WADDEN SEA ECOSYSTEM NO. 41

TRENDS OF MIGRATORY AND WINTERING WATERBIRDS IN THE WADDEN SEA

1987/1988-2019/2020

United Nations Educational, Scientific and Cultural Organization

The Wadden Sea World Heritage Site since 2009

WADDEN SEA WORLD HERITAGE

Common Wadden Sea Secretariat

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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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1. INTRODUCTION

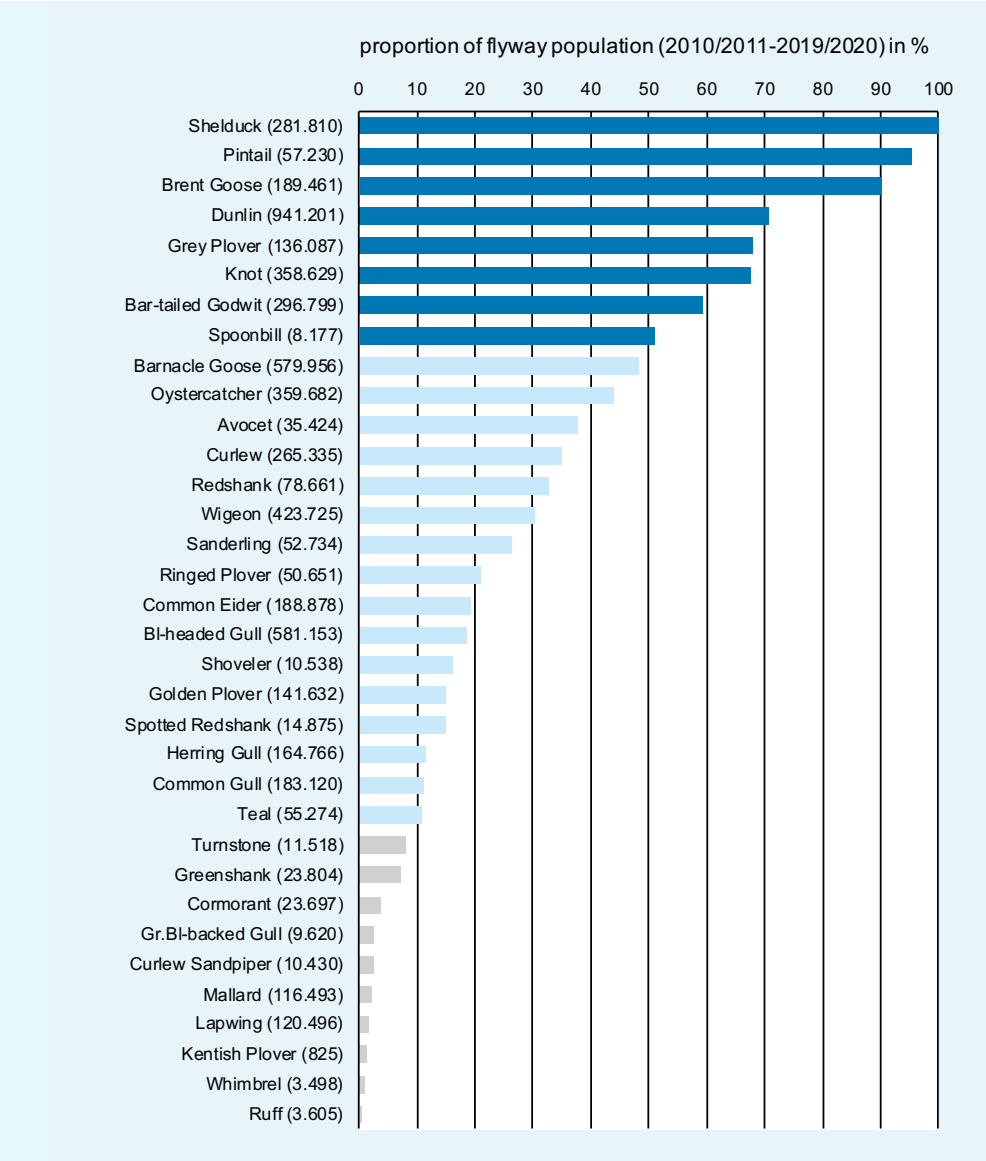


Figure 1. *Proportion of flyway population with regard to estimated numbers (Wetlands International 2018)*

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 Expert Group Migratory Birds (EG MB) program is carried out in the framework of the Trilateral Monitoring and Assessment Program (TMAP) and constitutes an internationally coordinated long-term monitoring program. It covers a large connected eco-region stretching from Den Helder in the Netherlands to Esbjerg in Denmark; regular ground counts for most species and areas plus aerial and boat counts for sea ducks involves 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. 2019). To monitor any short-term changes, the EG MB group agreed to publish an update of these trend calculations every two years on the Wadden Sea World Heritage website. Here, trends of 34 waterbird species for the international Wadden Sea and the four regions - the Netherlands, the Federal States of Germany, Niedersachsen/Hamburg and Schleswig-Holstein, and Denmark will be presented.

Details of the "Joint Monitoring program of Migratory Birds in the Wadden Sea" are given in Rösner et al. (1994) and updated in Laursen et al. (2010). This program, 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' programs exist, due to different national approaches and older already existing counting programs, but these do not hamper the overall goal for calculating trends. Because many usable counting data before 1992 exist as well, 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 internationally, up to five nationally) and counts of a selection of sites which are counted more frequently (12-25 times a 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 which use the Wadden Sea during stop-over on migration or as a wintering area with large parts of their flyway population (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 rimes of the year. Trends for subspecies are calculated for Common Ringed-Plover, Red Knot, Bar-tailed Godwit, Redsank and 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 - 2019/2020.

Despite a large dataset with lots of count data, also missing counts are present. 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 "countries". 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 33 year-time period, as in the current analyses. Trend estimates given within the text are assigned to categories (Fig. 2.2).

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.

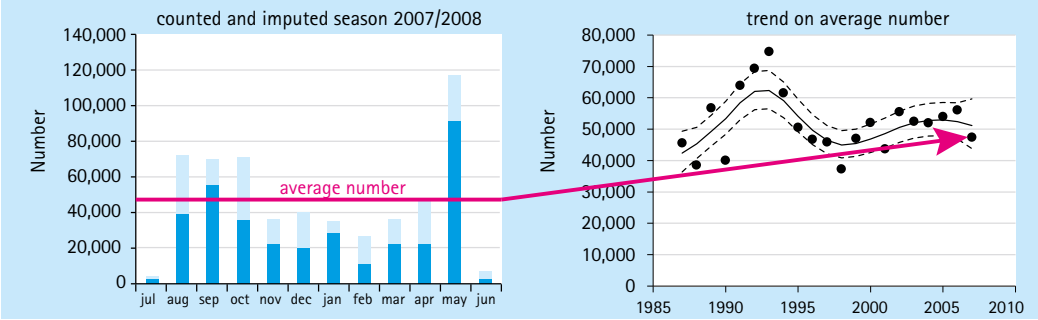
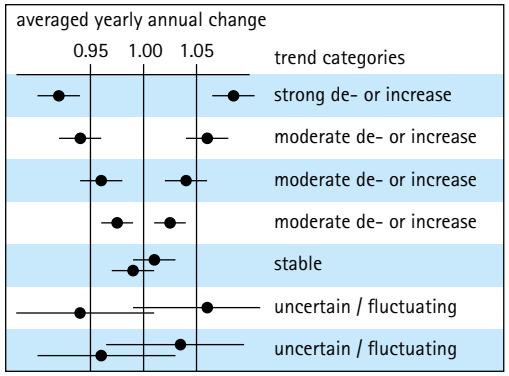


Figure 2.2

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 33 years (1987/1988 - 2019/2020) in % (Common Eider since 1992/1993)

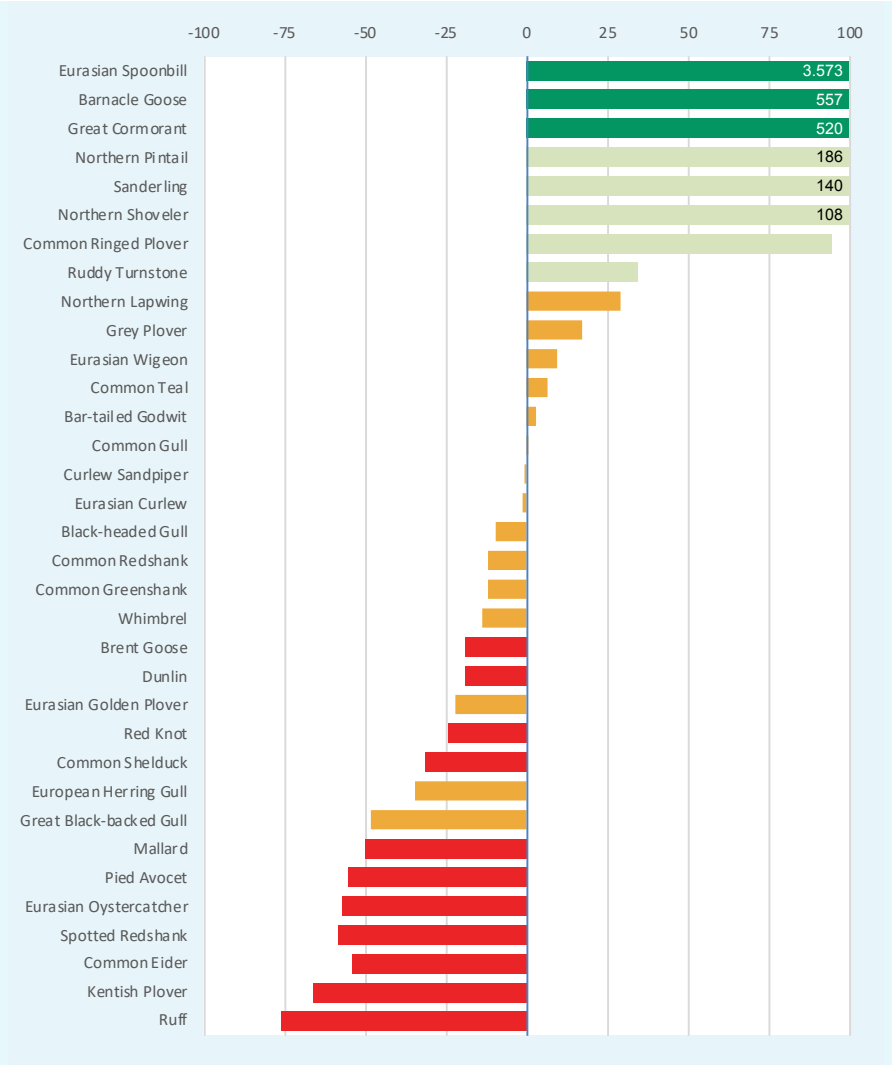


Figure 3.1
Trend categories for the 33-year period for the International Wadden Sea and the four countries, calculated with TrendSpotter on yearly estimates, ranked after trend category and value.

Changes over recent 10 years (2010/2011-2019/2020) in %

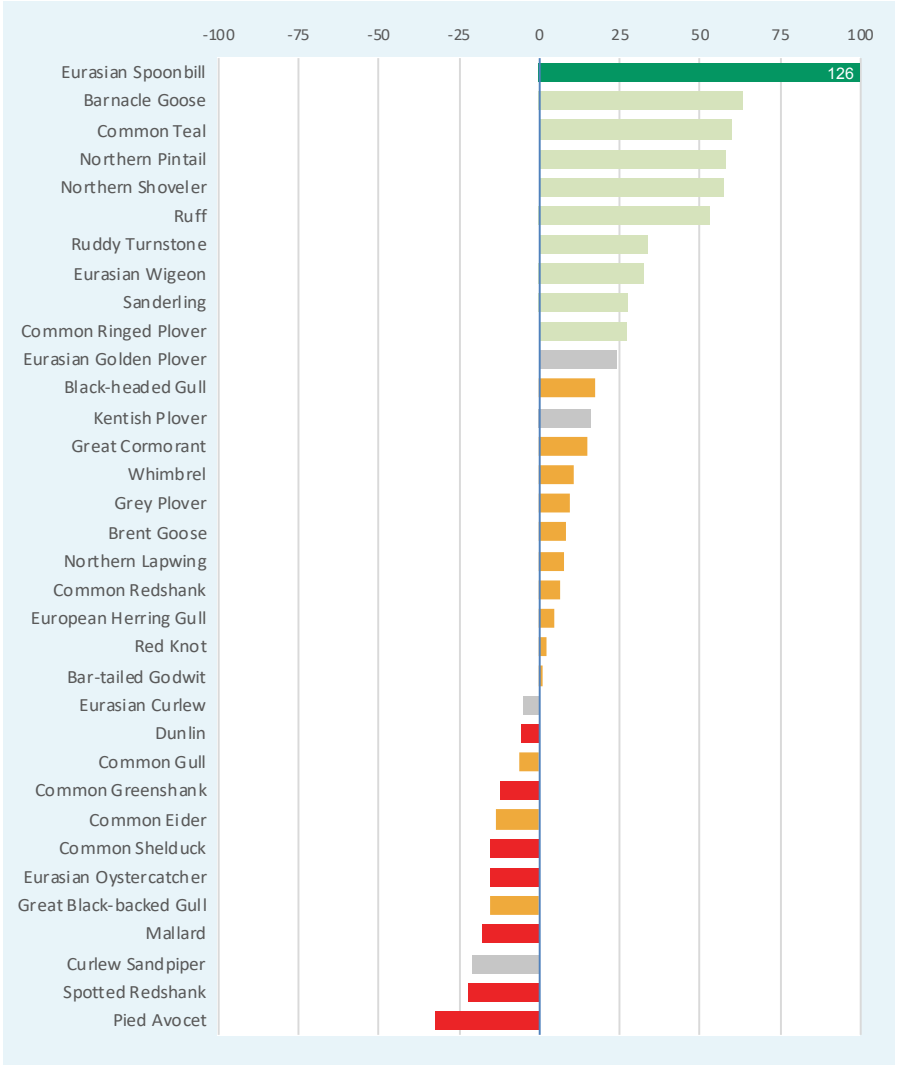
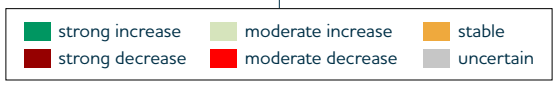


Figure 3.2
Trend categories for the 10-year period for the International Wadden Sea and the four countries, calculated with TrendSpotter on yearly estimates, ranked after trend category and value.



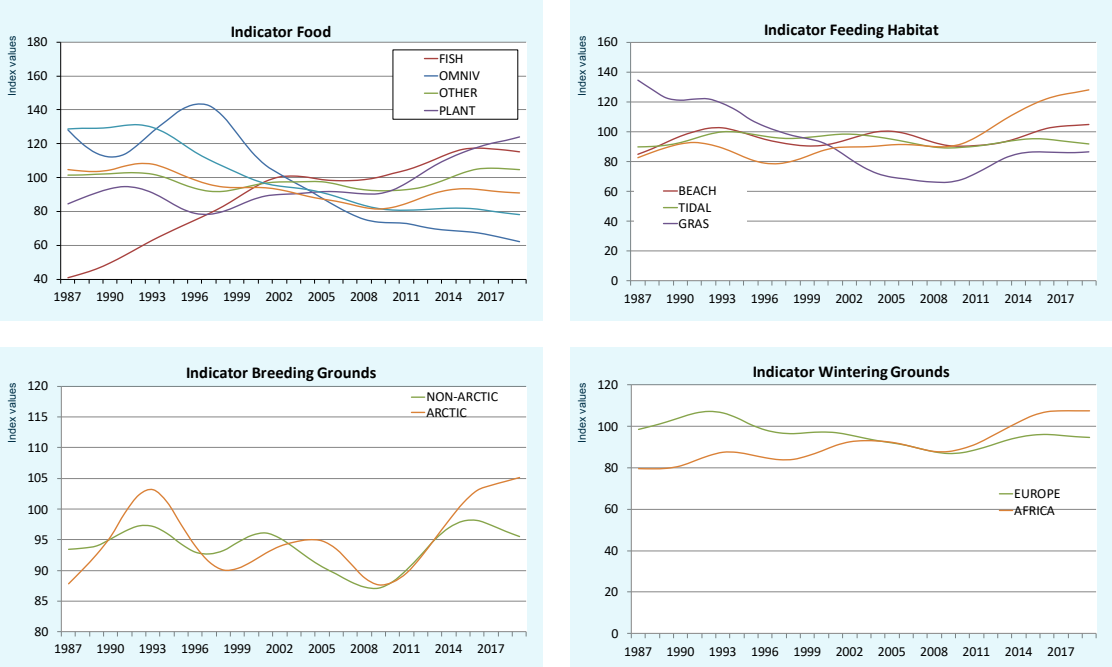


Figure 3.3
Combined trends according to food guilds, feeding habitat, breeding range and wintering range (see table A1, p59). Trends were aggregated by using the geometrical mean of TrendSpotter trend lines of single species within each category.

OVERVIEW TRENDS

Fig 3.1 and Fig 3.2 illustrate the development of the species trends in last 33 years and the last 10 years, respectively. To help to 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 four different categories, namely food, feeding habitat, breeding and wintering 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

In the long run species depending on fish and plants showed a moderate increase, but the short-term trend is respectively stable and uncertain. The long- and short-term trends of the group worm/benthos feeding species and the group of other invertebrates feeding species are stable. The indicator group of shellfish feeding species decreased over the whole period, but has been stable over the last 15 years. The only omnivorous species, Greater Black-backed Gull, declined, although the short-term trend is uncertain.

Feeding Habitat

Species utilizing beaches and tidal areas show a stable trend. Species of salt marshes increased over almost the whole period, but the last six years shows an uncertain trend. Species of coastal grasslands showed a moderate decrease in the first years, then a stable trend for about 14 years, but the ten years trend is uncertain.

Breeding Range

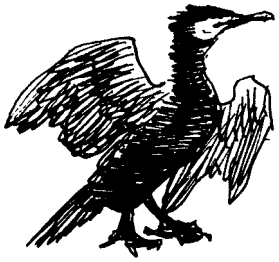
Arctic breeders show a highly fluctuating trend, ranging from stable to increasing, although recent years have not shown a significant trend. The trend of non-arctic breeders is calculated to be stable over the whole monitoring period.

Wintering Range

Birds wintering in Africa show a moderate increasing long-term trend, but the trend has stabilized in recent years. The trend for birds wintering in Europe is stable for the whole monitoring period.

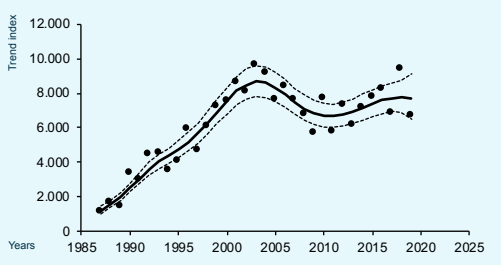
4. SPECIES ACCOUNTS

4.1 GREAT CORMORANT

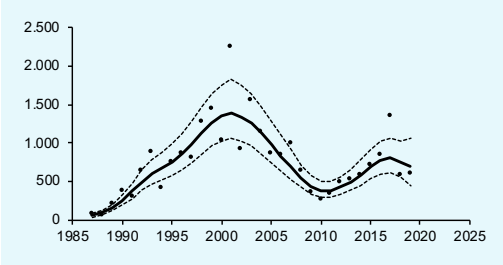


00720 ***Phalacrocorax carbo*** DK: Skarv D: Kormoran NL: Aalscholver

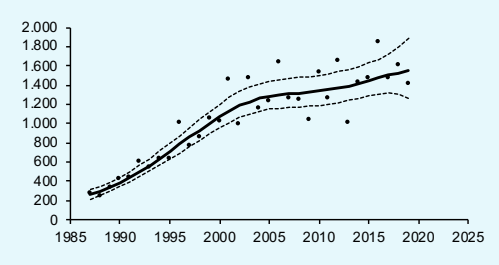
Great Cormorant numbers increased strongly in the Wadden Sea from the late 1980s up until 2003, reflecting the increase in the breeding populations in Northern Europe. Since then this increase turned into a stable short-term trend, mainly due do a trend break in the Netherlands and Denmark.



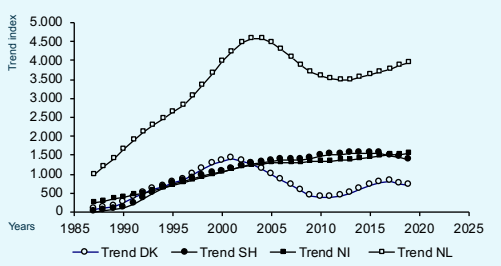
(A)



(C) Denmark



(E) Niedersachsen/Hamburg



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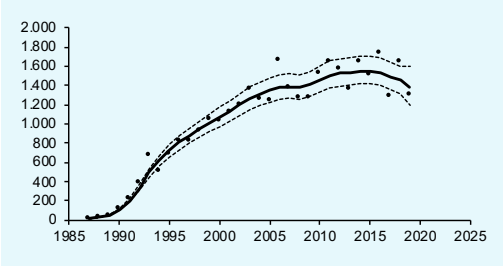
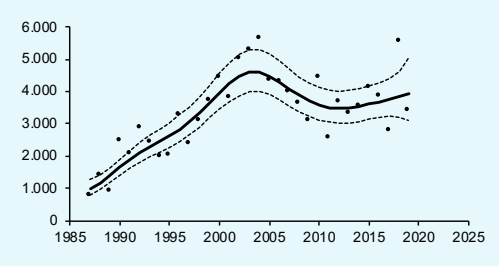


(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.1.1-4.1.6
Trends of Great Cormorant in the Wadden Sea (a) and the four regions 1987/1988-2019/2020 (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 Great Cormorant in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	↑↑	→
(C) Denmark	↑↑	↑
(D) Schleswig-Holstein	↑↑	→
(E) Niedersachsen/Hamburg	↑	→
(F) The Netherlands	↑	→

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

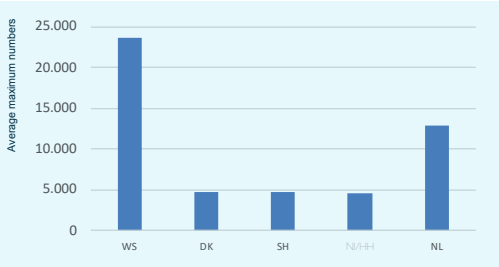
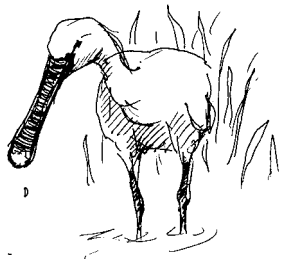


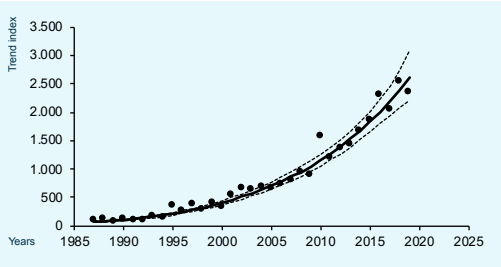
Figure 4.1.7
Absolute numbers of Great Cormorant in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

4.2 EURASIAN SPOONBILL



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

The Eurasian Spoonbill shows the strongest increase since the late 1980s in the international Wadden Sea of all monitored species. It reflects the trends in all four Wadden Sea regions and also the growth of the breeding population the Wadden Sea. In the period 1989/1990-1998/1999 the average maximum number of non-breeding Spoonbills was 930, while this was 6290 in the period 2009/2010-2018/2019 (Kleefstra et al. 2021).



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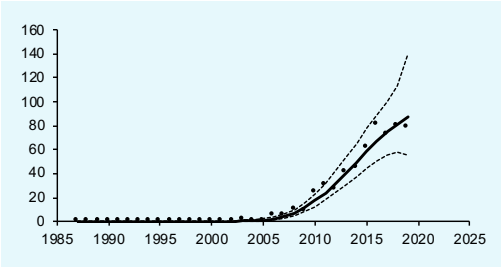
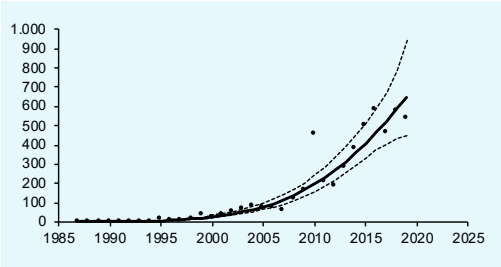
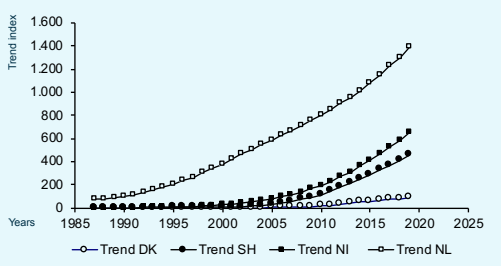


(C) Denmark



(E) Niedersachsen/Hamburg



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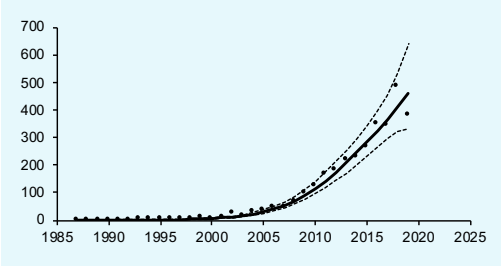
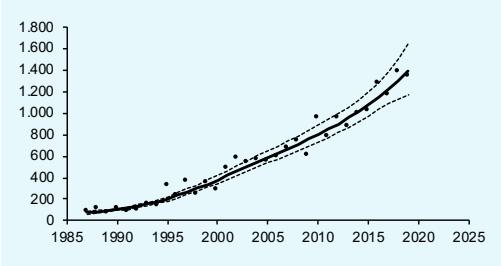


(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.2.1-4.2.6
Trends of Eurasian Spoonbill in the Wadden Sea (a) and the four regions 1987/1988-2019/2020 (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 Eurasian Spoonbill in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	↑↑	↑↑
(C) Denmark	↑↑	↑↑
(D) Schleswig-Holstein	↑↑	↑↑
(E) Niedersachsen/Hamburg	↑↑	↑↑
(F) The Netherlands	↑↑	↑

↑↑ strong increase ↑ moderate increase → stable
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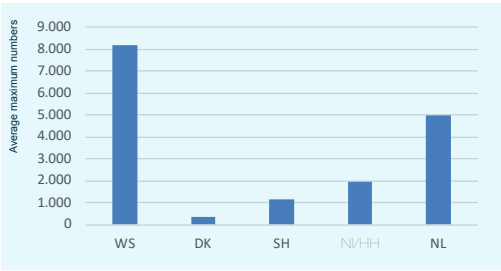
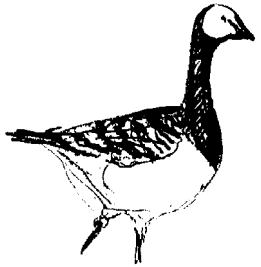


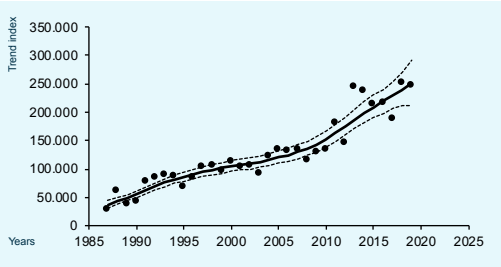
Figure 4.2.7
Absolute numbers of Eurasian Spoonbill in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

4.3 BARNACLE GOOSE

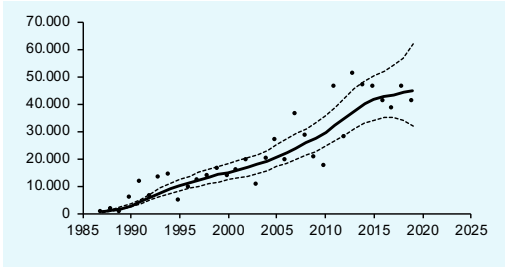


01670 ***Branta leucopsis*** DK: Bramgås D: Weißwangengans NL: Brandgans

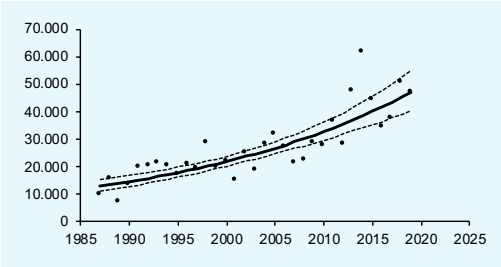
The Barnacle Goose flyway population has grown strongly. This trend is clearly reflected by the numbers in the Wadden Sea. In all four Wadden Sea regions the increase is moderate to strong. The species also prolonged its staging period by four weeks at least, leaving for Acrtic breeding grounds in the middle of May. The Barnacle Goose also settled and increased as a breeding bird in all Wadden Sea regions, with moulting sites throughout the Wadden Sea shores and islands.



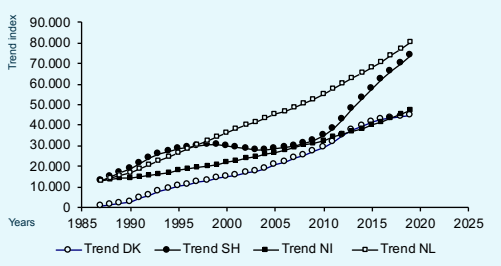
(A)



(C) Denmark



(E) Niedersachsen/Hamburg



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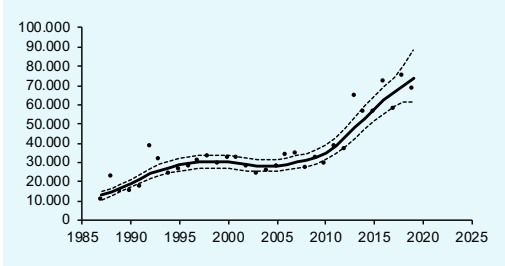
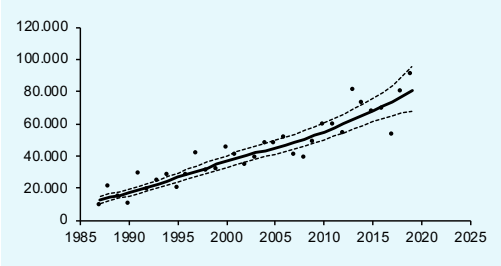


(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.3.1-4.3.6
Trends of Barnacle Goose in the Wadden Sea (a) and the four regions 1987/1988-2019/2020 (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 Barnacle Goose in the Wadden Sea
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Area	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	↑↑	↑
(C) Denmark	↑↑	↑
(D) Schleswig-Holstein	↑	↑↑
(E) Niedersachsen/Hamburg	↑	↑
(F) The Netherlands	↑↑	↑

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

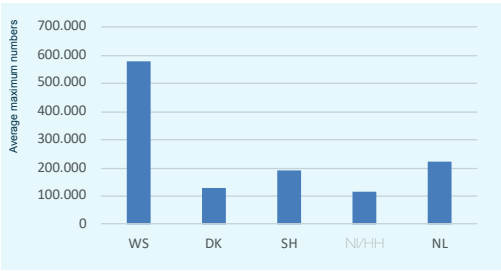
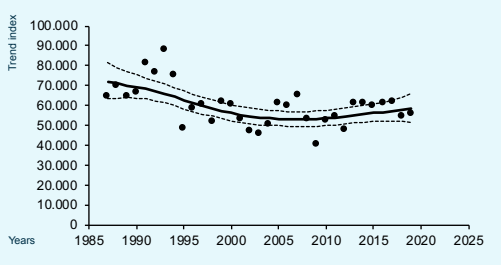


Figure 4.3.7
Absolute numbers of Barnacle Goose in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

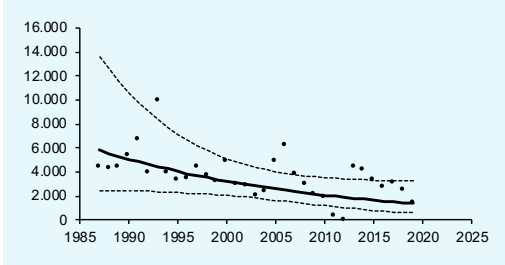
4.4 DARK-BELLIED BRENT GOOSE

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

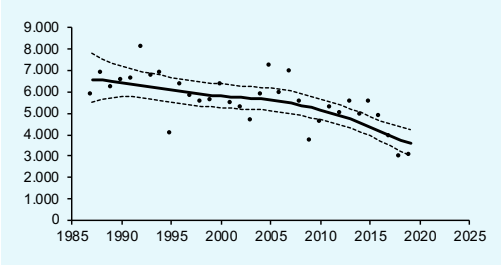
The long-term trend of the Dark-bellied Brent Goose is negative, mainly based on declining numbers in the German parts of the WaddenSea. The short-term trend is stable, since numbers in Schleswig-Holstein are increasing again. The biggest numbers winter in the Dutch Wadden Sea, where the trend is stable.



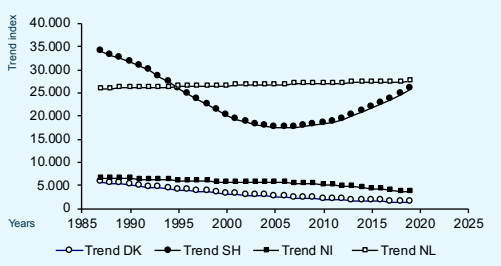
(A)



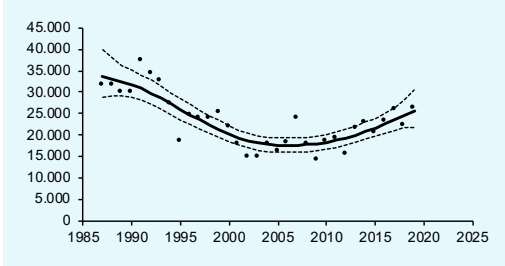
(C) Denmark



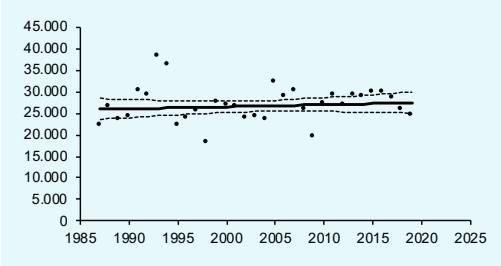
(E) Niedersachsen/Hamburg



(B)



(D) Schleswig-Holstein



(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 1987/1988-2019/2020 (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 Dark-bellied Brent Goose in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	↓	→
(C) Denmark	–	–
(D) Schleswig-Holstein	↓	↑
(E) Niedersachsen/Hamburg	↓	↓
(F) The Netherlands	→	→

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

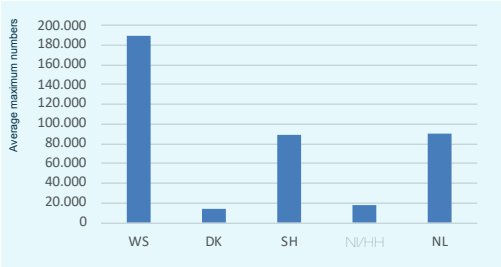
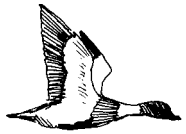
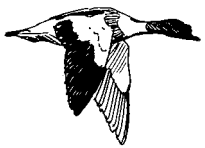


Figure 4.4.7
Absolute numbers of Dark-bellied Brent Goose in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

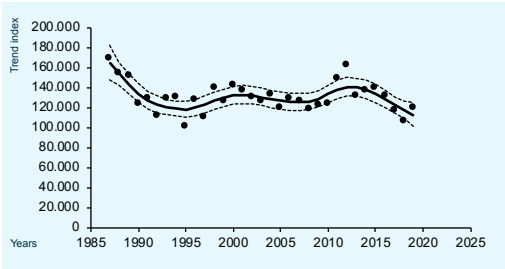
4.5 COMMON SHELDUCK



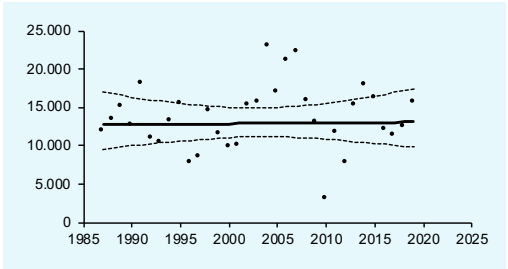


01730 ***Tadorna tadorna*** DK: Gravand D: Brandgans NL: Bergeend

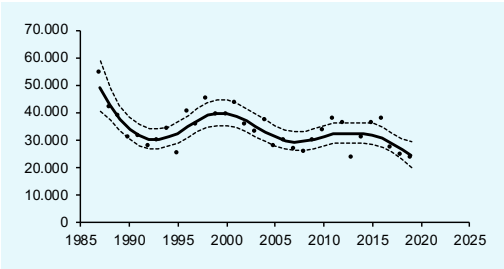
Almost a 100% of the Common Shelduck flyway population uses the Wadden Sea, especially in the moulting period. Overall numbers on high tide roosts decreased up to the mid 1990´s, mainly because of negative trends in the German parts of the Wadden Sea. Also the short-term trend is negative, with smaller numbers on high tide roosts in the southern part of the Wadden Sea (Niedersachsen and Netherlands).
The Common Shelduck moulting population used to have its main concentration in the Schleswig-Holstein Wadden Sea, but since the millennium the importance of the Dutch Wadden Sea for moulting Shelducks got bigger (Kempf & Kleefstra 2013). Since then numbers of moulting Shelducks in Schleswig-Holstein have been decreasing up to 2009, but are stable since then (N. Kempf, unpubl.), while numbers of moulting Shelducks in the Dutch Wadden Sea grew (R. Kleefstra, unpubl.), which indicates a growth of the moulting numbers in total for the Wadden Sea.



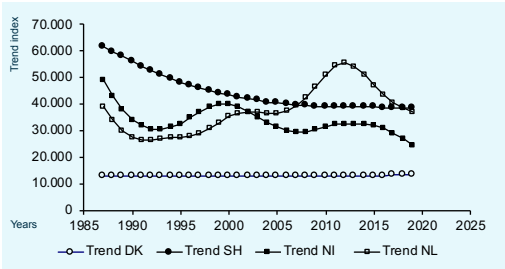
(A)



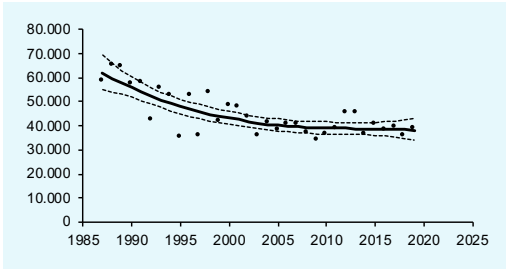
(C) Denmark



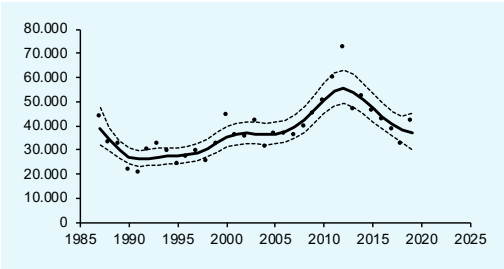
(E) Niedersachsen/Hamburg



(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 1987/1988-2019/2020 (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 Common Shelduck in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	↓	↓
(C) Denmark	→	→
(D) Schleswig-Holstein	↓	→
(E) Niedersachsen/Hamburg	↓	↓
(F) The Netherlands	→	↓

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

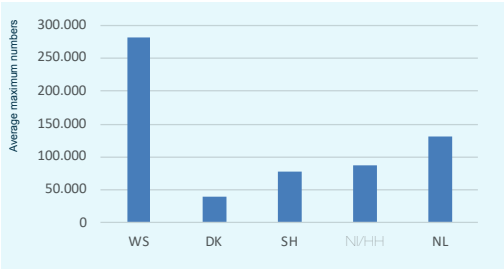
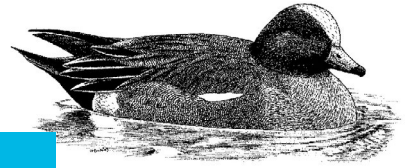


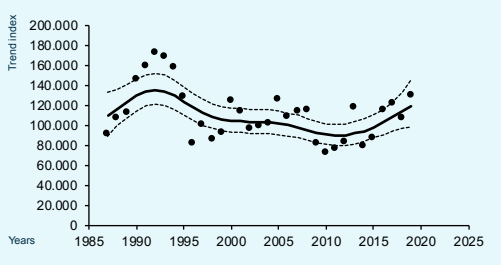
Figure 4.5.7
Absolute numbers of Common Shelduck in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

4.6 EURASIAN WIGEON

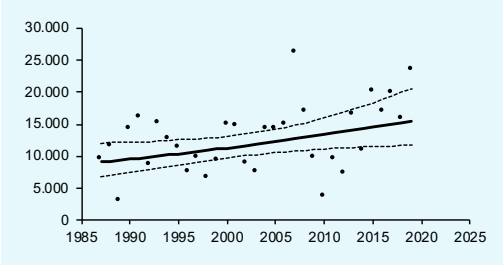


01790 ***Mareca penelope*** DK: Pibeand D: Pfeifente NL: Smient

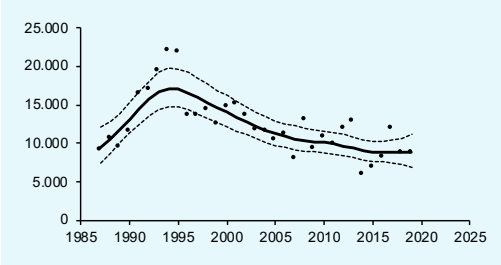
While numbers of Wigeons were stable in the first 20 years of the 33 year long monitoring period, the trend showed a moderate increase from 2009 on. This is mainly due to bigger numbers in the northern part of the Wadden Sea (Denmark, Schleswig-Holstein).



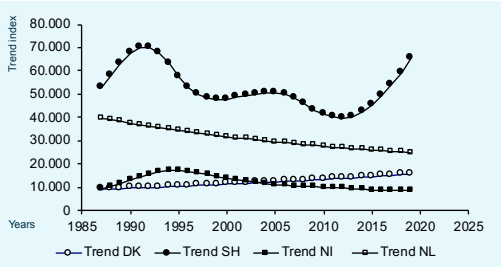
(A)



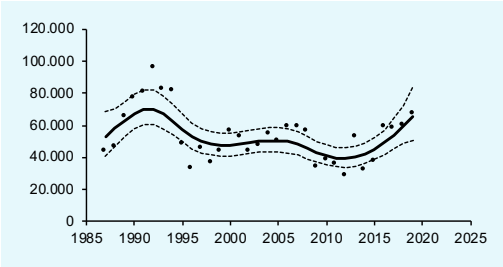
(C) Denmark



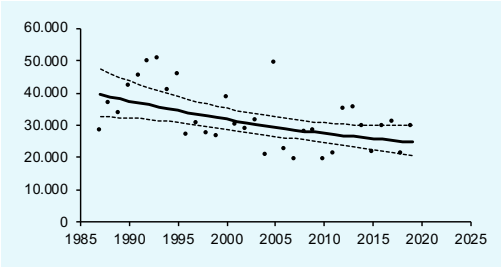
(E) Niedersachsen/Hamburg



(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 1987/1988-2019/2020 (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 Eurasian Wigeon in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	→	↑
(C) Denmark	↑	↑
(D) Schleswig-Holstein	→	↑
(E) Niedersachsen/Hamburg	→	→
(F) The Netherlands	↓	→

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

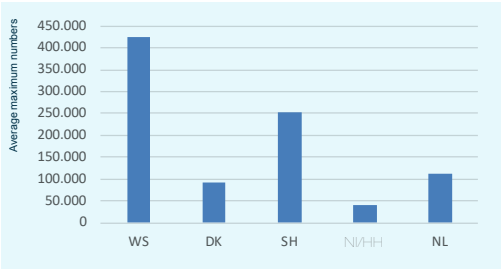
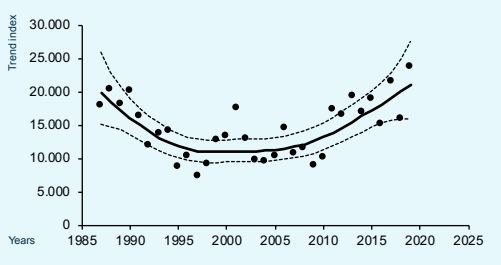


Figure 4.6.7
Absolute numbers of Eurasian Wigeon in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

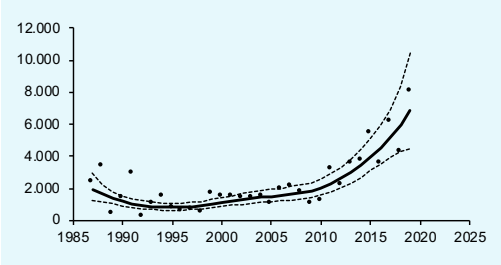
4.7 COMMON TEAL

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

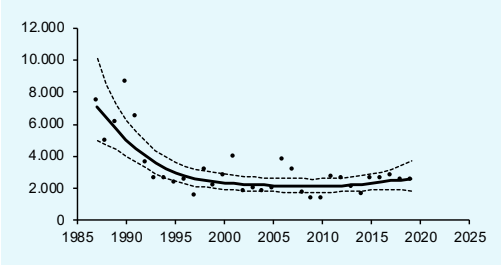
While the long-term trend of the Common Teal is stable, the short-term trend is positive. This is due to a strong increase in the Danish Wadden Sea and a moderate increase in the Schleswig-Holstein area. In the southern parts of the Wadden Sea the trend is fluctuating.



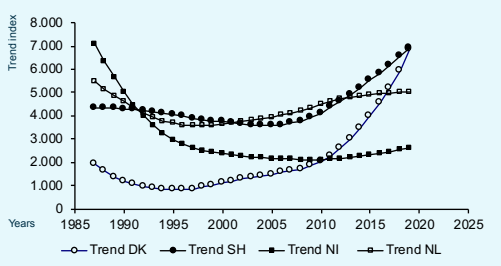
(A)



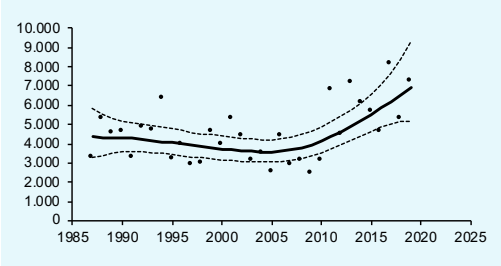
(C) Denmark



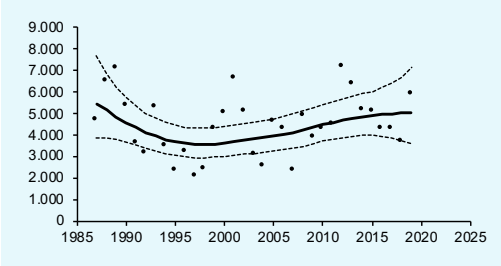
(E) Niedersachsen/Hamburg



(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 1987/1988-2019/2020 (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 Common Teal in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	→	↑
(C) Denmark	↑	↑↑
(D) Schleswig-Holstein	↑	↑
(E) Niedersachsen/Hamburg	↓	–
(F) The Netherlands	→	–

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

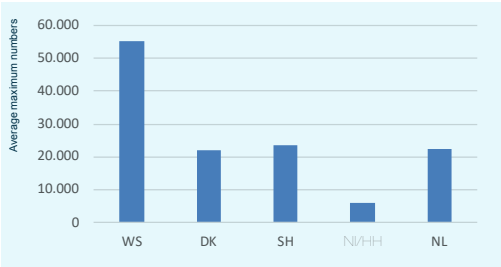
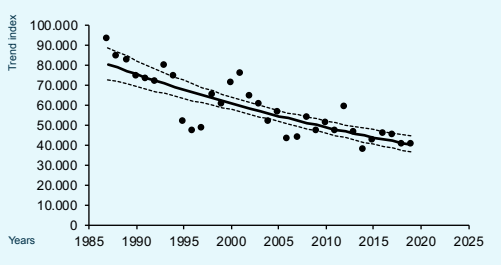


Figure 4.7.7
Absolute numbers of Common Teal in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

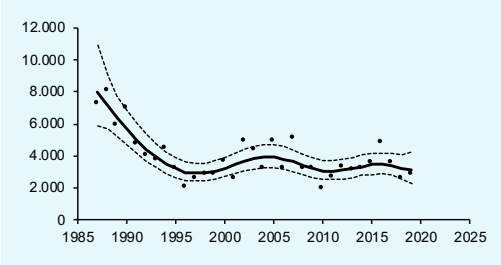
4.8 MALLARD

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

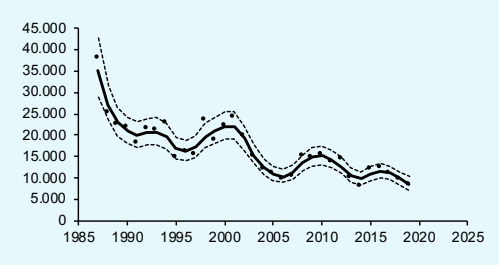
The Mallard is counted in the Wadden Sea with less than 5% of its flyway population. The overall trends are moderate but long-lasting decreases. This decrease is mainly going on in the southern part of the Wadden Sea (Niedersachsen, Netherlands), while in the northern parts the short-term trend is stable.



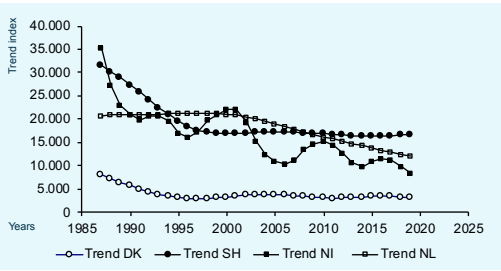
(A)



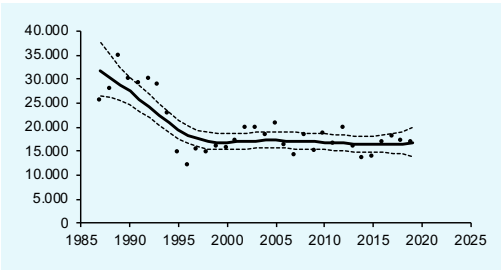
(C) Denmark



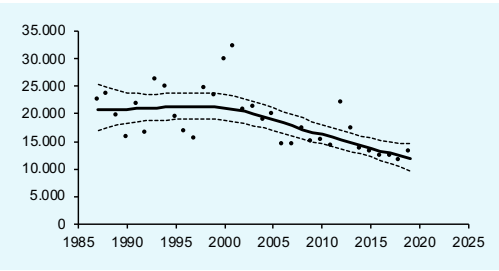
(E) Niedersachsen/Hamburg



(B)



(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 1987/1988-2019/2020 (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 Mallard in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	↓	↓
(C) Denmark	↓	→
(D) Schleswig-Holstein	↓	→
(E) Niedersachsen/Hamburg	↓	↓
(F) The Netherlands	↓	↓

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

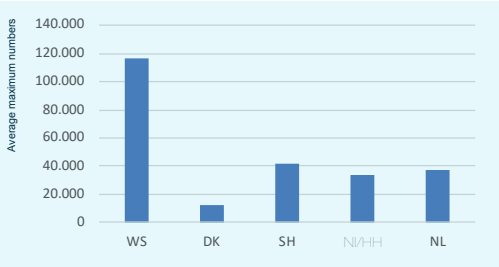
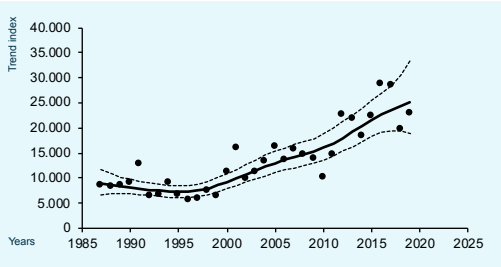


Figure 4.8.7
Absolute numbers of Mallard in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

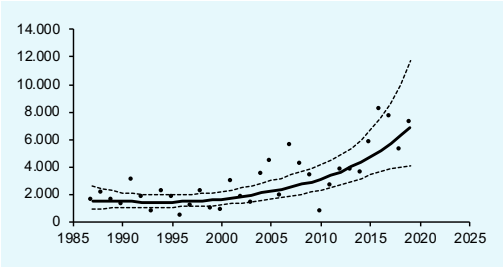
4.9 NORTHERN PINTAIL

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

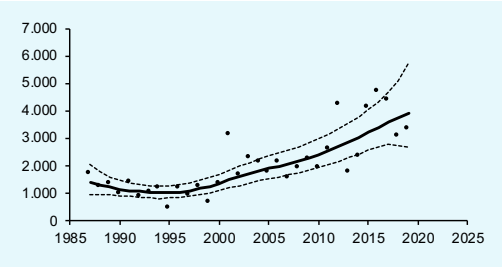
The proportion of the Northern Pintail population exceeds 60% and after a stable period in the first period from the late 1990s to 2000, numbers are now increasing in all Wadden Sea regions. The species is even in the top 3 of species with the strongest increase, with estimated maxima running up from 18.550 in 1989/1990-1998/1999 to 45.900 in 2009/2010-2018/2019 (Kleefstra et al. 2021). The Dutch Wadden Sea shows a trend reversal. Pintails have recently declined there.



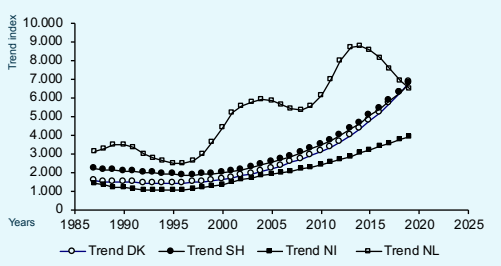
(A)



(C) Denmark



(E) Niedersachsen/Hamburg



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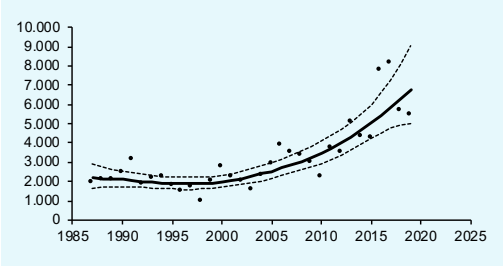
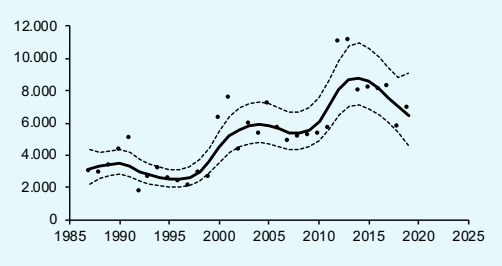


(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.9.1-4.9.6
Trends of Northern Pintail in the Wadden Sea (a) and the four regions 1987/1988-2019/2020 (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 Northern Pintail in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	↑	↑
(C) Denmark	↑	↑
(D) Schleswig-Holstein	↑	↑
(E) Niedersachsen/Hamburg	↑	↑
(F) The Netherlands	↑	–

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

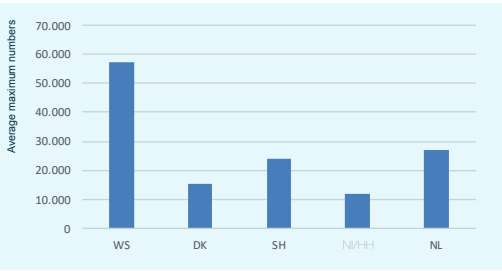
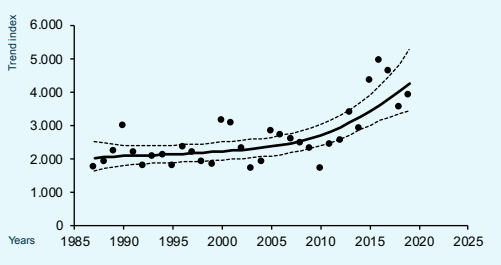


Figure 4.9.7
Absolute numbers of Northern Pintail in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

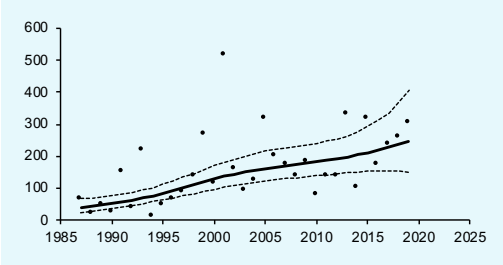
4.10 NORTHERN SHOVELER

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

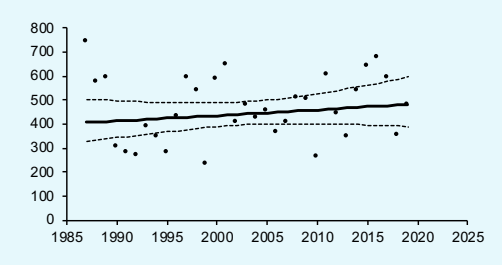
The Wadden Sea represents some 20% of the flyway population of the Northern Shoveler. The long- and short-term trend of the species shows a moderate and lately a strong increase. Only in Niedersachsen numbers of Shovelers are stable or fluctuating.



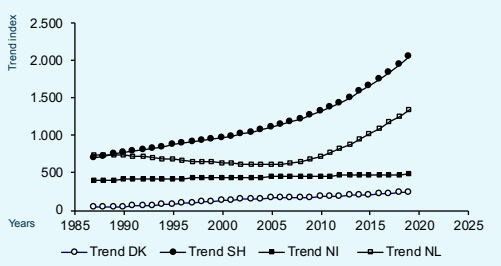
(A)



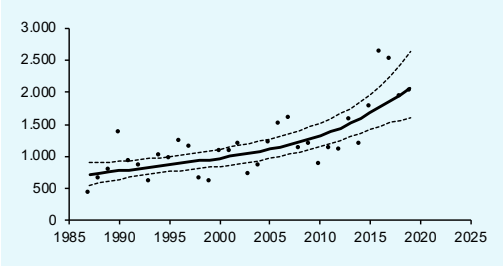
(C) Denmark



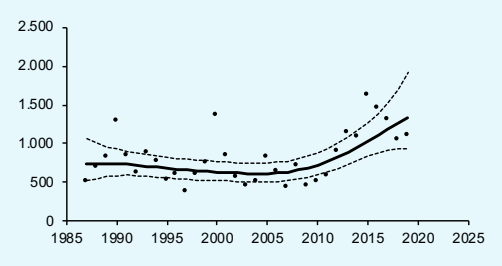
(E) Niedersachsen/Hamburg



(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 1987/1988-2019/2020 (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 Northern Shoveler in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	↑	↑
(C) Denmark	↑	–
(D) Schleswig-Holstein	↑	↑
(E) Niedersachsen/Hamburg	→	→
(F) The Netherlands	↑	↑

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

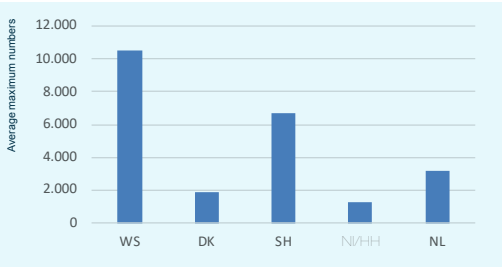
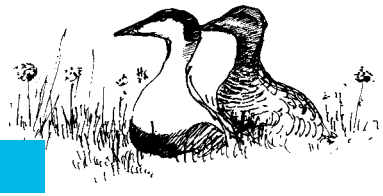


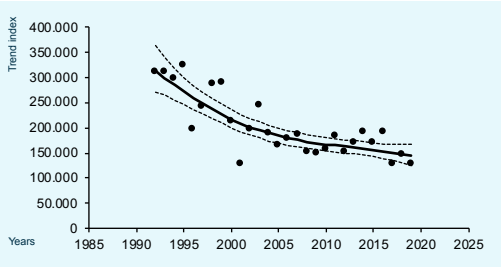
Figure 4.10.7
Absolute numbers of Northern Shoveler in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

4.11 COMMON EIDER

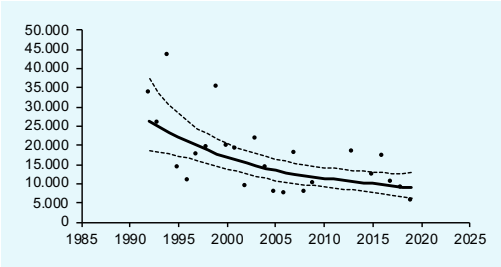


02060 ***Somateria mollissima*** DK: Ederfugl D: Eiderente NL: Eidereend

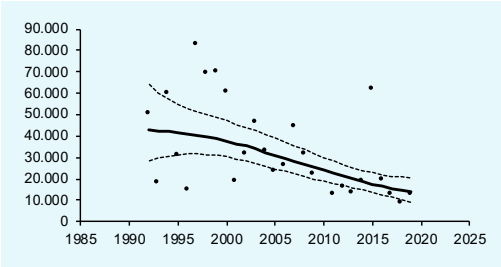
The Common Eider is one of the species with the strongest decline in numbers (>-40%) since the late 1980s. While estimated maximum numbers in 1989/1990-1998/1999 exceeded an average of 282.000, this average was hardly 162.000 in the period 2009/2010-2018/2019. The short-term trend is stable, mainly due to stable numbers of Eiders in the Wadden Sea areas of Schleswig-Holstein and the Netherlands, while numbers in the Danish Wadden Sea fluctuate. In the Niedersachsen Wadden Sea numbers still decline.



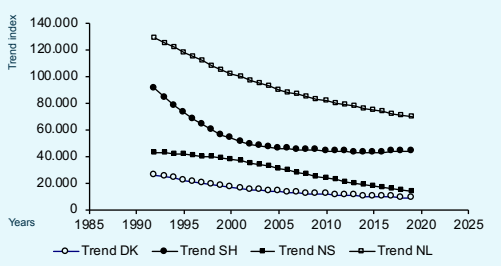
(A)



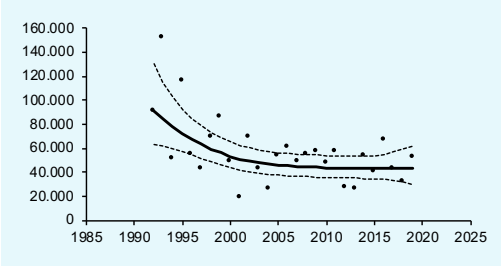
(C) Denmark



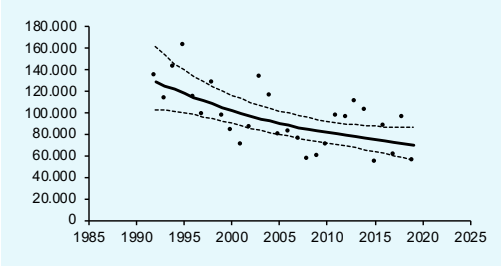
(E) Niedersachsen/Hamburg



(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 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 Common Eider in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	↓	→
(C) Denmark	↓	–
(D) Schleswig-Holstein	↓	→
(E) Niedersachsen/Hamburg	↓	↓
(F) The Netherlands	↓	→

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

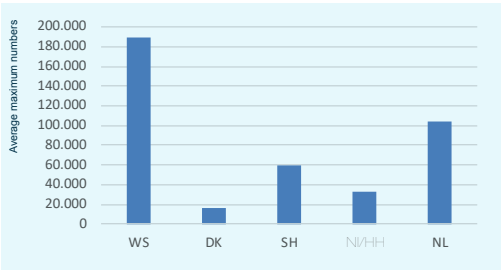
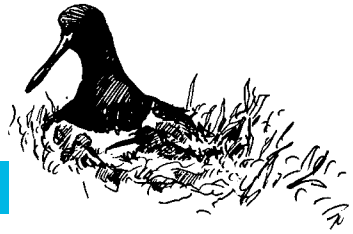


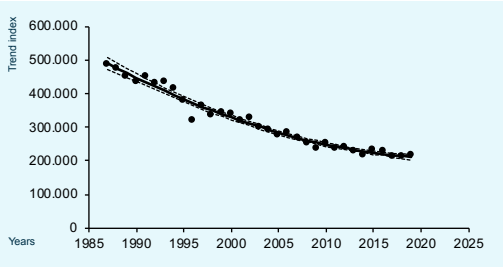
Figure 4.11.7
Absolute numbers of Common Eider in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

4.12 EURASIAN OYSTERCATCHER

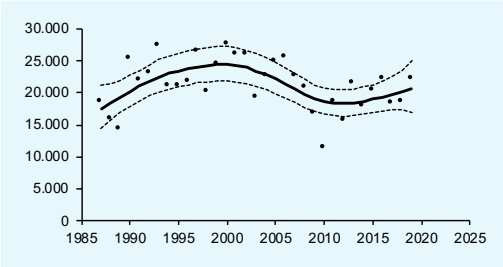


04500 ***Haematopus ostralegus*** DK: Strandskade D: Austernfischer NL: Scholekster

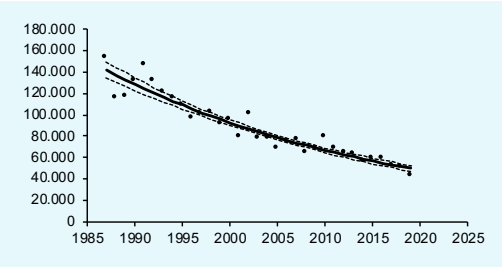
About 50% of the Eurasian Oystercatcher flyway population can be found in the Wadden Sea. The more alarming the decline in the number of Oystercatchers in the international Wadden Sea is. While in the 1989/1990-1998/1999 period the average maximum was still almost 575.000 Oystercatchers, in the most recent period (2009/2010-2018/2019) this was only 328.000, a decrease of 43% (Kleefstra et al. 2021). Over the last ten years the decrease is going on in all parts of the Wadden Sea, except for Denmark which shows stable or fluctuating numbers.



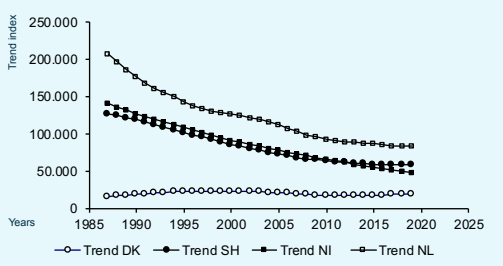
(A)



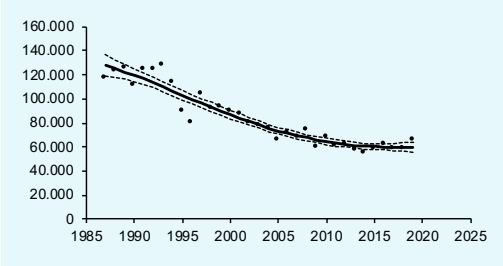
(C) Denmark



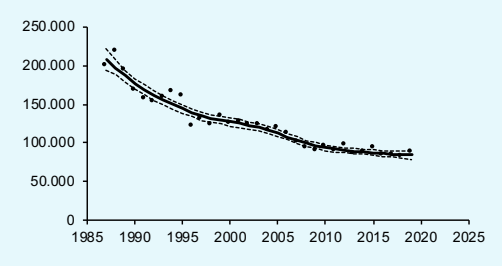
(E) Niedersachsen/Hamburg



(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 1987/1988-2019/2020 (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 Eurasian Oystercatcher in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	↓	↓
(C) Denmark	→	→
(D) Schleswig-Holstein	↓	→
(E) Niedersachsen/Hamburg	↓	↓
(F) The Netherlands	↓	↓

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

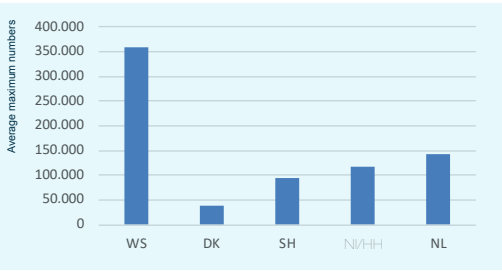
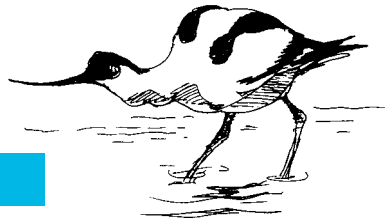


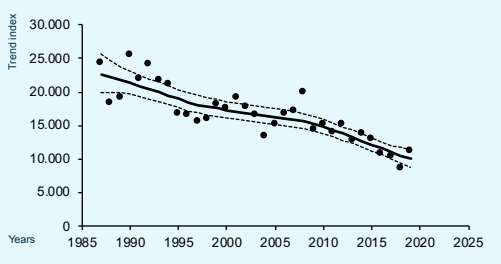
Figure 4.12.7
Absolute numbers of Eurasian Oystercatcher in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

4.13 PIED AVOCET

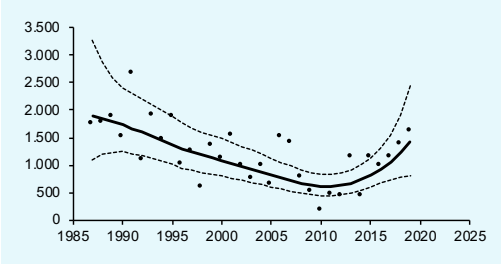


04560 ***Recurvirostra avosetta*** DK: Klyde D: Säbelschnäbler NL: Kluut

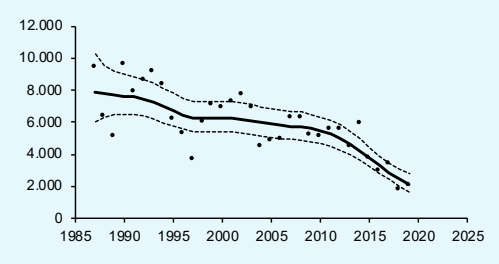
The Pied Avocet is one of the species of which numbers have decreased strongest, both in the long and short run. This decline is the strongest in the Niedersachsen Wadden Sea, but also in the Schleswig-Holstein and Dutch areas numbers are going down. Denmark is the exception, with a stable trend over the whole monitoring period and even an increase in the short term. The estimated average maximum of Avocets in the period 1989/1990-1998/1999 was 44.000, while it was only 26.500 for the period 2009/2010-2018/2019, a decline of 40% (Kleefstra et al. 2021).



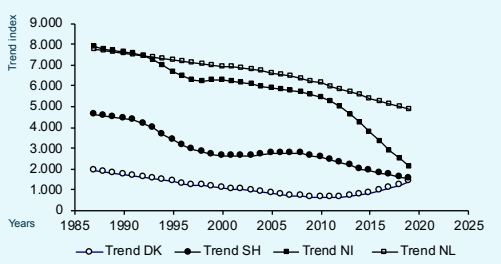
(A)



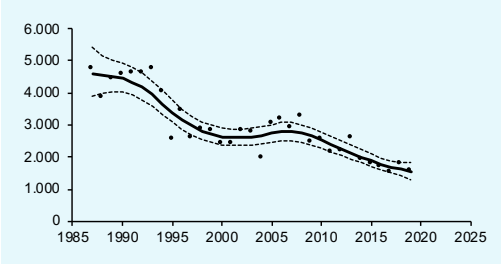
(C) Denmark



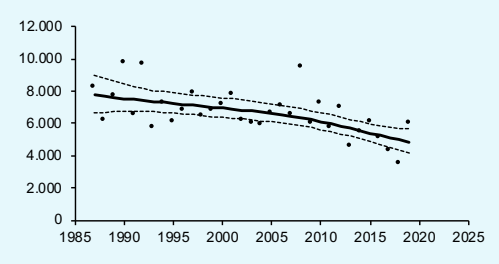
(E) Niedersachsen/Hamburg



(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 1987/1988-2019/2020 (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 Pied Avocet in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	↓	↓
(C) Denmark	→	↑
(D) Schleswig-Holstein	↓	↓
(E) Niedersachsen/Hamburg	↓	↓↓
(F) The Netherlands	↓	↓

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

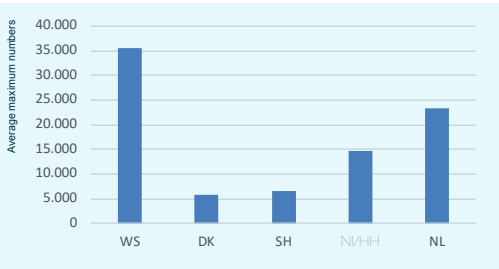
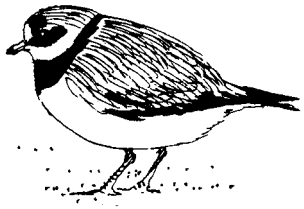


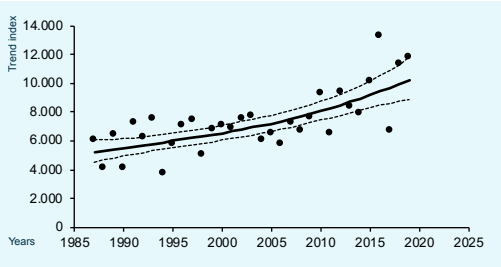
Figure 4.13.7
Absolute numbers of Pied Avocet in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

4.14 COMMON RINGED PLOVER

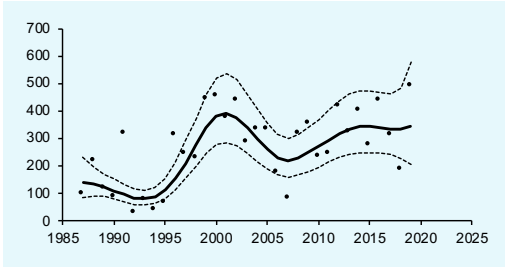


04700 ***Charadrius hiaticula*** DK: „Stor“ Praestekrave D: Sandregenpfeifer NL: Bontbekplevier

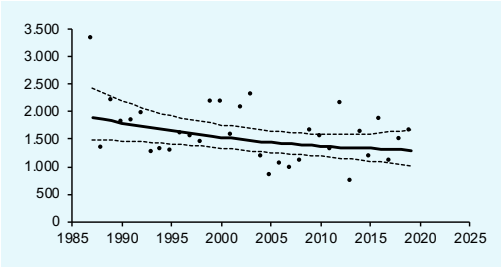
Already since the 1980s the Common Ringed Plover shows a moderate increase. This increase is mainly going on in the Wadden Sea regions of Schleswig-Holstein and the Netherlands. In the Danish Wadden Sea the short-term trend is unclear, while in the Niedersachsen Wadden Sea numbers are stable.
Three populations of Common Ringed Plover pass the Wadden Sea during migration; C.h. hiaticula is present form October to April, both Arctic breeding populations of C.h. tundra and C.h. psammodroma peak in May during spring migration. The long- and short-term trend of the hiaticula's seems to be stable, while the long- and short-term trends of the tundra's/ psammodroma's are positive.



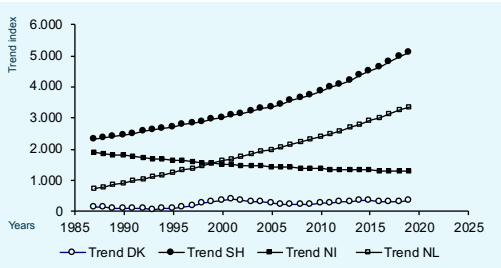
(A)



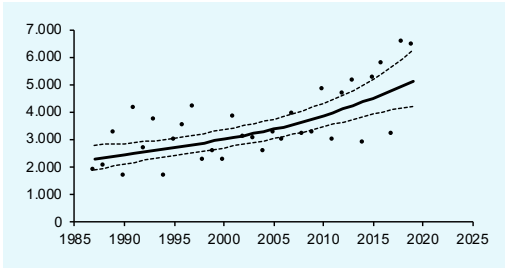
(C) Denmark



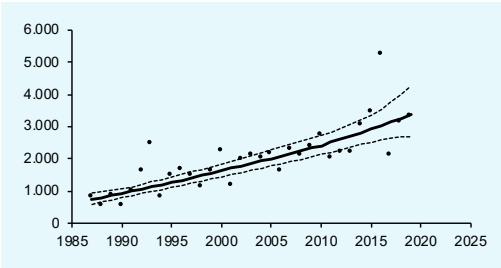
(E) Niedersachsen/Hamburg



(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 1987/1988-2019/2020 (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 Common Ringed Plover in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	↑	↑
(C) Denmark	↑	–
(D) Schleswig-Holstein	↑	↑
(E) Niedersachsen/Hamburg	→	→
(F) The Netherlands	↑	↑

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

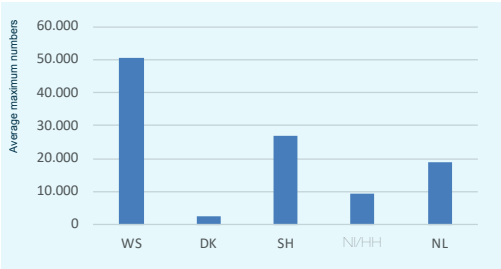
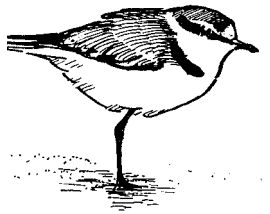


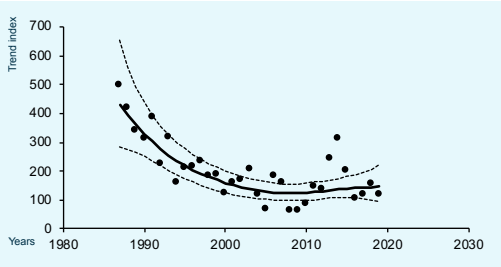
Figure 4.14.7
Absolute numbers of Common Ringed Plover in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

4.15 KENTISH PLOVER

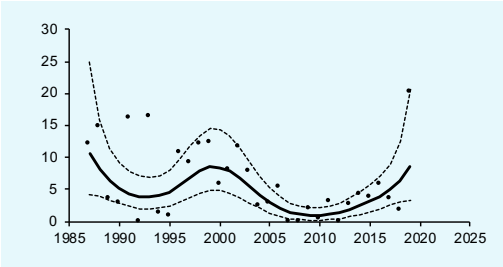


04770 ***Charadrius alexandrinus*** DK: Hvidbrystet Præstekrave D: Seeregenpfeifer NL: Strandplevier

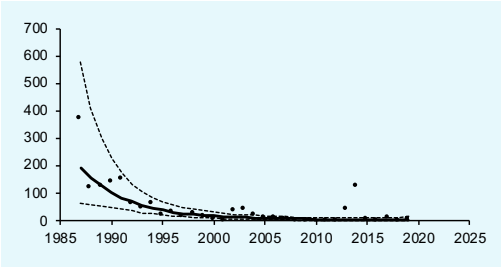
For the Kentish Plover, the Wadden Sea holds less than 1% of the entire flyway population, and overall very low numbers are registered during the synchronous counts. Both during spring and autumn these birds represent the local breeding population. Most trends in the overall Wadden Sea decreased during the 1980's and early 1990s, stabilized between 1995 and 2005, but are unclear since then. This trend is largely influenced by the developments in Schleswig-Holstein, where the largest numbers of Kentish Plovers occur.



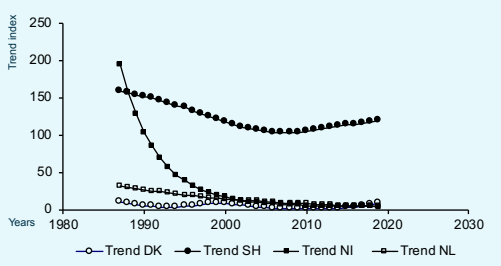
(A)



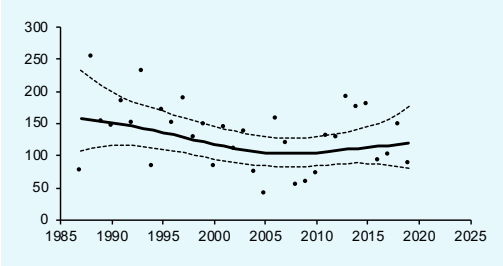
(C) Denmark



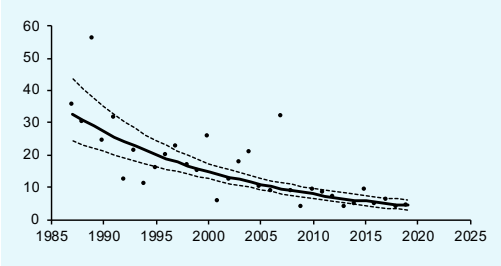
(E) Niedersachsen/Hamburg



(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 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	↓	–
(C) Denmark	→	↑↑
(D) Schleswig-Holstein	→	–
(E) Niedersachsen/Hamburg	↓↓	–
(F) The Netherlands	↓	↓

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

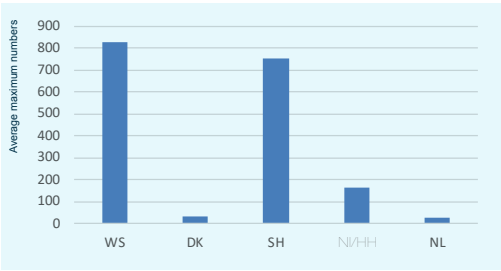
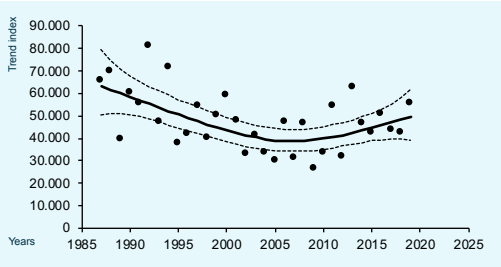


Figure 4.15.7
Absolute numbers of Kentish Plover in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

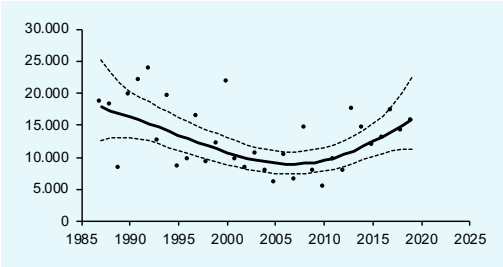
4.16 EURASIAN GOLDEN PLOVER

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

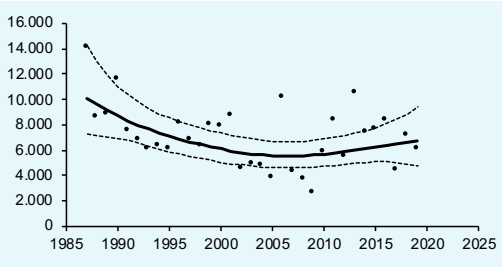
While the Eurasian Golden Plover shows a stable trend in the long run, the short-term trend is uncertain. This is influenced by developments in the German parts of the Wadden Sea, where the species showed a dip around 2005 and since then has been tending to recover, although this does not show a clear trend. In Denmark Golden Plovers increased in the last ten years, while the species is stable over the whole monitoring period in the Dutch Wadden Sea.



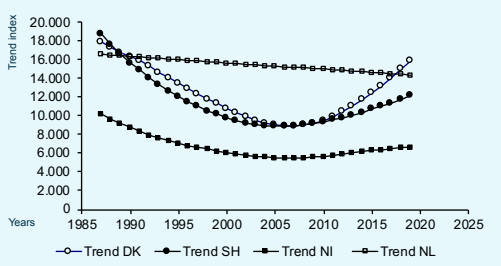
(A)



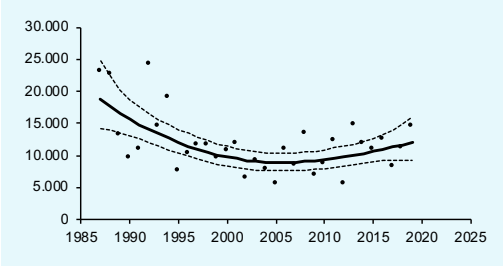
(C) Denmark



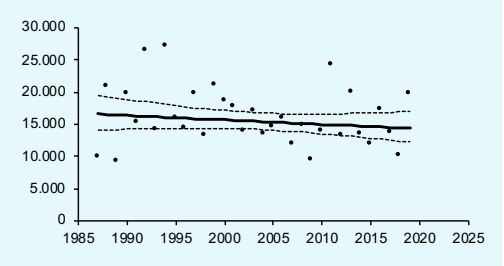
(E) Niedersachsen/Hamburg



(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 1987/1988-2019/2020 (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 Eurasian Golden Plover in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	→	–
(C) Denmark	→	↑
(D) Schleswig-Holstein	↓	–
(E) Niedersachsen/Hamburg	→	–
(F) The Netherlands	→	→

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

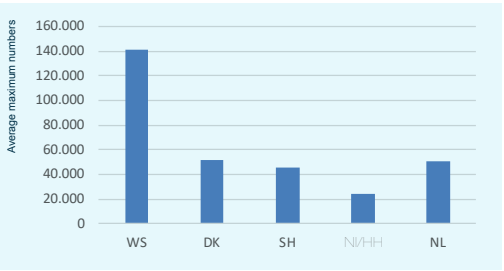
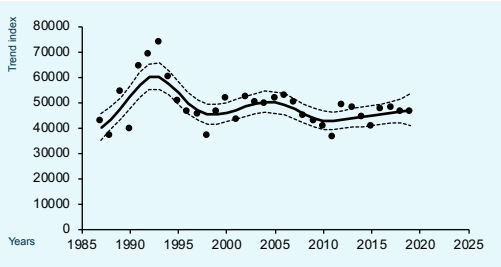


Figure 4.16.7
Absolute numbers of Eurasian Golden Plover in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

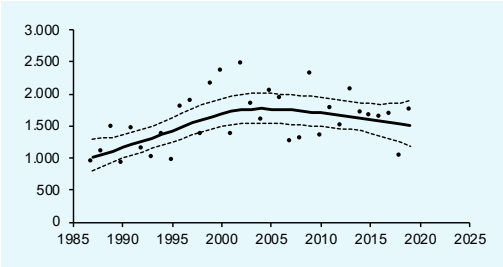
4.17 GREY PLOVER

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

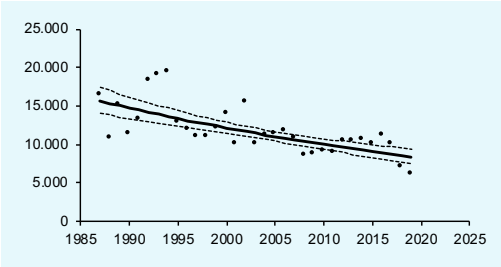
Almost 60% of the total flyway population of Grey Plover uses the Wadden Sea outside the breeding season, thus the region is of high importance for the species. The long- and short term trend is stable, although this varies very much per Wadden Sea area. The long-term trends in Denmark and the Netherlands are positive, but stable and negative in respectively Schleswig-Holstein and Niedersachsen. Over the last ten years numbers are stable in the Danish and Schleswig-Holstein areas, while numbers still decline in Niedersachsen and still increase in the Dutch Wadden Sea.



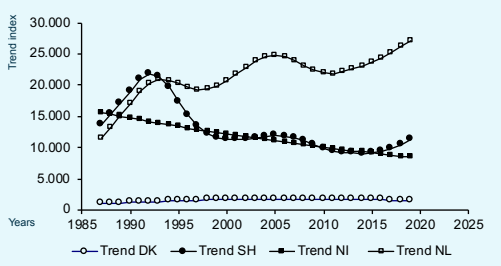
(A)



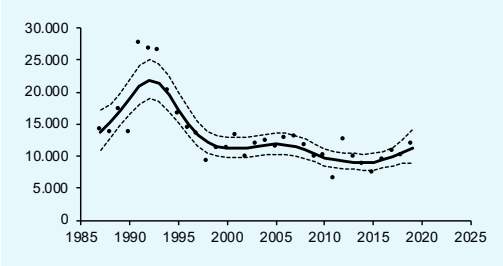
(C) Denmark



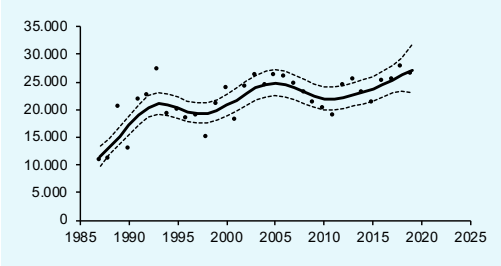
(E) Niedersachsen/Hamburg



(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 1987/1988-2019/2020 (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 Grey Plover in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	→	→
(C) Denmark	↑	→
(D) Schleswig-Holstein	→	→
(E) Niedersachsen/Hamburg	↓	↓
(F) The Netherlands	↑	↑

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

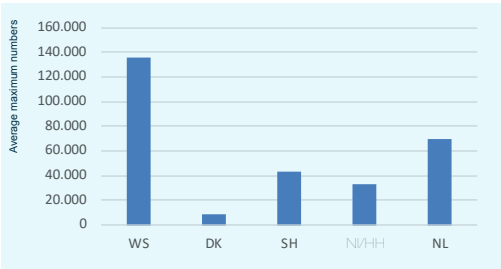
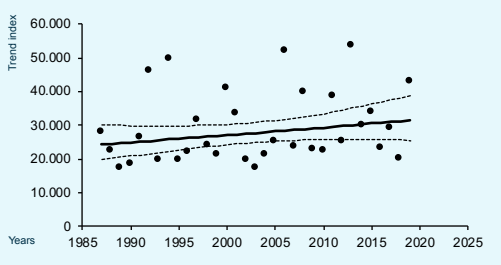


Figure 4.17.7
Absolute numbers of Grey Plover in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

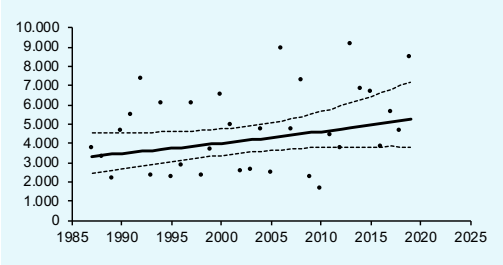
4.18 NORTHERN LAPWING

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

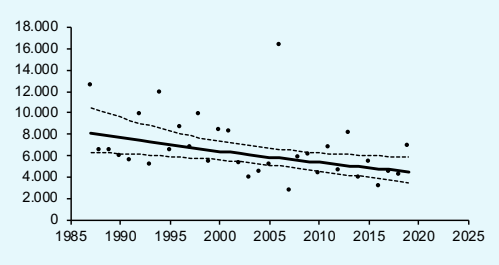
Only a small fraction of the Northern Lapwing flyway population uses the Wadden Sea. The long- and short-term trends are stable, with stable numbers in the Danish and the Dutch Wadden Sea, while the Schleswig-Holstein Wadden Sea shows an increase and the Niedersachsen Wadden Sea shows a decrease.



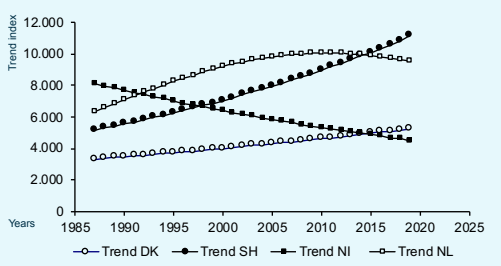
(A)



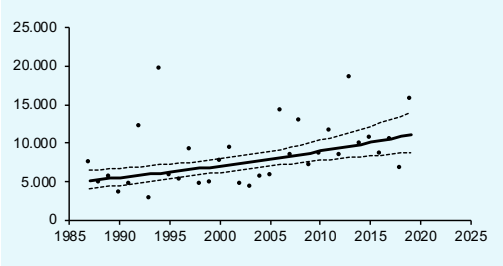
(C) Denmark



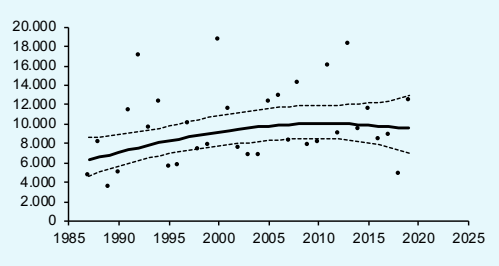
(E) Niedersachsen/Hamburg



(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 1987/1988-2019/2020 (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 Northern Lapwing in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	→	→
(C) Denmark	→	→
(D) Schleswig-Holstein	↑	↑
(E) Niedersachsen/Hamburg	↓	↓
(F) The Netherlands	→	→

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

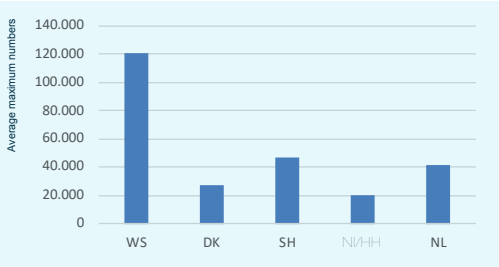
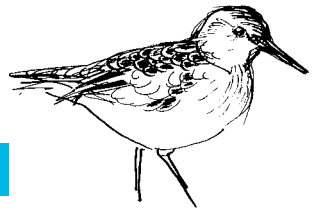


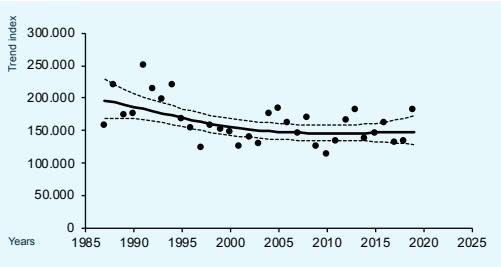
Figure 4.18.7
Absolute numbers of Northern Lapwing in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

4.19 RED KNOT

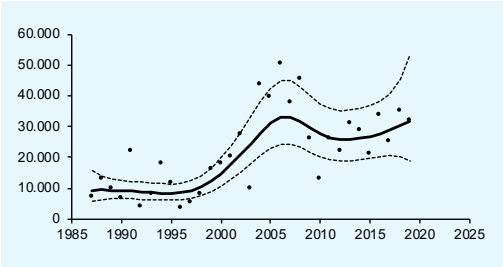


04960 *Calidris canutus* DK: Islandsk Ryle D: Knutt NL: Kanoet

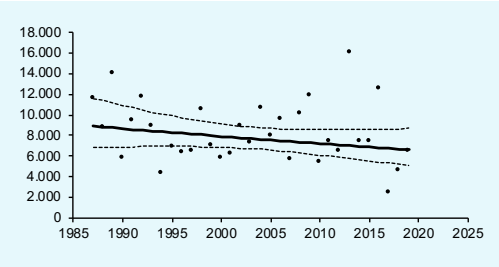
Large parts of both flyway populations of the Red Knot, the C.c. canutus migrating from Africa to Siberia and the C.c. islandica wintering in the European regions and breeding in Greenland and Canada, use the Wadden Sea. The proportion is over 75% of the flyway population. The overall long-term trend is stable, but the differences between the Wadden Sea areas are big.
The comparable lower numbers of the C.c. canutus population (counted in July and May) have an overall stable trend, but differ between Schleswig-Holstein and the Netherlands like the overall trend does. The C.c. islandica population (counted from September to April) shows a decrease over the whole period, but the short-term trend is stable.



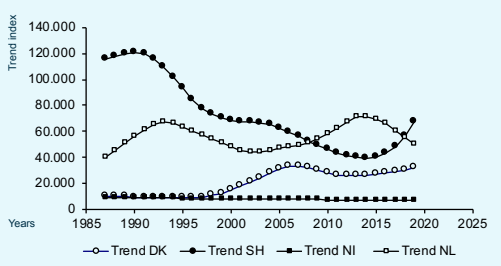
(A)



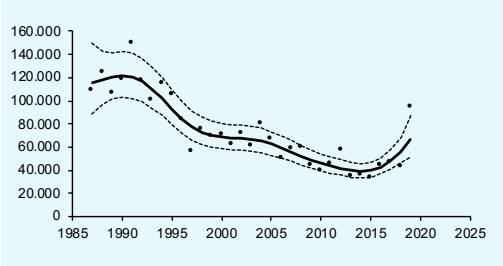
(C) Denmark



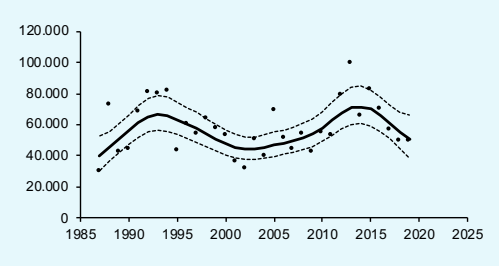
(E) Niedersachsen/Hamburg



(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 1987/1988-2019/2020 (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 Red Knot in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	↓	→
(C) Denmark	↑	–
(D) Schleswig-Holstein	↓	↑
(E) Niedersachsen/Hamburg	→	→
(F) The Netherlands	→	–

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

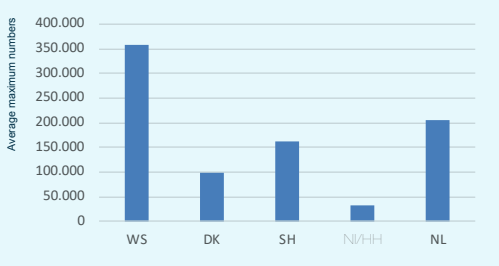
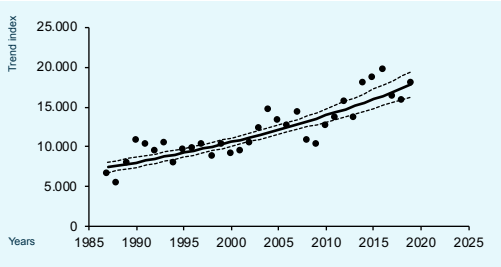


Figure 4.19.7
Absolute numbers of Red Knot in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

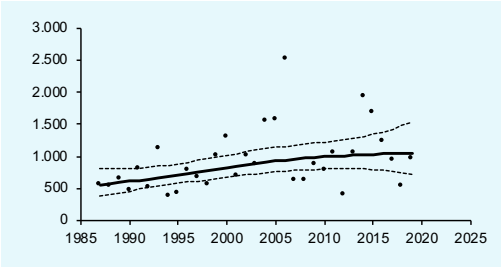
4.20 SANDERLING

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

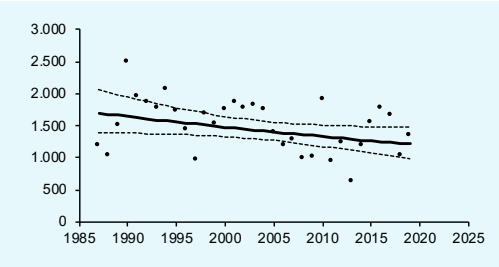
The overall trends of the Sanderling are increasing, mostly on account of a strong increase in the Dutch Wadden Sea and a moderate increase in Danish Wadden Sea. The long-term trends in the German parts of the Wadden Sea are stable. Short-term trends differ slightly, with stable numbers in Denmark and fluctuating numbers in Schleswig-Holstein. In the Dutch Wadden Sea the species still shows an increase. Numbers are difficult to survey due to high peak numbers during a short time period in spring and summer. If the counts do not occur within this time window the numbers can vary greatly from year to year, as special Sanderling counts show in the western part of the Dutch Wadden Sea (Reneerkens et al. 2012).



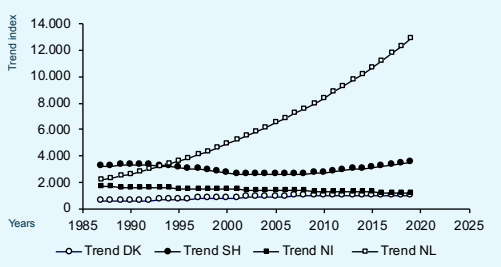
(A)



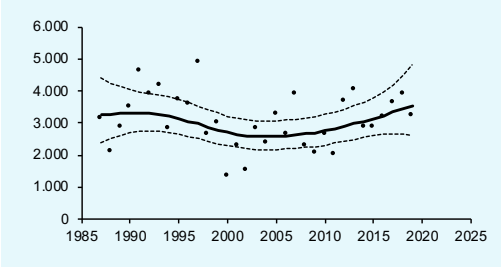
(C) Denmark



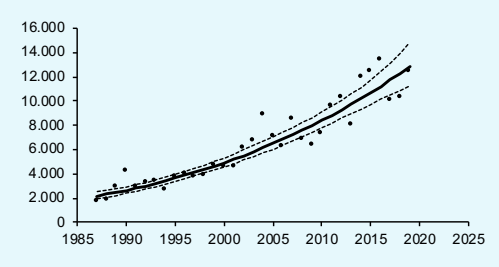
(E) Niedersachsen/Hamburg



(B)



(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 1987/1988-2019/2020 (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 Sanderling in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	↑	↑
(C) Denmark	↑	→
(D) Schleswig-Holstein	→	–
(E) Niedersachsen/Hamburg	→	→
(F) The Netherlands	↑↑	↑

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

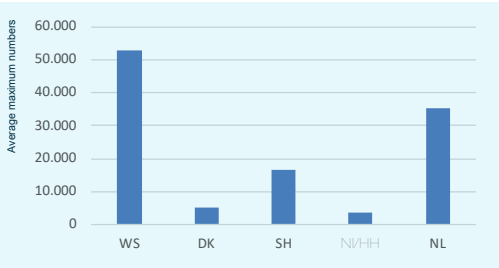
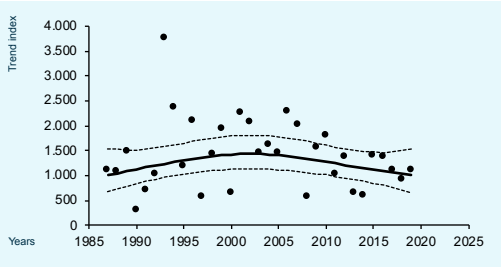


Figure 4.20.7
Absolute numbers of Sanderling in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

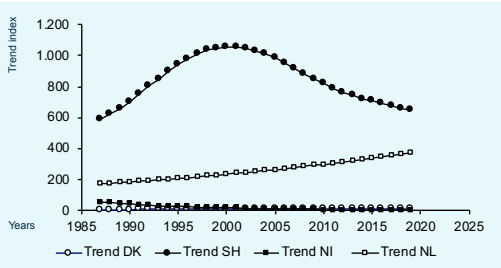
4.21 CURLEW SANDPIPER

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

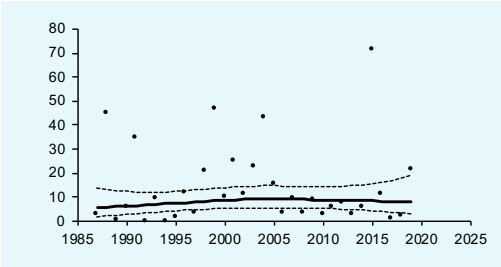
The Curlew Sandpiper has a large flyway population of which only 1-2% visits the Wadden Sea during southbound migration. They migrate through the Wadden Sea in a very short period during July/August in a small number of sites, which makes them hard to count with the regular high tide roost counts. As with the Sanderling, extra counts in the Dutch Wadden Sea show much higher peak numbers during a short time period in summer (July/August; Kleefstra & Schekkerman 2019). The long-term trend of the Curlew Sandpiper is stable, with the biggest numbers in Schleswig-Holstein. The short-term trend is uncertain, due to what looks like a decrease in the Schleswig-Holstein Wadden Sea and an increase in the Dutch Wadden Sea, though both trends are not significant.



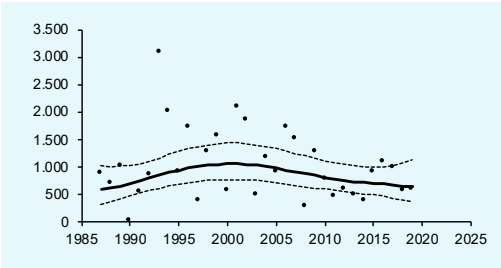
(A)



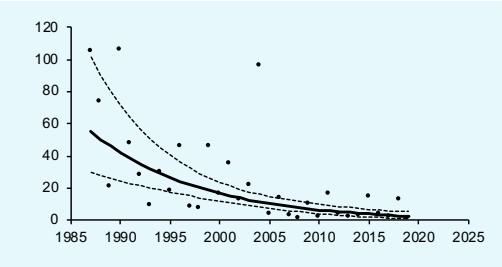
(B)



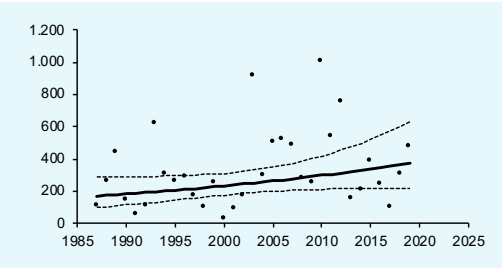
(C) Denmark



(D) Schleswig-Holstein



(E) Niedersachsen/Hamburg



(F) The Netherlands

Figure 4.21.1-4.21.6
Trends of Curlew Sandpiper in the Wadden Sea (a) and the four regions 1987/1988-2019/2020 (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 Curlew Sandpiper in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	→	–
(C) Denmark	→	–
(D) Schleswig-Holstein	→	–
(E) Niedersachsen/Hamburg	↓↓	↓↓
(F) The Netherlands	–	–

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

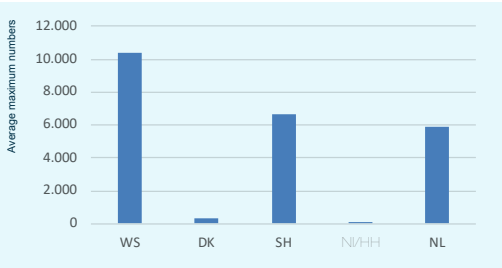
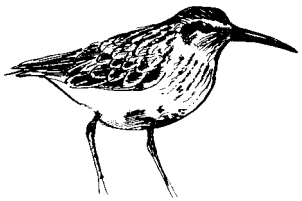


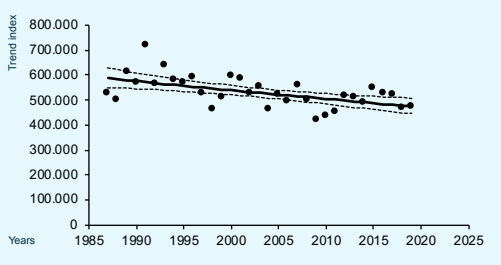
Figure 4.21.7
Absolute numbers of Curlew Sandpiper in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

4.22 DUNLIN

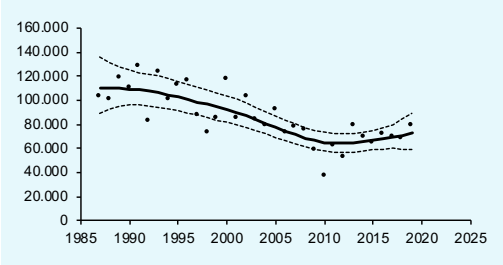


05120 ***Calidris alpina*** DK: Almindelig Ryle D: Alpenstrandläufer NL: Bonte Strandloper

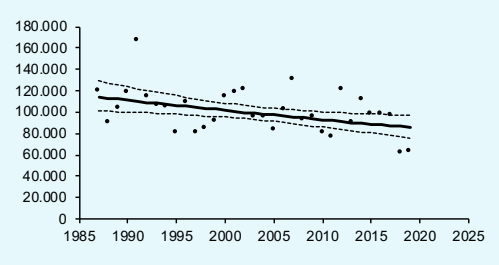
The long- and short-term trends for the Dunlin is negative, as numbers in the whole Wadden Sea decreased in the long run, except for the Dutch Wadden Sea. The short-term trends show stabilization in the northern part of the Wadden Sea (Denmark, Schleswig-Holstein), a moderate decrease in Niedersachsen and still a moderate increase in the Netherlands.



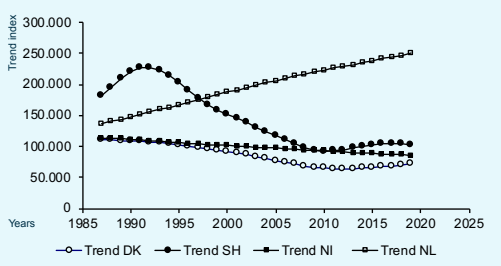
(A)



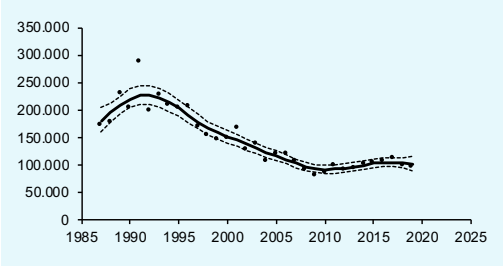
(C) Denmark



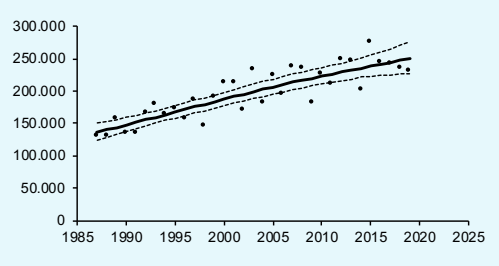
(E) Niedersachsen/Hamburg



(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 1987/1988-2019/2020 (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 Dunlin in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	↓	↓
(C) Denmark	↓	→
(D) Schleswig-Holstein	↓	→
(E) Niedersachsen/Hamburg	↓	↓
(F) The Netherlands	↑	↑

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

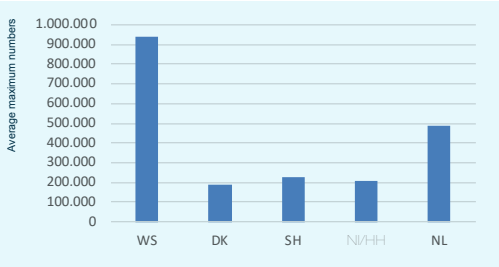
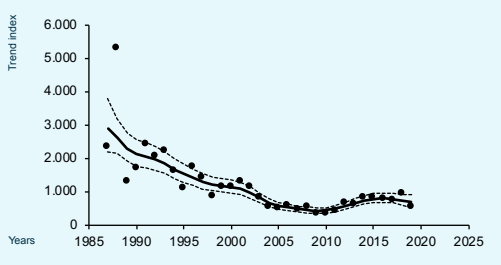


Figure 4.22.7
Absolute numbers of Dunlin in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

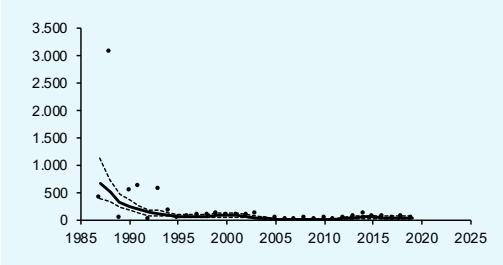
4.23 RUFF

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

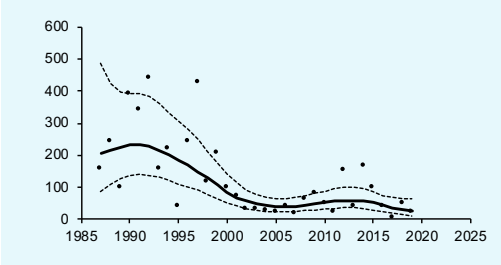
Less than 1% of the Ruff flyway population migrates through the Wadden Sea. The flyway population trend is seriously decreasing. In the Wadden Sea the long-term trend is decreasing, with negative trends in all Wadden Sea regions. Due to higher numbers in Schleswig-Holstein the short-term trend is positive. Trends in the Danish and Niedersachsen Wadden Sea are uncertain, while in the Dutch Wadden Sea numbers still decrease.



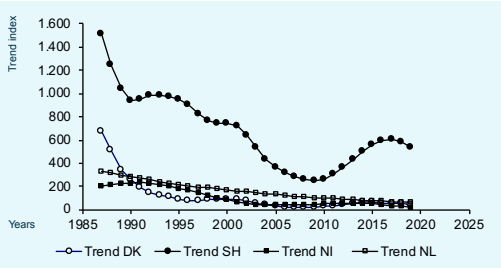
(A)



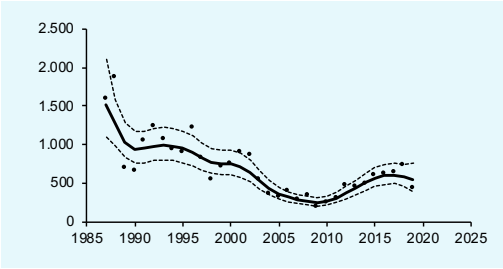
(C) Denmark



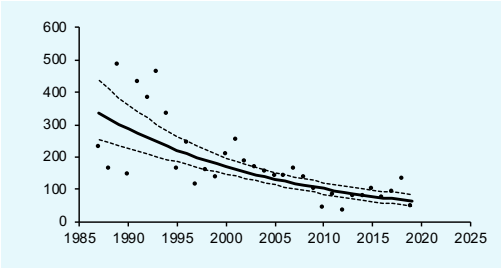
(E) Niedersachsen/Hamburg



(B)



(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 1987/1988-2019/2020 (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 Ruff in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	↓	↑
(C) Denmark	↓↓	–
(D) Schleswig-Holstein	↓	↑
(E) Niedersachsen/Hamburg	↓	–
(F) The Netherlands	↓	↓

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

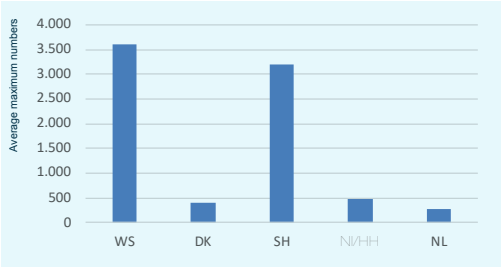
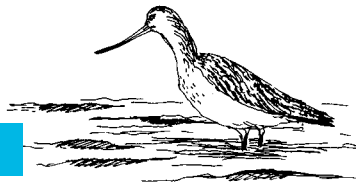


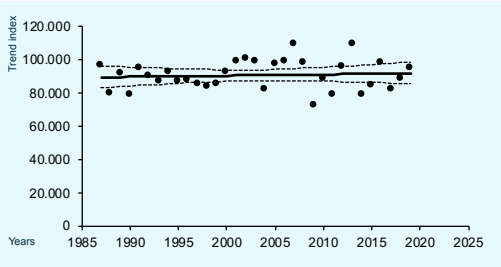
Figure 4.23.7
Absolute numbers of Ruff in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

4.24 BAR-TAILED GODWIT

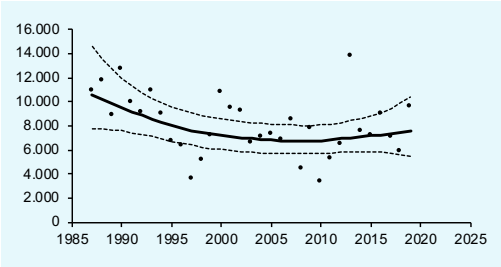


05340 ***Limosa lapponica*** DK: Lille Kobbersneppe D: Pfuhlschnepfe NL: Rosse Grutto

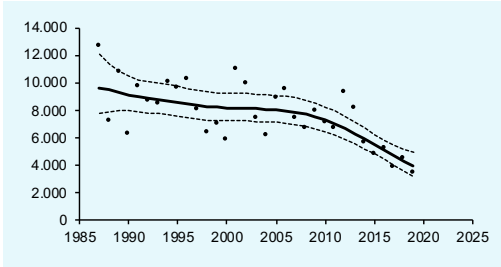
Summary Two populations of the Bar-tailed Godwit migrate through the Wadden Sea, both with comparable numbers; the nominate sub-species L. l. lapponica breeds in high arctic Scandinavia and North-Western Russia, and winters in coastal Western Europe. It is present in the Wadden Sea most of the year from September to April and the long- and short-term trend is stable, with a decrease in Schleswig-Holstein and an increase in the Dutch Wadden Sea. The L. l. taymyrensis breeds in Western and Central Siberia and winters in coastal West and South-West Africa; individuals of this population migrate through the Wadden Sea in May and return during July and August. The long- and short-term trend is stable, with decreasing numbers in the German parts of the Wadden Sea and an increase in the Dutch Wadden Sea.



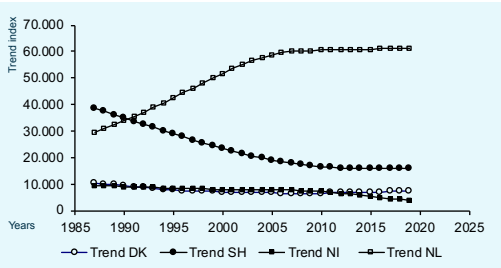
(A)



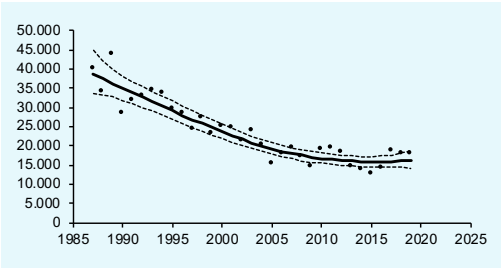
(C) Denmark



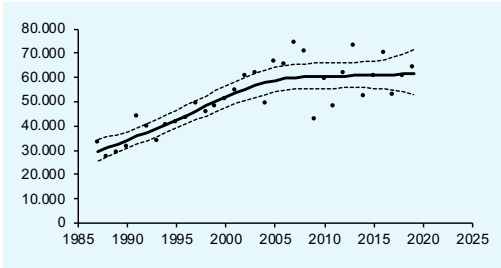
(E) Niedersachsen/Hamburg



(B)



(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 1987/1988-2019/2020 (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 Bar-tailed Godwit in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	→	→
(C) Denmark	→	→
(D) Schleswig-Holstein	↓	→
(E) Niedersachsen/Hamburg	↓	↓
(F) The Netherlands	↑	→

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

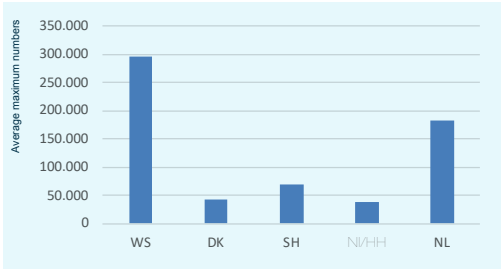
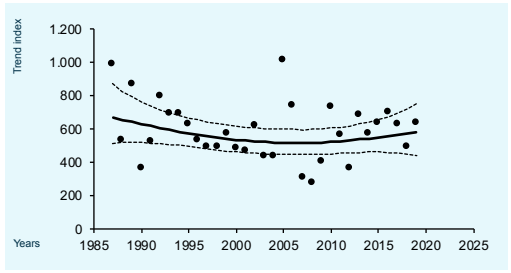


Figure 4.24.7
Absolute numbers of Bar-tailed Godwit in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

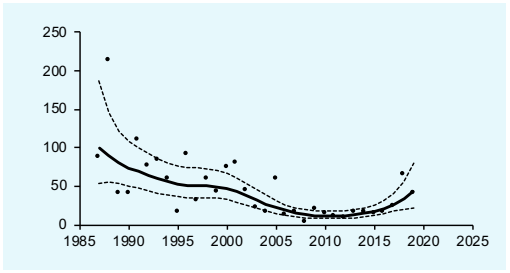
4.25 WHIMBREL

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

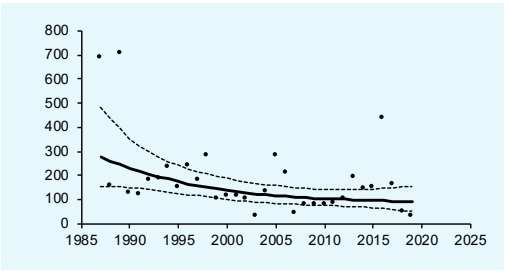
Only 1-2% of the stable Whimbrel flyway population is counted in the Wadden Sea region. Numbers are hard to monitor, because spring migration peaks shortly in the end of April, in which Whimbrels feeding in inland grasslands also use the Wadden Sea shore as a night roost (Versluys et al. 2009). Long- 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 (Niedersachsen, Netherlands).



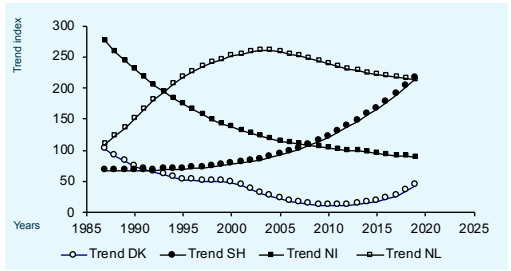
(A)



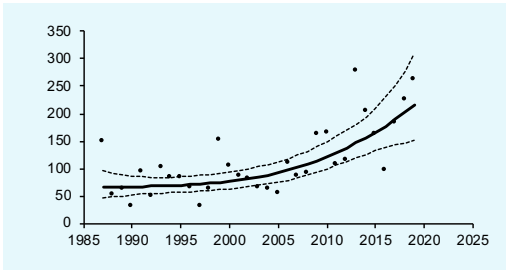
(C) Denmark



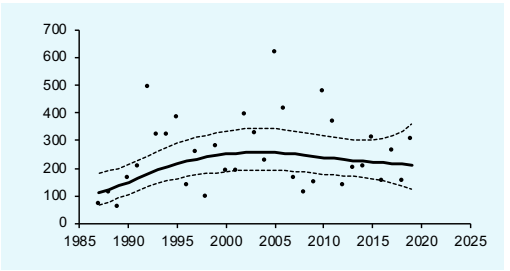
(E) Niedersachsen/Hamburg



(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 1987/1988-2019/2020 (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 Whimbrel in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	→	→
(C) Denmark	–	↑↑
(D) Schleswig-Holstein	↑	↑
(E) Niedersachsen/Hamburg	↓	–
(F) The Netherlands	→	–

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

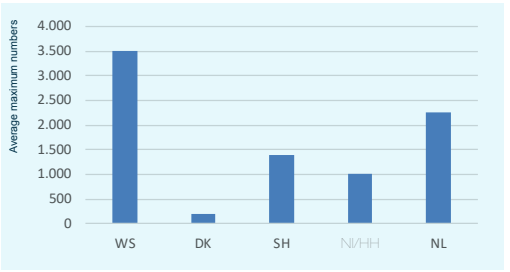
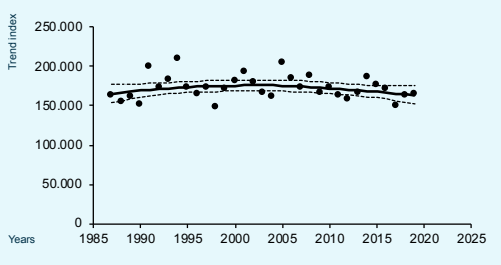


Figure 4.25.7
Absolute numbers of Whimbrel in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

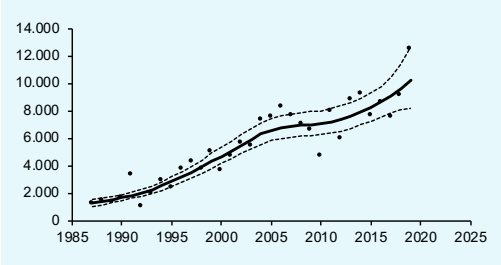
4.26 EURASIAN CURLEW

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

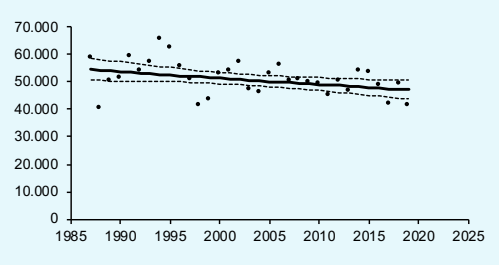
The Eurasian Curlew flyway population is seriously decreasing. However, the Wadden Sea population, representing some 35-40% of the flyway population, is stable both in the long- and short-term trends. Trends differ between countries, as the Danish Wadden Sea shows a strong increase in the long run, the Dutch stable numbers, and both German regions a moderate decrease. The short-term trends deviate somewhat from this, with a moderate increase in Denmark, stable numbers in Schleswig-Holstein and the Netherlands, and still a moderate decrease in Niedersachsen.



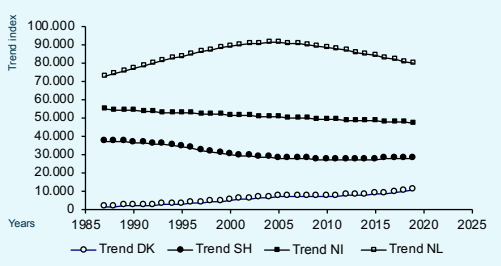
(A)



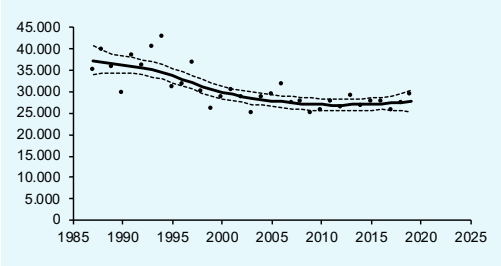
(C) Denmark



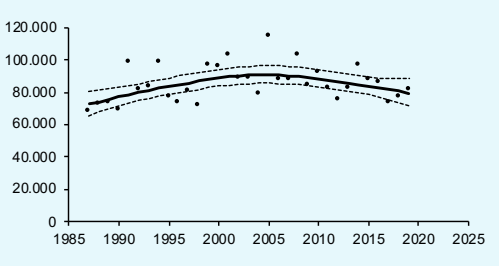
(E) Niedersachsen/Hamburg



(B)



(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 1987/1988-2019/2020 (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 Eurasian Curlew in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	→	→
(C) Denmark	↑↑	↑
(D) Schleswig-Holstein	↓	→
(E) Niedersachsen/Hamburg	↓	↓
(F) The Netherlands	→	→

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

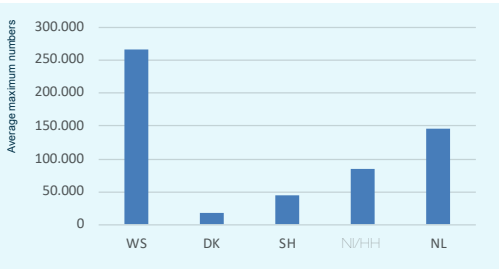
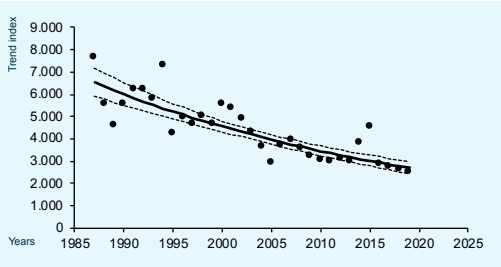


Figure 4.26.7
Absolute numbers of Eurasian Curlew in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

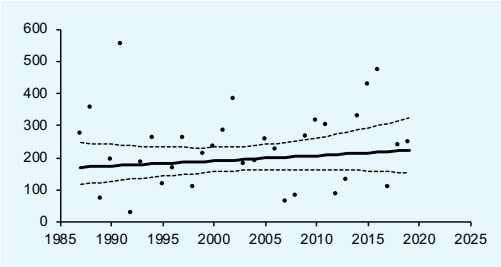
4.27 SPOTTED REDSHANK

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

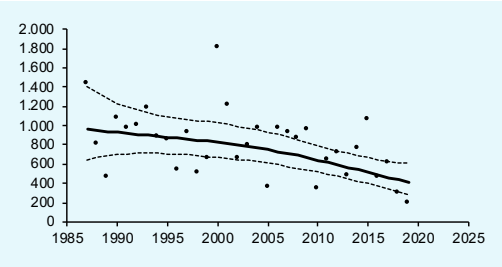
The Spotted Redshank is difficult to monitor due to its short passage time period, with large numbers at only a few sites. Wadden Sea numbers represent about 20% of the flyway population which is assessed to be stable, however with some uncertainty. The overall Wadden Sea was decreasing on the long-term, but seems to stabilize in the short-term. This reflects the trend in Schleswig-Holstein. In the southern parts of the Wadden Sea (Niedersachsen, Netherlands) the trend of the Spotted Redshank is negative over the whole period.



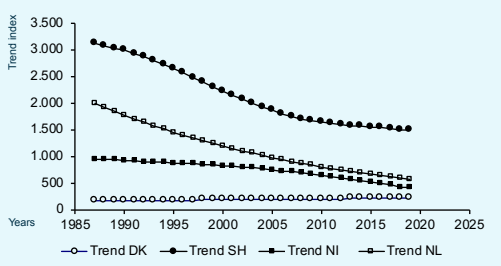
(A)



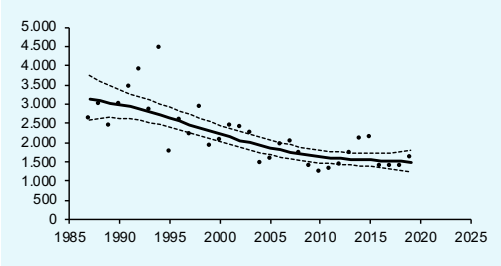
(C) Denmark



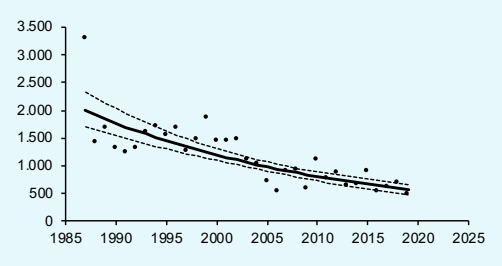
(E) Niedersachsen/Hamburg



(B)



(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 1987/1988-2019/2020 (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 Spotted Redshank in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	↓	↓
(C) Denmark	→	→
(D) Schleswig-Holstein	↓	→
(E) Niedersachsen/Hamburg	↓	↓
(F) The Netherlands	↓	↓

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

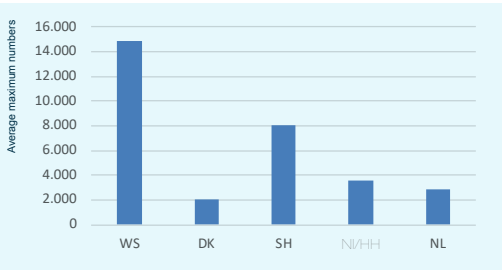
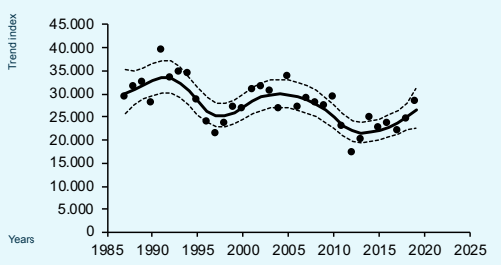


Figure 4.27.7
Absolute numbers of Spotted Redshank in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

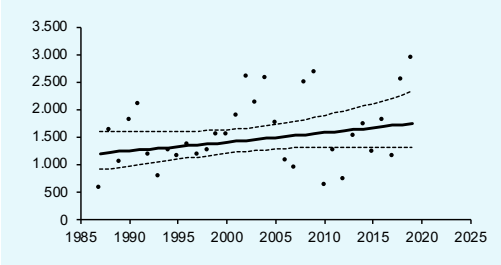
4.28 COMMON REDSHANK

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

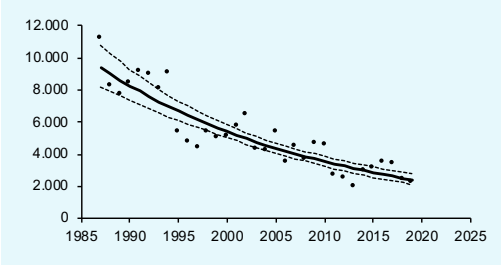
The Common Redshank occurs in the Wadden Sea with three populations, thus numbers and trends are not easy to assess in relation to the respective flyway populations. The overall Wadden Sea long- and short-term trend is stable, with declining numbers in the German parts of the Wadden Sea and stable numbers in both the Danish and Dutch Wadden Sea. The trends broken down by subspecies indicate stable numbers of the robusta-subspecies and a decrease in totanus-redshanks, with both subspecies decreasing in the German parts of the Wadden Sea and increasing in the Dutch part.



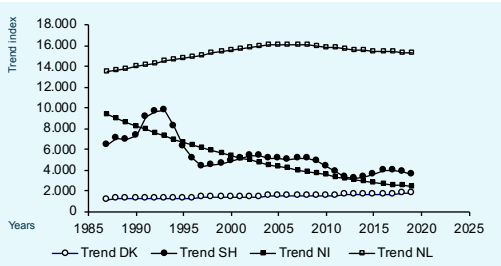
(A)



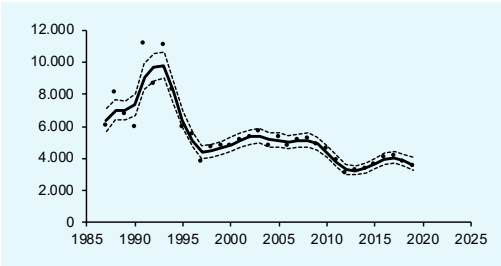
(C) Denmark



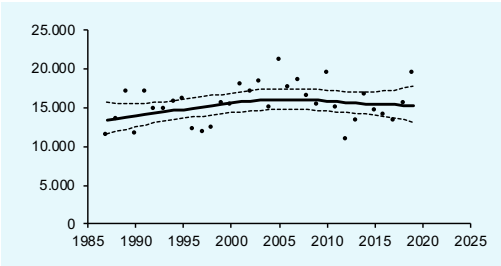
(E) Niedersachsen/Hamburg



(B)



(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 1987/1988-2019/2020 (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 Common Redshank in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	→	→
(C) Denmark	→	→
(D) Schleswig-Holstein	↓	↓
(E) Niedersachsen/Hamburg	↓	↓
(F) The Netherlands	→	→

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

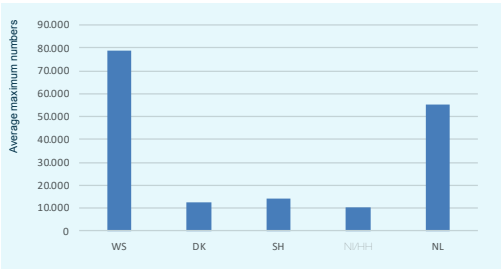
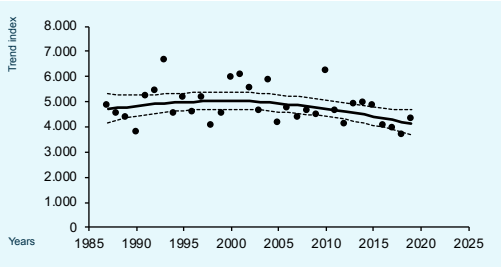


Figure 4.28.7
Absolute numbers of Common Redshank in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

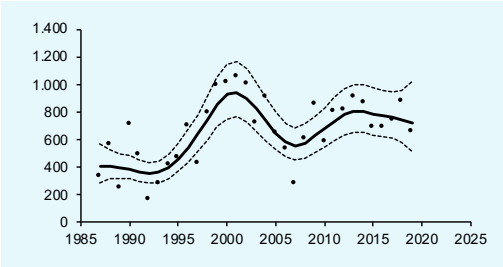
4.29 COMMON GREENSHANK

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

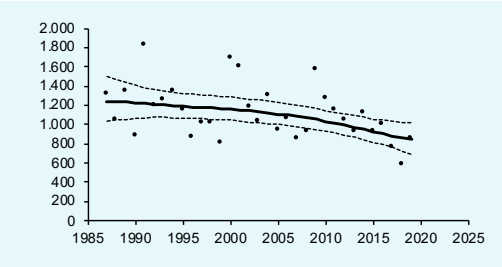
The Wadden Sea plays a minor role for the Common Greenshanks with only some 10% of the flyway population staging during autumn, and fewer during spring. The overall trend in the Wadden Sea is stable, but the short-term trend is negative. In Niedersachsen and the Netherlands numbers of Greenshanks decrease, while in the Wadden Sea areas of Denmark and Schleswig-Holstein trends are unclear. Although the short-term trend on the Schleswig-Holstein mudflats tends to increase, it is not significant.



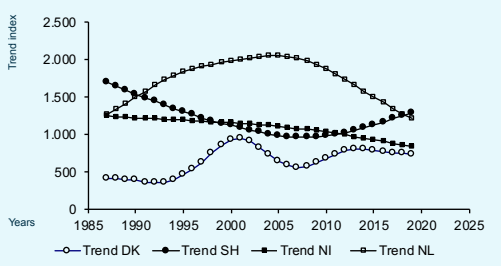
(A)



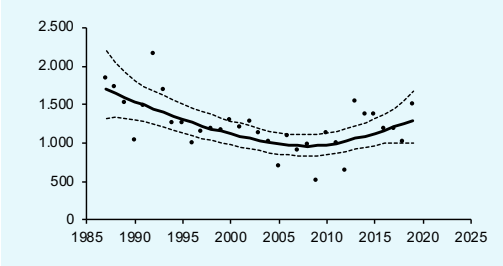
(C) Denmark



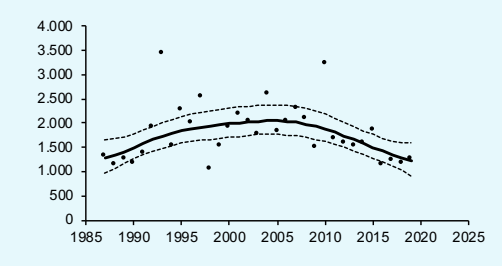
(E) Niedersachsen/Hamburg



(B)



(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 1987/1988-2019/2020 (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 Common Greenshank in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	➡	↓
(C) Denmark	↑	–
(D) Schleswig-Holstein	➡	–
(E) Niedersachsen/Hamburg	↓	↓
(F) The Netherlands	➡	↓

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

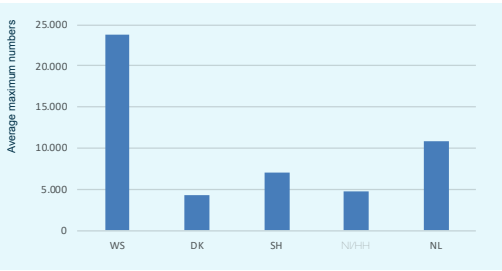
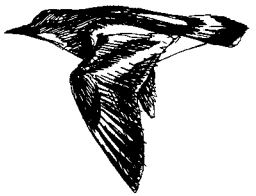


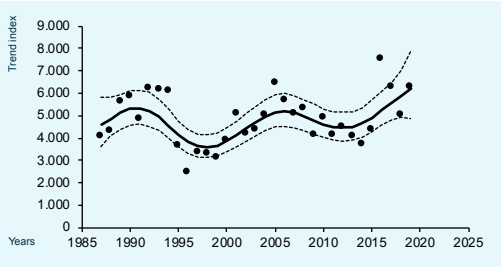
Figure 4.29.7
Absolute numbers of Common Greenshank in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

4.30 RUDDY TURNSTONE

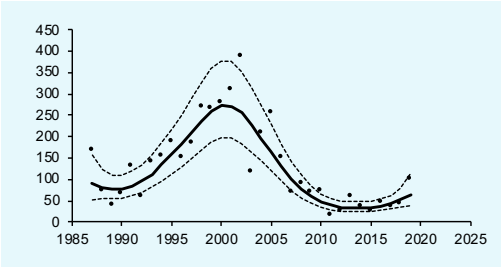


05610 ***Arenaria interpres*** DK: Stenvender D: Steinwälzer NL: Steenloper

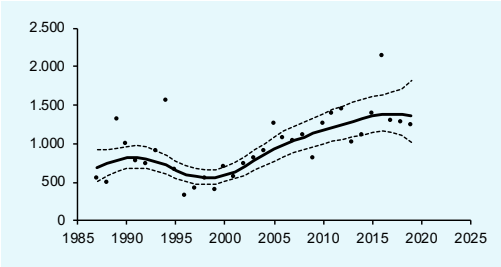
Two populations of Ruddy Turnstone pass the Wadden Sea on migration. One population, breeds in Canada and Greenland and winters in Western Europe and North-West Africa and is present in the Wadden Sea most of the year from August to April. The other population breeds in Fennoscandia and North-West Russia and winters in Africa, and passes the Wadden Sea mainly during July and May. The overall Wadden Sea trend for Ruddy Turnstones is stable in the long-term in all regions, except for Niedersachsen (moderate increase). The short-term trend is positive and is dominated by developments in the Dutch Wadden Sea, where by far the majority of Turnstones reside.



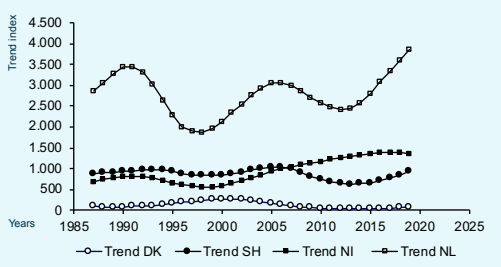
(A)



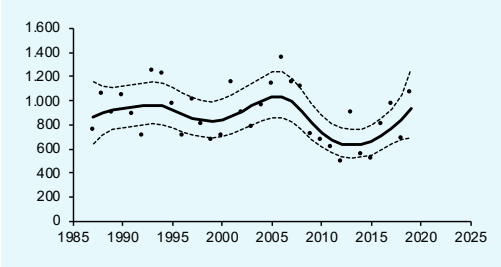
(C) Denmark



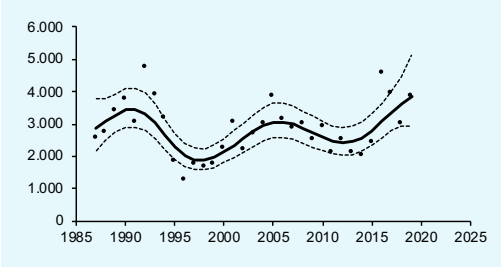
(E) Niedersachsen/Hamburg



(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 1987/1988-2019/2020 (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 Ruddy Turnstone in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	→	↑
(C) Denmark	→	–
(D) Schleswig-Holstein	→	–
(E) Niedersachsen/Hamburg	↑	–
(F) The Netherlands	→	↑

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

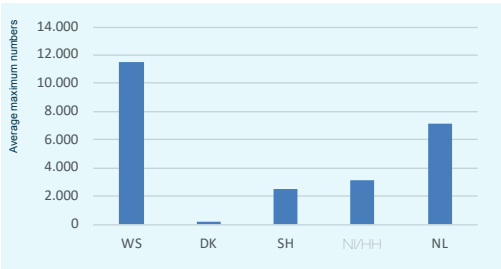
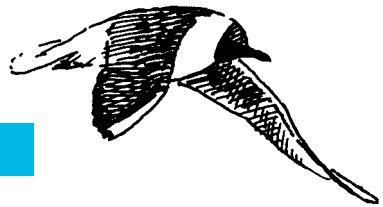


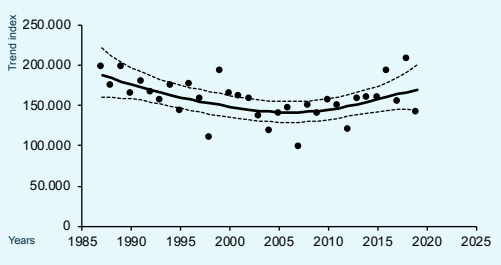
Figure 4.30.7
Absolute numbers of Ruddy Turnstone in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

4.31 COMMON BLACK-HEADED GULL

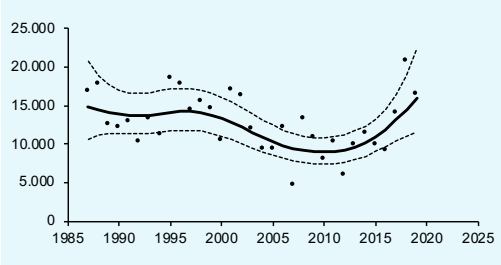


05820 ***Chroicocephalus ridibundus*** DK: Hættemåge D: Lachmöwe NL: Kokmeeuw

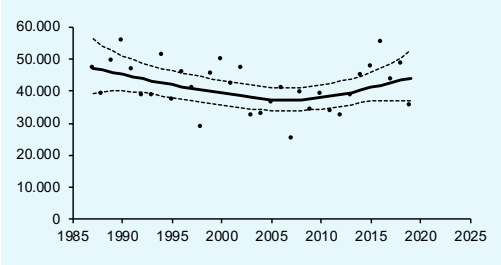
Some 10-15% of the Black-headed Gull flyway population use the Wadden Sea. The Trilateral counts only cover a part of the numbers actually using the Wadden Sea, because many birds occur offshore or inland. However, the trend is stable in the long and short term for all regions, apart from Schleswig-Holstein (moderate decreasing in the long term) and Denmark (moderate increase in the short term).



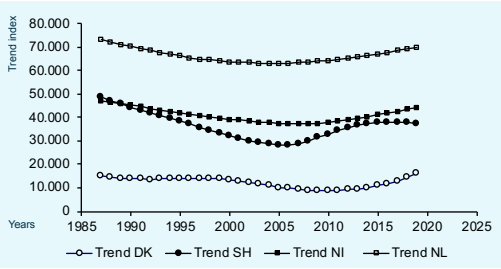
(A)



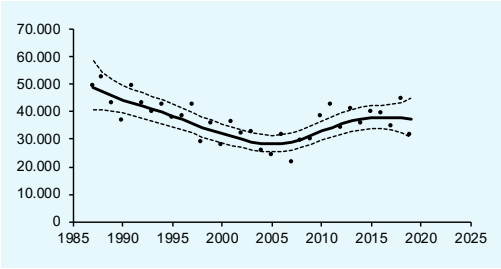
(C) Denmark



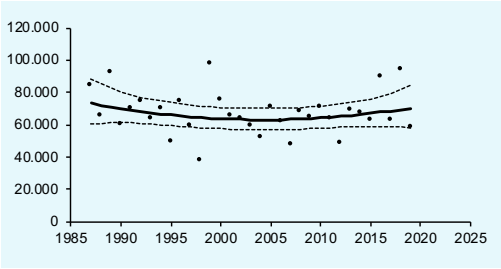
(E) Niedersachsen/Hamburg



(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 1987/1988-2019/2020 (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 Common Black-headed Gull in the Wadden Sea

The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	→	→
(C) Denmark	→	↑
(D) Schleswig-Holstein	↓	→
(E) Niedersachsen/Hamburg	→	→
(F) The Netherlands	→	→

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

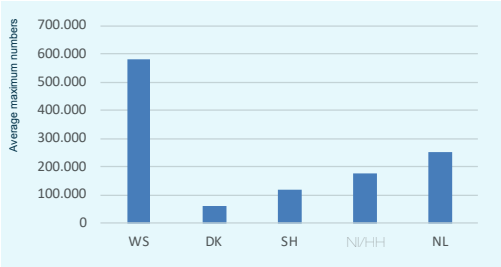
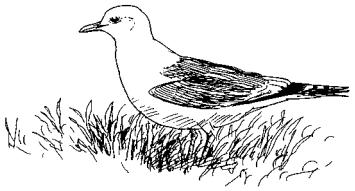


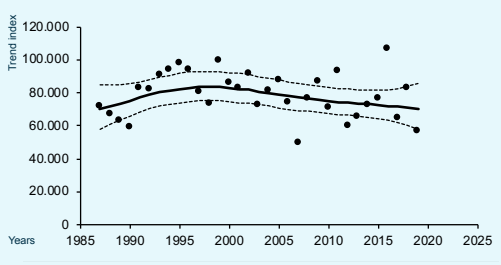
Figure 4.31.7
Absolute numbers of Common Black-headed Gull in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

4.32 COMMON GULL

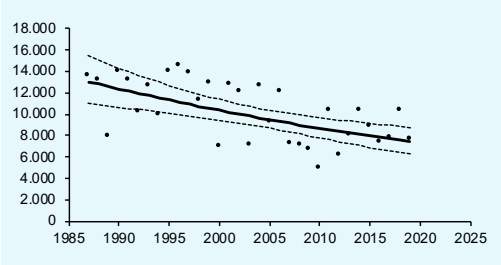


05900 ***Larus canus*** DK: Stormmåge D: Sturmmöwe NL: Stormmeeuw

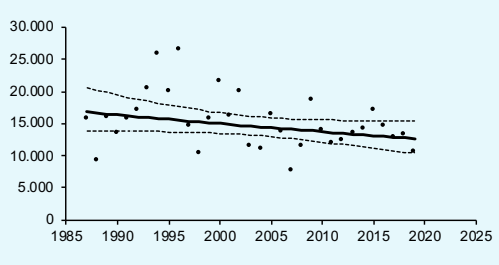
Over 10% of the Common Gull flyway population uses the Wadden Sea, however, many of them feed inland on grasslands and only rest in the Wadden Sea during night. The long- and short-term trend is decreasing in all parts of the Wadden Sea except in the Netherlands, where it is stable after increasing in the early period.



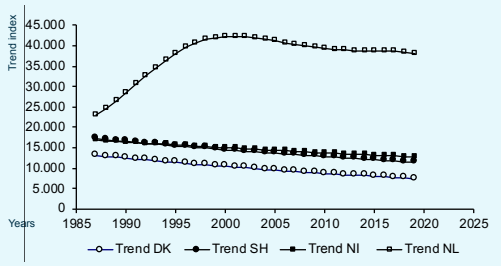
(A)



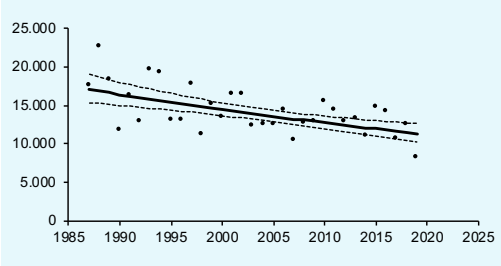
(C) Denmark



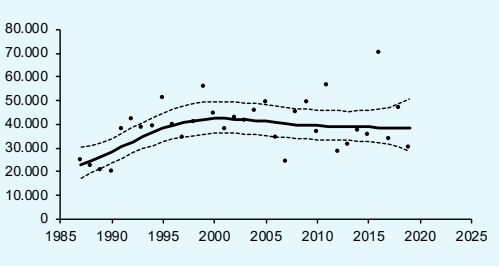
(E) Niedersachsen/Hamburg



(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 1987/1988-2019/2020 (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 Common Gull in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	→	→
(C) Denmark	↓	↓
(D) Schleswig-Holstein	↓	↓
(E) Niedersachsen/Hamburg	→	→
(F) The Netherlands	↑	→

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

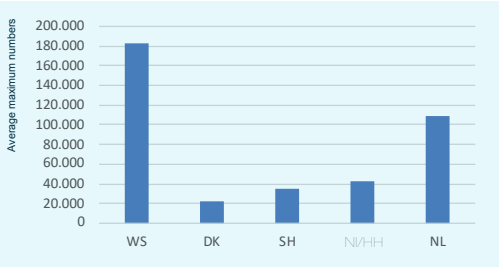
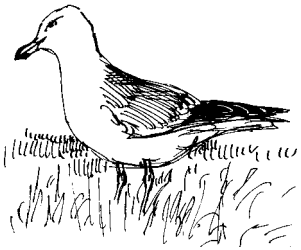


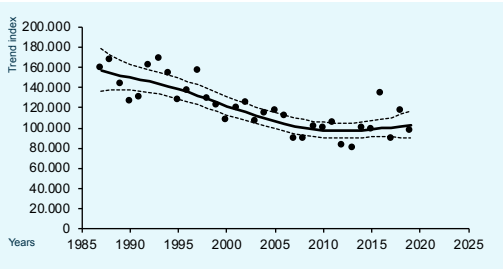
Figure 4.32.7
Absolute numbers of Common Gull in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

4.33 EUROPEAN HERRING GULL

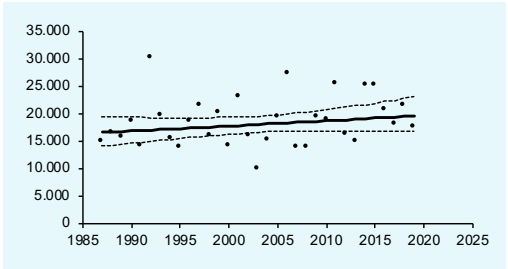


05920 ***Larus argentatus*** DK: Sølvmåge D: Silbermöwe NL: Zilvermeeuw

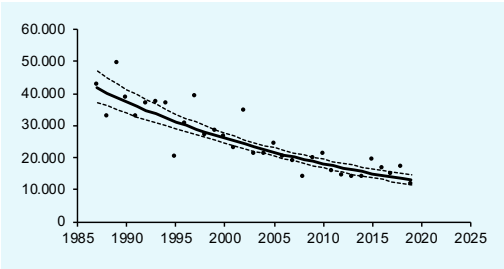
Less than 10% of the European Herring Gull flyway population is registered in the Wadden Sea, however many birds are not covered because birds either feed offshore or inland. The long-term trend is negative, with declining numbers in the German parts of the Wadden Sea, while numbers of Herring Gulls in the Danish and Dutch Wadden Sea are stable.



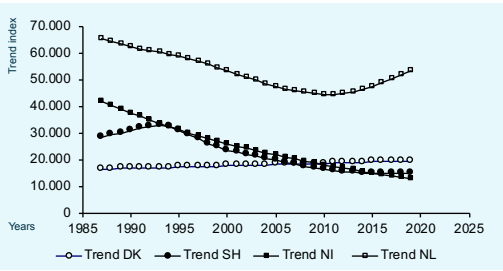
(A)



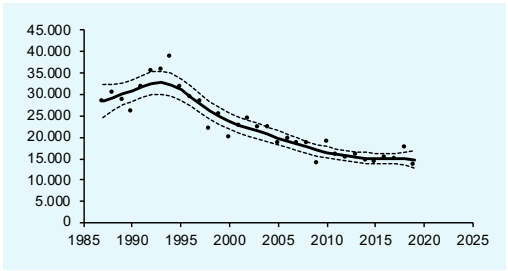
(C) Denmark



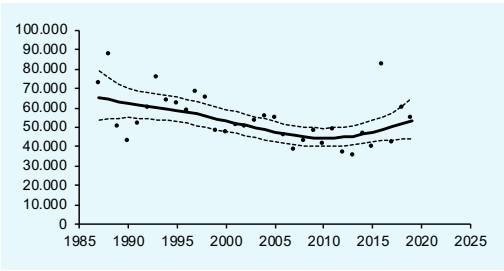
(E) Niedersachsen/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.33.1-4.33.6
Trends of European Herring Gull in the Wadden Sea (a) and the four regions 1987/1988-2019/2020 (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 European Herring Gull in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	↓	→
(C) Denmark	→	→
(D) Schleswig-Holstein	↓	→
(E) Niedersachsen/Hamburg	↓	↓
(F) The Netherlands	→	→

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

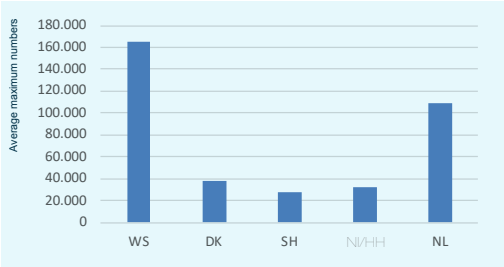
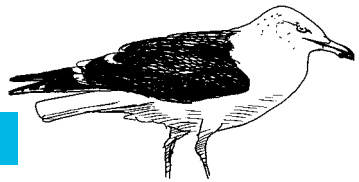


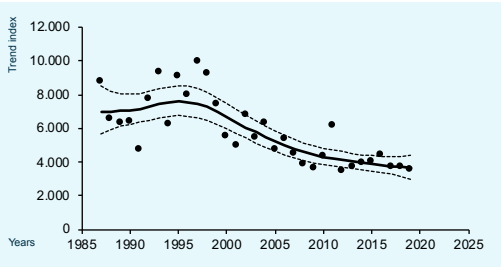
Figure 4.33.7
Absolute numbers of European Herring Gull in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

4.34 GREAT BLACK-HEADED GULL

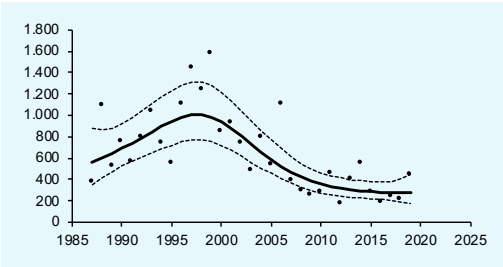


06000 ***Larus marinus*** DK: Svartbag D: Mantelmöwe NL: Grote Mantelmeeuw

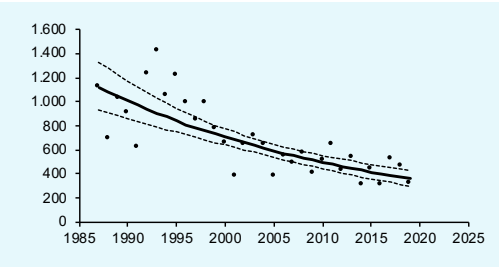
Only a small fraction of the Great Black-backed Gull's flyway population is counted in the Wadden Sea, since many birds use harbours and offshore areas. The long-term trend shows a decrease for all Wadden Sea regions. The short-term trend is stable with uncertain trends in the Danish and Dutch Wadden Sea, stabilization in Schleswig-Holstein and still a moderate decrease in Niedersachsen.



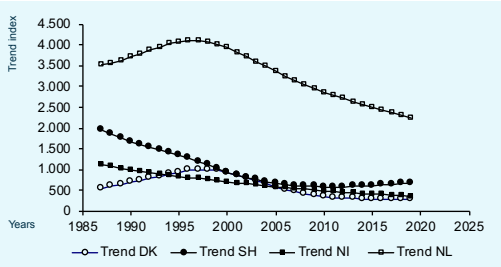
(A)



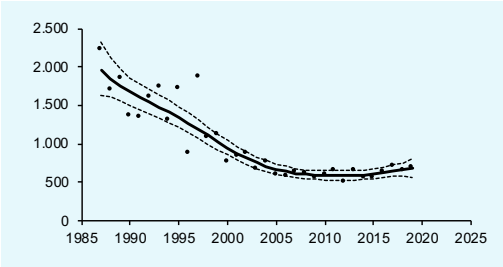
(C) Denmark



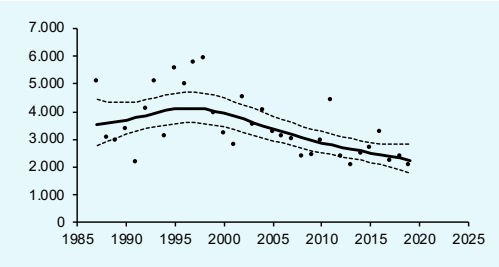
(E) Niedersachsen/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 4.34.1-4.34.6
Trends of Great Black-headed Gull 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 Great Black-headed Gull in the Wadden Sea

The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	↓	→
(C) Denmark	↓	–
(D) Schleswig-Holstein	↓	→
(E) Niedersachsen/Hamburg	↓	↓
(F) The Netherlands	↓	–

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

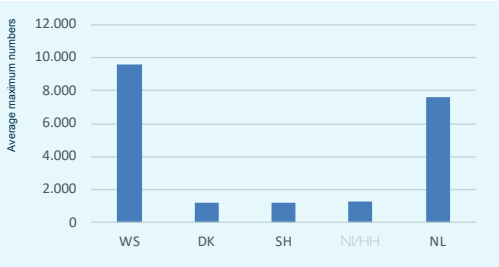


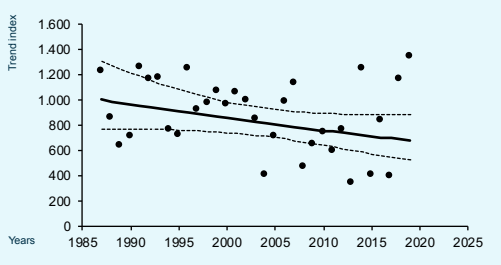
Figure 4.34.7
Absolute numbers of Great Black-headed Gull in the international Wadden Sea and the four regions calculated by average of the 3 maximum numbers in the period 2010/2011-2019/2020.

5. SUBSPECIES ACCOUNTS

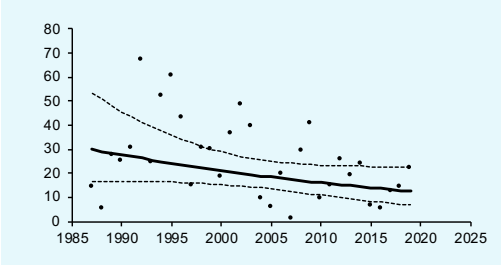
5.1 COMMON RINGED PLOVER *(hiaticula)*

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

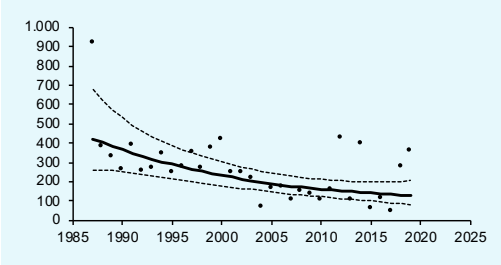
The rather low numbers of nominate sub-species C.h.hiaticula (counts from October to April) show stable numbers in the long and short term, although the short-term trend is uncertain in three Wadden Sea regions, apart from Schleswig-Holstein where it is stable.



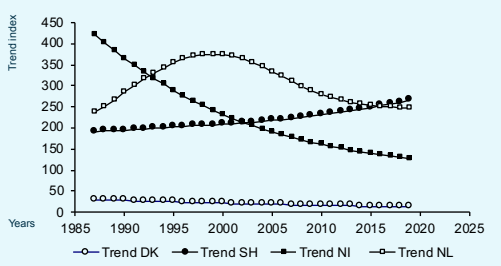
(A)



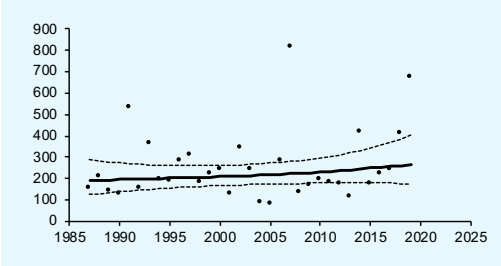
(C) Denmark



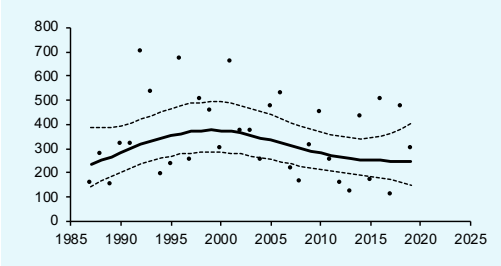
(E) Niedersachsen/Hamburg



(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 1987/1988-2019/2020 (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 Common Ringed Plover (hiaticula) in the Wadden Sea

The table shows the trends from 1987/1988 to 2019/2020, both the 33-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.

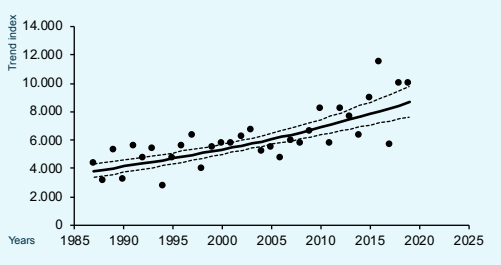
Area	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	→	→
(C) Denmark	–	–
(D) Schleswig-Holstein	→	→
(E) Niedersachsen/Hamburg	↓	–
(F) The Netherlands	→	–

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

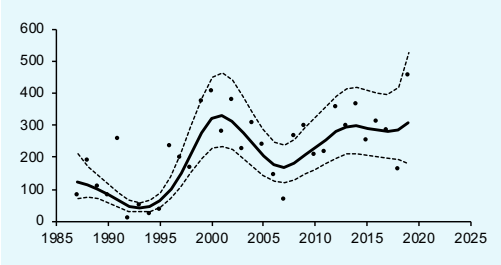
5.2 COMMON RINGED PLOVER *(psammodroma/tundrae)*

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

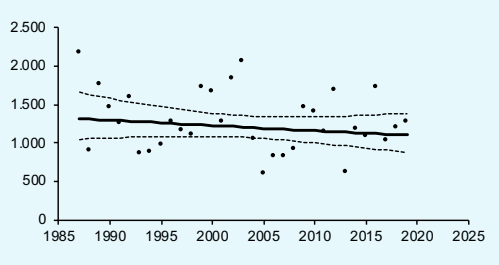
Large numbers of both the arctic breeding C. h. tundrae and C. h. psammodroma pass through during May and from July to September also. The overall trend is positive, both long- and short-term. Highest numbers occur in Schleswig-Holstein and the Netherlands, where numbers increase, which determines the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



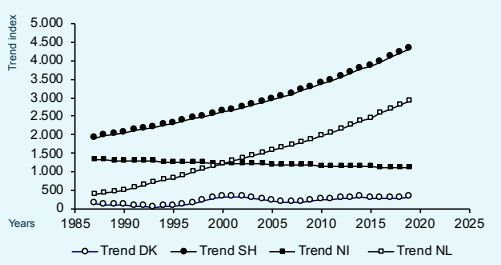
(A)



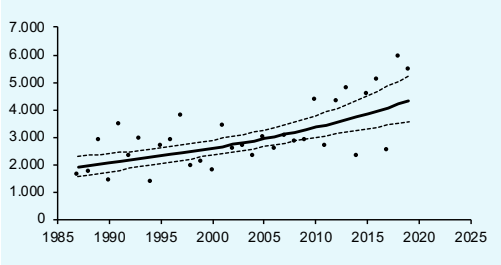
(C) Denmark



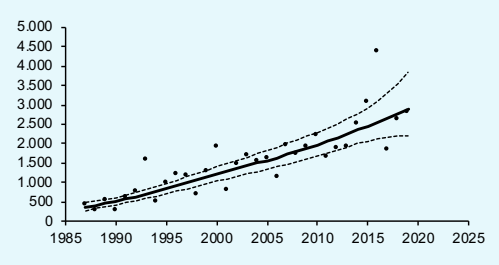
(E) Niedersachsen/Hamburg



(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 1987/1988-2019/2020 (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 Common Ringed Plover (psammodroma/tundrae) in the Wadden Sea

The table shows the trends from 1987/1988 to 2019/2020, both the 33-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.

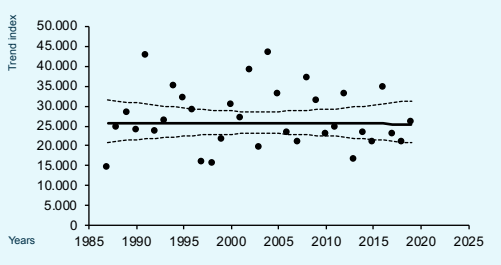
Area	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	↑	↑
(C) Denmark	↑	–
(D) Schleswig-Holstein	↑	↑
(E) Niedersachsen/Hamburg	→	→
(F) The Netherlands	↑↑	↑

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

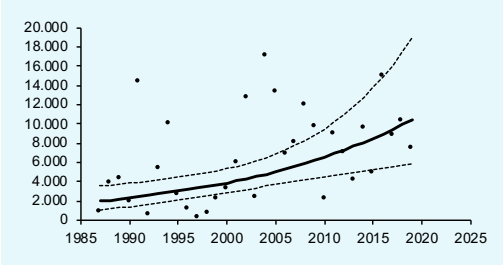
5.3 RED KNOT *(canutus)*

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

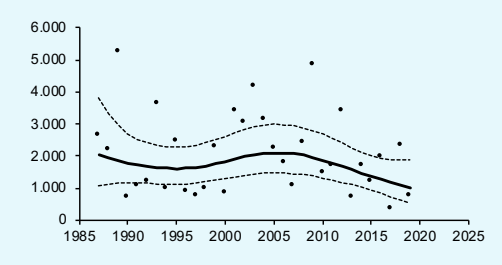
Red Knots of the sub-species C. c. canutus migrating from Africa to Siberia are mainly present in the Wadden Sea in May and July-August. The overall trend is stable, although in Schleswig-Holstein a continuous decrease occurs since the late 1990s, which is compensated by the increase in the Danish and Dutch Wadden Sea. In the short term C. c. canutus is also decreasing in the Dutch Wadden Sea.



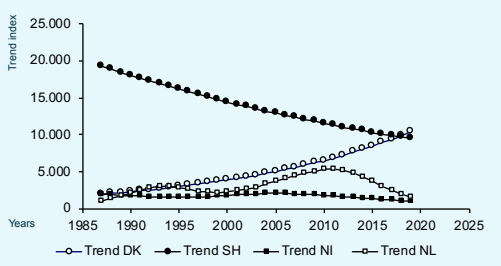
(A)



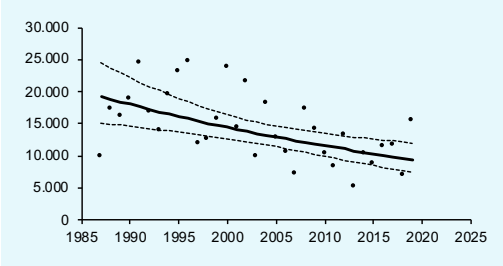
(C) Denmark



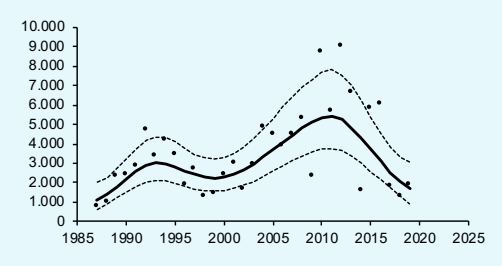
(E) Niedersachsen/Hamburg



(B)



(D) Schleswig-Holstein



(F) The Netherlands

Figure 5.3.1-5.3.6
Trends of Red Knot (canutus) in the Wadden Sea (a) and the four regions 1987/1988-2019/2020 (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 Red Knot (canutus) in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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.

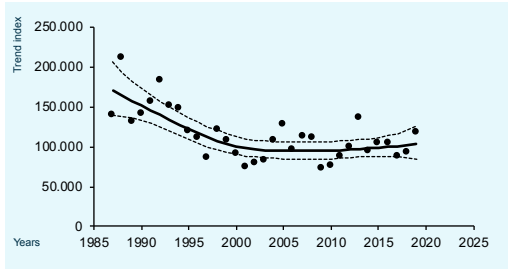
Area	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	→	→
(C) Denmark	↑	↑
(D) Schleswig-Holstein	↓	↓
(E) Niedersachsen/Hamburg	→	–
(F) The Netherlands	→	↓

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

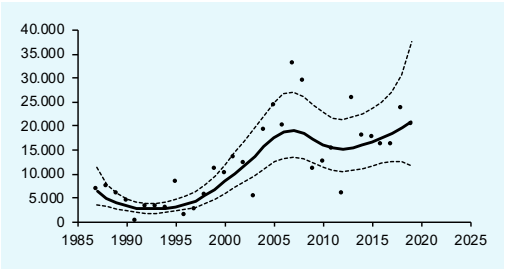
5.4 RED KNOT *(islandica)*

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

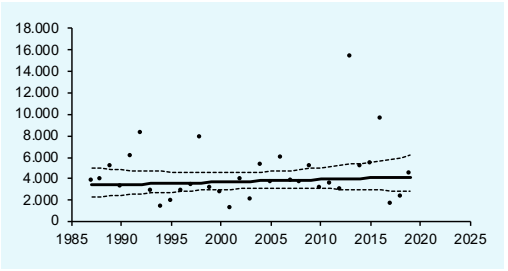
Birds of the subspecies C. c. islandica winter in the European region and breed in Greenland and Canada. The long-term trend is negative, mainly due to the decline in the Wadden Sea of Schleswig-Holstein. The short-term trend is stable, now that numbers in the Schleswig-Holstein Wadden Sea increase again, while numbers in the Dutch Wadden Sea seem to go down again.



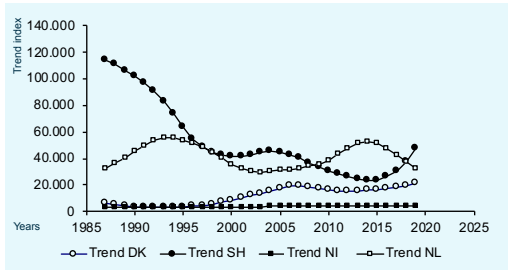
(A)



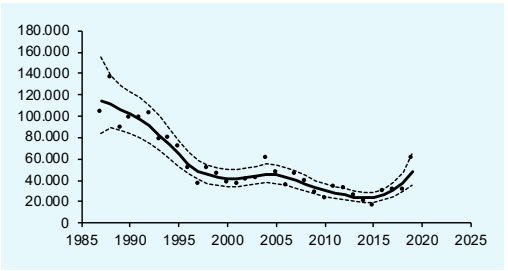
(C) Denmark



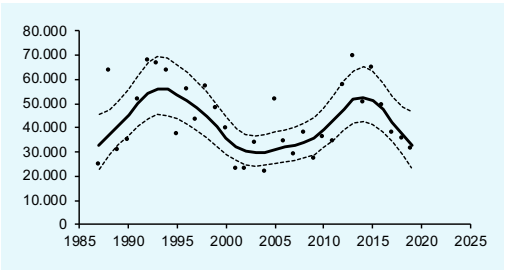
(E) Niedersachsen/Hamburg



(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 1987/1988-2019/2020 (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 Red Knot (islandica) in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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.

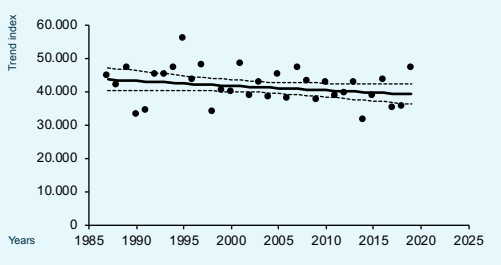
Area	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	↓	→
(C) Denmark	↑	–
(D) Schleswig-Holstein	↓	↑
(E) Niedersachsen/Hamburg	→	→
(F) The Netherlands	→	?

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

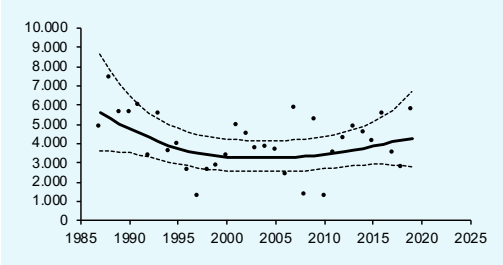
5.5 BAR-TAILED GODWIT *(taymyrensis)*

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

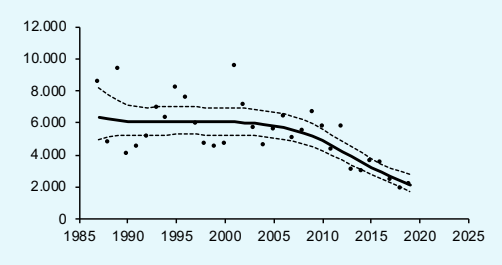
Birds of the Siberian subspecies L. l. taymyrensis are mainly present in the Wadden Sea in May and in July-August. The overall trends are stable, both in the long as the short term, but differ in the sub regions. Most birds occur in the Netherlands, where numbers increased until the mid 1990's and remained stable since then decline. In opposite a continuous decrease occurred in the German parts of the Wadden Sea.



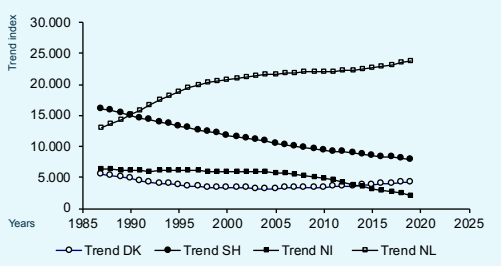
(A)



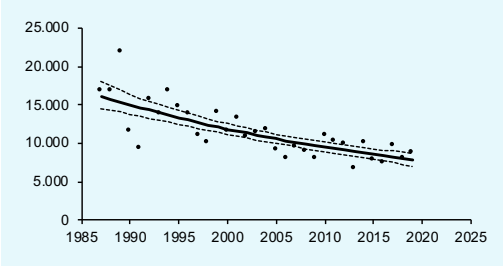
(C) Denmark



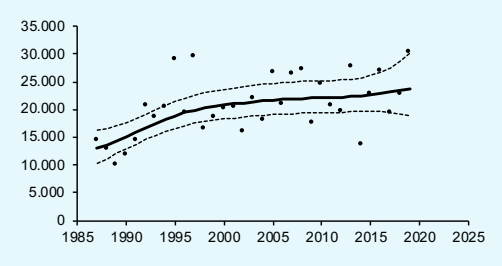
(E) Niedersachsen/Hamburg



(B)



(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 1987/1988-2019/2020 (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 Bar-tailed Godwit (taymyrensis) in the Wadden Sea

The table shows the trends from 1987/1988 to 2019/2020, both the 33-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.

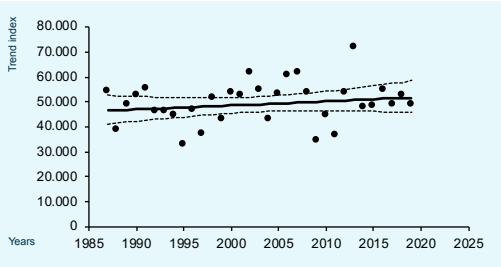
Area	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	→	→
(C) Denmark	→	–
(D) Schleswig-Holstein	↓	↓
(E) Niedersachsen/Hamburg	↓	↓↓
(F) The Netherlands	↑	→

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

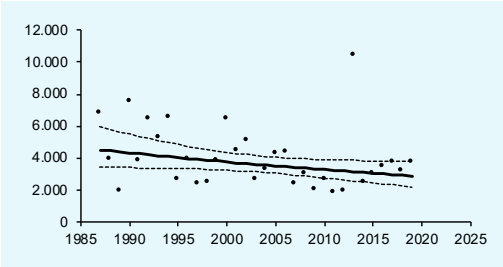
5.6 BAR-TAILED GODWIT *(lapponica)*

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

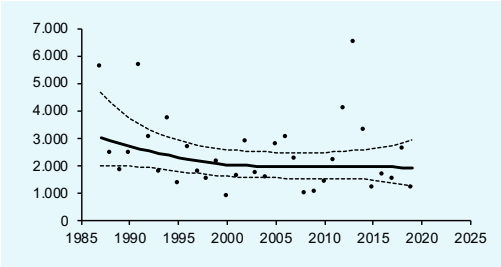
Birds of the subspecies L. l. lapponica breed in northern Scandinavia and North-Wetern Russia and winter in coastal Western Europe. From September to April all birds in the Wadden Sea are supposed to belong to this subspecies. The overall trend of these wintering birds is stable. Also for this sub-species the biggest numbers are found in the Dutch Wadden Sea, where the L. l. lapponica increased in the long term. Schleswig-Holstein shows an opposite long-term trend. The short-term trend for all Wadden Sea regions is stable.



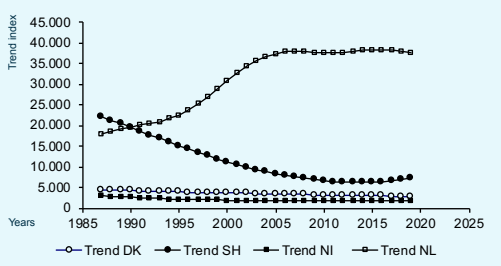
(A)



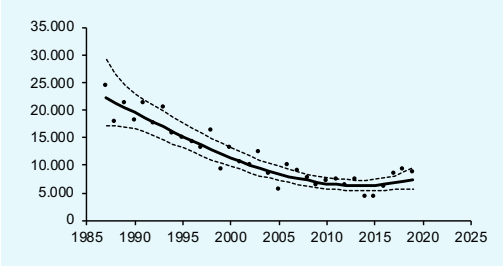
(C) Denmark



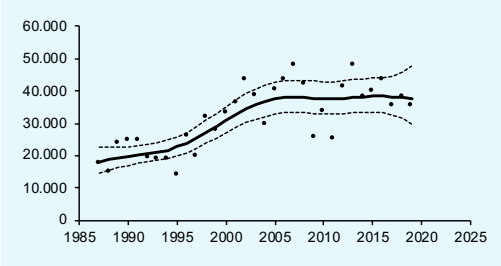
(E) Niedersachsen/Hamburg



(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 1987/1988-2019/2020 (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 Bar-tailed Godwit (lapponica) in the Wadden Sea

The table shows the trends from 1987/1988 to 2019/2020, both the 33-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.

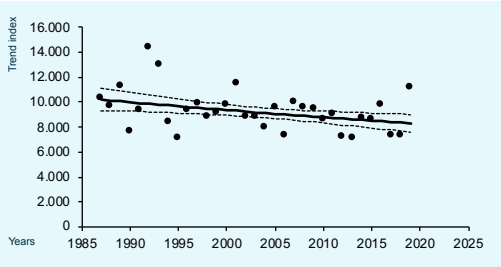
Area	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	→	→
(C) Denmark	→	→
(D) Schleswig-Holstein	↓	→
(E) Niedersachsen/Hamburg	→	→
(F) The Netherlands	↑	→

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

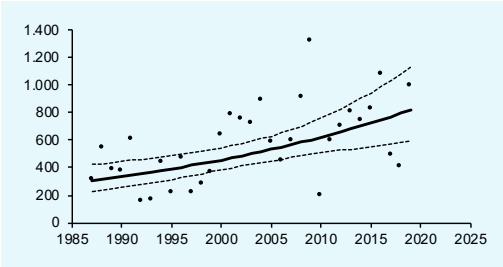
5.7 COMMON REDSHANK *(totanus)*

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

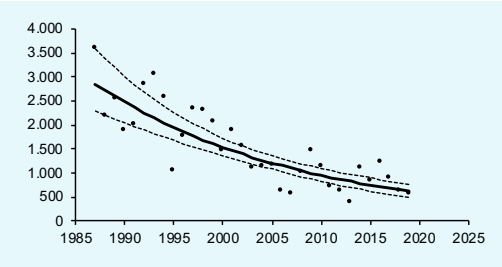
Birds from the Fennoscandia and north-western Russian population T. t. totanus, which winter in western Africa, pass through the Wadden Sea in April/May and July/August mainly. The overall trend is slightly decreasing, both the long- as short term. In the long term the subspecies increased in the Danish and Dutch Wadden Sea, but decreased in the German parts of the Wadden Sea. Short-term trends are still increasing in Denmark, stable in Schleswig-Holstein and the Netherlands, and still decreasing in Niedersachsen.



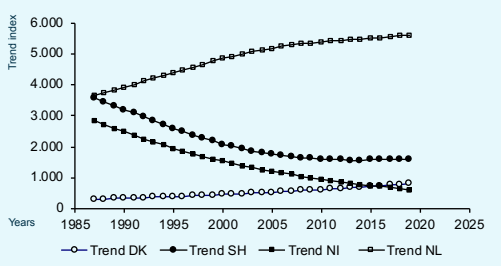
(A)



(C) Denmark



(E) Niedersachsen/Hamburg



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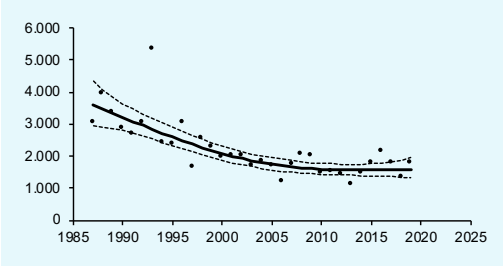
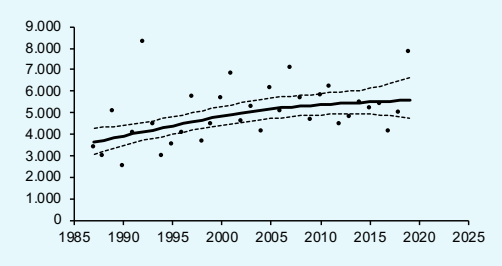


(D) Schleswig-Holstein



(F) The Netherlands

Figure 5.7.1-5.7.6
Trends of Common Redshank (totanus) in the Wadden Sea (a) and the four regions 1987/1988-2019/2020 (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 Common Redshank (totanus) in the Wadden Sea

The table shows the trends from 1987/1988 to 2019/2020, both the 33-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.

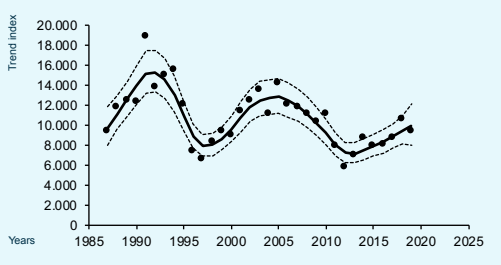
Area	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	↓	↓
(C) Denmark	↑	↑
(D) Schleswig-Holstein	↓	→
(E) Niedersachsen/Hamburg	↓	↓
(F) The Netherlands	↑	→

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

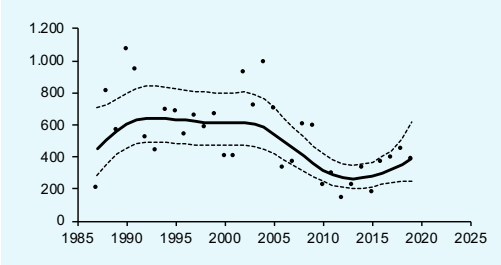
5.8 COMMON REDSHANK *(robusta)*

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

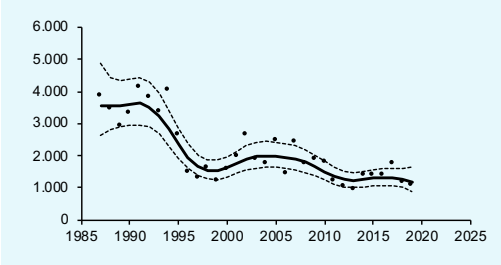
Only birds of the subspecies T. t. robusta from Islandic breeding grounds winter in the Wadden Sea region. Thus, numbers and trends reflect the occurrence of severe winters. Numbers increased up to the mid 1990's, but dropped rapidly due to the severe winters in the mid 1990s, recovered until 2005/2006 and decreased since then again due to a series of severe winters around 2009-2011.



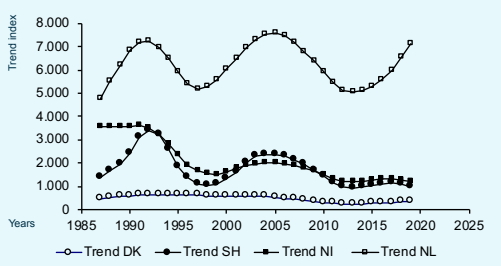
(A)



(C) Denmark



(E) Niedersachsen/Hamburg



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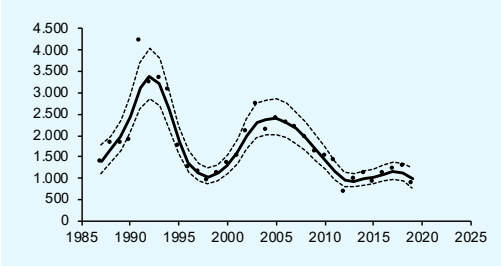
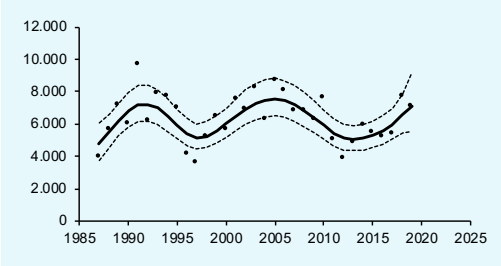


(D) Schleswig-Holstein



(F) The Netherlands

Figure 5.8.1-5.8.6
Trends of Common Redshank (robusta) in the Wadden Sea (a) and the four regions 1987/1988-2019/2020 (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 Common Redshank (robusta) in the Wadden Sea

The table shows the trends from 1987/1988 to 2019/2020, both the 33-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.

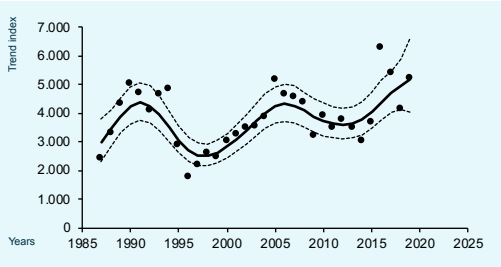
Area	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	→	→
(C) Denmark	→	–
(D) Schleswig-Holstein	↓	↓
(E) Niedersachsen/Hamburg	↓	–
(F) The Netherlands	↑	?

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

5.9 RUDDY TURNSTONE (Greenland & NE Canada)

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

Birds from the Greenlandic and north-eastern Canadian population stay in the Wadden Sea during winter, but also in Western Europe and North-western Africa. Like in 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 due to the severe winters in the mid 1990s, recovered continuously for several years until 2008 and dropped again during the row of severe winters around 2009-2011. The long- and short term are positive.



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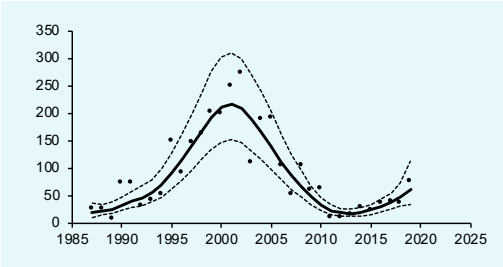
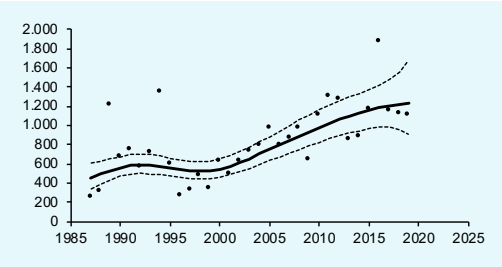
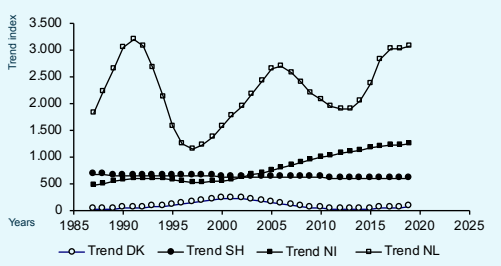


(C) Denmark



(E) Niedersachsen/Hamburg



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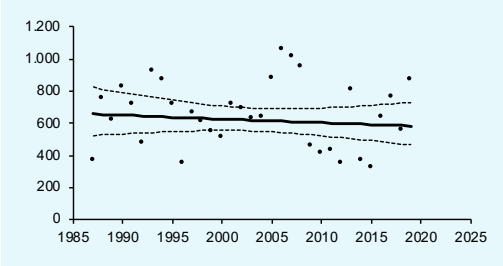
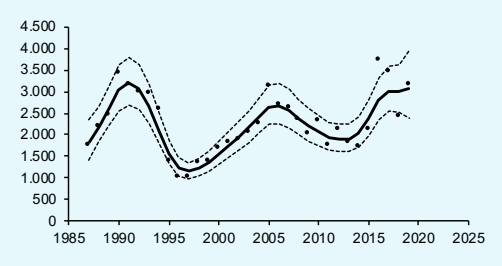


(D) Schleswig-Holstein



(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 1987/1988-2019/2020 (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 Ruddy Turnstone (Greenland & NE Canada) in the Wadden Sea

The table shows the trends from 1987/1988 to 2019/2020, both the 33-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.

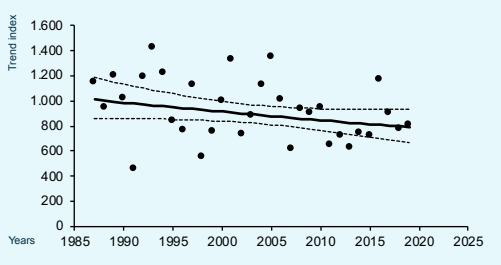
Area	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	↑	↑
(C) Denmark	↑	–
(D) Schleswig-Holstein	→	→
(E) Niedersachsen/Hamburg	↑	–
(F) The Netherlands	↑	↑

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

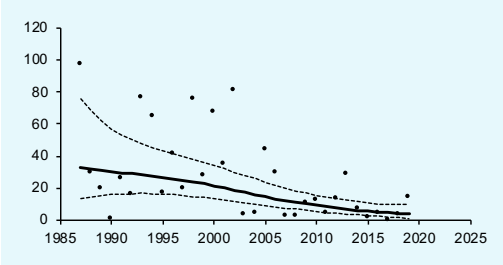
5.10 RUDDY TURNSTONE (Scandinavia-Western Russia)

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

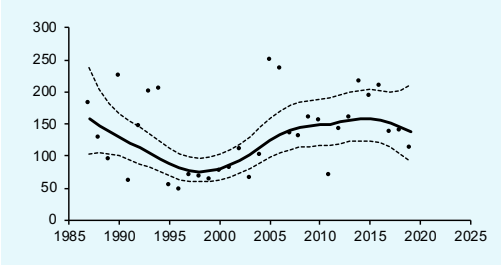
Birds from the Scandinavian and north-western Russian population winter in western Africa and pass the Wadden Sea mainly in May and July. The overall trend is stable. In the northern parts of the Wadden Sea the subspecies seems to decrease (Denmark, Schleswig-Holstein, while in the southern parts the numbers are stable, although in the short term this is unclear for Niedersachsen.



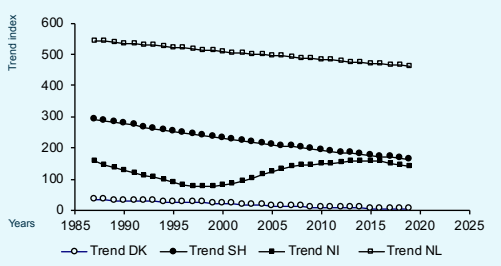
(A)



(C) Denmark



(E) Niedersachsen/Hamburg



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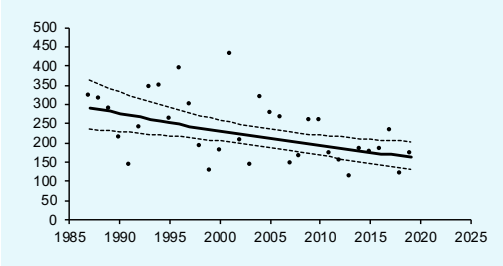
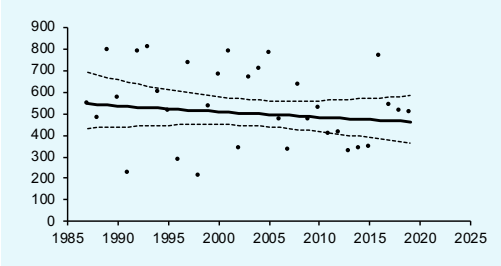


(D) Schleswig-Holstein



(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 1987/1988-2019/2020 (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 Ruddy Turnstone (Scandinavia-Western Russia) in the Wadden Sea
The table shows the trends from 1987/1988 to 2019/2020, both the 33-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	1987/1988-2019/2020	2010/2011-2019/2020
(A)/(B) International Wadden Sea	→	→
(C) Denmark	↓	↓
(D) Schleswig-Holstein	↓	↓
(E) Niedersachsen/Hamburg	→	–
(F) The Netherlands	→	→

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

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ANNEX 1. ASSIGNMENT OF SPECIES ACCORDING TO LIVING CONDITIONS

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
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
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
Whimbrel				x				x				x			x
Eurasian Curlew				x				x				x		x	
Spotted Redshank			x					x					x		x
Common Redshank				x				x					x	x	
Common Greenshank			x					x					x		x
Ruddy Turnstone				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	22	12

ANNEX 2. COUNTING UNTIS IN THE WADDEN SEA

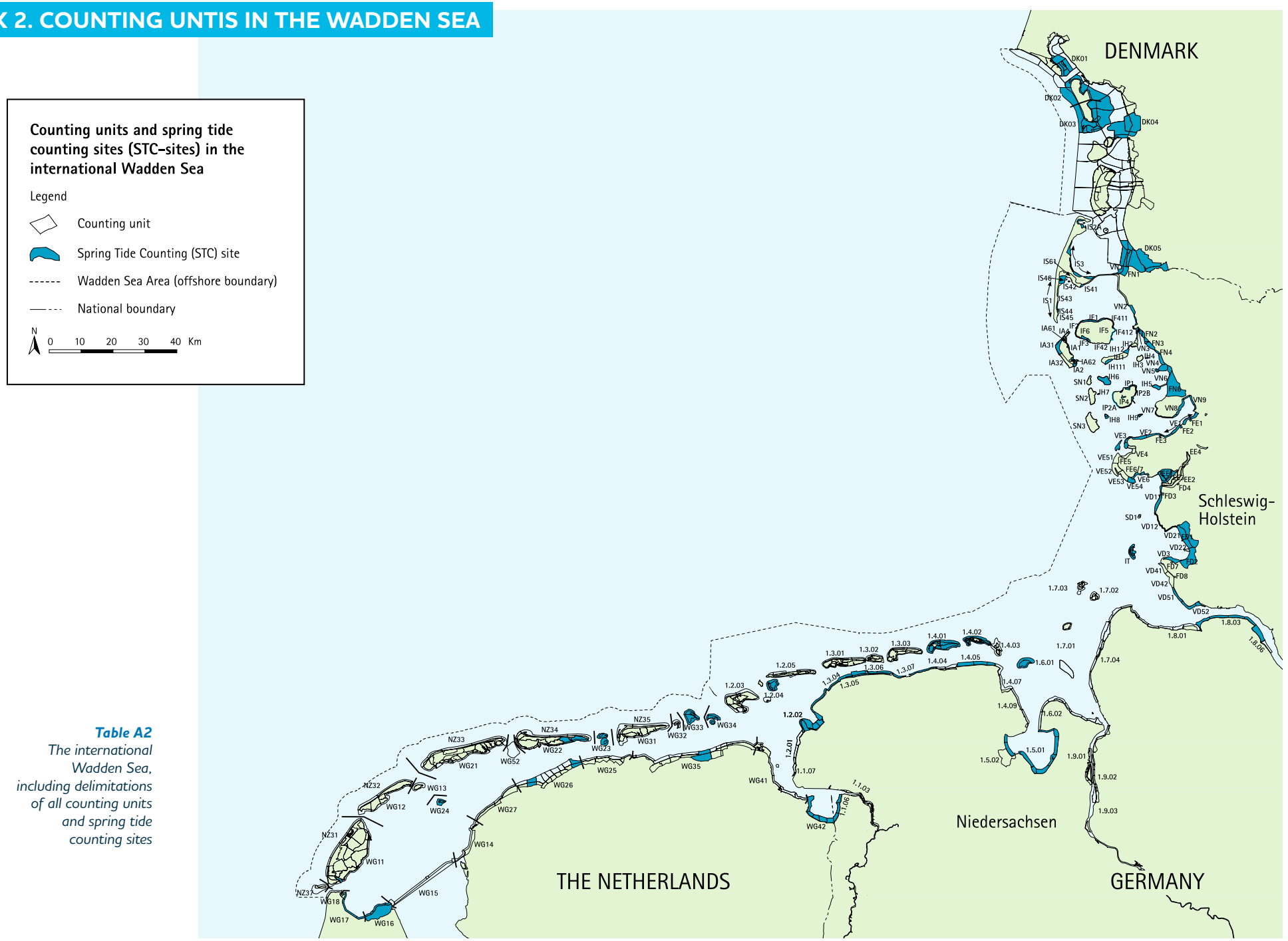

Table A2
The international Wadden Sea, including delimitations of all counting units and spring tide counting sites

ANNEX 3. SPECIES LIST

Euring	English name	Scientific name	Dansk navn	Deutscger 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 Program (TMAP)

** Species where data do not allow trend analysis*

United Nations
Educational, Scientific and
Cultural Organization

The Wadden Sea
World Heritage Site
since 2009

WADDEN SEA
WORLD HERITAGE

Common
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