



Seal pup stranding and rehabilitation –

A case study of harbour seals in the southern North Sea

Workshop held on Sept 24 2012 at the Marine Mammals of the Holarctic conference 2012, Suzdal, Russia

Summary of workshop proceedings and conclusions

Workshop proceedings and discussion

The practice of taking seal pups into temporary care facilities (known as ‘rehabilitation’) has been growing world-wide since pioneer ‘sanctuaries’ began to develop both in Europe and North America in the early 1970s. At least part of this growth has been due to increased numbers of seal pups apparently stranding along populated coastlines. In this workshop we took a ‘behind the scenes’ look at the taking for rehabilitation of pups of the most commonly rehabilitated seal species in Europe and North America – the harbour seal, *Phoca vitulina*. For the case study we have selected an area with a rapidly expanding harbour seal population and increased stranding records – the southern North Sea, including the Wash in eastern England and the Wadden Sea coast stretching from Denmark to the Netherlands.

- The workshop began with a background review (SCS) of the literature on natural harbour seal pup development and mother-pup behaviour patterns from birth to post-weaning.
- Pup development and lactation strategies in other northern phocid species were also reviewed (SCS).
- The potential causes of harbour seal pup stranding at different stages in the first year of life were then reviewed (SCS)
- How a stranded pup may be recognised and distinguished from a healthy pup was presented (SCS). The definition of a ‘stranded’ seal and when human intervention is appropriate were both discussed. Defining and identifying stranded pups will be further discussed in a separate document.
- Information on the growth of the harbour seal populations in the southern North Sea during the past 15 years was briefly reviewed, with reference to the two epizootics of PDV in 1988 and 2002 (SCS).
- Representatives from the Friedrichskoog centre gave the workshop a presentation on different conditions in which seal pups strand in the summer along the Schleswig Holstein coast.

- Presentations from the Danish Fisheries and Maritime Museum representative were given to the meeting, giving the total numbers of stranded seals in northern and southern Denmark, and an annual breakdown of size and seasonal distribution.
- Pup stranding data from Natureland and Mablethorpe seal sanctuaries in Lincolnshire (the Wash) and from Friedrichskoog were presented to the meeting by SCS. Further stranding data from Norddeich centre in Niedersachsen were further analysed after the workshop and the results and recommendations presented in a separate document. Data analysed include the number of pups in rehabilitation as a percentage of the total pup production, pup stranding according to weight and season and condition, euthanasia, mortality and survival of pups in rehabilitation. The discussion included the status of the harbour seal populations in the southern North Sea, and 'to rehab or not to rehab'. The document concludes with a list of detailed recommendations.
- Published evidence for the success or otherwise of pup rehabilitation was reviewed by SCS. This evidence comes from VHF and satellite tracking studies, and includes information on survival estimates compared with wild pups, movement range and dispersal compared to wild seals, and dive patterns. Results from different studies are mixed. Two studies have suggested that rehab pups may disperse further afield and have poorer survival than their wild counterparts, while two studies have indicated that released pups may move within the same range as their wild counterparts and show normal diving patterns. The pups in these studies were stranded at different ages, and subjected to different rehabilitation conditions and time periods¹. SCS suggests further studies to test for differences in these factors.
- 'To Rehab or not to Rehab – that is the question'! This question was discussed for the last hour of the workshop, with additional feedback from participants not able to be present in person at Suzdal. In the southern North Sea at present there is a range of opinions and regional or national policies. Current opinions range from all live-stranded pups found being given a 'chance' in rehabilitation (as in Lincolnshire) to the taking of pups for rehabilitation and release being forbidden at the present time (Denmark).
 - The 1994 Leeuwarden Declaration (s. 60) of the Wadden Sea Trilateral agreement was to 'reduce the taking of seals to the lowest level possible', since it was considered that such taking was not necessary to maintain the population and could even have negative effects on seal population ecology in the region. This is the reason behind the ban on taking for rehab in Denmark, and the reason why stranded pups along the German Wadden Sea are subject to 'triage' by authorised game-wardens in the field, after which severely ill or injured pups are euthanized *in situ*. Pups brought for rehab to the German centres have therefore been mainly neonate 'orphans'.

¹ See review in workshop presentation 'What evidence is there for rehab pup survival and normal behaviour after release?'

- Pups euthanized in Germany² have been mostly badly debilitated older (post-weaning to several months of age) pups with serious injuries, illness, or severe lungworm infections. It may be argued that euthanizing severely disabled pups saves them from the stress of being taken for unsuccessful rehabilitation; on the other hand, the Lincolnshire data on individual pups suggest that there may often be no easy way of predicting which pups are most or least likely to recover and survive to release. Also, in England there is no network of authorised wildlife rangers with a remit to assess or euthanize pups in the field, so all pups found are in any case brought to rehab centres.
- The question of whether human intervention in natural processes of seal pup post-natal or post-weaning survival may impact on populations was also discussed. One opinion voiced from Mablethorpe (England) was that intervention in natural processes might be questionable, but that human intervention is appropriate on humanitarian grounds where pups have been 'orphaned' or injured due to human disturbance or other anthropogenic factors. Another opinion (from Friedrichskoog in Germany) is that levels of rehabilitation stabilising at ~2–4% of total pup births in a region probably has negligible impact on the population when such pups are released, and is carried out for humanitarian reasons, and also has the benefits of enhancing public awareness and education. There are very strict criteria for the release of rehabilitated seals. However, the greatest possible care should be taken to 'naturalise' pups' rehab environment and minimise rehab time, so as to maximise the chances of normal behaviour post-release.
- The SCS wonder whether the frequent occurrence low birth weight (< 10 kg) orphans and post-weaning debilitation accompanied by severe lung infection may be a natural process possibly reflecting the reaching of the population of its environmental carrying capacity. Low birth weight may also reflect a high proportion of young, primiparous females as the population expands rapidly following the 1988 and 2002 PDV epizootics. Human intervention in a small number of low birth weight or post-weaning debilitation may benefit individuals. However, on a large scale of such strandings (20–30% of pups in several recent years in Denmark and the Netherlands), rehabilitation and release could possibly interfere with the self-regulation of the population to adjust to the current carrying capacity of the southern North Sea environment.
- On the basis of the foregoing argument, SCS therefore respects the Danish decision not to rehabilitate at the present time, and considers that decisions should be made on a regional basis, depending on the current population attributes of the particular region. One possible suggestion that might be considered by the Danish authorities for the future might be limited admission to rehab of a small number of pups

² In Schleswig-Holstein there is a directive from the Ministry for the Environment, Nature and Forests of Schleswig-Holstein which regulates the handling and taking of harbour seal pups for rehabilitation. This directive aims to implement the Leeuwarden Declaration, i.e. to minimise seal rehabilitation numbers at the present time.

stranded either due to direct anthropogenic impact (such as propeller or jet ski injury, or fishing gear entanglement) or healthy 'orphan' neonate pups of viable birth weight, most likely to have become separated from their mothers due to human disturbance, storms or other misadventure. Pups could be tracked after release, to add to our knowledge of rehabilitation success of pups recovered at different stages and under specified rehabilitation conditions.

- The relevance of these considerations of harbour seal pup stranding and rehabilitation to other northern phocid species was considered by the workshop. The point was strongly made (by the representative of Hel in Poland) that guidelines for stranding and rehabilitation of harbour seals are not readily transferable to other species; grey and ringed seal pups, for example, develop and behave quite differently from harbour seal pups, and a 'one size fits all' approach to recognising and treating stranded pups of different species would be inappropriate. The representatives of Friedrichskoog also pointed out that different populations of the same species in varied habitats might also require – to a lesser extent – differences in intervention protocols.
- General principles of assessing stranded pups and the need for human intervention and treatment should be developed with guidelines adjusted for individual species. Following the workshop, SCS prepared two additional documents. 'Recognising stranded harbour seal pups' describes stranding situations with examples from some UK colonies. The content of this was then condensed into a 'decision tree', intended to be useful in the field in locations where there may not already be existing guidelines. This decision tree applies only to *P.v. vitulina* in western Europe and attempts to encompass the variation in seasonal dates within this wide area. However, major adjustments of seasonal dates would be necessary for this 'decision' tree to be useful in the Atlantic coast of N. America (*P.v. concolor*, *P.v. mellonae*) and Pacific coastlines (*P.v. richardsi*, *P.v. stenegeri*, *P.largha*). Feedback from specialists on the usefulness of this decision tree, suggestions for further adjustments or corrections, and draft 'decision trees' for different subspecies and regions would be appreciated.

Workshop conclusions and recommendations

- 🚧 **Guidelines should be developed for recognising stranded harbour seal pups requiring human intervention and distinguishing them from healthy pups for which no intervention is appropriate.**
- 🚧 **Human intervention should involve only pups which are clearly outside their normal environment. Seal colonies or breeding areas should not be entered for the purpose of looking for or taking suspected stranded pups.**
- 🚧 **General principles and definitions should be developed to guide the management of seal stranding and human intervention in different species and geographical areas. Species-specific guidelines should take all established data on natural mother-pup lactation behaviour patterns, pup growth and behavioural development and**

population ecology, including diet and migration and distribution patterns. SCS will initiate these principles for further discussion.

- ✚ New rehabilitation practices for any species or region should develop in consultation with specialists in the species' biology, should be compatible with the species biology and ecology, and should be integrated into overall sustainable management practices for the species and region in question.**