

Final Report

The Society for Marine Mammalogy – Small Grants in Aid of Research 2014

G. J. Greg Hofmeyr

Port Elizabeth Museum, Bayworld, P.O. Box 13147, Humewood 6013, South Africa

greghofmeyr@gmail.com



Fig. 1 Dissection of a stranded sperm whale *Physeter macrocephalus* near Port Elizabeth, South Africa.

An important source of information on marine mammals are those that wash ashore dead, or swim or wash ashore alive (i.e. strandings) (Geraci & Lounsbury 2005). This source has provided the great majority of information about groups such as the beaked whales (Thompson *et al.* 2013). Strandings have the potential to provide information on taxonomy, relative abundance, sources of mortality, health, and other aspects of marine mammal biology (Jepson *et al.* 2005, Nemiroff *et al.* 2010, Byrd *et al.* 2013, Peltier *et al.* 2013). Of especial importance are data collected by systematic programmes since they are able to provide critical information on temporal and geographical distribution (Evans & Hammond 2004, Pyenson 2011, Byrd *et al.* 2013). Furthermore, programmes that lodge data and specimens in museums or similar institutions impart even greater value to strandings by making these available to the wider research community (Thompson *et al.* 2013).

Since 1967 the Port Elizabeth Museum has implemented a systematic programme to collect marine mammal specimens stranding on the eastern coast of South Africa. However, search effort has been variable, relying primarily on public reports. This has resulted in a bias related to season, day of the week and weather (Thwaites 2011). This study counters this by systematically recording strandings along two sections of coastline close to the city of Port Elizabeth. These sections are seldom visited and therefore are ideal locations for the accumulation of marine mammal strandings, undisturbed by human visitors. Despite their relative isolation, these sections are potential stranding hotspots with many stranded marine mammals reported (Thwaites 2011).

Over a period of 30 months, 24 vehicle surveys have taken place. These were supplemented by surveys on foot that formed part of another research programme. In addition, the areas were visited separately when incidences of stranding were reported. Since the start of the programme, a total of 55 stranding incidences were recorded, representing 71 animals. Of the incidences, two thirds were detected during the dedicated beach surveys only. It is unlikely that most of these animals would have been recorded otherwise. Only one of the incidences was a mass stranding, when some 16 fur seal pups came ashore. A total of seven species were identified (Figure 2). Almost half of specimens were Cape fur seals *Arctocephalus pusillus*, and one quarter were bottlenose dolphins *Tursiops* spp. Of the incidences of animals ashore, 16 were of live seals. All other animals were dead.

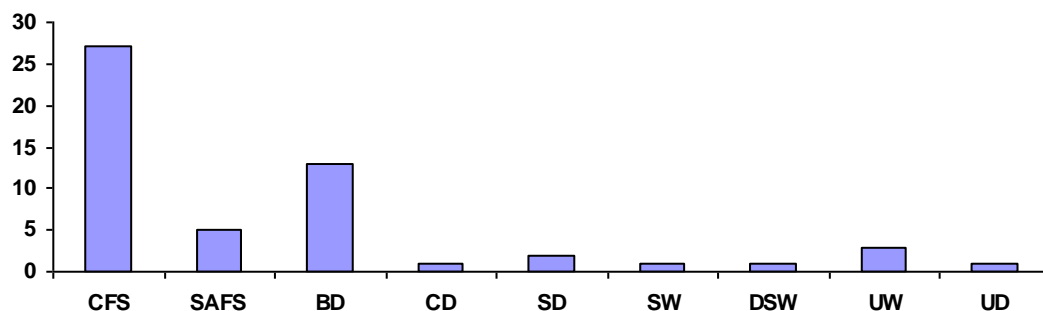


Fig. 2 Frequency of marine mammal stranding events recorded in beach survey areas, close to Port Elizabeth, over a 30 month period. CFS = Cape fur seal *Arctocephalus pusillus*, SAFS = Subantarctic fur seal *A. tropicalis*, BD = bottlenose dolphin *Tursiops* spp., CD = common dolphin *Delphinus* spp., SD = striped dolphin *Stenella coeruleoalba*, SW = sperm whale *Physeter macrocephalus*, DSW = dwarf sperm whale *Kogia sima*, UW = unknown whale, and UD = unknown dolphin.

The support of the Society for Marine Mammalogy was instrumental in allowing the continuation of this project. The funding allowed for the purchase of necessary stranding response equipment including a camera and a stretcher. This project has resulted in the addition of 30 specimens to the Port Elizabeth Museum Marine Mammals Collection. The surveys will continue on a monthly basis for the foreseeable future. In due course, when sufficient data has been collected, an analysis of temporal and spatial variation will be conducted.

Literature cited

- Byrd, B. L., A. A. Hohn, G. N. Lovewell, K. M. Altman, S. G. Barco, A. Friedlander, C. A. Harms, W. A. McLellan, K. T. Moore, P. E. Rosel and V. G. Thayer. 2013. Strandings as an indicator of marine mammal biodiversity and human interactions off the coast of North Carolina. *Fishery Bulletin*. 112:1-23
- Evans, P. G. H., and P. S. Hammond. 2004. Monitoring cetaceans in European waters. *Mammal Review*. 34:131–156.
- Geraci, J. and V. Lounsbury 2005. Marine mammals ashore – A field guide for strandings. National Aquarium in Baltimore, Inc., Baltimore, MD, 371 pp.
- Jepson, P. D., R. Deaville, I. A. P. Patterson, A. M. Pocknell, H. M. Ross, J. R. Baker, F. E. Howie, R. J. Reid, A. Colloff, and A. A. Cunningham. 2005. Acute and chronic gas bubble lesions in cetaceans stranded in the United Kingdom. *Veterinary Pathology*. 42:291–305.
- Nemiroff, L., T. Wimmer, P.-Y. Daoust, and D. F. McAlpine. 2010. Cetacean strandings in the Canadian Maritime provinces, 1990–2008. *Canadian Field Naturalist*. 124:32–44.
- Peltier, H., H. J. Baagøe, K. C. J. Camphuysen, R. Czeck, W. Dabin, P. Daniel, R. Deaville, J. Haelters, T. Jauniaux, L. F. Jensen, P. D. Jepson, G. O. Keij, U. Siebert, O. Van Canneyt, and V. Ridoux. 2013. The stranding anomaly as population indicator: the case of harbour porpoise *Phocoena phocoena* in northwestern Europe. *PLoS ONE* 8(4):e62180.
- Pyenson, N. D. 2011. The high fidelity of the cetacean stranding record: insights into measuring diversity by integrating taphonomy and macroecology. *Proceedings of the Royal Society, London, Series B*. 278:3608–3616.
- Thompson, K., C. Millar, C. S. Baker, M. Dalebout, D. Steel, A. van Helden and R. Constantine. 2013. A novel conservation approach provides insights into the management of rare cetaceans. *Biological Conservation*. 157:331-340.
- Thwaites, T. E. 2011. Spatial and temporal patterns in cetacean (Order Odontoceti) strandings (1968-2011), in the Eastern Cape, South Africa. B.Sc. hons. treatise. Nelson Mandela Metropolitan University, Port Elizabeth, South Africa. 36 pp.