



Identifying knowledge gaps and solutions for extent mapping of Australian marine and coastal wetlands

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Issue

- Need for national consolidated wetland inventory
- Evaluate service provision, support management decisions

Objective

- Review current status of inventory mapping to identify gaps
- Make recommendations to fill these gaps

Methods

- Synthesise current inventory – review databases, engage experts (workshops/direct conversations)
- Literature review of the best practice methods (and Australian capacity)

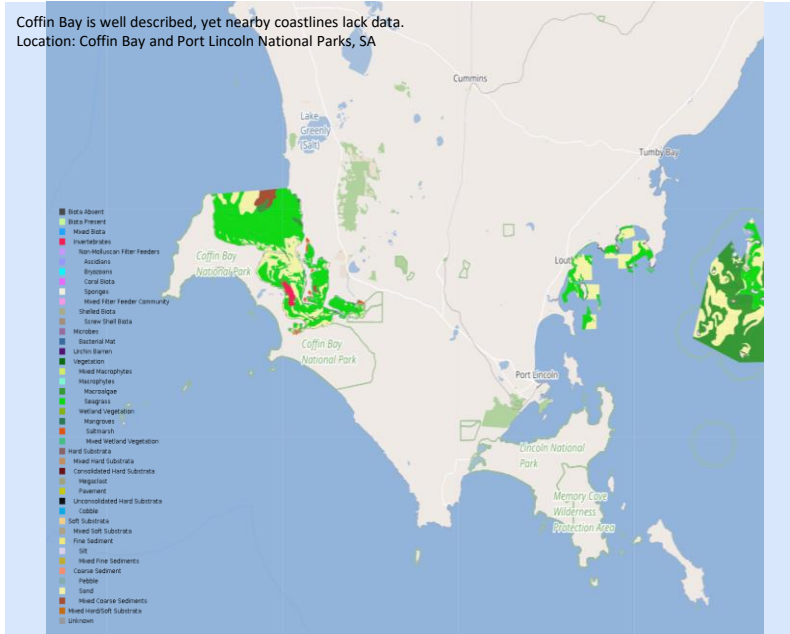


Seamaps

Excellent overlays detailing substrate, biota (invertebrates, vegetation)

Inconsistency between states, remote locations missing data, based on dominant species, which potentially overlooks vulnerable species

Coffin Bay is well described, yet nearby coastlines lack data.
Location: Coffin Bay and Port Lincoln National Parks, SA



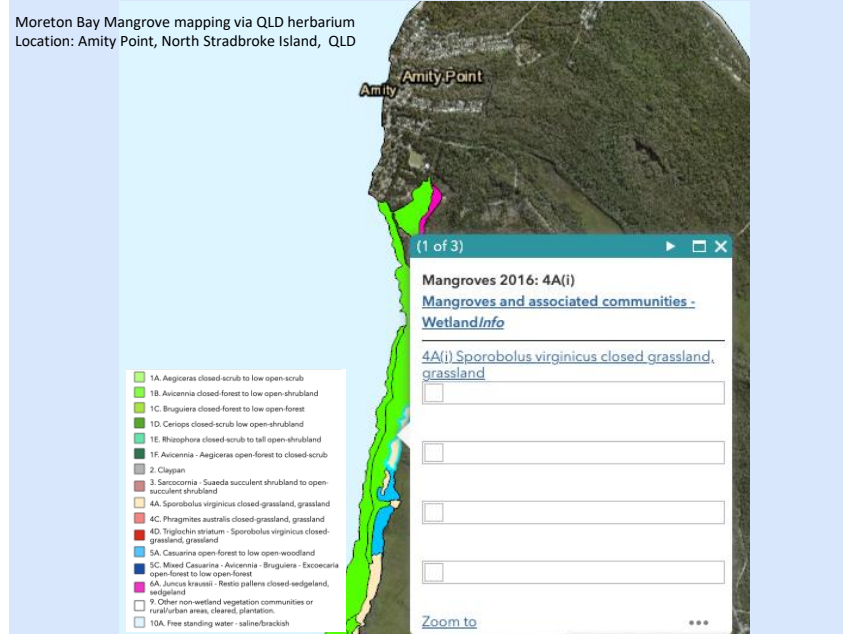
Wetland info – wetlandMaps (QLD)

Some areas well described, e.g. Central QLD

- Herbarium mangrove mapping
- Great Sandy Marine Park
- Shorebird Roosting sites

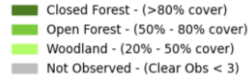
Intertidal zones mostly mapped in Central QLD, missing data elsewhere

Moreton Bay Mangrove mapping via QLD herbarium
Location: Amity Point, North Stradbroke Island, QLD



Digital Earth Australia

Temporal Mangrove vegetation cover. Note obvious change during 2015/16 Mangrove dieback.
Location: Limmen Bight River, NT



NationalMap



Legends

BIO1 Global biodiversity hotspots and natural value World Heritage Areas in Australia

Critical Ecosystem Partnership Fund biodiversity hotspot

World Heritage Areas (inscribed for natural values only)

Ramsar Wetlands of International Importance

Ramsar Wetlands

Directory of Important Wetlands in Australia (DIWA)

Important Wetlands

Key Ecological Features

Key Ecological Features

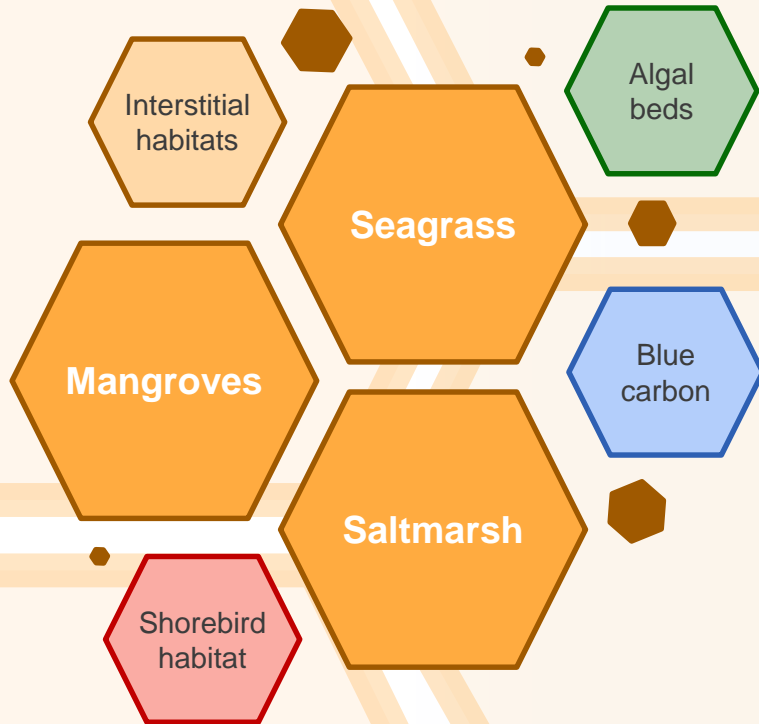
Excellent temporal data visualization, ITEM (*National maps*) – intertidal mapping (mudflats, beaches and reefs), Satellite data – physical changes

Lacks detail for habitat composition i.e. dominant species
Seagrass and benthic communities are not included

Lots of useful supplementary information.
Includes data from a wide array of resources, BOM, AIMS etc.

Less information on habitat compositions and species

Focal data

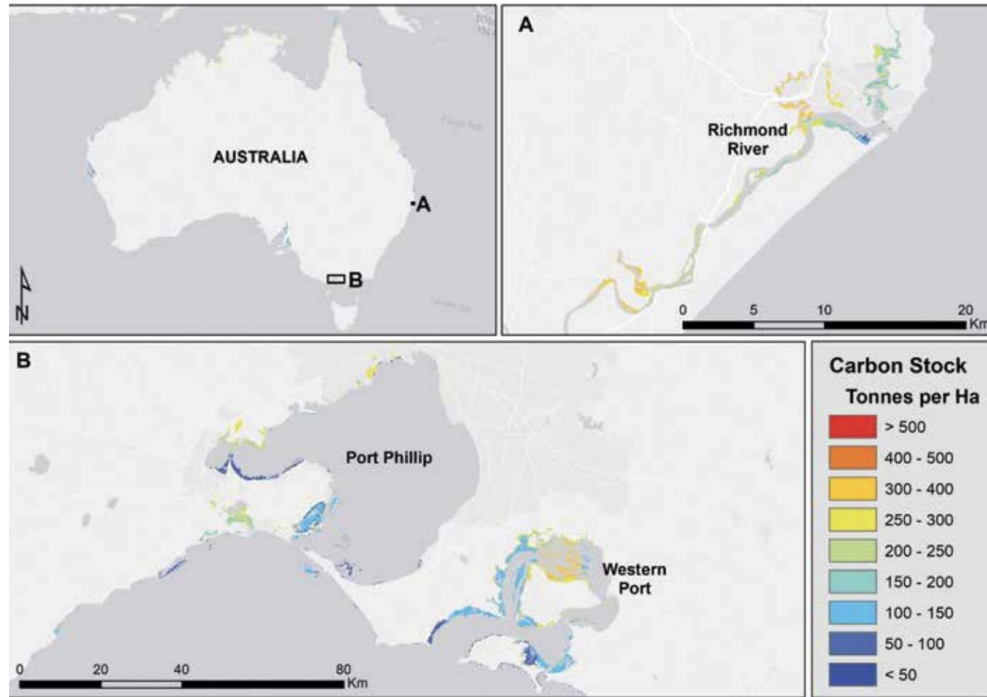


Timeline:
Sep 2021 – March 2022



Blue
carbon

Example: blue carbon mapping



Blue carbon and ecosystem services mapping

Carnell P, Reeves, Nicholson, Macreadie, Ierodiaconou... Gillies (2019). Mapping Ocean Wealth. Deakin University/TNC

Research End-Users

Indigenous consultation

Working with NESP Marine and Coastal hub
Indigenous Facilitator and Knowledge Brokers to
identify opportunities for Indigenous participation

Research Team

- Rod Connolly
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- Peter Macreadie

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Agriculture, Water
and Environment
(DAWE)

Parks Australia

Geosciences
Australia

QLD Department
of Environment
and Science

SA Department of
Environment and
Water

- Wetlands Section
- Migratory Species Section, Protected Species and Communities Branch, BCD
- Marine Freshwater Species Section
- Governance and Reform Branch, Environment Approvals Division
- Strategic Policy Design, Environment Protection Reform Branch, Environment Protection Reform Division
- International Partnerships For Nature And Oceans Accounts, Climate Adaptation and Resilience Division
- Science and Management Effectiveness (SAME), Coral Sea, Temperate East Section
- Marine and Island Parks, Science and Strategy Section
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- Digital earth Australia

- Wetlands Section