

**Marine Mammal Scientific Support Research Programme MMSS/001/11**

**CSD 5 Report**

**Changes in at-sea foraging trips of harbour seals and grey seals in south-east Scotland**

**Executive summary**

In many areas of Scotland including Orkney, Shetland and south-east Scotland, the harbour seal (*Phoca vitulina*) population is in rapid decline. Although the reasons for this decline are not known, nutritional stress has been postulated as a potential key factor. In south-east Scotland, telemetry data are available for multiple years for both harbour and grey (*Halichoerus grypus*) seals, allowing a pilot study to be conducted to investigate whether putative symptoms of nutritional stress are present in the behaviour of harbour seals. Specifically, it was hypothesised that the duration and extent of harbour seal foraging trips would have increased since the decline started. Contrary to the hypothesis, while controlling for day of year and sex, it was found that, since the start of the decline, harbour seal trip extent and duration has significantly decreased. In contrast, grey seal trip duration and extent has significantly increased, despite the grey seal population in south-east Scotland not appearing to be in decline. Although changes in the environment are likely to have driven these changes in apparent foraging effort, the underlying drivers remain unknown. Further work should focus on how robust the results are to (1) changes in how foraging trips are defined and (2) changes in the metric of foraging effort considered.