

# Aerial surveys of Harbour seals in the entire Wadden Sea in 2007: Population age-composition returning to a stable age-structure?

by the Trilateral Seal Expert Group (TSEG) (23 January 2008)

## Results

Again in 2007 the surveys to monitor developments in the harbour seal *Phoca vitulina* population in the entire Wadden Sea were trilaterally co-ordinated and synchronously carried out according to the Seal management Plan. The nearly simultaneous surveys in the four subregions revealed the following results: the maximum number counted in the moulting period (August) was 4,159 in The Netherlands, 4,561 in Niedersachsen/Hamburg, 6,386 in Schleswig-Holstein, and 2,499 in Denmark. This brings the grand total to 17,605 harbour seals. The maximum number of pups observed during the whelping/lactation period (June) was 978 in The Netherlands, 821 in Niedersachsen/Hamburg, 2,095 in Schleswig-Holstein, and 341 in Denmark, bringing the grand total for pups in the international Wadden Sea at 4,235.

The total number of harbour seals counted in 2007 is just over 14% higher than counted in 2006, and the maximum number of pups counted is 284 less than in 2006 (Reijnders *et al.* 2006). The average annual increase in seal numbers between 2004 and 2007 is 10.9%.

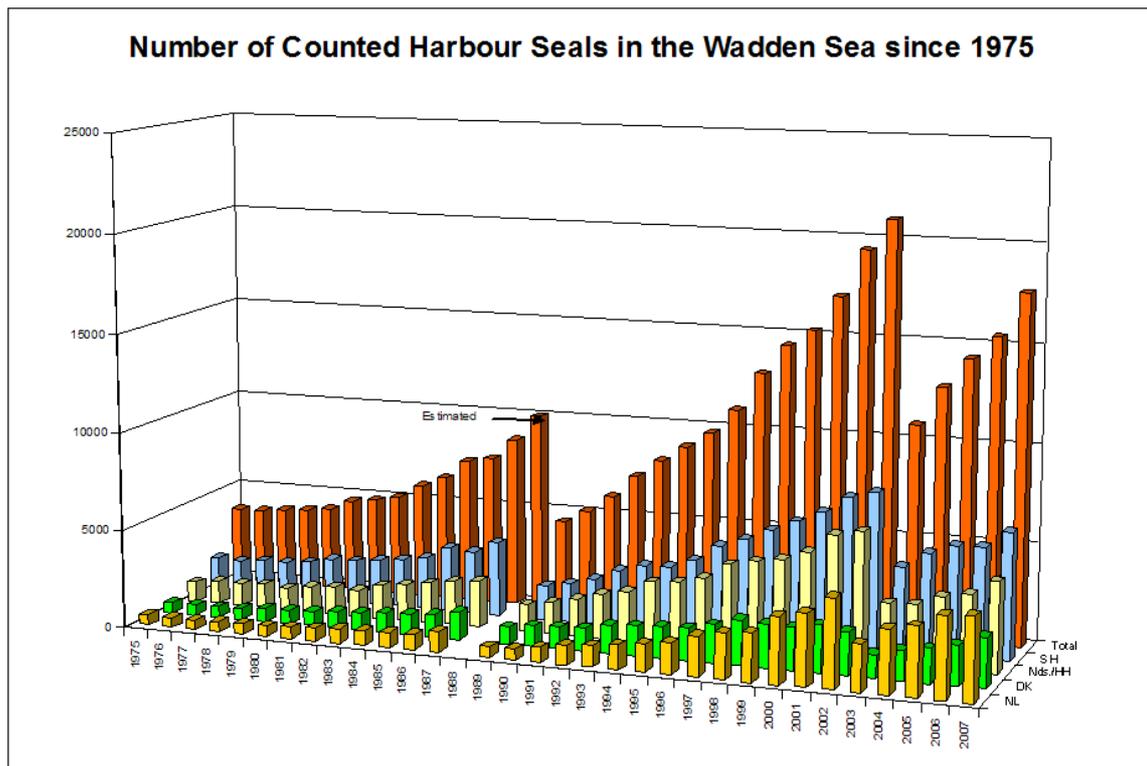


Figure 1: Number of counted harbour seals in the Wadden Sea since 1975

## Interpretation

The total number of harbour seals observed in 2007 indicates that the population has returned to its pre 2002-epizootic level of 17,900 animals. This is one year earlier than predicted.

Growing 10.9% per year in average, the average increase in the post 2002-epizootic period is slightly lower than the 12.4% average increase in interim epizootic period 1988-2002.

Despite the population increase, last year's pup production (number of pups per total number) did not increase compared to the pupping result in 2005. This year, pup production even decreased by around 5.5%. Even if we take into account that part of a pup survey in Niedersachsen had to be cancelled and if we correct for the assumed missed number of pups, pup production only increased marginally. Contrary to the initial post 1988- epizootic years, the percentage of pups per total numbers counted shows a decreasing trend. However, this is not necessarily an alarm. This percentage (24.1%) is still higher than the average (21.6%) for the period between 1988 and 2002.

This corroborates our previous postulation (Reijnders *et al.* 2003) that the post-epizootic age structure has changed in favour of adult (reproducing) females, and may now gradually returning to a more stable one. Besides the to be expected usual annual fluctuations in population performance and slight survey errors, it can not completely be ruled out that fecundity is gradually decreasing. Surveys in the coming year will show whether or not the decrease in pup percentage will level off. The level at which that will happen, will define the further population developments. Currently, relative short time series do not allow more elaborate conclusions on the present developments in the population.

## References

- Reijnders, Peter J.H., Sophie M.J.M. Brasseur, Kai Abt, Ursula Siebert, Michael Stede & Svend Tougaard 2003. The Harbour Seal Population in the Wadden Sea as Revealed by the Aerial Surveys in 2003. Wadden Sea Newsletter 2003 (2): 11-12.
- Reijnders, Peter J.H., Sophie M.J.M. Brasseur, Kai F.Abt, Ursula Siebert, Michael Stede & Svend Tougaard 2006. Aerial surveys of harbour and grey seals in the Wadden Sea in 2006. Wadden Sea Newsletter 32: 9-11.

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