



Estuary Care  
**Foundation**

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# SEAGRASS MONITORING & SHELLFISH RESTORATION PROJECT

Emma-Louise Daly

# About Me...



- Mornington Peninsula, Victoria
- Travel
  - PADI Open Water Scuba Instructor
  - YA Sailing Instructor
  - Deckhand/Skipper
  - Naturalist Guide, Tourism
- Bachelor Environmental Science student
- Volunteering
  - Sea Shepherd
  - Eye on the Reef
  - Sea Turtle Rehabilitation
  - AMCS
  - Estuary Care Foundation
- Experiencing Marine Sanctuaries
- Reef Watch SA

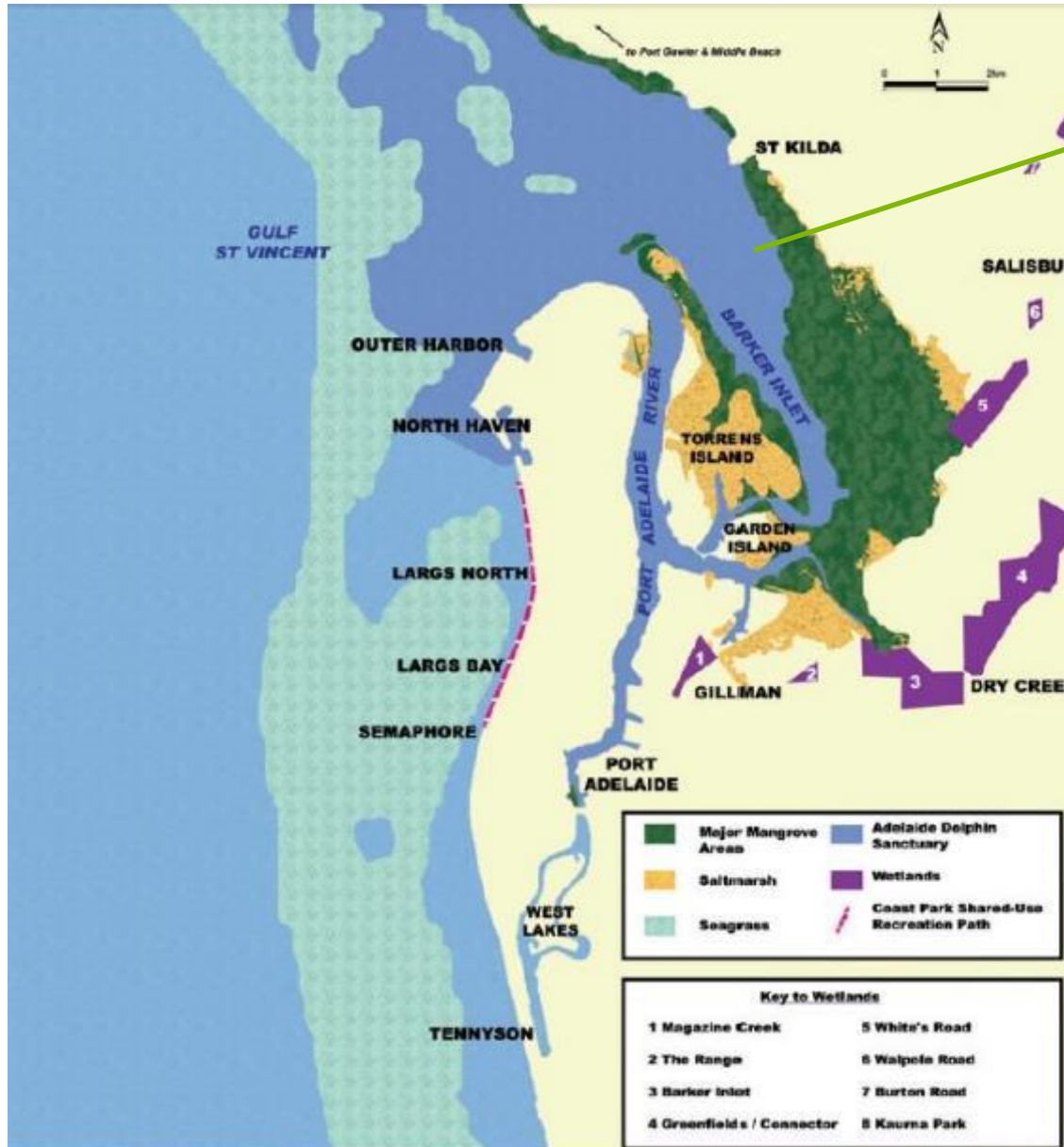


*Promoting  
nature-based  
solutions  
through  
community  
action.*

The Estuary Care Foundation SA was established in 2016 to **promote the protection of the ecology and shorelines of South Australia's Port River and Barker Inlet.**

Key Objectives:

- Conserve, protect, and enhance the ecology of the Port River and Barker Inlet Estuary
- Eco-engineering solutions to safeguard shorelines
- Facilitate research, training and education
- Collaborate with local residents, community organisations, industries, corporations and government.



**Barker Inlet and Port River Estuary:** where fresh water from the land mixes with salt water from the ocean.

### Areas of Ecological Importance:

- Adelaide Dolphin Sanctuary
- Adelaide International Bird Sanctuary
- Barker Inlet – St Kilda Aquatic Reserve
- Mutton Cove Conservation Reserve
- Chapman Creek Aquatic Reserve
- Torrens Island Conservation Park

# Threats

- Dredging (Flinders Port)
- Increased traffic/use
- Over-fishing
- Poor water quality
- Sea-level rise
- Encroachment of residential and industrial development
- Invasive species (i.e. *Caulerpa sp.*)
- Excessive nutrient levels; algal blooms; blocking sunlight

# Seagrasses



- Flowering plant
- Form extensive meadows
- Stabilise the seabed
- Reduce waves and currents
- Provide food and habitat
- Carbon sequestration

## Local Species:

- *Zostera* sp. (intertidal)
- *Posidonia* sp. (subtidal)

# Monitoring Program

- 1/3 of SA's seagrass meadows have been lost since 1949
- Aim to establish a long-term monitoring program
- Community engagement and initiative



# Seagrass Translocation Trials

**Step 1: Approvals** – DEW permit to collect native plant material, PIRSA permit to deposit aquatic resources, Flinders Ports Deed of Indemnity.

**Step 2: Secure Shell Bags**

**Step 3: Seagrass Translocation**

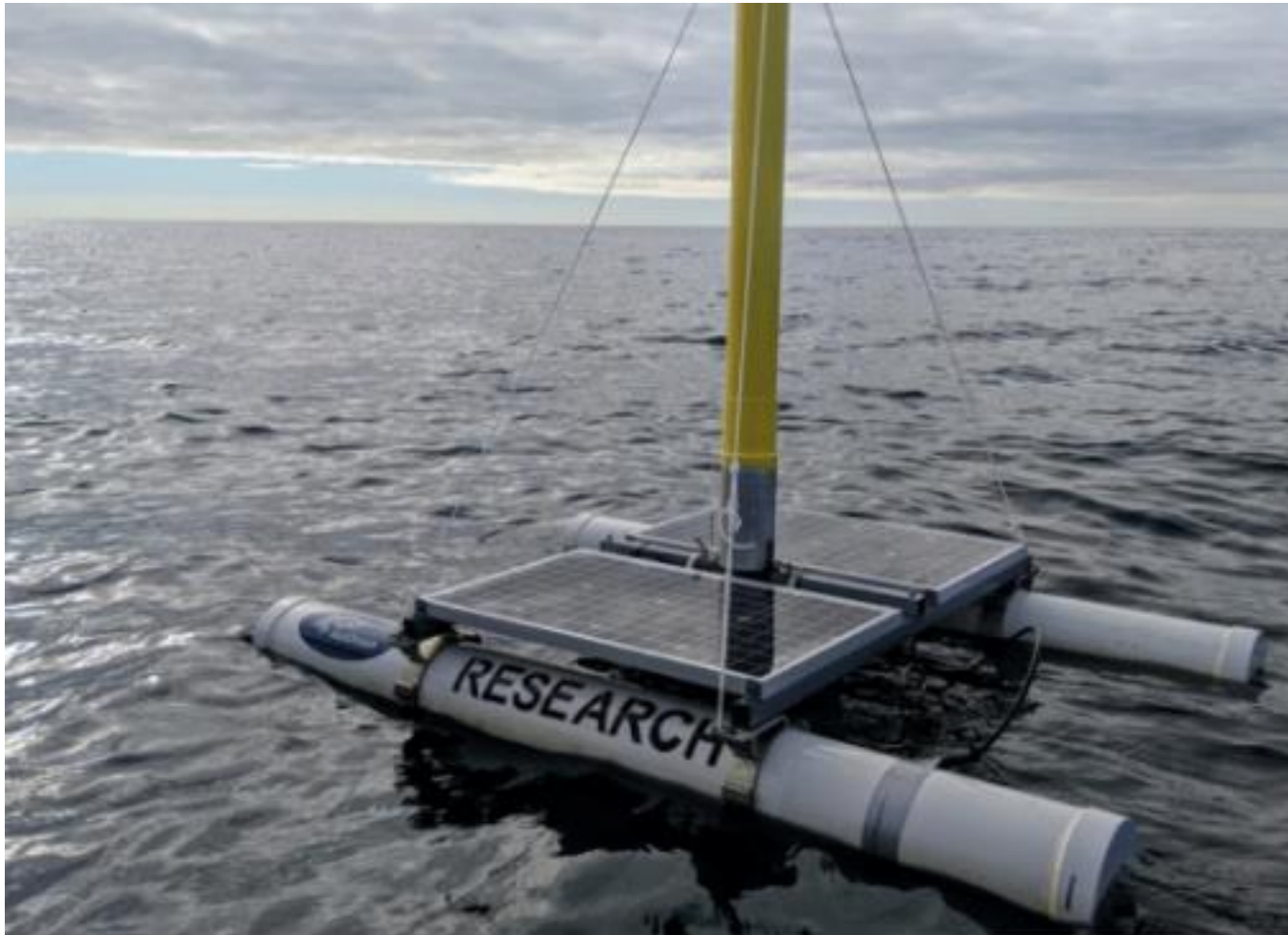




# Results...

	Northern site	Middle site	Southern site
	Deepest 5 bags	6 bags	Shallowest 5 bags
26 Oct 2018	7 seagrass cores	7 seagrass cores	7 seagrass cores
11 Nov 2018	2 cores northern end	3 cores	4 cores southern end
9 Dec 2018	2 cores northern end	1 core southern end	nil

# AusOcean Collaboration



# Native Oyster (*Ostrea angasi*)

- Mollusca, Bivalve
- Rare, endemic to southern Australia
- Extensively harvested during early European settlement – previously classified as functionally extinct
- Filter feeders (plankton, microalgae, inorganic materials)
- Improve water quality, stabilise and protect shorelines, provide food source for other aquatic animals and humans



# Shellfish Restoration Project

- Reestablish the native oyster (*Ostrea angasi*) population within the Port River, and promote shellfish reef restoration.
- Provide substrate for spat, using clean recycled shell in hessian bags.
- Partnership with 'Shellfish Reef Restoration Network' and 'The Nature Conservancy'
- Supported by local dive groups, yacht clubs and the MLSSA



[Video Link](#)



Questions?