

FITZROY WATER QUALITY PROGRAM

Achievements and learnings

August 2024



Australian Government

REEF TRUST



Great Barrier
Reef Foundation

Introduction

The Great Barrier Reef is globally renowned for its intrinsic beauty, immense spatial scale, outstanding biodiversity as well as its natural, social, economic, and cultural values. A healthy and resilient Great Barrier Reef is critical to protect the vast array of ecological communities and species that inhabit coastal, marine, and terrestrial ecosystems. However, the health of the Reef is at risk from a range of factors including climate change, expanding coastal development, direct human use and poor water quality from land-based runoff.

In a bid to significantly improve the health of the Great Barrier Reef, the Reef Trust Partnership (the Partnership) – a landmark collaboration between the Australian Government’s Reef Trust and the Great Barrier Reef Foundation – was awarded \$443M to elevate and amplify efforts to build Reef resilience. As part of the Partnership, the Water Quality Program received \$199M to address poor water quality from land-based runoff and respond to the priorities of the Reef 2050 Water Quality Improvement Plan (WQIP).



Fitzroy Water Quality Program

The Fitzroy Water Quality Program was one of ten regional water quality programs delivered under the Partnership between 2020 and 2024. Through gully and streambank remediation and whole of property grazing land management planning and implementation, this \$19.6M program aimed to prevent 50 kilotonnes of sediment lost from grazing land from entering the Reef's waters every year.

Waterways in the Fitzroy River Catchment carry approximately 180 kilotonnes of sediment to the Great Barrier Reef each year. A legacy of historic land clearing and poor grazing management practices, combined with highly erosive soils, make it the second highest contributor of sediment across the Reef's catchments. The region is economically important, supporting 26% of Queensland's beef cattle production, accounting for 75% of land use in the region.

Fine sediment was identified as the priority for the Fitzroy region by the WQIP. The four-year Fitzroy Water Quality Program (the Program) was delivered by four organisations implementing five on-ground projects, each with its own pollutant reduction target.

Projects tracked their progress to targets using the Gully and Stream Bank [Toolbox](#), Paddock to Reef ([P2R](#)) Projector Tool for hillslope erosion, and a project-specific tool used for calculation of sediment savings for management practice changes.

Program activities included large streambank restoration, gully remediation, riparian zone protection (fencing off from grazing), and development and implementation of several whole-of-property grazing land management plans. The five project teams worked intensively with land managers to reduce sediment losses at the end of catchment.

The success of the Program is reflected by the 20 graziers engaged over four years who reduced sediment losses, positively impacting over 64,000 hectares of land. Thanks to this collective effort, the program achieved a reduction of 42 kilotonnes per annum, exceeding the original goal while maintaining or improving productivity for engaged landholders.



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“We look at country differently now. We’ve learned the importance of not using cookie-cutter methods for all our practices and to understand land condition before applying blanket solutions.”

Grazier and Whole of Property Planning project participant

Achievements



4

gully networks
remediated and
revegetated



20

graziers engaged in on-
ground actions to reduce
sediment



64,000

hectares of grazing and
cropping land under
improved management



5

whole-of-property
management plans
developed



7

degraded streambanks
restored and revegetated

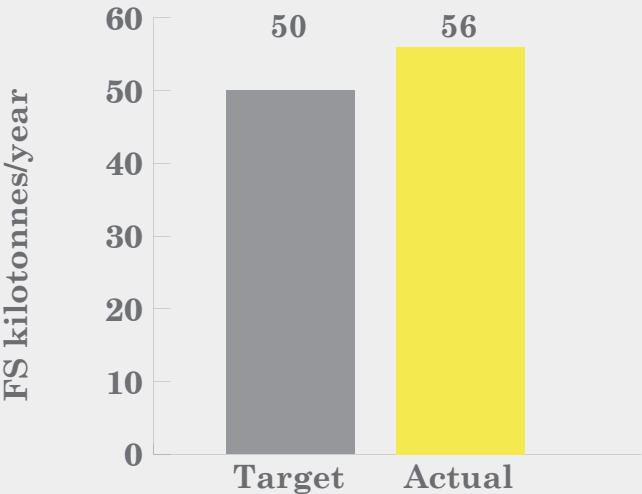


42,096

tonnes of fine sediment
stopped from entering the
Reef

PROGRAM IMPACTS ON THE FITZROY PRIORITY CATCHMENTS

Progress against Fine Sediment
reduction targets



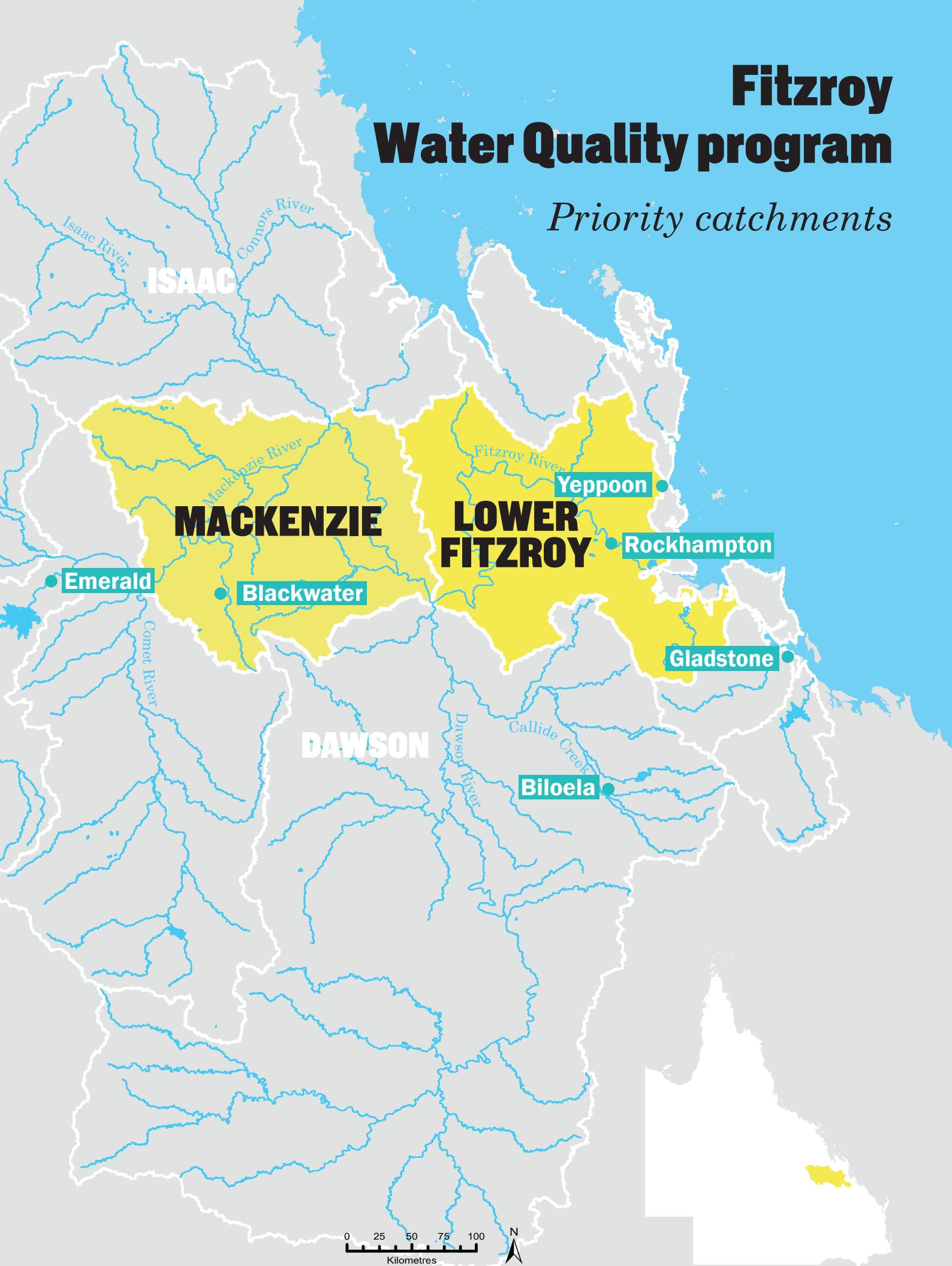
“The training has provided help to the business by giving our staff a greater insight into the new methods of pastoral control, stock control, erosion control, and generally looking after country on country.”

Woorabinda Pastoral Company CEO and Mackenzie Water Quality Project participant Tim Thompson (not pictured)



Fitzroy Water Quality program

Priority catchments



Program Model

Governance arrangements for the program ensured projects delivering on the ground reported directly to the Foundation, which also acted as the regional program manager. The Fitzroy Basin Association (FBA) performed the function as the partnership coordinator.

This model, shown in Figure 1, increased the transparency of outcomes while also facilitating agility to manage contractual commitments. It also provided access to local support to manage risk, coordinate activities, identify synergies, develop communication materials, and promote the program to the wider regional audience.

The regional program manager and partnership coordinator oversaw the program's spatial reporting dashboard, which allowed checking for historical overlaps, vetting of farm-level projects to ensure

adoption of practices not previously funded, and tracking of progress towards contracted targets.

The program manager and partnership coordinator reported directly to a regional steering committee made up of key stakeholders including the Fitzroy Basin Association, the Australian Government, and the Foundation. The steering committee was supported by a Technical Advisory Group and the Water Quality Working Group, which provided technical and strategic advice across the whole of the Reef Trust Partnership Water Quality Program.

The design of the governance model recognised the importance of independent local leadership and oversight, as well as strategic and technical guidance and collaboration.

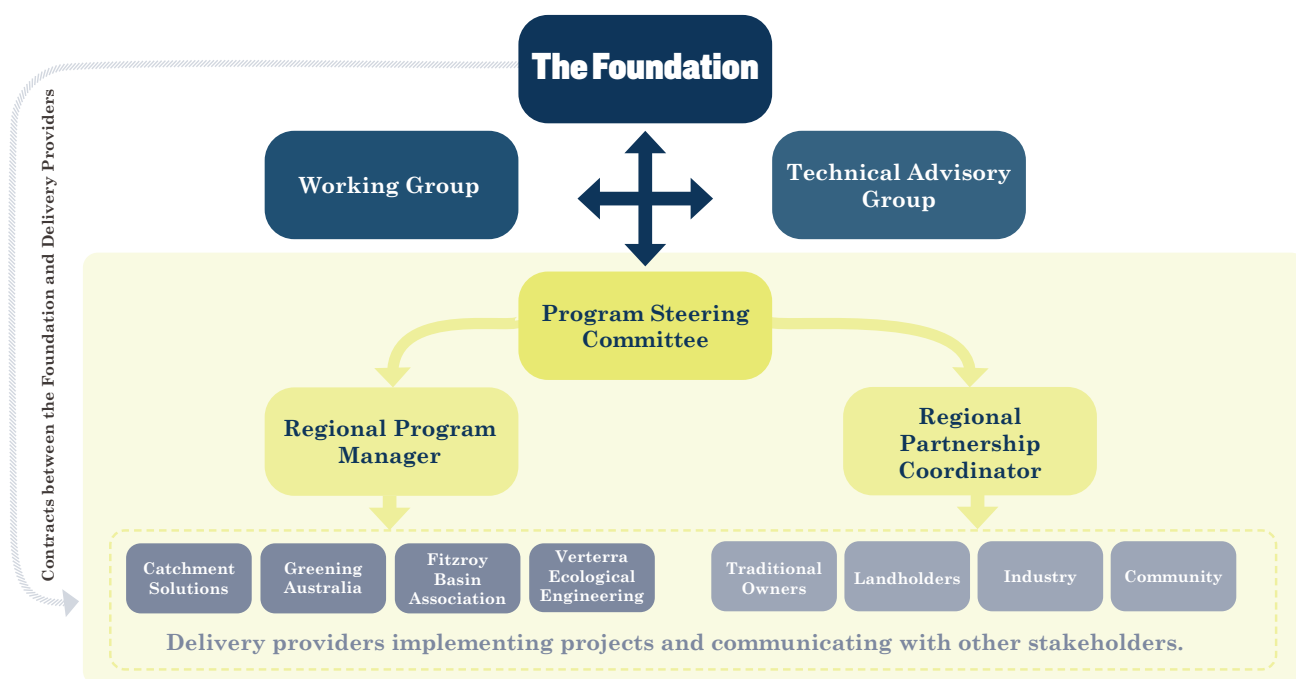


Figure 1. Reef Trust Partnership Fitzroy Water Quality Program governance model



“Having been fortunate to go through this process and work with such amazing passionate people has given us the confidence to believe that we can overcome challenges and create a brighter, more sustainable future for generations to come.”

Montevideo Grazier and Mackenzie Water Quality Project participant Peter Lawrie



Funded Projects

RESILIENT RIPARIAN HABITATS AND GRAZING

The Catchment Solutions project worked with four graziers to reduce erosion and sediment losses. Four streambanks on the Fitzroy River were rehabilitated, one in the tidal zone just downstream of Rockhampton, and three in upstream reaches across three properties. Two gully networks were remediated, and grazing land management practice changes implemented on one property.



RIPARIAN ZONE PROTECTION

Five landholders were supported by FBA to develop grazing land management plans and provided incentive funds for a total of 5.5km of riparian fencing and off stream water points to better manage riparian zones through cattle exclusion and strategic grazing. The project connected like-minded landholders and contractors to collaborate and share ideas for improvement of land management on property.



Funded Projects

MACKENZIE WATER QUALITY

Greening Australia supported the First Nations people of the Indigenous-owned Woorabinda Pastoral Company to implement best management practices on their 43,300ha of grazing and cropping land. Training was provided to staff on sustainable grazing practices and herd management.

New grazing land management practices were implemented across sections of the selected properties including 5km of riparian exclusion fencing, 8km of fencing to implement rotational grazing and 4 additional watering points to better manage grazing pressure leading to reduced sediment losses.



REDUCING STREAMBANK EROSION

FBA remediated two streambank sites including a severely eroded (the bank retreat was estimated as 180m since the 1950s) 1.2km streambank on the Fitzroy River.

Environmental outcomes include greening the landscape, increasing riparian connectivity to re-establish, to provide natural bank stability and erosion protection in the future.

Landholders were provided with education and support for grazing land management practice changes which will result in additional future sediment saving benefits.

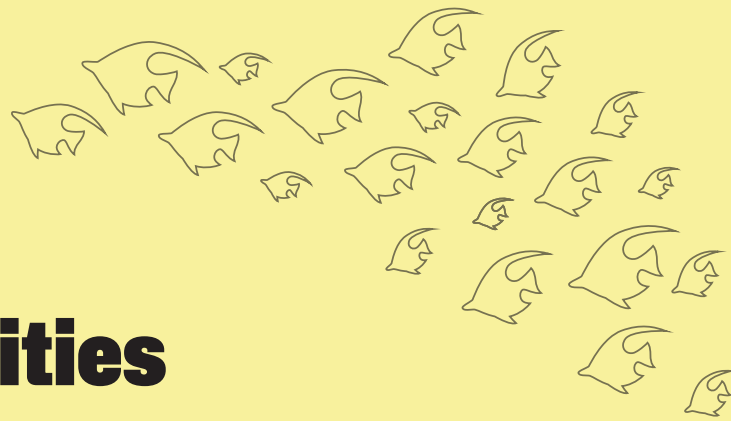


WHOLE-OF-PROPERTY GRAZING LAND MANAGEMENT

The Fitzroy Alliance project, led by Verterra and Alluvium, supported five graziers to develop and implement large scale, property-specific grazing land management plans using a template developed with the Queensland Department of Agriculture and Fisheries.

These plans used the Land Condition Assessment Tool for extensive land condition assessment and identified infrastructure requirements for paddock division as applicable to rotational cell grazing, and additional watering points to better manage grazing pressure.

On average, graziers committed half of the total project budget through in-kind support and/or funding capital works.



Cross-cutting activities

Independent verification and engagement

A verification initiative focused on independently verifying the extent and quality of the on-ground projects which were being reported to ensure the accuracy of the spatial dashboard. The process provided the unique opportunity to hear about the grazier experience participating in the program first-hand, while facilitating communication between graziers, delivery providers and funders. This included discussion on communication and engagement, effectiveness and extent of practice change and legacy outcomes relating to the program.

Evaluation of social outcomes

Interviews with graziers were conducted to understand the perceived benefits and drawbacks of large-scale restoration works, and how the process had affected their views in terms of property management, future maintenance and environmental stewardship. Insights will help maximise the likelihood of maintenance after the project ends.

Value-add projects

In 2022, the Foundation called for proposals that would add value to existing projects and programs. In their capacity as the regional partnership coordinator, FBA were successful, in two projects:

Fitzroy Catchment Traditional Owner Alliance

FBA facilitated a Traditional Owner-led approach to establish a collective voice for addressing representation and participation in Cultural Natural Resource Management. FBA engaged with each of the seventeen First Nations groups within the basin. A two-day workshop was hosted involving representatives from First Nation groups to progress actions towards establishing an independent regional voice, now known as the Fitzroy Catchment Traditional Owner Alliance. Through the Foundation's Traditional Owner Partnerships program, the hosting of the Alliance transitioned to Greening Australia in 2024.

Fitzroy Communication Materials

FBA developed additional communication. Videos were produced to highlight the achievements of the program which will act as an authentic record of current efforts into improving the health of the Fitzroy region and the Great Barrier Reef. Cultural, environmental, and social implications of this regional program have been captured from grazing lands in the upper catchment to the Reef.



“We’re now on track to have more ground cover and a more sustainable operation while also reducing the amount of sediment entering our waterways.”

Grazier and Riparian Zone Protection project participant Steve Farmer

Learnings

1. A flexible approach to contracting and individual project delivery to adapt to risks identified in a timely manner was critical to the achievement of program outcomes. This included technical support in the development of alternate methods for the calculation of fine sediment in the absence of suitable tools.
2. Technical consensus and improvement of the rules and guidelines for the use of the gully and streambank toolboxes is required. Because the tools allow for a degree of discretion of input values that impact sediment savings, differences between technical assessors, delivery providers, and assessors were commonplace.
3. Despite challenges with sediment calculation tools, delivery providers recognised that contractual targets were beneficial in driving better outcomes and, in some instances, significant innovation.
4. Delivery providers need to implement a robust communications strategy and have a clear understanding of grazier expectations to ensure landholder confidence to participate in funded programs for environmental outcomes.
5. Delivery providers must have a clear understanding of the environmental regulatory requirements and limitations (e.g. in relation to fish migration, riparian habitat protection and bird nesting sites) for a specific site prior to remediation works.
6. Whole of property grazing land management plans resulted in significant amounts of in-kind and capital, around 50% of total project costs, due to the production benefits realised.



Learnings

7. Incentive funding was instrumental to the acceleration of infrastructure development for management practices that landholders had been considering in long-term planning and was often the motivation to undertake a project that was deemed a lower priority and challenging to achieve.
8. The regular and consistent reporting arrangements and the governance model implemented have added value by increasing accountability and transparency to the Program with all parties involved benefiting from progress reports and financial tracking.
9. Mechanisms to allow for longer term monitoring and maintenance after project completion need to be incorporated in future landscape remediation programs. Resources for ongoing monitoring and maintenance has repeatedly been raised as a major need to ensure sustainability of outcomes.
10. The regional program approach provided considerable value to delivery providers with regular knowledge sharing and collaboration for practical project solutions between project delivery providers. The annual regional forums provided valuable networking opportunities and should be incorporated in future programs.

Summary

Over the four years of the Reef Trust Partnership Water Quality Program, 20 graziers improved grazing land management practices increasing the productivity and sustainability of over 64,000 hectares of grazing land in the Fitzroy region.

The combination of gully and streambank remediation, riparian zone protection, and whole of property grazing land management planning and practice change with a suite of additional cross-cutting activities enhanced the outcomes achieved through the Program. Traditional Owners from seventeen First Nations groups established a collective voice for representation and participation in Cultural Natural Resource Management. An extensive suite of communication materials highlighted the Program's positive impact on water quality and regional communities.

Key lessons highlighted the importance of incentives to remove the financial barriers to the timely adoption of best management practices. A regional-specific and flexible approach to contracting and delivery was critical to achieving program outcomes. Collaboration and knowledge sharing among delivery providers was also seen as critical to networking and identifying practical solutions to regional problems.

The combination of all the above has contributed to the Program exceeding its original pollutant reduction targets with a reduction of 42 kilotonnes of fine sediment per year. This has resulted in a more sustainable Fitzroy grazing industry, better water quality in the local waterways and, the Great Barrier Reef lagoon.





Acknowledgements

Reef Traditional Owners have been caring for land and sea Country for more than 60,000 years, using Traditional Knowledge passed down through ancestral lines for millennia. The Great Barrier Reef Foundation extends its deepest respect and recognition to all Traditional Owners of the Great Barrier Reef and its Catchments, as First Nations People, holding the hopes, dreams, traditions and cultures of the Reef.

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