and 'Teal'

Blue Carbon as Natural Climate Solution

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For *Western Port Biosphere*

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A DEAKIN IDEA

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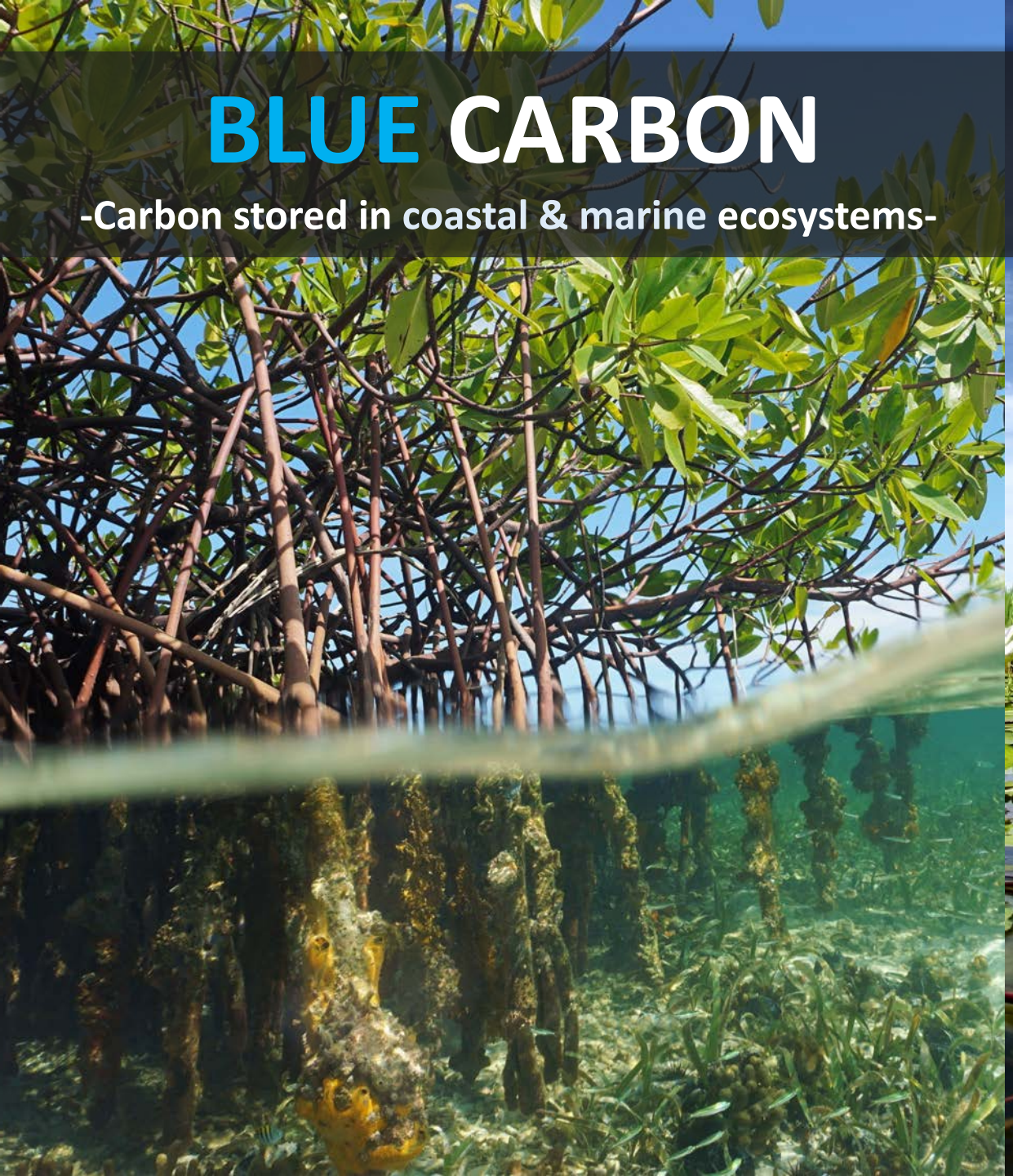
BLUE CARBON

-Carbon stored in coastal & marine ecosystems-

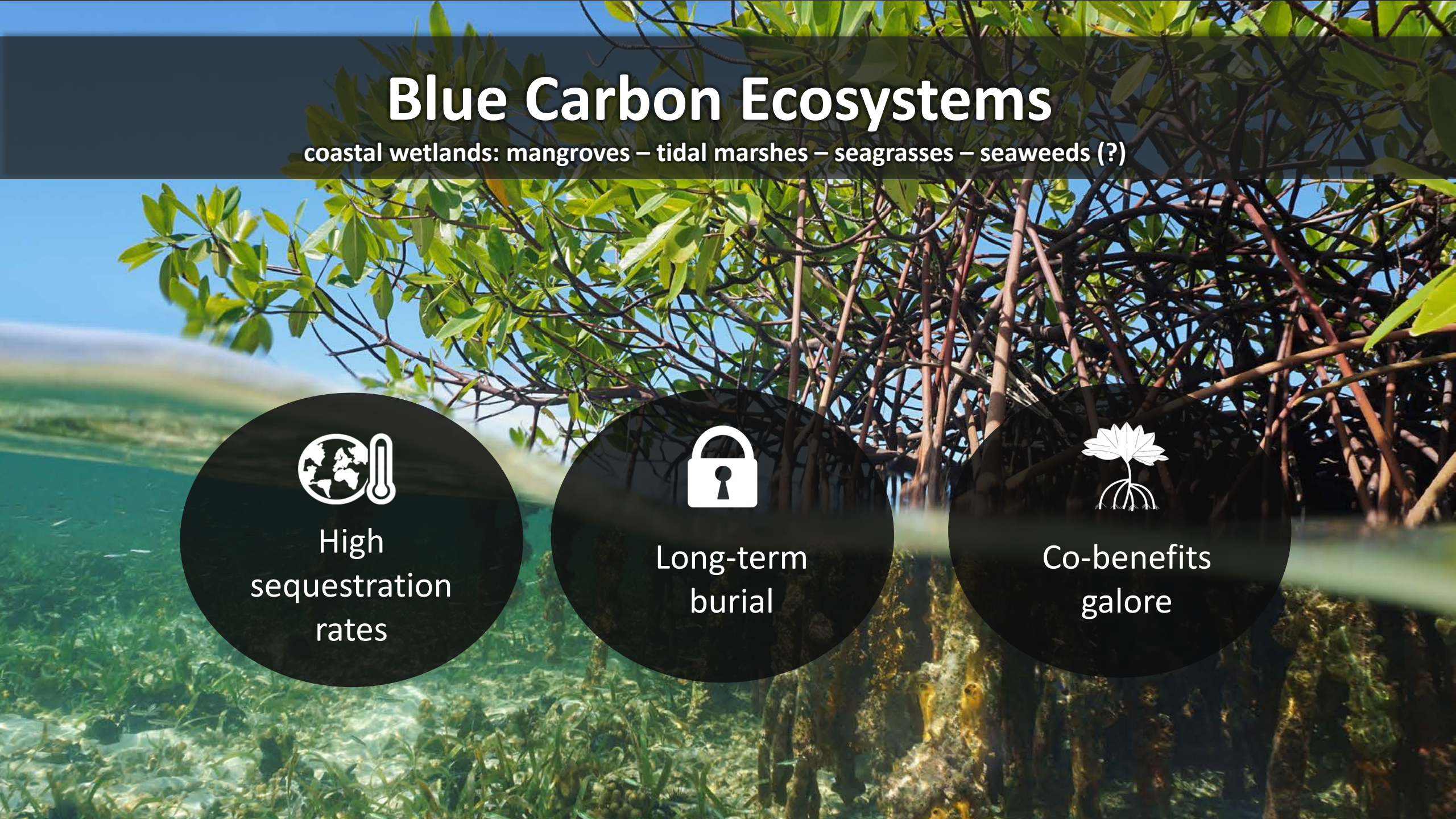


TEAL CARBON

-Carbon stored in freshwater ecosystems-

Blue Carbon Ecosystems

coastal wetlands: mangroves – tidal marshes – seagrasses – seaweeds (?)



High sequestration rates

Long-term burial

Co-benefits galore

REVIEWS

Check for updates

Blue carbon as a natural climate solution

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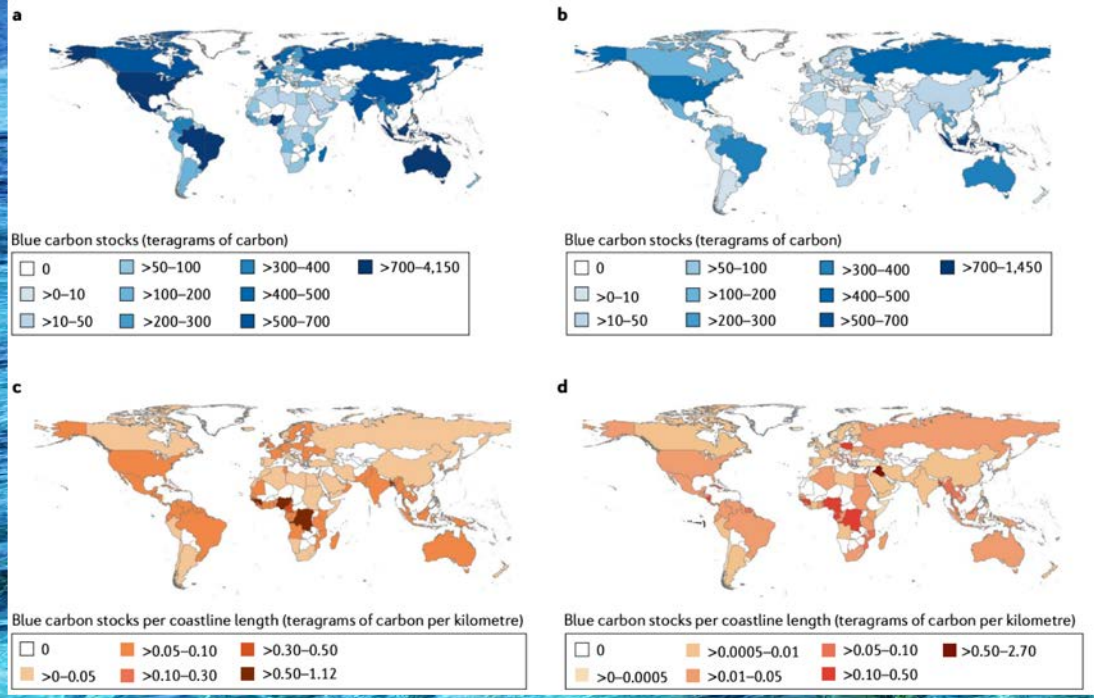
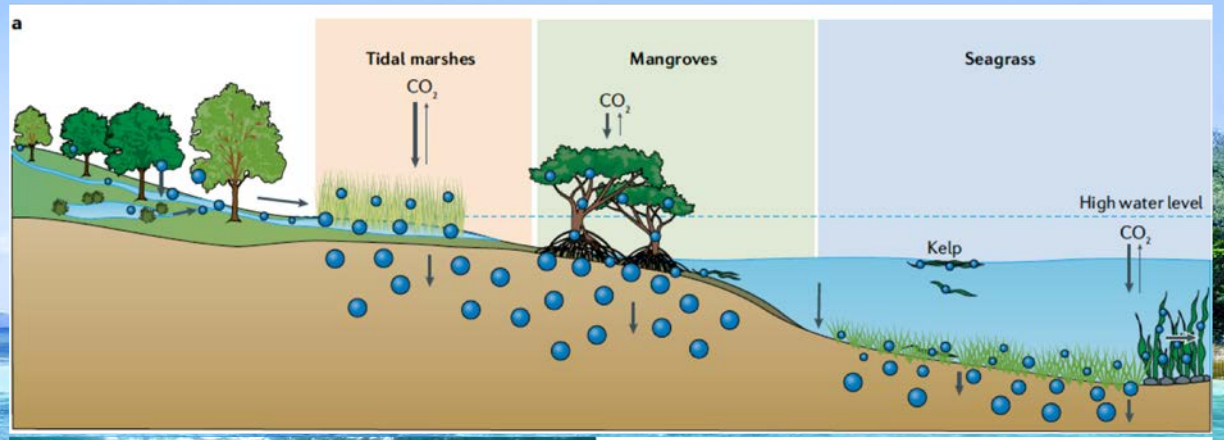
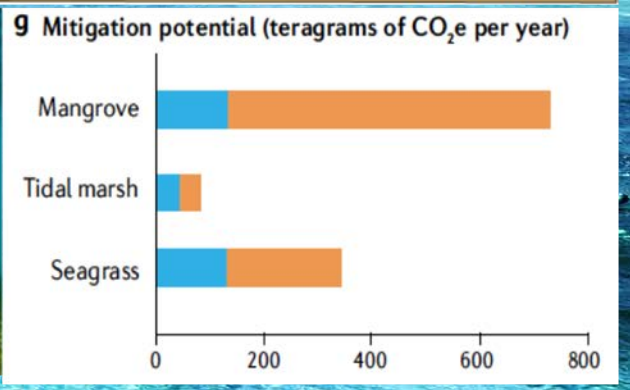
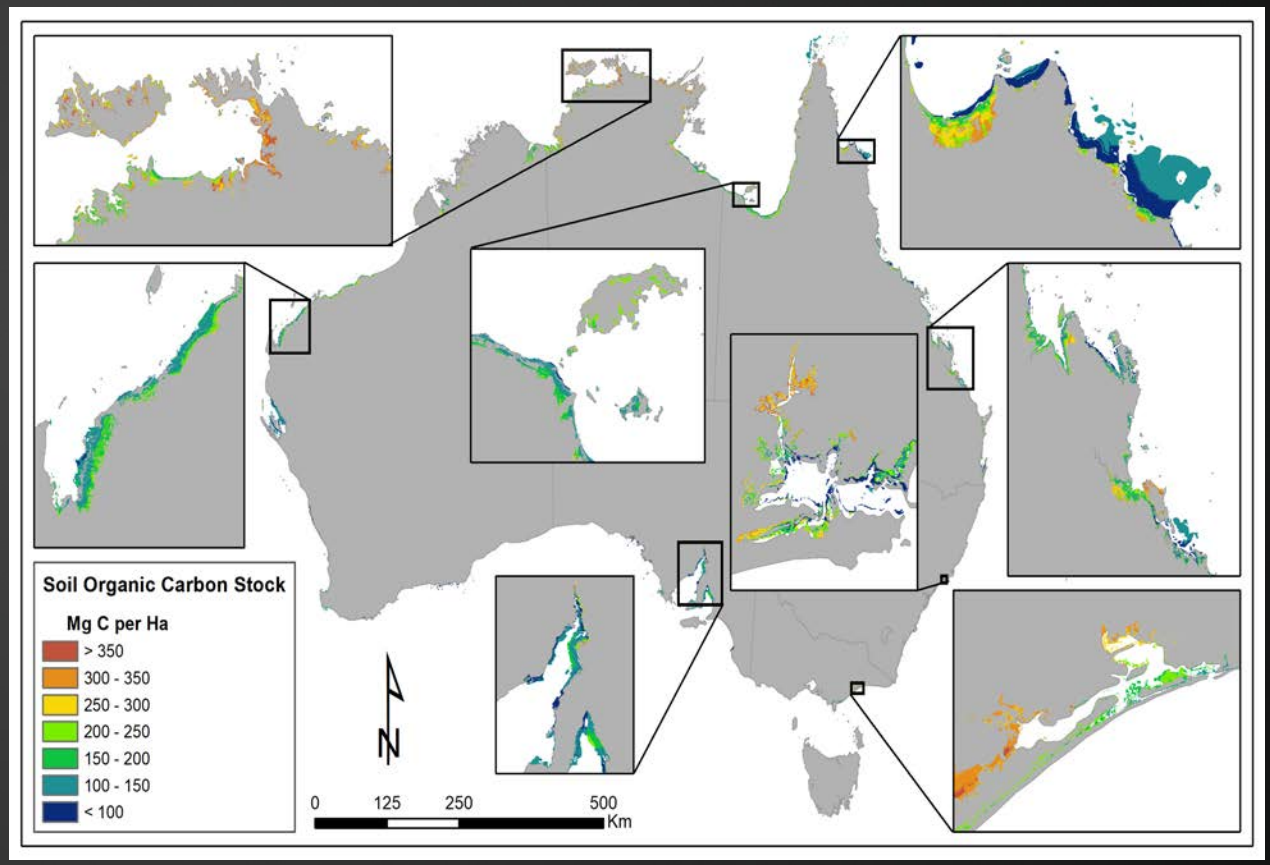






Australia's Blue Carbon

Stock	Sequestration	Loss
5-11% of the world's Blue Carbon	4-6% of the CO_2 emissions from burning fossil fuels	Equivalent to an extra 10 million cars on the road pa

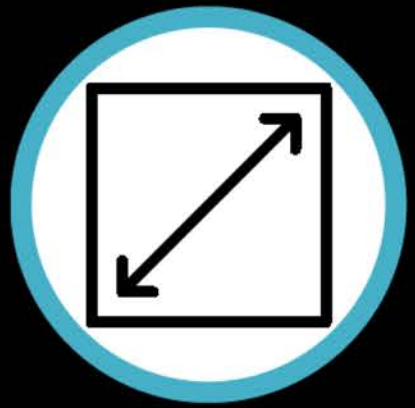


BLUE CARBON OPPORTUNITIES AT A LOCAL SCALE

Western Port Biosphere

MAPPING

past, current and future distribution of coastal wetlands in the region



ESTIMATING

how much land is amenable for wetland restoration

ESTIMATING

additional co-benefits (e.g. fisheries, recreation, coastal protection) provided by these ecosystems

EVALUATING

the feasibility of developing a blue carbon restoration project within the region

DELIVERABLES

The results of the activities outlined will be compiled into a report detailing the Blue Carbon assets for the Western Port Biosphere and will include:

HABITAT MAPS

Maps showing the habitat distribution (past and current)

RESTORATION MAPS

Maps and estimates of area available for restoration

ECOSYSTEM VALUES

Results of the value of ecosystem services provided by coastal wetlands

FUTURE SCOPE

Scope for future blue carbon in the region & development of a roadmap to guide future actions

BLUE CARBON IN HOBSONS BAY CITY COUNCIL

180 ha	105 ha	487 ha
HISTORIC DISTRIBUTION (Boon et al. 2011)	**LEVEE REMOVAL** (Moritsch et al. 2021)	**MANAGING SLR** (Moritsch et al. 2021)
Carbon		
356 tonnes CO_2e y^{-1}	**205** tonnes CO_2e y^{-1}	2050 **661** tonnes CO_2e y^{-1} 2070 **294** tonnes CO_2e y^{-1}
Potential carbon accumulated after 30 years		
After **30** years	**10,700** tonnes CO_2e	**6,240** tonnes CO_2e
		2080 **13,200** tonnes CO_2e 2100 **8,800** tonnes CO_2e
The potential carbon stocks after 30 years of accumulation is equivalent to the following annual emissions:		
Car emissions	**2,320**	**1,355**
		2080 **4,308** 2100 **1,900**

Biodiversity Response Planning

VICTORIAN COASTAL WETLAND RESTORATION PROGRAM

Restoring wetlands of our past, for our future.

VICTORIA State Government

Blue Carbon Lab

DEAKIN UNIVERSITY

The Nature Conservancy

Parks VICTORIA

UNSW Water Research Laboratory

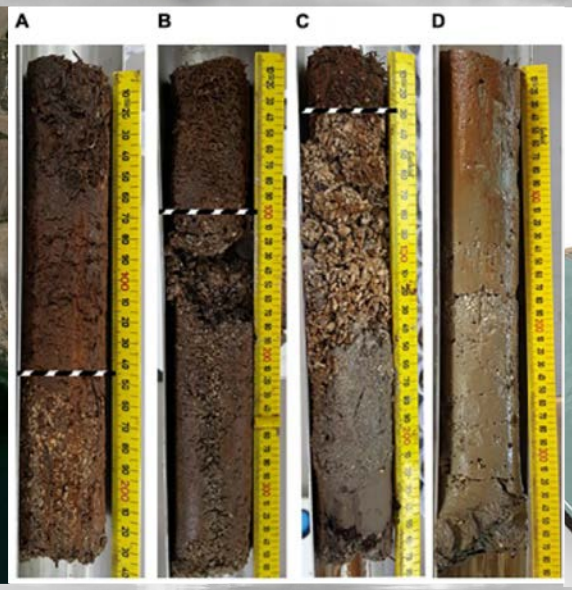
Greening Australia

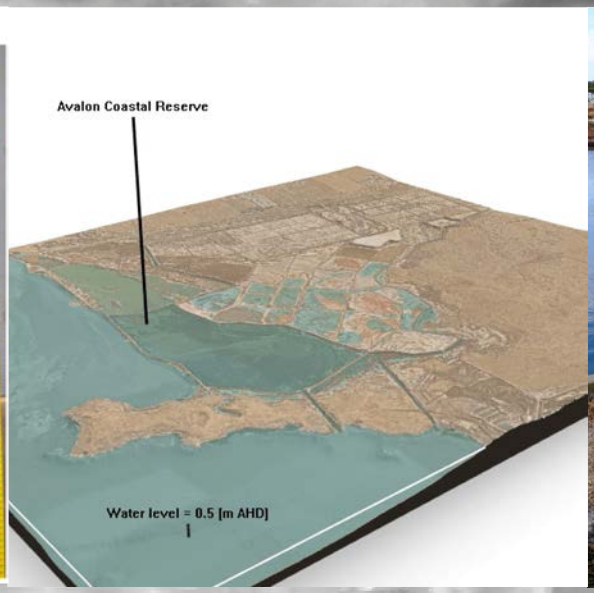
Wadawurrung

Coastcare Victoria

CORANGAMITE CMA

West Gippsland Catchment Management Authority





PROGRAM 1
Industrial Wasteland to Wetland

PROGRAM 2
On-Ground Works

Opportunity to upscale fencing of marginal farmland along the entire Victorian coast to DOUBLE the State's total area of saltmarsh

Restoring **30,000 ha** of saltmarsh would result in:

- Sequester an additional **110,000t** CO_2
- + Regional Jobs
- Increase fish production by **2000t/yr**
- **$2Bil** in coastal protection
- **$27Mil** Recreational benefit

PROGRAM 3

Protecting Cultural Heritage

PROGRAM 4

Engaging the Community

#BlueCarbonArmy

Thank you for listening

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www.bluecarbonlab.org