

Aerial Surveys of Harbour Seals in the Wadden Sea in 2008:

Back to Pre-epizootic Level, and Still Growing: Wadden Sea Harbour Seal Population in 2008

by the Trilateral Seal Expert Group (TSEG) (25 November 2008)

Results

In 2008 the surveys to monitor developments in the harbour seal *Phoca vitulina* population in the entire Wadden Sea were trilaterally co-ordinated according to the Seal Management Plan. In Denmark, a new survey team was installed under careful instructions from the former survey team. In addition, a member of the former team took part of the first aerial count in 2008 to secure consistency. Like in other areas, counts in Denmark are done using a digital camera, allowing post hoc quality assurance.

For 2008, the maximum number of harbour seals counted during moult in August was 2,483 seals in Denmark, 5844 in Schleswig-Holstein, 2,407 in Niedersachsen and 5,972 counted in the Netherlands. However, these numbers cannot be summed as done in former years, to obtain an index for the Wadden Sea seal population. For the German areas Niedersachsen and Schleswig-Holstein the moult surveys could not be completed as planned. This is due to bad weather conditions and technical problems.

In Niedersachsen only part of the survey could be carried out. Assuming that the distribution of the seals in this area was similar to that of earlier years, the number of seals in the missed area was estimated and that brought the total estimate for Niedersachsen at 4,912. In Schleswig-Holstein, the survey team was forced to carry out the survey later than planned (end of August instead of mid August). To correct for that, the mean ratio between the counts during the pupping season and the moult obtained in former years, was used to estimate the number of seals expected during the moult peak. This amounted to 6887 seals.

Using the corrected counts for Niedersachsen and Schleswig-Holstein and the counts in the

Interpretation

The total number of harbour seals in 2008 presented here would actually be the highest number ever counted in the international Wadden Sea during the moult. It indicates that the population is still growing prosperously and has evidently passed its pre 2002-epizootic level of 17,700 animals (Reijnders et al. 2003). As expected (Reijnders et al. 2007), the percentage of pups has slightly decreased but is still 22.9%. This could indicate that the age-structure of the population is gradually stabilising, less dominated by adult females as the young born after the epizootic slowly recruit into the breeding population.

Estimating when, or even if a stable age-structured population will be seen, might not be appropriate at the moment. However, one should concentrate in the coming years to monitor changes in population parameters occur. These may indicate whether or not the population is approaching the carrying capacity of the Wadden Sea and the adjacent North Sea for this species. Investigating the changes in the population towards approaching carrying capacity, and the time scale at which this may happen, is evidently needed for adequate management of this population in the future. This research should take into account the growing populations of other top predators and co-consumers such as grey seals, harbour porpoises and also marine birds, in the region.

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,

Netherlands and Denmark would bring the estimated maximum number of harbour seals that would have been counted in the entire Wadden Sea at 20,250 seals. Surveys in the coming years could help to evaluate the given estimates.

The maximum number of pups counted during the breeding period in June was 4,632 in the international Wadden Sea. This comprises 976 in the Netherlands, 1,076 in Niedersachsen/Hamburg, 2,096 in Schleswig-Holstein, and 484 in Denmark.

If the calculated estimate for the number of harbour seals in 2008 is used, the increase compared to last year would be 15%. The number of counted pups grew by slightly more than 9%.

Thomas Borchardt, Ursula Siebert, Michael Stede & Svend Tougaard 2007. Aerial Surveys of Harbour Seals in the Wadden Sea in 2007: Population age-composition returning to a stable age-structure? Wadden Sea Newsletter 1, 2008. <http://www.waddensea-secretariat.org/news/news/Seals/Annual-reports/seals2007.html>.

Trilateral Seal Expert Group (TSEG)

Sophie M.J.M. Brasseur and Peter J.H. Reijnders, IMARES, Texel, The Netherlands
Thomas Borchardt, National Park Schleswig-Holstein, Schleswig-Holstein, Germany
Ursula Siebert, FTZ-Büsum der Universität Kiel, Schleswig-Holstein, Germany
Michael Stede and Sven Ramdohr, LAVES Cuxhaven, Niedersachsen, Germany
Lasse Fast Jensen, Fiskeri- og Søfartsmuseet, Esbjerg, Denmark
Jonas Teilman and Jacob Tougaard National Environmental Research Institute, Aarhus University, Denmark

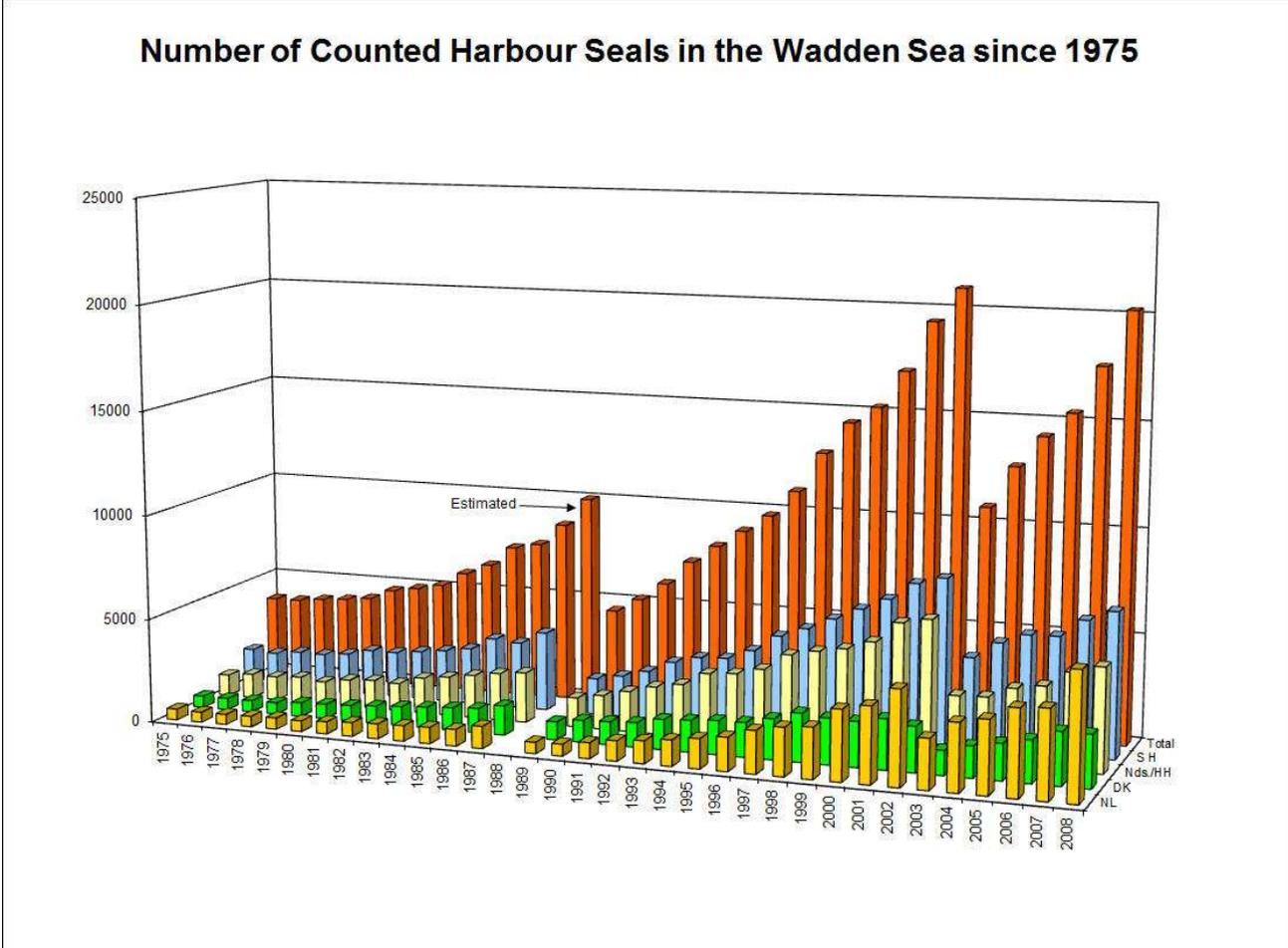


Figure 1: Number of Counted Seals in the Wadden Sea since 1975