

## The first African Marine Mammal Colloquium, South Africa, May 2010

SH Elwen<sup>1\*</sup>, M Thornton<sup>1</sup>, SP Kirkman<sup>2,3</sup>, PA Pistorius<sup>4</sup> and CR Weir<sup>5,6</sup>

<sup>1</sup> Mammal Research Institute, University of Pretoria, c/o Iziko South African Museum, PO Box 61, Cape Town 8000, South Africa

<sup>2</sup> Oceans and Coasts, Department of Environmental Affairs, Private Bag X2, Rogge Bay 8012, South Africa

<sup>3</sup> Animal Demography Unit, Department of Zoology, University of Cape Town, Private Bag, Rondebosch 7701, South Africa

<sup>4</sup> Department of Zoology, Nelson Mandela Metropolitan University, PO Box 77000, Port Elizabeth 6031, South Africa

<sup>5</sup> Ketos Ecology, 4 Compton Road, West Charleton, Kingsbridge, Devon TQ7 2BP, UK

<sup>6</sup> School of Biological Sciences (Zoology), University of Aberdeen, Tillydrone Avenue, Aberdeen, AB24 2TZ, UK

\* Corresponding author, e-mail: simon.elwen@gmail.com

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**The African Marine Mammal Colloquium (AMMC) was initiated to provide a platform for increased collaboration and communication between researchers working on marine mammals in and around Africa. The first meeting of the AMMC was held at Kleinbaai, South Africa, in May 2010. Talks were presented by each of the 48 participants and a number of discussion groups were held. Several countries were represented but most presentations and discussions were centred on research within the host country. In all, 13 papers that were based on presentations at the AMMC were selected after peer-review to appear in a special issue of the *African Journal of Marine Science*. Its theme, 'Conservation biology of marine mammals in the southern African subregion', reflects both the geographical area represented in these papers and their common subject.**

**Keywords:** Africa, conservation, marine mammals

### Background

Some 51 species of cetaceans, two sirenians and eight pinnipeds occur within the waters of the southern African subregion (hereafter referred to as the 'subregion'). The geographical limits of the subregion are defined following Best (2007) as extending from the equator to the Antarctic ice edge and from the central Atlantic at 20° W to the central Indian Ocean at 80° E. Research on marine mammals in the subregion has a long and productive history (particularly in South African waters). The greater part of this research has been focused on relatively few species and comparatively few areas. Nonetheless, in the past two decades, marine mammal research in the subregion — especially on cetaceans — has expanded considerably, both geographically and in terms of research output. Due to a lack of basic ecological knowledge on the majority of species, current research is still largely centred on estimation of population numbers, movement patterns and trophic ecology of a relatively small number of species.

The growth in research effort at least partly reflects increased political stability in some countries (e.g. in Mozambique and Angola). Nevertheless, access to marine mammal populations within a large part of the subregion remains severely constrained by political uncertainty as well as logistical and financial limitations. Limited access to higher education

has also restricted the opportunities for the training of local students and scientists, and a lack of museums in many parts of the region has hindered the collection and cataloguing of specimens. In addition, language barriers and limited access to information (e.g. the Internet, scientific journals) continues to curb the potential for coordination and execution of research projects that have multinational relevance within the subregion. Attendance of relevant conferences and meetings, which are mostly held outside of the subregion, is also very limited by financial resources. Apart from a recent conference (the 17th Biennial) of the Society for Marine Mammalogy (SMM) held in Cape Town in 2007, representation of African-based cetacean researchers at international marine mammal conferences is generally poor.

The African Marine Mammal Colloquium (AMMC) was initiated in an attempt to address (at least partially) some of these challenges, in providing a platform for increased collaboration and communication between existing laboratories and researchers working on all taxa of marine mammals around the continent and associated islands. The first AMMC was co-hosted by the University of Pretoria's Mammal Research Institute, and the Dyer Island Conservation Trust, at Kleinbaai in the Western Cape province of South Africa from 18 to 21 May 2010. The meeting consisted of

discussion groups and presentations. Topics of discussion included: (1) identification of regional research and conservation priorities; (2) identification of existing data and coordination of data collection and sharing between South African research groups; (3) organisation of groups working on Indo-Pacific humpback dolphins *Sousa chinensis* in southern Africa; (4) policy on stranding response for South Africa; (5) acoustics; (6) mark-recapture population models of relevance to marine mammal studies; (7) coordination of photo-identification effort and sharing of data; (8) best practice guidelines for boat-based whale watching; and (9) Africa's role in the Southern Ocean Research Partnership.

All participants were encouraged to present relevant marine mammal research findings or current research engagements. In total, there were 48 presentations, mostly focused on dolphins (60%) or whales (48%), but also on seals (21%) and dugongs (10%). These are summarised in Table 1 according to the geographical area associated with each presentation. More than half of the presentations ( $n = 28$ ) were associated with South African waters, although the South-West Indian Ocean including Mozambique and Madagascar was also well represented with 13 presentations. All sub-Antarctic presentations reflected work conducted at the Prince Edward Island group (South Africa). Research and researchers based in the eastern tropical Atlantic and the French sub-Antarctic islands were poorly represented at the AMMC. The types of presentations could be classified (with overlap) as relating to research findings (29), overviews of research or educational programmes (16) and research proposals by putative postgraduate students (3). Broadly, the following themes were embraced: conservation (18), education (6), ecotourism (12) and ecology (19). With regard to the presentations of research findings, the principal techniques employed included photo-identification or mark-recapture (19), censuses (26), molecular techniques (stable isotopes, fatty acids, pollutants, genetics) (5) and acoustics (4). No studies using biologging (satellite tags, telemetry, etc.) were reported on, although the technique is used in the region, especially by seal researchers.

Although the AMMC was limited in terms of representation across the entire subregion, it was largely considered a success by participants. Interest was high for continuing and expanding the colloquium on a biennial basis (alternating with the biennial SMM conferences, which are usually held in North America). The AMMC should serve as a platform for participants to interact with other marine mammal researchers within Africa on a regular basis and in a location that is more accessible and affordable than many international conferences.

### Overview of the special issue 'Conservation biology of marine mammals in the southern African subregion'

The *African Journal of Marine Science* was approached by the AMMC to host a special issue of papers based on presentations given at the first AMMC. The 13 papers that were accepted after peer-review comprise the first special issue of the journal to be dedicated to marine mammals. The theme of the issue is 'Conservation biology of marine mammals in the southern African subregion'. 'Conservation biology', which has been described as 'the application of

**Table 1:** Geographical areas associated with the presentations at the AMMC

Country	Number of presentations
South Africa	28
Mozambique	6
Namibia	3
Eastern tropical Atlantic	1
Kenya	1
Tanzania	3
Mauritius/Rodrigues/Mascarenes	2
Madagascar/Comoros	3
Sub-Antarctic islands	2
Southern Ocean	28
Other (Mediterranean)	6
Total	48

science to conservation problems [through addressing] the biology of species, communities, and ecosystems that are perturbed, either directly or indirectly, by human activities or other agents' (Soule 1985), was felt to be suitably descriptive of the body of work. The focus on the subregion was influenced by the lack of submissions associated with areas farther to the north.

The first six research papers all concern cetaceans. Firstly, Barendse et al. (2011) analyse a consolidated photographic and genotypic sighting database to address vexing questions regarding migration and residency of humpback whales *Megaptera novaeangliae* found off the west coast of South Africa. Findlay et al. (2011a) then take us to the east coast of South Africa. Using shore-based monitoring at Cape Vidal, KwaZulu-Natal, they assess the recovery in the numbers of migratory humpback whales in this area following historical depletion. Using data collected opportunistically during the same study, Photopoulou et al. (2011) describe the movement patterns of coastal bottlenose dolphins *Tursiops aduncus* in the presence of a fast-flowing, prevailing current off the coast of Cape Vidal. Penry et al. (2011) also use data that were mainly collected from platforms of opportunity, this time to investigate the seasonal occurrence of Bryde's whale *Balaenoptera edeni* (one of the less-studied large whales in the subregion) in Plettenberg Bay on the south-east coast of South Africa. Being able to estimate the number of whales present in an area from recorded call rates could be a very useful monitoring tool. Hofmeyr-Juritz and Best (2011) ask whether it is realistic in the case of southern right whales *Eubalaena australis* in a study conducted at Walker Bay on the south-west coast of South Africa. Meyer et al. (2011) finish up the cetacean research papers, by assessing entanglement of whales in anti-shark gillnets and other gear in South African waters, highlighting trends in entanglement rates, impacts on populations, and management interventions.

Other research papers that follow include one on the dugong *Dugong dugon* and two on the Cape fur seal *Arctocephalus pusillus*. Using aerial surveys, Findlay et al. (2011b) provide an update of the status of the dugong population of Mozambique's Bazaruto Archipelago, believed to be the only viable dugong population in the subregion. Huisamen et al. (2011) describe the recolonisation of a previously extinct

Cape fur seal colony at Plettenberg Bay, and Hofmeyr et al. (2011) assess the efficacy of reintroducing stranded Cape fur seal pups to their natal colony in Algoa Bay, at the eastern-most extreme of the breeding range of the seal population.

The last four contributions to the issue are review papers. Elwen et al. (2011) provide a comprehensive review of cetacean research within the subregion from the 1800s to the present, in which they provide an overview of findings, identify knowledge gaps and propose priorities for future research with conservation threats in mind. Kirkman et al. (2011) review research and monitoring priorities for the Cape fur seal population, taking into account historical and recent shifts in management goals. Bester et al. (2011) document the history of marine mammal research at South Africa's only sub-Antarctic territorial possession, the Prince Edward Islands, providing insights into many aspects of southern elephant seal *Mirounga leonina* and fur seal *Arctocephalus* spp. biology. Following from this, Pistorius et al. (2011) go into greater detail to describe life-history parameters of southern elephants seals, derived from a long-term mark-recapture programme at these islands.

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