

Workshop on Predator–prey Interactions between Grey Seals and other marine mammals (WKPIGS)

2016/2/SSGEPD02 A Workshop on Predator-prey Interactions between Grey Seals and other marine mammals (WKPIGS), chaired by Andrew Brownlow*, UK; Nora Hanson*, UK; Jan Haelters*, Belgium; and Abbo van Neer*, Germany, will meet in Middelfart, Denmark, 30 April 2017, alongside the European Cetacean Society annual conference to:

- a) Define and harmonise the pathological indicators of a grey seal predation event in marine mammal carcasses;
- b) Describe the known prevalence and spatio-temporal trends of grey seal predation on other seals and harbour porpoises across the North Atlantic;
- c) Identify potential environmental or demographic drivers of the behaviour and trends;
- d) Discuss potential methods to quantify the impact of grey seal predation on harbour seal and harbour porpoise populations and to quantify the importance of cannibalism in grey seals;
- e) Identify knowledge gaps and develop a collaborative program of research to address these.

WKPIGS will report by 1 June 2017 (via SSGEPD) for the attention of WGMME, SCICOM and ACOM.

Supporting information

Priority	This activity will contribute towards the science base underpinning ICES advice in relation to the management of marine mammals. The group will summarise current knowledge, identify knowledge gaps and describe research priorities to address the direct impact of grey seals on harbour seal and harbour porpoise populations in the ICES area, some of which are declining. It will also consider the importance of cannibalism in grey seals. Consequently, the workshop is considered to have a high priority.
Scientific justification	<p>Grey seals (<i>Halichoerus grypus</i>) and harbour seals (<i>Phoca vitulina</i>) are sympatric predators throughout much of their distribution in the Northeast Atlantic. In some areas of Scotland, where ~ 30% of the European harbour seal population is found, harbour seals are in steep decline. Over the past two decades, there has been an increase in the number of seals reported, at both sides of the North-Atlantic, dead stranded with characteristic spiral lesions. Until recently, the causes were hypothesized to be predation by sharks, and/or mortality resulting from collision with ducted propellers. However, direct observations have now been made in Germany and in the UK of adult male grey seals causing similar injuries while catching, killing and preying upon young grey and harbour seals.</p> <p>Additionally, grey seals have been shown to kill and predate upon harbour porpoises (<i>Phocoena phocoena</i>) in Belgium, The Netherlands, France and the UK. In the Netherlands, grey seals were identified as one of the main causes of death in harbour porpoises found dead there. Clearly this behaviour is not restricted to a few 'rogue' individuals; it appears to be widespread and possibly increasing in some areas.</p> <p>Predation on harbour seals and porpoises by grey seals is an example of asymmetric intraguild predation whereby one predator species kills and perhaps eats another predator with which it competes for prey resources. In the case that individuals of the second species are eaten, their value as a food resource may also be relevant. Interactions between sympatric predators can be modulated by resource limitations, habitat availability / space use, and the dynamics of other intraguild competitive interactions. Understanding the prevalence, and potential drivers, of intraguild predation in these protected marine predators will be an important aspect of the work carried out by WGMME and critical to provide sound scientific evidence about the ecological interactions between marine mammal species in the Northeast Atlantic. National agencies responsible for the</p>

management of seals and harbour porpoises under the MSFD will also benefit from a concerted effort to collate and disseminate all available information and to develop a coordinated and coherent research plan.

At present, the behaviour has been documented in several countries within the Northeast Atlantic (UK, Germany, The Netherlands, Belgium, France), wherein stranding networks resources are being used to identify causes of mortality in stranded marine mammals – including of those with evidence of grey seal predation. In the northwestern Atlantic, possible interactions between grey seals and other seal species exist, with similar lesions having been reported, though with an unknown or different origin. WKPIGS will provide a space for marine mammal biologists to meet face-to-face to discuss the aims presented above. The workshop deliverables will be a report summarising the main findings, and an outline of research plans going forward; the workshop will also help to foster international collaboration on this topic.

Resource requirements	<p>The research programmes which provide the main data input to this group have already started, and resources are already committed. The additional resource required to undertake additional activities in the framework of this group is negligible.</p> <p>However, additional support (e.g. via the ICES Science Fund) could help assure wider participation in the meeting, eg. from scientists from the western Atlantic. The assistance of ICES to publicize the workshop and to publish the proceedings would also be welcomed.</p>
Participants	<p>The workshop will be attended by 20–25 experts in seal and harbour porpoise biology and management including representatives from marine mammal strandings networks.</p>
Secretariat facilities	<p>None.</p>
Financial	<p>To minimise the need for financial support, the workshop will be run alongside the European Cetacean Society conference in 2017. Nevertheless, additional funding will be sought.</p>
Linkages to advisory committees	<p>The workshop outcomes will be relevant to provision of advice on marine mammals by ACOM.</p>
Linkages to other committees or groups	<p>The workshop contributes directly to WGMME objectives and activities as well as being of interest to SCICOM (e.g. to Expert Groups within SSGEPD)..</p>
Linkages to other organizations	<p>None, although we expect the work to be of interest to the European Cetacean Society (which despite its name also has an interest in seals).</p>
