

Queensland
**REEF WATER
QUALITY**
Program



© Tourism and Events Queensland.

Queensland Reef Water Quality Program Report
2020–21 and 2021–22

An aerial photograph of a coastal landscape. On the left, a river winds through lush green mangroves. On the right, a sandy beach curves along the edge of clear turquoise water. In the background, there are rolling green hills under a bright sky. The entire image is framed by a teal border at the top and bottom.

Acknowledgement

We acknowledge the continuing management and custodianship of Country across the Great Barrier Reef Region by its Traditional Owners whose rich cultures, heritage values, enduring connections and shared efforts continue to protect land, sea and sky Country for future generations. We pay our respect to their Elders, past, present and emerging.

We recognise the continuous living culture of Aboriginal and Torres Strait Islander peoples—their diverse languages, customs and traditions, knowledges, and systems—and the deep relationship and responsibility to Country as integral to their identity and culture.

We thank Traditional Owners for their enduring stewardship and protection of the Great Barrier Reef for thousands of generations—and for their ongoing guidance and partnership in the shared efforts to protect the Great Barrier Reef.

Introduction

The Queensland Reef Water Quality Program (QRWQP) is the Queensland Government's key response to addressing water quality impacts affecting the Great Barrier Reef (Reef). It delivers key activities as part of implementing actions in the Reef 2050 Water Quality Improvement Plan 2017–2022 (Reef 2050 WQIP), which supports the **water quality** theme of the Reef 2050 Long-Term Sustainability Plan (Reef 2050 Plan).

In 2017–2018, a Five Year Investment Plan 2017–2018 to 2021–2022 was developed outlining the delivery of the QRWQP, and can be found [here](#).

This report covers activities and investments for the 2020–2021 and 2021–2022 financial years. The Office of the Great Barrier Reef and World Heritage (OGBR&WH) within the Department of Environment and Science (DES) is responsible for overseeing the QRWQP, working with the other DES Divisions and the Department of Agriculture and Fisheries (DAF).

A range of projects can be viewed via the Collection of Reef and Land (CORAL) database which can be found [here](#).

A new work program is under development and a new QRWQP Investment Plan will detail the planned investment for the coming financial years. A Monitoring, Evaluation, Reporting and Improvement framework is also currently under development. The new program and framework will feature in future QRWQP annual reports.

Funding categories

Annual: Queensland Government annual funding.

Additional: Additional funding over five years, supporting the Great Barrier Reef Water Science Taskforce recommendations.

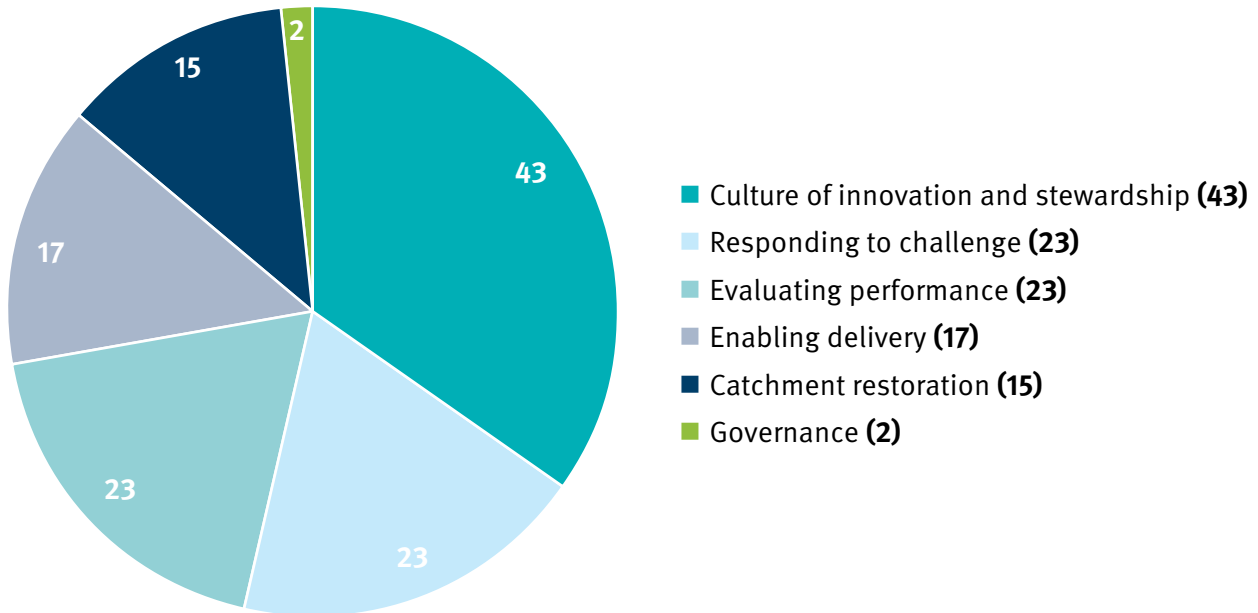
Co-contributions: Includes funding from either:

- other Queensland Government programs that support Reef water quality work
- broader Queensland Government state-wide programs where funding can be clearly separated into Reef regions, or
- as part of a state program where an approximate funding allocation is made for Reef regions towards achieving Reef 2050 WQIP targets.

Program summary

Number of current projects by action type

The number of current projects refers to the number of projects underway during the reporting period. They may have been new, continuing or about to be completed.



Burdekin River
© Queensland Government

Responding to the challenge (actions to progress towards targets)

Activities support best management agricultural programs, Reef protection regulations and minimum standards development, and targeted compliance programs, data system development, erosion and sediment control and stormwater capacity building.

Culture of innovation and stewardship

Activities support land managers and industry, providing extension and education services toward achieving best management agricultural programs. An extension officer training, education, and peer-to-peer learning program supports officers to deliver landholder services. The Major Integrated Projects also form part of this action.

Catchment restoration

Activities use and apply guidelines, Traditional knowledge and decision tools to design and inform catchment projects, and trial and implement innovative catchment repair projects to reduce sediment and nutrients to the Reef.

Enabling delivery

Activities deliver communication and decision support projects and products, and address gaps in the Reef 2050 Water Quality Improvement Plan Research, Development and Innovation Strategy across areas of pesticide monitoring and guideline review, and a range of human dimensions projects.

Governance

Activities deliver program oversight, and secretariat services for the Reef 2050 Joint Team arrangements for collaboration with the Australian Government, the Reef 2050 Advisory Bodies and meetings of the Reef 2050 Advisory Committee and Reef 2050 Plan Independent Expert Panel to provide advice on the review and implementation of the Reef 2050 Plan in partnership with Traditional Owner members.

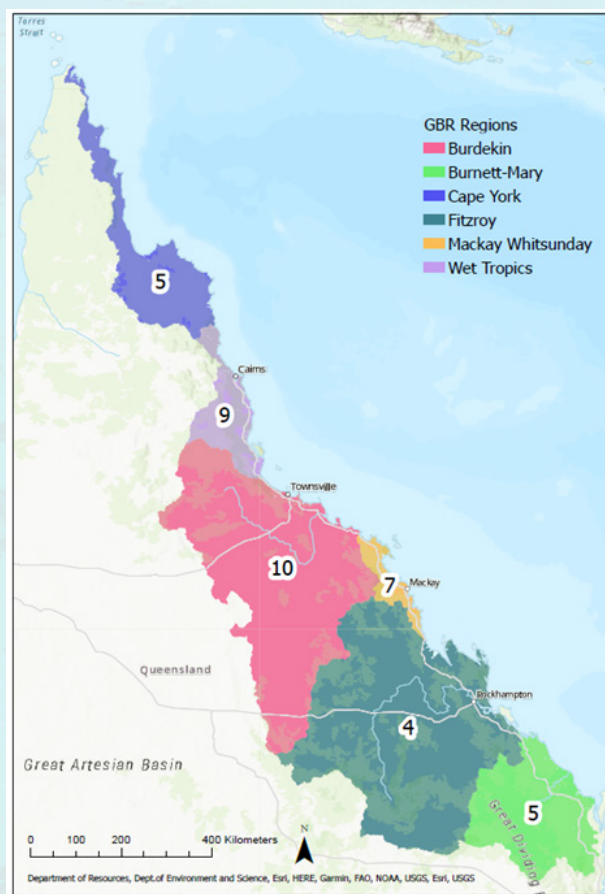
Evaluating performance

Activities support the implementation of the Paddock to Reef program across sediment, nutrient, and pesticide monitoring; catchment and gully modelling and mapping; communication products for regional Natural Resource Management groups; collection and use of high-resolution satellite images for land cover and land use change; Reef Water Quality Report Card releases; and support to regional report card partnerships and the eReefs research project.

Current projects by GBR Region

The number of current projects (as shown on the map) refers to the number of projects underway during the reporting period. They may have been new, continuing or about to be completed.

A further 63 projects are classed as 'Reef wide', where projects worked across two or more regions. These projects are not counted in the individual regions nor shown on the map.



Progress highlights

Responding to the challenge: actions to progress towards targets

Activities that support best management agricultural programs, Reef protection regulations and minimum standards development, and targeted compliance programs, data system development and erosion and sediment control and stormwater capacity building. Outcomes include:

- Smartcane Best Management Program (BMP) has 35% of cane land in Reef catchments accredited as at or above best land management practice.
- 22 farms (covering 4,100 hectares) became accredited as part of the Hort360 GBR BMP project, demonstrating at or above best practice in horticultural production.
- The Australian Banana Growers Council worked with Freshcare and the Queensland Government on a Freshcare Environmental Program for banana growers to be certified as Reef Assured in compliance with *Environmental Protection Act 1994—Great Barrier Reef protection measures*.



Grazing Resilience and Sustainable Solutions (GRASS)

What is the GRASS program?

The GRASS program supports graziers in the Burdekin, Fitzroy and Burnett Mary regions, with areas of poor (C) or degraded (D) land condition, to develop and implement a tailor-made action plan for land management to identify, improve and maintain their land condition with a specific focus to improve ground cover and reduce soil loss from their farm.

Find out more [here](#).

Mobbing and moo-ving cattle is key—Charters Towers graziers improving their land and the Reef

Charters Towers farmers developed a tailor-made action plan and ‘grass budget’ to assist in repairing degraded land on their cattle property. The plan helps to identify how long cattle can stay in each paddock to avoid degradation, protecting ground cover, better cattle nutrition, and animal performance. Grassed soil also captures more of the rainfall and less water running into the system and then into the Great Barrier Reef.

Read the full story [here](#).

Culture of innovation and stewardship

Activities that support land managers and industry, providing extension and education services toward achieving best management agricultural programs. An extension officer training, education, and peer-to-peer learning program supports officers to deliver landholder services. The Burdekin and Wet Tropics Major Integrated Projects are two major projects that work with graziers, sugarcane and banana growers, to test a range of tools and approaches to reduce nutrients, sediment and pesticides flowing into waterways in those regions.

Outcomes include:

- The Better Beef for the Reef project drove a targeted extension approach to accelerate adoption of improved grazing management practices in the Burnett Mary region, targeting land of poor to very poor condition. 45 grazing businesses were engaged in one-on-one consultation, property visits and technical support. All landholders were invited to be part of the GRASS program, fostering on-going change (see the Case Study in Responding to the challenge).
- Landholders Driving Change is a Burdekin Major Integrated Project. Graziers from the Bowen, Broken and Bogie River catchments had the opportunity to suggest how projects to improve land condition, pasture cover and productivity could be designed, to best repair erosion and gullies, which may be impacting on water quality from their properties.
- DAF scientists and agronomic specialists develop innovative solutions, provide on ground support to producers and mentor those delivering extension services to industry. 470 grain growers; 541,583 hectares, saving 1846 tonnes of sediment; 4,314 beef producers across 4,535,599 hectares, saving 1960 tonne of sediment;); and from cane farms, 1067 sugarcane producers engaged, managing 125,614 hectares, saving 1302 kilograms of dissolved inorganic nitrogen (DIN), 271 tonne of fine sediment and 44.8 kilograms of pesticide stopped from reaching the Great Barrier Reef Lagoon.

Landholders driving change



Smaller farming properties,

Glencore, NQ Gas Pipeline, Ergon Energy and Whitsunday Regional Council also engaged



17 jobs
created



78 properties
undertook land management improvement projects



2500 stakeholders
attended 150 education, training and knowledge sharing events



24 gullies
remediated
spanning
1,600 hectares

Around **10,600 tonnes**
of **fine sediment**
saved from reaching the Reef



360 businesses
supported with
89% invested locally



Catchment restoration

Activities that use and apply guidelines, Traditional knowledge and decision tools to design and inform catchment projects, and trial and implement innovative catchment repair projects to reduce sediment and nutrients to the Reef. Outcomes include:

- The Innovative Gully Remediation Project (with landholder partners and Greening Australia) has rehabilitated a further 10.86 ha of gullies at Strathalbyn Station (near Bowen) with an estimated 2,054 tonnes/year reduction of sediment reaching the Reef. Find out more about the project [here](#).
- Natural Resource Investment Program (NRIP) Reef Water Quality projects in high-risk priority catchments of the Burdekin, Pioneer, O’Connell, Burnett and Mary rivers saw 8,748 hectares of improved grazing practice and 4,203 hectares (on non-grazing land), and 2,232 tonnes/year suspended sediment saved from entering the Reef via streambank and gully repair, with over 182 hectares of gullies repaired.
- Queensland Wetlands Program supports projects that enhance the wise use and sustainable management of Queensland’s wetlands. The WetlandInfo website added a
 - Litter and Illegal dumping management framework and conceptual model Litter and Illegal Dumping (Department of Environment and Science) ([des.qld.gov.au](#))
 - [Whole-of-System, Values-Based Framework](#)
 - [The Aquatic Ecosystem Rehabilitation Process](#)

- Queensland River Rehabilitation Management Guideline, and new information on the location and management of fishways Aquatic fauna passage (biopassage) ([des.qld.gov.au](#)), new layers to [Wetland Maps](#), including the aquatic biopassage structure layer, further information on threats and resources for coordinated feral pig management, and the Wetlands Insight data tool, featuring interactive graphs depicting long-term changes in wetland hydrology.



The Reef Islands Initiative

The Reef Islands Initiative is a joint project between Queensland and Australian Government, and corporate partners, led by the Great Barrier Reef Foundation. It is a collaborative program of on-ground and in-water actions to protect and restore critical high-value island habitats.

This 10-year program commenced in 2018 and aims to build resilience in Reef island habitats. It is the largest Reef island habitat rehabilitation project of its kind in the Southern Hemisphere.

Achievements on Lady Elliot Island: over 12 hectares re-vegetated, weeds removed and over 9,000 native coral cay species planted. 100% renewable energy for the island. Over 3,300 volunteer hours by 390 individuals contributed to island restoration activities. 1 centimetre resolution island habitat mapping completed, making this island the most comprehensively mapped island in the GBR.

Achievements in the Whitsundays Island Group: hundreds of coral colonies planted out on reefs around Daydream Island, Hayman Island and Hook Island. 18 million coral larvae collected in five inflatable spawn-catchers. Four priority coral and seagrass restoration sites identified: Pioneer Bay, Blue Pearl Bay, Luncheon Bay and Black Island. One trial seagrass nursery established at Coral Sea Marina, with 45,000 seagrass seeds in 5,000 flowers collected for seagrass restoration. The Healthy Heart Program has been established, recruiting 21 local businesses to actively measure and reduce their carbon footprint.

The third island as part of the Reef Islands Initiative is Avoid Island, with the aim to transform the island into a hub of on-country learning and citizen science, for ecosystem restoration and protection, in partnership with the Koinjmal Peoples. Future sites identified are on Hinchinbrook Island.

Read more stories [here](#).

Enabling delivery

Activities that deliver communication and decision support projects and products, and address gaps in the Reef 2050 Water Quality Improvement Plan Research, Development and Innovation Strategy, across areas of pesticide monitoring and guideline review, and a range of new human dimensions projects.

The SIX EASY STEPS toolbox provides practical information and examples of methods used to refine Nitrogen application rates with the goal of improving on farm Nitrogen Use Efficiency and profitability. The program is now live and available on the Sugar Research Australia website [here](#).

Across industry, alongside the Queensland and Australian governments, there are several programs and support tools that help sugarcane farmers adopt improved farming practices. Find out more [here](#).

Governance

Activities that deliver program oversight, as well as secretariat services for the Reef 2050 Joint Team arrangements for collaboration with the Australian Government; the Reef 2050 Advisory Bodies and meetings of the Reef 2050 Advisory Committee and Reef 2050 Plan Independent Expert Panel to provide advice on the review and implementation of the Reef 2050 Plan in partnership with Traditional Owner members.

A new governance activity features the development of a QRWQPMERI framework, to support continued program development and improve the ability to report on outcomes in the future.

Human dimensions research projects

Five human dimensions research projects have helped identify some of the social, cultural and economic factors that underpin water quality improvements in the Reef catchments and are guiding the development of new programs.

Find out more via the Collection of Reef and Land (CORAL) database: Building a policy instrument for the Reef (RP225); Reef partnerships review and synthesis (RP226); Understanding the influence of media and community narratives on Great Barrier Reef water quality management (RP227); Understanding the human dimensions to land management practice change to aid in improved future adoption (RP228); Supply chain and market incentives for water quality (RP229)

Evaluating performance

Activities that support the implementation of the Paddock to Reef program across sediment, nutrient and pesticide monitoring; catchment and gully modelling and mapping; communication products for regional Natural Resource Management groups; collection and use of high-resolution satellite images for land cover and land use change; Reef Water Quality Report Card releases; and support towards regional report card partnerships and the eReefs research project. Outcomes include:

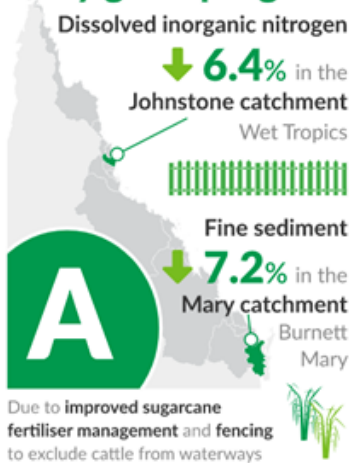
- DES Sciences delivers key Paddock to Reef monitoring programs including monitoring of sediment, nutrient and pesticide loads, the use of remote sensing to measure landscape indicators such as ground cover, gullies and riparian vegetation and the assessment of wetlands.

- A component of these Activities is the *GBR catchment loads monitoring program*. During 2020–21, the Great Barrier Reef Catchment Loads Monitoring Program and finer-scale monitoring project collected more than 11,000 samples across 97 sites in Reef catchments. During 2021–22 more than 15,700 samples were collected. It also provides data to stakeholders and community via three web-based products:
 - An interactive StoryMap for the *GBR catchment loads monitoring program*, available [here](#).
 - The interactive Pesticide Reporting Portal, available [here](#).
 - *The Water Quality* app, available via the [1622WQ website](#).
- The Reef Water Quality Report Card 2020 (released April 2022) details progress towards the Reef 2050 Water Quality Improvement Plan targets to June 2020.
- The 2020 interactive report card won the [2020 Queensland Premier's Award](#) for excellence in the category of 'Protect the Great Barrier Reef'.

Reef Water Quality Report Card 2020

The interactive report card is available [here](#).

Very good progress



Pesticide risk improved

↑ to **good**
in the **Tully** (Wet Tropics), **Mary** and **Burrum** (Burnett Mary) catchments

Inshore marine condition improved ↑ to

moderate

Ground cover in the Fitzroy region improved to

↑ **63%**
with many areas still impacted by drought

The Reef Assist program

- The Reef Assist program (the program) has delivered priority environmental projects and created regional jobs for unemployed and underemployed Queenslanders in the Wet Tropics, Burdekin Dry Tropics and Mackay Whitsunday Great Barrier Reef catchment areas.
- The program started in July 2020 with \$10 million invested in the delivery of 11 on-ground projects in partnership with local governments, natural resource management organisations and private organisations with a proven track record in environmental restoration. An additional \$2 million was provided to extend seven of the projects in late 2021.
- The program has seen 247 jobs supported, providing employment to 116 First Nations People, 82 youth and 50 women. The program has partnered with 38 delivery partners and engaged with 365 local businesses and contractors. (note: these numbers cover Reef Assist phases 1.0 and 1.5).
- \$9.06 million was injected back into the local economy, and was spent on delivery partners, local businesses and contractors.
- Key environmental outcomes for the Reef were achieved by the projects, through improving natural disaster resilience, biodiversity and ecosystem function, water quality, and soil health. Targeted activities included vegetation restoration, native planting, weed control and bank stabilisation and restoration.
- The Reef Assist program created alternative employment opportunities in highly tourism-dependent regions impacted by the COVID-19 pandemic. It also delivered environmental outcomes, including those linked to the Queensland Government's ongoing priority of protecting the Great Barrier Reef.

Read the full story [here](#).

Investment table

Responding to the challenge (actions to progress towards targets)

Minimum practice standards

1.1 Implement minimum practice standards for agricultural industries, which can be met either voluntarily, e.g. through industry-led best management practice (BMP) programs or as a result of regulation.

Activity with the QRWQ Program	2020–21 expenditure	2021–22 expenditure	Lead agency	Funding source
Support to voluntary industry-led BMP programs in cane, grazing, grains, and banana industries.	\$4,777,775	\$3,268,916	DES	Additional
Reef protection regulation implementation under the <i>Environmental Protection Act 1994</i> .	\$517,000	\$2,850,330	DES	Additional
Targeted compliance program under the <i>Environmental Protection Act 1994</i> .	\$1,393,596		DES	Additional Annual
Build compliance capacity for erosion and sediment control during urban, industrial and infrastructure construction and maintenance.	\$0. Phase complete. See 1.2.		DES	Additional
Transition program to support the cane, grazing and banana industries in Reef catchments to transition to new minimum standards.	\$3,385,813	\$3,609,824	DES	Annual
Data and project management system for Reef projects.	\$417,800	\$438,960	DES	Additional

1.2 Ensure urban, industrial and mining activity comply with requirements under the *Environmental Protection and Biodiversity Conservation Act 1999*, *Planning Act 2016*, *Environmental Protection Act 1994*, and *Waste Reduction and Recycling Act 2011*.

Erosion and Sediment Control and Urban Stormwater Capacity Building.	\$250,000	\$150,000	DES	Additional
Enhance integration of data and the use of the Water Tracking and Electronic Reporting System (WaTERS) to capture point source release monitoring and tracking data online.	\$150,000	\$150,000	DES	Annual

Culture of innovation and stewardship

2.1 Support land managers and industries to adopt improved management practices, e.g. through coordinated extension, education and awareness programs.

Activity with the QRWQ Program	2020–21 expenditure	2021–22 expenditure	Lead agency	Funding source
Extension and education				
Boost extension resources, providing greater access for farmers to extension services to enable greater practice change in farming communities and building long-term capacity in advisory services.	\$5,063,850	\$4,377,184	DAF	Additional
Enhanced education and extension coordination to support large scale land management practice change.	\$554,000 \$935,000	\$215,148	DAF DES	Additional
Capacity building of Reef extension practitioners.	\$1,226,000	\$452,327	DAF	Additional
Develop a mentoring framework for early career extension officers.	\$1,204,342	\$50,000	DES	Additional
Project Cane Changer.	This project is complete.			
Increased use and improved function of grazing extension tools for extension service providers.	\$528,000	\$515,913	DES	Annual
Wetlands demonstration on-ground case studies, client extension, management of local committees, information tools for landholders.	\$90,000	\$0	DAF	Annual
Targeted extension approach to accelerate adoption of improved grazing management practices in priority areas in the Burnett Mary region.	\$25,500	\$0	DES	Additional
Implementation of two Major Integrated Projects (MIPs) in the Wet Tropics and Burdekin regions to pilot a range of activities with producers and the community to reduce nutrient, pesticide and sediment loads.	\$3,634,315	\$2,732,204	DES	Additional Annual
DES's scientific information, technical expertise and advice supports research underpinning Reef 2050 Plan and the Queensland Government.	\$131,000	\$147,283	DES	Annual
Economic validation practices				
Validating the economics of management practices that improve water quality and providing this information to landholders in decision support tools and as part of the extension program.	\$1,399,000	\$1,402,062	DAF	Annual

2.4 Identify and address barriers to change and practice improvement uptake through programs and policy.

Activity with the QRWQ Program	2020–21 expenditure	2021–22 expenditure	Lead agency	Funding source
Innovation				
Great Barrier Reef Innovation Fund addressing agricultural management practices, water treatment systems and water and support to the Coral Abundance Innovation Challenge.	\$254,392	\$278,350	DES	Additional

2.6 Trial and implement innovation in technologies for on-ground management, water treatment and monitoring.

Innovation				
Implement projects to build on successful trials of on-ground management practices.	\$1,910,000	\$1,007,485	DAF	Annual co-contribution
Science in the paddock				
Targeted projects to address water quality pollutants across all agricultural industries based on priorities through Science in the Paddock program.	\$1,636,362	\$310,030	DES	Additional Annual
Demonstration projects encourage improved practice uptake at a local scale.	\$1,676,754	\$53,640	DES	Annual
Burdekin cane farmer engagement: complete nutrient management planning for cane farming.	Project complete.		DES	Annual
Research, Development, and Innovation projects filling Human Dimensions gaps.	See section 4.1.		DES	Additional

Catchment restoration

3.1 Use guidelines, Traditional knowledge, and other decision support tools to design and inform interventions.

Activity with the QRWQ Program	2020–21 expenditure	2021–22 expenditure	Lead agency	Funding source
Queensland Wetlands Program. <ul style="list-style-type: none"> Provision of wetlands tools and WetlandInfo website. Delivery of Walking-the-Landscape whole-of-catchment management understanding. 	\$176,479	\$166,450	DES	Annual

3.3 Trial and implement innovation in catchment repair and restoration projects to reduce sediment and nutrient delivery to the Reef.

Targeted projects of direct action through sustainable landscape management and system repair including riparian revegetation, gully repair, streambank stabilisation and coastal wetlands rehabilitation.	\$3,895,663	\$4,125,269	Resources	Annual
Streambank and gully remediation projects including innovative gully remediation in partnership with Greening Australia and erosion management plan and operational works on Springvale Station.	\$692,660	\$28,450	DES	Additional
Reef Islands Project—protecting the Reef’s most precious land and seascapes with a focus on islands and their adjacent waters.	\$0. Contribution paid over previous years		DES	Additional
Reef Assist Program—deliver priority environmental projects and regional jobs for unemployed and underemployed Queenslanders in Reef catchments.	\$0	\$1,600,000 A \$10 m total investment of which \$1.6 m is attributed to the QRWQP.	DES	Additional
Reef water quality projects in the Central Queensland region seeking to reduce nutrient, pesticide, and sediment losses to waterways.	\$1,321,560	\$1,621,487	DES	Additional Annual

Enabling delivery

Science and knowledge

4.1 Identify, prioritise and fill knowledge gaps through the Reef 2050 Water Quality Improvement Plan (Reef 2050 WQIP) Research, Development, and Innovation Strategy (RD&I).

Activity with the QRWQ Program	2020–21 expenditure	2021–22 expenditure	Lead agency	Funding source
Review of Scientific Consensus Statement.	\$675,000	\$150,000	DES	Annual
Address priority gaps in the Reef 2050 WQIP RD&I Strategy through Reef water quality research and development programs.	\$791,012	\$0	DES	Annual
Assess the water quality and human dimensions outcomes of projects within a consistent evaluation framework.	\$86,778	\$543,613	DES	Additional

4.2 Integrate forms of knowledge including science, policy, management, Traditional Owner and community through regular synthesis workshops.

Annual synthesis workshop and projects across science, policy and management.	\$0. Not held.	\$0. Not held.	DES	Additional
---	----------------	----------------	-----	------------

4.3 Deliver decision support tools, communication and education products tailored to specific audiences.

Communication projects.	\$0	\$41,787	DES	Additional
Activities to improve communication and information to support large-scale change in practice, including communication tools, workshops, communication strategies and implementation plans.	\$181,633	\$239,620	DES	Additional

Governance

6.1 Collaborate and coordinate between the Queensland and Australian governments, in line with the Reef 2050 Plan governance structures.

Activity with the QRWQ Program	2020–21 expenditure	2021–22 expenditure	Lead agency	Funding source
Secretariat support to governance groups.	\$406,034	\$849,317	DES	Annual

6.3 Ensure accountability of investment to outcomes in the Reef 2050 WQIP.

Annual Queensland Reef Water Quality Program Investment Report/Plan.	See 7.4.	See 7.4.	DES	Annual
Program management.	See 7.4.	See 7.4.	DES	Additional

Evaluating performance

7.1 Monitor and model management practice and water quality improvements through the Paddock to Reef program.

Activity with the QRWQ Program	2020–21 expenditure	2021–22 expenditure	Lead agency	Funding source
Implementation of Paddock to Reef program				
Great Barrier Reef ground cover, riparian vegetation, catchment loads, wetland condition and wetland mapping and extent monitoring programs.	\$2,956,850	\$3,965,000	DES	Additional Annual
Catchment loads modelling, Gully mapping, Paddock to Reef support to Regional Natural Resource Management body components.	\$794,620	\$583,495	Resources	Annual
Management practice adoption reporting.	\$561,000	\$569,434	DAF	Annual
Advance the capacity to map and monitor land condition in the Burnett Mary, Fitzroy and Burdekin natural resource management.	\$467,000	\$0	DES	Additional
Gully monitoring, modelling, evaluation, and reporting.	\$183,715	\$186,728	DES	Additional
Wetland condition monitoring and water quality monitoring and modelling.	\$1,459,000	\$985,000	DES	Annual co-contribution
Ambient water quality monitoring, high resolution satellite imagery.	\$1,073,603	\$958,768	Resources	Annual co-contribution
Research and improvement of water models in the Great Barrier Reef catchments through the Queensland Water Modelling Network (QWMN).	\$186,000	\$160,000	DES	Annual co-contribution
Collection, storage, access, and enhancement of information that support catchment restoration and land management as well as monitoring, modelling, and reporting of outcomes in Reef catchments.	\$534,000	\$802,000	DES	Annual co-contribution
Data management and delivery through Science and Spatial Information Management for Reef (SSIMR).	\$182,357	\$82,723	Resources	Annual
Develop a baseline for a variety of practice, behavioural and attitudinal drivers that influence Reef water quality. The baseline will be consistent with related Reef 2050 Plan targets.	\$0. Reporting will begin in the 2021–22 year.	See 4.1.	DES	Annual
Independent review of the Agricultural Management Practice Adoption Target for the Reef water Quality Improvement Plan.	\$159,000	\$0	DES	Annual

Activity with the QRWQ Program	2020–21 expenditure	2021–22 expenditure	Lead agency	Funding source
--------------------------------	---------------------	---------------------	-------------	----------------

7.4 Evaluate the effectiveness of programs, governance mechanisms, and adaptations.

Develop an Evaluation Framework and annually evaluate and report on performance of overall Reef investment program and review governance.	\$257,490	\$365,026	DES	Annual
---	-----------	-----------	-----	--------

7.5 Report progress towards targets, objectives, and outcomes.

This investment supports DES’s ambient monitoring program which assesses current and long-term trends in water quality and ecosystem health and provides estuarine and freshwater fish data to support the development of regional report cards.	\$585,000	\$530,000	DES	Annual
Develop and release a Great Barrier Reef Water Quality Report Card.	\$523,970	\$672,318	DES	Annual

7.6 Communicate regionally relevant information for management decisions and local communities.

Regional report card partnerships membership and support.	\$2,466,890	\$1,974,181	DES	Annual
---	-------------	-------------	-----	--------

7.7 Make data and information publicly available through a range of communication products.

eReefs	\$220,000	\$252,000	DES	Annual
--------	-----------	-----------	-----	--------

