

Project 5.13 Coastal wetland systems repair across GBR catchments – values based causal framework validation

Project Summary

Conservation and repair of the coastal wetland ecosystems in the Great Barrier Reef (GBR) catchments have come into focus following media converging on the point that the reef health and land use in catchments has been compromised. While on-ground wetland repair investment activities are underway, data to demonstrate water quality and biodiversity return for the investment is not available. This project will continue working with project partners, further contributing to change management practices, consolidate new project partnerships, and road test the Queensland Wetlands Values Based Causal Framework using existing and new data.

Problem

Coastal wetlands adjacent to the GBR have incredible environmental, cultural and economic value. Despite this, over 70% of GBR coastal wetlands have been modified, impacted or lost entirely because of continuing land use change (such as agricultural, aquaculture, peri-urban/urban and industrial expansion). Of the wetlands remaining, many provide severely reduced habitat value due to alien weed infestation and poor water quality. A large number of coastal wetlands have also lost their connection with estuaries that flow into the GBR lagoon, which can impact marine and freshwater aquatic species that have a critical estuary lifecycle phase, and rely on this connectivity between the reef and shallow tidal and freshwater wetlands.

How Research Addresses Problem

This project will direct efforts towards providing further support to partnerships under Project 3.3.2, but will also assist new partners seeking support from research to evaluate their operations. In addition, the extension will take all the data generated and build case studies for each wetland site under the recently completed (September 2018) Values Based Causal Framework by the Queensland Wetlands Program team. With these case study reports, future project sites could be critically analysed early to determine whether the project is suitable and could possibly achieve the outcomes expected.



Feral pig fencing to keep out unwanted pest species from sensitive wetlands



Photo: Lisa Pullman (NQDT)

Meet the scientist – cane farmers discuss the habitat value and water quality in coastal wetlands

Key objectives:

- Undertake field surveys to collect data to profile and characterise biodiversity and water quality prior to, during and after on-ground action at project sites;
- Extend science evaluation support to new project partners, where this project will generate new, additional data to facilitate additional end user practice changes;
- Extend Indigenous Ranger training to the end of this project, to continue maintaining scientific equipment deployed, to examine seasonal and inter-annual changes in wetland conditions; and
- Generate case studies using all generated data, following the Queensland Wetland Values Based Causal Framework.

Some of the Management Outcomes include:

- Project partners have direct input in the experiment design, data interpretation and reporting of results – maximising end user adoption of the results and conclusions;
- Scientific evaluation and data to provide surety and confidence that investment into system repair projects via the state and federal government programs has delivered an acceptable return on this investment;
- End users will gain skills to continue the evaluation of future wetland projects, and the confidence to alter programs as necessary – achieving end user adoption and change management;
- Consolidation and evaluation of coastal wetland system repair projects across the GBR catchment area, to examine cross learnings, with the data to be provided into a database in Queensland Government (WetlandInfo);
- Evaluation of a range of wetland system repair projects completed or underway to improve the environmental and cost effectiveness of future wetland system repair efforts (for example those under priority 1D - economic levers and schemes); and
- Delivering exchange of knowledge between scientists, NQ Dry Tropics NRM, Burnett Mary Regional Group, Jaragun group staff, to evaluate restoration works and report on the outcomes.

Further information

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This project is supported through funding from the Australian Government's National Environmental Science Program