

Seagrass: Global Conservation Challenges

Len McKenzie¹ & Richard Unsworth²

¹ James Cook University, Cairns, Queensland, Australia

² Swansea University, Swansea, Wales, United Kingdom

What are seagrasses?

a functional group of
marine flowering plants

- are tidal or subtidal
- have light sensitive leaves
- have a true root system
- have an internal system of veins
- produce flowers, fruits and seeds
- have important ecological roles



photo courtesy Ria Tan



photo courtesy Ria Tan



photo courtesy Ria Tan

Provide many important services

nutrient filter



food for dugongs



nursery/habitat for fisheries



coastal protection



food for sea turtles



blue carbon



disease mitigation



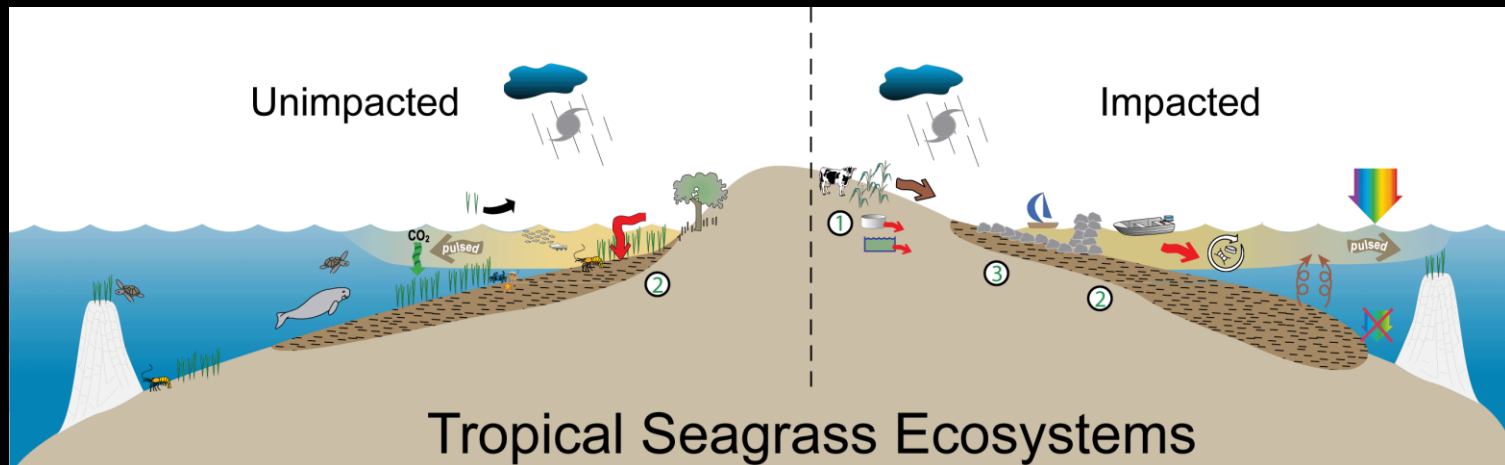
Problem

Global decline of seagrass meadows

Approximately **58%** of seagrass meadows globally, have lost part of their distribution

According to reports, the documented losses in seagrass meadows globally since 1980 are **equivalent to two football (soccer) fields per hour**

Waycott et al (2009) *PNAS* 106(30): 12377–12381



Many challenges

Challenge 1.

local & regional recognition of seagrass importance

Challenge 2.

up-to-date information on status & condition

Challenge 3.

identifying threatening activities at local scales

Challenge 4.

balancing the needs of resources users with conservation, economic growth and food security

Challenge 5.

scientific research to support conservation actions

Challenge 1. Education & engagement

local communities



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Challenge 1. Education & engagement

local government & media

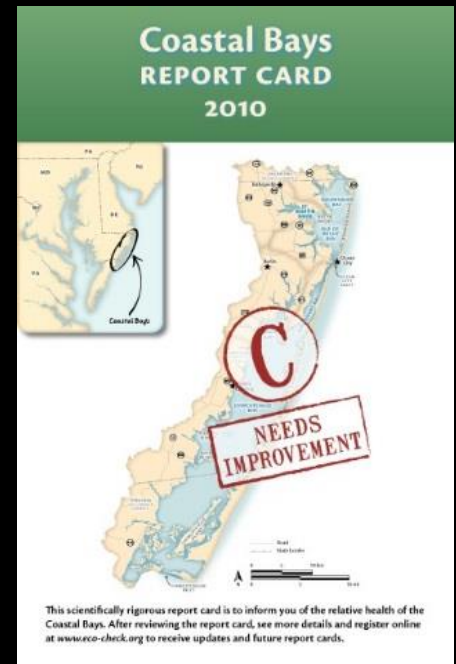
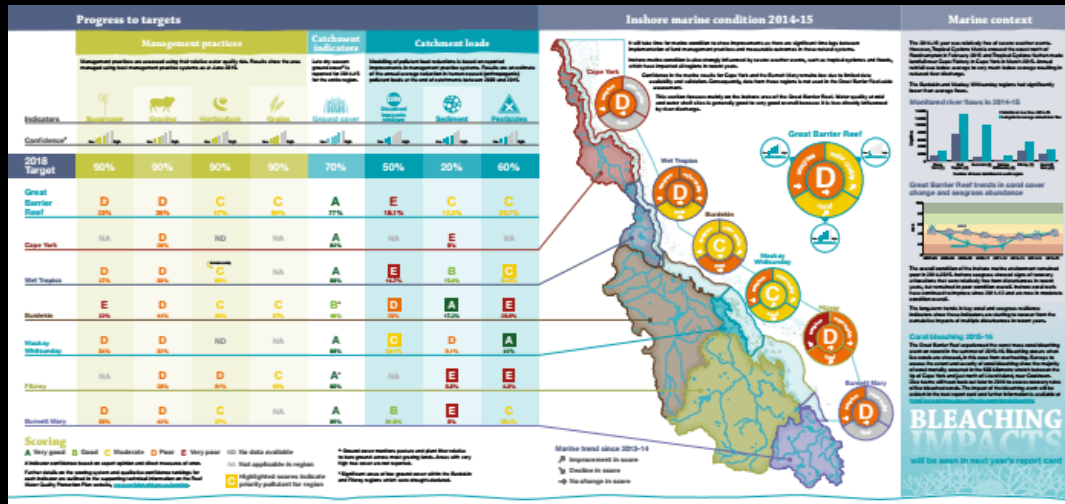


Ensure you communicate the findings to the appropriate people

Challenge 2

What is the status and condition of the seagrass resource?

- a. inventory** (species & extent)
- b. condition assessment**



Seagrass extent poorly mapped in the Indo-Pacific

Globally mapped 177,000 km²
but estimated to be 300,000 – 600,000 km²

e.g. “Coral Triangle”

| | <i>species</i> | <i>extent</i> |
|---------------------|----------------|--|
| Philippines | 13 (15?) | 978 km ² (~22,000 km ²) |
| Malaysia (eastern) | 6 (12?) | 3.2 km ² |
| Indonesia (eastern) | 13 | ~20,000 km ² |
| Timor Leste | 5 (13?) | 42 km ² |
| Papua New Guinea | 13 | 118 km ² |
| Solomon Islands | 10 | 80 km ² |
| TOTAL | 13 (15) | 21,200 to 42,230 km² |

Huge task, so we all need to work together

Seagrass Spotter

citizen science



entry-level

novice



Spotted by E Mayhead on 17th
January 2017 in Lajas, Puerto Rico
Sighting Information:

Thalassia testudinum

Observed: Snorkelling

Observed: Subtidal

Coverage: Large area of
continuous seagrass (>50m²)

Flowers: None

Sediment: Pebbles

Algae Coverage: 0%



Available on the
App Store



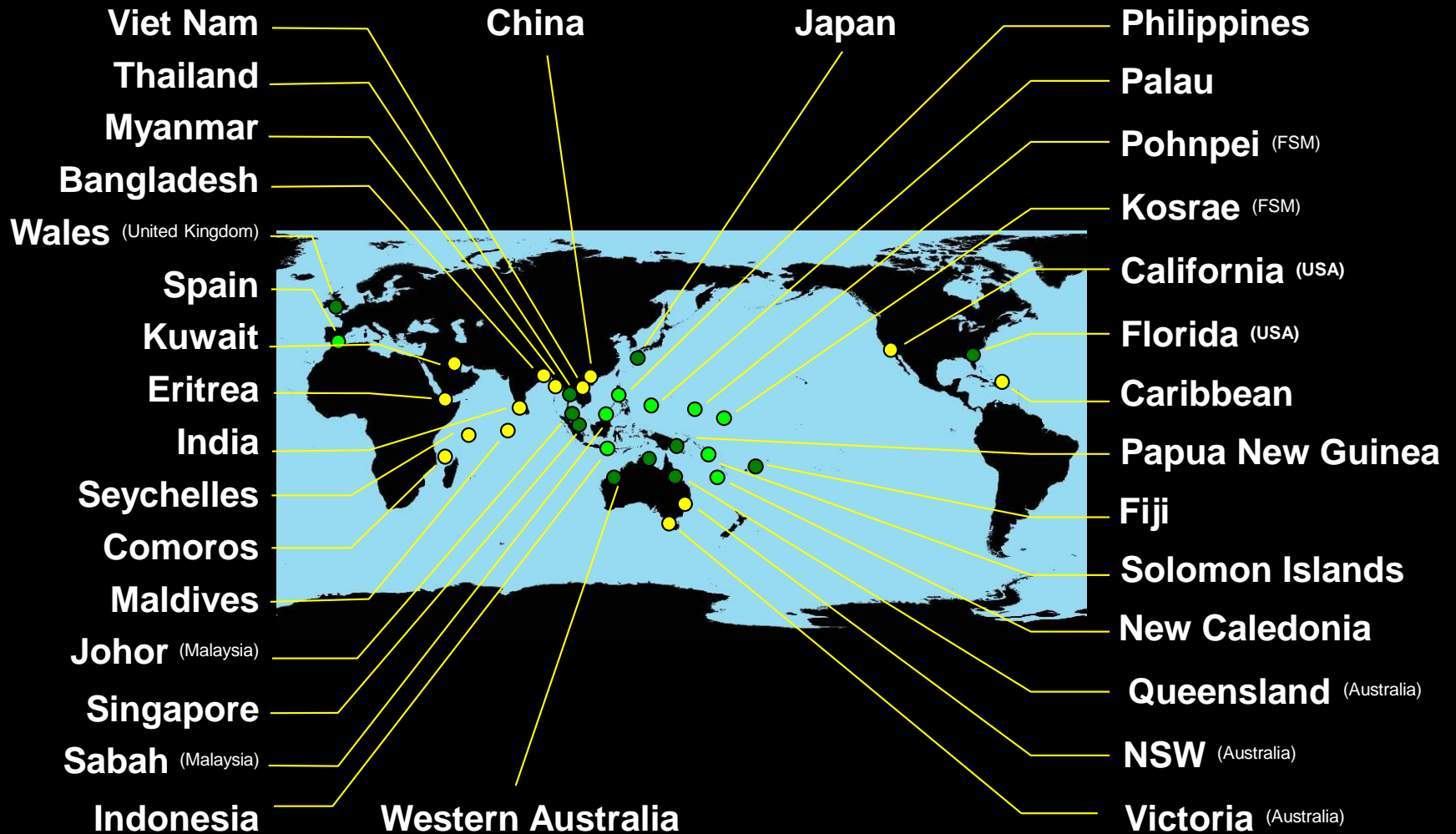
GET IT ON
Google play

Seagrass-Watch monitoring

scientists partnering with communities



- education only
- <3yrs monitoring
- >3yrs monitoring



Challenge 3

Need to identify the threatening human activities at local scales

direct

- coastal development
- dredging
- netting



indirect

- agricultural runoff
- industrial/urban runoff
- overfishing



Challenge 4

balancing the needs of resources users with conservation,
economic growth and food security



Challenge 5

scientific research to support conservation actions

Poorly enforced MPA



Small MPA with some poaching



Unmanaged highly exploited seagrass



Pristine healthy seagrass (Chagos)



Some optimism in the face of such enormous challenges

#oceanoptimism

*“The evidence suggests that if we do not **balance** the bad news with good, and the problems with solutions, we will not **motivate** people to act” (OceanOptimism.org)*



PROJECTSEAGRASS.ORG

**For more
information,
please visit**

www.seagrasswatch.org

www.projectseagrass.org

or contact

Len McKenzie

Director Seagrass-Watch

hq@seagrasswatch.org

Richard Unsworth

Director ProjectSeagrass

info@projectseagrass.org

