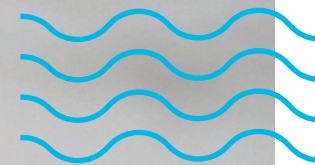


COMMON WADDEN SEA SECRETARIAT

# ***GREY SEAL NUMBERS IN THE WADDEN SEA AND ON HELGOLAND IN 2024-2025***



## GREY SEAL SURVEYS

# INTRODUCTION

Since 2008, coordinated surveys have been conducted to count grey seals on sandbanks in the Wadden Sea across the Netherlands, Germany, and Denmark, as well as on the island of Helgoland, located near the Wadden Sea. These surveys, referred to as trilateral counts, are carried out annually during both the pupping and moulting seasons. Aerial surveys are conducted in all areas.

Grey seal pups are counted in the pupping season from November to January. During this time, female grey seals give birth to a white coated pup on sites that do not flood during high tide, unless there are unusually high tides. The pups will stay on land while lactating (3-4 weeks), followed by 1-4 weeks of moulting when the pups shed their long white fur and regrow a grey fur that is more suitable for swimming. After moult the pups will leave the haul-out.

In the Wadden Sea, most grey seals undergo their annual moult between March and April (Schop *et al.*, 2017). This is characterised by visible changes in the seals' fur colour and their resting on land. The latter is assumed to reduce heat loss. Typically, during the moult large aggregations of grey seals are observed.

Grey seals in the Wadden Sea and on Helgoland are part of a wider North Sea population, with individuals moving between haul-out sites within this region (Brasseur *et al.*, 2015; 2022). During the moulting season, individuals from other North Sea colonies—particularly from the larger colonies in the United Kingdom—frequently use haul-out sites of the Wadden Sea, affecting the moult counts in the Wadden Sea (Brasseur *et al.*, 2015). Consequently, the number of seals counted during the moult in the Wadden Sea is generally higher than what can be expected from the local breeding stock.

This report presents grey seal count data from 2008 to 2025. To ensure the most accurate trend analysis, we use the annual survey dates recorded within the shortest possible time window across the Wadden Sea and Helgoland. This approach minimises the risk of double-counting individuals that move between haul-out sites. The figures in this report should be interpreted as indices rather than an absolute population size. These indices are most informative when analysed over multiple years, as annual fluctuations can occur due to weather, disturbances or other local and regional factors.



© Susanne Kühn

**Authors:**

Jessica Schop<sup>1</sup>, Anne Bönisch<sup>2</sup>, Sophie Brasseur<sup>1</sup>, Anders Galatius<sup>3</sup>, Thea Hamm<sup>4</sup>, Armin Jeß<sup>2</sup>, Kristine Meise<sup>5</sup>, Julia Meyer<sup>6</sup>, Ole Stejskal<sup>7</sup>, Ursula Siebert<sup>8</sup>, Jonas Teilmann<sup>3</sup>, Charlotte B. Thøstesen<sup>9</sup>.

<sup>1</sup>Wageningen Marine Research, University of Wageningen, NL

<sup>2</sup>Schleswig-Holstein Agency for Coastal Defense, National Park and Marine Conservation, National Park Authority, D

<sup>3</sup>Department of Bioscience, University of Aarhus, DK

<sup>4</sup>Lower Saxon Wadden Sea National Park Authority, D

<sup>5</sup>Common Wadden Sea Secretariat

<sup>6</sup>Environmental Authority of the Free Hanseatic City of Hamburg, National Park Administration, D

<sup>7</sup>Lower Saxony State Office for Consumer Protection and Food Safety, D

<sup>8</sup>Institute for Terrestrial and Aquatic Wildlife Research, University of Veterinary Medicine, D

<sup>9</sup>Esbjerg Fishery- and Maritime Museum, DK



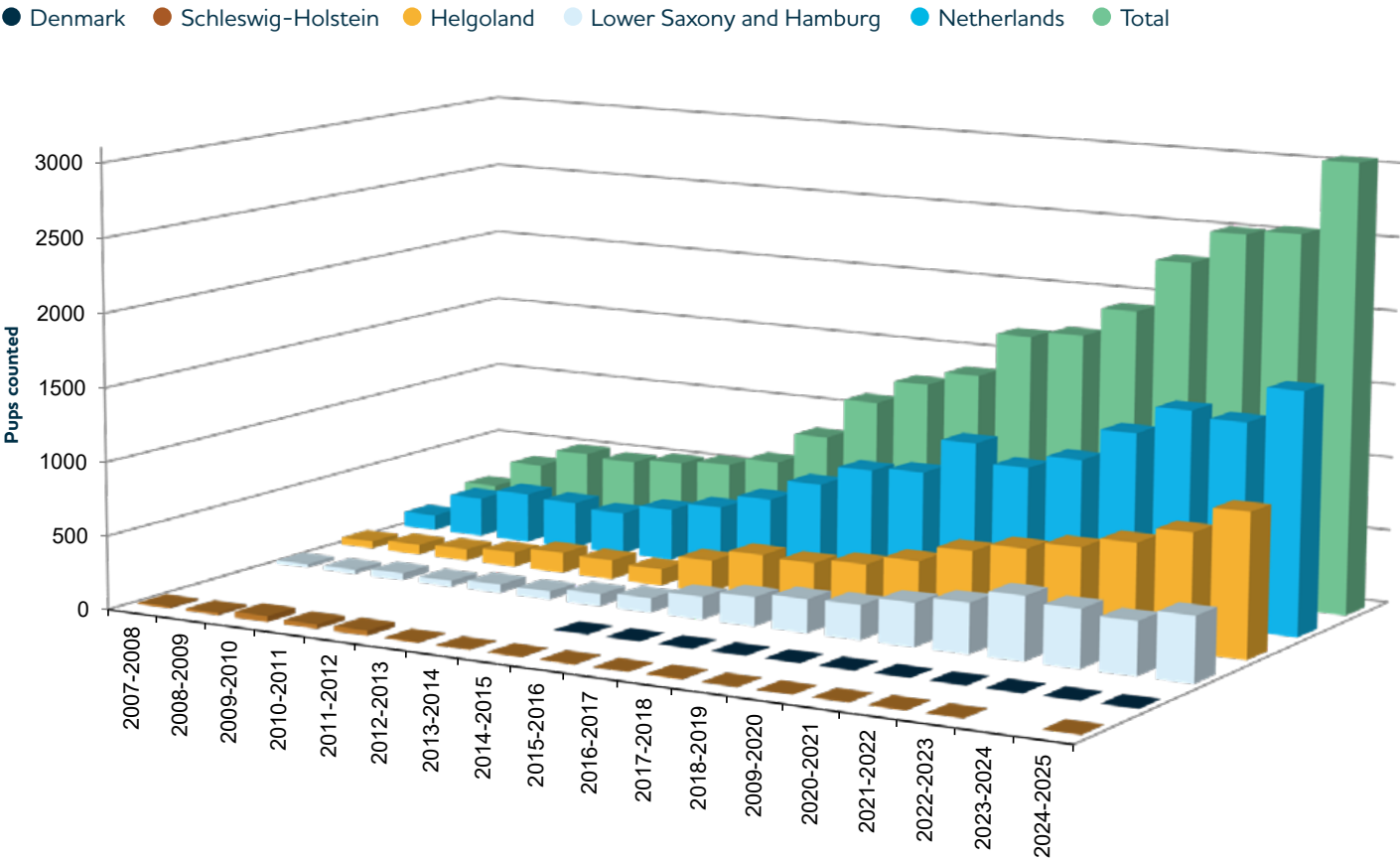
RESULTS AND INTERPRETATION

# PUP COUNTS

During the pupping season, coordinated counts across the Wadden Sea and Helgoland resulted in a total count of 3,051 pups (figure to right). This is a 20% increase compared to the 2023-2024 season (Schop *et al.*, 2024) and is relatively high compared to the 9% and 1% increase observed in 2021-2022 and 2022-2023, respectively (Schop *et al.*, 2022, 2023). Over the last five years, the mean annual growth rate of counted pups was 12.3%.

Most of the pups were counted in the Dutch Wadden Sea, comprising 53.8% of the total pup count, followed by Helgoland (31.8%) and Lower Saxony (14.4%). Within the Dutch Wadden Sea, the count of 1,640 pups represented a 17.6% increase compared to the previous pupping season. The number of pups on Helgoland increased by 22.4% to 971. In Lower Saxony, there was a 22.3% increase compared to the last season, resulting in 439 pups. The pup numbers in Lower Saxony were assumed to have been underestimated in the previous season, because surveys could not be conducted around the expected peak dates due to adverse weather conditions. In the northeastern part of the Wadden Sea, one pup was recorded in Schleswig-Holstein, while no pups were recorded in Denmark.

Number of grey seal pups counted during pupping season in the Wadden Sea and Helgoland between 2007/2008 and 2024/2025  
Colours indicate results of the regional counts.

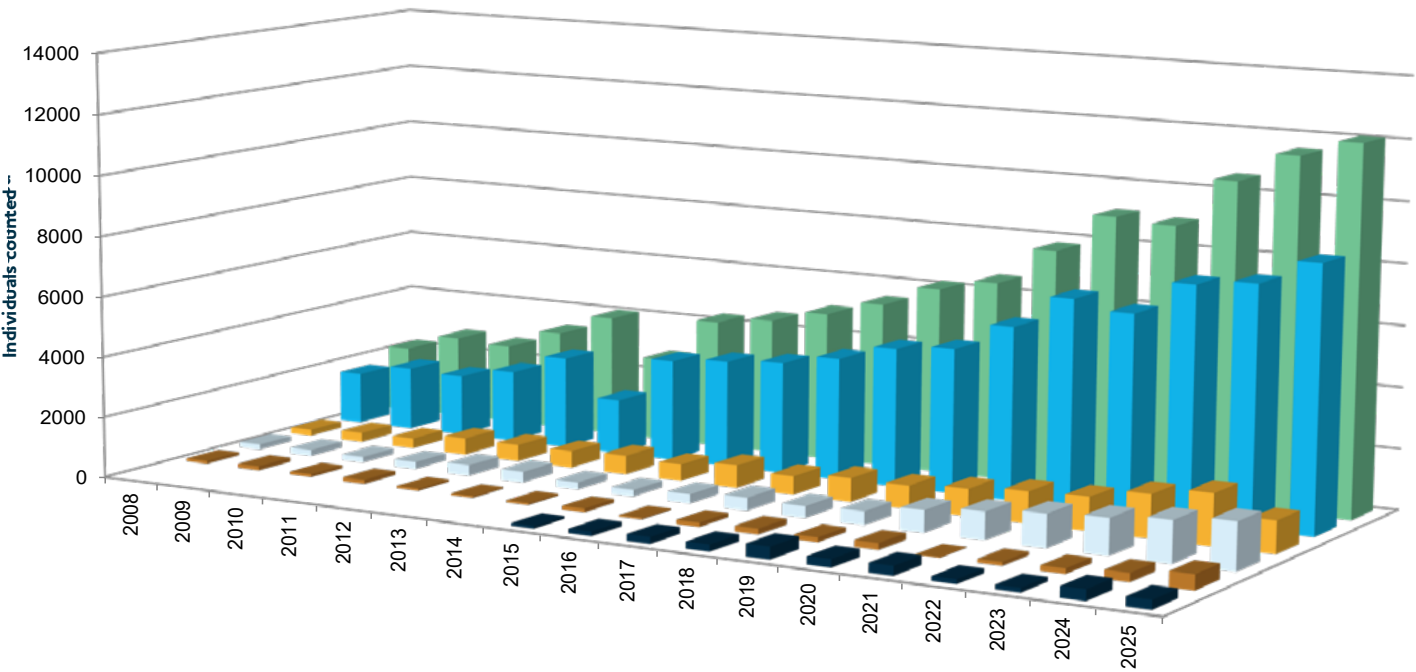


RESULTS AND INTERPRETATION

# MOULT SURVEYS

**Number of grey seals counted in the Wadden Sea regions and Helgoland during the moult in March-April between 2008 and 2025**  
Colours indicate results of the regional counts.

● Denmark ● Schleswig-Holstein ● Helgoland ● Lower Saxony and Hamburg ● Netherlands ● Total



A total of 12,064 grey seals were counted during the 2025 moulting season in the Wadden Sea; a 4.8% increase compared to 2024 (Schop *et al.*, 2024; figure to left). Over the last five years, the number of grey seals in the Wadden Sea and Helgoland increased by an average annual rate of 9.8%.

Approximately 71.6% of the grey seals counted during the moult were observed in the Dutch Wadden Sea, where 8,638 grey seals were counted (an increase of 10.4% compared to 2024). Lower Saxony contributed 13.0% to the total count with 1,564 grey seals, and 8.8% (1,060 grey seals) were recorded on Helgoland. In the Wadden Sea of Lower Saxony the number of seals increased by 14.7% compared to 2024 and on Helgoland, the number of grey seals dropped by 37.0%. In the Wadden Sea area of Schleswig-Holstein 499 grey seals were counted. For the second time in a row the number of grey seals counted in Schleswig-Holstein increased steeply: this year by 74.5%, and in the previous year by 62.5%. In the Danish Wadden Sea, 303 grey seals were counted, a decline of 16.1% compared to last year.

## GREY SEAL SURVEYS

## CONCLUSION

Compared to the 2023-2024 period, both the counts of grey seal pups and the counts of moulting grey seals in the Wadden Sea and Helgoland were higher in 2024-2025. A total of 3,051 seal pups and 12,064 moulting seals were counted. The pup production has shown an average annual growth rate of 12% over the past five years, while the numbers of grey seals counted during the moult have increased at an annual rate of 10% during the same period. It should be noted that, here, we present relative changes in abundance. Obtaining absolute abundance estimates of grey seals in the Wadden Sea would require assessing the proportion of seals in the water during the surveys and understanding the proportion that can or should be considered local.

The trilateral counts are synchronised, however differences in birth timing seem to happen: In Kattegat, where the Atlantic grey seal live alongside the Baltic subspecies, births have been reported well into January, later than in the Wadden Sea. (Galatius *et al.*, 2024). Additionally, new colonies consisting of less experienced females were observed to breed later in the United Kingdom (Bull *et al.*, 2021). This could also have been the case in the Dutch Wadden Sea, where initially, the pupping peak occurred in early



© Jessica Schop

January but has now shifted to early December (Brasseur *et al.*, 2015).

To improve the timing of our surveys, a better understanding is needed on the daily and annual fluctuations in the timing when most grey seals are on land for breeding and moulting. To translate monitoring results into management, advise, we further need better knowledge on the age and sex structure of the grey seals using the Wadden Sea, as well as movements within the Wadden Sea, between the Wadden Sea region, the wider North Sea, and potentially the Kattegat.

This report was published on 01.07.2025 and may be cited as:

Schop, J., Bönisch, A., Brasseur, S. M. J. M., Galatius, A., Hamm, T., Jeß, A., Meise, K., Meyer, J., Stejskal, O., Siebert, U., Teilmann, J., & Thøstesen, C. B. (2025). Grey Seal numbers in the Wadden Sea and Helgoland in 2024-2025. Common Wadden Sea Secretariat, Expert Group Marine Mammals. <https://doi.org/10.5281/zenodo.15728314>

## References

- Brasseur, S., Evans, P., Van Neer, A., Galatius, A., Gilles, A., Haelters, J., Kavanagh, A., Roma Banga, A. F., Berrow, S., Biuw, M., Bjørge, A., Brownlow, A., Carlsson, A., Carlström, J., Fernández, D., Rogan, E., Russell, D., Saavedra Penas, C., Puig Lozano, R., ... Jauniaux, T. (2022). ICES SCIENTIFIC REPORTS RAPPORTS SCIENTIFIQUES DU CIEM WORKING GROUP ON MARINE MAMMAL ECOLOGY (WGMME). ICES Scientific Reports, 4(61). <https://doi.org/10.17895/ices.pub.20448942>
- Brasseur, S., van Polanen Petel, T., Gerrodette, T., Meesters, E., Reijnders, P., & Aarts, G. (2015). Rapid recovery of Dutch gray seal colonies fueled by immigration. *Marine Mammal Science*, 31(2), 405–426. <https://doi.org/10.1111/mms.12160>
- Bull, J. C., Jones, O. R., Börger, L., Franconi, N., Banga, R., Lock, K., & Stringell, T. B. (2021). Climate causes shifts in grey seal phenology by modifying age structure. *Proceedings of the Royal Society B*, 288(1964). <https://doi.org/10.1098/RSPB.2021.2284>
- Galatius, A., Olsen, M. T., Allentoft-Larsen, M., Dalgaard Balle, J., Kyhn, L. A., Sveegaard, S., & Teilmann, J. (2024). Evidence of distribution overlap between Atlantic and Baltic grey seals. *Journal of the Marine Biological Association of the United Kingdom*, 104. <https://doi.org/10.1017/S0025315424000213>
- Schop, J., Abel, C., Brasseur, S. M. J. M., Galatius, A., Jeß, A., Meise, K., Meyer, J., van Neer, A., Stejskal, O., Siebert, U., Teilmann, J., & Thøstesen, C. B. (2022). Grey Seal numbers in the Wadden Sea and Helgoland in 2021-2022. Common Wadden Sea Secretariat, Expert Group Marine Mammals. <https://doi.org/10.5281/zenodo.8272719>
- Schop, J., Brasseur, S. M. J. M., Galatius, A., Hamm, T., Jeß, A., Meise, K., Meyer, J., Stejskal, O., Siebert, U., Teilmann, J., & Thøstesen, C. B. (2023). Grey Seal Numbers in the Wadden Sea and on Helgoland in 2022-2023. Common Wadden Sea Secretariat, Expert Group Marine Mammals. <https://doi.org/10.5281/zenodo.15728210>
- Schop, J., Brasseur, S. M. J. M., Galatius, A., Hamm, T., Jeß, A., Meise, K., Meyer, J., Stejskal, O., Siebert, U., Teilmann, J., & Thøstesen, C. B. (2024). Grey Seal Numbers in the Wadden Sea and on Helgoland in 2023-2024. Common Wadden Sea Secretariat, Expert Group Marine Mammals. <https://doi.org/10.5281/zenodo.15728068>
- Schop, J., Aarts, G., Kirkwood, R., Cremer, J., & Brasseur, S. (2017). Onset and duration of gray seal (*Halichoerus grypus*) molt in the Wadden Sea, and the role of environmental conditions. *Marine Mammal Science*, 33(3), 830–846. <https://doi.org/10.1111/mms.12404>

