



Australian Government



Queensland Government

Reef 2050 Plan

ANNUAL REPORT AND
IMPLEMENTATION STRATEGY 2016



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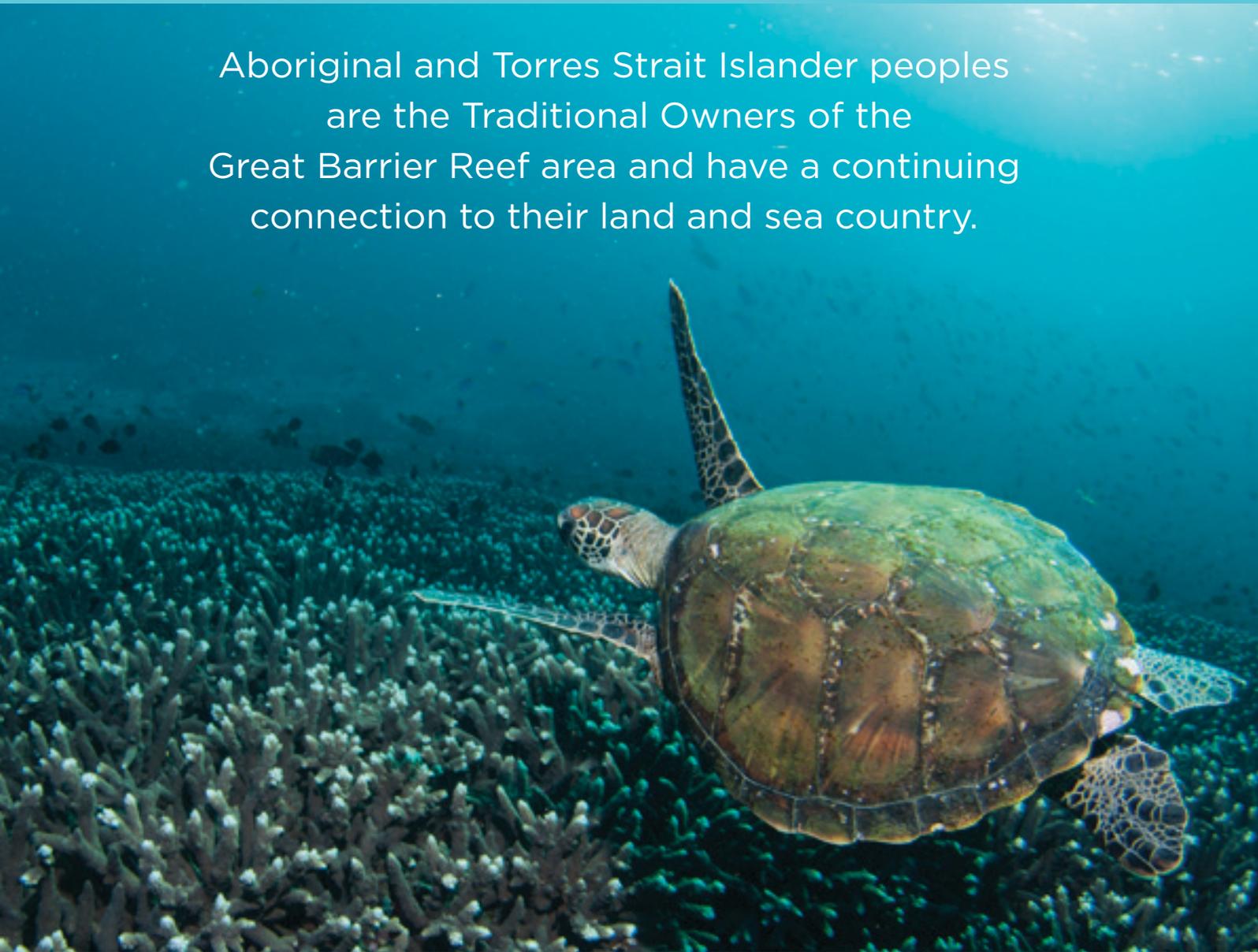
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Reef 2050 Plan

ANNUAL REPORT AND
IMPLEMENTATION STRATEGY

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.



*Green Turtle swimming over the hard corals of Flinders Reef off Brisbane.
Photo: Commonwealth of Australia (GBRMPA)*

PREFACE—ABOUT THIS DOCUMENT

This is the first Annual Report for the *Reef 2050 Long-Term Sustainability Plan* (Reef 2050 Plan). It summarises implementation of the Plan from its launch in March 2015 until mid-2016. This report is combined with the third Reef 2050 Implementation Strategy, which looks forward at the key focus areas for implementation from mid-2016 to mid-2017. The next annual report and implementation strategy will be due in mid-2017.



Figure 1: Annual Report and Implementation Strategy approach

The Annual Report and Implementation Strategy focuses on the implementation of the Reef 2050 Plan actions. Foundational programs and actions are the basis of the Reef 2050 Plan. They are the tangible measures which, when brought together, will help us to achieve our 2020 targets.

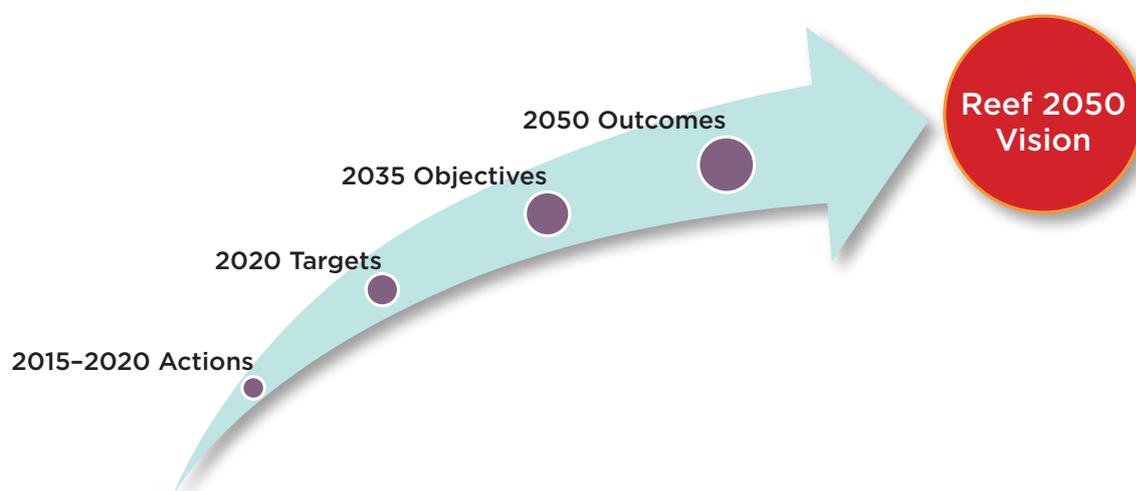


Figure 2: The Reef 2050 outcomes framework, linking actions, targets, objectives and outcomes to achieve the vision of the Reef 2050 Plan

Reporting on progress towards the Reef 2050 Plan targets, and outcomes will be undertaken separately through Great Barrier Reef Report Cards and Outlook Reports. Great Barrier Reef Report Cards have been produced annually since 2009, and will continue to provide information on progress for water quality targets and inshore marine condition. The Great Barrier Reef Outlook Report is produced every five years, and assesses the condition and trend of values, threats and management effectiveness. The next Outlook Report in 2019 will evaluate the effectiveness of the Reef 2050 Plan and will be the principal guide to its review in 2020.



*Nudibranchs mating, Great Barrier Reef (World Heritage Listed site).
Photo: Commonwealth of Australia (GBRMPA)*

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*Sea anemone and Clownfish, Great Barrier Reef (World Heritage Listed site).
Photo: Commonwealth of Australia (GBRMPA)*

Reef 2050 Plan

ANNUAL REPORT

2015-2016





MINISTERS' YEAR IN REVIEW

The Great Barrier Reef is an Australian icon and one of the world's greatest ecosystems. Containing a maze of reefs and islands, it stretches more than 2,300 kilometres along the Queensland coast. It is rich in biodiversity, from mangroves and seagrasses to coral reefs and open waters.

The Reef is under pressure from a range of sources, including climate change, poor water quality from land-based run-off, impacts from coastal development and some remaining impacts of fishing. There are many groups that care about the Reef and are doing their part to help. In order to improve the health of the Reef, we need to coordinate all actions so that we can make the greatest impact.

In March 2015, the Australian and Queensland governments released the Reef 2050 Plan, our ambitious joint strategy for improving the health of the Great Barrier Reef. We now have a common goal connecting governments, communities and industries that have a stake in the Reef, and we're working together to implement the Plan. Together, we have taken significant steps to implement Reef 2050 Plan actions, with 19 per cent of actions completed and more than 65 per cent underway.

The strength of the Reef 2050 Plan is in its genuine partnership approach to action and results. This has been achieved through continued engagement with industry, community and scientific experts through the Reef 2050 Advisory Committee, Reef 2050 Independent Expert Panel and Reef 2050 Integrated Monitoring and Reporting Steering Group. All three have been instrumental in guiding implementation and prioritisation activities. We strongly value their expert input, frank advice and commitment to implementation.

Building and maintaining strong partnerships with Traditional Owners is fundamental to the success of the Reef 2050 Plan, and more specifically for the Indigenous actions embedded in the Plan. First steps have been made, with an Indigenous Implementation Plan developed by a Traditional Owner nominated group, to support and guide delivery of Traditional Owner led actions. The plan identifies priority areas and proposes pathways for implementation of those priorities.

We are proud of the progress we have made since the launch of the Reef 2050 Plan in 2015. At the core of the Plan is an ambitious suite of actions that drive progress towards its targets. The Australian and Queensland governments are continuing our significant investment of \$2 billion over the next decade. In addition, this year the Australian Government announced its commitment to establish a Reef Fund under the Clean Energy Finance Corporation, which will provide up to \$1 billion over 10 years in investment finance for projects in the reef catchment region that deliver clean energy, reduce emissions and improve water quality. An Investment Framework is being developed to help identify funding gaps and opportunities to leverage further funding to support the Plan.

There have been some major achievements over the first year. This includes passing legislation which bans the sea-based disposal of capital dredge material in the World Heritage Area, restricts new port development to within current port limits and prohibits major capital dredging for port facilities outside four priority ports. With the collaboration of the ports industry, we are also working to deliver a coordinated maintenance dredging strategy for the Great Barrier Reef ports by the end of 2016 that will reduce the environmental impacts of maintenance dredging.

This year has also brought a major global coral bleaching event to many reefs around the world, including the Great Barrier Reef. Through a partnership between governments and research institutions, additional monitoring efforts were put in place to record impacts. Initial monitoring indicates that 22 per cent of coral on the Reef has died, with 85 per cent of the mortality occurring in a 600-kilometre stretch in the far north. The severity of the event is variable and declines as you move southwards, with the far south showing only minor bleaching and no mortality. Further surveys will be conducted in October to make a final assessment of survival and mortality. This event underscores the importance of our efforts in improving the resilience of the Reef through the Reef 2050 Plan.

Improving water quality is one of the most direct ways we can improve the health of the Reef, helping to increase its capacity for recovery in the face of events like coral bleaching. Much of our action has been focused on on-ground projects and determining the best way to boost progress toward the water quality targets. To date, the Australian Government's Reef Trust has allocated more than \$111 million towards a range of projects to improve water quality, focusing principally on improving nitrogen-use efficiency on sugar cane farms and reducing sediment runoff in priority grazing landscapes. Released in September 2015, the latest Great Barrier Reef Report Card showed that landholders are continuing to help protect the Great Barrier Reef by reducing pollutant loads, but more effort is needed. The Queensland Great Barrier Reef Water Science Taskforce released its Final Report in May 2016 which provides recommendations on how to achieve the water quality targets in the Reef 2050 Plan and priorities for investing an additional \$90 million of Queensland Government funding over four years. The Queensland Government has agreed to all of its recommendations and has already commenced implementation. More than \$56 million will be invested in water quality in 2016/17 by the Queensland Government.

As a key element of ensuring we have a world class system to monitor progress and inform an adaptive management approach, work is progressing on the development of a Reef 2050 Integrated Monitoring and Reporting Program, which will help measure and report on the outcomes of the Plan. Audits of existing monitoring programs, reporting products and data systems has already been undertaken and progress is underway on integrating and aligning a number of core monitoring programs.

We recognise that this is the first 18 months of a 35-year plan and that it will take time to see results from our current actions. There is no single tool that will deliver the necessary outcomes for the Reef and we will need to utilise everything at our disposal and do it in a more coordinated and targeted way. While good progress is being made, it is incumbent upon all of us to try and accelerate these actions to improve the health and resilience of this precious global treasure.

The Hon Josh Frydenberg MP

Australian Minister for the Environment and Energy

The Hon Dr Steven Miles MP

Queensland Minister for the Environment and Heritage Protection and Minister for National Parks and the Great Barrier Reef

ADVISORY BODIES REVIEW

Implementation of the Reef 2050 Plan is supported by three advisory bodies which provide linkages between government, Traditional Owners, science, industry and the community.

Their advisory role is critical to ensure an ongoing partnership approach. The chair of each committee provides independent advice directly to the Great Barrier Reef Ministerial Forum.

Foreword from the Chair of the Independent Expert Panel

The Independent Expert Panel brings together scientific expertise from a diverse range of disciplines to advise governments on implementation of the Reef 2050 Plan. Establishment of the Panel has created a new pathway for government to access independent scientific advice, supporting better decision making across a range of operational and policy topics.

In its first year, the Panel has supported the roll out of the Reef 2050 Plan. Panel input on prioritisation of actions was important to inform the Reef 2050 Plan Investment Framework and the Panel looks forward to the finalisation of that later in 2016.

A commitment of significant resources is likely to be required to deliver the Reef 2050 Plan. The magnitude of investment required is not a simple figure to estimate; however, the development of an investment framework to map current funding and identify future funding needs is a major piece of work which will influence the decisions of governments, industry and communities.

It is important to use scientific evidence to influence both the level of investment required, and how our on-ground investments are delivered. At all of its meetings the Panel has provided advice on the development and delivery of Reef Trust investments and will continue to do so as this program progresses. Our advice has included identifying investment priorities for future phases of Reef Trust and providing advice on delivery options for particular projects. The Panel has also provided advice on potential approaches to integrate and align proposed Reef Trust investments with the work of the Great Barrier Reef Water Science Taskforce and related Queensland Government investments—an important consideration to get the maximum impact from available resources.

The Panel provided advice to governments on the recent coral bleaching event. At its April 2016 meeting, the Panel discussed the extent of the bleaching as well as possible outcomes and proposed interventions. An expert group was assembled to develop a summary paper advising on likely climate change impacts to the Great Barrier Reef.

The development of strategic advice on high priority topics will be critical to successful implementation of Reef 2050 Plan. The Panel held a workshop in August 2016 to consolidate advice on high priority topics. Discussion focused on strategic scientific matters, and will inform implementation of the Reef 2050 Plan and adaptive management in the future.

Professor Ian Chubb AC

Chair, Independent Expert Panel

Foreword from the Chairman of the Reef 2050 Advisory Committee

The Reef 2050 Plan was developed in partnership with community and industry groups and sets a new benchmark for protection and management of the Great Barrier Reef. It was built upon a foundation of collaboration and the Reef 2050 Advisory Committee was established to continue that approach.

Successful implementation of the Plan is highly dependent on all partners contributing and working together. Committee members understand this and are strongly committed to seeing the Plan achieve its objectives. Considerable goodwill and a spirit of collaboration has been evident from the outset of our work.

The Reef 2050 Advisory Committee has met five times since the release of the Reef 2050 Plan and has been instrumental in guiding its implementation. Our initial task was to help prioritise the actions in the Plan to inform development of an Investment Framework which will identify funding gaps and how to diversify investment to assist in filling those gaps. The Committee has reiterated on a number of occasions that a significant level of investment is required to implement the Plan's actions. This will not be met through existing funding commitments.

The Great Barrier Reef coral bleaching event was a major focus of discussion and concern over the first half of 2016 and has reinforced the Committee's advice that urgency is required to build resilience and promote recovery.

While we recognise there have been some significant achievements over the first 12 months of the Plan, Committee members are agreed that we need to accelerate action in a number of key areas to realise more gains. In this regard, there is a particular emphasis on advancing the implementation of the Reef 2050 Integrated Monitoring and Reporting Program and the importance of measuring the impact and effectiveness of interventions.

The Committee has also focused on water quality, recognising that it is an area of high priority where the commitment of significant resources and effort can deliver real returns, and have a positive impact on Reef health. Following the release of the Great Barrier Reef Water Science Taskforce's Final Report, the Committee focused on the Report's recommendations addressing the need for effective communications to guide behaviour change. We are agreed that clearer communication about how all industries and sectors can contribute to improved water quality is needed.

The Committee represents a diverse range of stakeholders, all of whom have a role in contributing to the protection and management of the Great Barrier Reef. As Chairman of the Reef 2050 Advisory Committee, I have been impressed with the level of knowledge and experience represented on the Committee and with the strong commitment from all members to work together to meet our shared responsibility to provide the best possible advice to the Federal and Queensland Governments on the implementation of the Reef 2050 Plan. Managing the Reef requires input from the entire community and it is only by working together in a determined spirit of collaboration that we will be able to address the complex challenges facing the Reef and ensure it continues to be a natural wonder for generations to come.

The Honourable Penelope Wensley AC

Chairman, Reef 2050 Advisory Committee

Foreword from the co-chairs of the Reef 2050 Integrated Monitoring and Reporting Program Steering Group

The Great Barrier Reef is a large and dynamic natural system with multiple pressures and uses. The state of the ecosystem and the benefits derived from it, are constantly changing in response to a complex suite of interactions between drivers, activities and impacts.

The Reef 2050 Plan recognises the variability in the system and the need to adaptively manage the Reef at a range of scales. Achieving this requires a comprehensive and up-to-date understanding of the Reef—the values and processes that support it and the threats that affect it. This information is fundamental to informing actions required to protect and improve the Reef’s condition and track progress towards Reef 2050 Plan outcomes, objectives and targets. It is the Reef 2050 Integrated Monitoring and Reporting Program’s role to deliver this information and the steering group’s role to oversee its establishment and implementation.

The program brings together monitoring, modelling and reporting activities across the Reef and its catchment. The steering group is jointly chaired by the Great Barrier Reef Marine Park Authority, the agency responsible for leading the marine component, and the Queensland Department of the Environment and Heritage Protection, the department responsible for the catchment. It brings together monitoring providers and management partners to guide the design and delivery of the program.

The steering group met three times since March 2015. A strategy outlining the program’s purpose, scope, principles and partnership approach to establishment was released in October 2015. On the advice of the steering group, three working groups have been established to address the program’s design, reporting products, and data management systems. Working groups have met individually and jointly over this period.

Key achievements to date:

- establishment of a committed partnership
- scoping of work required to deliver the program and its implementation
- audits of existing monitoring programs, reporting products and data systems, and mapping these to Reef 2050 Plan themes
- audit, alignment and refinement of indicators to report on outcomes for Reef 2050 Plan themes
- integration and alignment of a number of core monitoring programs at a range of scales
- investing in a number of key monitoring programs critical to the delivery of the Reef 2050 Plan

Program partners are working together to align existing programs and develop systems to improve timely access to information across regional and Reef-wide scales. The Great Barrier Reef Outlook Report will be the primary reporting mechanism for evaluating the effectiveness of the Reef 2050 Plan with the 2019 edition being the first to incorporate results from the program. The results will inform the 2020 review of the Reef 2050 Plan.

Dr Russell Reichelt

Chairman and CEO
Great Barrier Reef Marine Park Authority

Jim Reeves

Director General
Department of Environment and
Heritage Protection

OVERVIEW OF PROGRESS

The Reef 2050 Plan contains 139 actions across seven different themes—ecosystem health, biodiversity, heritage, water quality, community benefits, economic benefits and governance. To assist with coordination and reporting, some actions have been separated into component parts, taking the total number of actions to 151.

Prioritisation

The actions were prioritised by the Reef 2050 Advisory Committee, Independent Expert Panel and government agencies in 2015. This work was important to ensure investment is appropriately targeted to implementing priority actions in the Plan. The 151 actions were put into four categories:

62 were allocated as **already prioritised**

27 were allocated as **medium priority**

35 were allocated as **immediate priority**

27 were allocated as **future priority**

Already prioritised = Already completed, or fully funded and clear timeframes for delivery

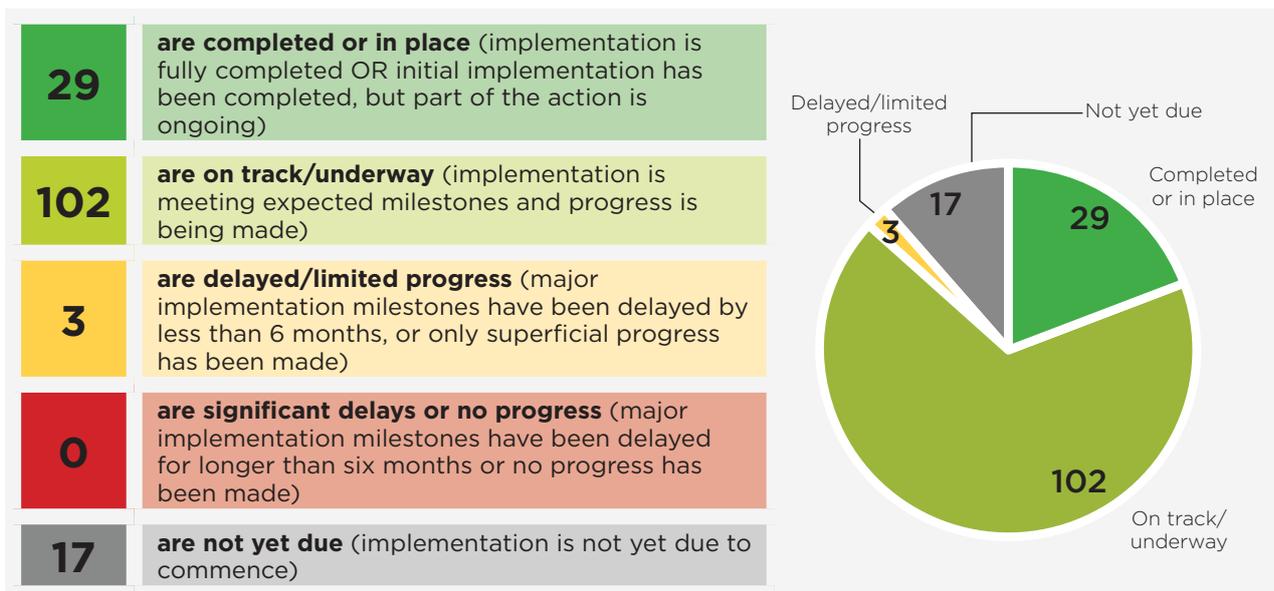
Immediate Priority = Implementation to commence by December 2016

Medium Priority = Implementation to commence by June 2018

Future Priority = Implementation to commence by June 2020

Progress

Implementation of the actions is well underway, and lead reporting agencies provide progress reports every six months. Of the 151 actions:



The following sections provide an overview of progress against key focus areas outlined in the December 2015 implementation strategy, and for each of the Reef 2050 Plan themes.

For more detailed information on specific actions, an addendum to the annual report is provided, which is downloadable at: www.environment.gov.au/reef2050-progress. The addendum provides a comprehensive reference on the status and progress of all 151 Reef 2050 Plan actions.

Summary of progress—December 2015 implementation strategy

The December 2015 Implementation Strategy outlined five priority areas for implementation. Significant progress has been made against each of these areas:

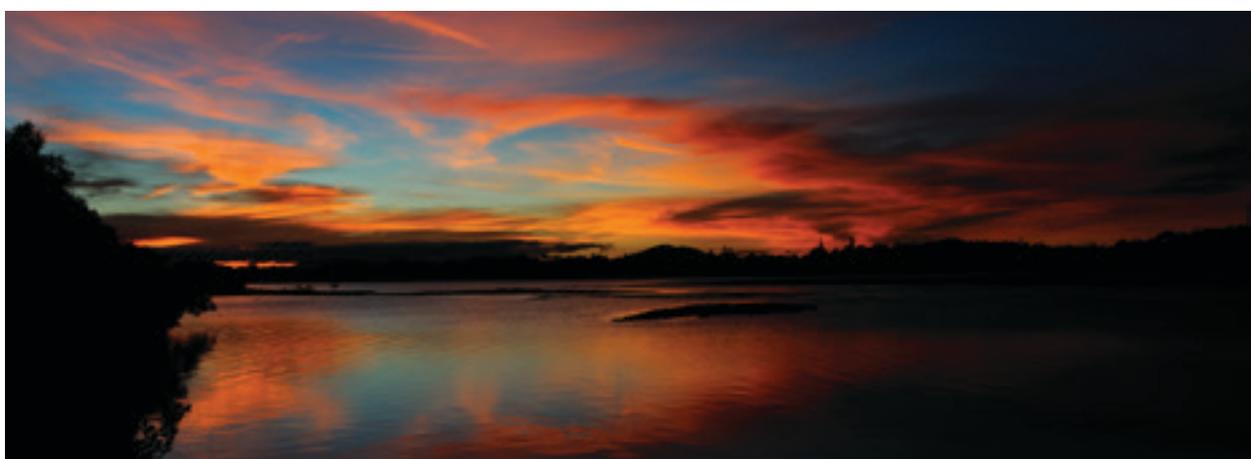
Traditional Owner engagement	
Targeted consultation	Consultation with Traditional Owners has been undertaken by a nominated Traditional Owner group
Specific implementation plan	A Traditional Owner Implementation Plan has been developed and will guide the implementation of Traditional Owner actions
Sustainable ports	
Ports master planning	A guideline is being developed that outlines a strategic framework for implementing priority port (Gladstone, Abbot Point, Townsville, Hay Point/Mackay) master planning for all stakeholders including state government, priority ports, local government and the community.
Maintenance dredging strategy	A maintenance dredging strategy is being developed to improve coordination of maintenance dredging across the state and provide a framework for port authorities, port users and regulators. Consultation on the draft strategy was completed in April 2016. Detailed submissions were received and the strategy is being revised based on the consultation. It is anticipated that Queensland Government will finalise the strategy in late 2016.
Water quality	
Reef Trust next phases of investment	<p>\$58 million in phase III investments have been contracted. These projects focus on building greater alignment and collaboration with the Queensland Government cane and grazing best management practice programs, to reduce nutrient and pesticide losses from cane farming and erosion control in grazing landscapes.</p> <p>A further \$46 million in investments under phase IV have been endorsed by the Independent Expert Panel and Australian Government environment minister. This fourth phase of actions focuses predominantly on reducing key pollutants—sediments and nutrients—through improved farm management practices, reduced gully and stream bank erosion, and increased coral protection on ecologically important reefs.</p>
Implementation of the Reef Water Quality Protection Plan	The 2013 Reef Water Quality Protection Plan 2013 includes 9 actions with 46 deliverables. 41 deliverables are either complete or are ongoing actions that are being delivered. Of the remaining five actions still to be completed, three actions are on track and two have been delayed. The Australian and Queensland environment ministers agreed to bring the full review of the Plan forward by one year, to be completed by June 2017. This earlier full review will facilitate a more effective integration with the <i>Reef 2050 Long-Term Sustainability Plan</i> and recommendations from the Great Barrier Reef Water Science Taskforce Report.
Queensland Great Barrier Reef Water Science Taskforce recommendations	The Great Barrier Reef Water Science Taskforce was established to provide recommendations on how to meet the Government's water quality targets. The Taskforce undertook an extensive program of investigations and stakeholder consultation, and in May 2016, delivered its final report containing ten recommendations to deliver substantial Reef water quality improvements. The Queensland Government has agreed, or agreed in principle, with all of the recommendations and has commenced implementation.

Investment

Reef 2050 Investment Framework	Further progress has been made on the investment framework with data from private, philanthropic and local government sourced and a future needs analysis is underway.
Reef Trust Innovative Financial Mechanisms Panel	The Panel has been established with representatives from Credit Suisse, Zurich, Commonwealth Bank, National Australia Bank, ANZ, the Great Barrier Reef Foundation and Philanthropy Australia. The Panel has met twice so far, considering conservation financing options for the Reef.
Queensland Great Barrier Reef Water Science Taskforce advice	In May 2016 the Taskforce delivered its final report which recommends how to best invest the Queensland Government's \$90 million commitment in water quality funding. Queensland has committed \$21.7 million in 2016-17 for implementing Taskforce recommendations. This builds on the Government's existing \$35 million annual investment in reef water quality programs and brings its total investment to \$56.7 million for 2016-17.

Reef 2050 Integrated Monitoring and Reporting Program

Design and establishment of program	<p>Work on the establishment of the program is well underway. A program strategy has been developed in collaboration with partners outlining the vision, principles and key components of the program. The foundational work completed includes:</p> <ul style="list-style-type: none"> • audits of existing monitoring and reporting programs and mapping of these programs to Reef 2050 Plan themes • an audit of relevant data management systems and mapping of the existing data landscape. <p>Core indicators for each of the Reef 2050 themes have been identified and are being refined as part of the program's design. Integration of a number of core monitoring programs is underway.</p> <p>All of this information is available to the public on the Great Barrier Reef Marine Park Authority's website. The development of new reporting products is being informed by market research to understand end user needs.</p>
Existing monitoring and reporting to continue and immediate priority gaps to be filled	The Program is investing in key monitoring programs critical to the delivery of the Reef 2050 Plan. This includes monitoring the condition of coral reefs and associated fish populations to assess the effectiveness of the zoning plan; Reef-wide dugong surveys; and monitoring community and economic benefits. Funds are also being used to integrate and align a range of existing core monitoring and modelling programs.



Sunset at Mackay. Photo: Giles West

SUMMARY OF PROGRESS—ECOSYSTEM HEALTH



Well-functioning ecological systems, such as coral reefs and associated habitats, provide a host of ecosystem services and underpin resilience. They support integrity, biodiversity and heritage values of the Reef and its economic and community benefits.

There are 32 ecosystem health actions in the Plan and these were prioritised as follows:



Progress against the ecosystem health actions is as follows:



Key achievements for the ecosystem health theme include

✓	<p>Protecting greenfields areas by restricting new port development to within existing port limits</p> <p>In November 2015, the Queensland Government introduced the Sustainable Ports Development Act. Under the Act, no new ports are allowed in the World Heritage Area and port development is limited to within existing port limits. This action will contribute to our targets of ensuring there is no net loss to the extent of natural riparian wetlands and riparian vegetation, and that key direct human-related activities are managed to reduce cumulative impacts.</p>
✓	<p>Managing crown-of-thorns starfish outbreaks effectively</p> <p>Effective crown-of-thorns starfish outbreak management requires a holistic approach that matches short, medium and long-term management objectives and actions to the different phases of the crown-of-thorns starfish outbreak cycle. To meet this need the Great Barrier Reef Marine Park Authority has developed a crown-of-thorns starfish Management Strategy and Contingency Plan for implementation in partnership with the Queensland Government, tourism Industry and research community. Since September 2015, the control program has successfully protected coral cover on 21 priority reefs or 75 per cent of the coral habitat in the Cairns region where 50 per cent of tourism visitation to the Great Barrier Reef occurs. Reducing coral mortality from sources such as predation by crown-of-thorns starfish represents a feasible and cost-effective way to address cumulative impacts and support coral resilience.</p>
✓	<p>\$2 million co-investment to restore wetlands</p> <p>Greening Australia, in partnership with Birdlife Australia, WetlandCare Australia and Conservation Volunteers Australia, is partnering with the Reef Trust to deliver a project to restore and repair priority wetland areas along the Great Barrier Reef coast. The Australian Government has committed to providing \$2 million to match dollar-for-dollar funds raised by Greening Australia and its partners for the project. The project has commenced and will be delivered in close collaboration with natural resource management regions, landholders, Indigenous groups, science and community organisations. The project will restore priority coastal wetlands, helping to improve ecosystem connectivity between coastal and marine areas and the quality of water flowing into the Reef lagoon.</p>

SUMMARY OF PROGRESS—BIODIVERSITY



Biodiversity is not just a measure of how many species there are, but encompasses all natural variation—from genetic differences within one species to variations across habitat or a whole ecosystem. The Great Barrier Reef is one of the world’s most diverse and remarkable ecosystems, with a wide range of habitats and many thousands of different species recorded.

There are 25 biodiversity actions in the Plan and these were prioritised as follows:



Progress against biodiversity actions is as follows:



Key achievements for the biodiversity theme include

- ✓ **Establishing three new net-free fishing zones in Cairns, Mackay and Rockhampton**
 The Queensland Government introduced new regulations in November 2015 to establish three new net-free fishing zones. The zones will help to reduce net entanglement for species of conservation concern like turtles, dolphins and dugong in inshore areas.
- ✓ **Maintain and enhance a marine animal stranding response program**
 The Joint Field Management Program provides ongoing stranding response in line with the Queensland Marine Animals Stranding Policy. A Marine Animal Stranding Quick Response Guide was developed in collaboration with WWF, Sea Turtle Foundation, and the Cairns Turtle Rehabilitation Centre (amongst others) in 2015 with an on-line training package. The training package provides Queensland’s wildlife volunteers with support and guidance to enhance response times, giving stranded turtles a greater chance of survival.
- ✓ **Continued implementation of the Raine Island Recovery project**
 The Queensland Government, Great Barrier Reef Marine Park Authority, BHP Billiton, Traditional Owners and the Great Barrier Reef Foundation are collaborating on a five year, \$7.95 million project to protect and restore Raine Island’s critical habitat to ensure the future of key marine species including green turtles and seabirds. Major intervention works involving sand re-profiling trials were completed in 2015. The intervention works delivered an increase in nesting and hatchling production success. Adult mortality of green turtles on Raine Island has been reduced, and a further 400 metres of cliff top fencing has been installed to further reduce turtle mortality from cliff falls and entrapment. Protecting turtles at their key nesting sites is an important strategy to help us to improve the resilience of turtle populations and achieve our target of increasing overall turtle numbers. For more information visit: <https://www.ehp.qld.gov.au/wildlife/animals-az/green-turtles-raine-island.html>

SUMMARY OF PROGRESS—HERITAGE

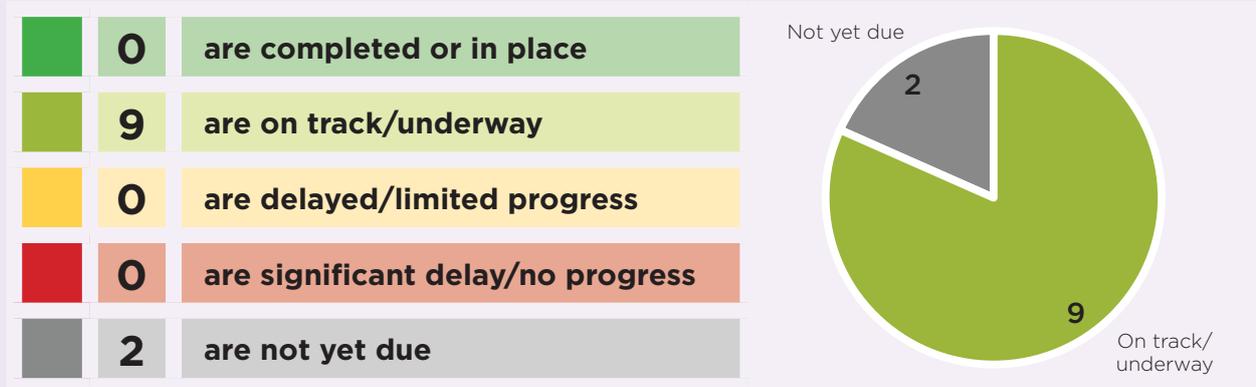


The heritage theme is focused on the cultural significance of the Reef, comprising all human values and meanings that might be recognised, including aesthetic, historic, scientific, social and spiritual. It encompasses Indigenous and non-Indigenous values, including both tangible heritage (such as places) and intangible heritage (such as experiences, traditions, historic events and stories). Protecting the Reef’s heritage will help ensure it can be enjoyed by future generations.

There are 11 heritage actions in the Plan and these were prioritised as follows:



Progress against the heritage theme is as follows:



Key achievements for the heritage theme include

✓	<p>Working with Traditional Owners to identify cultural heritage indicators</p> <p>Through Traditional Use of Marine Resources Agreement, Traditional Owners are participating in projects to develop cultural heritage indicators for their sea country. Indigenous rangers are locating and evaluating sites of cultural significance. The capturing of this information will ensure impacts on cultural heritage values is considered at all levels of decision making.</p>
✓	<p>Conservation Management Plans for Historic Shipwrecks</p> <p>The Great Barrier Reef Marine Park Authority and the Queensland Government Department of Environment and Heritage Protection have partnered to develop and implement conservation management plans for six key historic shipwrecks being the <i>Yongala</i> (1911), <i>Gothenburg</i> (1875), <i>Llewellyn</i> (1919), <i>Foam</i> (1893), HMCS <i>Mermaid</i> (1829) and HMS <i>Pandora</i> (1791). Research is being undertaken to make sure each conservation management plan is underpinned by the most up to date information on the state of the heritage values at each site. These plans will not only ensure heritage values are identified and documented, but also protected through a robust decision-making and planning processes for generations to come.</p>
✓	<p>Promotion of Great Barrier Reef maritime heritage values</p> <p>To ensure the ongoing protection and conservation of maritime heritage values, it is important to ensure decision makers and the community understand the important role these values play in contributing to the Reef’s Outstanding Universal Value. A total of 28 marine park managers and university students have participated in maritime archaeology course delivered by the Queensland Government Department of Environment and Heritage Protection and the Great Barrier Reef Marine Park Authority, and with the support of the Museum of Tropical Queensland. The course provided training on archaeological principles and science, archaeological surveying and search techniques specific to historic shipwrecks and maritime cultural heritage management practices.</p>

SUMMARY OF PROGRESS—WATER QUALITY

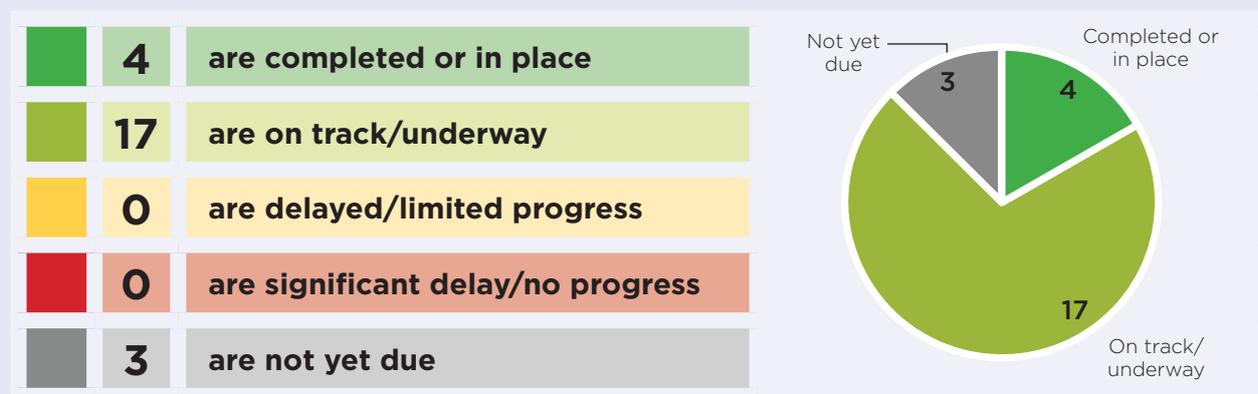


The Great Barrier Reef receives runoff from 35 river catchments. Improving the quality of water entering the World Heritage Area is pivotal to building the health and resilience of the Reef.

There are 24 water quality actions in the Plan and these were prioritised as follows:



Progress against water quality actions is as follows:



Key achievements for the water quality theme include

✓	<p>Reducing the impacts of ports and dredging on water quality</p> <p>The Great Barrier Reef Marine Park Authority and Queensland governments have put in place complementary legislation to reduce impacts of ports and dredging. The sea-based disposal of capital dredge material is banned from the World Heritage Area, and major capital dredging is prohibited outside of the four priority ports of Gladstone, Abbot Point, Townsville and Hay Point/Mackay. Further port development is also restricted, with no new ports in the World Heritage Area allowed and development at existing ports restricted to within current port limits.</p>
✓	<p>Outcomes of the Great Barrier Reef Water Science Taskforce</p> <p>In May 2016, the Taskforce submitted its final report to the Queensland Government on how to deliver substantial Reef water quality improvements. The final report made ten recommendations including enhanced communication, increased levels of agricultural extension and education, expanded monitoring, financial and other incentives, staged and targeted regulations, and implementing two major integrated projects in pollutant 'hot spot' areas. For more information visit: http://www.gbr.qld.gov.au/taskforce/final-report/</p>
✓	<p>Expansion of Regional Report Card partnerships</p> <p>Regional waterway health partnerships are made up of local industry, community and government stakeholders. They produce annual waterway health report cards that provide locally relevant information to communities and managers providing a clearer link between local activities and Reef health. Report card partnerships continue to expand and key achievements include: the Fitzroy Partnership for River Health released its fifth annual report card; the Gladstone Healthy Harbour Partnership released its first full annual report card; the Mackay-Whitsunday Healthy Rivers to Reef Partnership released its pilot report card; and the Wet Tropics Healthy Waterways Partnership was formed and officially launched.</p>

SUMMARY OF PROGRESS—COMMUNITY BENEFITS



The Great Barrier Reef plays an important role in community life. Local residents and visitors from Australia and around the world are drawn to the Reef for its exceptional natural beauty. Many people have strong connections with the Reef through culture, occupation or familiarity.

There are 20 community benefits actions in the Plan and these were prioritised as follows:

2 were allocated as **already prioritised**

3 were allocated as **medium priority**

6 were allocated as **immediate priority**

9 were allocated as **future priority**

Progress against community benefits actions is as follows:



Key achievements for the community benefits theme include

- ✓ **Ensuring impact from coastal hazards are avoided or mitigated**

Queensland Parliament has passed the new Planning Act 2016 and associated legislation, establishing ecological sustainability as a core principle. The new legislation will commence in 2017. The legislative changes include reinstatement of coastal land surrender provisions under the *Coastal Protection and Management Act 1995* to ensure areas at high risk of coastal erosion are maintained as development free. The aim is to ensure new coastal development keeps communities safe from coastal hazards and that the coastal environment is protected.
- ✓ **Continuing activities under the Reef Guardian program**

The Great Barrier Reef Marine Park Authority Reef Guardian program encourages community involvement and positive behaviours that benefit the Reef. This year the program provided schools with updated educational resources and grants to boost school projects that address threats to the Reef, such as drain stencilling, tree planting, water sampling and beach clean-ups. The Reef Guardian Fishers program was expanded to include participants from reef line, net, trawl and aquarium fisheries. See: https://www.youtube.com/watch?v=xOHT-V7RK_8
- ✓ **Undertaking community programs to reduce marine debris**

Volunteers removed 30 tonnes of rubbish from across the Reef catchment, islands, creeks and beaches as part of the Great Barrier Reef clean-up project. The project was led by the Great Barrier Reef Marine Park Authority in partnership with the Australian Marine Debris Initiative, Taronga Blue Foundation and Eco Barge Clean Seas Inc. This project not only supported ecosystem health by reducing marine debris but also fostered community stewardship and raised awareness on ways to minimise marine debris. See: <http://www.gbrmpa.gov.au/managing-thereef/threats-to-the-reef/marine-debris>

Delayed action is 'CBA5: Ensure community benefits derived from the Reef are considered in local and State-level planning instruments and development and management decisions'. Initial engagement with state agencies to identify issues as part of an overall review of the State Planning Policy has occurred. The review will commence in 2017.

SUMMARY OF PROGRESS—ECONOMIC BENEFITS

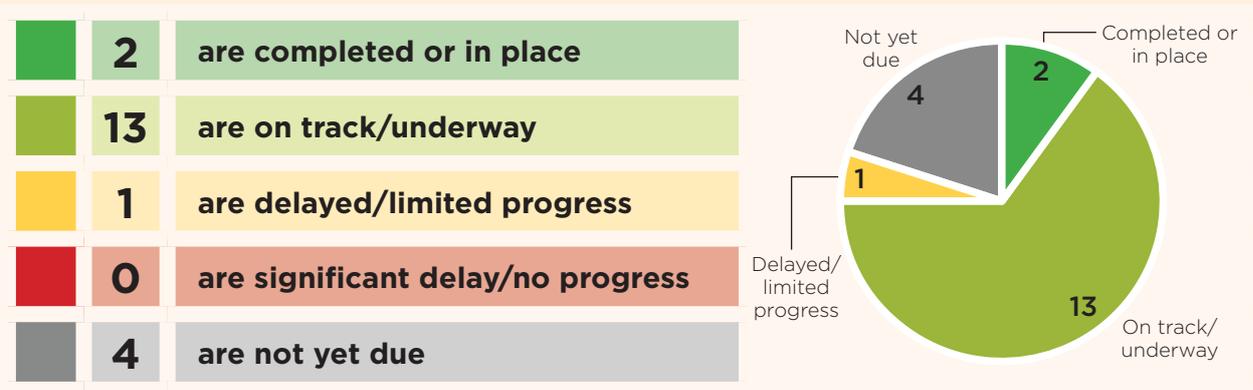


The Great Barrier Reef is a critical economic asset, providing income and jobs for the community. The economic benefits theme focuses on improving and maintaining the ecological, social and economic sustainability of Reef-dependent and Reef-associated industries. The theme recognises that a partnership involving regional and Indigenous communities, government and industry can ensure that development pressures are addressed in an effective and positive way.

There are 20 economic benefits actions in the Plan and these were prioritised as follows:



Progress against economic benefits actions is as follows:



Key achievements for the economic benefits theme include

✓	<p>Development of the Queensland Ecotourism Plan 2015–2020</p> <p>The draft Queensland Ecotourism Plan 2015–2020 provides the framework for building a thriving ecotourism industry and delivering new ecotourism experiences in Queensland’s spectacular national and marine parks and other natural areas.</p> <p>The plan outlines the government’s commitment to foster ecotourism opportunities that support the sustainable growth of the ecotourism industry, provide a positive contribution back to Queensland’s natural environment, culture and community, and strengthen the economy. The Plan is on track to be released in 2016.</p>
✓	<p>Development of a guideline for priority ports master planning</p> <p>A draft guideline for priority port master planning was released for public consultation in February 2016. The guideline will optimise infrastructure and consider operational, economic, environmental and social relationships as well as supply chains and surrounding land issues. The guideline will improve management of cumulative impacts on the Reef to ensure a net environmental benefit approach for the Reef.</p>

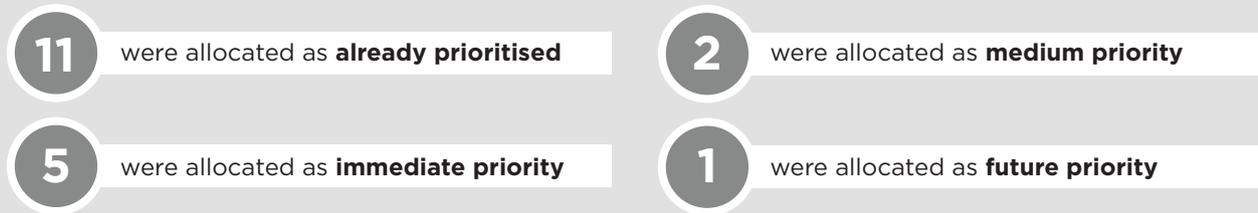
Delayed action is ‘EBA8: fully vet 100 per cent of bulk carriers traversing the Great Barrier Reef to an appropriate standard by and independent industry endorsed ship-vetting provider’. This action is contingent on progression of another shipping related action, which is underway (EBA7 to consider development of a new vessel class which ensures bulk goods carriers travelling in the World Heritage Area meet stringent safety standards).

SUMMARY OF PROGRESS—GOVERNANCE

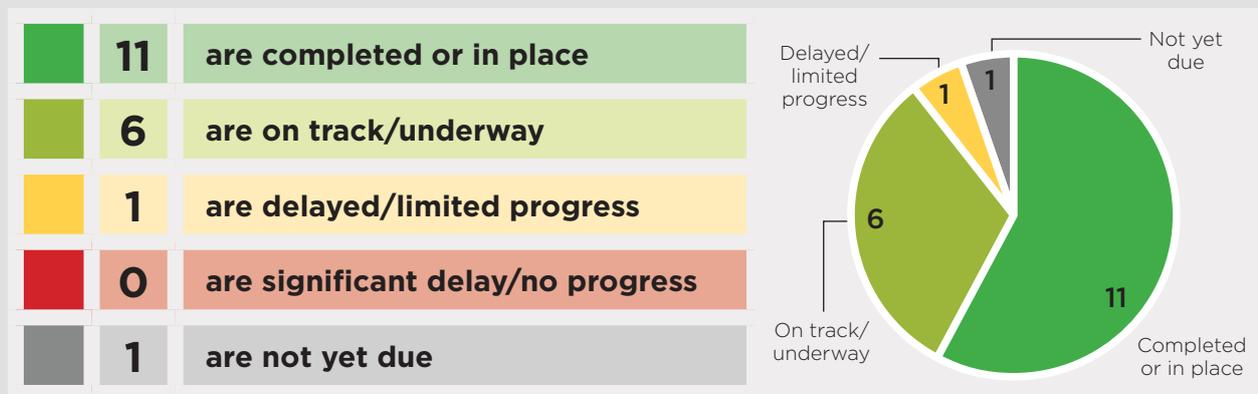


The governance theme refers to formal arrangements to guide implementation of the Reef 2050 Plan. Transparency, ownership, accountability, responsiveness and strong involvement of Traditional Owners, industry, researchers and the community can all be promoted through good governance.

There are 19 governance actions in the Plan and these were prioritised as follows:



Progress against governance actions is as follows:



Key achievements for the governance theme include

✓	<p>Engaging with science, industry and community</p> <p>Through the establishment of the Independent Expert Panel, the Reef 2050 Advisory Committee and the Reef 2050 Integrated Monitoring and Reporting Program Steering Group, we have put in place three key structures to facilitate engagement with science, industry and community under the Australian and Queensland government Great Barrier Reef Ministerial Forum. These groups provide independent advice to government and help to guide implementation of the Plan in a way that considers the best available science and the needs of community and industry.</p>
✓	<p>Embedding the Reef 2050 Plan into the Queensland and Australian governments' Intergovernmental Agreement</p> <p>The Reef 2050 Plan is now a schedule to the Great Barrier Reef Intergovernmental Agreement, and the Great Barrier Reef Ministerial Forum is responsible for the successful implementation of the Plan. This further strengthens cross jurisdictional support and responsibility for the Plan, with the Agreement signed by the Australian Prime Minister and Queensland Premier.</p>
✓	<p>Released the Reef 2050 policy guideline for decision makers</p> <p>This policy guideline helps people delivering strategies, plans, programs and partnerships that affect the Reef to work out how they can best align with and support the Reef 2050 Plan objectives. It was developed in collaboration with stakeholder groups through a targeted and public consultation process. The guideline will help to ensure that the vision, outcomes, objectives and targets of the Reef 2050 Plan are taken into account in relevant regulation, documents, policies and strategies across all levels of government.</p>

Delayed action is GA79 (b) which entails creating a Great Barrier Reef Plan Register with all management plans recorded to simplify understanding of management arrangements. Work has commenced on the project, but due to competing priorities the revised completion date is December 2016.

NEXT STEPS

The UNESCO World Heritage Committee has requested that Australia submit to the World Heritage Centre by 1 December 2016 an update on progress with implementation of the Reef 2050 Plan, to confirm that inception of the Plan has been effective. This progress report will be publicly available. Following this, annual reports and implementation strategies will be released annually, mid-year.

Adaptive management and future evaluation

In the context of the World Heritage Area, adaptive management means adjusting management practice in response to emerging issues, and monitoring the effectiveness of management actions to achieve targets.

This requires an up-to-date and comprehensive understanding of the condition and trend of the Reef's values together with the drivers, pressures and activities that may be affecting them. Effective adaptive management must be forward looking and take into consideration new and emerging information. It also requires risk analysis.

The Reef 2050 Integrated Monitoring and Reporting Program will ensure coordinated and unified monitoring, modelling and reporting for the Reef and its adjacent catchment. This will help track the progress towards targets and objectives of the Reef 2050 Plan, under the plan's seven themes. This will be a key input to assessing the effectiveness of the Reef 2050 Plan and underpin the Reef 2050 Plan's adaptive management approach, evaluating whether actions are on track to achieving targets based on the International Union for Conservation of Nature (IUCN) management effectiveness cycle. To find more information about the Reef 2050 Integrated Monitoring and Reporting Program, please access the program strategy at <http://www.gbrmpa.gov.au/managing-the-reef/reef-2050/reef-integrated-monitoring-and-reporting-program>

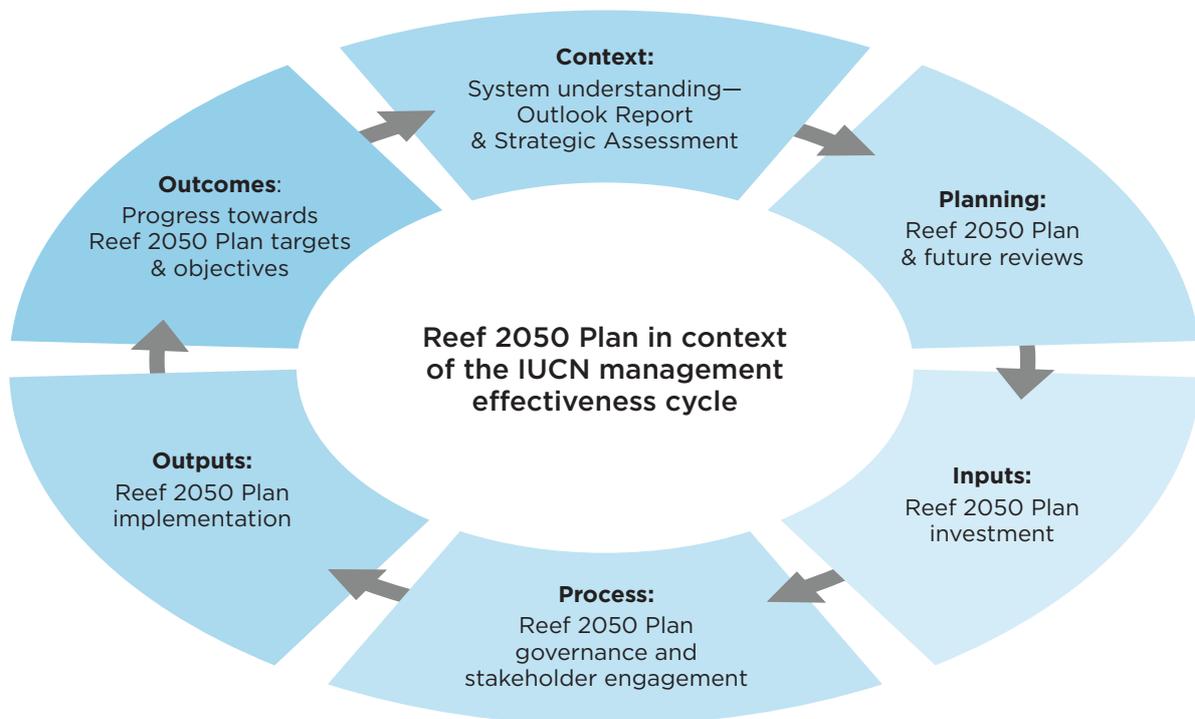
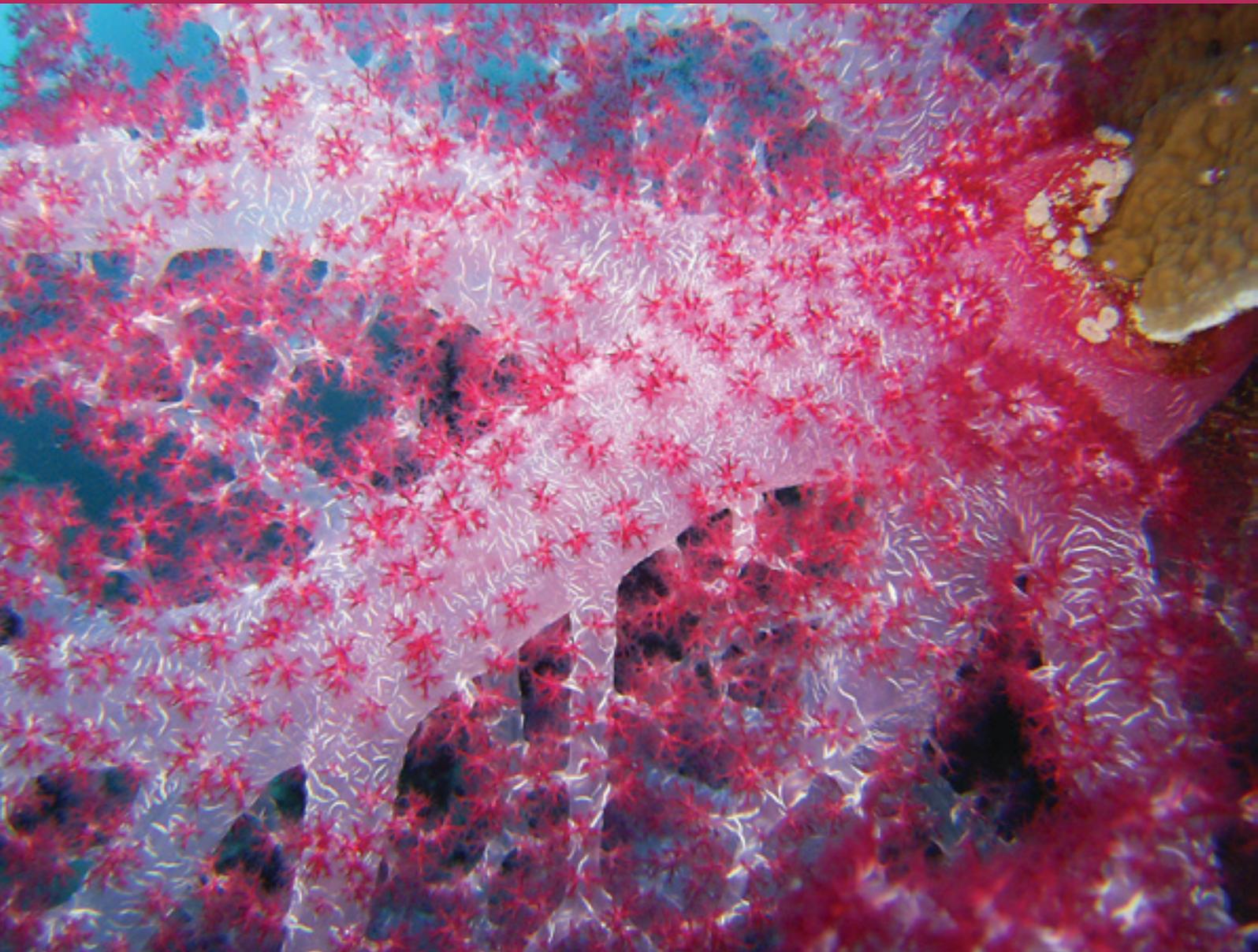


Figure 3: The adaptive management cycle for Reef 2050 Plan. Management adapts through each circuit of the cycle.



Soft corals. Photo: Cathy Zwick

Reef 2050 Plan

IMPLEMENTATION STRATEGY

EDITION 3
AUGUST 2016



INTRODUCTION AND PURPOSE

The Reef 2050 Plan requires an overarching implementation strategy to provide transparency and accountability in its implementation. The implementation strategy is a rolling document, and will be revised annually to capture new priority actions, and map the next year's implementation pathway.

The first implementation strategy was released in May 2015 and the second was released in December 2015. These documents provided an overview of governance arrangements, the Reef 2050 Integrated Monitoring and Reporting Program and priority actions.

This is the third edition of the implementation strategy. The purpose of this strategy is to outline priorities for implementation from mid-2016 to mid-2017. Six priority areas for implementation have been identified, drawing on advice from the Independent Expert Panel, Reef 2050 Advisory Committee and the Great Barrier Reef Ministerial Forum. The following section outlines the implementation pathways for those priorities. .



Figure 4: Key areas for implementation 2016/17

BUILDING PARTNERSHIPS

The Reef 2050 Plan integrates and guides actions by managing agencies, Traditional Owners, industry, resource users, researchers and the community. Successful implementation of the Plan relies on ongoing open and productive partnerships between all parties, building on the partnerships already in place and forging new ones.

As we implement the Reef 2050 Plan, we will continue to deliver the actions with a focus on partnerships and collaboration by:

- building the capacity of partners and stakeholders
- assisting partners and stakeholders to work together to deliver actions
- ensuring ongoing communication and engagement with partners across sectors.



Yellow Feather Coral. Photo: Commonwealth of Australia (GBRMPA)

KEY AREAS FOR IMPLEMENTATION

Traditional Owner priorities

An Indigenous Implementation Plan has been developed to support and guide implementation of the Traditional Owner-led actions in the Reef 2050 Plan. Drawing on broad consultation with Traditional Owners, it identifies three key areas to focus on as priorities for implementation:

1. Coordination—establishment of a coordination unit to broker discussions and partnerships between Traditional Owners and interest groups.
2. Cultural Heritage—work within existing mechanisms and the Reef 2050 Integrated Monitoring and Reporting Program to improve knowledge retention and data management of cultural heritage information and traditional knowledge.
3. Business Capacity—recognising that the capacity of Traditional Owners is variable across the Reef region, foster business capacity for Traditional Owner groups. This may be supported through developing and delivering information resources and training, mapping opportunities for business ventures, partnering people with opportunities etc.

The implementation of this plan, including consideration of how government can support implementation of these priorities, will be undertaken in 2016/17.

Science and monitoring

Development of the Integrated Monitoring and Reporting Program will continue to be a focus, with development of indicators, databases for storing information and reporting products as key pieces of work. Priority will also be given to integrating existing programs and filling critical information gaps. The design phase is expected to be completed by the end of 2017.

Supporting science and monitoring will continue to be a focus in 2016/17 with a number of specific activities being undertaken. The Australian Government has committed to invest an additional \$400,000 for emerging science and community partnerships. Identifying priorities and delivery mechanisms for this funding will be examined over the coming year.

The Queensland Government, through Advance Queensland Small Business Innovation Research program, has released an innovation challenge to encourage the development of cheaper water quality monitoring equipment. This will allow for greater coverage of reef catchments and provide more real time information to farmers.

Work to respond to the coral bleaching event will continue, with additional monitoring to take place in October. The Australian Government is providing financial and logistical support for new research into coral bleaching events impacting the Reef and ongoing research surveys.

Planning and policies

The Great Barrier Reef Marine Park Authority is leading the development of policies and guidelines on cumulative impacts, net benefits and offsets.. The policies are being drafted as unified Reef 2050 Plan policy documents with the intent that they will be adopted as policies of the Australian and Queensland governments.

The Great Barrier Reef Marine Park Authority is planning to publicly consult on draft policies in the last half of 2016. Once finalised, staged implementation will occur through the management and legislative tools of individual agencies.

Water quality

The 2013 Reef Water Quality Protection Plan (RWQPP) will be reviewed by June 2017 in collaboration with stakeholders through the RWQPP Partnership Committee. This has been brought forward by one year to enable better integration with the Reef 2050 Plan water quality theme and the recommendations of the Great Barrier Reef Water Science Taskforce. Earlier versions of the RWQPP have focused on impacts from broad-scale land use and the next Reef Water Quality Protection Plan will broaden its scope to cover all land based sources of water pollution. It will become a nested plan under the Reef 2050 water quality theme. The review of the RWQPP will include an update to the Scientific Consensus Statement and Risk Assessment and the development of 35 basin targets which will support improved prioritisation of activity.

Program planning has commenced on the implementation of the Taskforce recommendations. Implementation of all 10 recommendations will commence with investment of approximately \$22 million in 2016-17. This will include boosting investment in extension, monitoring, communication and innovation, as well as implementing two major integrated projects in pollutant hotspot areas, to evaluate the most effective combination of tools to inform the design of future projects. This investment is in addition to Queensland's ongoing \$35 million annual investment in water quality.

Regional report card partnerships will continue to be strengthened:

- the Mackay-Whitsunday Healthy Rivers to Reef Partnership will release its first annual report card
- the Wet Tropics Healthy Waterways Partnership will release its pilot report card
- a new partnership will be established in the Burdekin catchment.

The next phase of Reef Trust investments (Phase IV) has been developed, with the Australian and Queensland governments collaborating to test new approaches and identify further innovative, cost-effective programs to address the key threats to the Reef. The fourth phase focuses on reducing sediment and nutrients and builds on previous Australian Government investment through committing further funding to combat crown-of-thorns starfish on ecologically important reefs. Further phases of the Reef Trust will be developed, guided by advice of the Reef 2050 Independent Expert Panel. The Reef Trust is aiming to pilot an innovative financing mechanism that supports tangible environmental outcomes through the next phase of investment.

On ground management

The Australian and Queensland governments will continue to deliver its world class marine park management program, utilising the best available knowledge to inform management decisions, deliver effective and efficient environmental regulation, and ensure strong engagement across public and private sectors. The top priority is to build the Reef's resilience in the face of climate change by using all available means and through working closely with our partners.

To immediately alleviate pressures on the Great Barrier Reef, governments will continue to regulate and enforce the joint zoning and spatial planning arrangements in place within the Great Barrier Reef Marine Park and adjacent Great Barrier Reef Coast Marine Park. This system of spatial planning and management is the key management tool to protecting the Reef's biodiversity and ecosystem health, while providing for ecologically sustainable use. A number of Australian and Queensland agencies will continue to participate in the compliance and surveillance program for the World Heritage Area to ensure zoning arrangements are upheld and to deter illegal activity. Given the global threat posed by climate change, the zoning network provides the foundations of a critical and cost-effective way to enhance the resilience of the Great Barrier Reef ecosystem.

The joint Field Management Program will continue to deliver field operations for the monitoring and protection of Commonwealth and Queensland marine parks, Commonwealth islands and island national parks within the Great Barrier Reef World Heritage Area. The program's field work contributes to the ecological resilience of the World Heritage Area, with a focus on those key threats arising in relation to direct uses. The new \$6 million vessel, the 'Southern Reef Ranger', will expand capacity to deliver the program and is expected to come online in 2017. A periodic review of the Joint Field Management Program is also underway and will be finalised in the first half of 2017. The review, to be prepared by the Great Barrier Reef Marine Park Authority in conjunction with the Queensland Government Department of Premier and Cabinet, will include a focus on resources, investments and arrangements needed for field management, particularly in delivering Reef 2050 Plan actions.

Work to cull the coral-eating crown-of-thorns starfish is a key initiative to protect coral cover and boost Reef resilience, particularly on reefs identified as having high conservation and tourism values and will continue in 2016/17. The Great Barrier Reef Marine Park Authority will continue to partner with the tourism industry and researchers to deliver a holistic response to manage this pest species, including through direct culling and research to improve control method efficiency. The addition of a second culling vessel and further commitment of \$6 million from Reef Trust, announced earlier this year, will provide capacity to strategically manage all high value conservation and high value tourism reefs offshore Cairns and Port Douglas, and to commence culling at reefs offshore Innisfail as the outbreak moves south.

Investment

Finalisation of the investment framework is a priority for 2016. The framework will guide future investment decisions across the Australian and Queensland governments and their partners, ensuring investment is aligned with existing efforts to deliver on the Reef 2050 Plan's targets and outcomes.

The framework will highlight investment gaps and, drawing on advice from the Independent Expert Panel and Reef 2050 Advisory Committee, outline priority areas where additional funding can most effectively be directed. Importantly, the framework will detail a strategy to diversify funding sources and generate further funding. The investment framework will be finalised in November 2016. Mechanisms to pool funding and further leverage private investment are being explored.

The Queensland Government, as part of the roll out of additional funding for water quality, will work with the corporate and philanthropic sector to build partnerships and leverage funding and will also look for opportunities to co-fund projects through Reef Trust. To support this, the Queensland Government announced that it would provide \$3 million over the next three years to the Great Barrier Reef Foundation for water quality projects if it was matched dollar for dollar.

The Australian and Queensland governments are investigating a number of different models to finance Reef investment. The Australian Government has announced a \$1 billion Reef Fund that will mobilise investment finance to tackle climate change and improve water quality. The Reef Fund will be managed by the Clean Energy Finance Corporation and will provide finance to projects located in the Great Barrier Reef catchment region. Development of this program along with other innovative financial mechanisms will be a priority for the coming year.

Comprehensive Status Report of Reef 2050 Plan Actions

An addendum to the annual report and implementation strategy is provided as a separate document. The addendum includes a comprehensive status report of all 151 actions within the Reef 2050 Plan. You can download the addendum at the following link:

www.environment.gov.au/reef2050-progress



Grey reef shark. Photo: Commonwealth of Australia (GBRMPA)

