

# 2030 Seagrass Breakthrough: Climate-resilient solutions for migratory species' habitats

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## Migratory Species and Climate Change Expert Workshop

*11-13 February 2025, Queen Elizabeth House, 1 Sibbald  
Walk, Edinburgh, UK, EH8 8FT*

# The Dugong MOU



Overall Goal:  
**promote internationally coordinated actions to ensure the long-term survival of dugongs and their seagrass habitats throughout their extensive range.**

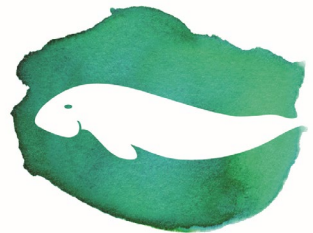
- Legally Non-Binding
- In effect since 2007
- Secretariat in Abu Dhabi, UAE
- Host: EAD
- 27 Signatory States



27 out of 46 range states

# The Dugong MOU

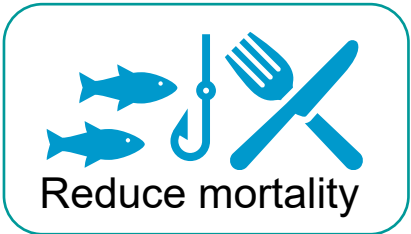
- Meeting of Signatories
  - the decision-making body of the MOU, reviews progress made and difficulties encountered, and agrees on the priorities for the next years, incl. the budget
    - *MOS4 will be held in 2025*
- Technical Advisory Group (TAG)
  - established to provide scientific, technical and legal advice to the Signatories and the Secretariat, prepares guidance
    - *5 members chosen by governments*
- Secretariat
  - coordinating body of the MOU



DUGONG  
MOU

# Conservation and Management Plan (CMP)

## Species Aspects



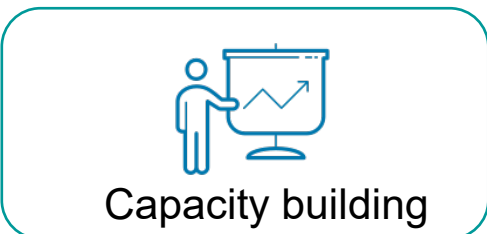
## Habitat Aspects



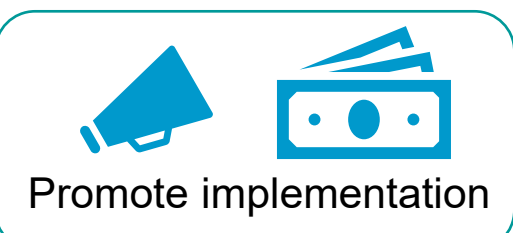
## Cooperative Aspects



## Cross-cutting Issues



## Awareness and Education



➤ *basis for the Work Programme 2025-2028*



# A GLOBAL ASSESSMENT OF DUGONG STATUS AND CONSERVATION NEEDS



Edited by: Helene Marsh, Philippa J Loates and Luisa Schramm



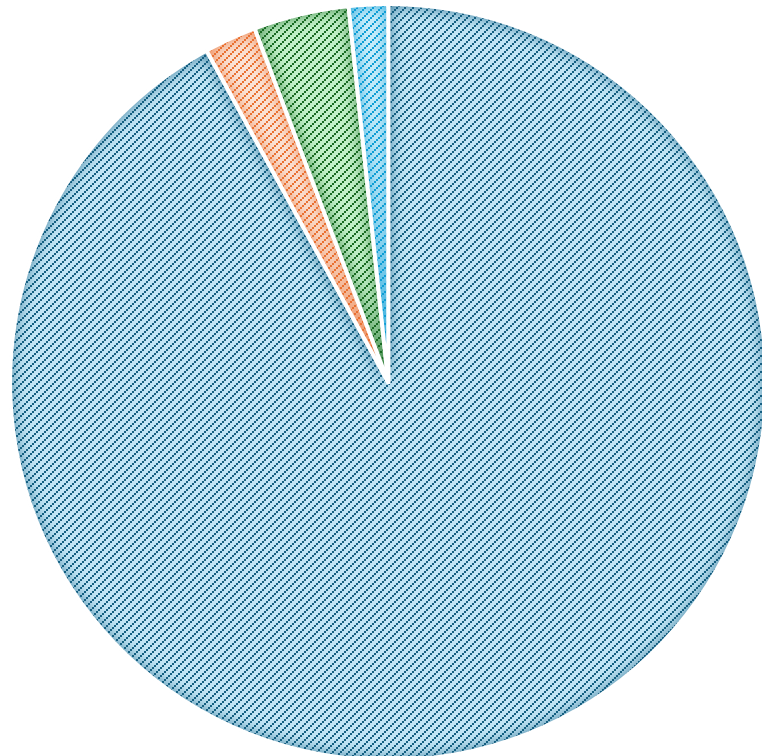
# Dugong Population



A GLOBAL ASSESSMENT OF DUGONG STATUS AND CONSERVATION NEEDS (CMS Report 2024 in press)

including, Chapter: Arabian Gulf & Chapter: Red Sea

- Australia
- Red Sea
- Arabian Gulf
- Other Range States



- Australia: ~165,000 +
- Arabian Gulf: >7300
- UAE 40% of Arabian Gulf: 3000
- Red Sea: <3000
- Other States: ~3000

# Threats to Dugongs & Seagrasses



Dugong feeding on seagrass © Canva.com

## Threats to Dugongs

- Bycatch
- Direct catch
- Vessel strike
- Destruction of seagrass habitats

## Threats to Seagrasses

- Damaging fishing methods
- Development of coastal areas
- Pollution
- Severe storm events
- **Climate change**

# Key Climate Change Impacts on Dugong Habitats



- Cyclones and floods

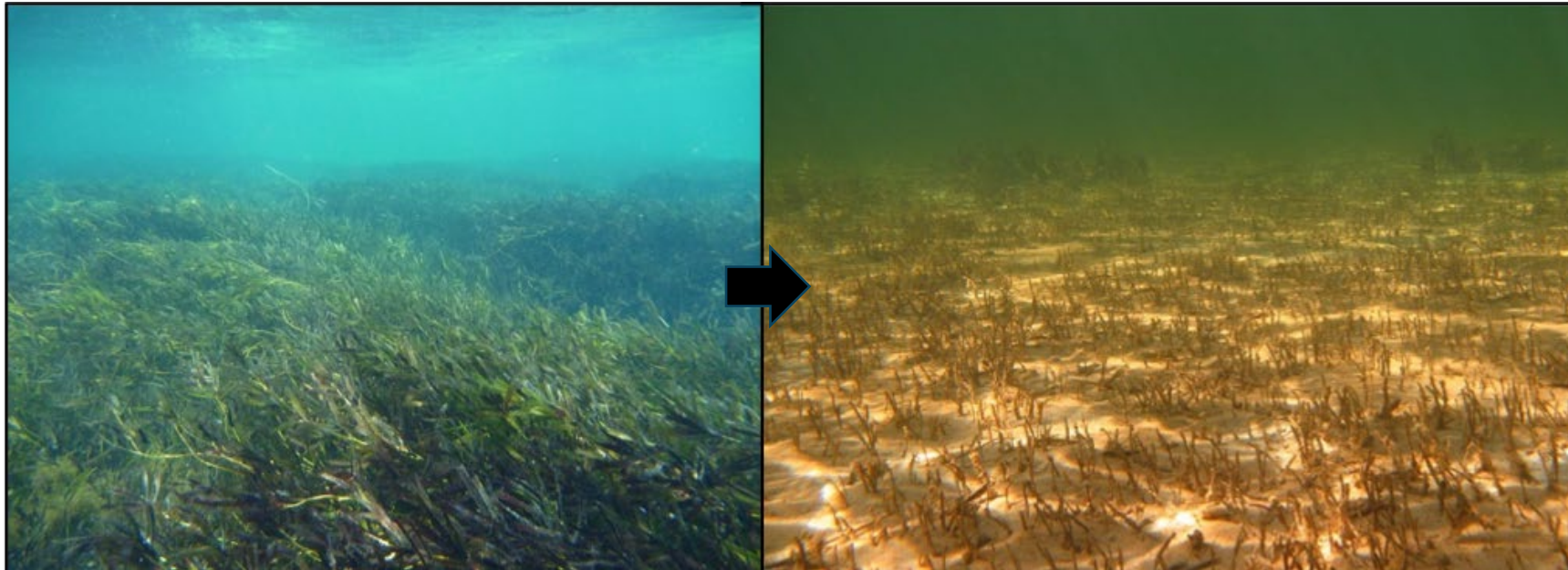
- Mortality
- Temporary immigration
- Reduced fecundity
- Mass stranding

- Marine heatwave

- Seagrass death
- Reduced fecundity



# Dugongs: habitat loss due to seagrass dieback from marine heatwave: Shark Bay Western Australia 2011



*Amphibolis antarctica* before after 2011 marine heatwave Matthew Fraser photographs

- Marine heatwave caused loss of >1,000 km<sup>2</sup> of seagrass, mainly *A. antarctica*
- Dugongs stopped breeding (only 1 calf sighted in 2012 survey)
- No evidence of dugong deaths or temporary migration in 2012 survey

## Climate Change & Dugongs – The Connection

- Dugongs are highly dependent on **seagrass meadows** for survival.
- Climate change is expected to **reduce seagrass biomass and distribution** globally (Marsh et al., 2022).
- **Sea level** rise may allow seagrass expansion in some areas, but **coastal development and habitat loss** could limit this benefit.
- **Overall impact:** A decline in available seagrass could **reduce dugong carrying capacity**, leading to population declines.



COP28  
UAE

# The 2030 Seagrass Breakthrough

Harnessing the potential of  
seagrass as a Nature-based  
Solution (NbS) for climate,  
biodiversity and people



WORLD  
SEAGRASS  
ASSOCIATION



# What are the 2030 Breakthroughs?



Two major UN-backed global climate campaigns, rallying over 13,000 States and non-State actors globally to drive the transition toward a 1.5°C-aligned, resilient world.

Increasing actions and investments into building the resilience of 4 billion vulnerable people and communities.

Sharm Al Shaikh Adaptation Agenda

Taking immediate and robust action towards halving global emissions by 2030 and delivering a fairer, healthier zero carbon world.

2030 Breakthroughs

## Ocean Breakthroughs

Ocean-based solutions to climate mitigation and adaptation and reversing biodiversity loss by 2030

Science

Inclusivity

Governance

Finance

Marine Conservation

Ocean-Based Transport

Aquatic Food

Coastal Tourism

Ocean Renewable Energy

Coral Breakthrough

Mangrove Breakthrough

Seagrass Breakthrough

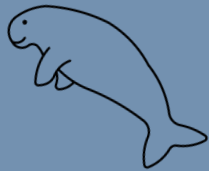
Kelp Breakthrough

# Why 2030 Seagrass Breakthrough?

## Ecological Value



Approx. **60%** of all sea turtle species use seagrass for foraging and feeding grounds



**Dugongs** rely on seagrass meadows as their principal feeding habitats



Approx. **100 species** of sharks and rays have been recorded in seagrass meadows

## Climate Impact



Stores **19.9** gigatons (**18%**) of the world's blue carbon



Protects coastlines by reducing wave energy by **40%**



Seagrass loss contributes up to **299** teragrams of carbon emissions annually

## Socio-economic Importance



**1 billion** people reside within **100km** of seagrass meadows

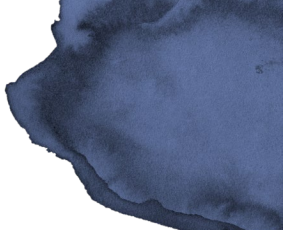


**20%** of the world's major fisheries rely on seagrass ecosystems



Seagrass ecosystem services amount to an estimated **1.9** trillion USD annually

# Seagrass Breakthrough: Guiding Principles



Embrace a Bold Commitment: Our guiding principles embody an unwavering dedication to preserving, restoring, and sustainably managing seagrass ecosystems—a commitment that drives the 2030 Seagrass Breakthrough's mission forward.

**1 Ecosystem Stewardship** 

**6 Global Action with Local Solutions** 

**2 Science-Based Decision-Making** 

**7 Empowerment and Capacity Building** 

**3 Inclusivity and Collaboration** 

**8 Transparency and Accountability** 

**4 Holistic Sustainability** 

**9 Innovation** 

**5 Adaptability** 

**10 Resilience Beyond 2030** 

# 2030 Seagrass Breakthrough: Vision & Goals

Building on the Ocean Breakthroughs, the 2030 Seagrass Breakthrough provides a framework for State and non-State actors to work together to **‘Secure the future of seagrasses globally by mobilizing finance into their protection and restoration’** (Overarching Vision) through collective action on:

## Goal 1

### Ensuring long-term finance



Secure investments of at least USD 12 billion by 2030 from public and private sources to halt loss, effectively protect and accelerate restoration of seagrass

## Goal 2

### Halting seagrass loss



Stop human-induced drivers of seagrass loss by 2030

## Goal 3

### Doubling the seagrass area under effective protection



Strengthen seagrass protection, aligning it with the global 30x30 targets

## Goal 4

### Accelerating seagrass restoration



Facilitate the scaling, development and implementation of innovative solutions to restore

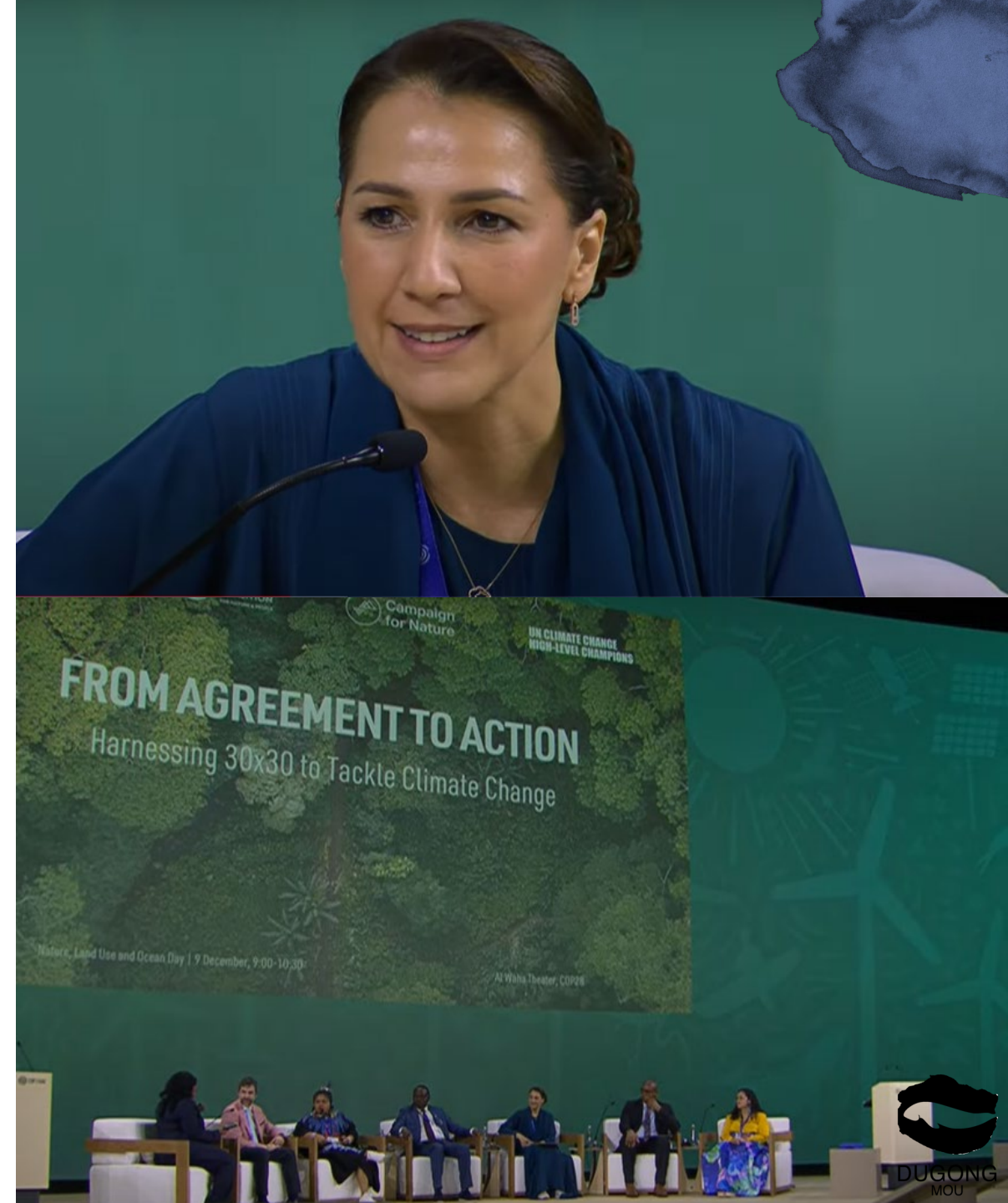
# Key Milestones to Date

## UNFCCC COP28

- **5 Dec 2023** - Public announcement of the initiative
- **9 Dec 2023** - HE Mariam Almheiri announced UAE joining the initiative at COP28 Core Nature Day Event
- **12 Dec 2023** - High-level dialogue to bolster political support

## CMS COP14

- **15 Feb 2024** – COP14 side-event on the initiative
- **17 Feb 2024** – CMS [Resolution](#) and [Decisions](#) on seagrass conservation adopted (preamble welcomes the initiative)



# Key Milestones to Date

## World Seagrass Day 2024

- **1 Mar 2024** – Experts workshop finalized the 10 Guiding Principles of the initiative

## Expert Pool

- **22 Apr 2024** - Launched call for seagrass experts
- **2 Sep 2024** – 1<sup>st</sup> Meeting of the Pool of Experts to finalize the initiative's Goals (37 Global Experts)

## Membership

- **2023** - United Arab Emirates
- **2024** - Kingdom of Saudi Arabia

## CBD COP16 & UNFCCC COP 29

- **27 Oct. 2024** – COP16 side-event
- **Nov. 2024** – side event on Ocean Breakthrough





## Non-State actors

### International Organizations



UN Climate Change High-Level Champions

### Financial Institutions

### NGOs



WORLD  
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ASSOCIATION

صندوق محمد بن زايد  
للمحافظة على الكائنات الحية  
The Mohamed bin Zayed SPECIES CONSERVATION FUND



PROJECT SEAGRASS

### Private Sector

## Key Takeaways and Call to Action

- **Urgency of Seagrass Conservation:** Seagrasses are crucial for biodiversity, climate resilience, and coastal protection. Immediate action is needed to conserve and restore these vital ecosystems for the benefit of both the environment and society.
- **Join the 2030 Seagrass Breakthrough:** Commit to the 10 guiding principles and take concrete actions to advance seagrass conservation. Together, we can scale efforts globally and achieve ambitious restoration and protection goals.
- **Seagrasses as a Climate Solution:** Seagrass meadows are powerful carbon sinks, helping mitigate climate change. Protecting and restoring these ecosystems is essential to achieving global climate goals, including net-zero emissions by 2030.
- **Collaboration for Impact:** The 2030 Seagrass Breakthrough is a global initiative that fosters collaboration among governments, experts, financial institutions, and communities. Working together, we can create a coordinated, impactful framework for seagrass conservation.
- **Mobilize Resources for Action:** Support innovative financing mechanisms and partnerships to attract funding for seagrass conservation. By unlocking investment, we can accelerate global efforts to restore and protect seagrass meadows and their ecosystems.

# Thank you for your attention

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# Protecting seagrass and the ecosystem it supports

<https://www.dugongseagrass.org/>