



## Memorandum of Understanding on the Conservation and Management of Dugongs and their Habitats throughout their Range

Distr. General

DM/SS.1/Doc.11  
Agenda item 12

Rev. 1 – 27 September 2010

FIRST OFFICIAL SIGNATORY STATE MEETING  
Abu Dhabi, United Arab Emirates, 4–6 October 2010

### PROGRESSING DUGONG CONSERVATION: TOOLS AND OPPORTUNITIES

#### Purpose

The purpose of this paper is to:

- (a) Highlight the risk factors associated with dugong conservation;
- (b) Report on progress to address key dugong conservation issues;
- (c) Bring to the attention of delegates a range of management tools that have been successful in other social, economic and conservation contexts and that might be applied to dugong conservation;
- (d) Seek endorsement, in principle, of the recommendations of the Expert Panel on Management Tools offered to progress conservation outcomes for dugongs; and to
- (e) Seek endorsement to develop pilot studies to trial selected tools in the context of dugong conservation.

#### Background

1. In the last 10 years two separate assessments of the global conservation status of dugong have confirmed that many dugong populations are at serious risk of being eliminated within two dugong generations (~45-50 years) (Marsh et al. 2002; Marsh *et al.* in press). The most recent assessment concluded that the species is declining or extinct in at least a third of its range, of unknown status in about half its range and possibly stable in the remainder – mainly the remote coasts of parts of tropical Australia (Marsh 2008, Marsh *et al.* 2008). Historically dugongs have been and remain at risk from many human-related causes over their extensive range. Some threats to dugongs are unique to particular regions while others occur throughout their range. Key threats include entanglement in fisheries gear, unsustainable customary take, habitat degradation and loss, illegal poaching and injuring and strike and displacement or harassment by vessels.

3. The single greatest threat to many stocks of marine mammals, including dugongs, is incidental entanglement and mortality in fishing gear (incidental catch) (Read 2008). Gill-netting is estimated to occur in >87% of the global range of the dugong, resulting in high dugong mortality, and threatening populations persistence in many regions (Marsh 2008). This threat has increased in frequency and intensity over time as a result of human population growth and the industrialization of fisheries, and is expected to continue to increase.

4. In the interim period prior to the first Official Signatory State Meeting and in order to utilize the funding available in the period 2009-10, the Secretariat to the *UNEP/CMS Memorandum of Understanding of the Conservation and Management of Dugongs and their Habitats throughout their Range* (Dugong MoU) has taken a regional approach to address the need for more information and to identify solutions to address the impact of dugongs being caught incidentally by fishers. The following initiatives are being taken:

- Supporting Signatory States of the Dugong MoU in decision making and priority-setting based on the most appropriate and best available information, methods and solutions to address the incidental catch of dugongs.
- Building and enhancing regional cooperation amongst range states of the Dugong MoU to address a key threat to a threatened migratory species.
- Addressing shared conservation synergies, including incidental catch in fisheries gear, with other marine megafauna including turtles, inshore cetaceans and manatees.
- Supporting the application of the Standardised Dugong Catch/Incidental Catch Survey Tool (Agenda Item 11) to help build an updated global picture of dugong populations, dugong habitats, and key dugong threats to inform the challenges and opportunities to progress their conservation and management. The Standardised Survey Tool has been applied in over twenty range states to date in the Pacific Islands, South East Asia, South Asia and UAE with implementation planned for other range states in the South Western Indian Ocean in 2011.
- Spatial Risk Assessment: Technical advice has been sought to use the data obtained to conduct regional/global spatial risks assessment. The expert opinion of global experts on dugongs, including Professor Helene Marsh and others, has been sought to provide the best available information on the global status of dugongs (Agenda Item 6).
- Development of Mitigation/Management Toolbox: See Below.
- Fund Raising: With the assistance of the technical experts and support of the Signatory States and collaborating partners, funding will be sought from donors to implement projects to:
  - Expand the conduct of surveys using the Standardised Dugong Catch/Incidental Catch Survey Questionnaire to remaining dugong range states; and
  - Implement trial projects in range states to mitigate/manage threat/risks using the tools identified.

5. In this session, delegates will be presented information and guided through group exercises and discussions to help Signatory States consider advice provided by a technical panel of experts to progress dugong conservation.

### **Mitigation and Management Toolbox**

6. A multi-disciplinary workshop was held in Brisbane on 29-30 August 2010 to develop a range of possible tools for application in dugong conservation. The multi-disciplinary expert panel was convened to provide advice and guidance on innovative and novel approaches to progress favorable conservation outcomes for dugong. The tools most frequently adopted in the past, such as legal protection and marine protected areas, need to be supported by market-based mechanisms that assist with the social and economic wellbeing of the affected communities.

7. A report of the workshop will be available on the CMS website in the near future. Ideas for interventions that combine conservation outcomes with social and economic development will be presented at during this Agenda Item (12).

8. The main outcomes from the workshop were:

- Recognition that many management interventions to protect dugongs have had limited success. For example, legal protection and the spatial separation of dugongs and fishing nets, e.g. through marine protected areas, does not produce conservation outcomes if the social and economic wellbeing of the community affected is not simultaneously enhanced;

- Recognition of the significant potential benefits of supporting approaches/programs that link dugong stewardship with sustainable economic development and livelihood improvement;
- Recognition that supporting cultural practices that support dugong conservation is a powerful tool for application in subsistence economies where the cultural value of dugongs remains very high;
- Identification of potential synergies between dugong and other megafauna conservation efforts (e.g. to protect inshore cetaceans, turtles and coastal sharks) that could be fruitful;
- Recognition that in all cases it will be necessary to educate local communities about the problem and to actively involve them in designing solutions;
- Identification of market based mechanisms that are being implemented to reduce turtle incidental catch in gillnets while increasing or maintaining fishery value;
- Innovative approaches for performance-based direct conservation schemes such as environmental mortgages and payment for environmental services programs, which allow low-income communities to leverage their equity in environmental assets for access to financial service in exchange for environmental stewardship. Such tools may have wider application to a range of species, including turtles, inshore cetaceans and manatees;
- Development of criteria for selection of pilot projects to trial incentive-based tools in appropriate locations in Signatory States – refer Agenda Item 12.8.
- Recognition that in almost all circumstances, a tool box of tools will be required and that the most appropriate combination of tools will be place specific.

9. The Mitigation and Management Toolbox being developed for dugong will include a range of current approaches, including gear modification, spatial and temporal management as well as bio-economic approaches. Note that these tools could also be trialed to address threats to dugong in any Range State.

### **Recommendations of the Expert Panel on Management Tools**

10. The Expert Panel has made the following recommendations for consideration by the Signatory States. It is recommended that the Signatories agree, in principle to the following actions which will guide future priorities for the Dugong MoU work programme:

- a. Develop short monitoring questionnaire for repeat use based on the Standardised Dugong Catch/Incidental Catch Questionnaire;
- b. Prepare plain language book of management options, in all key CMS languages;
- c. Identify key potential partners for funding and with common conservation goals;
- d. Review and document successful dugong conservation practices to guide design of new projects;
- e. Evaluate successful conservation awareness programmes to develop and implement an effective awareness programme for dugongs; and
- f. Implement pilot projects immediately post SS1.

### **Pilot Projects to Trial Conservation Tools**

11. The Expert Panel further recommends that a small number (2-3) of pilot projects be implemented

under the auspices of the MOU in order to trial conservation tools. Pilot projects would be carried out by host states with facilitation from the MOU and expert advice as required.

12. The Expert Panel suggested that selection criteria for Pilot Projects be developed with SS1 delegates, and offered the following selection recommendations:

- Select projects for which it is possible to measure outcomes
- Develop project selection criteria with SS1 delegates
- Seek linkages with other conservation programs e.g. seagrass, watershed
- Design management strategies, including least-cost options in consultation with fishers (i.e. bottom up approach)
- Ensure socio-economic/livelihood factors are considered carefully before intervention
- Seek alliances and partnerships with other complementary causes including other CMS programs
- Align program strategy with funding options
- Ensure fishery interventions accord with Quadruple Bottom Line Sustainability – ecological, social, economic and managerial (i.e. no unintended consequences)
- Ensure lessons of experience are fully documented and publically available and that funds are budgeted for this purpose.

## **Recommendations**

In summary it is recommended that Signatory States representatives and observers:

- Note the report of the technical workshop on Tools for Mitigation and Management;
- Endorse, in principle, the recommendations of the Expert Management Tools Panel offered to progress conservation outcomes for dugongs (Point 9); and
- Endorse the development of pilot studies to trial selected tools in the context of dugong conservation and provide advice on possible locations that meet the proposed criteria where the incentive based tools might be trialed.

## **References**

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