

Aerial surveys of Grey Seals in the Wadden Sea in the season of 2011-2012- Increase in Wadden Sea grey seals continued in 2012

In the German and Dutch Wadden Sea several aerial and boat counts are conducted during the pupping season (November-January) whilst on Helgoland (Germany), surveys are carried out from land. Two dedicated grey seal aerial surveys are carried out during the moult (March-April). In the Danish Wadden Sea grey seals are only counted during the summer counts for harbour seals.

Results and Interpretation

As pup counts are conducted in mid-winter, weather circumstances may affect the numbers counted. As a consequence, year to year variation is expected to be large and conclusions should be made with some caution. In winter of 2011/2012, the maximum number of pups counted in the different areas of the Wadden Sea was: 288 (-11% compared to the previous year) in the Netherlands, 59 (+48%) in Lower Saxony/Hamburg, 35 in Schleswig-Holstein. On Helgoland, numbers are collected daily from land and the cumulated record of total pups born this season is 140 (+40%). In the Netherlands and Schleswig-Holstein, pup numbers were possibly underestimated as rough weather might have caused pups to stray away from their usual haul outs.

A reliable maximum pup count can only be attained if the whole area is surveyed by synchronized efforts. Because of the different techniques to collect data on pups this cannot be done directly. In Helgoland and Schleswig-Holstein, continuous counts are conducted generating the total number of pups born in those colonies. In contrast, single aerial surveys in the Netherlands and Lower Saxony generate a maximum number of pups seen at one time. The numbers obtained this way are lower than the total numbers born, because at the moment of the flight some pups will have left the breeding site, while others will be born after the survey. This can be overcome by correcting the counts on Helgoland to the number of pups that had been born when the maximum was counted in the other areas, which was 45 on 19 December 2011. Based on this, an estimated maximum number of pups was produced: 427, this is 11% compared to last year. As the method was changed, this might be slightly underestimating the growth. In the coming years the TSEG will make an effort to analyse the older data in hindsight.

In 2012, the maximum numbers in the Schleswig-Holstein Wadden Sea area could only be counted 10 days later than in the other areas. Using this number, the maximum number of grey seals estimated in the Wadden Sea during the moult amounted to 4039 animals. Numbers were higher compared to the previous count (+22%). In the Netherlands, 3059 animals were counted (+28%), in Lower Saxony/Hamburg 348 (+46%) and in Schleswig-Holstein numbers seem to have levelled off: 72 (a slight decrease). On Helgoland numbers were practically identical to last year 552.

Though there clearly is a variation between the countries, the continued increase (+22%) in numbers for 2012 indicates that, in contrary to last years' assumption, that this growth might be an actual trend. Even if this growth is supported by the pups recruiting into the breeding population, there is certainly a large number of animals immigrating into the area. This assumption is based on the fact that sustained population growth of grey seals beyond 11% per year is not possible (Harkönen *et al* 2002), so part of the growth must be immigration. This is supported by results of satellite tracking that show exchange with areas outside the Wadden Sea (Brasseur *et al.* 2010). It is assumed that most animals come from the UK where the largest European grey seal population resides.

In Denmark up to 76 grey seals were counted during the harbour seal pup counts in June. Although this represents a 33% increase from the previous year, no grey seal births have

been documented in Denmark, and dedicated grey seal counts have not yet been commenced.

References

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Trilateral Seal Expert Group (TSEG):

Sophie Brasseur, IMARES, Texel, The Netherlands

Thomas Borchardt, LKN Schleswig-Holstein, Nationalparkverwaltung, Germany

Richard Czeck, Nationalparkverwaltung Niedersächsisches Wattenmeer, Niedersachsen, Germany

Lasse Fast Jensen, Fiskeri- og Søfartsmuseet, Esbjerg, Denmark

Anders Galatius, Department of Bioscience, Aarhus University, Denmark

Sven Ramdohr, LAVES Cuxhaven, Niedersachsen, Germany

Ursula Siebert, Institute for Terrestrial and Aquatic Wildlife Research, University of Veterinary Medicine Hannover, Foundation, Germany

Jonas Teilmann, Department of Bioscience, Aarhus University, Denmark