

**FOURTH MEETING OF SIGNATORY STATES TO THE MEMORANDUM OF
UNDERSTANDING ON THE CONSERVATION AND MANAGEMENT OF DUGONGS
(*DUGONG DUGON*) AND THEIR HABITATS THROUGHOUT THEIR RANGE**

(Riyadh, 6-7 May 2024)

UNEP/CMS/DUGONG/MOS4/Doc.10

REPORT OF THE DUGONG TECHNICAL GROUP

(Prepared by Secretariat of the Dugong MOU)

Summary: This document summarizes the work undertaken by the DTG since MOS3.

The Meeting is invited to: (a) note the contents of this report; (b) seek any clarifications; and (c) note the revised Terms of Reference and nominated members.

Background

1. When the Secretariat of the Dugong MOU was established in 2009, a team of advisers was convened to offer ad hoc guidance on specific issues relating to the conservation of dugongs and their habitats. The First Meeting of Signatory States (MOS1, Abu Dhabi, October 2010), agreed that the Secretariat should continue to engage experts in this capacity and also explore the feasibility of establishing a formal Advisory Group prior to the next MOS (document [DM/SS.1/Report](#)). Subsequently, at the Second Meeting of Signatory States (MOS2, Manila, February 2013), Signatory States endorsed the formation of a Dugong Technical Group (DTG; document [CMS/Dugong/SS2/Report](#), paragraph 126) based on the existing list of Advisors assembled since 2009 to offer guidance on various activities, as listed in document [CMS/Dugong/SS2/Doc.11.4, Annex 1](#)). The Third Meeting of Signatory States (MOS3, Abu Dhabi, March 2017) endorsed the reappointment of the same list of DTG members until the Fourth Meeting of Signatory States (MOS4) (document [CMS/Dugong/MOS3/Report](#), paragraph 79).
2. As outlined in the Terms of Reference of the Dugong Technical Group (TOR) endorsed at MOS2 (document [CMS/Dugong/MOS2/Report](#)), the primary objective of the DTG is to support and aid Signatory States and the Secretariat in the effective implementation of the Dugong MOU and its associated [Conservation and Management Plan](#) (CMP) by offering expert advice upon request.
3. As outlined in the TOR endorsed at MOS2, the primary tasks of the DTG include:
 - (a) Provide expert advice and information and make recommendations on the implementation of the Dugong MOU to the Signatory States and the Secretariat, as requested.
 - (b) Analyse, as necessary, scientific data, and status assessments and provide recommendations on actions needed.
 - (c) Provide comments on any proposals to amend the MOU text which have a technical content.
 - (d) Carry out any other tasks referred to it through the Secretariat by the Signatory State Meeting.
4. Members of the DTG do not represent their institution; instead, they serve in their capacity as specialist individuals. Membership of the DTG is voluntary, and advice is provided pro-bono or in-kind.
5. The Secretariat acts as the focal point for all requests, feedback, and communication between the DTG and Signatory States. This approach ensures effective communication, strategic direction, and prioritisation.

Activities of the DTG

6. Since MOS3, numerous DTG members have made notable contributions to capacity building in dugong Range States, fundraising for dugong and seagrass conservation, and offering technical support to the Secretariat and its project partners.
7. Members of the DTG have also contributed to MOS4 and the 2024 Dugong & Seagrass Technical Workshop, by providing comments on the CMP, inputting into MOS documents, advising on the Workshop agenda and expert speakers, and presenting at both events.

Review of the Conservation and Management Plan

8. The review of the CMP and the process to undertake this was endorsed at MOS3 (document

[CMS/Dugong/MOS3/Report](#), paragraph 131).

9. The amendments to the CMP proposed in the review were discussed at an informal DTG meeting in April 2023. A preliminary draft of the proposed amendments was distributed to the DTG members in December 2023 and feedback received was integrated for consideration at MOS4, as presented in document [UNEP/CMS/Dugong/MOS4/Doc.13.1](#).

GEF-5 Dugong and Seagrass Conservation Project

10. Since MOS3, several members of the DTG played an active role in supporting the activities of the GEF-5 funded project 'Enhancing the Conservation Effectiveness of Seagrass Ecosystems Supporting Globally Significant Populations of Dugongs across the Indian and Pacific Ocean Basins', commonly referred to as the Dugong and Seagrass Conservation Project. This support has included participation in the project-focused meetings listed below (paragraph 17) and providing expert training and advise to implementing partners (refer to document [UNEP/CMS/Dugong/MOS4/Doc.12.1.1](#) for more detail).

Meetings and Workshops

11. The presence of the DTG at Dugong MOU related meetings provides an opportunity for DTG members to share expertise, identify technical support needs for projects, and build positive relationships with project partners. Since MOS3, members of the DTG have participated in the following meetings and workshops:
- (a) Dugong MOU Regional Workshop on Dugongs in the Arabian Gulf – Abu Dhabi, UAE (May 2023).
 - (b) WIOMSA 12th Scientific Symposium: Progressing Dugong & Seagrass Conservation in the Western Indian Ocean – Port Elizabeth, South Africa (October 2022).
 - (c) Dugong Technical Group Meeting – Bali, Indonesia (February 2019).

Fundraising

12. Since MOS3, the Secretariat has developed numerous grant applications, as summarised in document [UNEP/CMS/Dugong/MOS4/Doc.15.1](#). DTG members have advised on the scope, feasibility and technical requirements of some of these proposals.

Ad hoc advice

13. Since MOS3, active members of the DTG have continued to provide ad hoc and isolated advice in response to queries and requests received by the secretariat from Signatory States and the broader dugong and seagrass community. These exchanges predominantly occur through electronic forms of communication.

Review of the DTG Terms of Reference

14. In November 2022, the Secretariat initiated a review of the TORs for the DTG, as agreed upon at MOS2 (document [CMS/Dugong/SS2/Doc.11.4/Annex II](#)), with the aim of enhancing clarity regarding the roles and responsibilities of TAG members. Additionally, the review sought to broaden the membership composition and criteria to encompass a wider geographical representation and a more diverse range of expertise. Furthermore, the Secretariat proposes changing the title of the group from Dugong Technical Group to Technical Advisory Group (TAG),

to better align with other advisory groups with the CMS MOU framework. The revised TORs are presented in Annex 1 of this document.

Selection of candidates for new TAG Membership

15. Following MOS3 and the global COVID-19 pandemic, the Secretariat encountered challenges in maintaining communication with the majority of the DGT members listed in Annex 2 of document [CMS/Dugong/MOS3/10.2](#). These challenges arose due to altered circumstances faced by the members. As a result, all but six of the DTG members became unresponsive to Secretariat requests. The six members who remained responsive and engaged with the Secretariat since MOS3 were actively involved in various activities as described in paragraphs 6 to 18 above.
16. In response, the Secretariat sought to refresh the TAG membership and improve its geographic representation within the dugong range, enhance the gender balance, and diversify areas of expertise (Annex 1, paragraph 9). To achieve this, a TORs was drafted and a 'Call for expressions of interest' was organized by the Secretariat and circulated to all National Focal Points, project partners and through the IUCN SSC Sirenian Specialist Group network.
17. The Secretariat received a total of 18 nominations, including four from Signatory States. After evaluating these nominations based on pre-established criteria, the Secretariat selected 14 members representing five of the six main geographical regions covered by the Dugong MOU: the Western Indian Ocean, the Northwest Indian Ocean, South Asia, Australia, and Oceania. No nominations were received from Southeast Asia, and experts invited by the Secretariat declined due to existing time-constraints. Signatory States and nominees were notified of TAG membership in February 2023. Following paragraph 14 of the TOR, the Secretariat subsequently invited three additional experts to join the TAG, representing seagrasses and blue carbon. All TAG members are listed in Annex 2 of this document.
18. A member of the IOSEA Turtle MOU Advisory Committee will be invited to join TAG following MOS4 to promote synergies and cooperation in the region.
19. The first TAG meeting was held in April 2023, during which Prof. Helene Marsh was nominated as Interim Chair. It was agreed that the Chair should hail from a developing nation where dugong populations face greater challenges. The intent behind this nomination was to mentor a successor to assume the Chair role after MOS4.
20. The Secretariat extend its gratitude to all members of the DTG and TAG for their invaluable provision of technical advice to Signatory and Range States since March 2017, often at no cost.

Action requested

21. The Meeting is invited to:
 - (a) Note the contents of this report and seek any clarifications, if required.
 - (b) Note the revised Terms of Reference for the TAG contained in Annex 1 of the present document.
 - (c) Note the membership of the TAG (Annex 2).

ANNEX 1

Terms of Reference of the Technical Advisory Group

Preamble

The CMS Dugong MOU proposes the establishment a Technical Advisory Group (TAG) in order to support the work of the Dugong MOU and provide advice to partners and Signatories. These Terms of Reference (ToR) have been established to describe the roles and responsibilities of members of the TAG.

Purpose

1. The purpose of the TAG is to provide expert advice to the Signatories and the CMS Dugong MOU Secretariat ('the Secretariat') in relation to the scope of the Dugong MOU and its associated Conservation and Management Plan (CMP).

Role of the Secretariat

2. The Secretariat will be responsible for finalizing the selection of the experts nominated for the TAG, in close consultation with the Signatories and taking into account advice from the IUCN Sirenian Specialist Group.
3. The Secretariat will be responsible for organizing and convening meetings of the TAG, either virtually or in person.
4. The Secretariat shall act as the intermediary between the TAG and the Signatories and partners. The Secretariat will receive and transmit requests for advice from the Signatories and partners to the TAG, and identify the most appropriate experts within the TAG to engage with. The Secretariat will also communicate and share information, resources and guidelines generated by the TAG with the Signatories and partners.

Role of the TAG

5. The main tasks of the TAG are to:
 - (a) Provide expert advice and recommendations to the Signatories, the Secretariat, and partners on the implementation of the Dugong MOU and CMP, as requested.
 - (b) Identify experts who can prepare best practice and technical guidelines needed for implementation of the Dugong MOU and CMP and provide peer review on publications of the Dugong MOU.
 - (c) Support in setting conservation and management priorities for dugongs and their habitats.
 - (d) Analyse and review scientific data and status assessments and provide recommendations on actions needed from the TAG, the Signatories, the Secretariat, partners, and other stakeholders.
 - (e) Propose amendments to the Secretariat on the CMP and review any proposed amendments to the CMP.
 - (f) Provide technical support in workshops, webinars, and capacity building programmes.
6. The Secretariat, either following requests from the Signatories (provided that the requests are in

line with the mandate and available resources of the Dugong MOU and CMP) or following identification of needs by the Secretariat, may request the TAG to give priority to certain activities and tasks which include, but are not limited to:

- (a) Evaluating and providing advice on conservation and/or management programmes concerning dugongs and their habitats proposed by or implemented within Range States.
- (b) Assisting the Secretariat in the development of projects and initiatives so that regional, national, and local contexts are considered.
- (c) Providing advice to the Meeting of Signatories (MOS) on any revisions proposed to the CMP.
- (d) Evaluating the efficiency of different measures and activities proposed or implemented to conserve dugong populations.
- (e) Promoting the use of appropriate and robust dugong research techniques, monitoring programmes, data collection, data storage and reporting.
- (f) Reviewing and contributing to the design of (where relevant) scientific reports, annual reports and other relevant documents produced by the Signatories and partners, to assist the Secretariat in assessing progress in the implementation of the MOU and its CMP.
- (g) Bringing to the attention of the Secretariat relevant novel information relating to the conservation and management of dugongs and their habitats.

Membership

7. Members of the TAG serve in their capacity as expert individuals rather than as representatives of Governments or organizations with which they may also be affiliated.
8. Membership of the TAG should include diverse geographic representation, gender balance and diverse areas of expertise in research, conservation and/or management of dugong and their habitats, including dugong life history and behavioural ecology, population size estimation, tracking, survey techniques including drones use, seagrass ecology, restoration of seagrass habitats, catch/by-catch, genetics, social and economic values, alternative livelihoods, veterinary husbandry, community-based conservation, and protected area planning and management, including traditional ecological knowledge.
9. Membership shall include:
 - (a) Seven experts nominated by Signatories representing the main geographical regions covered by the Dugong MOU: the Western Indian Ocean, the Northwest Indian Ocean (Arabian Gulf and Red Sea), South Asia, Southeast Asia (two members representing coastal and archipelago states), Australia, and Oceania.
 - (b) Up to five additional experts representing diverse expertise.
 - (c) A member of the IOSEA Turtle MOU Advisory Committee, to promote synergies and cooperation in the region.
10. Criteria for membership include:
 - (a) Widely recognized experience and expertise in one or more aspects of research, conservation and/or management of dugongs and their habitats.
 - (b) Experience working with relevant experts and organizations at local, national, or international levels.

- (c) Commitment to undertake the work required of the TAG with the support, where relevant, of the member's organization or institution.
- (d) Good working knowledge of English.

Nominations and Appointments

11. A list of potential expert members for the TAG will be determined through a "Call for expressions of interest" process organized by the Secretariat in collaboration with the IUCN Sirenian Specialist Group. The notification will go out to all Dugong MOU national focal points, to all Dugong MOU partners and through the network of the IUCN Sirenian Specialist Group.
12. Signatories and Dugong MOU technical partners may nominate experts for the TAG.
13. Both Signatories and technical partners can nominate experts for regional representation as well as experts representing diverse expertise, as appropriate.
14. Nominations will be collated by the Secretariat, assessed based on pre-selected criteria by the Secretariat, and the final list of the proposed TAG members will be presented to the Signatories. Final decisions on selection of members of the TAG will be agreed with the Signatories. If multiple nominations are made for a region and the assessment results are equal, a democratic process will be organized so that Signatories in the region can vote on which member can join the TAG. Nominated experts who do not join the TAG to represent a region will also be given the opportunity to join the TAG to represent an area of expertise, if required.
15. The Secretariat will report the list of appointments to the Signatories and Range States within 4 weeks of appointments.
16. One Chair and one Vice Chair will be elected by the TAG members. The Chair and Vice Chair will be limited to one term. One term is the equivalent of two MOS cycles. All members of the TAG will have two-term limits.

Meetings of the TAG

17. To minimize costs, the TAG will conduct as many of its activities as possible through emails and online calls, including its meetings. Online meetings will be held at times convenient for all relevant time zones, where possible.
18. In-person meetings of the TAG will be organized when possible and as funds permit. Expenses will be covered by the Secretariat.
19. Members of the TAG may be invited to participate in the MOS of the Dugong MOU and/or other relevant meetings.

Conditions of Membership

20. Membership of the TAG is voluntary and members will provide advice on a pro-bono basis.
21. Membership of the TAG is valid for a maximum limit of two MOS cycles and may be ended at any time by either party by written notice via email. Membership of the TAG may be renewed by mutual agreement. In order to avoid disruptive turn-over of TAG membership, a staged replacement of TAG members will be followed.

22. New members may be nominated when required by Signatories and Dugong MOU partners.

ANNEX 2

List of Members of the Dugong Technical Group (DTG)
(as of June 2018)

TAG Member	Expertise	Institute/Affiliation
Dr Amanda Hodgson	Dugong biology and conservation, innovative monitoring and research techniques including drones, AI and software tools.	Centre for Marine Ecological Research, Edith Cowan University, Australia
Dr Anna Lafratta*	Vegetated coastal ecosystems (seagrass, mangrove and tidal marsh) ecology, paleoecology, coastal environmental protection and management, climate change mitigation, blue carbon and coastal pollution.	Centre for Marine Ecosystems Research (CMER), School of Science, Edith Cowan University, Australia
Dr Asma Hadi	Dugong and marine mammal surveys, and sustainable blue economy.	School of Environment and Earth Sciences Pwani University, Kenya; WWF-Kenya
Dr Benjamin Jones*	Conducts applied research into seagrass social-ecological systems and primarily investigates the links between people, seagrass meadows and the fauna they support.	Project Seagrass, UK; President, World Seagrass Association.
Dr Christophe Cleguer	Dugong abundance, distribution, habitat use, movements, spatial analysis of threats using new technologies such as aerial imagery, drones, biologging and AI.	Centre for Tropical Water and Aquatic Ecosystem Research (TropWATER), James Cook University, Australia
Dr Claire Garrigue	Ecology and conservation of marine mammals in the southwest Pacific Ocean; Dugong distribution, movement and abundance, population dynamics, habitat use and human impact.	French National Research Institute for Sustainable Development (IRD), New Caledonia; Member IUCN Sirenian Specialist Group
Ms. Damboia Cossa	Seagrass conservation and dugong habitat use. Use of new technologies such as drones.	Eduardo Mondlane University, Mozambique
Prof Edward Patterson	Marine ecology with focus on assessment, monitoring, mapping and restoration of seagrass habitats, marine litter and impact assessment.	Suganthi Devadason Marine Research Institute, India
Prof Helene Marsh	Internationally recognised expert on the biology and conservation of dugongs.	James Cook University, Australia; Co-Chair IUCN Sirenian Specialist Group
Dr Himansu Das	Marine assessment and conservation; marine threatened species and habitats; dugong ecology and biology.	Environment Agency - Abu Dhabi, UAE; Member IUCN Sirenian Specialist Group
Mr Len McKenzie	Seagrass ecology, including mapping, monitoring and assessment of tropical seagrasses. Extensive experience in	James Cook University, Australia; Director, Seagrass-Watch

TAG Member	Expertise	Institute/Affiliation
	capacity building, including participatory monitoring of seagrass habitats.	
Ms Maitha Al Hameli	Marine assessment and conservation; marine threatened species and habitats; dugong ecology and biology.	Environment Agency - Abu Dhabi, UAE
Dr Nicolas Pilcher	Addressing bycatch in small-scale fisheries, community-based conservation of endangered marine species, community-based conservation.	Marine Research Foundation, Malaysia; National Center for Wildlife, Saudi Arabia
Dr Norbert Andrianarivelo	Dugongs abundance, distribution, habitat use, threats using human monitoring and Interviews	Institut Halieutique et des Sciences Marines (IHSM) and Institut d'Enseignement Supérieur d'Anosy (IESA), University of Toliara, Madagascar
Dr. Richard Unsworth*	Assessment of ecosystem services of seagrass; Artisanal fisheries of tropical coastal ecosystems; Use of local ecological knowledge; Ecology and management of seagrass ecosystems; Community-based management of seagrass ecosystems.	Seagrass Ecosystem Research Group, Swansea University, UK Director, Project Seagrass, United Kingdom
Prof. Sivakumar Kuppusamy	Dugong ecology and specialist in marine endangered species recovery.	Department of Ecology and Environmental Sciences, Pondicherry, India; Member of Dugong Task Force of India; Lead of the National Dugong Recovery Programme of India
Dr Vic Cockcroft	Dugong populations in the Western Indian Ocean, numbers, threats and conservation.	Institute for Coastal and Marine Research, Nelson Mandela University, South Africa.

* Members invited to TAG by Secretariat after initial round of nominations.