

Seagrass and Dugong Conservation in Gulf of Mannar and Palk Bay region in Tamil Nadu, South-eastern India - Status, Conservation Initiatives and Challenges

J.K. Patterson Edward



Suganthi Devadason Marine Research Institute

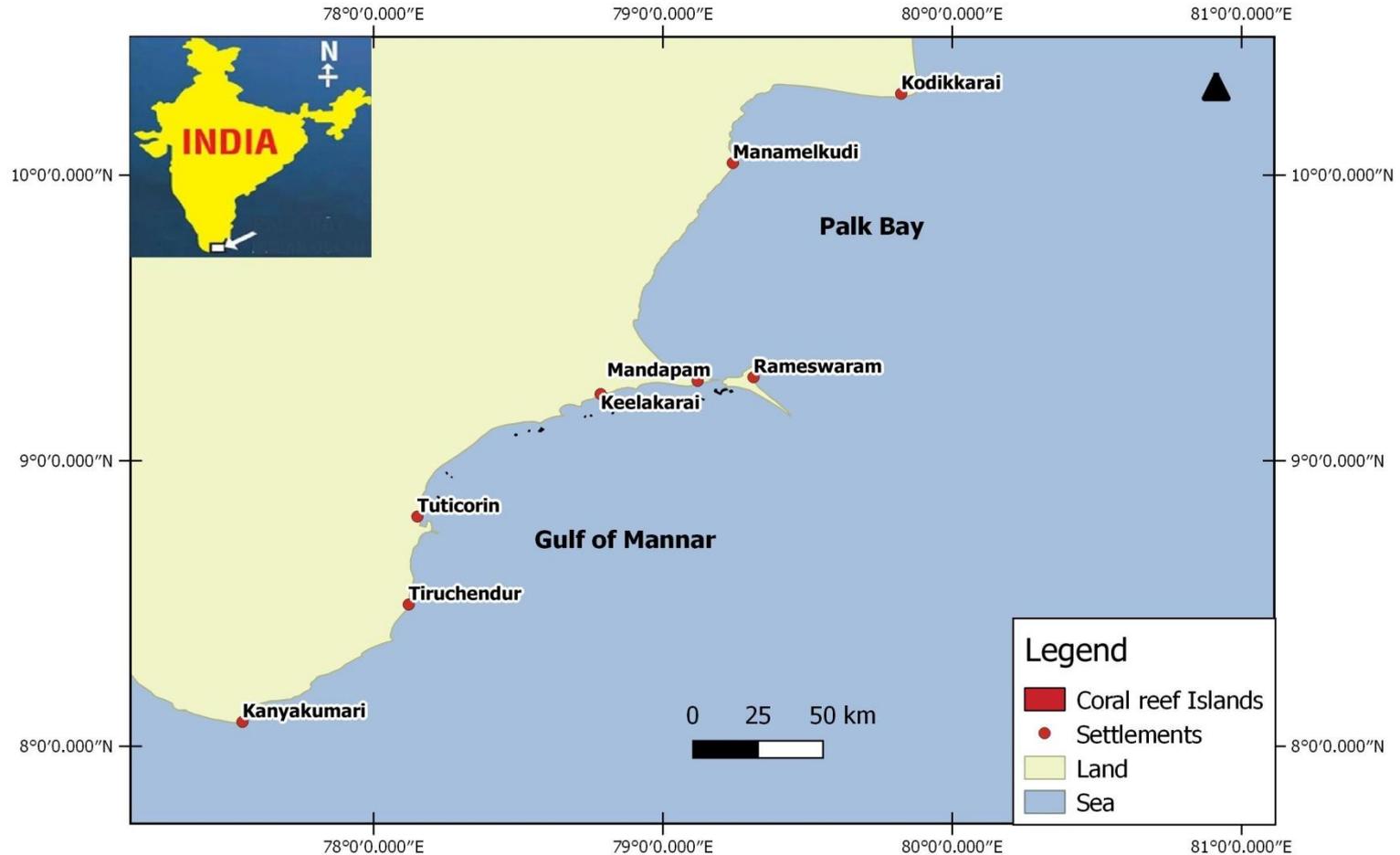
44- Beach Road, Tuticorin – 628 001, Tamil Nadu, India
e-mail: edwardjkpatterson@sdmri.in
www.sdmri.in

Third Meeting of Signatories to the Dugong MOU, 14.03.2017

Seagrass and Dugong Distribution in India



Conservation Status - Gulf of Mannar & Palk Bay



Gulf of Mannar Marine National Park, declared in 1986 (21 Islands and surrounding shallow coastal waters, covering 560 sq.km area between Rameshwaram and Tuticorin), coastal length - 160 KM.

Gulf of Mannar Biosphere Reserve, declared in 1989 (Between Rameswaram and Kanyakumari, covering 10,500 sq.km), Coastal length - 365 Km

Palk Bay - No conservation status

Seagrasses

Baseline data

Distribution
Diversity
Status

From 2007 onwards



Palk Bay



Coastal length (between Pamban and Athiramapattiam)
- 170 km

Seagrass area cover - **209 Km²**
(2014-15)

Dominant species -

***Thalassia hemprichii*,**
Syringodium isoetifolium
Cymodocea serrulata



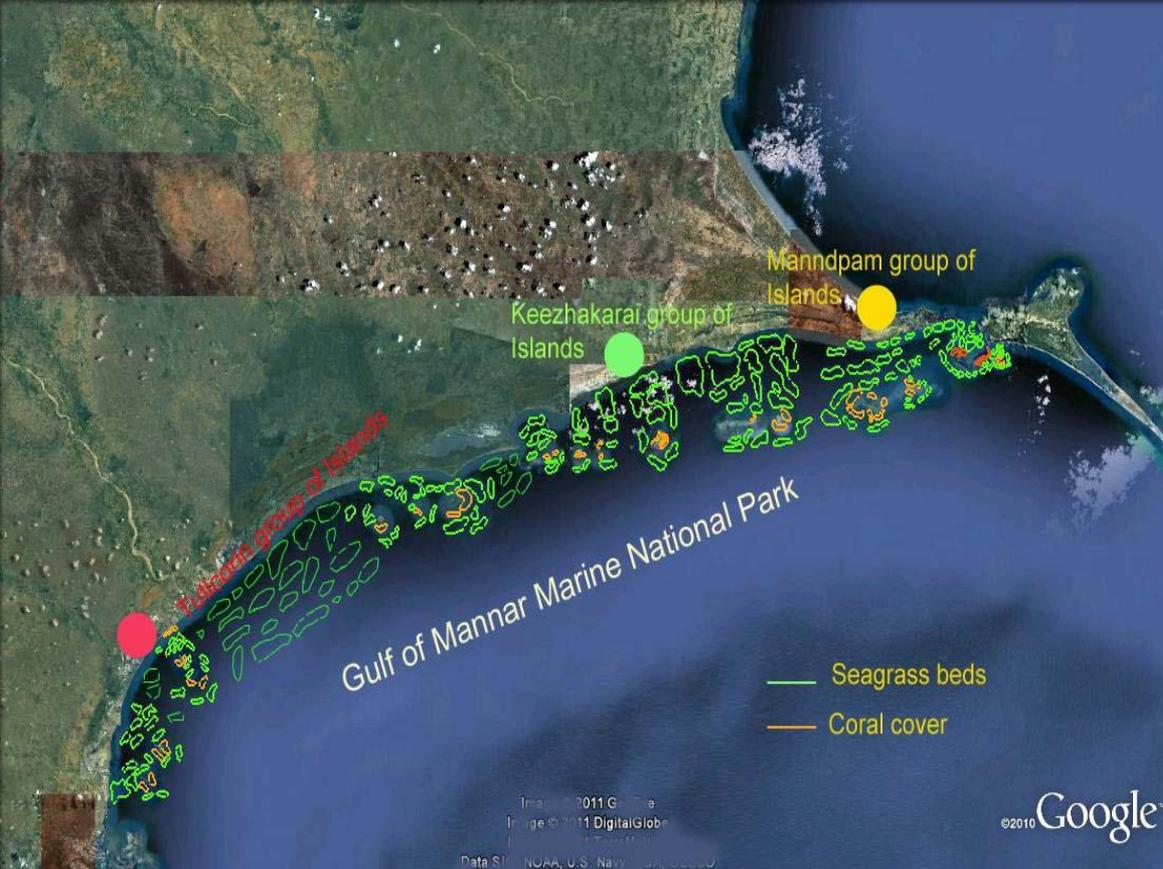
Gulf of Mannar

Coastal length (between
Pamban and Tuticorin) - **160 km**

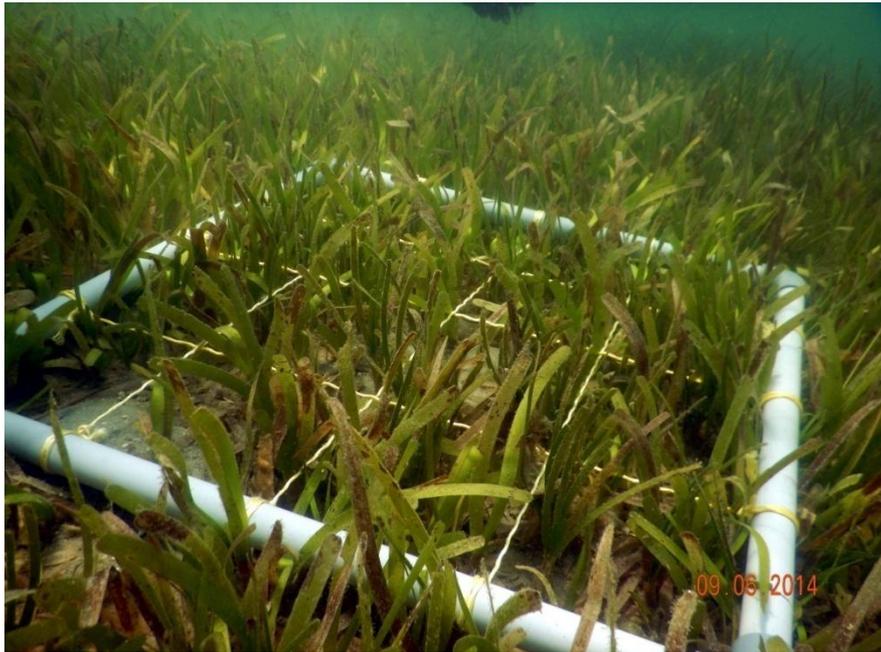
Seagrass area cover - **96 Km²**
(2011-12)

Dominant species -

***Thalassia hemprichii*,**
Syringodium isoetifolium and
Cymodocea serrulata





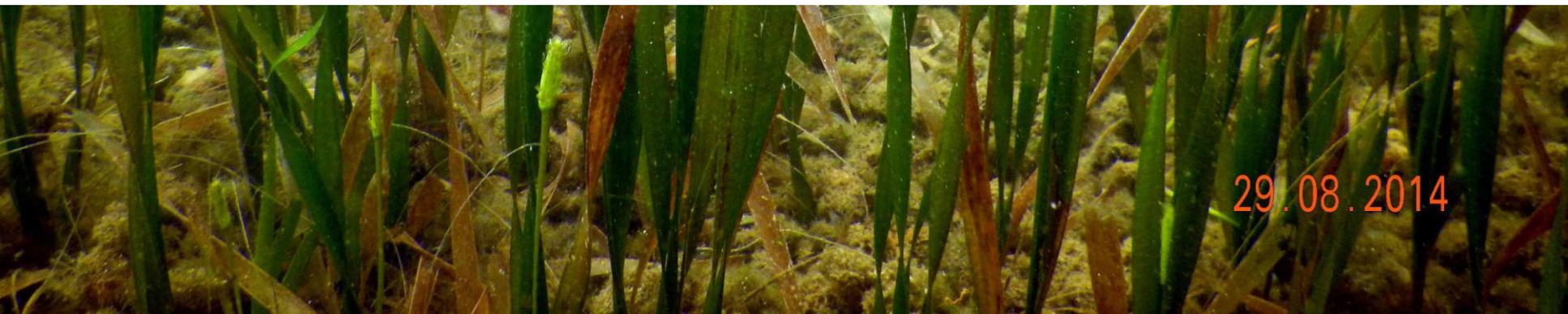


Threats to seagrass habitats

Degraded areas

Level of degradation

Causative agents



Seagrass Rehabilitation

Started in 2008 (Palk Bay and Gulf of Mannar) - 200 m² area

Spriggs (Quadrant) method followed

Low cost and low tech

2012-14 - 1 Acre (Vaan Island, Gulf of Mannar)

2013 - 14 - 1 Acre (Koswari Island, Gulf of Mannar)



Ongoing Seagrass Rehabilitation work

2 Acres (2015 – 2017) in Koswari Island (Gulf of Mannar), Supported by the Ministry of Environment, Forest and Climate Change under Climate Change Action Plan for Tamil nadu

2 Acres (2017) in Mandapam Coast (Palk Bay), Supported by the Tamil Nadu Forest Dept., through JICA funded Tamil Nadu Biodiversity Greening Project



Challenges

Gulf of Mannar - Marine Biosphere Reserve & marine National Park with Management Plan

Palk Bay - No conservation status

**Species Conservation Action Plan for dugong and its habitats in Palk Bay, developed in 2014-2016 – by Tamilnadu Forest Dept. (JICA supported TBGP project).
Implementation of Action Plan started from 2016-17.**

Population Growth (In Gulf of Mannar – 34% increase in 15 years, 1989 – 2004

High dependency on associated fishery by small scale fishermen.



Dugongs

Studies on stranded animals

Questionnaire surveys

Boat survey (2016)

Helicam survey (2016)



Likely population - based on questionnaire survey

As per Ministry of Environment and Forests, Government of India supported study by GEER Foundation, Gujarat during 2006-2010, the following are the likely existing numbers.

| | |
|-------------------------------------------------------------------------------|-------------------------------------|
| Gulf of Mannar & Palk Bay (Tamil Nadu) (Mainland - East coast) | : 77 (Min.) -158 (Max.) Nos. |
| Andaman & Nicobar Islands | : 44-81 Nos. |
| Gulf of Katchchh (Gujarat) (Mainland - West coast) | : 10-15 Nos. |

As per Tamil Nadu Biodiversity Greening Project supported survey 2014-2016, the following are the likely existing numbers.

| | |
|-------------------------------------------------------------------------------|-------------------------------------|
| Gulf of Mannar & Palk Bay (Tamil Nadu) (Mainland - East coast) | : 49 (Min.) -153 (Max.) Nos. |
|-------------------------------------------------------------------------------|-------------------------------------|

Threats

| Threats | Threat level / Priority |
|------------------------------------------------------------------------------------------------|--------------------------------|
| Entanglement onto fishing nets (gill nets such as sangili valai, thirukkai valai, salai valai) | High |
| Poaching for meat | High |
| Habitat destruction (Seagrass destruction) | High |
| Propeller injury | High |
| Pollution (solid waste disposal, sewage and waste water disposal from aqua farms) | Medium |
| Sedimentation caused by trawling | Medium |
| Lack of awareness about the importance of dugongs | Medium |
| Lack of capacity to identify and rescue dugongs | Low |
| Climate variability | Low |



Initiatives

Dugongs are included under **Schedule - I** of the Wildlife Protection Act, 1972, in 2001

A comprehensive scheme namely '**Integrated Development of Wildlife Habitats**' with recovery programmes for saving critically endangered species and habitats, including dugongs and seagrass beds, was made operation by MoEF&CC during the 11th plan period (2007-2012).

MoEF&CC signed the **CMS-UNEP MoU** for the conservation and management of the dugong in April 2008.

Task Force for the Conservation of Dugongs, was constituted by MoEF&CC in October 2010

The **1st South Asia Sub-regional Workshop of UNEP/CMS Memorandum of Understanding on the Conservation and Management of Dugongs and their Habitats** was organized by MoEF&CC in Tuticorin (Gulf of Mannar Area), Tamil Nadu during 6-7 June 2011.

National Action Plan to protect dugongs and its habitats in India, 2014

Action Plan to protect dugongs in Palk bay, by Tamilnadu Forest Department, 2016

MoEF&CC has sanctioned a protect, with budget outlay of about USD. 4 Million



Present status & Challenges

Lack of comprehensive scientific data on Dugongs - available fragmented data are mostly about stranded animals, review articles, general articles and results of questionnaire survey

Lack of capacity like aerial survey etc.) and focused long term research programmes.

No networking of researchers, institutions and programmes



Acknowledgements



सत्यमेव जयते

Government of India

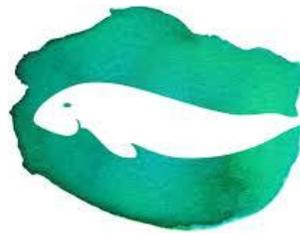


CORDIO

giz



CMS



DUGONG
MOU

