

DEVELOPMENT OF A BLUEPRINT FOR A WESTERN INDIAN OCEAN REGIONAL DUGONG CONSERVATION STRATEGY

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INTRODUCTION

The dugong, *Dugong dugon*, is vulnerable to extinction throughout its range, which spans approximately 42 countries worldwide. Since 2002, calls have been made for a coordinated approach to the conservation of this species at both the regional and international levels. Since 2005, the Convention on Migratory Species (CMS) secretariat has been developing an international Memorandum of Understanding and Conservation and Management Plan (CMP) in collaboration with range states, which will facilitate the implementation of conservation efforts worldwide. In October 2007, the first 7 states signed the MoU and finalized regional CMPs for the western Indian Ocean (WIO) and eastern Indian and Pacific Ocean (EIOP) regions. Given that most states of the WIO lack the financial and technical resources to initiate dugong conservation plans, this study piloted a low cost research methodology, using local personnel, aimed at yielding data directly applicable for management planning. The technique has since been adapted for use in Mayotte (France) and could be applied elsewhere in the region.

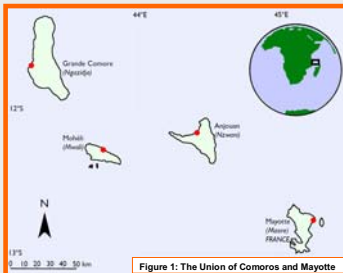


Figure 1: The Union of Comoros and Mayotte

THE STUDY SITE

The study was carried out in the Union of Comoros (Figure 1), situated between Mozambique and Madagascar, between June 2006 and January 2007. The country is comprised of three islands; Mohéli, Anjouan and Grande Comore. A population of dugong was known to exist but little data were available on the species or its habitat.

LOCAL KNOWLEDGE

Semi-structured questionnaire surveys were carried out on all three islands with fishers who had reported seeing dugong in the past. Data were collected on frequency of sightings, locations and times of sightings, mortalities, levels of awareness and local myths surrounding the species.



A dugong caught by fishers



A dugong feeding on seagrass

SEAGRASS MAPPING

A rapid reconnaissance survey was conducted around the coastline of each island to identify the presence of seagrass beds. Fine-scale mapping was then carried out to determine the extent, species composition and density of seagrass areas using an internationally-standardized protocol (Seagrass Watch). Maps generated in Arc GIS are being overlaid with sighting data to create a series of critical 'hotspots', where public awareness campaigns and management efforts can be focussed in the future.



Mapping a seagrass bed

THE DUGONG AS A FLAGSHIP SPECIES

On all three islands, fishers recounted a local custom that required a fisher who had caught a dugong to go to the mosque to testify that he had not had sexual intercourse with the animal before he was allowed to eat it. Many fishers believed a female dugong resembled a woman; the similarities between humans and dugong could facilitate public awareness campaigns, promoting the animal as a charismatic flagship species for wider marine conservation initiatives.

FOR FURTHER INFORMATION

Details of dugong questionnaire available from: Community Centred Conservation (C3); Tel. +269 73 75 04; +230 911 26 26; Email: info@c-3.org.uk; Web: www.c-3.org.uk

Seagrass survey methods available from: www.seagrasswatch.org

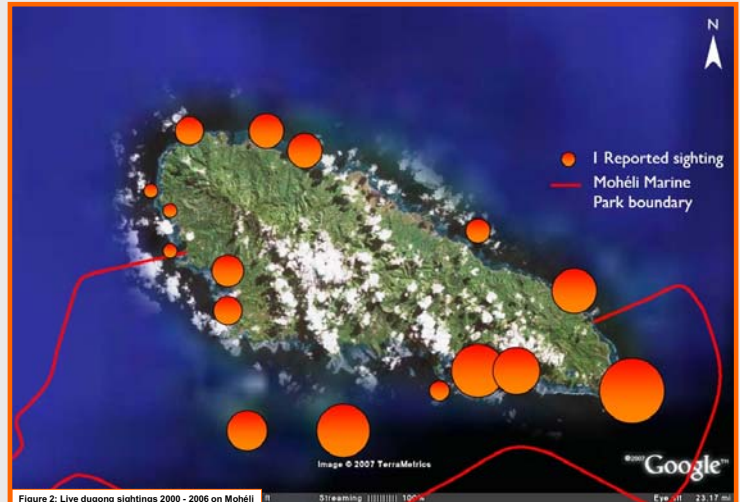


Figure 2: Live dugong sightings 2000 - 2006 on Mohéli

KEY FINDINGS

- The relative frequency of sightings provided information on dugong 'hotspots' (Figure 2) for each of the islands. Although management efforts need to be applied at the national level, (given that dugong can travel hundreds of kilometers in a few days) these priority areas should be included in Protected Area planning and be the focus of future awareness campaigns.
- Deliberate hunting, although commonplace in the 1970-80s, is no longer viable due to the small population size. The primary contemporary threat to the population is accidental capture in gill nets which urgently needs to be addressed through introduction of alternative techniques and/or livelihoods.
- Levels of awareness about the conservation status of dugong and relevant legislative protection is low and should be included in future sensitization.
- Seagrass areas have been mapped and need to be included in the planned national Protected Areas Network.

A NATIONAL CONSERVATION ACTION PLAN

Following the objectives of the regional CMP, a National Conservation Action Plan is being developed by C3 and the national and island governments. This plan will be finalized in 2008 through stakeholder consultations and will provide the framework for long-term conservation efforts for the species and its habitat.

RECOMMENDATIONS

- The methodology from this study has been shared with the neighbouring island of Mayotte, encouraging a trans-boundary approach to management of the species and will be extended to Madagascar in 2008.
- A regional database should be established to consolidate data on the species across the WIO region.
- Low-cost studies such as this can reveal important information for management planning in place of more expensive techniques such as aerial surveys and satellite tagging programmes, which may not be scientifically or logistically viable for the study of small populations in developing countries.

ACKNOWLEDGEMENTS

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