

# Reef Trust Partnership

## Bowen, Broken & Bogie Water Quality Program

## Regional Program Plan



Issued: 8 September 2022

*Water Quality Programs*



Great Barrier  
Reef Foundation

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## Glossary

BBB	Bowen, Broken, Bogie
CSIRO	Commonwealth Scientific and Industrial Research Organisation
GBR	Great Barrier Reef
GBRF	Great Barrier Reef Foundation
GLM	Grazing Land Management
LDC	Landholders Driving Change
MIP	Major Integrated Project
OGBR	Office of the Great Barrier Reef
RTP	Reef Trust Partnership
TAG	Technical Advisory Group
WQIP	Water Quality Improvement Plan

## **1.0 Introduction to the Bowen, Broken & Bogie Water Quality Program**

### **1.1. The Reef Trust Partnership**

The Reef Trust Partnership (RTP), established by the Australian Government and the Great Barrier Reef Foundation (GBRF), is centred on a landmark investment of \$443.3 million to build the resilience of the Great Barrier Reef (GBR). Commencing in July 2018 and running for six years, the Partnership includes an investment of \$201 million to address water quality improvement targets impacting the Great Barrier Reef World Heritage Area.

The approach to investing the \$201 million for water quality improvement is identified in the Annual Work Plan for 2019-20. The plan allocates:

- \$141 million for regionally focussed on-ground actions
- \$20 million for Traditional Owner-led water quality improvements
- \$10 million for innovation and system change, and
- \$10 million for protection and conservation measures aimed at maintaining water quality, particularly in less disturbed catchments.

In addition, \$19.7 million has already been contracted under the Reef Water Quality Improvement Grant Program Stage 1.

The \$141 million for regionally focussed on-ground actions will be delivered through a series of regional programs, including the Bowen, Broken & Bogie Water Quality Program (BBB Water Quality Program), targeting catchments identified by GBRF as a priority for water quality improvement. Regional priorities for investment have been guided by, amongst other factors, the priorities set out in the Reef 2050 Water Quality Improvement Plan 2017-2022 and informed by a consultancy undertaken by Alluvium Consulting (Alluvium Report, 2019).

Further details on the various plans related to the RTP, including the Partnership investment strategy, annual work plans, and the monitoring and evaluation plan, are available on the [GBRF website](#).

### **1.2. BBB Water Quality Program Overview**

The BBB Water Quality Program aims to improve the quality of water flowing from the Bowen, Broken and Bogie (BBB) catchments. A total of \$24.7m has been allocated under the RTP to this program including:

- \$5 million granted to NQ Dry Tropics (December 2020 to June 2024)
- \$1.7 million granted to Greening Australia (December 2020 to June 2023)
- \$18 million granted to NQ Dry Tropics (August 2021 to June 2024)

This document describes the framework and activities underpinning the composition and subsequent implementation of the BBB Water Quality Program. The plan sets out:

- the objectives and scope of the program;
- the governance arrangements;
- an overview of the key actions proposed under the program, and
- the proposed approach to communications and engagement, including opportunities for stakeholders to be involved in the program

For each regional program, the GBRF has identified:

- priority catchment and target pollutants based on prioritisation processes undertaken by GBRF that are underpinned by the Reef 2050 Water Quality Improvement Plan (WQIP) and informed by the Alluvium Report; and
- target load reductions for the target pollutant at the end of the catchment

These targets are the intended end-of-catchment load reduction to be achieved by the investment under the Partnership and are set out in the Reef Trust [Partnership Monitoring and Evaluation Plan](#).

### 1.2.1. Objective

The primary objective of the BBB Water Quality Program is to achieve an enduring end-of-catchment reduction of 105,100 tonnes in fine sediment entering the Great Barrier Reef from the Bowen, Broken and Bogie sub catchments.

### 1.2.2. Scope

The Program design is guided by the goals, outcomes, and activities of the water quality component of the overall RTP Monitoring and Evaluation Plan. The most relevant RTP activities for the BBB Water Quality Program are those activities that both restore the landscape and support practice change.

### 1.2.3. Regional Context

The BBB catchment covers an area of 11,718 square kilometres, which is 8.3% of the Burdekin River Basin (see Figure 1). The majority of the BBB catchment is Birriah Country and, to a lesser extent, inclusive of Juru, Widi, and Jangga country.

The dominant land use is grazing (92%). Designated conservation areas, including national park and state forest, exist in the southern ridges of the Broken sub-catchment (8% of the total catchment area). There is significant open-cut mining (coal) operating in the region, particularly around the town of Collinsville.

There are 74 grazing properties (either located partially or fully) in the BBB catchment, of which 63 grazing enterprises are more than 2000ha, and of those five are owned by mining companies and one by the Urannah Property Association, which is an Indigenous Corporation.

Within the Burdekin River Basin, the BBB is the dominant source of sediment and particulate nitrogen to the Great Barrier Reef (GBR) (Lewis *et al.*, 2015; Bartley *et al.*, 2014), contributing approximately 43% of the regional sediment load. This catchment has some of the highest per-hectare sediment loads of any

catchment draining to the GBR (Dougall *et al.*, 2014), and these erosion rates are ~7.5 higher than natural (Bartley *et al.*, 2015). The dominant erosion process driving this excess sediment delivery is gully erosion (Wilkinson *et al.* 2015; Hancock *et al.* 2014), and a large proportion of the sediment is generated from grazing lands. Gully erosion causes approximately 65% of the fine sediment load that comes from the BBB.

The Burdekin Water Quality Improvement Plan (Burdekin WQIP, NQ Dry Tropics, 2016) identifies the BBB as the highest priority catchment for sediment loss in the Burdekin Basin.

While being a major sediment source, most of the sediment load is delivered from a relatively small proportion of the catchment area, which has vulnerable soils that are hydrologically well-connected to the stream network. These are primarily where subsoil is exposed in scalds, rills and gullies (Wilkinson *et al.*, 2015; Brooks *et al.*, 2016). Through improved monitoring and modelling data, there is an improved understanding of sediment contributions from individual sub-catchments within the BBB. This information was incorporated into the review of the BBB specific data outlined in the [Solutions Statements of the 2019 Alluvium report](#).



Figure 1: BBB regional boundary, sub-catchments and properties.

## 2.0 Design of the BBB Water Quality Program

### 2.1 Background

This Program builds on the Queensland Government's five-year investment in the Burdekin Major Integrated Project, known as *Landholders Driving Change (LDC)*. The LDC project was designed using a participatory grassroots model and looked to explore and test the efficacy of a strategic integrated program aimed at directing interventions and management effort at a catchment scale.

In developing this Plan, targeted community engagement occurred to ensure alignment, where possible, with the intent of the LDC project. NQ Dry Tropics workshopped investment strategies and outcomes, seeking community feedback to shape the final program design. A panel of technical experts were also engaged to assess cost-effectiveness outcomes and ensure they were in line with current market drivers. The result of this process determined the relative investment ratios (Table 1) and operational budget (Table 3) for the Program.

### 2.2 Program Governance

#### 2.2.1 Regional Program Manager

The governance arrangements for the BBB Water Quality Program are shown in Figure 2. NQ Dry Tropics is the Regional Program Manager and will oversee program planning, monitoring, evaluation and reporting. In this role, NQ Dry Tropics will also be responsible for:

- undertaking open and competitive processes for identifying program delivery partners to fulfil the service needs identified in this plan;
- leveraging existing, and encouraging new strategic partnerships between landholders, delivery providers, Traditional Owners, and other relevant stakeholders to achieve long-term water quality improvement outcomes; and
- continuing to seek advisory support from the 'Landholder Driving Change' Panel members when mitigating barriers to uptake and achieving desired objectives.

The Regional Program Manager will, together with delivery partner Greening Australia, establish regular one-on-one meetings to foster collaboration across the program and to ensure consistency and coordination across the projects. As required, delivery providers (contractors) will also be engaged in these sessions to assist with managing risks and issues associated with operational activities.

#### 2.2.2 Steering Committee

The overall planning and implementation of this Program will be overseen by a Steering Committee. The Steering Committee will be chaired by GBRF, and comprises the following members:

- Great Barrier Reef Foundation (Chair): Christian Roth, Advisor
- NQ Dry Tropics: Scott Crawford, Chief Executive Officer
- Great Barrier Reef Foundation: Ana Perez, Associate Director for Water Quality
- Office of the Great Barrier Reef: Scott Robinson, Director of Reef Programs
- Grazing Landholder Representative: Elected Landholders Driving Change Panel Member

### 2.2.3 Technical Advisory Group

GBRF has also established a Technical Advisory Group (TAG). This group of experts will support the oversight and delivery of the water quality works across the Reef Trust Partnership, including through setting standards or guidelines for water quality programs and projects. For projects that involve major gully restoration works, proponents will be required to prepare technical design reports for each site (whether that be one large site, or a cluster of sites) including the gully toolbox calculations as part of the detailed design works. The TAG is responsible for reviewing and endorsing technical elements of the BBB projects. The TAG will also be responsible for identifying and designing additional monitoring requirements for projects where appropriate.

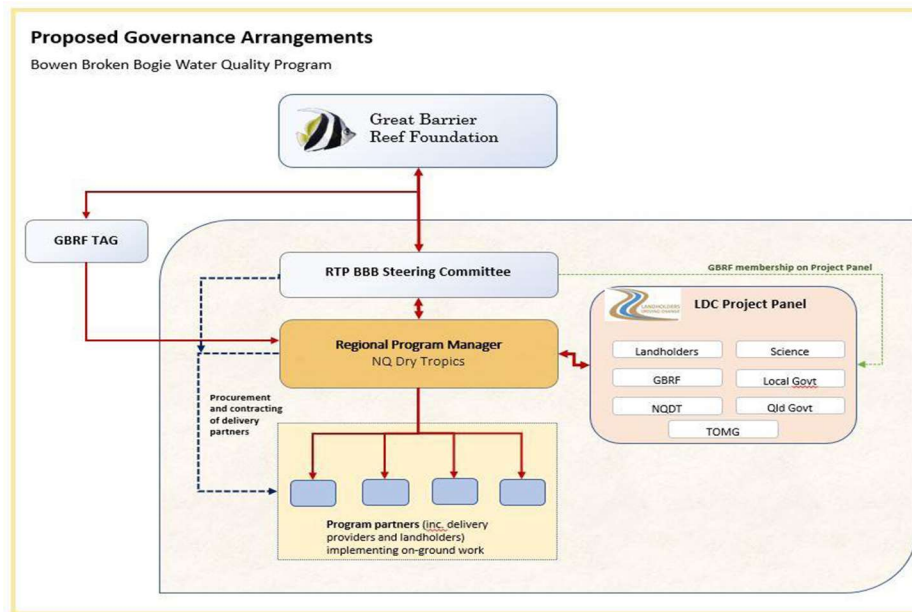


Figure 2: BBB Water Quality Program – Governance Arrangements

### 2.3 BBB Water Quality Program key documents

The BBB Water Quality Program comprises three projects, described in section 3. The documents that describe the overall Program are:

- BBB Water Quality Program Plan (This document) – establishes the overarching objectives, logic and strategies.
- BBB Water Quality Program Communications and Stakeholder Engagement Plan – establishes the objectives and strategies for communication and engagement with key stakeholders regarding the BBB projects as well as the Program as a whole.
- BBB Water Quality Program Monitoring and Evaluation Plan – provides the framework for the management and integration of projects, tracking progress, and program evaluation.

Detailed project implementation is further defined by detailed technical project designs that specify how the projected reduction of fine sediments are to be achieved. These are reviewed by the Program Manager, in consultation with relevant technical specialists from the GBRF's Technical Advisory Group (TAG) (refer section 2.3 Program Governance).



## **2.4 Developing the Program logic for the BBB Water Quality Program**

The overarching program logic (see Appendix 1) for the BBB Water Quality Program is guided by the goals, outcomes, and influence activities of the overarching RTP Monitoring and Evaluation Plan. It sets out how the performance of the RTP will be measured over the life of the partnership and provides a robust methodology for demonstrating the outcomes from the broader impact of the RTP across all its components (including water quality).

The BBB Water Quality Program Logic proposes that water quality outcomes are achieved on-ground by:

- implementing activities that restore landscapes; or
- implementing activities that support practice change.

The specific relationship between these activities are highlighted in Section 3.

## **2.5 Implementing activities that restore landscapes**

The Burdekin River delivers the highest volume of fine sediment into the Great Barrier Reef lagoon, with the BBB contributing about half of that total load. As indicated above, the basis of this investment program by GBRF, supported by the Reef 2050 Water Quality Improvement Plan 2017-2022 is directed at addressing the causes of this problem.

The key activities proposed to restore the BBB landscape and mitigate fine sediment losses into the GBRF include delivering grazing land management support, along with strategically targeting high yielding gully networks for remediation and influencing non-grazing stakeholder groups to adopt management practices that limit their contribution to the overall sediment loads.

### **2.5.1 Grazing Land Management**

Substantial areas of the BBB grazing lands are considered to be in poor to very poor condition, leading to reduced productivity and ground cover, and increased run-off, erosion, and nutrient loss from soils that are already relatively infertile. This limits the productivity of the landscape and contributes to increased sediment discharge into the GBR. The core grazing practices contributing to both hillslope and streambank erosion processes are intrinsically linked to stocking rates and ground cover and matching these rates to carrying capacity as well as the timing and intensity in which grazing is undertaken.

### **2.5.2 Landscape Remediation**

It is estimated that about half of the total load of fine sediments that are delivered to the GBR are from the Burdekin Basin, and almost half of that load comes from the BBB catchment (McCloskey *et al.*, 2017a, 2017b). A large portion (65%) of this fine sediment comes from gully erosion. The remediation of these erosion sources will vary depending on site-specific characteristics and therefore, treatment options will need to be tailored to specific situations. Extensive foundational work has been undertaken to identify high-priority locations and treatment options that provide the greatest sediment reduction benefits for the least cost.

### 2.5.3 Influencing Other Land Managers

There is a water quality risk within the BBB from the development and maintenance of linear infrastructure such as rural roads, pipelines, and power line easements. The BBB Water Quality Program will work on relationship building, collaboration, capacity building, on-ground support via technical advice and design work, and the development and adoption of best management practices. Each of these enabling activities will reduce barriers for sediment reduction trials and ongoing activities by the non-grazing stakeholder group. Investing within these organisations and supporting updates to policies and procedures will contribute to sustainable outcomes in this area for the long term.

## **2.6 Implementing activities that support practice change**

To improve land management practices and stewardship within the BBB area, a number of activities will be incorporated into the program design. These activities will be centred on providing education and capacity building activities for landholders, and direct support for improved land management and stewardship leading to enduring land management change.

### 2.6.1 Landholder Stewardship

To better facilitate practice change, successful uptake of information, and applied learning, engagement will be more focused on meeting individual needs of engaged landholders by arranging peer to peer training and identifying opportunities for on-line training modules.

Regular key community events will be held to holistically capture the ethos of grazing land management, and the mechanisms that support it. Where there are opportunities for demonstration sites and networking, we will also seek to ensure they continue to be facilitated for the community.

### 2.6.2 Traditional Owner Engagement

To demonstrate our commitment to working with Traditional Owners to deliver culturally appropriate work that promotes reconciliation, staff cultural awareness training and Traditional Owner engagement best practices will be incorporated into program activities, including the development of culturally appropriate awareness raising activities to build trust and communication lines between program stakeholders.

## 3.0 Delivery of the BBB Water Quality Program.

### 3.1. On-ground Projects

The delivery projects selected for this Program are summarised below. Please note that the project overviews detailing investment allocation context, challenges, opportunities and target areas can be found in the [BBB Water Quality Program Plan Project Activities](#).

#### 3.1.1. Grazing Land Management Project

The target activities for grazing land management (GLM) project are those that will achieve the largest practice change area with the greatest number of stepped management changes in the Paddock to Reef [questions](#), with significant co-investment from graziers that lead to sustainable sediment loss reduction.

The greatest sediment reductions will be achieved by managing hillslope erosion, where land is:

- currently managed using D condition practices and is transitioned to C condition practices (76% reduction in fine sediment export); and/or
- currently managed using C condition practices and is transitioned to B condition practices (61% reduction in fine sediment export) (Alluvium, 2019).

This will be the project's primary focus; to provide incentive assistance and extension support to graziers to transition practices that are dated and exacerbating poor C/D land condition to those practices likely to achieve medium to long term resource condition goals of A/B condition land.

A range of investment options will contribute to a reduction of fine sediment exported from hillslope erosion to the GBR. Whilst not the exhaustive list of investment opportunities, the [GLM practices](#) provides a guide as to the target practice changes that may be adopted to improve management practices and land condition.

Noting that due to the close relationship between the development and exacerbation of gullies and poor GLM practices, both the Type 1 gully remediation and landscape rehydration activities will be included as part of the Grazing Land Management projects.

#### 3.1.2. Landscape Remediation Project

Remediating Type 3 gullies is acknowledged as the highest cost delivery option within this program; however, this work provides immediate sediment savings. Therefore, a proportionately higher level of investment in this space will provide an assured water quality outcome as a foundation for the overall BBB Water Quality Program.

In delivering this project, Griffith University was contracted to identify the location of the most active Type 3 gully networks and provide an estimate of their fine sediment loads. These networks were further ground-truthed with field assessments. The outcome of this work identified 54 discrete sites across the BBB that presented as viable options for future remediation. The methodology guiding this prioritisation was approved by the GBRF TAG.

To further refine this list and identify the most cost-effective remediation locations, a process of assessing the highest yielding sites will be undertaken along with registering landholder willingness and support. A construction design feasibility assessment will be progressed to identify risks and impediments to remediation, and a conceptual design developed to estimate cost-effective yields within gully network/s.

Through an Expression of Interest process, the Type 3 gully remediation projects will be contracted to appropriately qualified contractors for the design and construct phases. [The design and construct phase procurement process](#) along with NQ Dry Tropics' internal Purchasing and Procurement Policy (ADM006) will be followed.

It is also important to note that in the current climate of rising costs due to inflation, it can be reasonably assumed that there will be inevitable implications for the costing of remediation works. However, all reasonable steps will be taken to ensure cost effectiveness remains as a clear outcome of this project.

### 3.1.3. Influencing Other Land Managers Project

The Influencing Other Land Managers project provides an integrated and catchment-wide approach to achieving water quality outcomes. While only managing 8% of the BBB, non-grazing land managers occupy a highly visible space, and are perceived as contributing disproportionately high sediment loads. Participation of non-grazing land managers in water quality activities is key to improving attitudes and knowledge within this integrated approach.

This project will focus primarily on two critical organisations as regional examples for demonstrations and training – Whitsunday Regional Council and NQ Gas. These organisations have been selected because of their capacity for greater direct and ongoing water quality improvement. Other land managers listed as medium and high priority for partnerships require a modified approach to achieve results; many have either Sustainability Plans (or similar) or have made long-term commitments to environmental sustainability, and therefore our aim is to partner with these organisations to modify their existing governance to include reef water quality improvement as a key objective.

### 3.2 Proposed sediment load reductions

The BBB Water Quality Program will coordinate a number of projects relevant to achieving the goal of reducing 105,100 tonnes at a total cost effectiveness rate of \$235 per tonne of fine sediment entering the GBR from the BBB.

Table 1: Proposed sediment load reductions

	Grazing Land Management Project	Landscape Remediation Project	Influencing Other Land Managers	Greening Australia Remediation	BBB Water Quality Program
Activities that restore landscapes					
Type 3 Gully Remediation		X		X	X
Type 1 Gully Remediation	X		X		X
Grazing practice change	X			X	X
Landscape Rehydration	X				X
Activities that support practice change					
Landholder Stewardship	X	X	X	X	X
Engagement of Traditional	X	X	X	X	X
Communications	X	X	X	X	X
Monitoring and Evaluation	X	X	X	X	X
Targeted Fine Sediment Reduction					
Tonnes / year	87,000	15,750	TBD	2,350	105,100
Average \$ / Tonne	\$70	\$1,010	TBD	\$748	\$236
Total Project Costs	\$6,090,000	\$15,910,000	\$1,000,000	\$1,760,000	\$24,760,000

\*Note: The total project costs listed above are inclusive of all administration and monitoring and evaluation costs.

### 3.3 Program Linkages

Further to the projects listed within this BBB Water Quality Program Plan, there are a number of additional projects (see Table 2) that will be leveraged to increase the delivery of water quality outcomes within the BBB. NQ Dry Tropics, as the Regional Program Manager, will utilise the data and information collected from the projects listed below to: further target priority locations with high sediment loads; and leverage learnings to inform on-ground and extension activities that will successfully encourage best land management practices. Additionally, the learnings from these investments will also be fed back to the 'Landholders Driving Change' panel and more broadly with the BBB community through workshops and one-on-one extension to ensure the challenges and successes inform future investment.

Table 2: Other BBB water quality projects

Project Title	Funder/ Collaboration	Description	End date
Do regenerative grazing management practices improve land condition and water quality in grazed rangelands draining to the Great Barrier Reef?	CSIRO and University of Southern Queensland (funded via GBRF)	Via a GBRF Reef Innovations Grant, utilising existing NQ Dry Tropics and LDC relationships with BBB graziers to investigate and measure results from regenerative grazing practices. The main objective of this study is to collect measured data that will support the anecdotal evidence that regenerative grazing practices lead to improved landscape function, runoff and water quality.	June 2022
Grazing Resilience and Sustainable Solutions (GRASS) program	Queensland Government's Reef Water Quality Program	This program is co-delivered between Department of Agriculture and Fisheries and NQ Dry Tropics, Fitzroy Basin Association and Burnett Mary Regional Group, and is working with graziers in the Burdekin, Fitzroy and Burnett Mary regions to identify opportunities to improve land condition for poor (C) or degraded (D) land.	Jan 2023
Cooperative, integrated weed management in the BBB catchment	Meat & Livestock Australia (MLA)	Delivered by NQ Dry Tropics, this includes demonstration projects on six cooperating enterprises to trial and promote integrated approaches to weed management, via a suite of biological, mechanical and chemical controls, combined with grazing best practices. The core group of cooperating properties will range in size from 20-40,000ha and run 2-5,000 breeders.	Feb 2023
Streambank remediation in the Burdekin catchment	Australian Government Reef Trust Phase VII	Delivered by NQ Dry Tropics, this project is repairing high priority streambanks to reduce fine sediment, particulate Nitrogen and particulate Phosphorus from entering the Great Barrier Reef.	June 2023
Stomping out Sediment in the Burdekin: Livestock impact for gully remediation	Australian Government Reef Trust Phase IV	Delivered by NQ Dry Tropics, the Stomping out Sediment project works with mostly BBB landholders and takes an unconventional approach to gully management: testing and evaluating the use of livestock as a remediation tool.	June 2023

Demonstrating productive, regenerative grazing practices	Meat & Livestock Australia (MLA)	Delivered by NQ Dry Tropics, this includes a producer demonstration group that will foster communication, peer to peer learning and practical interaction within the local regenerative grazier network within the BBB, influencing a wider network of 35 like-minded landholders across the Burdekin Dry Tropics region. This network manages over 680,000ha of grazing country and runs around 70,000 breeders.	Feb 2025
Burdekin Major Integrated Project Gully Maintenance and Monitoring	Department of Environment and Science	NQ Dry Tropics will continue annual surveillance of 20 small scale and 5 large scale remediated gully sites within the BBB after each wet season to monitor gully stability and carry out critical maintenance and generate longer term learnings around timeframes and maintenance costs associated with maintaining gully stability over time.	June 2025

### 3.4 Program Budget

Table 3 summarises the specific budget allocations for the projects and other components of the BBB Water Quality Program. Please note that the budget presented in the plan reflects the total combined GBRF allocations to the BBB.

Table 3: Budget allocations

Projects	Amount
Grazing Land Management (Incl. Type 1 Gullies & Stewardship) Project	\$5,386,591*
Landscape Remediation (Type 3 Gullies) Project	\$13,387,500*
Greening Australia: (Type 3 Gullies) Project	\$1,760,000
Influencing Other Land Managers Project	\$1,000,000
<b>Projects Sub-total</b>	<b>\$21,534,091</b>
Administration Costs	\$2,090,909
Monitoring & Evaluation	\$1,135,000
<b>Total Project Budget</b>	<b>\$24,760,000</b>

\*Note: Does not include administration or monitoring and evaluation costs.

### **3.5 Annual Work Planning and Progress**

An annual work plan is developed in June each year for the following financial year. The plan will be developed by the Regional Program Manager in collaboration with delivery partners and the Steering Committee. The Steering Committee will review progress of all projects, oversee, and endorse the design of projects, monitor the risk management plan and review the implementation of communications activities.

### **3.6 Communication and Stakeholder Engagement**

Communication and stakeholder engagement will be critical to ensure that the individual projects and overall program outcomes are achieved.

Communications will support the delivery of the BBB Water Quality Program across all areas, and will principally focus on developing clear, informative and compelling content, both locally and regionally-targeted, highlighting how communities within the BBB catchment are actively engaged in landscape repair solutions and improving water quality.

This themed-based approach will be reflected in print and online channels including on NQ Dry Tropics' website and (twice yearly) e-newsletter, The Grit. Content for The Grit will highlight how landholders and other land managers are participating in a mix of activities to deliver sustainable land and water quality improvements. This will be complemented and supported by social media posts (Facebook and Twitter), media releases and pitches to print and broadcast media as required.

Messaging will be further refined as the project progresses and disseminated in tailored communication products. For example, towards the end of the project, case studies and/or a wrap-up document could demonstrate the success of integrated innovative approaches.

Effective extension support will to be tailored to the individual, as people respond to different forms of communication. In collaboration with other providers, NQ Dry Tropics will deliver a suite of extension services and technical support through the BBB Water Quality Program, combining one-on-one property visits with traditional workshops in the field, online training, and a range of opportunities for landholders to make connections and learn from each other.

One-on one extension will continue to provide the backbone of the approach, while organising events and sponsoring community initiatives will provide opportunities to initiate engagement with graziers less familiar with the opportunities on offer through the BBB Water Quality Program.

Sponsoring and hosting community events are an effective way to meet target audiences and begin to develop trusted relationships that are essential to effecting lasting attitudinal and on-ground practice change.

At the same time, already-engaged landholders will be supported to build upon the improved land management practices they have previously delivered. A number of cluster groups currently exist in the BBB, which provide valuable opportunities for peer-to-peer engagement and innovation.



NQ Dry Tropics will add value to the BBB Water Quality Program by drawing upon various current and historical programs. For example, under the Queensland Government's Grazing Resilience and Sustainable Solutions (GRASS) project, field officers support landholders to create property plans comprising comprehensive property maps that identify land condition issues. Once the GRASS plan is complete, graziers have an opportunity to implement priority cost-effective water quality improvement projects that deliver a reportable sediment saving using the Paddock to Reef Projector Tool.

### **3.7 Monitoring and Evaluation**

The BBB Program Monitoring and Evaluation Plan sets out the program logic for this regional program. It builds on the existing logic and data collection framework established under the Office of the Great Barrier Reef (OGBR) Major Integrated Project (MIP) delivered in the BBB and as such ensures a legacy of continuity in monitoring and evaluating long term change. An outline of the key monitoring and evaluation activities as they relate to the investment outcomes can be found [here](#).

As part of this framework, delivery providers undertaking individual on-ground projects will be required to prepare and implement project specific M&E Plans. In addition, while delivery partners have prepared M&E Plans and are required to monitor their projects, the GBRF has also recognised other important monitoring activities for the BBB catchment. These additional monitoring activities under this program will include:

- **Gold Standard Gully Remediation Monitoring:** In collaboration with CSIRO, Fruition Environmental and landholders, investment will be allocated to continuing the monitoring of four remediated gully sites. These sites cover a range of sub catchments, gully erosion types, costs, design approaches, interventions applied, and years since intervention took place. Legacy gully monitoring will enable a quantifiable measurement of water quality outcomes and will validate transferable learnings that come from treatment effectiveness.
- **Community Based Water Quality Monitoring:** In collaboration with James Cook University TropWATER, the existing community water quality monitoring program will be expanded into new locations to enable additional sampling sites to be established. Beyond the value of building landholders' connection and understanding of localised water quality results, the data will be shared with the Source Catchment Modelling team to validate existing data and calibrate the hydrology for increased confidence in load estimates.

## 4.0 References

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# 5.0 Appendices

## Appendix 1: Program logic for the BBB Water Quality Program

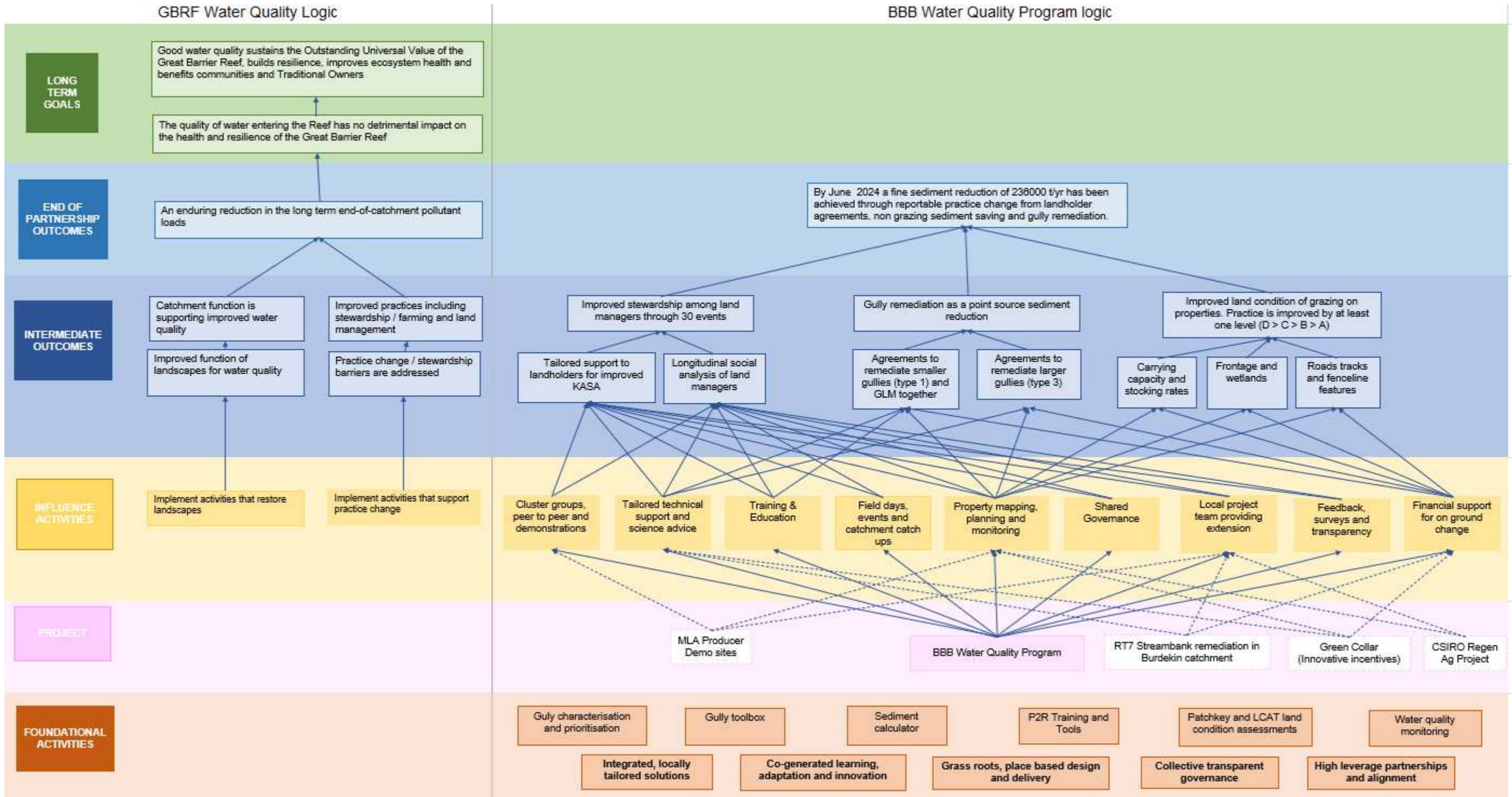


Figure 3: Program logic for the BBB Water Quality Program