



PROJECT 3.18 Citizen science: reef monitoring for management

The challenge

'Citizen science' is research conducted by enthusiastic community members. It is a very economical way of collecting data sets from reef systems as it often uses existing tourism vessels and expeditions. Also, thousands of volunteers are available to participate. Many different types of information are needed to manage reefs well. Traditionally, monitoring has been conducted by scientists at relatively small subsets of locations. However, large-scale field observations are also useful for making many management action decisions, and it is this scientific survey methodology that best suits citizen science.

The Great Reef Census, an initiative of Citizens of the Great Barrier Reef, is large-scale citizen science in action. Over 3 years community members have taken more than 80,000 seascape photos across the Great Barrier Reef, and uploaded them to the Census' web portal for analysis. Whilst some reef managers use such citizen science data, others question its worth.

This project will refine and improve the Great Reef Census data collection processes, site selection, and analysis methods, to increase the usefulness and relevance of the data for scientists and managers.

The approach

The project will accomplish this, through optimisation of the Census' survey design and by maximising the quality of in-water data collection. This will be achieved by:

- co-designing sampling methods to meet multiple defined management objectives;
- developing a protocol for selecting sampling sites and subjects to address specific needs; and
- building improved artificial intelligence/human approaches to undertake image analysis.

This work will increase the range of applicability of Census data for managers and other users. In particular, it will increase the value of Census data to Indigenous Land and Sea Managers who will be able to develop targeted census activities to deliver information relevant to their priority concerns.

Expected outcomes

- Expansion of the usefulness of Census monitoring.
- A clear process for site selection and survey method to answer priority questions.
- Improved and innovative survey techniques and image analysis.





Project leaders

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National Environmental Science Program









FRONT: Reef Women by Harriet Spark. BACK: (Top) Analysing Al-Human Eye Approach for the Great Reef Census by Nicole McLachlan. (Bottom) Field Collection Snorkeller by Nicole McLachlan for the Great Reef Census.