

Reef Trust Partnership

Impact Report



Australian Government

REEF TRUST



Great Barrier
Reef Foundation

Acknowledgement of Country

The Great Barrier Reef Foundation extends its deepest respect and recognition to all Traditional Owners of the Great Barrier Reef and its Catchments, as First Nations Peoples holding the hopes, dreams, traditions and cultures of the Reef.

More than 70 Traditional Owner groups have deep and enduring connections spanning the length of the Reef along the Queensland coastline and beyond, from the Torres Strait Islands in the north to Bundaberg in the south.



'Great Barrier Reef' artwork by Melanie Hava, Mamu Aboriginal woman, Dugulbarra and Waribarra family groups, from the Johnstone River catchment of the Wet Tropics of Far North Queensland and the adjoining Great Barrier Reef Sea Country.

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Reef Trust Partnership

In 2018, the Australian Government's Reef Trust and the Great Barrier Reef Foundation launched the largest collaborative reef protection effort of its kind in the world.

The Reef Trust Partnership (RTP) is a program of work dedicated to achieving significant, measurable improvement in the health of the Great Barrier Reef.

Its impact has been remarkable. Not only did the program achieve significant improvement in the health of the Reef, it delivered an unprecedented level of coordination, collaboration and prioritised and outcomes-focused effort.

It also delivered sustained, non-governmental participation and investment in protection, management and restoration activities.

These results demonstrate the RTP's power as a convenor, funder and innovator, with 639 delivery partners working across 462 projects to achieve the scale and pace needed to safeguard the greatest coral reef on the planet.

Much of this unique program, which delivered and built upon the Reef 2050 Plan, wrapped up on 30 June 2024, however an extension was granted for some activities.

This report highlights the on-ground and in-water efforts over the past six years that have delivered measurable and sustainable benefits for the Reef and its communities.

Innovation has been a driving force throughout the program, with a quarter of the RTP investment dedicated to unlocking and piloting cutting-edge knowledge and products.

Central too is our ongoing work with Reef Traditional Owners, guided by advice from our Traditional Owner Advisory Group and Technical Working Groups. Our approach remains world-leading, laying the foundations for Traditional Owners to achieve their long-term aspirations to lead conservation efforts on their Country, which the evidence shows results in better, more enduring outcomes for the Reef.

Throughout the RTP, the Foundation has maintained a commitment to transparency, integrity and accountability. Each dollar has been committed to maximising its impact on our Reef. We successfully delivered on our commitment to grow the \$443m Government investment, and as of 30 June 2024, we raised an additional \$456m thanks to our vast network of incredible partners and supporters, including like-minded corporate partners and committed donors. Their generosity helped enable vital on-ground action, and we thank our incredible network of project delivery partners

and volunteers who work tirelessly to protect and restore the Reef.

The Foundation extends its sincere thanks to the Australian Government for its continued support for the Reef. We extend our deepest thanks to the members of the Partnership Management Committee, the Traditional Owner Advisory Group, our program-specific working groups and cross-cutting co-design groups who helped shape the partnership for greatest impact and best practice.

We'd also like to acknowledge and thank the Foundation's team of dedicated staff, who have continued to strive for a better future for coral reefs, rising to each new challenge with passion and professionalism.

The Great Barrier Reef Foundation is proud to present the impact of the Reef Trust Partnership, highlighting what can be achieved when a powerhouse collective of research institutions, organisations, corporations, communities and individual supporters work together for the Reef.



David Thodey
David Thodey AO,
Co-chair



Martin Parkinson
Dr Martin Parkinson AC
PSM, Co-chair



Anna Marsden
Anna Marsden, Managing
Director

Key to the RTP's success:

Acceleration

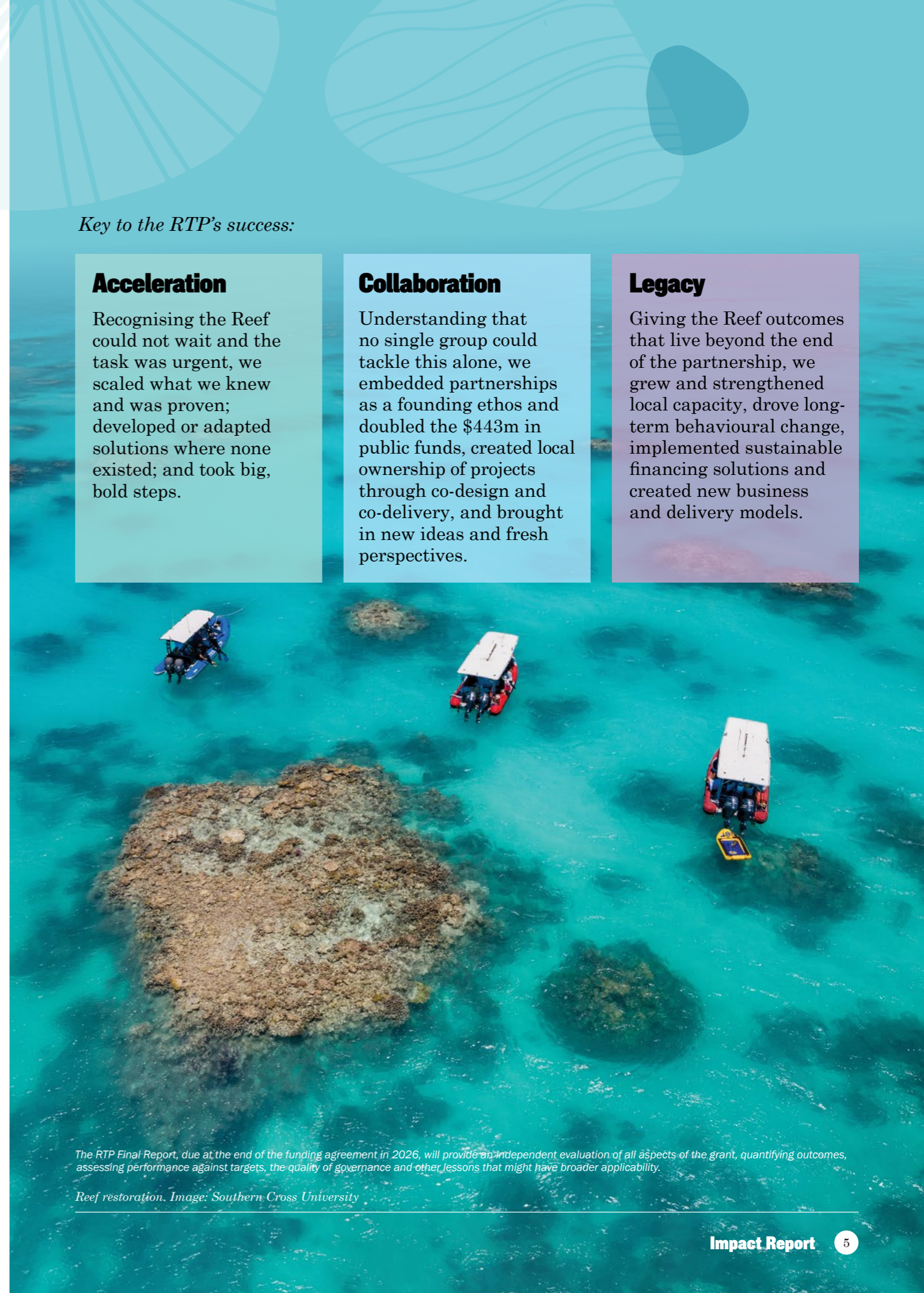
Recognising the Reef could not wait and the task was urgent, we scaled what we knew and was proven; developed or adapted solutions where none existed; and took big, bold steps.

Collaboration

Understanding that no single group could tackle this alone, we embedded partnerships as a founding ethos and doubled the \$443m in public funds, created local ownership of projects through co-design and co-delivery, and brought in new ideas and fresh perspectives.

Legacy

Giving the Reef outcomes that live beyond the end of the partnership, we grew and strengthened local capacity, drove long-term behavioural change, implemented sustainable financing solutions and created new business and delivery models.



The RTP Final Report, due at the end of the funding agreement in 2026, will provide an independent evaluation of all aspects of the grant, quantifying outcomes, assessing performance against targets, the quality of governance and other lessons that might have broader applicability.

Reef restoration. Image: Southern Cross University

Water Quality

Declining water quality associated with run-off from catchments adjacent to the Great Barrier Reef is a major cause of the poor state of many of the Reef's coastal and marine ecosystems. Improving water quality plays a significant role in improving ecosystem resilience, so almost half of the Reef Trust Partnership funding was allocated to efforts aimed at addressing water quality issues.

With this investment we successfully designed and delivered a large-scale program across 150 partners and more than 130 water quality projects, implementing a best-practice framework that lays the foundation for future water quality programs to build upon. We prioritised activities to maximise water quality outcomes and created opportunities for new players and Traditional Owners to be involved in decision-making and on-ground actions. We adopted governance frameworks to avoid conflicts of interest and provided transparency and accountability, setting and achieving water quality targets at a program and project level.

Impact



346 kilo tonnes of fine sediment, **469 tonnes** of dissolved inorganic nitrogen and **8.5 million** risk units of pesticides kept off the Reef every year



2,000 landholders improved land management across 1.24m hectares of farmland, roughly the size of Sydney



55 gullies and **17 streambanks** restored across **26 properties** to prevent erosion



179 Traditional Owners from 24 Traditional Owner groups engaged



22 scalable innovation projects to reduce pollutants, develop new technologies and better planning tools, and create novel financing mechanisms



More than 11,600 landholders attended training and events on best-practice land management and Reef conservation

RTP

Case Studies



Mary River riverbank before rehabilitation (top) and after rehabilitation (above)
Image: Alluvium Consulting

Mary Water Quality Program

The Mary River, the largest river in the Burnett Mary region, flows through a diverse catchment of 9,595 km², from Maleny to River Heads near Hervey Bay. This area includes the Ramsar-listed Great Sandy Strait, home to dugongs, migrating whales and birds. Predominantly used for grazing, the river contributes significantly to sediment entering the southern Great Barrier Reef.

The Mary Water Quality Program aimed to reduce erosion and improve riparian habitat at 11 sites by installing fencing, stabilising steep banks, planting native vegetation and controlling environmental weeds.

Across the sites, over 5km of degraded streambank was rehabilitated, and 20 hectares of riverbank was revegetated with 100,000 native species. These efforts now prevent 26 kilotonnes of sediment from entering the Reef annually.

The biggest site in the program belongs to landholder Terry Schiefelbein. Terry and his wife are third-generation graziers at Munna Creek, Miva, who restored 3 hectares of eroding riverbank. This large-scale project used 661 wooden piles and over 23,000 native plants. The vegetation established around the timber piles will act as a long-term erosion control measure, stabilising the bank as these piles eventually break down.

More than 326 landholders participated in field days, property inspections, workshops and training events to increase their knowledge of sustainable grazing and improve management practices into the future.

A world-first Nitrogen Risk Insurance Product

The partnership pioneered a world-first insurance product – prototype nitrogen insurance – to test how a new product could help catalyse behaviour change and have a positive, lasting impact for the Reef.

The production of sugarcane in Australia relies on the application of large amounts of nitrogen fertiliser. However excess application, which is a common approach by farmers looking to maximise their growth and yield, causes dissolved inorganic nitrogen (DIN) run-off, which poses a major threat to coastal ecosystems and the Reef.

Nitrogen Risk Insurance was designed to enable sugarcane farmers to reduce the amount of nitrogen fertiliser they applied to crops, by helping them manage the potential risk of reduced yields. A commercial insurance product is now available to sugarcane farmers in specified sugarcane growing regions in North Queensland, from Babinda to Herbert, as well as in Mackay.

So far 22 policies have been purchased by farmers covering a total area of 250 hectares. On average, they have reduced their use of nitrogen fertiliser by 20 kg/ha over this area. That's nearly 5 tonnes of nitrogen kept off cane lands, and 991kg of DIN prevented from entering Reef ecosystems. Wide uptake could result in a DIN discharge reduction of around 900 tonnes per year – a 19% reduction of the total DIN discharged to the Reef.

Crown-of-Thorns Starfish Control

Outbreaks of coral-eating crown-of-thorns starfish (COTS) pose a major threat to the long-term health of the Great Barrier Reef. During an outbreak, COTS can strip a healthy reef of 90% of its corals. Controlling COTS is one of the most scalable and feasible direct management interventions available today to enhance the Reef's resilience in the face of climate change.

Over the past five years, the Reef Trust Partnership has invested in on-ground action to protect coral through the COTS Control Program, while also investing in a major research and innovation program to accelerate and scale up our control capabilities.

The COTS Control Program is the largest in-water intervention program on the Great Barrier Reef aimed at directly protecting coral, with dedicated vessels and professional divers out on the Reef every day surveying and culling COTS. The adult breeding corals saved from COTS predation are critical to boost the resilience of the Reef, spreading their larvae far and wide during the Reef's annual mass spawning event to repopulate damaged areas.

The COTS Control Innovation Program (CCIP) is a research program aimed at boosting capacity to predict, detect and respond to COTS outbreaks. Over 90 multi-disciplinary experts from across Australia have delivered a portfolio of 24 research projects with real-world impact.

Impact



Delivered the largest coral protection program in the world, with five dedicated vessels and **more than 100 divers** out on the Reef every day controlling coral-eating starfish



Managed over **90% of sites** to sustainable levels so coral growth and recovery outpaces the impact of COTS feeding



Protected hundreds of thousands of hectares of coral reef each year, including 160,000 hectares (an area the size of London) in 2023-2024 alone



Brought together **over 90 multi-disciplinary experts from 11 institutions** to collaborate on solutions to the COTS threat



Delivered **24 research projects** that directly improve the prediction, detection and response to outbreaks



Produced **more than 100 research outputs** that are translated to improve COTS management, including new knowledge, models, software, and technologies

Image: Rick Abom, RRRC

Delivering innovative new tools for COTS detection

Effective and efficient pest management relies on early detection and timely action. Like many pests, COTS are highly cryptic, often hiding in reef crevices during daylight hours. They are also patchily distributed, making it challenging to monitor for their presence across the entire scale of the Great Barrier Reef. Current methods to monitor their distribution and detect developing outbreaks suffer from low accuracy, especially when numbers are still low and most amenable to efficient management action.

The CCIP Detection sub-program has focused on developing new methods for COTS surveillance and monitoring, including eDNA techniques and smart robotics technology that scans the Reef and detects starfish using real-time artificial intelligence.



Case Studies RTP

In 2022-2023, a major field effort involving seven organisations and 24 people was undertaken to trial the new technologies alongside existing methods.

The team visited seven different reefs, collecting 240 eDNA samples and 80,000 images that were analysed using novel machine learning models.

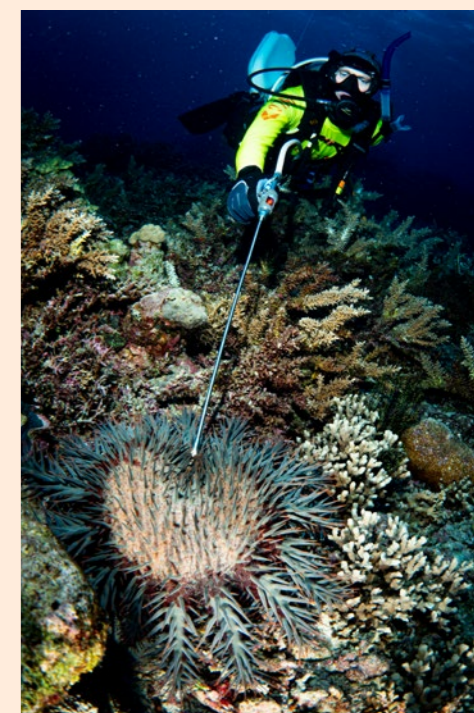
These new tools for COTS detection are being integrated into the COTS Control Program's field operations, and the new datasets they produce are being used to guide COTS management.

Collaboration enables rapid response to early warning signs of next major outbreak

There have been four recorded waves of COTS outbreaks on the Great Barrier Reef since the 1960's. These outbreaks generally start in the north and spread south over a period of 15 years, leaving infested reefs heavily damaged in their wake. The last major outbreak wave started in 2010 and is still spreading down the Reef.

Based on the patterns of previous outbreaks, experts predicted that the next outbreak wave would begin soon. Working together across research and management agencies, we brought together the resources, capability and expertise to enable early detection and response to a new outbreak for the first time. Field intelligence coming from multiple sources provided an early warning that an outbreak was beginning to form. In response, the COTS Control Program boosted its coral defending fleet with two additional vessels that began suppressing the early stages of the outbreak.

Such swift and proactive intervention at the earliest stages of outbreak development has the potential to deliver benefits at scale by mitigating the spread of the outbreak across the Reef over the next 15 years.



A specially-trained diver culling a COTS. Image: Rick Abom, RRRC

Reef Restoration and Adaptation Science

The Reef Restoration and Adaptation Program (RRAP) is a research and development program to design and test novel solutions to protect coral reefs and help them adapt to the impacts of climate change in the decades ahead.

Recognising emissions reductions are essential but no longer enough to safeguard coral reefs from rising ocean temperatures, new management options are needed to prepare for a warmer future, alongside management activities that support reef resilience and recovery, such as actions to improve water quality, prevent overfishing and contain coral predator outbreaks.

RRAP is a diverse consortium of more than 300 experts including biologists, data scientists, ecologists, engineers, geographers, mathematicians, social scientists, Traditional Owners and passionate Reef community members. Together we have achieved scientific and engineering breakthroughs that are paving the way for a new toolkit of solutions for reef restoration and adaptation science to be scaled up like never before. This includes propagating corals with enhanced heat tolerance, as well as cooling and shading technologies that could protect priority reefs during marine heatwaves.

Impact



World's largest research and development program to help an ecosystem survive climate change, made up of more than **300 scientists** across more than **27 organisations**



More than **100m coral babies** delivered to the Reef during annual spawning events



Up to **1,000-times increase in coral production** through world-first semi-automated and robotic methods to mass produce corals



More than **2,000 coral colonies** tested for thermal tolerance and proof-of-concept developed for first generation of corals with higher heat tolerance



1 trillion coral sperm from **33 species cryopreserved** for future restoration efforts, and new larvae cryopreservation technique demonstrated



More than **9,500 coral cradles** used to deploy coral babies and help them survive in the critical first year of life

Image: Johnny Gaskell

Case Studies

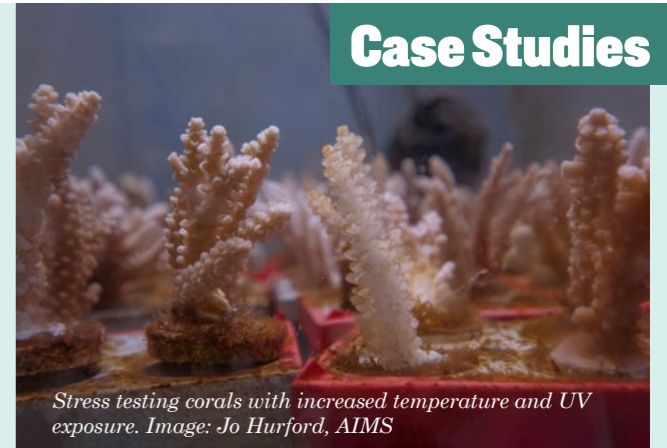
RTP

A Reef-wide map of heat tolerance

Understanding how and where corals on the Great Barrier Reef might be able to resist warming temperatures is critical for our future restoration and adaptation efforts. Across the Reef, we're mapping bleaching and heat tolerance, as well as other important traits, that corals pass from generation to generation.

Tiny fragments of healthy corals are collected and stress tested using special mobile aquarium tanks where higher water temperatures or increased amounts of light can be applied. To date, we have successfully sampled thousands of individual corals, and identified several genetic markers associated with heat resistance and bleaching tolerance.

Testing has revealed that corals have a large variation in tolerance across species, population and habitat.



Stress testing corals with increased temperature and UV exposure. Image: Jo Hurford, AIMS

From this data, coral biologists and mathematicians have designed new models and tools to identify and map reefs containing high numbers of heat tolerant corals, which can help with the selection of species for restoration efforts.

Cryopreservation technology supports coral restoration efforts

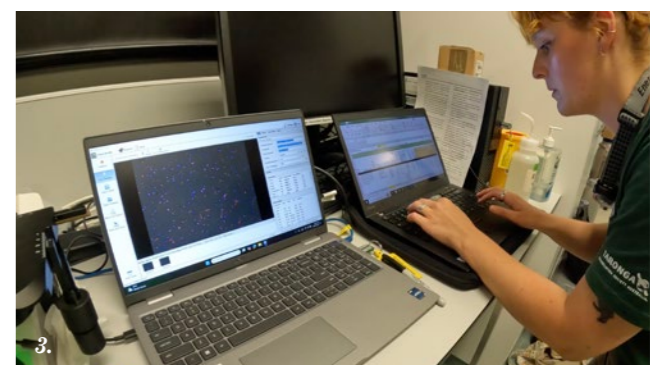
Corals reproduce for just a few days each year – an extraordinarily narrow window for reef research and restoration efforts. Through RRAP, we're building on coral larvae cryopreservation methods that allow for new restoration options outside of spawning.

The RRAP Cryopreservation team has collected millions of cells from a wide variety of Great Barrier Reef coral species, which have been added to the world's largest frozen repository of living coral at Taronga's CryoDiversity Bank. The aim of freezing these coral cells is so they can be reanimated in the future to allow for reproduction outside of the spawning window, further accelerating our capacity for restoration throughout the year.

One challenge has been cryopreserving fertilised coral larvae, or baby corals. They are difficult to preserve due to their size and structure, but we overcame this barrier with an innovative prototype. The lightweight and cheap-to-manufacture 'Cryomesh' has been used to successfully freeze and then re-animate coral larvae, without the need for sophisticated cryopreservation equipment like laser warming.

Our dedicated coral cryopreservation teams are focused on not only ensuring a diverse representation of coral species is bio-banked, but that cryopreserved material is available for future restoration efforts.

1. Collecting corals for breeding. Image: AIMS
2. Biobanking coral sperm samples in liquid nitrogen. Image: Taronga Conservation Society
3. Measuring motility after thawing. Image: Taronga Conservation Society



Traditional Owner Reef Protection

For more than 30 years, Traditional Owners from across the Reef have called for a collective approach to achieving their rights and aspirations for ownership, access to, and involvement in the formal governance and management of their land and sea Country.

The Traditional Owner Reef Protection component has built the foundational pillars needed to deliver these aspirations, creating stronger Indigenous-led processes and the step-change needed for sustaining inclusive governance and management of the Reef, while recognising cultural values and diversity.

Through the RTP, we secured the largest single investment in Traditional Owner Reef Protection to date. On top of the \$12m initially earmarked for Indigenous Reef Protection in the Grant Agreement, the Foundation allocated additional funding from the other Reef Trust Partnership programs to co-designed, Traditional Owner-led Reef protection, increasing the total investment to \$51.8m. This program built on and scaled up the work already being done by Traditional Owners along the Reef and its catchments.

Impact



Largest best-in-class co-designed Traditional Owner-led reef protection program in the world



6,038 Traditional Owners involved in the delivery of **102 Reef protection projects**, led by **65 Traditional Owner groups**



More than 20 governance positions created on advisory and technical working groups



337 female Traditional Owner participants in women's communication and leadership programs



Traditional Owner voices elevated through storytelling on national and global platforms



More than 2,800 Traditional Owner youth participated in innovation projects and leadership programs

Water quality monitoring. Image: Mamu Aboriginal Corporation RNTBC



RTP Case Studies

On-Country training. Image: Mamu Aboriginal Corporation RNTBC

Strong partnerships key to overcoming barriers in water quality improvement

In 2021, Mamu Aboriginal Corporation, based in Innisfail on Queensland's Cassowary Coast, set out to establish formal waterway monitoring and management based on holistic, culturally informed knowledge and approaches. Through three consecutive RTP grant rounds, Mamu Traditional Owners worked in close partnership with Terrain Natural Resource Management (NRM) and planning consultant Melanie Dulfer-Hyams to develop and implement their strategy.

Through the partnership, Mamu Aboriginal Corporation was supported to develop the Mamu Healthy Waterways Strategy 2022, based on Traditional Owner values, rights, interests, responsibilities, custodianship and concerns for waterways across their Country in the Tully and Johnstone River Catchments. The strategy identified priority actions for managing waterways on Mamu Country and informed the Mamu Waterway Healthy Monitoring Plan. It expanded the existing western science-based monitoring program to include culturally important sites and indicators based on cultural and traditional knowledge of waterway health. Mamu's subsequent projects focused on delivering the strategy and plan.

Terrain NRM played a key role in supporting Traditional Owner leadership by helping develop skills for holistic management of Country based on both cultural and western science approaches to waterway monitoring and management. This included the development of water quality testing training materials by Traditional Owners for Traditional Owners, and opportunities for Elders to share cultural knowledge relevant to looking after waterways through both formal training events and informal time on Country.

Indigenous women vital to Reef health

There is rapidly growing global recognition of the critical role that Indigenous women play as ancestral knowledge-holders and caretakers of Country. One of the many ways women care for Country is through taking on Indigenous ranger careers. Being a ranger provides an opportunity to use Indigenous knowledge to foster ongoing learning and connection to the environment alongside western science and management systems. In 2018 in Queensland however, less than 20% of Indigenous rangers were women, and very few held coordinator positions. Through the RTP, the Foundation supported a number of initiatives to increase the participation of Indigenous women in land and sea Country management roles and elevate and amplify their voices. One of our investment areas was with the Queensland Indigenous Women Rangers Network (QIWRN).

In 2018, Queensland's first female Ranger Coordinator, Larissa Hale, launched QIWRN. The network provides a forum for female rangers to share their experiences, ideas and information; provide support and advice; and enable connections in remote and isolated communities. It also provides training opportunities and offers a mentorship program for women looking to further their careers or talk through difficult work or cultural issues.

In 2022, QIWRN won the prestigious £1m Earthshot Prize in the Revive Our Oceans category. This investment helped drive Larissa's vision to scale the network and expand its offering to include female Indigenous rangers nationally and internationally.

Over the past five years, QIWRN has provided training and support to over 200 women from 48 Traditional Owner groups across Queensland and encouraged new conservation approaches by bringing together ancient knowledge with modern tools. Today, there are more leadership opportunities available, including training and employment in leadership positions.

In 2024, QIWRN launched the Indigenous Women Rangers Network Australia for female rangers around the country, as well as the Indigenous Women Rangers Network International – a global network to connect First National rangers working in land and sea management around the world. This world-first program is inspiring the next generation of female Indigenous rangers, who are vitally important for the health of our planet.



Female Indigenous rangers. Image: Heather Miller Photography

Community Reef Protection

This component built on and accelerated work already underway through committed groups and individuals across the Reef and its catchments. To meet the scale and urgency of the challenge, more had to be done to find new ways to work together for a healthier Reef.

Projects supported and enhanced capacity to deliver on-ground action that reduced Reef threats and increased Reef resilience. This was achieved by making it easier for people to get involved and stay involved in conservation of the Reef; improving sharing, connection and collaboration between individuals, community groups and Reef decision makers; and providing hope that inspires greater action by demonstrating that the collective efforts of many can and will make a difference.



Impact

 <p>97 community-centred projects, involving over 511 partners</p>	 <p>62,749 community members and 4,130 Indigenous people engaged, with half participating in activities for the first time</p>	 <p>89,598 volunteer hours contributed</p>
 <p>293 on-ground conservation actions to protect local Reef habitats and wildlife</p>	 <p>100 instances of community data used for Reef-wide planning, reporting and driving action, demonstrating increased community influence on Reef protection</p>	 <p>1,443 community training, education and outreach initiatives to empower community participation and capacity</p>

Releasing coral larvae. Image: Southern Cross University

Local communities influencing Reef planning, reporting and action

Local Reef communities have long held aspirations to have greater influence on decision-making and drive on-ground and in-water actions to care for the Reef. Community Reef Protection projects have been designed to support place-based collaborative planning that strengthens the connections between local and Reef-wide protection, and demonstrates the credibility of community generated data.

Through the RTP, community data has influenced wider Reef planning and actions in a number of ways. Some examples include:

- **Planning processes** – Community data was used in the development of the six Community Action Plans to drive place-based coordination of efforts. Fitzroy Basin Association’s community litter data informed the development of the Queensland Government’s Litter and Illegal Dumping Management Framework.
- **Formal reporting** – MangroveWatch community data was used to report on mangrove condition in the Wet Tropics for the first time and build a framework that can be applied in other regions.
- **Local actions** – OzFish citizen science fish data informed the design of a rock-ramp fishway to improve connectivity for fish in the region, which successfully provided passage for eight native fish species that would previously have been unable to migrate.



Case Studies

Preparing coral fragments for planting. Image: Coral Nurture Program

- **New ways of working with decision-makers** – The first community-led Eye on the Reef monitoring program was trialled on Yunbenun (Magnetic Island). Regular swimmers at Alma Bay received training on how to use the app and record their marine observations.
- **Government agencies** – The Coral Nurture Program tourism and science partnership has worked with the Joint Field Management Program to develop and embed new Standard Operating Procedures for using their Coralclip® as an intervention in areas of discrete coral damage.

Community-led coastal habitat protection

Coastal habitats like mangroves, saltmarshes and wetlands are natural guardians of the Great Barrier Reef. Their matrix of highly connected habitats helps protect shorelines, provides homes and nurseries for marine wildlife, filters water coming from catchments, offers places for local fishing and boating, and retains irreplaceable cultural values for First Nations Australians. They are also significant blue carbon stores, helping to combat climate change.

Like many ecosystems, these habitats have felt the impact of threats including coastal development, pollution and climate change. We partnered with a range of community organisations working on the ground with coastal communities to pilot and prove community-centred approaches to care for coastal habitats.

Earthwatch’s MangroveWatch citizen science monitoring program was developed to activate local communities in mangrove and saltmarsh monitoring, education and conservation. Cairns and Far North Environment Centre (CAFNEC) and Earthwatch Australia scientists have worked with partners to grow a community network for tidal wetland monitoring and action in the Wet Tropics using the MangroveWatch citizen science methods.

This collaborative citizen science program has generated the first citizen science mangrove condition reporting for the region. Data has been integrated in the Wet Tropics Waterways report card to fill an identified data gap, highlighting the vital role of citizen science.



Caring for mangroves. Image: Bendi Media

Beyond that, partners have worked together to translate community data into on-ground protection and restoration activities through local action plans that strengthen community leadership in driving solutions to protect coastal habitats.

The project built a replicable model and Earthwatch is now working with partners at Yunbenun-Magnetic Island, Townsville, and Mackay to expand the proven and successful program.

Integrated Monitoring and Reporting

The Integrated Monitoring and Reporting (IMR) program has been a proving ground for innovation to capture and process a wide range of Reef data more efficiently and effectively.

The Reef 2050 Integrated Monitoring and Reporting Program (RIMREP) was launched in 2014 to provide Reef managers with information to guide decisions, track progress against the Reef 2050 Plan, drive better alignment between existing monitoring programs and help fill monitoring and modelling knowledge gaps.

Stage one of RIMREP involved a stocktake of existing Reef monitoring programs, identifying monitoring needs and providing recommendations for establishing a Reef knowledge system. Completed in June 2019, this significant piece of work brought the scientific community together to reach consensus on overall Reef monitoring needs.

The Reef Trust Partnership Integrated Monitoring and Reporting component prioritised RIMREP stage one recommendations to invest in critical monitoring needs, as well as the early-stage development and prototyping of a Reef-wide decision-support system.

Impact



All critical monitoring gaps identified by RIMReP filled



First Reef-wide data management system developed to integrate Reef data and inform decision-making



7 monitoring tools developed and adopted to improve speed, coverage and cost of priority Reef monitoring activities



Raising the bar on Reef Traditional Owner engagement and participation, involving more than **100 Traditional Owners** in monitoring activities



106 technical experts guided IMR product design and delivery



Program data informing conservation and management decisions for dugongs, dolphins, sea cucumber fisheries and Reef fish

Image: Kristen McSpadden

RTP Case Studies

World's largest Reef forecasting and modelling program

The Great Barrier Reef is the size of 17 million football fields, and its vast size makes it hard to monitor and predict a growing combination of threats, such as warmer water temperatures and poor water quality from sediment and nutrient run-off.

To better understand the likely future impact, we successfully seeded and scaled a \$35m Reef forecasting and modelling system, eReefs, that tracks and predicts reef conditions including water quality and bleaching using satellite technology, powerful models and machine learning.

eReefs delivers Reef water quality information online in near real time, enabling anyone to track the effects of rising water temperatures, cyclones, floods and other impacts on the Reef. This tool is now embedded within and funded by the Australian government and is used to inform Reef-wide decision-making and policy, including where to deploy restoration interventions. eReefs is now also being used to produce more precise modelling of marine megafauna populations such as turtles and dugongs.



Dugong monitoring. Image: JCU TropWATER

Queensland-wide dugong surveys

The Reef supports one of the world's largest dugong populations, and their reliance on the Reef was one of the key reasons for its listing as a World Heritage Area. In recent years, dugong monitoring has been identified as a critical monitoring gap for the Great Barrier Reef.

Dugongs are subject to a range of human threats, including entanglement, collisions with boats and degradation of important habitats such as seagrass meadows. Since the 1980s, dugongs have been surveyed every five years along the Queensland coast using highly trained observers in light aircraft.

Through the RTP, we enabled the continuation of Queensland's dugong population survey data using proven aerial survey techniques but with the addition of cutting-edge technology, including aerial imagery experiments and machine-learning.

Results on dugong abundance and distribution have identified important conservation and management outcomes, highlighting areas where more targeted surveillance and conservation efforts are required. Key outcomes were published in the Reef Authority's GBR Outlook Report 2024, and the development and refinement of innovative camera systems and artificial intelligence algorithms have helped to streamline the analysis of large marine mammal datasets, improving detection capabilities for future large-scale dugong surveys.

Additional RTP investment is extending the project scope beyond the realms of scientific data collection for dugongs, enabling the establishment of meaningful and respectful dialogue and partnerships with Reef Traditional Owners. This work recognises that for holistic management and decision-making of this culturally important animal, both Indigenous and western scientific knowledge systems should influence and inform the processes for dugong management decisions, including planning and research. This project aims to create a space for both knowledge systems to be acknowledged with equity, and to have Traditional Owners contributing and assessing both forms of knowledge for species management that they see as a priority.

Delivery and Investment Partners

The Reef Trust Partnership is the largest collective effort ever for the Great Barrier Reef, enabled by a landmark investment by the Australian Government.

Lead partners that delivered or invested in programs or projects under the RTP include:

- Adaptus Pty Ltd
- AECOM
- Agro Group Pty Ltd
- Airborne Research Australia
- Allens Linklaters
- Alluvium Consulting Australia Pty Ltd
- Atlas Soils Pty Ltd
- Aurecon Australasia Pty Ltd
- Australian Government
- Australian Institute of Marine Science
- Australian National University
- Australian Seaweed Institute Pty Ltd
- Australian Trust for Conservation Volunteers
- Badu Advisory Pty Ltd
- Balkanu Cape York Development Corporation Pty Ltd
- Beyond Sticky Notes
- Binthi Land Holding Group Aboriginal Corporation
- Bowen Tourism and Business
- BRIA Irrigators Ltd
- Bromley Aboriginal Corporation RNTBC
- Buda Dji Aboriginal Development Association Aboriginal Corporation
- Bundaberg Four Wheel Drive Club Inc
- Bundaberg Fruit & Vegetable Growers Cooperative Limited
- Bureau of Meteorology
- Burnett Catchment Care Association
- Burnett Mary Regional Group for Natural Resource Management Ltd
- Butchulla Aboriginal Corporation RNTBC
- C2O Consulting
- Cairns and Far North Environment Centre Inc.
- Cairns Regional Council
- Canegrowers Cairns Region Ltd
- Cape York Natural Resource Management Ltd
- Cape York Water Partnership Inc
- Capricornia Catchments Inc
- Carbon Link Operations Pty Ltd
- Cassowary Coast Regional Council
- Catchment Solutions Pty Ltd
- Chantal Althea Roelofs
- Citizens of the Great Barrier Reef
- Clear Horizon Consulting Pty Ltd
- Coles
- CSIRO
- Connected Land and Sea Pty Ltd
- Conservation Management Pty Ltd
- Coral Sea Foundation Ltd
- Create and Evaluate
- Cultivate Farms Pty Ltd
- Dabu Jajikal Aboriginal Corporation
- Darumbal Enterprises Pty Ltd
- Dawul Wuru Aboriginal Corporation
- Deakin University
- Dirrawan Consulting Group Pty Ltd
- Djarnda Enterprises Pty Ltd
- Djunbunji Limited
- Dobes & Associates Pty Ltd
- Douglas Shire Council
- Droplet Measurement Technologies
- Earthwatch Institute
- Eberhard Consulting
- Ecological Modelling Services Pty Ltd
- Ecosure Pty Ltd
- EMI Controls
- Envigorate Consulting
- Environmental Systems Solutions
- Envite Environment
- ESRI Australia Pty Ltd
- Far North Queensland Regional Organisation of Councils
- Farmacist Pty Ltd
- Fitzroy Basin Association Inc
- FNQ NRM Ltd t/a Terrain Natural Resource Management
- Fruition Environmental Pty Ltd
- Gallagher eShepherd Pty Ltd
- Gallery Aquatica
- Garnier
- Gidarjil Development Corporation Ltd
- Giringun Aboriginal Corporation
- Goondi Arts Aboriginal Corporation
- GP One Consulting Pty Ltd
- Great Barrier Reef Marine Park Authority
- Great Barrier Reef Research Expeditions Inc t/a Great Barrier Reef Legacy
- Greening Australia Ltd
- Gregory Neil Oliver EPM Consulting
- Griffith University
- Gulngay Kinjufle Aboriginal Corporation
- Gunggandji-Mandingalbay Yidinji Peoples Prescribed Body Corporate Aboriginal Corporation RNTBC
- Healthy Waters Partnerships Dry Tropics
- Herbert Cane Productivity Services Limited
- Herbert River District Cane Growers Organisation Limited
- High Valley Dawn Permaculture Farm
- Ian Phillip Prosser
- Illuminate-FNQ Ltd
- Innisfail District Cane Growers Organisation Limited
- Intellidesign Pty Ltd
- Ipima Ikaya Aboriginal Corporation RNTBC
- J.W UDY & N.S. UDY t/a Science under Sail
- Jabalbina Yalanji Aboriginal Corporation RNTBC
- James Cook University
- Jaragun Pty Ltd
- Jarlls Pty Ltd
- JCU TropWATER
- Johnstone River Catchment Management Association Inc
- Juru Enterprises Ltd
- Juunjuwarra Aboriginal Corporation
- Keppel Coast Arts Council Incorporated
- Kevin Bruce Bowden
- Kiorion Pty Ltd
- Koinmerburra Aboriginal Corporation
- Landloch Pty Ltd
- Life-Space
- Lion (XXXX)
- Liquaforce Pty Ltd
- Local Government Association of Queensland
- L'Oreal
- Lower Burdekin Landcare Association Inc
- Mackay Area Productivity Services Limited
- Mackay Canegrowers Limited
- Macquarie University
- Madjandji Aboriginal Corporation RNTBC
- Magnetic Island Community Development Association Inc
- Magnetic Island Nature Care Association
- Mandubarra Aboriginal Land and Sea Inc
- Marine Discoveries Pty Ltd ATF Phillips Family Trust
- Marine Seek Pty Ltd t/a Lady Musgrave Experience
- Marine Solutions Tasmania Pty Ltd
- Mary River Catchment Coordination Association Inc
- MH Management (QLD) Pty Ltd
- McLaren Racing
- Monash University
- Mosaic Insights Pty Ltd
- Mungalla Aboriginal Corporation for Business
- Murdoch University
- NCEconomics Pty Ltd
- North Australian Indigenous Land and Sea Management Alliance Ltd
- NQ Dry Tropics Ltd
- NQ NRM Alliance Ltd t/a Corporate Nature
- Numerical Optics
- Orica
- OzFish Unlimited
- Phillip John Laycock
- Pollination Foundation Limited
- Port Douglas Daintree Tourism Ltd
- Pullman Cairns International
- Qantas
- QIC
- Queensland Cane Growers Organisation Ltd
- Queensland Farmers' Federation Ltd
- Queensland Government Department of Environment, Tourism, Science and Innovation
- Queensland University of Technology
- R & Z Consulting Pty Ltd
- Radiant Life Education Ltd
- Reef and Rainforest Research Centre Ltd
- Reef Catchments Ltd
- Reef Check Foundation Limited
- Reef Ecologic Pty Ltd
- Reef Magic Cruises Pty Ltd
- Resource Consulting Services Pty Ltd
- Restore Blue Pty Ltd
- Rinyirru (Lakefield) Aboriginal Corporation
- RMIT
- Rodney David Kerr
- Ron Allum Deep Sea Services
- Ryan David Turner
- Sarina Landcare Catchment Management Association Inc
- Seeside Dialogue
- Sharks and Rays Australia Research Ltd
- Social Ventures Australia
- South Cape York Catchments Inc
- Southern Cross University
- Star Economics Pty Ltd
- Sugar Research Australia Ltd
- Sydney Institute of Marine Science
- Taronga Conservation Society
- Terra Carbon Pty Limited
- Terrain Natural Resource Management
- The Earthshot Prize
- The Hebrew University of Jerusalem
- The Nature Conservancy Limited as the Trustee for the Nature Conservancy Australia Trust
- The Sapphire Project
- The Social Deck Pty Ltd
- The Trustee for Eberhard Consulting Trust
- The Trustee for South Endeavour Trust
- The University of Melbourne
- The University of Queensland
- Tiffany & Co Foundation
- Tim Moltmann
- Townsville City Council
- Tree Crop Technologies Pty Ltd t/a Verterra
- Truii Pty Ltd
- Trustee for the Dench Family Trust
- Tunuba Pty Ltd
- Turtle Care Volunteers Queensland Inc
- University of Exeter
- University of Sydney
- University of Tasmania
- University of Technology Sydney
- University of the Sunshine Coast
- Wanyurr-Majay Aboriginal Corporation RNTBC
- Water Technology Pty Ltd
- Wavelength Reef Cruises
- Whitsunday Catchment Landcare Inc
- Whitsunday Regional Council
- Wildlife Surrounds
- Women's Environmental Leadership Australia Limited
- Wuthathi Aboriginal Corporation RNTBC
- Yuku-Baja-Muliku Landowner & Reserves Ltd
- Yuwi Aboriginal Corporation RNTBC

Reef Trust Partnership

Impact Report



Australian Government

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Great Barrier
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