Marine and Coastal

National Environmental Science Program

Synthesizing three decades of seagrass spatial data from Torres Strait and Gulf of Carpentaria

Project 1.13

Project Summary

The Gulf of Carpentaria and Torres Strait have globally significant seagrass meadows that provide food for threatened dugong and turtle, and habitat for commercially important fish and prawns. Key to understanding, managing, mitigating risk, and monitoring seagrass in this remote region is reliable data on seagrass distribution and species composition and how this changes through time. Data on seagrass has been collected in these areas since the 1980s, but data location and storage from these efforts remains disparate, in many cases not publicly available, and in some cases has already been lost. Our study will compile, validate and synthesize historical seagrass spatial data to create a publicly available database accessible on eAtlas. This product will provide end-users with a valuable spatial resource to assist management and monitoring of seagrass in the region.

Problem

There are few spatial data sets publicly available that document long-term changes in seagrass communities. Compiling spatial data has not occurred for the Gulf of Carpentaria, and is not up-to-date for Torres Strait. There is a risk that older data is not secure and, if not compiled and validated, is in danger of being lost (with some early 1980s data already lost).

How Research Addresses the Problem

At the completion of this project we will have essential knowledge of the location and composition of key environmental assets (seagrass and seagrass species), or where seagrass information is deficient (knowledge gaps), in the Gulf of Carpentaria and Torres Strait. This will provide management agencies, rangers, Traditional Owners, ports, industry, and researchers with a spatial resource describing seagrass populations against which to benchmark change.

General Project Information

The research will be undertaken as a desktop analysis. We will use the same approach as our recently completed spatial synthesis of Great Barrier Reef seagrass for NESP 3.1 and 5.4, where we compiled data from >81,000 sites collected over 35 years of surveys (Carter et al. 2021; http://doi.org/10.1002/lol2.10193).

Standardizing the approach will ensure continuity in the data structure across the Gulf of Carpentaria and Torres Strait. Our engagement strategy is to engage early, encourage participation and collaboration, and ensure dissemination. We will:

- Work with end-users, including management agencies, port authorities, industry, Traditional Owners and ranger groups to identify available data.
- Identify, check, validate and collate spatial data sets and obtain permissions from data owners to include in the project and to make it publicly available.
- Make data publicly available in a format compatible with the eAtlas interface for non-GIS users. Data and metadata will also be available with downloadable GIS shapefiles.

*ABOVE LEFT: Seagrass meadows fringing the Port of Weipa. Credit: TropWATER, JCU **ABOVE RIGHT:** Dugong feeding trails in Karumba Queensland Credit: TropWATER, JCU **BELOW LEFT:** Fish traps in seagrass meadows at Erub Island Torres Strait. Credit: TropWATER, JCU **BELOW RIGHT**: Seagrass meadow at Mer Island Torres Strait. Credit: TropWATER, JCU*

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