

Progress Report SP 2015-015

Long-term monitoring in the proposed Dampier Archipelago marine reserves

Marine Science

Project Core Team

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Update requested

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Project Team	required
Program Leader	required
Directorate	required

Long-term monitoring in the proposed Dampier Archipelago marine reserves

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Context

The Pluto LNG Project Offset D program includes the requirement to establish long-term monitoring reference sites in the proposed Dampier Archipelago Marine Park and Regnard Marine Management Area in accordance with the State Government's indicative management plan for the area. This task will require a prioritisation of ecological assets, the establishment of long-term monitoring sites to assess spatial and temporal distribution of key assets, and the provision of quantitative evidence on the status of these assets. This work will also help develop best practice monitoring techniques for assets and pressures where knowledge is lacking, and provide valuable information to Parks and Wildlife's marine planning and conservation initiatives.

Aims

Develop and implement a monitoring, evaluation and reporting program of key biodiversity asset condition and their major pressures at key sites in the proposed Dampier Archipelago Marine Park and Regnard Marine Management Area.

Progress

- A monitoring prioritisation assessment for the study area was completed.
- Permanent survey sites were established and the first surveys of coral communities and fishes were completed.
- Collaborative fieldwork was undertaken with CSIRO to measure coral recruitment at long-term monitoring sites.
- Historical satellite imagery was purchased to develop time-series data on mangrove communities in the study area.
- A *Landscape* article was published titled 'Dampier Archipelago underwater: A diamond in the red rock'
- Collaborative fieldwork was undertaken in June 2016 with Wheatstone marine mammal project in a field support capacity
- A *Landscape* article was published titled 'Dolphin odyssey: Hunt for an elusive species'
- Established monitoring sites of seagrass and macroalgae, including the trial of multiple techniques to determine a best practice, Standard Operating Procedure to be implemented across Western Australia's tropical marine parks and reserves.
- Established monitoring sites for mangrove communities, undertaken remote and in-situ monitoring surveys, and ground truthed the findings of remote imagery analysis
- Undertaken a second monitoring survey of coral and finfish communities at sites established in 2015.

Management implications

- This project will produce baseline data on various key ecological assets and the pressures acting on them, as well as several recurrent surveys to detect trends in key asset condition. An established monitoring program will inform Parks and Wildlife managers of trends in asset condition to facilitate long-term adaptive management for the proposed reserves, and promote environmental understanding for a range of stakeholders and the community.
- New marine monitoring indicators and methods for key ecological assets and habitats that are largely novel to northern Western Australia, will provide a sound basis for management of the proposed Dampier Archipelago Marine Park and Regnard Marine Management Area.

Future directions

- Undertake a second monitoring survey for mangrove communities in November 2018
- Undertake a second monitoring survey for seagrass and algae communities in November 2018
- Undertake a third and final monitoring survey for coral and fish communities in May 2019
- Draft scientific publications. Potential for two so far: Changes in historical coral cover and Methods for seagrass and Algae monitoring.
- Complete reporting requirements for Woodside for finalisation of this project