Grey Seal surveys in the Wadden Sea and Helgoland in 2013-2014

Grey seal population recovered after decrease

Sophie Brasseur
Richard Czeck
Britta Diederichs
Anders Galatius
Lasse Fast Jensen
Peter Körber
Ursula Siebert
Jonas Teilmann
Sascha Klöpper

Picture: Young seal, stranded in an unusual place on the Island of Juist in Niedersachsen after the storm of the 5th of December 2013. © Abbo van Neer / ITAW

Introduction

The German and Dutch Wadden Sea areas were surveyed for grey seals *(Halichoerus grypus)* by means of coordinated aerial and boat counts during the pupping season (November-January). On Helgoland (Germany), surveys were carried out from land. Furthermore, dedicated grey seal aerial surveys were carried out during the moulting period (March-April) in the German and Dutch Wadden Sea. In the Danish Wadden Sea grey seals were only counted during the summer counts for harbour seals *(Phoca vitulina)*.

Results and Interpretation

The maximum number of grey seal pups counted in the Wadden Sea around the pupping peak in December amounted 609: composed of 412 pups in the Netherlands, 82 pups in Lower Saxony/Hamburg, and 113 pups on Helgoland, a further two pups were counted in the Wadden Sea area of Schleswig-Holstein (Figure 1). This latter low number is presumably a result of a relatively high loss during a severe storm in the beginning of December, shortly before this count. Before the storm, at least five pups were observed. Most of the other areas reported were counted later in the season, maybe explaining why numbers might have been less affected. Thus the low number in Schleswig-Holstein (making a correct estimate more difficult), may be a more profound effect of the storm in this area, but may also be negatively influenced by relatively early time of the survey.

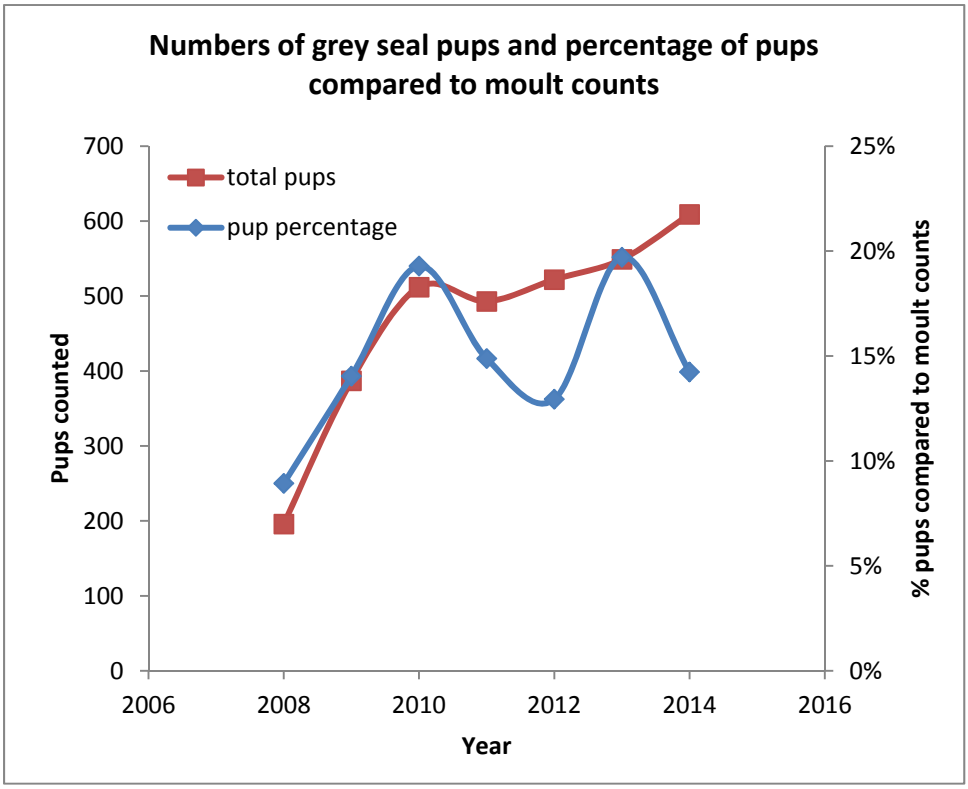

Figure 1.: Number of pups counted in the Wadden Sea (red line, left vertical axis) in the years 2008-2014. The number of pups as a percentage of the total moult count is given by the blue line (right vertical axis).

Despite the setback and continuing decrease in that specific area, the total number of pups in the Wadden Sea area grew by almost 11% compared to last years' counts. The highest relative growth was observed in Lower Saxony/Hamburg, with 56 to 82 pups, however this might be a result of the 2014 survey being carried out later in the season. The number of pups in the Dutch area went up by 16% (355 to 412 pups).

Unlike the previous year, spring was rather warm. This may explain the increase in the maximum numbers of grey seals counted during the spring moult. Aerial counts show 623 animals on the island of Helgoland, 62 in the Wadden Sea area of Schleswig-Holstein 227 in Lower Saxony / Hamburg and 3364 in the Netherlands (Figure 2). Counts in Lower Saxony/ Hamburg were probably slightly underestimated as technical problems hampered part of the identification of the seals observed during the survey. In 2014, numbers increased to 4276 animals in total in the Wadden Sea area, over 50% more than in 2013. This cannot be a result of population growth and compared to 2012, total numbers in 2014 only increased by slightly more than 6%. It is more likely that in 2013 the moult count was unusually low as fewer animals were hauling out in the Wadden Sea area than usual.

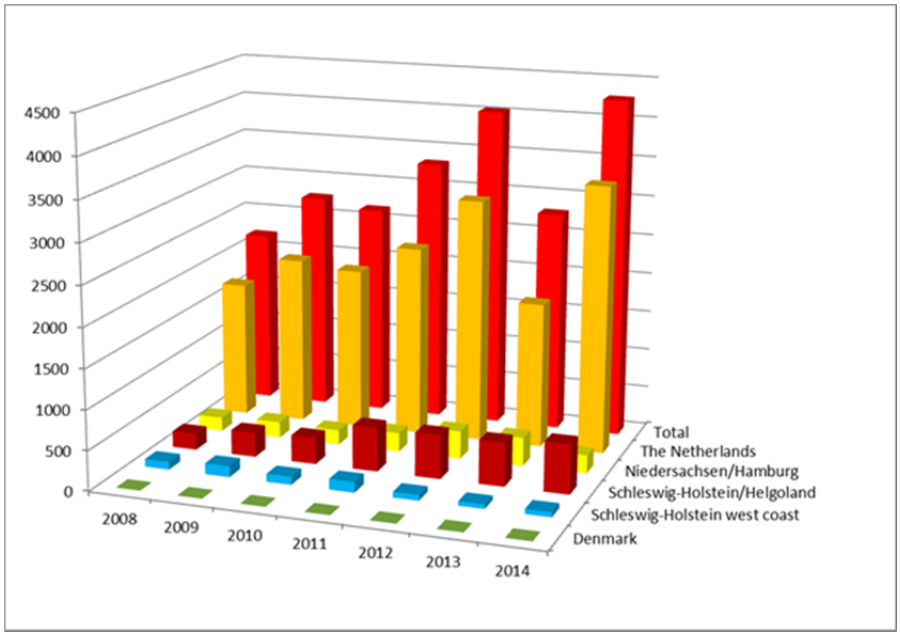

Figure 2.: Total number of grey seals counted in the Wadden Sea during the moult in March-April, as well as numbers broken down by region, for 2008-2014.

A recent study on the grey seal development in the Dutch part of the Wadden Sea shows that the growth of the breeding population is fuelled by the annual immigration of grey seals from the UK (Brasseur et al. 2014). The development in grey seals could only be explained if annually, at least 1/3 of the one year old animals would actually have come from the UK to settle as breeding animals. In addition, a significant number of grey seals regularly visit the Wadden Sea before going back to breed in the UK. This vagrant group is most visible during moult and the summer months. It is likely that the other Wadden Sea areas show similar exchanges with the UK, and that perceived growth in grey seal numbers in the Wadden Sea area is not only influenced by local events, but also by changes in the UK and the migration to the Wadden Sea area. There is little information on how human activities, such as the extensive building of offshore wind farms might influence these processes.

References

Brasseur SMJM, van Polanen Petel TD, Gerrodette T, Meesters EHWG, Reijnders PJH, Aarts G (2014) Rapid recovery of Dutch gray seal colonies fueled by immigration. Marine Mammal Science . doi: 10.1111/mms.12160