↓	→
(C) Denmark	↑	–
(D) Schleswig-Holstein	→	–
(E) Lower Saxony/Hamburg	↓	↓
(F) The Netherlands	→	↓

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease – uncertain

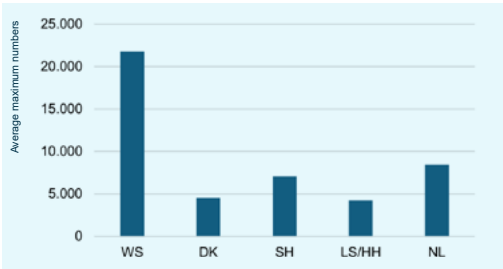
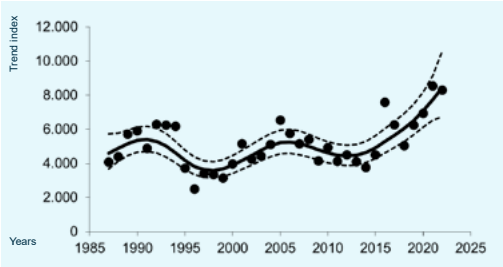


Figure 4.29.7
Absolute numbers of Common Greenshank in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

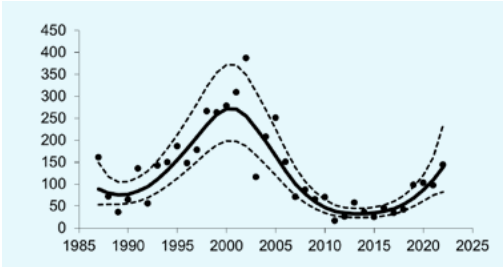
4.30 RUDDY TURNSTONE

05610 ***Arenaria interpres*** DK: Stenvender D: Steinwälzer NL: Steenloper

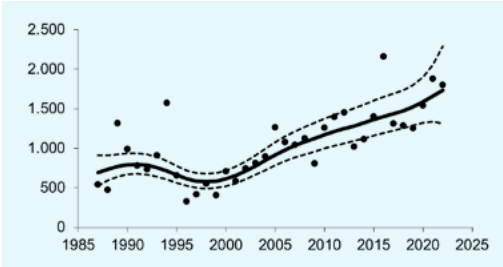
Two populations of Ruddy Turnstone pass the Wadden Sea during migration. One population breeds in Canada and Greenland and winters in Western Europe and North-West Africa and is present in the Wadden Sea from August to April. The other population breeds in Fennoscandia and North-West Russia and winters in Africa, and passes the Wadden Sea mainly during July and May. Overall, the Ruddy Turnstone is increasing in both the long- and short-term, with strong increases in the short-term in the nothern parts of the Wadden Sea. In the period 1987/1988–1994/1995, there were almost 9,000 individuals; currently, there is an absolute number of over 14,000.



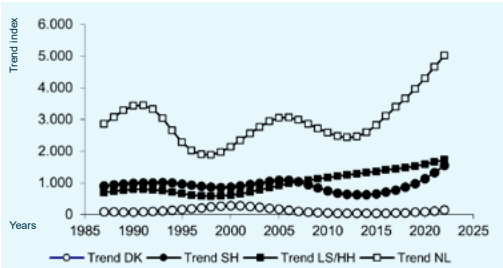
(A)



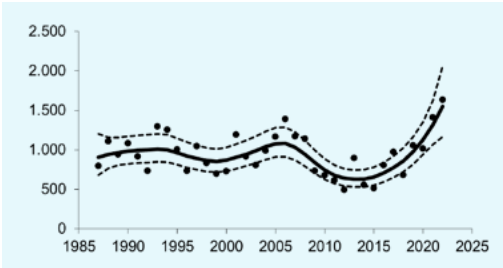
(C) Denmark



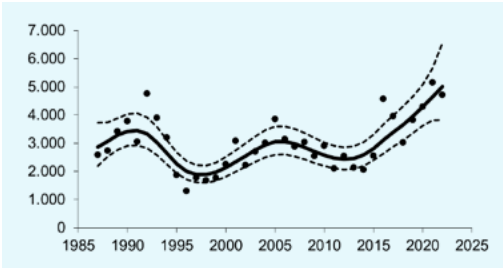
(E) Lower Saxony/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.30.1-4.30.6
Trends of Ruddy Turnstone in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Ruddy Turnstone in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↑	↑
(C) Denmark	→	↑↑
(D) Schleswig-Holstein	↑	↑↑
(E) Lower Saxony/Hamburg	↑	–
(F) The Netherlands	↑	↑

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease – uncertain

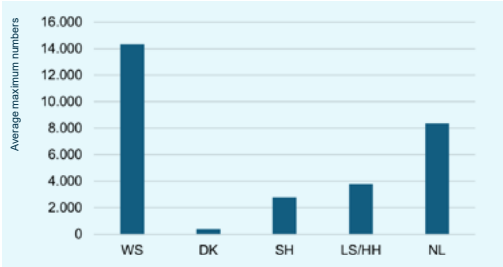
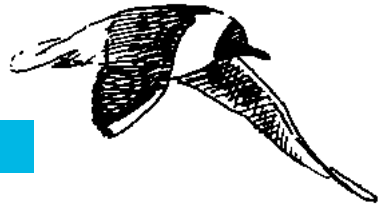


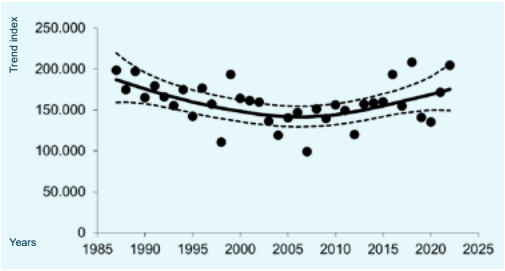
Figure 4.30.7
Absolute numbers of Ruddy Turnstone in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

4.31 COMMON BLACK-HEADED GULL

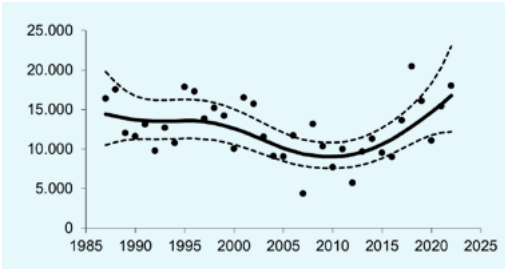


05820 ***Chroicocephalus ridibundus*** DK: Hættemåge D: Lachmöwe NL: Kokmeeuw

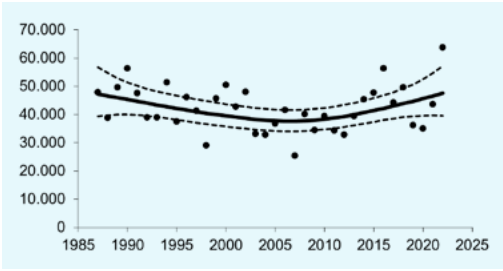
Almost 20% of the Common Black-headed Gull flyway population uses the Wadden Sea. The trilateral counts only cover a part of the numbers actually using the Wadden Sea, as many birds occur offshore or inland. The trend is stable in the long- and short-term for all regions, apart from Denmark where a moderate increase is reported in the short term.



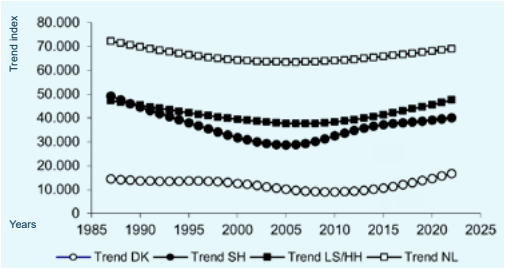
(A)



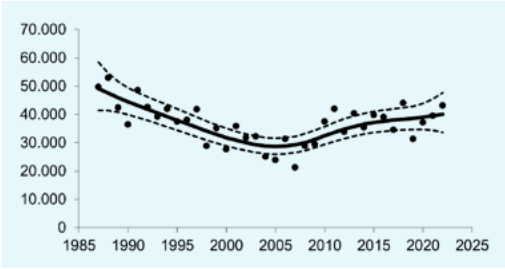
(C) Denmark



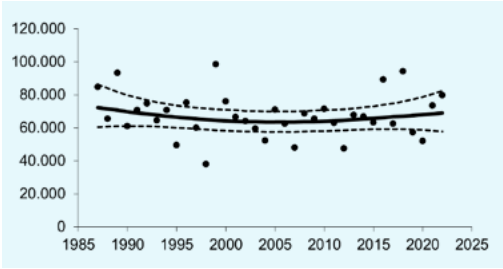
(E) Lower Saxony/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.31.1-4.31.6
Trends of Common Black-headed Gull in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Common Black-headed Gull in the Wadden Sea

The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	→	→
(C) Denmark	→	↑
(D) Schleswig-Holstein	→	→
(E) Lower Saxony/Hamburg	→	→
(F) The Netherlands	→	→

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease uncertain

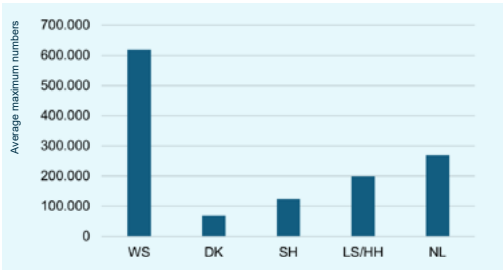
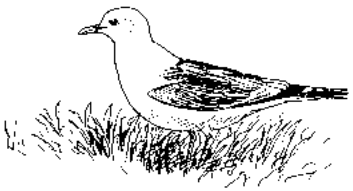


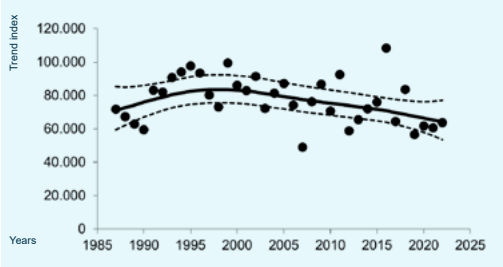
Figure 4.31.7
Absolute numbers of Common Black-headed Gull in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

4.32 COMMON GULL

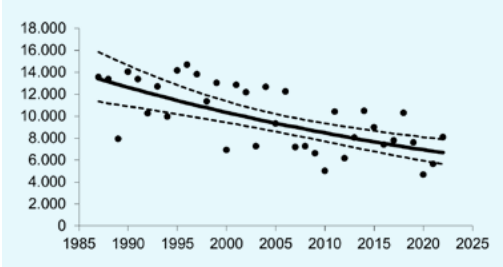


05900 ***Larus canus*** DK: Stormmåge D: Sturmmöwe NL: Stormmeeuw

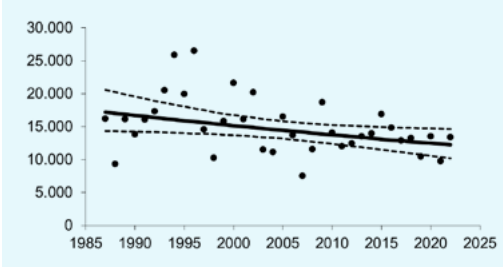
Over 10% of the Common Gull flyway population uses the Wadden Sea. However, many of them feed inland on grasslands and only rest in the Wadden Sea during the night. The long- and short-term trend is stable, although decreasing numbers have been observed in all parts of the Wadden Sea, except for the Netherlands, where most Common Gulls are counted and the short-term trends is stable.



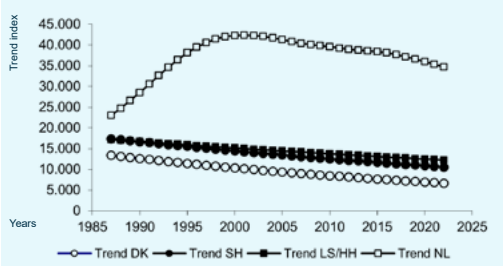
(A)



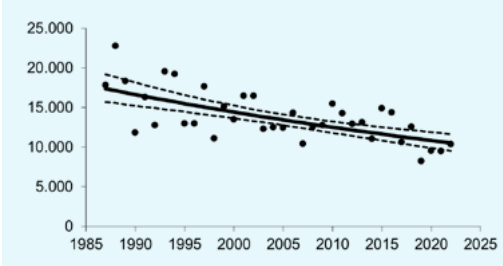
(C) Denmark



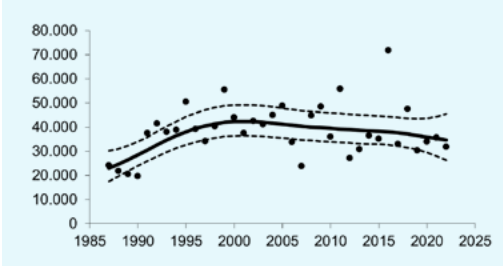
(E) Lower Saxony/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.32.1-4.32.6
Trends of Common Gull in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Common Gull in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	→	→
(C) Denmark	↓	↓
(D) Schleswig-Holstein	↓	↓
(E) Lower Saxony/Hamburg	↓	↓
(F) The Netherlands	↑	→

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease uncertain

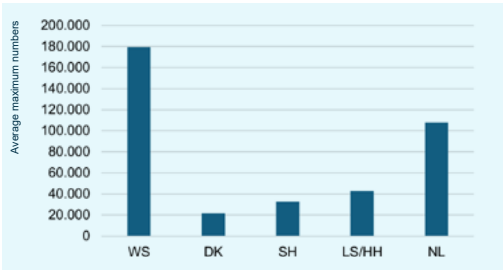
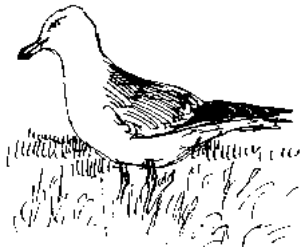


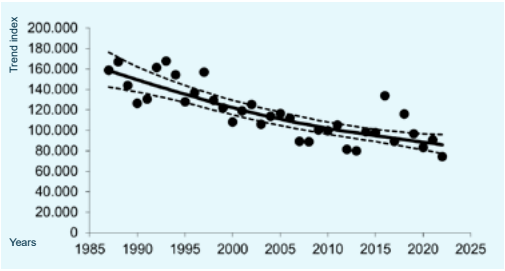
Figure 4.32.7
Absolute numbers of Common Gull in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

4.33 EUROPEAN HERRING GULL

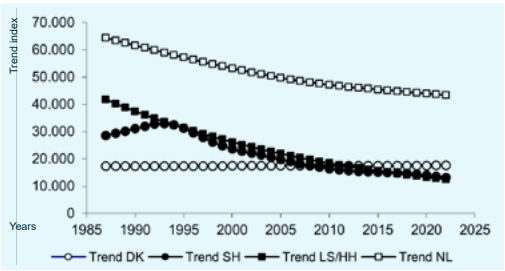


05920 ***Larus argentatus*** DK: Sølvmåge D: Silbermöwe NL: Zilvermeeuw

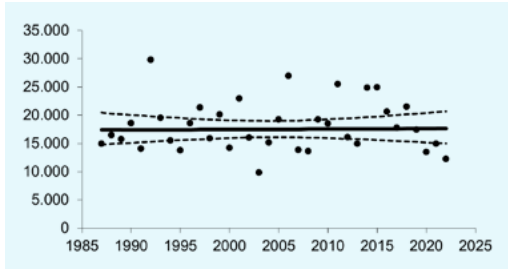
Over 15% of the European Herring Gull flyway population is registered in the Wadden Sea, however many birds are not covered by the trilateral counts as birds feed either offshore or inland. The long-term trend is negative, with declining numbers in most parts of the Wadden Sea. In the short-term, numbers are stable in almost all parts of the Wadden Sea, except for Lower Saxony/Hamburg.



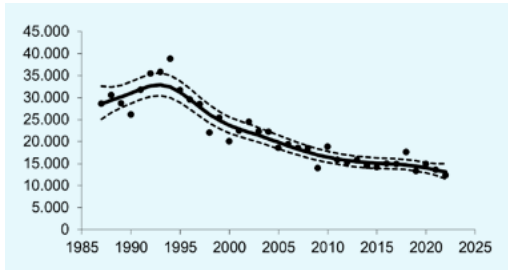
(A)



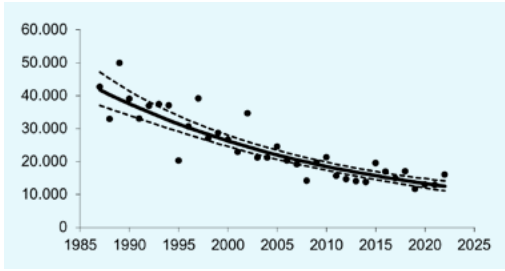
(B)



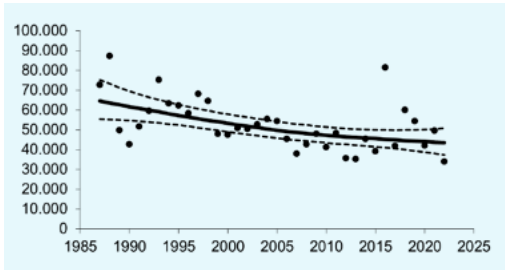
(C) Denmark



(D) Schleswig-Holstein



(E) Lower Saxony/Hamburg



(F) The Netherlands

Figure 4.33.1-4.33.6
Trends of European Herring Gull in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for European Herring Gull in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↓	↓
(C) Denmark	→	→
(D) Schleswig-Holstein	↓	→
(E) Lower Saxony/Hamburg	↓	↓
(F) The Netherlands	↓	→

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease uncertain

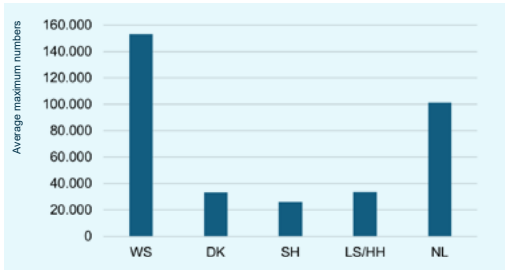
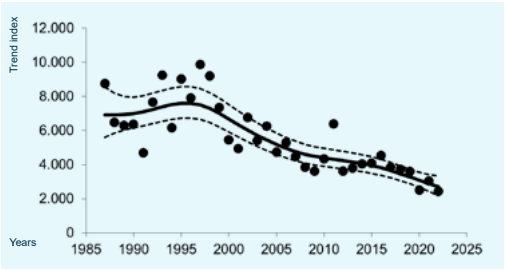


Figure 4.33.7
Absolute numbers of European Herring Gull in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

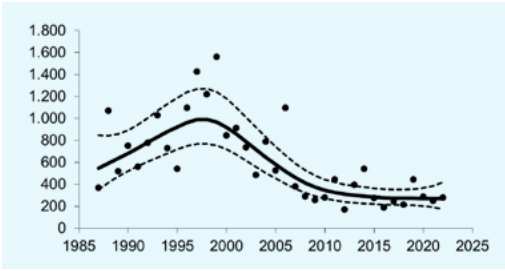
4.34 GREAT BLACK-BACKED GULL

06000 ***Larus marinus*** DK: Svartbag D: Mantelmöwe NL: Grote Mantelmeeuw

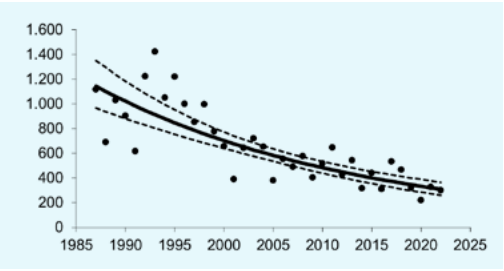
Less than 5% of the Great Black-backed Gull flyway population is recorded during counts in the Wadden Sea, since many birds use harbours and offshore areas. Numbers are declining in both the long- and short-term. This is particularly true for Lower Saxony/Hamburg and the Netherlands. Absolute numbers currently amount to around 8,500 individuals, while in the period 1987/1988-1994/1995 they were around 13,000.



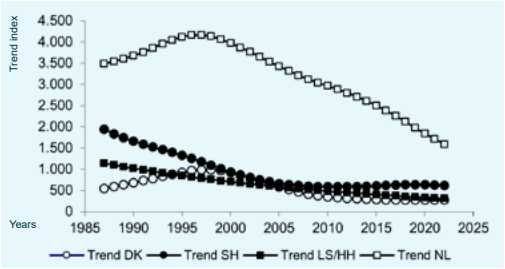
(A)



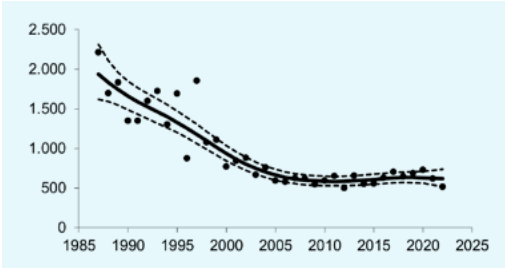
(C) Denmark



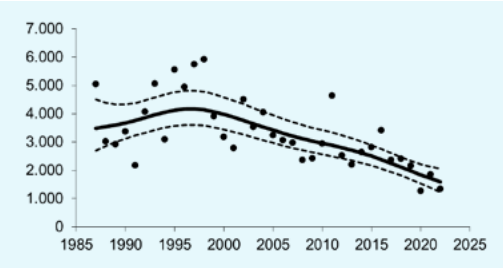
(E) Lower Saxony/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.34.1-4.34.6
Trends of Great Black-backed Gull in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Great Black-backed Gull in the Wadden Sea

The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↓	↓
(C) Denmark	↓	–
(D) Schleswig-Holstein	↓	→
(E) Lower Saxony/Hamburg	↓	↓
(F) The Netherlands	↓	↓

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease – uncertain

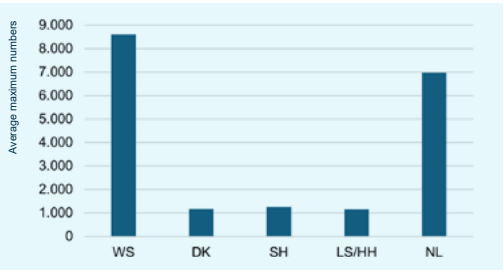


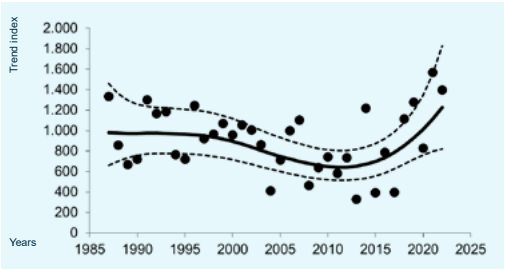
Figure 4.34.7
Absolute numbers of Great Black-backed Gull in the Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2013/2014-2022/2023.

5. SUBSPECIES ACCOUNTS

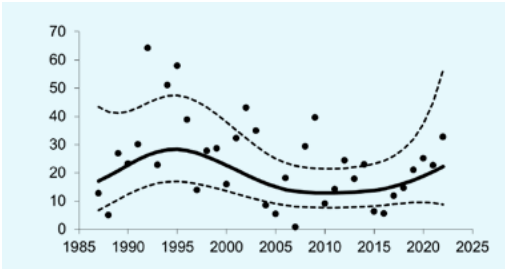
5.1 COMMON RINGED PLOVER *(hiaticula)*

04701 ***Charadrius hiaticula hiaticula*** DK: Stor Præstekrave D: Sandregenpfeifer NL: Bontbekplevier

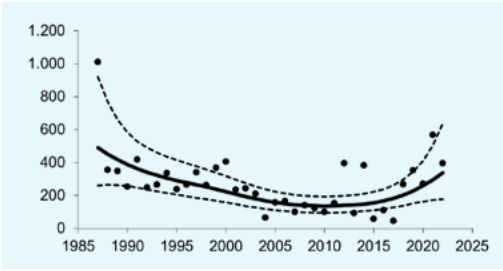
Of the subspecies *C.h. hiaticula* (counts from October to April), approximately 20% of the flyway population uses the Wadden Sea. In the long-term, numbers are stable, but short-term they are increasing. This increase is mainly occurring in the southern parts of the Wadden Sea.



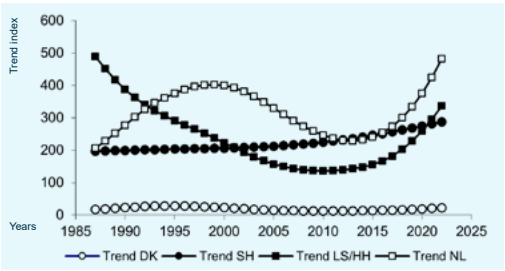
(A)



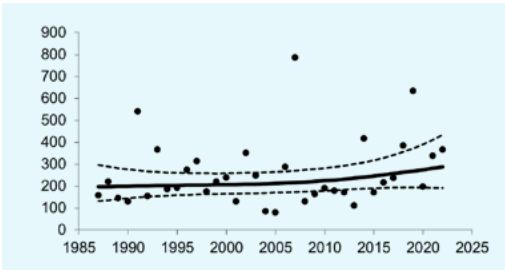
(C) Denmark



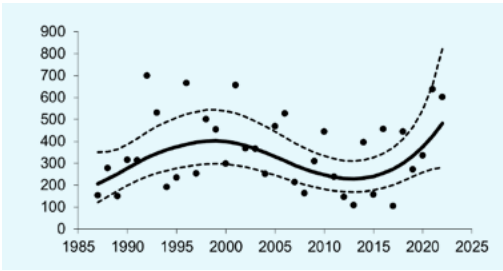
(E) Lower Saxony/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 5.1.1-5.1.6
Trends of Common Ringed Plover (hiaticula) in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Common Ringed Plover (hiaticula) in the Wadden Sea

The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

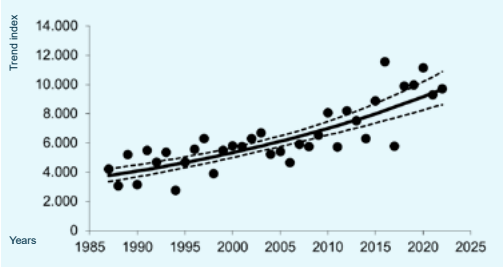
Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	➡	↑
(C) Denmark	➡	–
(D) Schleswig-Holstein	➡	–
(E) Lower Saxony/Hamburg	➡	↑
(F) The Netherlands	↑	↑

↑↑ strong increase ↑ moderate increase ➡ stable
↓↓ strong decrease ↓ moderate decrease – uncertain

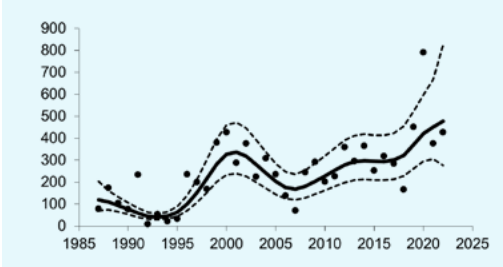
5.2 COMMON RINGED PLOVER *(psammodroma/tundrae)*

04702 ***Charadrius hiaticula psammodroma/tundrae*** DK: Stor Præstekrave D: Sandregenpfeifer NL: Bontbekplevier

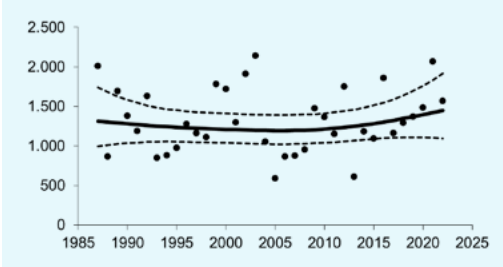
Large numbers of both the arctic breeding C. *h. tundrae* and C. *h. psammodroma* pass through during May and from July to September. The overall trend is positive, both long- and short-term. Highest numbers occur in Schleswig-Holstein and the Netherlands, where numbers continue to increase, determining the positive trend.



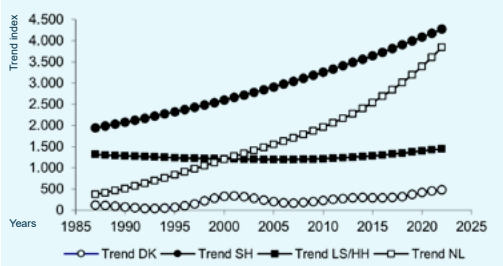
(A)



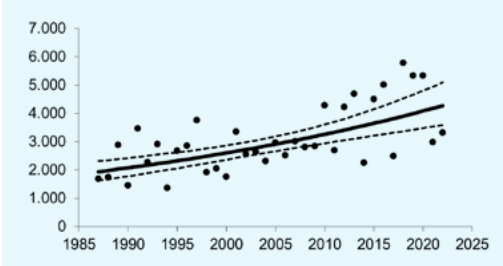
(C) Denmark



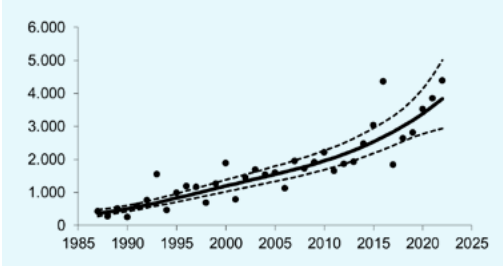
(E) Lower Saxony/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 5.2.1-5.2.6
Trends of Common Ringed Plover (psammodroma/tundrae) in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Common Ringed Plover (psammodroma/tundrae) in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

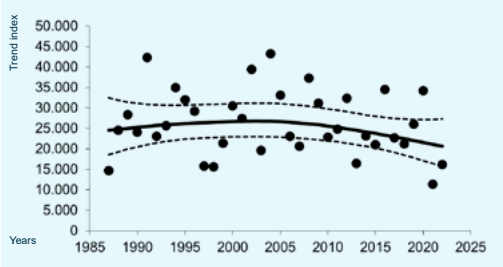
Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↑	↑
(C) Denmark	↑	–
(D) Schleswig-Holstein	↑	↑
(E) Lower Saxony/Hamburg	→	→
(F) The Netherlands	↑↑	↑

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease – uncertain

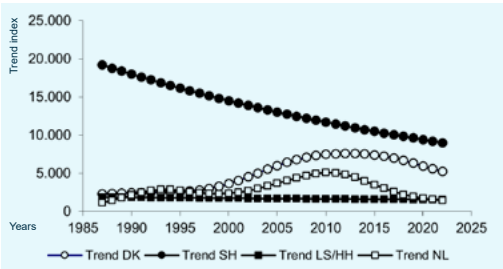
5.3 RED KNOT *(canutus)*

04961 ***Calidris canutus canutus*** DK: Islandsk Ryle D: Knutt NL: Kanoet

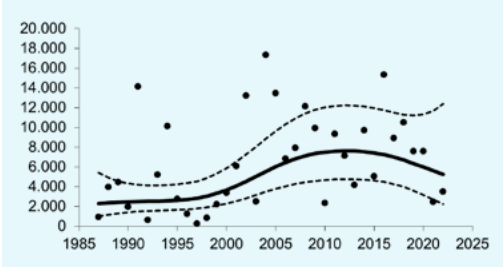
Nearly the entire flyway population of C.c. *canutus* uses the Wadden Sea, making it a priority species for the area. Red Knots of the subspecies C.c. *canutus* migrating from Africa to Siberia are mainly present in the Wadden Sea in May and July-August. The overall trend is stable, although in Schleswig-Holstein a continuous decrease occurs since the late 1990s. In the short-term, most regional trends are uncertain.



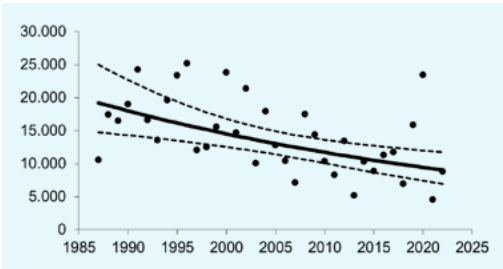
(A)



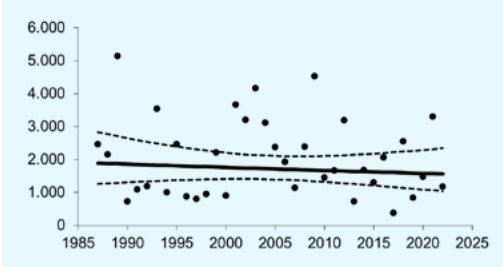
(B)



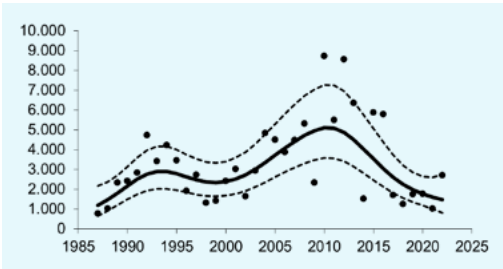
(C) Denmark



(D) Schleswig-Holstein



(E) Lower Saxony/Hamburg



(F) The Netherlands

Figure 5.3.1-5.3.6
Trends of Red Knot (canutus) in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Red Knot (canutus) in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

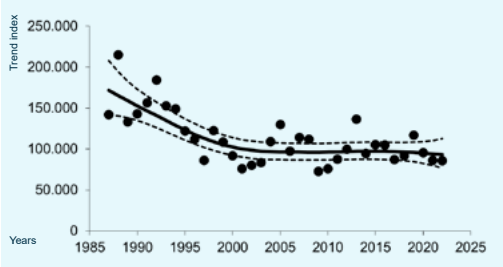
Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	→	→
(C) Denmark	?	–
(D) Schleswig-Holstein	↓	↓
(E) Lower Saxony/Hamburg	→	–
(F) The Netherlands	→	–

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease – uncertain

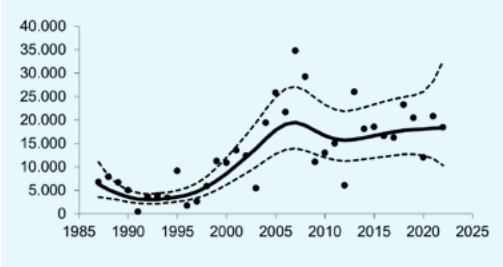
5.4 RED KNOT *(islandica)*

04962 ***Calidris canutus islandica*** DK: Islandsk Ryle D: Knutt NL: Kanoet

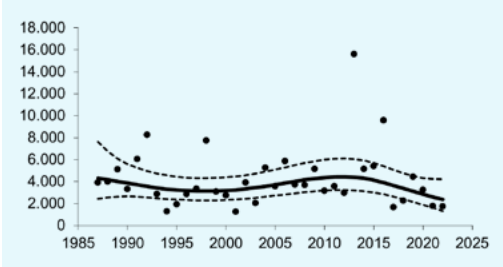
For the *islandica* Red Knots, almost the entire flyway population uses in the Wadden Sea. They winter in the European region and breed in Greenland and Canada. The long-term trend is negative, mainly due to a decline in the Wadden Sea of Schleswig-Holstein where the largest numbers used to occur. The short-term trend is stable as numbers in the Schleswig-Holstein part of the Wadden Sea have stabilised.



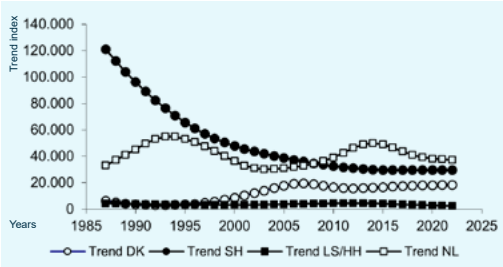
(A)



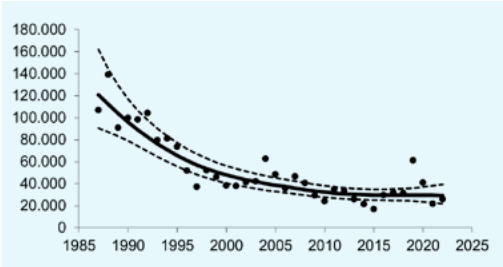
(C) Denmark



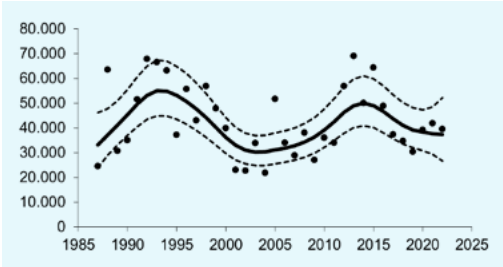
(E) Lower Saxony/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 5.4.1-5.4.6
Trends of Red Knot (islandica) in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Red Knot (islandica) in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

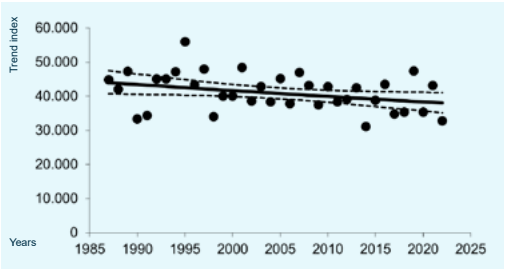
Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↓	→
(C) Denmark	↑	–
(D) Schleswig-Holstein	↓	→
(E) Lower Saxony/Hamburg	→	–
(F) The Netherlands	→	–

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease – uncertain

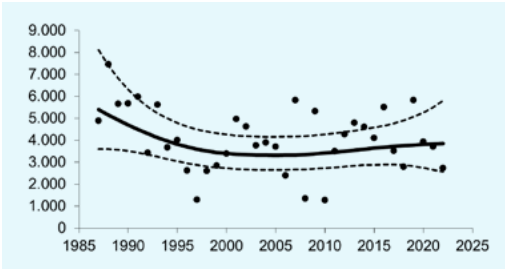
5.5 BAR-TAILED GODWIT *(taymyrensis)*

05341 ***Limosa lapponica taymyrensis*** DK: Lille Kobbersneppe D: Pfuhlschnepfe NL: Rosse Grutto

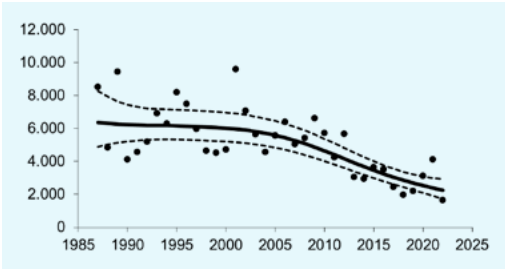
Bar-tailed Godwits of the Siberian subspecies *L. l. taymyrensis* are mainly present in the Wadden Sea in May and in July-August. Over 60% of its flyway population uses the Wadden Sea. Trends are decreasing, both in the long- as the short-term, but differ between Wadden Sea regions. In the Netherlands numbers are stable, while a continuous decrease is observed in German parts of the Wadden Sea.



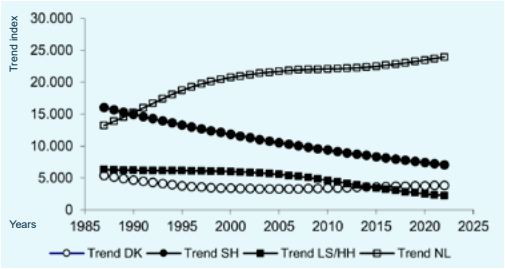
(A)



(C) Denmark



(E) Lower Saxony/Hamburg



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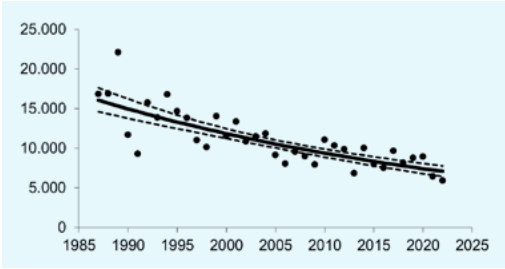
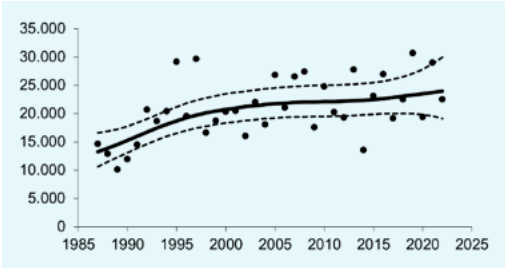


(D) Schleswig-Holstein



(F) The Netherlands

Figure 5.5.1-5.5.6
Trends of Bar-tailed Godwit (taymyrensis) in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Bar-tailed Godwit (taymyrensis) in the Wadden Sea

The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

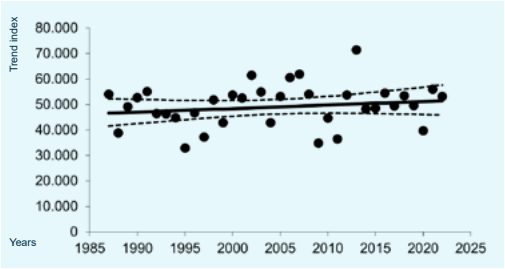
Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↓	↓
(C) Denmark	→	–
(D) Schleswig-Holstein	↓	↓
(E) Lower Saxony/Hamburg	↓	↓
(F) The Netherlands	↑	→

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease – uncertain

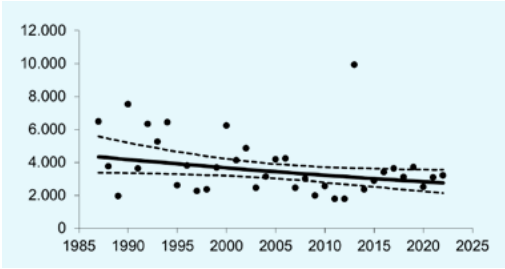
5.6 BAR-TAILED GODWIT *(lapponica)*

05342 ***Limosa lapponica lapponica*** DK: Lille Kobbersneppe D: Pfuhlschnepfe NL: Rosse Grutto

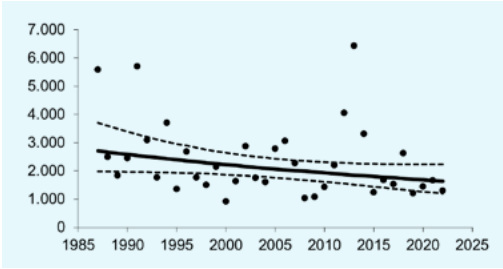
Birds of the subspecies *L. l. lapponica* breed in northern Scandinavia and North-West Russia and winter in coastal Europe.
From September to April the entire flyway population uses in the Wadden Sea, indicating it as a priority species. The overall trend is stable.
Largest numbers are found in the Dutch part of the Wadden Sea, where *L. l. lapponica* increased until the mid 2000s and stabilised since then.
Schleswig-Holstein shows the opposite trend. Short-term trends for all Wadden Sea regions, apart from Denmark, are stable.



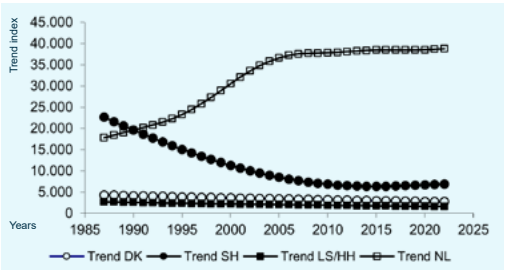
(A)



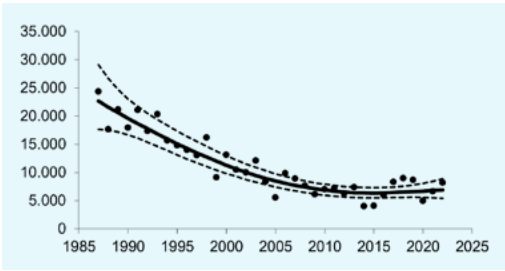
(C) Denmark



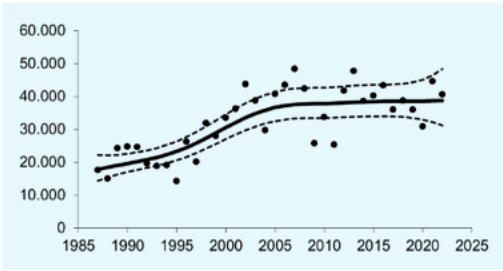
(E) Lower Saxony/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 5.6.1-5.6.6
Trends of Bar-tailed Godwit (lapponica) in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Bar-tailed Godwit (lapponica) in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

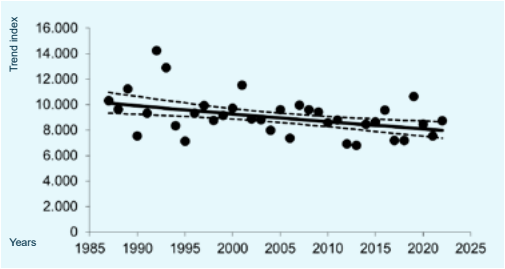
Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	→	→
(C) Denmark	↓	↓
(D) Schleswig-Holstein	↓	→
(E) Lower Saxony/Hamburg	→	→
(F) The Netherlands	↑	→

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease uncertain

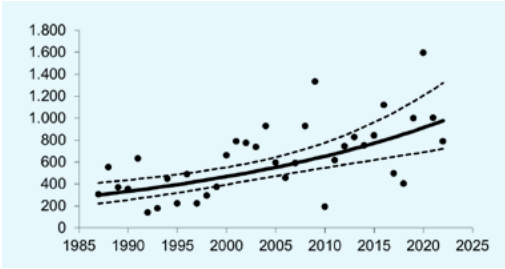
5.7 COMMON REDSHANK *(totanus)*

05461 *Tringa totanus totanus* DK: Rødben GER: Rotschenkel NL: Tureluur

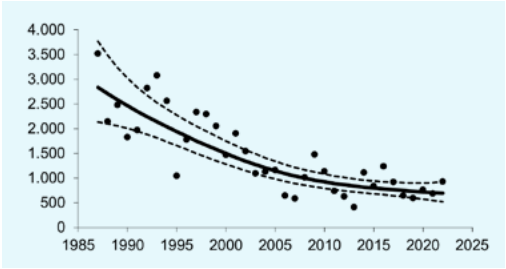
Birds from the Fennoscandia and north-western Russian population *T. t. totanus* winter in West Africa and pass through the Wadden Sea between April and August. The overall trend shows a moderate decrease, both long- and short-term. In the long-term, the subspecies increases in the Danish and Dutch parts of the Wadden Sea, but decreased in the German parts. Short-term trends are increasing in Denmark, stable in Schleswig-Holstein and the Netherlands, and uncertain in Lower Saxony/Hamburg. About 35% of the flyway population uses the Wadden Sea.



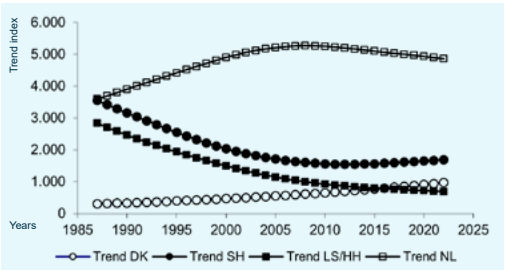
(A)



(C) Denmark



(E) Lower Saxony/Hamburg



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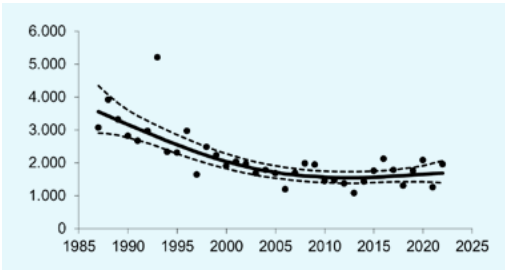

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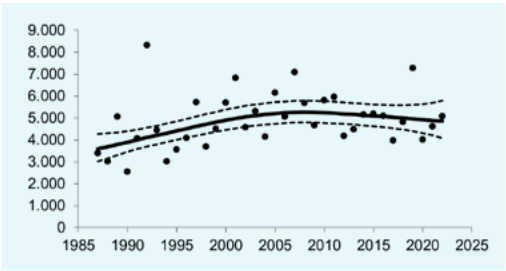


(F) The Netherlands

Figure 5.7.1-5.7.6
Trends of Common Redshank (totanus) in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Common Redshank (totanus) in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

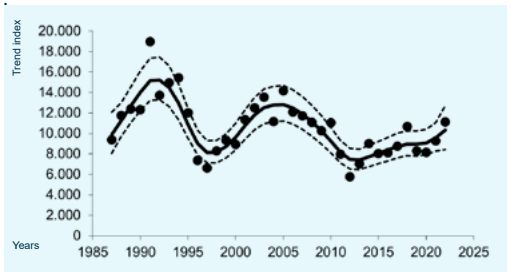
Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↓	↓
(C) Denmark	↑	↑
(D) Schleswig-Holstein	↓	→
(E) Lower Saxony/Hamburg	↓	–
(F) The Netherlands	↑	→

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease – uncertain

5.8 COMMON REDSHANK *(robusta)*

05461 ***Tringa totanus totanus*** DK: Rødben GER: Rotschenkel NL: Tureluur

Birds of the subspecies *T. t. robusta* from Islandic breeding grounds winter in the Wadden Sea. Numbers and trends reflect the occurrence of severe winters. Numbers increased up to the mid 1990s, but dropped rapidly due to the severe winters in mid 1990s, recovered until 2005/2006 and decreased again due to a series of severe winters around 2009-2011. In the past ten years, numbers increased again.



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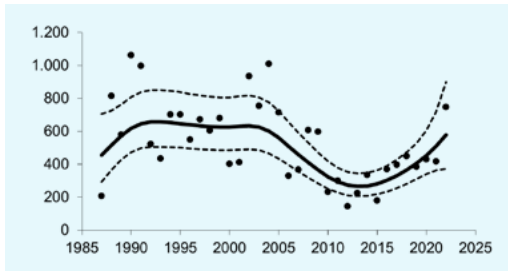
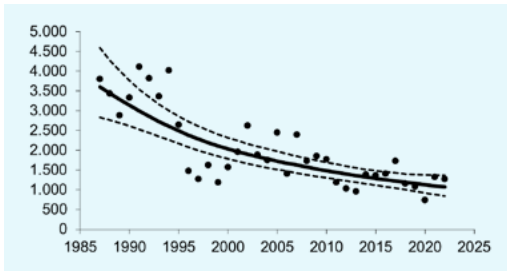
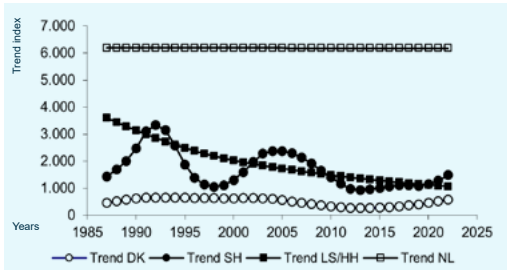


(C) Denmark



(E) Lower Saxony/Hamburg



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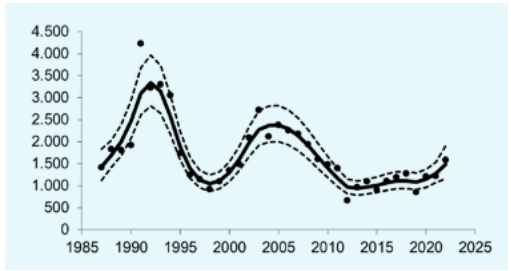
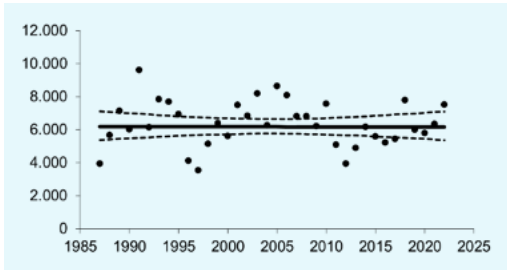


(D) Schleswig-Holstein



(F) The Netherlands

Figure 5.8.1-5.8.6
Trends of Common Redshank (robusta) in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Common Redshank (robusta) in the Wadden Sea

The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

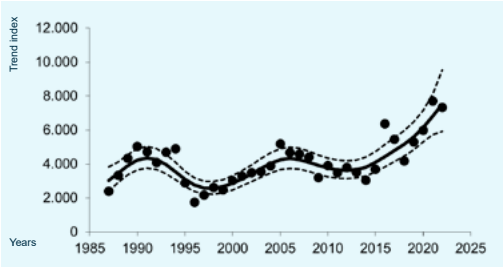
Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	→	↑
(C) Denmark	→	↑
(D) Schleswig-Holstein	→	↑
(E) Lower Saxony/Hamburg	↓	↓
(F) The Netherlands	→	→

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease uncertain

5.9 RUDDY TURNSTONE (Greenland & NE Canada)

05611 ***Arenaria interpres morinella*** DK: Stenvender GER: Steinwälzer NL: Steenloper

Birds from the Greenlandic and north-eastern Canadian population of Ruddy Turnstones stay in the Wadden Sea during winter, but also in Western Europe and Northwest Africa. Like *Tringa t. robusta*, wintering numbers are reflecting the occurrence of severe winters during the last 25 years. Numbers increased after the severe winters in the mid 1980s, dropped again during severe winters in the mid 1990s and around 2009-2011. The long- and short-term ternds are positive.



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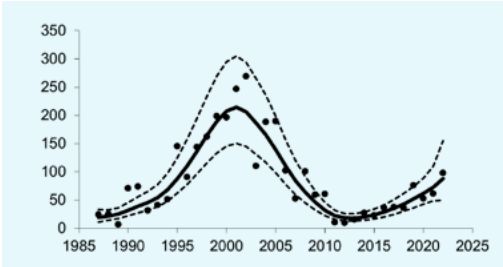
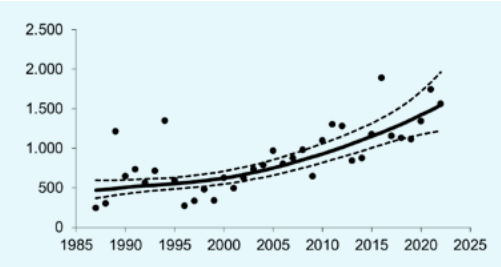
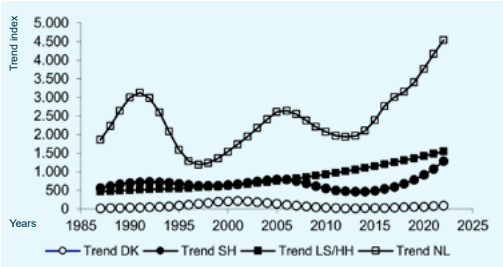


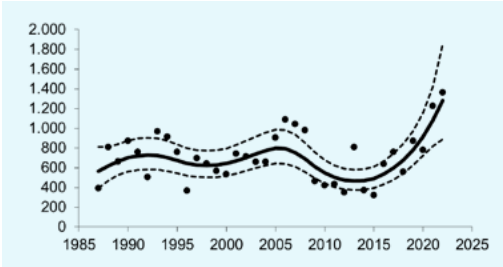
(C) Denmark



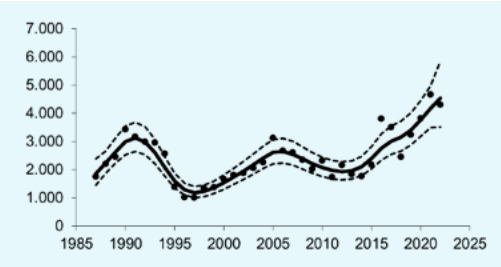
(E) Lower Saxony/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 5.9.1-5.9.6
Trends of Ruddy Turnstone (Greenland & NE Canada) in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Ruddy Turnstone (Greenland & NE Canada) in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

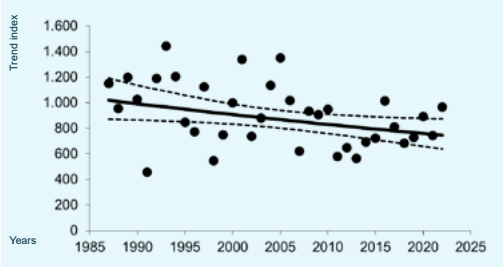
Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↑	↑
(C) Denmark	↑	↑↑
(D) Schleswig-Holstein	↑	↑↑
(E) Lower Saxony/Hamburg	↑	↑
(F) The Netherlands	↑	↑↑

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease uncertain

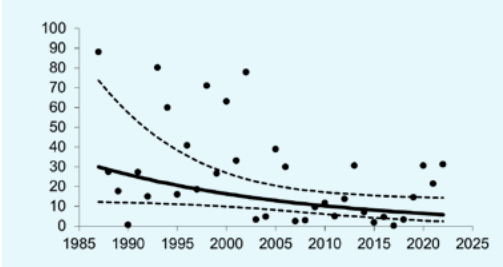
5.10 RUDDY TURNSTONE (Scandinavia-Western Russia)

05612 ***Arenaria interpres*** DK: Stenvender GER: Steinwälzer NL: Steenloper

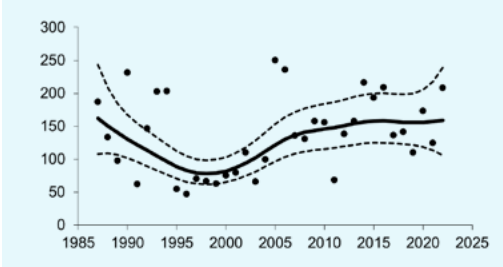
Birds from the Scandinavian and north-western Russian population winter in West Africa and pass through the Wadden Sea in May and July. The long-and short-term trends indicate decreasing numbers, with stable or uncertain short-term trends in the German parts of the Wadden Sea.



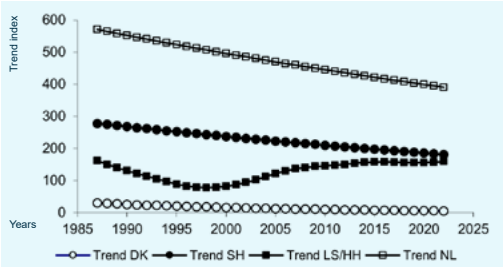
(A)



(C) Denmark



(E) Lower Saxony/Hamburg



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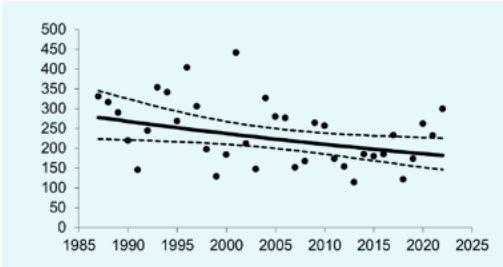
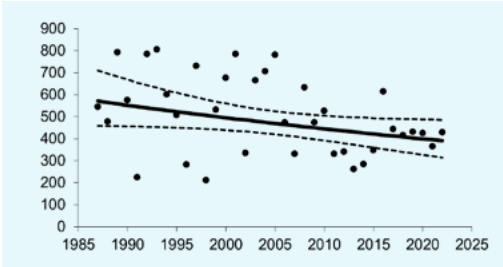


(D) Schleswig-Holstein



(F) The Netherlands

Figure 5.10.1-5.10.6
Trends of Ruddy Turnstone (Scandinavia-Western Russia) in the Wadden Sea (a) and the four regions 1987/1988-2022/2023 (b); dots represent annual averages; trendline calculated by Trendspotter (solid line) together with the ± 95 % confidence limits (dotted line). Confidence limits for each country are found in c-f.

Trends for Ruddy Turnstone (Scandinavia-Western Russia) in the Wadden Sea
The table shows the trends from 1987/1988 to 2022/2023, both the 36-year trends and the 10 year trends for the whole Wadden Sea and each of the four subregions considered in this report. Increases, decreases or stable propoulation developments are indicated by arrrows. In some cases it was not possible to calculate trends, e.g. due to missing data.

Area	1987/1988-2022/2023	2013/2014-2022/2023
(A) Wadden Sea	↓	↓
(C) Denmark	↓	↓
(D) Schleswig-Holstein	↓	→
(E) Lower Saxony/Hamburg	→	–
(F) The Netherlands	↓	↓

↑↑ strong increase ↑ moderate increase → stable
↓↓ strong decrease ↓ moderate decrease – uncertain

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Table A1
Assignment of species according to food and feeding habitats

	FOOD						FEEDING HABITATS					BREEDING RANGE		WINTERING RANGE	
	shellfish	worms	fish	other vertebrates	plants	omnivorous	salt marsh	tidal	dunes	beach & offshore	coastal grassland	arctic breeder	non-arctic breeder	Europe	Africa
Great Cormorant			x					x					x	x	
Eurasian Spoonbill			x					x					x		x
Barnacle Goose					x		x					x		x	
Brent Goose					x		x					x		x	
Common Shelduck				x				x					x	x	
Eurasian Wigeon					x		x						x	x	
Common Teal					x		x						x	x	
Mallard					x		x						x	x	
Northern Pintail					x		x						x		x
Northern Shoveler				x			x						x	x	
Common Eider	x							x					x	x	
Eurasian Oystercatcher	x							x					x	x	
Pied Avocet		x						x					x	x	
Common Ringed Plover		x						x				x		x	x
Kentish Plover		x						x					x	x	
Eurasian Golden Plover		x									x		x	x	
Grey Plover		x						x				x			x
Northern Lapwing		x									x		x	x	
Red Knot	x							x				x		x	x
Sanderling		x								x		x			x
Curlew Sandpiper		x						x				x			x
Dunlin		x						x				x		x	
Ruff		x									x	x			x
Bar-tailed Godwit		x						x				x		x	x
Whimbrel				x				x				x			x
Eurasian Curlew				x				x				x		x	
Spotted Redshank			x					x					x		x
Common Redshank				x				x					x	x	x
Common Greenshank			x					x					x		x
Ruddy Turnstone				x						x		x		x	x
Common Black-headed Gull				x				x					x	x	
Common Gull				x				x					x	x	
European Herring Gull	x							x					x	x	
Great Black-backed Gull						x				x			x	x	
Total number of species	4	11	4	8	6	1	7	21	0	3	3	13	21	25	14

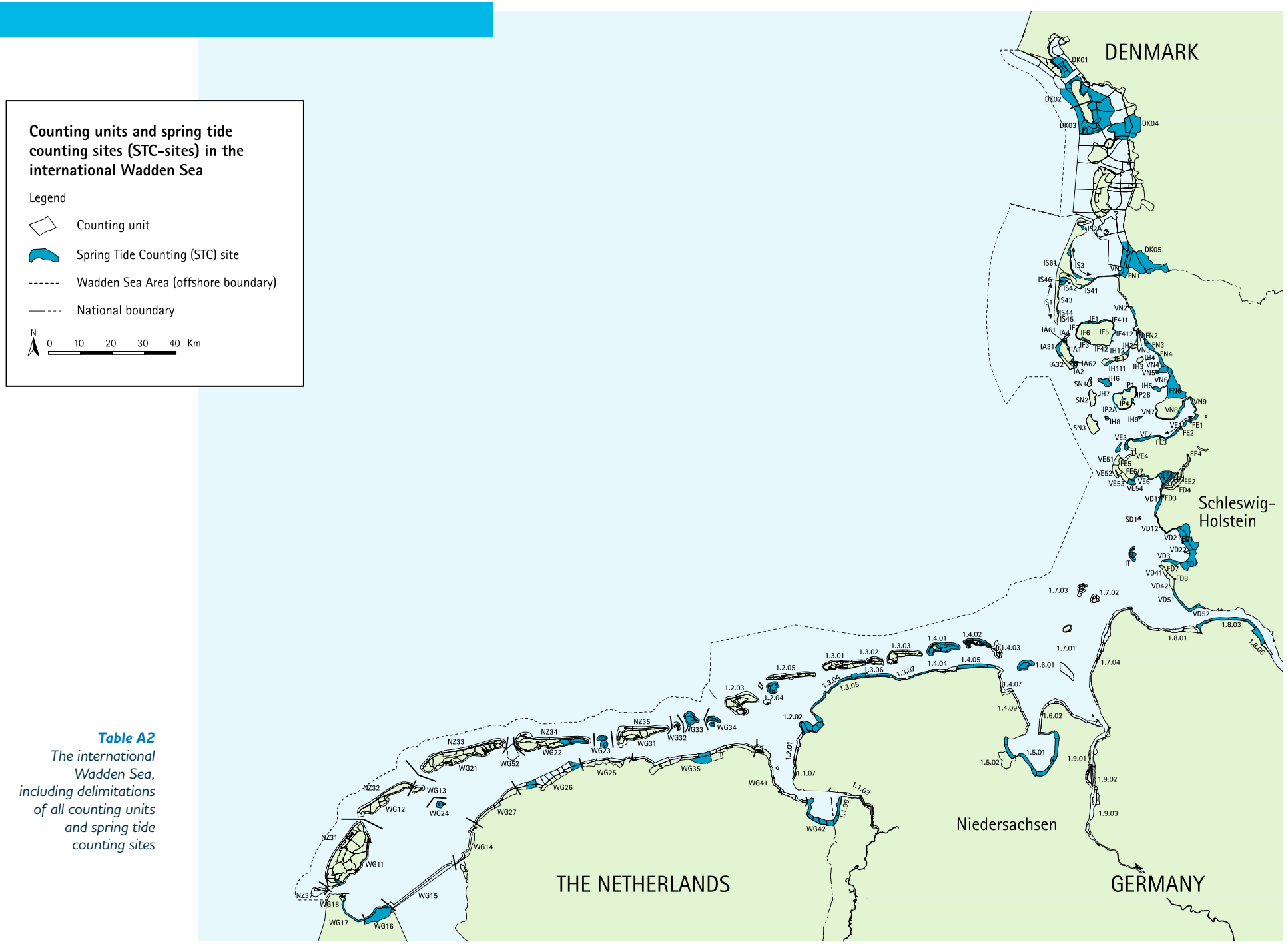

Table A2
The international Wadden Sea, including delimitations of all counting units and spring tide counting sites

ANNEX 3. SPECIES LIST

Euring	English name	Scientific name	Dansk navn	Deutscher Name	Nederlandse naam
00720	Great Cormorant	Phalacrocorax carbo	Skarv	Kormoran	Aalscholver
01440	Eurasian Spoonbill	Platalea leucorodia	Skestork	Löffler	Lepelaar
01670	Barnacle Goose	Branta leucopsis	Bramgås	Weißwangengans	Brandgans
01680	Dark-bellied Brent Goose	Branta bernicla	Knortegås	Ringelgans	Rotgans
01610	Greylag Goose*	Anser anser	Grågås	Graugans	Grauwe Gans
01730	Common shelduck	Tadorna tadorna	Gravand	Brandgans	Bergeend
01790	Eurasian Wigeon	Mareca penelope	Pibeand	Pfeifente	Smient
01840	Common Teal	Anas crecca	Krikand	Krickente	Wintertaling
01860	Mallard	Anas platyrhynchos	Gråand	Stockente	Wilde Eend
01890	Northern Pintail	Anas acuta	Spidsand	Spießente	Pijlstaart
01940	Northern Shoveler	Spatula clypeata	Skeand	Löffelente	Slobeend
02060	Common Eider	Somateria mollissima	Ederfugl	Eiderente	Eidereend
02430	White-Tailed Eagle*	Haliaeetus albicilla	Havørn	Seeadler	Zeearend
02900	Rough-Legged Buzzard*	Buteo lagopus	Fjeldvåge	Rauhfußbussard	Ruigpootbuizerd
03090	Merlin*	Falco columbarius	Dværgfalk	Merlin	Smelleken
03200	Peregrine Falcon*	Falco peregrinus	Vandrefalk	Wanderfalke	Slechtvalk
04500	Eurasian Oystercatcher	Haematopus ostralegus	Strandskade	Austernfischer	Scholekster
04560	Pied Avocet	Recurvirostra avosetta	Klyde	Säbelschnäbler	Kluut
04700	Common Ringed Plover	Charadrius hiaticula	Stor Præstekrave	Sandregenpfeifer	Bontbekplevier
04770	Kentish Plover	Charadrius alexandrinus	Hvidbrystet Præstekrave	Seeregenpfeifer	Strandplevier
04850	Golden Plover	Pluvialis apricaria	Hjejle; Hedehjejle	Goldregenpfeifer	Goudplevie
04860	Grey Plover	Pluvialis squatarola	Strandhjejle	Kiebitzregenpfeifer	Zilverplevier
04930	Northern Lapwing	Vanellus vanellus	Vibe	Kiebitz	Kievit
04960	Red Knot	Calidris canutus	Islandsk Ryle	Knutt	Kanoet
04970	Sanderling	Calidris alba	Sandløber	Sanderling	Drieteenstrandloper
05090	Curlew Sandpiper	Calidris ferruginea	Krumnæbbet Ryle	Sichelstrandläufer	Krombekstrandloper
05120	Dunlin	Calidris alpina	Almindelig Ryle	Alpenstrandläufer	Bonte Strandloper
05170	Ruff	Philomachus pugnax	Brushane	Kampfläufer	Kemphaan
05320	Black-tailed Godwit*	Limosa limosa	Stor Kobbersneppe	Uferschnepfe	Grutto
05340	Bar-Tailed Godwit	Limosa lapponica	Lille Kobbersneppe	Pfuhlschnepfe	Rosse Grutto
05380	Whimbrel	Numenius phaeopus	Lille Regnspove	Regenbrachvogel	Regenwulp
05410	Eurasian Curlew	Numenius arquata	Stor Regnspove	Großer Brachvogel	Wulp
05450	Spotted Redshank	Tringa erythropus	Sortklire	Dunkler Wasserläufer	Zwarte Ruiter
05460	Common Redshank	Tringa totanus	Rødben	Rotschenkel	Tureluur
05480	Common Greenshank	Tringa nebularia	Hvidklire	Grünschenkel	Groenpootruiter
05610	Ruddy Turnstone	Arenaria interpres	Stenvender	Steinwälzer	Steenloper
05820	Common Black-headed Gull	Chroicocephalus ridibundus	Hættemåge	Lachmöwe	Kokmeeuw
05900	Common Gull	Larus canus	Stormmåge	Sturmmöwe	Stormmeeuw
05910	Lesser Black-backed Gull*	Larus fuscus	Sildemåge	Heringsmöwe	Kleine Mantelmeeuw
05920	Herring Gull	Larus argentatus	Sølvmåge	Silbermöwe	Zilvermeeuw
06000	Great Black-backed Gull	Larus marinus	Svartbag	Mantelmöwe	Grote Mantelmeeuw
09780	Shore (Horned) Lark*	Eremophila alpestris	Bjerglærke	Ohrenlerche	Strandleeuwerik
16620	Twite*	Carduelis flavirostris	Bjergirisk	Berghänfling	Frater
18500	Snow Bunting*	Plectrophenax nivalis	Snespurv	Schneeammer	Sneeuwgors

List of the species monitored in the Trilateral Monitoring and Assessment Programme (TMAP)

** Species where data do not allow trend analysis*

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