



National Environmental Science Programme

Project 2.3.3 Building Indigenous livelihood and co-management opportunities in the northern Great Barrier Reef – ecosystem services and conservation governance for water quality

Project Summary

This project supports Indigenous co-management and livelihoods by scoping and developing culturally-appropriate ecosystem services (ES) products focused on water quality. Local and regional Indigenous development agencies in Cape York Peninsula (CYP) will collaborate with researchers with expertise in Indigenous water, co-benefits, ES, wetland ecology, and governance issues. The project will: i) evaluate international examples of what are often known as nutrient offsets and watershed ES; ii) scope investor demand and develop innovative water quality ES products suitable for Northern Great Barrier Reef (GBR) geographic, demographic, and market conditions; and iii) improve wetland protection, co-management, business, and governance capability. Key project objectives are to leverage existing ES-based livelihood opportunities and to realise social co-benefits.

Problem

Water quality is a critical issue for the protection of the Great Barrier Reef. Unlike climate change, it can be addressed by action on a national level, but the use of water quality ES markets and products in Australia remains under-developed. Actions undertaken to address biodiversity, carbon, and threatened or feral species priorities may have important water quality outcomes. Further development of this additional area of ES could enhance the long term sustainable resourcing of management, associated conservation-based livelihoods, and social co-benefits.

How Research Addresses Problem

Eastern CYP and the associated Northern GBR represents a nationally-significant confluence of two factors: i) conservation manager and ES investor interest in water quality associated with the GBR; and ii) growing Indigenous control over the terrestrial drivers of key nutrient inputs due to ongoing tenure changes. The research partnership between CSIRO, James Cook University, Cape York Partnership, and Kalan Enterprises examines the potential for financial returns to Indigenous people for delivering water-quality focused ES outcomes from successful land management.



Kalan Rangers and scientists collect water and soil samples from fenced and unfenced freshwater waterholes

Photo: Justin Perry



Photo: Justin Perry

Key risks to landscape conservation and associated water quality in the Eastern CYP arise from feral animal damage, overgrazing, and inappropriate fire regimes. Appropriate management responses are being developed, but key issues remain poorly understood and resources for investigation and subsequent management action are constrained. Indigenous managers need more secure and sustainable income streams to deliver key management outcomes. Payments for Indigenous-generated water quality ES can potentially support conservation-based Indigenous livelihoods and also highlight some key tradeoffs involved in other forms of development. However, major water quality priorities have not yet been translated into ES markets and products in Australia.

As part of an ongoing research partnership, this project will:

- further widen a multi-project collaboration between researchers, regional governance agencies, and Indigenous people;
- support Indigenous participation, Indigenous citizen science, and Indigenous Knowledge;
- directly address issues of wetland repair and the management of key species and habitats;
- further knowledge and understanding of collaborative co-management responses to key drivers of water quality inputs to the northern GBR;
- draw on national and international examples to scope potential watershed and nutrient ES products and markets suitable for Indigenous management contexts; and
- ensure governance, policy, livelihood, social co-benefit and regional business development expertise informs the design of new management protocols and ES products and services.

Further information

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This project has CSIRO Ethics approval. For further information, see the contact details left.



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