



Australian Government



Queensland Government

Reef 2050 Plan

2019 ANNUAL REPORT



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Reef 2050 Plan

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Aboriginal and Torres Strait Islander peoples
are the Traditional Owners of the
Great Barrier Reef area and have a continuing
connection to their land and sea country.

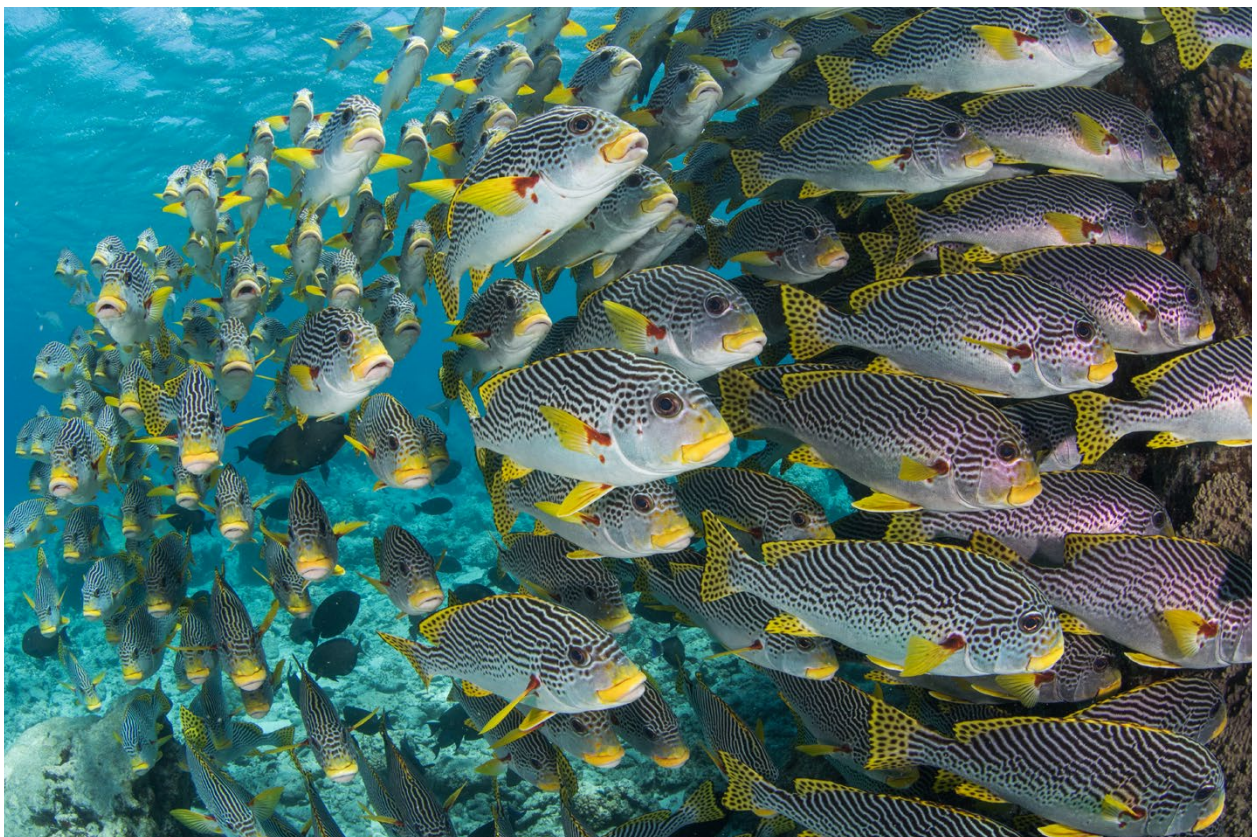


Indigenous ranger training at Mulgalla Station in May 2019
Photographer: Bush TV © Commonwealth of Australia (GBRMPA)

PREFACE

This is the fourth Annual Report of the Reef 2050 Long-Term Sustainability Plan (Reef 2050 Plan). The 2019 Annual Report provides an overview of progress on implementing the Reef 2050 Plan from December 2018 to November 2019.

The next Annual Report will be released at the end of 2020.



*School of fish at Ribbon Reef No 10, in the Cairns/Cooktown Management Area
Photographer: J. Sumerling © Commonwealth of Australia (GBRMPA)*



Colourful reef scene with schools of fish and hard and soft corals
Photographer K. Hoppen © Commonwealth of Australia (GBRMPA)



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*An orange hermit crab covered in black rimmed white spots and long spines
Photographer: L. Zell © Commonwealth of Australia (GBRMPA)*



MINISTERS' YEAR IN REVIEW

The Great Barrier Reef continues to be a beautiful, diverse, vast and iconic World Heritage property that is greatly valued by people across Australia and across the world.

This year, the Great Barrier Reef Marine Park Authority released its five-yearly Great Barrier Reef Outlook Report 2019, highlighting the pressures facing the Reef and the condition of its values. This evidence-based report found the state of the Reef and its heritage values has continued to deteriorate overall due to multiple factors including rising atmospheric carbon concentrations and climate change, tropical cyclones, an ongoing crown-of-thorns starfish outbreak and coral bleaching events.

To help meet these challenges, the Australian and Queensland governments are working in partnership to implement the *Reef 2050 Long-Term Sustainability Plan*. We are proud of the progress made under the Plan in 2019, including tackling outbreaks of crown-of-thorns starfish, delivering improvements to water quality and coastal habitats, protecting threatened and migratory species and addressing plastic pollution. To ensure that the Plan remains fit for purpose, we will review and update it in 2020. The review will be a comprehensive and collaborative process underpinned by the best science to ensure that the property is managed adaptively in a changing environment.

Improving water quality remains a high priority for improving the health of the Reef. The Reef Water Quality Report Card 2017 and 2018, released in August, showed encouraging improvements in water quality in priority areas such as the Burdekin region. But we know that more work is needed across all catchments. That is why the Queensland Government is taking strong action to improve the quality of water entering the Reef through strengthening the water quality regulations that address land-based sources of water pollution to the Reef.

We are continuing to deliver practical on-ground land management improvement in Reef catchments. We support our farmers to manage their land to the best standards to help reduce pollutants washing into river systems and into the Reef. We are particularly proud of the Rebuilding Strathalbyn project which won the Queensland Premier's Award for Excellence. This project trialled innovative techniques to restore heavily eroded gullies in the Burdekin region—one of the largest single sources of sediment pollution to the Reef.

This year, we celebrated 40 years of the Australian and Queensland governments working together for the long-term management of the Marine Park through delivery of the Reef Joint Field Management Program. This Program won the Gold award for the 2019 Prime Minister's Award for Excellence in Public Sector Management, applauded for meeting 21st century challenges. The Program protects and maintains the marine and island ecosystems that support economic, traditional and recreational uses of the Reef.

Aboriginal and Torres Strait Islander people are the Traditional Owners of the Great Barrier Reef Region and we value their connection to country. In March, the Great Barrier Reef Marine Park Authority released the *Aboriginal and Torres Strait Islander Heritage Strategy*, to strengthen our partnerships, and assist Aboriginal and Torres Strait Islander peoples to keep their heritage strong, safe and healthy.

In July, the Queensland Government committed to begin the journey towards negotiated treaties with Traditional Owners. *'Tracks to Treaty'* marks a monumental reform that acknowledges past injustices and recognises and celebrates the contribution of Aboriginal and Torres Strait Islander peoples.

We can all play a role in protecting the Reef, and this year we saw an increase in stewardship and community involvement. The Great Barrier Reef Marine Park Authority and tourism industry delivered its Master Reef Guide program to enhance tourists' Reef experiences and strengthen understanding of sustainable reef practices. Marine debris clean-ups of coastal and waterway sites brought together citizen scientists, schools, community groups, local governments and all ocean lovers.

The Australian and Queensland governments have committed record levels of investment to deliver the Reef 2050 Plan—to an unprecedented \$2.7 billion over the decade. This investment includes the ground-breaking investment of \$443 million for the Reef Trust Partnership with the Great Barrier Reef Foundation.

We acknowledge the importance of consideration of the state of conservation of the Great Barrier Reef by the World Heritage Committee at its next meeting. The State Party Report provided to the World Heritage Committee in December 2019, demonstrates the continued commitment and comprehensive action being undertaken through the Reef 2050 Plan.

We would also like to take this opportunity to thank our advisory bodies—the Reef 2050 Plan Independent Expert Panel, the Reef 2050 Advisory Committee, and the Reef 2050 Integrated Monitoring and Reporting Program Steering Group—for their ongoing professionalism, guidance and expert advice.

The future of the Great Barrier Reef relies on the collective efforts of governments, Traditional Owners, industry, researchers and the community all working together to protect the Reef. We remain firmly committed to its protection and will continue to demonstrate our global leadership in reef policy, conservation and management to ensure that the Reef remains an extraordinary place for future generations to come.

The Hon Sussan Ley MP

Australian Minister for the Environment

The Hon Leeanne Enoch MP

Queensland Minister for Environment and the Great Barrier Reef, Minister for Science and Minister for the Arts



Underwater reefscape view of purple branching corals and black crinoid in the Cairns/Cooktown Management Area. Photographer: J Stella © Commonwealth of Australia (GBRMPA)



ADVISORY BODIES REVIEW

Foreword from the Chair of the Independent Expert Panel

As Chair of the Reef 2050 Plan Independent Expert Panel, I am pleased with the contribution that the Panel has made this year as we continue to provide scientific and expert advice to governments on actions and priorities to help protect and sustain the vast and diverse Great Barrier Reef now and into the future.

As you read this Annual Report, you will understand the importance of the role that the Independent Expert Panel plays in providing guidance to the policy makers that are helping the Reef to recover and build its resilience in the face of the pressures it faces. This has included advising on: the comprehensive review of the Reef 2050 Long-Term Sustainability Plan, due to be completed in 2020; and providing ongoing strategic advice on Australian Government Reef investments, including the Australian Government's partnership with the Great Barrier Reef Foundation.

There is no question that the Reef is facing its greatest ever challenge from climate change. The evidence is strong, the science robust and the conclusions drawn from the science are sound: climate change is testing the resilience of the Reef and threatening its ability to bounce back from the damage inflicted by warming sea temperatures, tropical cyclones, and crown-of-thorns starfish outbreaks. While these represent threats to the Reef, there remains a window of opportunity for action. National policies, programs and legislative change aimed at the protection and restoration of the Reef will give it the best chance possible to recover.

Australia is uniquely vulnerable to climate change as the driest inhabited continent on earth. It is because of this vulnerability that Australia must assume a leadership role to ensure that all countries act on climate change. We can't do it from behind: we have to lead. Local actions—such as improving water quality and decreasing nutrient and sediment run-off are critical to support the Reef and to give it a better chance of recovering—but it is not enough. Every effort must be made to set global emission reduction targets to secure an average temperature increase of no more than 1.5°C above pre-industrial levels, or even less.

The main objective of the Reef 2050 Plan is to protect the conditions in the undeniably flourishing parts of the Reef, while we give the rest a chance to recover. The Reef 2050 Plan, under review in 2020, uses science and scientific evidence that is underpinned by rigorous scientific processes to enhance our understanding of the condition of the Reef and help us to plan for the future. However, there is more work to do. We need to do further research to increase the understanding of the ability of the Reef to recover as many of its ecological functions as possible, even if the Reef isn't restored to be exactly the same, if and when it does recover.

The Independent Expert Panel remains committed to the Reef 2050 Plan as a strong foundation for the action needed to facilitate the management of the complex challenges the Reef faces. We will continue to provide coordinated, practical, innovative and independent advice to help initiate and sustain the change that is needed to sustain the Reef as a living natural and cultural wonder of the world.

Professor Ian Chubb AC FAA FTSE

Chair, Independent Expert Panel

Foreword from the Chairman of the Reef 2050 Advisory Committee

2019 was a busy year for the Reef Advisory Committee (RAC). Growing pressures on the Reef and the evidence of a deterioration in its condition, reported in the 2019 Outlook Report, reaffirmed for all stakeholders the importance of the Reef 2050 Plan and the urgency of its implementation. It also drove home the need to revise the Plan to adapt to changing circumstances. Development of a revised Plan became a major priority for both the RAC and its fellow advisory body, the Independent Expert Panel (IEP).

The two committees worked closely together throughout the year, to contribute to each stage of the revised Plan development process. In the first half of the year, RAC and IEP members attended two program logic workshops to determine a structure for the Plan and held joint discussions on a reworded Vision and outcomes for the Plan. In October, a joint workshop was held to review the proposed structure, provide technical and sector-based feedback on the work to date, and identify key priorities and focus areas for inclusion in the revised Plan.

In addition to these joint informal meetings with the IEP, the RAC held three formal meetings in 2019, in March, August and November. A decision to hold the August meeting in Townsville was welcomed by all members, fulfilling a request made by the RAC in 2017 that the Committee at some point should meet in a location adjacent to the reef. A visit to the nearby headquarters of the Australian Institute of Marine Science provided useful and timely briefings on current reef research and its contribution to implementation of Reef 2050. A visit to Magnetic Island (Yunbenun), to meet local Traditional Owners, hear first-hand from them about the importance of their sea country and view cultural sites, afforded a unique opportunity to deepen RAC members' understanding of Traditional Owner perspectives. Considering ways to incorporate these in the revised Plan will be an area of focus for the RAC in the coming months, as will attention to the development of updated targets for the Plan. RAC members are committed to ensure that these are fit for purpose and will genuinely lead to an improvement in Reef health that can be measured over time.

In parallel to providing significant input to the development of the revised Plan, the RAC continued to monitor the progress of implementation of all actions in the current Plan. One area of particular concern in 2019 was the slow pace of progress with development of the Reef 2050 Integrated Monitoring and Reporting Program (RIMReP). Whilst acknowledging that this is a complex task, the RAC has emphasised from the outset of its work, that the completion of RIMReP is vital for effective delivery of the Plan. In addition to establishing and coordinating data needs to provide a clear picture of the state of the reef, it will be critical for measuring the effectiveness of actions taken and whether the targets, objectives and outcomes of the Plan are achievable.

When operational, RIMReP will also be an important guide for best practice management and reef investment decisions. RIMReP will remain an area of priority focus and attention for the RAC.

During the year, the RAC maintained close engagement with the Great Barrier Reef Foundation Reef Trust Partnership (RTP). RAC members' comments on the RTP draft Annual Work Plan influenced the final form and content of the 2019-2020 Plan, published in July 2019. The RAC looks forward to providing input to the 2020-2021 Work Plan.

In the year ahead, work on the revised Reef 2050 Plan will continue as a high priority, while maintaining momentum on other areas of importance for delivery of the current Plan. Significant effort and commitment will be needed from all members to meet these demands, but I have every confidence this will be given, with a shared sense of purpose and in the spirit of partnership and collaboration that has defined the RAC from its inception. As Chairman of the RAC, I thank all members for their contribution to the Committee's work over the past 12 months and look forward to another year of productive effort in 2020.

The Honourable Penelope Wensley AC

Chairman, Reef 2050 Advisory Committee



Aerial view of Heart Reef (Hardy Reef), in the Whitsunday region, Central Section of the Great Barrier Reef Marine Park. Photographer: Jumbo Aerial Photography © Commonwealth of Australia (GBRMPA)

Foreword from the Chair of the Reef 2050 Integrated Monitoring and Reporting Program Steering Group

The Great Barrier Reef is an international icon and a critical asset to be managed for future generations. Over the past decade, the Reef has been under increasing pressure from the cumulative impacts of global climate change, land-based run-off, crown-of-thorns-starfish outbreaks, coastal development and direct human use. While the Reef retains its Outstanding Universal Value as a World Heritage Area, the overall future long-term outlook for the ecosystem is considered in the Great Barrier Reef Outlook Report 2019 to be very poor.

Recognising this, managers on the Reef are strengthening resilience-based approaches to build the Reef's capacity to resist and recover from impacts. This requires the best available scientific, traditional and intergenerational knowledge to guide management decisions.

The Reef 2050 Integrated Monitoring and Reporting Program (the Program) has been designed to meet these pressing knowledge needs. The Program's vision is to develop a Reef Knowledge System that enables resilience-based management of the Reef and provides a comprehensive understanding of how the Reef 2050 Plan is progressing. When fully implemented, the Program will provide improved guidance to Reef managers, enabling them to target management to maximise the Reef's resilience.

Although implementation of the Program is only just commencing, it is already making valuable contributions to management of the Reef. The monitoring and modelling indicators identified through the Program's development phase are informing the objectives and management goals in a revision of the Reef 2050 Plan—currently underway. Tools developed in the prototype Reef Knowledge System are being used to guide management actions identified in the *Great Barrier Reef Blueprint for Resilience*, including compliance, crown-of-thorns starfish control and the Resilience Network. The *Strong Peoples—Strong Country* framework for Indigenous heritage monitoring is being used to assess progress and evaluate actions and objectives under the Authority's Aboriginal and Torres Strait Islander Heritage Strategy and the Reef 2050 Plan. The Program has also invested significantly in addressing key monitoring gaps which helped to inform the 2019 Outlook Report.

Implementing the Program will be a long-term endeavor and the ongoing commitment of partner organisations is fundamental to its success. I thank our partners for their valuable contributions to date and look forward to advancing with them our vision for enhanced knowledge of the Great Barrier Reef.

Josh Thomas

Chief Executive Officer

Great Barrier Reef Marine Park Authority

2019 OVERVIEW OF PROGRESS

Good progress was made implementing the Reef 2050 Plan in 2019. All 70 actions have commenced, and a number of these actions are already completed. The 2018 mid-term review revised, updated and created new actions.

Two reporting cycles have been undertaken since the mid-term review. The latest progress report up to July 2019 shows 90 per cent of the actions are on track and underway and approximately six per cent are completed. Less than five per cent are delayed, and no actions have significant delays or no progress.

In particular, water quality is showing positive advances, with half of the actions completed, and work well underway on all the actions under the Reef 2050 Water Quality Improvement Plan 2017–2022—a key strategy to improve the quality of water flowing from the catchments adjacent to the Reef.

Figure 1 shows the action count overall, organised by the seven different Reef 2050 Plan themes—ecosystem health, biodiversity, heritage, water quality, community benefits, economic benefits and governance.

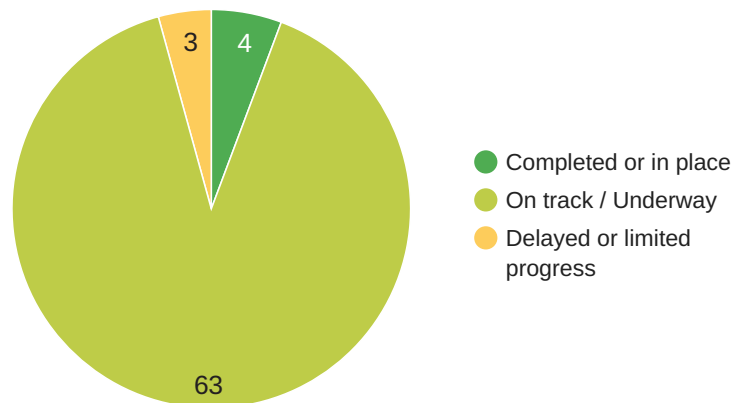
Detailed action-by-action progress reporting up to July 2019 can be accessed online via the Department of the Environment and Energy's Monitoring and Reporting and Improvement Tool (MERIT) website: fieldcapture.ala.org.au/explore/dashboard/reef2050



Anemonefish swimming among tentacles of a sea anemone
Photographer: C. Jones © Commonwealth of Australia (GBRMPA)

Action count by status

| | | |
|--|----|---|
| | 4 | are completed or in place (implementation is fully completed OR initial implementation has been completed, but part of the action is ongoing) |
| | 63 | are on track/underway (implementation is meeting expected milestones and progress is being made) |
| | 3 | are delayed/limited progress (major implementation milestones have been delayed by less than six months, or only superficial progress has been made) |
| | 0 | are significant delays or no progress (major implementation milestones have been delayed for longer than six months or no progress has been made) |
| | 0 | are not yet due (implementation is not yet due to commence) |



Action status by theme

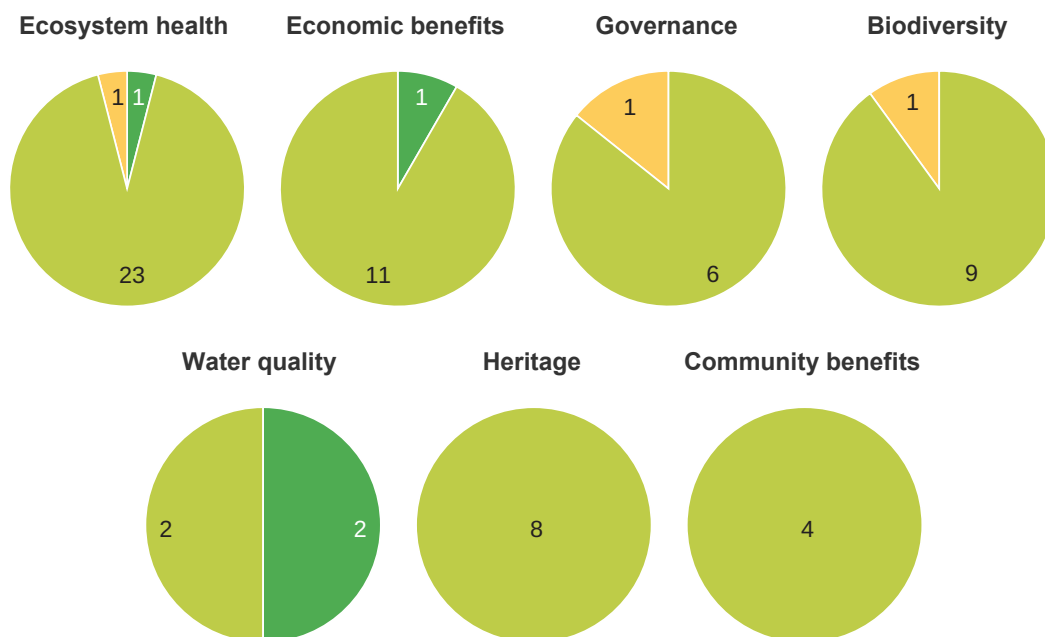


Figure 1: Reef 2050 Plan action count by status and theme

TIMELINE OF KEY ACHIEVEMENTS AND SUCCESS STORIES

Effective management of the Great Barrier Reef World Heritage Area is a joint effort across governments, Traditional Owners, industry, researchers and the community—we all play our part. The achievements made in 2019 are highlighted below.

December 2018

Tracking turtles on Raine Island for further protection

To support the largest breeding population of green turtles in Queensland, researchers fitted 21 green turtles with satellite trackers to help better understand the nesting patterns of turtles as part of the \$7.95 million Raine Island Recovery Project.

Helping recreational visitors protect the Whitsundays

To help protect the values of the iconic Whitsunday islands, a recreational user guide was developed by the Great Barrier Reef Marine Park Authority and Queensland Government to assist locals and visitors enjoy the Reef and islands while limiting impact on the environment.

Discovering a lost shipwreck

Management agencies discovered the *Martha Ridgway* shipwreck, which was lost over 170 years ago on a voyage from New Zealand to Bombay (now Mumbai). Martha Ridgway Reef was named after the wreck many years ago, yet the precise location of the wreck had never been established. This reef forms part of Wreck Bay near Raine Island in the far northern part of the Region.



Bluespotted ribbontail ray, in the Great Barrier Reef
Photographer: C. Jones © Commonwealth of Australia (GBRMPA)

Reef Guardians research grant opportunity

The Great Barrier Reef Marine Park Authority's Reef Guardians Research Grants offer opportunities to support science that addresses key threats to the Reef and strengthens management. Since the grants program began over 40 years ago, more than 300 grants have been awarded.

Reef Trust Partnership releases Investment Strategy

The Great Barrier Reef Foundation released its first Investment Strategy that provided a high-level road map for delivering investment under the \$443 million Reef Trust Partnership.

CASE STUDY

Reef Alliance—Enabling farmers and graziers to improve their profitability and reduce pollutants to the Reef

The Reef Alliance is a partnership of 14 organisations—industry, regional natural resource management bodies and the conservation sector—all working since March 2016 towards the common goal of a healthy Great Barrier Reef.

Through the \$45.7 million Reef Alliance Project: Growing a Great Barrier Reef, the Alliance aims to improve water quality across the Reef by enabling landholders to improve management practices in sugarcane, grazing, dairy, horticulture, bananas, grains and cropping.

The project is designed to help farmers update and improve their practices beyond industry best management practice and fast track the implementation of innovative practices. By its December 2019 end date, it will support more than 1,100 farmers and graziers to improve their practices over 1.8 million hectares spanning 33 of 35 of the Great Barrier Reef catchments.

Sugarcane farmers are just one of the industries rising to the challenge, and as of June 2019, 582 sugarcane farmers across more than 76,000 hectares in Reef catchments had taken action under the project, tackling such pollutants as dissolved inorganic nitrogen and pesticides.



Sugarcane growing in Mackay. © Queensland Government

February 2019

Traditional Owners' knowledge sought to protect the Reef

Reef Traditional Owners were invited to apply for new positions on the Reef 2050 Advisory Committee. The new positions recognise the long-standing connection of Traditional Owners to their land and sea country and their critical role in ensuring the Reef is protected for future generations.

Launch of the Master Reef Guides program

Through the Master Reef Guides program, the Great Barrier Reef welcomed its first cohort of Master Reef Guides — 13 official interpreters, story tellers and ambassadors for the Reef. Embedding storytellers and ambassadors within the tourism industry will ensure world-class representation of the Reef, its values and the management in place to protect those values.

Government delivers key milestone in fisheries reform

The Queensland Government delivered on a key plank of its 10-year, \$20 million Sustainable Fisheries Strategy with the passage of new legislation under the *Fisheries Act 1994* (Qld). A significant element of this is stronger compliance powers for Queensland Fisheries and Boating Patrol officers, and tougher penalties for those who sell seafood on the black market, to safeguard our fisheries resources.



*An adult brown booby with chick, in nest on Raine Island
Photographer: M. Turner © Commonwealth of Australia (GBRMPA)*

CASE STUDY

The Reef Trust Partnership

During the International Year of the Reef in 2018, following back-to-back coral bleaching events in 2016 and 2017, the Australian Government announced investment of \$443 million in a Reef Trust Partnership with the Great Barrier Reef Foundation.

It is the Government's largest ever single investment in Reef protection, aiming to spark new and innovative responses from private investors and philanthropists.

The Partnership aims to:

- improve water quality by further improving farming practices, including more efficient fertiliser use, and increasing the uptake of new technology and land management practices (\$201 million)
- enable Reef restoration and adaptation, by harnessing the best available science and knowledge to fund innovative projects that support Reef resilience (\$100 million)
- expand efforts in the fight against the coral-eating crown-of-thorns starfish, including investigating new ways to detect and tackle primary outbreaks (\$57.8 million)
- create opportunities for greater engagement of Traditional Owners in the Great Barrier Reef World Heritage Area (up to \$42 million, which equates to 10 per cent of the value of the grant agreement. This includes \$12 million under the original grant, plus earmarked funds from across all other components)
- improve engagement by local communities in the protection of the Reef (\$10 million)
- improve Reef health monitoring and reporting that tracks progress and informs better management (\$40 million).

In early 2019, the Foundation commenced the roll out of funding for on-ground Reef action. Early investment projects worth \$25 million included more than 50 on-ground projects. With the release of the Partnership's first Annual Work Plan in July 2019, the Foundation commenced a \$58 million portfolio of activities. This included the commencement of an ambitious Reef restoration and adaptation effort, developing regional community action plans to enhance the impact of community Reef protection activities, supporting crown-of thorns starfish control programs and exploring innovative new control approaches, establishing a Technology Transformation Fund to test new Reef monitoring methods and commencing roll-out of targeted sediment and nutrient reduction program across seven priority Reef catchments.

The 2019-20 Annual Work Plan also outlined an important innovation agenda as well as a \$42 million commitment for Traditional Owner activities, including the establishment of a \$10 million Traditional Owner Futures Fund, and setting a new standard for co-design with Traditional Owners.

March 2019

Aboriginal and Torres Strait Islander Heritage Strategy released

The strategy strengthens partnerships with Traditional Owners, and sets out a vision, guiding principles, objectives and outcomes for how the Great Barrier Reef Marine Park Authority will work with Traditional Owners to keep Indigenous heritage strong, safe and healthy. See *CASE STUDY: Aboriginal and Torres Strait Islander Heritage Strategy released*.

\$19 million awarded for water quality grants and \$1.4 million for community action through the Reef Trust Partnership

The water quality grants will fund 11 projects over two years through practical initiatives including the restoration of eroded gullies, improved farming practices, improved fertiliser management, accreditation schemes and monitoring soil levels in critical areas. See *CASE STUDY: The Reef Trust Partnership*.

Local community groups along the Great Barrier Reef were awarded \$1.4 million across 25 Reef protection projects that contribute to improving Reef health.



Underwater reefscape of corals in the Townsville / Whitsunday Management Area
Photographer: K. Goudkamp © Commonwealth of Australia (GBRMPA)

CASE STUDY

Marine debris clean-ups

Marine debris is one of the more significant risks to the Great Barrier Reef's ecosystems, identified in the 2019 Great Barrier Reef Outlook Report. Listed as one of 41 threats to the Reef Region's values, marine debris is defined as 'manufactured material discarded, disposed of or abandoned in the marine and coastal environment (including discarded fishing gear and plastics)'.

Fishing gear, balloons and plastic bags are considered the biggest entanglement threat to marine fauna while plastic bags and utensils are rated as the biggest ingestion risk for seabirds, turtles and marine mammals. Additionally, the likelihood of coral disease has also been found to increase from 4% to 89% when corals are in contact with plastic. Structurally complex corals are eight times more likely to be affected by plastic, suggesting that microhabitats for reef-associated organisms and valuable fisheries will be disproportionately affected.

Building on an earlier investment (\$700,000 over 2014-15 to 2015-16), in October 2018 the Australian Government announced a further \$5 million from the Reef Trust would be provided over five years to clean-up and prevent marine debris entering the Great Barrier Reef.

The project is being delivered by the Tangaroa Blue Foundation, in partnership with Conservation Volunteers Australia and will deliver:

- The facilitation, coordination and management of a program of marine debris clean-up activities that engage community volunteers and target beaches and waterways within Great Barrier Reef Catchments, or islands within the Great Barrier Reef Marine Park.
- The development of Source Reduction Plans targeting specific items of litter at a local scale along with a broader package of education and awareness raising activities and materials about marine debris aimed at the wider community.

Work begins on Queensland's iconic Great Barrier Reef islands

The Queensland Government is investing \$25 million to deliver the Great Barrier Reef Island Resorts Rejuvenation Program and a range of Great Barrier Reef island resort projects focusing on the objectives of growing, greening and cleaning. The projects are geographically spread from Far North Queensland, through the Whitsundays and to the Southern Great Barrier Reef regions.

CASE STUDY

Aboriginal and Torres Strait Islander Heritage Strategy released

In 2019, the Great Barrier Reef Marine Park Authority launched its *Aboriginal and Torres Strait Islander Heritage Strategy for the Great Barrier Reef Marine Park*. The strategy is a significant step in honouring the knowledge and value of Traditional Owner connections to the Great Barrier Reef.

The strategy sets out how the Authority can work in partnership with Traditional Owners to combine their thousands of years' expertise in Reef management with modern Marine Park management.

Actions underway to protect and promote the Indigenous heritage values of the Great Barrier Reef World Heritage icon include:

- facilitating new Traditional Use of Marine Resources Agreements to help with the management, protection and conservation of sea country
- increasing the capacity of Aboriginal and Torres Strait Islander communities and ranger groups to play a role in compliance in the Marine Park
- trialling innovative ways to increase Traditional Owner engagement in the permissions system, including place-specific assessment guidelines
- supporting Traditional Owners to lead their own activities to keep sea country strong, safe and healthy through Reef Guardian Sea Country Grants Program
- supporting Traditional Owners to conduct sea country values mapping to increase their ability to influence management to protect their values
- investigating how the Authority's tools can be used to better protect Indigenous heritage and increase co-management with Traditional Owners
- implementing the Authority's Reconciliation Action Plan to increase cultural competency and actively contribute to reconciliation within the Authority and with Aboriginal and Torres Strait Islander peoples.

The strategy was developed through extensive consultation with Traditional Owners, Indigenous organisations, tourism bodies and government agencies. It sets out a clear, collaborative approach for supporting Traditional Owners of the Reef to keep their Indigenous heritage strong, safe and healthy. This strategy also delivers on key aspects of the Reef 2050 Plan.

Indigenous rangers helping to protect the Reef

Twenty-one Indigenous rangers were awarded a Certificate Four in Government Investigations at the Capacity Building for Indigenous Rangers Strategy graduation ceremony in Cairns. The nationally-accredited training course delivered by the Great Barrier Reef Marine Park Authority provides rangers with the skills to ensure Marine Park users comply with its rules and traditional lore.

First six Land Restoration Fund projects

To support carbon farming projects in Queensland and tackle climate change, the Queensland Government announced the first six successful projects, five of which are in Reef catchments, under the \$500 million flagship Land Restoration Fund. The projects will explore ways carbon farming will enhance Queensland's unique biodiversity and support valuable Traditional Owner land management techniques.

Funding boost for Queensland Indigenous Land and Sea Rangers

The Queensland Government provided a \$8.1 million funding boost for more than 20 Indigenous Land and Sea Rangers. This included two new ranger positions for the Gladstone and Bundaberg region, and 12 new ranger positions for Far North Queensland. The Indigenous Land and Sea Rangers contribute greatly to the protection of Queensland's environment and Indigenous cultural heritage.

\$1.8 million for Traditional Owner Reef protection projects

The Reef Trust Partnership invested \$1.8 million across 18 Traditional Owner Reef protection projects. Projects focused on Indigenous junior ranger programs, country-based planning and implementation of existing land and sea country plans.

CASE STUDY

Knowledge innovations for Reef management

The Reef 2050 Integrated Monitoring and Reporting Program (RIMReP) is a cutting-edge knowledge system that will drive innovation in Reef management as the climate changes. This system will enable resilience-based future focused management of the Reef and enable managers to assess the effectiveness of actions taken under the Reef 2050 Long-Term Sustainability Plan.

The Great Barrier Reef Marine Park Authority, in partnership with other government departments and science institutions, is leading the program's development. To date, this has involved more than 200 science, management and industry experts and community stakeholders.

This year the primary focus was progressing the design of the RIMReP knowledge system, and using this as a basis to develop an implementation roadmap and prototype. This prototype, designed to be the first edition of the knowledge system, is currently being tested.

Once operational, the program's knowledge system will enable forecasts and early detection of trends and changes in the Reef's environment. The goal is to drive effective, efficient and transparent management decisions. The knowledge system will also evolve in response to changes in the Reef's condition, new science and technologies, and high-priority needs of management and stakeholders. It will be used to guide day-to-day decisions, shape strategic policy and inform future Great Barrier Reef Outlook Reports.

Rangers and marine managers celebrate 40-years protecting the Reef

The Great Barrier Reef Marine Park Authority and the Queensland Parks and Wildlife Service celebrated the 40-year operation of the Reef Joint Field Management Program. The field team delivers practical on-ground actions to protect and maintain well-functioning marine and island ecosystems that support economic, traditional and recreational uses of the Reef. The program, jointly managed by the Great Barrier Reef Marine Park Authority and the Queensland Parks and Wildlife Service, protects the Great Barrier Reef's 348,000 square kilometres of World Heritage Area.

More than 118,000 crown-of-thorns starfish culled

In the first eight months since the Crown-of-thorns Starfish Control Program expanded, it successfully protected coral from crown-of-thorns starfish outbreaks across 86 per cent of 113 high value reefs targeted by control vessels. This expanded program is already showing its value in meeting the target set by the Reef 2050 Plan.

Bringing Traditional Owners together

The Great Barrier Reef Marine Park Authority facilitated a three-day workshop on Magnetic Island bringing together nine Traditional Owner groups that have formal Traditional Use of Marine Resource Agreements (TUMRAs) in place, as well as one aspiring group. The event was the first to bring all nine TUMRA groups together to share information about Reef health, Marine Park compliance, Traditional Owner involvement in management and ways to improve communication with government partners and the community.



Gully erosion at Springvale Station Cape York. © Queensland Government

Traditional Owners report released

The Australian Government commissioned report, *Traditional Owners of the Great Barrier Reef: The Next Generation of Reef 2050 Actions*, offers a long-term strategic blueprint to better support the fulfilment of Traditional Owners' aspirations on their custodial rights and responsibilities in relation to the Reef. The report is a result of direct engagement with Traditional Owners and is an important contribution to the review of the Reef 2050 Plan due for completion in 2020.

Support for gully erosion control practitioners

Tackling sediment erosion from gullies in the Reef catchments is an important action to reduce sediment flow into the Reef. The Erosion Control Forum brought together practitioners at CSIRO and Natural Resource Management groups undertaking sediment control projects. The 2019 forum was funded by the Reef Trust and focussed on site selection, landholder engagement, erosion control techniques, and accelerating cost-effective sediment reductions. The gully toolbox is an industry guide for erosion control activities in the Reef catchments, produced by the Australian Government's Reef Trust, CSIRO and partners. An updated version was released to ensure the latest available evidence and science is used in future projects to achieve more sediment savings.



*Rainforest on Orpheus island, with fringing reef visible in the foreground.
Photographer: K. Anthony © Commonwealth of Australia (GBRMPA)*

CASE STUDY

Gully and Stream Bank Erosion Control Program

This program addresses one of the key threats to the Reef, sediment run-off from gully and stream bank erosion, including in minor streams and drainage lines, large river channels, and high-energy streams in wet coastal catchments. Following a \$7.5 million (over 2015-16 to 2018-19) pilot program, the Australian Government has expanded the program providing an additional \$29 million in grants for nine projects through the Reef Trust.

This includes a \$2.9 million project, Improving Reef Water Quality through Herbert River Catchment and Gully Remediation. Targeting priority erosion hot spots and high-risk areas in the Herbert River Basin, the project is reducing the export of fine sediments from eroding stream banks and gullies into the Reef lagoon. New grazing management practices and erosion repair work is taking place on century-old Woodleigh Cattle Station, stopping thousands of tonnes of fine sediment from flowing to the Reef each year. Read more about this work at: terrain.org.au/wp-content/uploads/2019/09/Case-Study-Woodleigh-Cattle-Station-Herbert-Gully-and-Grazing-Program.pdf.

\$7.5 million Reef Trust Gully Erosion Control Program completed

All projects under the initial investment (2015-16 to 2018-19) of Reef Trust funding for gully erosion control were completed. The program invested in 210 gullies and 88 properties. Based on site estimates of gully volume, age and soil properties, activities are expected to deliver a reduction in fine sediment export to the Reef lagoon of 5,400 tonnes per year. These reductions will persist for the life of the works which is expected to be at least 20 years. See *CASE STUDY: Gully and Stream Bank Erosion Control Program* for more information on the program.

First ever Climate Week Queensland

Climate Week QLD 2019 showcased how the State of Queensland is transitioning to a low-carbon, clean growth future and building a community of action to address climate change. Community, business and political representatives from across Australia and the Asia-Pacific region met to discuss and share ideas on how to address and adapt to climate change.

CASE STUDY

Joint Field Management Program

The Reef Joint Field Management Program celebrated 40 years of collaboration in protecting the Great Barrier Reef. June 2019 marked 40 years since the Emerald Agreement was signed, creating an enduring partnership between the Australian and Queensland governments to manage the Reef collaboratively.

The program's on-water capacity has been drastically increased, with resources more than doubling from \$17 million annually to over \$38 million in 2020-21. This increased funding will see more than a 60 per cent increase in staffing and an enhanced vessel fleet.

In 2019 the joint program received further recognition, taking out the Gold Award for the 2019 Prime Minister's Awards for Excellence in Public Sector Management. This acknowledges the way the program has collaborated and modernised its approaches to tackle unprecedented threats to the Reef; delivered unwavering on-ground outcomes, and fostered strong relationships with Traditional Owners and the community.

In 2018-19, the program advanced delivery of six areas: maintaining essential field management capabilities; island restoration and supporting reef restoration; enhancing compliance through vessel tracking; enhancing compliance through increased in-park presence, public contact and education; streamlining permissions; and collaborating with Traditional Owners and more broadly with First Nations People.

Compliance patrols play a vital role in maximising the benefits of the zoning plan and protecting the Reef, with illegal fishing remaining one of the highest direct risks to the World Heritage Area. The addition of a second dedicated compliance team in the southern region of the park and a fleet of 20 purpose built vessels ensures that compliance operations are targeting non-compliance of the highest risk. The patrols are focused, well supported, undertaken day or night and occur at locations that range from highly populated areas along the coast to the most remote locations in the marine park.



*Enhancing compliance and educating Marine Park users are key to protecting the Reef. Joint Field Management Program officer explaining zoning rules to a Reef user.
Photographer: Th3rd Dimension Media © Commonwealth of Australia (GBRMPA)*

July 2019

Historic signing of ‘Tracks to Treaty’ commitment

The Queensland Government commenced the journey towards negotiated treaties with Queensland First Nations peoples by signing a historic joint statement of Commitment as part of the *Tracks to Treaty—Reframing the relationship with Aboriginal and Torres Strait Islander Queenslanders* initiative.

Land Restoration Fund Catalysing Action Grants

To restore rainforest, enhance landscape connectivity and reduce sediment run-off in a cost-effective way, the Queensland Government announced funding for projects that demonstrate the delivery of carbon abatement alongside measurable environmental, social and economic co-benefits under the Land Restoration Fund’s Catalysing Action Grants program, with three of the six successful projects in Reef catchments.

Reef Trust Partnership releases first Annual Work Plan

The Annual Work Plan described the activities and investments planned for the 2019-2020 financial year to deliver the Reef Trust Partnership. The release of the Annual Work Plan signalled the shift from planning to implementation of Reef protection activities. See *CASE STUDY: Reef Trust Partnership*.

8th International Symposium on Gully Erosion

The 8th International Symposium on Gully Erosion was held in Townsville, the first time this event has been held in the Southern Hemisphere. It brought together 129 people from across the world for technical discussions on gully erosion processes, measurement techniques and management options.



Underwater reefscape view of corals during coral bleaching survey in the Cairns/Cooktown Management Area. Photographer: J. Stella © Commonwealth of Australia (GBRMPA)

August 2019

Reef Water Quality Report Card 2017 and 2018 released

The Australian and Queensland governments released the Reef Water Quality Report Card 2017 and 2018, showing progress to improve the quality of water flowing from the land to the Reef. Targets set for reductions of sediment and particulate nutrients in Cape York were met, largely due to improved pasture management from destocking cattle and controlling feral animals on the Queensland Government owned Springvale Station, and improved pasture and gully management through the Australian Government's Reef Trust gully erosion project. The Burdekin region recorded the largest improvement in best practice nutrient management for sugarcane, with reductions delivered through combined Queensland Government Burdekin projects and the Australian Government Reef Trust projects.



Giant clam in waters of the Great Barrier Reef
Photographer: C. Jones © Commonwealth of Australia (GBRMPA)

September 2019

New laws to improve water quality in the Great Barrier Reef

The [Environmental Protection \(Great Barrier Reef Protection Measures\) and Other Legislation Amendment Act 2019](#) was passed by Queensland Parliament on 19 September 2019 with the new Reef protection regulations commencing 1 December 2019. The [new Reef protection regulations](#) address land-based sources of water pollution to the Great Barrier Reef, including industrial and agricultural sources of nutrient and sediment pollution from all six Reef regions. The new regulations will take effect progressively over the next three years with regions regulated at different stages based on priorities for water quality management improvement. See *CASE STUDY: Regulation to improve water quality from land-based run-off*.

CASE STUDY

Regulation to improve water quality from land-based run-off

Water quality management for the Reef is expected to improve following the passing of new legislation by the Queensland Parliament on 19 September 2019. The legislation strengthens Queensland's regulatory framework for reducing nutrient and sediment releases from existing and new agricultural activities and new industrial development.

These Reef Protection laws regulate agricultural activities to cut excessive fertiliser use and to actively manage erosion risks in all Reef catchments. Sugarcane, grazing, banana, grains and horticulture operations will be required to meet minimum practice standards that are designed to minimise pollution run-off while maintaining profitable and productive farms. Additionally, new cropping activities will need to meet farm design standards under a permit to allow for ecologically sustainable development. The Regulations complement the investments of the Australian and Queensland governments and the voluntary action being taken by many farmers, ensuring that the uptake of good practice is widespread, driving more rapid improvements in water quality.

The Regulations also require new industrial development, such as sewage treatment plants, mining and aquaculture to avoid, mitigate or offset any sediment and nutrient emissions to Reef waters.

Implementation of the new regulations is being supported through a \$10.1 million support package for farmers and a \$3.7 million expanded compliance program.

Compliance data from Queensland's work with the existing Reef protection regulations shows that regulation is effective in encouraging growers to improve their practices. While more than half of farmers visited for the first time are found to be non-compliant with at least one requirement, compliance improves with repeat visits. The statistics are available at: qld.gov.au/environment/agriculture/sustainable-farming/reef/reef-regulations.

Assisting banana farmers to reduce run-off flowing into the Reef

To help banana growers meet the requirements of the Reef regulations, the Queensland Government announced \$1 million in funding to assist farmers to build or upgrade infrastructure, and provide extension support to undertake on-farm projects, to help reduce sediment and nutrient run-off.

CASE STUDY

Queensland Fisheries reforms

The [Queensland Sustainable Fisheries Strategy](#) was released in June 2017 and sets out the Queensland Government's reform agenda for the next 10 years. It is the biggest fisheries reform in Queensland's history and will help ensure healthy fish stocks that will support thousands of Queensland jobs. This strategy delivers the fisheries-related commitments under the Reef 2050 Plan.

The strategy is the outcome of a significant consultation exercise in 2016. A total of 11,800 submissions were received and the overwhelming message was that all stakeholders wanted reform in the way fisheries are managed.

The strategy outlines 33 actions to be delivered across 10 reform areas with specific targets to achieve by 2020 and 2027. Actions include harvest strategies for each fishery, satellite tracking on all commercial fishing boats, regionally specific fishing rules and using new technologies more effectively.

An additional \$30 million over four years is being invested by the Queensland Government to support the reforms. Key investments in the Reef region include 14 new Queensland Boating and Fisheries Patrol officers (one each in Cairns, Mackay and Yeppoon; two each in Port Douglas and Airlie Beach; three in Townsville and four in Gladstone). The Gladstone Queensland Boating and Fisheries Patrol office reopened in October 2017. The new funding also provides for additional biological monitoring in the Great Barrier Reef on species like coral reef fish species, shark and scallops, as well as a new economic and social monitoring program for fisheries, which will contribute to the Reef 2050 Integrated Monitoring and Reporting Program.

Vessel tracking has been rolled out to all net, crab and line boats, with more than 1100 boats brought online in 2019, with the remaining commercial fisheries to commence in January 2020. The Marine Park Authority and the Queensland Government have pooled funding, with around \$3 million available to subsidise the costs for industry.

Major reforms to fisheries laws were progressed in 2019, including stronger compliance powers, heavier penalties, a more responsive decision making framework and rules to recover depleted stocks and address bycatch and protected species interaction issues.

A year two progress report on implementation of the Strategy is available online at: daf.qld.gov.au/business-priorities/fisheries/sustainable/sustainable-fisheries-strategy/sustainable-fisheries-strategy-overview.

Changes to fisheries regulations

Queensland's new fisheries regulations commenced 1 September 2019. As a result of the consultation on the proposed amendments to the Fisheries Regulation 2008, a number of changes have been made to the structure of fisheries legislation (establishing two separate regulations), along with changes to some recreational, charter and commercial fishing rules. See *CASE STUDY: Queensland Fisheries reforms*.

Funding for graziers

To support the Queensland agricultural sector, the Queensland Government announced a \$6.073 million funding boost under the new Grazing Resilience and Sustainable Solutions program. The program will support beef cattle graziers in the Burdekin, Fitzroy and Burnett Mary regions by helping deliver one-on-one support for graziers and tailored land management plans and includes \$1.78 million in financial incentives for infrastructure improvements.

October 2019

\$10 million boost to Queensland farmers

To support farmers seeking advice on reducing run-off into the Great Barrier Reef, the Queensland Government commenced the \$10 million Farming in Reef Catchments Rebate Scheme. The Scheme helps eligible graziers, sugarcane producers and banana growers in Reef catchments offset the cost of obtaining professional advice about managing nutrient and sediment pollution for improved water quality outcomes for the Great Barrier Reef.

Tackling marine debris across the Reef

The Australian Government's \$5 million ReefClean project, being delivered by Tangaroa Blue Foundation in partnership with Conservation Volunteers, launched its Great Barrier Reef Clean-up, a month-long, community-driven event, involving clean-ups along the length of the Great Barrier Reef and its catchments. Over the course of the event Tangaroa Blue and their delivery partners helped coordinate 55 events involving 1291 volunteers to remove over 9.3 tonnes of debris. Approximately 75km of coastline was cleared. See *CASE STUDY: Marine Debris Clean-ups*.

Reef Trust Partnership Regional Water Quality Projects

Under the Reef Trust Partnership, the first tranche of \$141 million for regionally focused on-ground water improvement actions was announced, with \$42 million for the Mackay-Whitsunday region and the Lower Fitzroy and Mackenzie catchments. Funding will directly support the reduction of nitrogen, sediment and pesticide loads entering the Reef from priority catchments through a series of regional water quality improvement programs.

CASE STUDY

Crown-of-thorns starfish control

The Reef 2050 Plan identifies outbreaks of coral-eating crown-of-thorns starfish as a key threat to the health of the Great Barrier Reef. The widespread damage caused by starfish outbreaks adds to pressures from climate change, leading to a very poor long-term outlook for the Reef. Consequently, the Great Barrier Reef Marine Park Authority's Great Barrier Reef Blueprint for Resilience identified ramping up crown-of-thorns starfish control as one of four key on-ground actions to enhance Reef resilience.

In 2018-19, with Australian Government funding of \$13.2 million, the Authority worked closely with partners from the Australian and Queensland governments, research institutions, and industry to ramp up the Crown-of-thorns Starfish Control Program and implement an innovative new approach to pest management. This world-leading program protects coral on high-value reefs by culling starfish numbers down to ecologically sustainable levels that promote coral growth and recovery. Control efforts are strategically targeted to the reefs in the Marine Park that are most important for improving the health of the ecosystem and Reef-dependent industries.

The program is now delivering surveillance and culling, surveys of coral health, and collection of scientific samples to support ongoing research into outbreak management. The expanded fleet was mobilised in November 2018, with 3,000 kilometres of high value reefs surveyed for signs of coral-eating starfish over the first eight months. In locations where starfish were detected, trained divers culled more than 118,000 starfish using a single-shot injection technique. Vessel crews use purpose-built apps to upload their field data into the Authority's Eye on the Reef database, enabling efficient adaptive management of starfish outbreaks.

This innovative new approach is already showing its value in meeting the target set by the Reef 2050 Plan. In the first eight months since the program expanded it successfully protected coral from crown-of-thorns starfish outbreaks across 86 per cent of 113 high value reefs targeted by control vessels.



The Crown-of-thorns Starfish Control Program continues to protect economically and ecologically important reefs. Photographer: Daniel Schultz © Commonwealth of Australia (GBRMPA)

November 2019

Reef protection program claims gold award

The Reef Joint Field Management Program won the Gold Award for the 2019 Prime Minister's Awards for Excellence in Public Sector Management — recognising the program's vital role in protecting 2900 reefs and 1050 islands, which are home to iconic plants, animals, habitats and rich cultural heritage. See *CASE STUDY: Joint Field Management Program*.



*Gold Award Winners: Damien Head, Jackie Chappell and Dr Simon Banks from the QLD Department of Environment and Science and the Great Barrier Reef Marine Park Authority
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Cape York Water Plan

The Cape York Water Plan came into effect, setting aside water for Traditional Owners, for new and existing ventures, and to maintain flows in watercourses and waterholes. Fundamental to sustainable water management is the need to preserve water for the environment, and the Cape York plan ensures environmental flows for this area's watercourse and waterholes. The new water resource plan manages water for more than 100,000 square kilometres of land from south of Cooktown in the east, Pormpuraaw in the west and up to the northern tip of Cape York.

Master Plans released for Port of Townsville and Port of Gladstone

The Queensland Government released the master plan and master planned area for the priority ports of Townsville and Gladstone. Master plans are strategic documents giving a long-term outlook for the sustainable development of the port through to 2050. Long-term master planning provides a strategic and coordinated approach to managing port-related development and considers issues including marine and land-based impacts, port and supply chain infrastructure optimisation. Master plans look beyond the port boundary to ensure port-related development is sustainably managed while protecting the Great Barrier Reef.

CASE STUDY

Strathalbyn Station gully remediation project

Since 2016, the Rebuilding Strathalbyn project has been trialing innovative techniques to restore heavily eroded gullies on Strathalbyn Station, a grazing property three hours south of Townsville. This \$2 million project is a joint initiative involving the Queensland Government and Greening Australia and includes collaboration with Griffith University, the National Environmental Science Program and the property owner.

Eroding gullies are a major source of sediment flowing into the Reef from the catchment. Results from the first phase of the project in mid-2018 showed a 97 per cent improvement in water quality between treated and untreated alluvial gullies flowing into the Great Barrier Reef. A total of 13.1 hectares of gullies have been remediated, whilst a further 52 hectares of grazing land upstream of the gullies has been modified to achieve additional sediment loss reductions. Greening Australia estimates that the project has employed almost 50 locals, either directly or indirectly, since commencement. This project is a great example of how government funded on-ground landscape restoration and remediation projects can achieve improved environmental outcomes and boost local employment opportunities.

In November 2019, the Rebuilding Strathalbyn project won the Queensland Premier's Award for Excellence and the Protect the Great Barrier Reef award.

To read more, visit greeningaustralia.org.au/projects/rebuilding-eroding-land-2/. This project is being expanded in partnership with GreenCollar with an additional \$2 million investment under the Great Barrier Reef Foundation-Reef Trust Partnership.



Colourful reefscape view of corals and fish in the Great Barrier Reef
Photographer: C. Jones © Commonwealth of Australia (GBRMPA)

NEXT STEPS

2020 review of the Reef 2050 Plan

The Reef 2050 Plan includes a provision that it undergo a comprehensive review every five years. The first full review of the Reef 2050 Plan is due to be completed in 2020 and work on the review commenced in 2019.

A mid-term review of the Plan was completed in July 2018. This focussed on refining and updating actions and strengthening references to the impact of climate change on the Great Barrier Reef.

The 2020 review will be informed by the findings of the 2019 Great Barrier Reef Outlook Report and will consider all aspects of the Plan, including governance arrangements, investment and reporting. It will be a collaborative process, informed by consultation with the Reef 2050 Advisory Committee, the Independent Expert Panel, Traditional Owners, targeted stakeholder meetings and a public consultation process.

The outcome of the 2020 review will be a revised Reef 2050 Plan that reflects the current state and future management needs of the Reef, underpinned by the best available science and knowledge. It will demonstrate the maturation of the Reef 2050 Plan as a policy framework and include a revised outcomes framework to more clearly link activities in the Plan to the intended outcomes for the Reef. The revised Plan will continue to be the centrepiece of Australia's efforts to improve the health and build the resilience of the Reef.



*Aerial of Tongue Point, Apostle Bay, Whitsunday Island, Hill Inlet and Haslewood Island
Photographer: Jumbo Aerial Photography © Commonwealth of Australia (GBRMPA)*

World Heritage and Reef 2050 Plan

Australia submitted a State Party Report on the state of conservation of the Great Barrier Reef World Heritage Area to the UNESCO World Heritage Centre on 1 December 2019. The report includes an assessment of its current state and outlook, and identifies the significant pressures facing the Reef, including climate change and poor water quality caused by land-based run-off.

The report outlines the comprehensive action being undertaken by the Australian and Queensland governments to protect and sustain the Great Barrier Reef. The Committee will consider the report at the next meeting.

Reef Trust

Planning for the next phase of Reef Trust investments is underway. The Reef Trust will continue to invest in on-ground Reef projects that support improvements to water quality in Reef catchments such as improving grazing practices, improving fertiliser-use efficiency, gully and streambank remediation, erosion prevention and reducing pollutant run-off. Future projects will also focus on the protection of species and restoration of coastal ecosystems and strengthening involvement of the Reef's Traditional Owners in the design and delivery of projects.

Existing Reef Trust funded projects will also continue working with agricultural land managers to support voluntary practice change, leading to both water quality improvements and reduction in farm costs. For example:

- The Pioneering Innovation in Grazing Land Management project will continue to provide on-farm support, education and professional advice to graziers to transition to a more resilient, productive and profitable business and landscape.
- The Gully and Stream Bank Erosion Control Program will continue to help landholders undertake on-farm erosion control work, including remediating gullies and increasing riparian habitat protection, to reduce fine sediment entering the Great Barrier Reef lagoon from across the Reef catchments.
- The Repairing and Restoring Priority Coastal Habitat and Wetlands will restore 500 hectares of priority wetland sites adjacent to the Reef, taking a whole-of-systems repair approach to re-establishing ecological processes, improving ecosystem connectivity and ensuring the most efficient use of fertiliser and trapping of sediment.

Reef Restoration and Adaptation Program

In 2018, the Australian Government provided \$6 million for the concept feasibility study of the Reef Restoration and Adaptation Program (RRAP). The feasibility phase assessed the feasibility of intervening at-scale on the Great Barrier Reef to help it adapt to, and recover from, the effects of climate change. This unprecedented research and development program puts the Great Barrier Reef at the cutting edge of global efforts to help coral reefs adapt to climate change.

The findings from the concept feasibility phase concluded that new interventions developed under RRAP have good prospects of sustaining Reef coral condition under climate change. Options considered included enhancing coral reproduction and reducing the impacts of atmospheric heat on corals. Based on these findings, the Program is moving to a research and development phase with work set to commence in 2020.

The next stage of the work will be delivered through leading science institutions such as the Australian Institute of Marine Science, CSIRO, James Cook University, the University of Queensland, the Queensland University of Technology, Southern Cross University and a non-government partner—the Great Barrier Reef Foundation.

Reef Trust Partnership with the Great Barrier Reef Foundation

Over the next 12 months, the Great Barrier Reef Foundation will build on existing early investments and partnerships to continue to implement its innovative Reef protection agenda and co-investment opportunities. On-ground action to support activities to deliver and support Reef protection, restoration and adaptation will continue, including:

- The continued rollout of the \$141 million water quality program targeting sediment and nutrient reduction into the Lower Herbert, Lower Burdekin, Mary, Upper Herbert, Russell-Mulgrave, Upper and Eastern Burdekin, Johnstone and Tully, Bowen, Broken and Bogie catchments.
- Delivering a new era of partnership that will genuinely strive to implement a culturally safe and appropriate process of co-design and co-delivery with the Traditional Owners of the Great Barrier Reef.
- Strengthened engagement with Reef communities through local action projects, including the design and development of Community Action Plans for the six key Reef regions: Cape York, Wet Tropics, Burdekin, Mackay Whitsunday, Fitzroy, and Burnett Mary.
- Expanding and improving efforts to control crown-of-thorns starfish while also exploring innovative new control approaches as well as a funding strategy that presents a comprehensive business case and real options to support planning and policy development for long-term funding of crown-of-thorns starfish control.
- Commencing the world's most ambitious Reef restoration and adaption effort with a focus on a social licence to operate, the right science and models underpinning decisions, research and development to boost new intervention methods and making interventions a reality on the Reef.

The Foundation will continue to engage Reef stakeholders in the delivery of their comprehensive program of work, including the development of their second Annual Work Plan which is due to be completed by 30 June 2020.

Queensland Reef Water Quality Program

The Queensland Reef Water Quality Program (QRWQP) will continue to deliver a range of programs to implement the Reef 2050 Water Quality Improvement Plan actions. Key highlights over the next year will include further delivery of the Burdekin and Wet Tropics Major Integrated Projects (MIPs), commencing trading of Reef Credits and further work to implement remaining components of the government's strengthened Reef protection regulatory framework.

The MIPS are in their third year of delivery and are producing promising outcomes in terms of engagement with landholders and landscape remediation efforts. The duration of both projects has been extended until September 2021.

The next 12 months will see the Burdekin MIP focus on the remediation of large and small-scale gullies, grazing support activities for management practice change and long-term stewardship as well as continued efforts to engage with un-engaged landholders.

The Wet Tropics MIP will focus its next year of delivery on the installation and monitoring of remaining catchment repair and treatment system sites, sharing the results, and seeking opportunities to utilise Reef Credits to support changes.

The development of an environmental market aimed at improving water quality in the Great Barrier Reef, called the Reef Credit Scheme (the Scheme) has been in development since late 2017 by a partnership comprising NQ Dry Tropics, Terrain NRM and GreenCollar. A Reef Credit represents a quantifiable volume of nutrient, pesticide or sediment prevented from entering the Great Barrier Reef catchment and can be sold to those seeking to invest in water quality improvements, such as government, private industry and philanthropists. Governance arrangements are being finalised, with the Scheme expected to officially commence trading Reef Credits in mid-2020.



Blacktip reef shark swims over reef at Captains Table in Wreck Bay
Photographer: K. Hoppen © Commonwealth of Australia (GBRMPA)

The strengthened Reef protection regulations will include new requirements for intensive cropping or horticulture development from 1 June 2021. This includes standard conditions for new cropping activities up to 100 hectares in size, which will be the subject of a public consultation process. The minimum practice agricultural standards will also progressively come into effect, with banana production in the Wet Tropics captured from 1 December 2020 to limit the potential for sediment and nutrient run-off.

Queensland Sustainable Fisheries Strategy

The Queensland Government will continue to implement the Sustainable Fisheries Strategy, including considering final regulatory reforms and developing harvest strategies for all of Queensland's fisheries. The government will also continue to invest in additional monitoring and compliance and roll out new technologies to support a world class fisheries management system.

Port sustainability

The Queensland Government will continue to lead priority port master planning, working closely with port authorities, local governments and other key stakeholders. Public consultation will continue to be conducted on port master planning processes for the Hay Point/Mackay and Abbot Point ports. This will build on the processes already undertaken for the Townsville and Gladstone ports.



Silhouette of bottlenose dolphins leaping out of the bow wave of a large cargo ship, offshore from Cape Bowling Green. Photographer: A. Elliott © Commonwealth of Australia (GBRMPA)



A school of Scalefin Anthias swim along a reef slope covered in brightly coloured Dendronephthya sp. and other soft and encrusting corals
Photographer: K. Anthony © Commonwealth of Australia (GBRMPA)

