



Australian Government

STATE PARTY REPORT ON THE

state of conservation for Australia's Great Barrier Reef



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Cover:

Left: Colourful reef fish swim amongst Acropora corals on Wheeler Reef: © Commonwealth of Australia (GBRMPA) Photograph: A Chinn **Right:** Green sea turtle hatchlings at North-West Island: © The State of Queensland.

STATE PARTY REPORT ON THE
state of conservation for
Australia's Great Barrier Reef

PROPERTY ID N154

In response to World Heritage Committee Decision 44 COM 7B.90
1 February 2022



heritage natural

Left: Purple and orange Scalefin Anthias fish swarm the tops of the unique pinnacles found on The Ribbon Reefs (females are orange and the males are purple): © Commonwealth of Australia (GBRMPA) Photograph: J Summerling **Right:** The Reef Joint Field Management Program team gathers coral rubble to assemble Reef Bags in a trial to improve stability for coral substrates at Bait Reef in the Whitsundays Project Reefrefresh: © Commonwealth of Australia (GBRMPA) Photograph: Bridget Ferguson

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EXECUTIVE SUMMARY (ENGLISH)

Australia is deeply committed to the responsible stewardship of the Great Barrier Reef World Heritage Area and continues to act and invest to protect its Outstanding Universal Value and strengthen its resilience. The Australian Government's announcement, on 28 January 2022, of an additional \$1 billion for protection and management of the Reef extends our commitments to 2030.

We acknowledge that climate change is the biggest threat to all tropical reefs world-wide, including the Great Barrier Reef, and we are committed to working in partnership with the World Heritage Centre and the International Union for Conservation of Nature to ensure that our strategies and actions to protect the Reef remain world leading. As a party to the United Nations Framework Convention on Climate Change and the Paris Agreement, Australia is working with the international community to keep the goal of limiting global warming to 1.5 degrees within reach. Australia shares the target of net zero emissions by 2050 with many other nations, and we have a clear action plan to meet our targets and support rapid uptake of low emissions technologies at a global scale.

Over the past 3 years Australia has made significant progress in Reef protection efforts. We have released an update to our 35-year Reef 2050 Long-Term Sustainability Plan which fully incorporates the findings of the 2019 Outlook Report. We have also met or exceeded our water quality targets for several Reef catchments and increased total investment in the Reef to more than \$4 billion to 2030.

The Reef 2050 Plan is the most comprehensive program of corrective measures ever to be developed and implemented for a World Heritage property. Limiting and adapting to the impacts of climate change is now integrated as a core element of the Plan. There are 3 new goals embedded within it: to respond to climate change through the Paris Agreement, to increase the capacity of Reef communities, Traditional Owners, and industries to adapt to a changing climate, and to support species and habitats to adapt to a changing climate.

We are accelerating efforts to improve water quality, with significant new investment and strengthened regulations since the 2019 State Party Report. The next 5-yearly update of the Reef 2050 Water Quality Improvement Plan will be completed in 2023 (the fourth update since 2003), underpinned by an updated independent Scientific Consensus Statement (the fourth update since 2002) to ensure we continue to adapt our management in response to new information. We are addressing all threats to the Reef: climate change, water quality, impacts of fishing, marine plastic pollution, and Crown-of-Thorns Starfish, and we are boosting our efforts to rehabilitate and restore key habitats to support threatened species.

The Outstanding Universal Value of the Reef remains intact across all 4 natural World Heritage criteria for which it was inscribed on the World Heritage List. The Australian and Queensland governments are committed to investing the time, effort and resources required to sustain the Outstanding Universal Value of the Great Barrier Reef World Heritage Area into the future.



RÉSUMÉ (FRENCH)

L'Australie est profondément engagée dans une intendance responsable du site du patrimoine mondial de La Grande Barrière et elle continue d'agir et d'investir pour protéger sa valeur universelle exceptionnelle et renforcer sa résilience. L'annonce par le gouvernement de l'Australie, le 28 janvier 2022, d'un milliard de dollars pour la protection et la gestion de la Grande Barrière, prolonge nos engagements jusqu'en 2030.

Nous reconnaissons que le changement climatique est la plus grande menace qui pèse sur toutes les barrières de corail tropicales du monde entier, y compris sur la Grande Barrière de corail, et nous nous engageons à travailler en partenariat avec le Centre du patrimoine mondial et l'Union internationale pour la conservation de la nature afin de garantir que nos stratégies et mesures de protection de la Grande Barrière de corail restent les meilleures du monde. En tant que partie à la Convention-cadre des Nations unies sur les changements climatiques et à l'Accord de Paris, l'Australie œuvre avec la communauté internationale dans l'atteinte de l'objectif visant à limiter le réchauffement climatique à 1,5 degré. Tout comme de nombreuses autres nations, l'Australie adhère à l'objectif zéro émission nette d'ici 2050 et nous disposons d'un plan d'action clair pour atteindre nos objectifs et encourager l'adoption rapide, à l'échelle mondiale, de technologies à faible émission de carbone.

Au cours des trois dernières années, l'Australie a considérablement progressé dans ses efforts de protection de la Grande Barrière de corail. Nous avons publié une mise à jour de notre Plan de durabilité à long terme Reef 2050 sur 35 ans qui intègre pleinement les résultats du Rapport sur les perspectives de 2019. Nous avons également rempli ou dépassé nos objectifs en matière de qualité de l'eau pour plusieurs bassins versants de la Grande Barrière de corail et avons accru l'investissement total dans la Grande Barrière de corail à plus de 4 milliards de dollars supplémentaires.

Le Plan de durabilité à long terme Reef 2050 est le programme le plus complet de mesures correctives jamais élaboré et mis en place pour un bien du Patrimoine mondial. Des mesures de limitation des impacts du changement climatique et d'adaptation à ceux-ci sont désormais intégrées en tant qu'élément central du Plan. Trois nouveaux objectifs ont été intégrés à ce Plan: faire face au changement climatique via l'Accord de Paris, renforcer la capacité des communautés, propriétaires traditionnels et industries de la Grande Barrière de corail à s'adapter au changement climatique ainsi qu'aider les espèces et les habitats à s'y adapter.

Nous accélérons nos efforts d'amélioration de la qualité de l'eau, avec de nouveaux investissements importants et un renforcement de la réglementation depuis le Rapport d'État partie de 2019. La prochaine mise à jour quinquennale du Plan d'amélioration de la qualité des eaux Reef 2050 sera terminée en 2023 (la quatrième mise à jour depuis 2003), étayée par une nouvelle Déclaration de consensus scientifique indépendante (la quatrième mise à jour depuis 2002) pour garantir que nous continuons d'adapter notre gestion en réponse aux nouvelles informations. Nous faisons face à toutes les menaces qui pèsent sur la Grande Barrière de corail : changement climatique, qualité de l'eau, impacts de la pêche, pollution plastique en mer et Couronnes d'épines, et nous redoublons d'efforts pour réhabiliter et restaurer les principaux habitats afin de venir en aide aux espèces menacées.

La valeur universelle exceptionnelle de la Grande Barrière de corail reste intacte au regard des quatre critères naturels du Patrimoine mondial auxquels elle a satisfait pour figurer sur la Liste du patrimoine mondial. Les gouvernements de l'Australie et de l'État du Queensland se sont engagés à investir le temps, les efforts et les ressources nécessaires pour maintenir, à l'avenir, la valeur universelle exceptionnelle du site du patrimoine mondial de la Grande Barrière.

3 Introduction

This State Party Report (the Report) provides an update on the state of conservation of the Great Barrier Reef World Heritage Area in response to World Heritage Committee Decision 44COM 7B.90.

Since the Reef's inscription to the World Heritage List in 1981, the Australian Government has ensured that advice and recommendations from the World Heritage Committee are incorporated into the property's planning framework. The Committee has previously considered 16 State of Conservation Reports and 5 State Party Reports on the Reef, submitted by the Australian Government.

This Report demonstrates that the Outstanding Universal Value (OUV) of the Reef is intact across all 4 natural World Heritage criteria for which it was inscribed on the World Heritage List. Incorporating the most recent information on the state of the Reef and Australia's progress in responding to the findings of the [Great Barrier Reef Outlook Report - 2019 \(2019 Outlook Report\)](#). The Report highlights improvements across several key attributes since the 2019 State Party Report and the management and conservation actions that have maintained the underlying resilience and integrity of the Reef.

The Report outlines the actions the Australian and Queensland governments have taken in the past 3 years to implement the [Reef 2050 Long-Term Sustainability Plan](#) (Reef 2050 Plan), in partnership with landholders, Traditional Owners, Reef scientists and industry groups. The Australian and Queensland governments have invested more than \$4 billion to 2030 and we are committed to accelerating this progress.

Since the 2019 Outlook Report, Australia has made the following progress:

- The **first comprehensive review of the Reef 2050 Plan** has been completed, with an updated plan released on 20 December 2021. It focuses strategically on the key threats facing the Reef - climate change, land-based run-off, coastal development and aspects of human use of the Reef. The Reef 2050 Plan is the most comprehensive **program of corrective measures** ever developed and implemented for any World Heritage property.
- An **unprecedented \$1 billion** package, announced 28 January 2022, to support delivery of the updated Reef 2050 Plan, through to 2030. This represents the largest single investment in the Reef in Australia's history. The package includes:
 - **\$579.9 million to improve Reef water quality**, through measures such as gully remediation and improvements in agricultural practices.
 - **\$252.9 million for continued world-leading Reef management**, including removal of Crown-of-Thorns Starfish and protection of at-risk species.
 - **\$92.7 million in further funding for the Reef Restoration and Adaptation Program**, which is developing a suite of interventions to help the Reef resist, adapt to, and recover from climate change.
 - **\$74.4 million for community and Traditional Owner-led** partnership projects.



Left: Wuthathi Rangers working together on a fencing project: © Wuthathi Aboriginal Corporation Source: GBRF **Right:** Installation of nitrate sensor under Water Quality innovation project: IntelliDesign Source: GBRF

- To reduce emissions and help limit the impact of climate change on the Reef, Australia is leading in areas of low emissions technology. We have deployed new renewable energy nearly 8 times faster per capita than the global average for new renewable energy installations in 2020, and today, more than 90% of solar cells globally use Australian technology. We aim to replicate this success with our next generation of low emissions technologies, with Australia's Technology Investment Roadmap to guide over \$21 billion of investments in low emissions technologies over the decade to 2030 which is expected to unlock a further \$84 billion in private and public investment. Australia has committed to a target of net zero emissions by 2050 with the Technology Investment Roadmap the cornerstone to achieving this. Most projects show that Australia will overachieve on its 2030 emissions reduction commitment under the Paris Agreement and is on track to achieve a 30–35% reduction on 2005 levels by 2030.¹
- The [Australian Institute of Marine Science's Long-Term monitoring program](#) that has monitored the Reef for over 35 years, has shown in its latest snapshot in 2021 that **hard coral cover increased over the last 2 years**, demonstrating the Reef's resilience and ability to recover after disturbances.
- As part of the Reef Restoration and Adaptation Program, the **2021 coral spawning event saw critical scaling milestones reached** with 10 million coral larvae delivered via coral IVF across 4 reef locations, and juvenile colonies planted in 2016 spawning for the first time.
- **Water quality targets have been met or exceeded** for several Reef catchments, in addition:
 - We are almost halfway towards meeting the 2025 Reef-wide dissolved inorganic nitrogen target.
 - We are over halfway to meeting the 2025 Reef-wide fine sediment target.

- The Queensland Government's Reef protection regulations have been **strengthened**, to improve the quality of water flowing into the Reef through enhanced agricultural standards.
- Compliance activities to monitor and actions to regulate human uses of the World Heritage Area have been expanded, including increasing staff by more than 60%.
- Over \$190 million has been pledged since 2019 by philanthropists and corporate partners to leverage the Australian Government's Reef Trust Partnership grant to accelerate conservation efforts for the Great Barrier Reef.
- Half of the over 70 Traditional Owner clan groups with a connection to the Great Barrier Reef are now actively engaged in on-ground sea country management, reef protection and monitoring activities.

3.1 Response to the Decision of the World Heritage Committee

This State Party Report addresses World Heritage Committee Decision 44COM 7B.90 as follows:

- **Section 4:** Current state of the Great Barrier Reef World Heritage Area
- **Section 5:** The Reef 2050 Long-Term Sustainability Plan
- **Section 6:** Improvements in Reef water quality
- **Section 7:** Addressing the impacts of a changing climate

In addition, Section 8 provides an overview of other conservation efforts to protect the OUV of the Reef.

¹ For example, Australia's [Long-term Emissions Reduction Plan](#) notes that 90% of commercial solar cells globally use Australian technology, over 1 in 4 Australian homes have solar panels (the world's highest uptake) and Australia has adopted low emissions technology 8 times faster than the global average for new renewable energy installations in 2020.

4 Current state of the Great Barrier Reef World Heritage Area

44 COM 7B.90 Paragraph 4:

Notes with the utmost concern and regret the conclusions of the 2019 Great Barrier Reef Outlook Report (2019 GBR Outlook Report) that the long-term outlook for the ecosystem of the property has further deteriorated from poor to very poor, **that the deterioration of the ecological processes underpinning the Outstanding Universal Value (OUV) of the property has been more rapid and widespread than was previously evident**, and that the property has suffered significantly from mass coral bleaching events in 2016, 2017 and 2020.

The Great Barrier Reef World Heritage Area comprises a large network of habitats, including coral reefs, seagrass beds, mangroves, islands, sponge gardens and deep oceanic areas. The Retrospective Statement of Outstanding Universal Value of the Great Barrier Reef World Heritage Area refers to 38 attributes which make up its OUV.

As an extremely large property - over 348,000 km² or approximately the same area as Germany - the condition of the Reef's attributes can vary across regions and locations. The attributes can recover if disturbance-free periods are long enough and action is taken to address local and regional pressures, such as poor water quality and Crown-Of-Thorns Starfish. This is the basis for the targets and initiatives set out in the Reef 2050 Plan, along with the over \$4 billion in investment made by the Australian and Queensland governments to date, to support the Reef's OUV.

4.1 The 2019 Great Barrier Reef Outlook Report

Every 5 years, the Great Barrier Reef Marine Park Authority publishes an Outlook Report, as required under the *Great Barrier Reef Marine Park Act 1975* (Cth). Each Outlook Report assigns a 'grade' for the natural heritage values that constitute the Reef's overall OUV and a 'trend' for each value since the previous Report. This is not an assessment of the Reef ecosystem's current status, or a definitive forecast of its future condition, but a view of its long-term outlook if there is no further management action, particularly global action to reduce greenhouse gas emissions.

The Outlook Report also makes an assessment of the long-term outlook for the Reef's ecosystem. In 2019, this was downgraded from 'poor' to 'very poor', strongly driven by trends in global greenhouse gas emissions and forecasts of climate change.

Outlook Reports are used by the Australian and Queensland governments to gauge the effectiveness of current management and protection measures in the Reef and adjacent catchments. They guide and inform adaptive management strategies in accordance with the IUCN Protected Area Management Effectiveness Framework.

The 2019 Outlook Report indicated that the Reef can recover from major impacts if its broader health is strong and disturbance-free periods are long enough.

The Great Barrier Reef Marine Park Authority will commence work in 2022 to develop the next 5-year Outlook Report, due for publication in 2024. This will involve an extensive data gathering process. Our world leading approach to adaptive management with this Outlook Report includes an independent assessment of the effectiveness of our management that will drive changes as required.

4.2 Improvements on key values since the 2019 Great Barrier Reef Outlook Report

The Reef has experienced a period of recovery since 2019 (AIMS 2021a). For important habitats, such as coral reefs, islands, mangroves, coastal wetlands and seagrasses, conditions have either improved or remained stable. Australian and Queensland government actions and investments have continued to reduce impacts on Reef species.

Coral heat stress and agricultural runoff were recorded as lower than previous years and there have been fewer impacts from cyclones (AIMS 2021a; Waterhouse et al., 2021).

Crown-of-Thorns Starfish are a continuing pressure in the central and southern regions of the Reef but are being addressed through an ongoing, strategically targeted culling program.

Table 1 presents an overview of updated information on key values since the 2019 Great Barrier Reef Outlook Report², along with information on related conservation actions.



The Reef Joint Field Management Program team working to restore sections of Bait Reef as part of Project Reefresh after it was hit by Cyclone Debbie: © Commonwealth of Australia (GBRMPA) Photograph: Bridget Ferguson

² The information featured in the 2019 Outlook Report is based on evidence derived from research and information sources for the reporting period, which was generally from January 2014 to December 2018.

Table 1 **Updates on key values since the 2019 Outlook Report**

Attribute	Updated information	Priority investments and conservation actions
Corals and Coral Reefs 2019 Outlook: Very poor Current Observations: Mid-offshore reefs recovering, inshore reefs showing fewer signs of recovery	The most recent Australian Institute of Marine Science's Long-Term Monitoring Program Annual Summary Report of Coral Reef Condition summarises the condition of 127 coral reefs based on surveys conducted between August 2020 and April 2021. Mid-Offshore reefs Monitoring results indicate that most of the mid-offshore reefs surveyed were found to be recovering, after a series of severe and widespread disturbances, hard coral cover has increased in the northern, central and southern areas of the Reef. Preliminary analyses have documented shifts in the dominant coral forms on some reefs in the northern and southern parts of the Reef. Inshore reefs Long-term monitoring of inshore coral reefs found they remained in an overall poor condition in mid-2020. However, there were signs of recovery, with both coral cover and juvenile colonies increasing, improving primarily in the northern regions of the Reef (Thompson et al 2021). In the Whitsunday Island region, affected by tropical Cyclone Debbie in 2017, coral condition remained in a poor state and had continued to decline due to persistence of competing macroalgae and chronic stress from high turbidity (Thompson et al 2021). The rate of decline has now slowed and scores for 4 of the 5 indicators have stabilised and begun to improve.	The Reef Restoration and Adaptation Program is aiming to deliver a toolkit of scalable coral restoration and adaptation activities. This initiative was supported by a \$150 million grant from the Australian Government and has been boosted by the recent \$92.7 million investment to extend the program until 2030. This initiative will seek to enhance natural adaption and resilience to climate change and significantly fast track regeneration and restoration of coral cover lost through previous extreme weather events. Reef rehabilitation tools designed to improve small-scale live coral cover have been trialled at 2 reefs, Bait Reef and Green Island Reef. This is a multi-stakeholder collaboration between the Reef Authority, Queensland Parks and Wildlife Service, BMT, The Coral Nurture Program, Mars Incorporated and local tourism operators. Recovery has been slow and patchy. A coral restoration hub, based in Cairns and Port Douglas, has been established to consolidate and bolster local coral gardening activities with a focus on activities led by tourism operators in partnership with marine science institutions. The Australian Government manages export approvals for commercial fishing operations in the area of the Great Barrier Reef. A range of precautionary harvest limits are in place for key coral species and arrangements are in place to closely monitor coral harvest. These measures are designed to help ensure that harvest of corals does not unduly impact the Reef's recovery and that fishery operations remain sustainable.

Attribute	Updated information	Priority investments and conservation actions
Seagrass 2019 Outlook: Poor Current Observations: Recovering	The Reef's seagrass meadows are critically important habitats for a variety of species. They are the primary food source for dugongs and turtles, and a major carbon sink (York et al 2018; Coles et al 2015). Seagrass meadows are spatially and temporally dynamic throughout the Reef and can recover following impacts. Recovery after disturbance generally occurs within 3 to 5 years, although it can take up to a decade if pressures are high. Inshore seagrass remained in poor condition in 2020 (McKenzie et al 2021). However, the overall trend since 2011 at long-term monitoring locations is one of recovery, with the exception of Mourilyan Harbour, due to little natural connectivity and loss of seed banks (Smith et al 2021; Reason et al 2021a; McKenna et al 2021; York et al 2021; McKenna 2021b; Reason 2021; Van de Wetering C 2021).	A seagrass restoration demonstration site has been established in the Whitsundays, supported by a Traditional Owner and community managed local seagrass nursery, for the holding of wild seagrass flowers for seed collection (<i>Zostera muelleri</i>) and propagation plants for seed production and transplants (<i>Zostera muelleri</i> and <i>Halodule uninervis</i>). This pilot project will trial seagrass restoration and enhancement in the Pioneer Bay region and will also measure carbon sequestration. Public moorings have been installed in popular overnight anchorages, including Refuge Bay and Royleen Bay, to protect the seagrass meadows from anchor damage. Water quality improvement programs funded by the Australian and Queensland governments are assisting in the restoration of seagrass in the Reef, now extended to 2030 under the Australian Government's recent \$1 billion funding announcement. See Section 6 for further information. A project designed to protect and enhance fish habitats across central Queensland's coast is underway that will work to restore seagrass communities considered to be critical fish habitats. Through removal of marine debris, threats to seagrass communities will be reduced and seagrass propagation will be assisted in areas experiencing meadow loss. The project will engage university researchers, local recreational fishing groups and communities to increase awareness and stewardship for these essential marine habitats.
Dugongs 2019 Outlook: Poor Current Observations: Remote coast stable, no new data for urban coast	The Reef is home to a significant population of dugongs, contributing to the property's OUV. Dugongs are important in the functioning of coastal marine habitats, particularly seagrass systems. They are also important cultural keystone species for local communities. Dugong abundance and distribution is monitored periodically throughout the Reef. Two distinct areas are recognised: the remote coast (from Cooktown to the northern boundary of the Great Barrier Reef Marine Park) and the urban coast (from Cooktown south to the southern boundary of the Great Barrier Reef Marine Park). The trend of dugong populations in these 2 areas differ. Data from aerial surveys indicates that the status of remote coast dugong populations is stable and the percentage of calves in the remote coast dugong populations has increased slightly from previous years (Marsh et al. 2020). There has been no published research on the trend of the urban coast population since the 2019 Outlook Report.	Efforts to conserve seagrass meadows contribute to the conservation of dugong population. Dugong protection has increased in 2021 through a new Traditional Use of Marine Resource Agreement that supports Darumbal Traditional Owners to manage populations of dugong in their Sea Country. This agreement covers over 36,600 km², increasing the coverage of similar agreements to over 40% of the Great Barrier Reef coastline. Similar agreements are being developed by other Traditional Owner groups.

Attribute	Updated information	Priority investments and conservation actions
Marine Turtles 2019 Outlook: Poor Current Observations: Variable, limited new information	There are 6 species of marine turtles within the Reef. Monitoring of turtle stranding numbers detected no significant trends of concern from 2020 to July 2021 (Department of Environment and Science 2021b). Long-running monitoring along the Woongarra coast indicates the number of nesting loggerhead turtles decreased slightly between 2017 and 2020 (Department of Environment and Science 2021a). The gender of marine turtle hatchlings is determined by the temperature of the sand around buried turtle eggs. Low male production rates over recent decades have implications for future breeding capacity. Estimates from nest temperature monitoring at Raine Island, the most important green turtle nesting site for the northern Reef population, suggest that less than 1% of hatchlings produced across a season are male (Booth et al 2020). The imbalance in the male to female ratio is a risk for the future of marine turtle species on the Reef. Conservation action is backed by enhanced monitoring activities which continue to be implemented. These include flatback turtle monitoring on Wild Duck Island (the largest rookery for flatbacks in the World Heritage Area), other marine turtle high value nesting sites (such as Heron, Wreck and Peak islands), population dynamics of foraging loggerhead turtles in the Capricorn Bunker Group and commencement of the marine turtle satellite telemetry tracking study to investigate population recovery for island nesting loggerhead turtles compared to mainland nesters.	Research into nest cooling interventions, and new population dynamic studies in foraging grounds is being supported by a \$5.93 million investment through the Reef Trust Partnership from 2020. The Great Barrier Reef Green Turtle Research Program will identify management actions to mitigate impacts of climate change on the stock and enhance the co-management capacity of Traditional Owners, within whose sea country northern green turtles nest and forage. The \$3.857 million Integrated Habitat Restoration for the Discovery Coast project will protect marine turtles by building large, centralised, feral predator exclusion turtle hatchery structures and positioning partial shade structures on Discovery Coast nesting beaches with the aim of reducing the feminisation of turtle hatchlings due to climate change-driven increases in nest temperatures. The Raine Island Recovery Project, designed to restore and protect the world's largest remaining green turtle rookery, has protected the rookery of 100,000 nesting turtles against the threats of climate change and sea level rise and will enable an additional 4.9 million hatchlings to start their lives on the Great Barrier Reef over the next 10 years. The Queensland Department of Environment and Science continues to collaborate with Wuthathi and Meriam Nation (Ugar, Mer, Erub) Traditional Owners, the Reef Authority, the Great Barrier Reef Foundation and BHP on this successful project. The Nest to Oceans program has successfully protected threatened marine turtle nests from predators and other threats along the Queensland coast since 2014. In 2020-21, the Queensland Government provided an additional \$1.27 million for groups to undertake activities that would also support the sustainability of priority nesting beaches and this was matched by Australian Government funding of an additional \$1.27 million over 2 years from 2021-23 to continue the program. 81% of turtle nests within the project areas have produced hatchlings and the program has built local community capacity through training, employment and education. The Mon Repos Conservation Park (just south of the World Heritage Area) supports the largest concentration of nesting marine turtles on the eastern Australian mainland and has the most significant loggerhead turtle nesting population in the South Pacific region. In April 2021 the Queensland Government purchased an additional 42 hectares of land directly adjoining the Park, effectively doubling the size of the Park to 87 hectares and establishing an environmental buffer for this critical turtle rookery that supports a species that ranges throughout the Reef. This will also facilitate the restoration of important Great Barrier Reef coastal wetland habitats located behind the foredunes, as well as protect the groundwater flows that help maintain the health of the turtle rookery. Once restored, the wetland habitat will also help minimise interference from artificial light during the hatching season. The Queensland Government's Plastic Pollution Reduction Plan banned the use of specific single-use plastic items such as plastic straws and cutlery from 1 September 2021, with other items to be added in the coming years. This builds on a ban on lightweight plastic bags and introduction of a container refund scheme implemented in 2018. These actions are reducing the sources of plastics in the marine environment that impact turtles and other species.

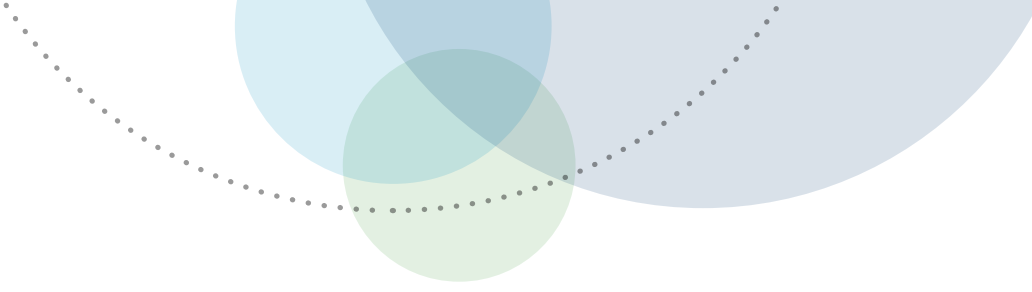
Attribute	Updated information	Priority investments and conservation actions
Bony fishes 2019 Outlook: Good Current Observations: Variable	Since 2020, long-term monitoring surveys show that herbivorous fish abundance has consistently increased on offshore areas across much of the property (AIMS 2021b). Approximately 1600 bony fish species are found in the Reef, contributing to several attributes of the property's OUV. There are long-term monitoring programs to identify changes in abundance of these species over time. In 2019, monitoring of coral-dependent fish groups (Butterflyfish, Parrotfish and Surgeonfish) indicated small declines across the Reef (AIMS 2021b). This was likely due to habitat loss following coral bleaching events. The abundance of herbivorous fish, such as Parrotfish and Surgeonfish, was variable across the Reef. Since 2020, long-term monitoring surveys show that herbivorous fish abundance has consistently increased on offshore areas across much of the property (AIMS 2021b). For coral-dependent fish, trends have been variable since 2019. More recently, abundance increased in the northern parts of the property and declined at monitoring sites in the south. Coral Trout, a large predatory reef fish, highly valued by recreational and commercial fishers, have increased in abundance across many monitoring sites since the previous State Party Report (AIMS 2021a).	An integrated Reef Fish Monitoring program has been established by the Australian Institute of Marine Science (funded by the Reef Trust Partnership) in late 2021. This project will run to 2024 and includes monitoring of key species (mostly of bony fish) of recreational, commercial, biocultural and ecological significance to provide clear, concise assessments of fish status to a wide range of stakeholders. It is the largest fish monitoring program of its type ever undertaken on the Reef and for the first time, includes extensive engagement with Traditional Owners to co-design monitoring activities and provide training to monitor Sea Country. Fisheries management in the Reef continues to be strengthened through the Queensland Sustainable Fisheries Strategy 2017–2027. This has included quota allocation and development of harvest strategies across multiple fisheries and improved compliance and enforcement. The Queensland Coral Fishery has recently been reviewed and assessed under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth), and conditions on operation of the fishery have been tightened – including stringent new harvest limits, reporting requirements and a new ecological risk assessment. The Australian Government's recent \$1 billion funding commitment for the Reef includes \$74.4 million to 2030, for new Traditional Owner and local community partnership and stewardship initiatives, which will help support bony fishes.
Mangrove forests 2019 Outlook: Good/Very Good Current Observations: Limited new information	Mangroves are a critical component of the Reef's OUV. The Reef's mangrove forests encompass at least 41 mangrove species and hybrids, which represent 50% of mangrove species worldwide. Initial examination of remote sensing-based canopy cover for 2018 through to 2020 indicates that the general stability of mangrove forests in the Reef has probably continued (Geoscience Australia 2021).	To protect wetlands for the future, a framework for a standardised school-based Mangrove Watch monitoring program is being developed through the Reef Trust Partnership, supporting teacher training, student engagement and curriculum materials. By upskilling the future generation of Reef stakeholders on the importance of mangroves for the Great Barrier Reef, increased data captured through citizen-science led mangrove monitoring will help inform local mangrove management and conservation.

Attribute	Updated information	Priority investments and conservation actions
Islands 2019 Outlook: Good Current Observations: Limited new information	The Reef ecosystem includes approximately 1050 islands, supporting a diversity of habitats and species. The Reef's Island vistas are an important part of the property's natural beauty and demonstrate major stages of its evolutionary history. Management of Reef islands has continued with no major pressures since 2019.	The Reef Islands Initiative is restoring critical island habitats to protect ecosystems and save vulnerable species. This is the largest Reef island habitat restoration project in the Southern hemisphere – bringing together Traditional Owners, scientists, local tourism leaders, governments and the community to protect and restore critical habitats. There are currently 3 island sites – Lady Elliot Island, the Whitsunday Islands, and Avoid Island. The Queensland Government invested \$25 million to deliver the Great Barrier Reef Island Resorts Rejuvenation Program focusing on a range of initiatives that grow, green and clean developed islands. Under the program, the Cape Richards resort site on the northern tip of Hinchinbrook Island has been restored and returned to national park. Surveys on Wild Duck Island show a significant decrease in the number of rusa deer, an environmentally damaging introduced pest species, through recent culling programs (Amos et al 2021). The Queensland Parks and Wildlife Service has purchased the leasehold for the remaining land and will conduct a full restoration of the habitat. Removal of feral animals from Curtis Island has supported the continued stable trend of critically endangered Capricorn yellow chats (GBRMPA et al 2021). The Queensland Parks and Wildlife Service has completed a reduction in the size and impact of camping sites on Lady Musgrave and Heron Islands to reduce the impact on critical seabird and turtle nesting sites. A \$5.5 million Reef Trust investment is assisting the Reef Authority to undertake important Reef Islands Restoration work. Working with Traditional Owners the project aims to restore the ecology of degraded islands and provide critical habitat for breeding seabirds and restore Pisonia forests on islands in the northern and far northern Great Barrier Reef. The Great Barrier Reef Island Arks Program launched in October 2020 is a \$6 million investment established to increase the island protected area estate and to work with First Nations People to restore and manage key ecological and cultural sites. In May 2021 the tourism lease of Wild Duck Island, largest flatback turtle rookery for the eastern Australian population, was acquired. The restoration of this habitat will be undertaken in partnership with First Nations People.

Attribute	Updated information	Priority investments and conservation actions
Seabirds 2019 Outlook: Poor Current Observations: Variable	The Reef includes 20 populations of seabird species (Congdon 2019). Threats to these seabirds include fishing impacts, disturbance by visitors to Reef islands and invasive pests. Broad-scale factors, such as marine heatwaves and El Niño events can also cause problems to seabird health and reproductive success (Woodworth et al 2021). Seabirds are monitored as part of the Reef Joint Field Management Program. An analysis of 4 decades of monitoring data, focused on 9 species from 32 islands and cays across the Reef, indicate variable trends in these populations. Probable declines in monitored seabird species occurred at 45% of the sites, compared with increases at 14%. However, no long-term changes were detected in the 2 most widely distributed species, greater crested tern and brown booby (Woodworth et al 2021).	An integrated seabird monitoring program will commence in early 2022, utilising high-tech drones and acoustic recorders to better understand changes in abundance of seabird populations and enable increasingly proactive management. The Queensland Parks and Wildlife Service will be overseeing this monitoring program in partnership with Reef Traditional Owner groups as well as Land and Sea Ranger Groups. This is the largest and most ambitious seabird monitoring program of its kind on the Reef. Island conservation initiatives can also contribute to the conservation of seabirds. See 'Islands' section of this table.



Biodegradable Reef Bags, made from a coconut waste product, are stitched together underwater to bundle loose coral rubble in a trial to assist recovery of damaged reef at Bait Reef as part of Project Reefresh © Commonwealth of Australia (GBRMPA)
 Photograph: Bridget Ferguson



4.3 Leading management practice

The management of the Reef is a world-class, joint-jurisdictional, collaborative and expanding effort that sets the bar for management of a World Heritage area. The Organisation for Economic Cooperation and Development's Environmental Performance Review, released in January 2019, cites the Reef 2050 Plan as an exemplar for other biodiversity conservation programs.

The Australian and Queensland governments have outlined their shared commitments and outcomes for the protection of the Reef through the [Great Barrier Reef Intergovernmental Agreement](#). This Agreement is underpinned by a governance framework that facilitates joint activities, such as field management and water quality improvement measures, and has been foundational in successfully delivering the joint management approach. Joint management is underpinned by an extensive suite of Commonwealth and Queensland laws to protect the Reef's OUV.

The Great Barrier Reef Marine Park Authority is Australia's lead management agency for the Reef. Established under the *Great Barrier Reef Marine Park Act 1975*, it uses the best available science to protect values, reduce threats, and improve the current and long-term outlook for the Reef and the communities that depend on it. The Reef Authority works in partnership with Traditional Owners, other Australian and Queensland government agencies, industry, community organisations, and individuals.

The Reef Authority's world-leading, best-practice coral reef management uses strong enduring actions underpinned by regulation supported by robust rule of law. Given the increased pressure posed by climate change, the Reef Authority is encompassing new marine park management approaches that include stronger interventions to support Reef resilience. Major developments include the release of the joint [Reef Authority-Queensland Parks and Wildlife Service Reef intervention policy \(2020\)](#), a new [Traditional Owner-led Traditional Use of Marine Resources Agreement \(2021\)](#), development and release of the joint [Reef Authority-Queensland Parks and Wildlife Service 15-year Tourism Management Action Strategy for the Reef \(2021\)](#) and modernisation of the [Great Barrier Reef Marine Park Regulations \(April 2019\)](#).

There has also been greater investment and support for specific intervention projects funded by the Reef Trust Partnership, including the expansion of the Crown-of-Thorns Starfish Control Program, and establishment of the flagship Reef Restoration and Adaptation Program initiated by the Australian Institute of Marine Science.

A proportion of the Reef Authority's core operational budget is derived from commercial Reef users. The COVID-19 pandemic impacted commercial use of the Reef, particularly Reef-based tourism. Since the start of the pandemic, the Australian Government has invested an additional \$270 million into the Reef Authority to ensure it can continue to deliver world-leading management independent of market fluctuations. This investment has also provided financial relief through the waiver of fees and taxes applied to Reef-dependent business.

The **Reef Joint Field Management Program** (delivered jointly by the Reef Authority and Queensland Parks and Wildlife Service) provides a constant, in-park presence delivering conservation actions, checking for change, responding to incidents, welcoming people and upholding compliance. The Program is a unique and highly successful model for implementing effective cross-jurisdictional management of such a significant biological asset.

Australia proactively shares its expertise and knowledge gained over 45 years of managing the Reef with the international community to enhance the protection of coral reefs worldwide. As the International Coral Reef Initiative Secretariat from 2018 to 2021, Australia has driven knowledge sharing and capacity building for coral reef managers and policy makers globally. This has included bringing 15 new members into ICRI to build their knowledge in coral reef management, producing world-first guidance for policy makers on resilience-based management and reinvigorating the Global Coral Reef Monitoring Network, coordinated by AIMS.

4.4 New and enhanced management actions since 2019

The Reef Joint Field Management Program has undergone a significant expansion that will see a doubling of the program by 2021-22 from 2017 levels. This unprecedented expansion has enabled new and improved management actions and resources. It has also facilitated collaborations with stakeholders and partners to improve knowledge and management practices. These activities will be extended and **enhanced over the coming years, through the Australian Government's \$1 billion funding package.**

Achievements since 2019 include:

- An **increase in staff delivering in-field activities** of more than 20% since mid-2019 (142 staff in 2018-19 to 173 staff in 2020-21).
- **Launch of the new state-of-the-art 24-metre vessel *Reef Resilience*** in May 2021, continuing the delivery of a rolling five-year vessel replacement program to ensure fit-for-purpose vessels are able to reach the entire World Heritage area. Construction of 17-metre *Tamoya II* is near completion, with it due to enter service in 2022. A new 19-metre barge, to be based in Townsville, is expected to be delivered in 2022-23.
- In collaboration with research institutions, tourism operators and industry, local intervention trials (for example at Magnetic Island in Townsville and Green Island in Cairns) are underway to inform management responses to incidents (e.g. bleaching events, cyclones and ship groundings).
- Collaboration with the Australian Institute of Marine Science and the Queensland University of Technology is underway to support trials of unmanned vessels to improve benthic monitoring, incident response and mooring maintenance.
- Modelling of seabird foraging on the Reef was completed in collaboration with James Cook University. Work to collect additional data is underway to strengthen the model.
- The Reef Trails initiative, an investment of over \$20 million has provided visitor access to reefs and islands that minimises environmental impacts by establishing a network of world class visitor facilities (lookouts, walking tracks, public moorings), including 30 new public moorings, and 17 associated reef protection markers in the Whitsundays.

The Crown-of-Thorns Starfish Control program has continued to evolve, with major improvements in the targeting of reefs to protect the corals crucial to maintain healthy coral reefs. Better monitoring and research are delivering enhanced understanding of outbreak dynamics. Further information is provided in Section 8.

Reef-based tourism operators have continued to play a crucial role in showcasing and protecting the Reef's Outstanding Universal Value. The Australian Government invested \$3.2 million into the Reef Authority's Tourism Industry Activation and Reef Protection Initiative, which supported existing frontline jobs in the Reef's tourism industry. Tourism operators were able to continue their presence in the Marine Park and deliver additional activities to conserve high-value tourism sites along the Reef through education, monitoring, intervention and conservation activities.

These management functions will be further stepped up through to 2030, as a result of the Australian Government's recent \$1 billion funding announcement for the Reef.



A water quality monitoring micro station at Nash's Crossing in the Lower Herbert River which monitors river levels and concentrations of nitrate and sediment in near real time: © The State of Queensland

4.5 Expanding investment in Reef protection

Australian and Queensland government investment to implement the Reef 2050 Plan now stands at more than \$4 billion up to 2030. The additional investment of an additional \$1 billion in Reef management and conservation, announced on 28 January 2022, demonstrates Australia's ongoing commitment to fully implement the Reef 2050 Plan.

As foreshadowed in the 2019 State of Conservation Report, there has been an increased focus in building partnerships and unlocking co-investment in the Reef through philanthropic, granting and impact investment mechanisms. This strategy, despite hugely disrupted economic markets during the COVID-19 global pandemic, is proving to be successful in attracting new investors to coral reef conservation and in growing the overall investment in on-ground action. The Reef Recovery 2030 Fundraising campaign has been recognised as a flagship action in the UN Decade of Ocean Science for Sustainable Development.³

There is strong momentum around sustainable financing globally. Enabling this through both traditional and emerging market mechanisms will remain a key focus of the Australian and Queensland governments in driving greater and enduring investment in coral reef health.

sustainable



Eye on the Reef: © Commonwealth of Australia (GBRMPA)

³ For example, see Section 6.3 on the ongoing Reef Trust Partnership

5 The Reef 2050 Long-Term Sustainability Plan

44 COM 7B.90 Paragraph 7:

Urges the State Party to ensure that the revised Reef 2050 Plan, expected to be finalized in 2021, fully incorporates the conclusions of the 2019 GBR Outlook Report that accelerated action at all possible levels is required to address the threat from climate change, in accordance with the Paris Agreement on Climate Change (2015), and to urgently create opportunities for recovery of the property, in particular with regard to water quality.

44 COM 7B.90 Paragraph 8:

Requests the State Party to invite a joint World Heritage Centre/IUCN Reactive Monitoring centred around ensuring that the revised Reef 2050 Plan addresses the threat posed to the property by climate change and determines a pathway for accelerated actions in other areas affecting the conservation of the property.

The [Reef 2050 Long-Term Sustainability Plan](#) (Reef 2050 Plan) is Australia's strategy for protecting and managing the Reef to support its health and resilience. It sets out a 35-year vision for the Reef that we are striving to achieve as custodians of this World Heritage icon.

The updated Reef 2050 Plan is the most comprehensive program of corrective measures ever to be developed and implemented for a World Heritage property. The Australian Government's additional \$1 billion commitment, announced on 28 January 2022, will fund the Plan's implementation through to 2030.

The Reef 2050 Plan is overseen by the Ministers with responsibility for Reef matters from each of the Australian and Queensland governments. It draws on expertise from the Reef 2050 Plan Independent Expert Panel and the Reef 2050 Advisory Committee.

On 20 December 2021 the Australian and Queensland governments released an updated Reef 2050 Plan. The updated plan has been revised to be more strategic, providing greater flexibility in how the Australian and Queensland governments adapt management strategies in response to changing pressures on the Reef.

The updated Reef 2050 Plan includes:

- A new **Vision** for the Reef supported by a context statement emphasising the importance of urgent and strong action to address climate change and its impacts on the Reef.
- A new **Outcomes Framework** that provides a pathway for accelerated action to conserve the property by providing a clearer line of sight between the outcomes needed to sustain the Reef and the specific actions that are being proposed to meet these outcomes. It comprehensively addresses the threats facing the Reef and creates opportunities for recovery, by reducing pressures and actively restoring impacted areas.
- A **response to the findings of the 2019 Outlook Report**, ensuring that Australia is addressing the highest risks to the Reef - climate change, land-based run-off, coastal development and aspects of human use of the Reef. The updated Reef 2050 Plan includes new objectives and goals that are more strategic in character, to effectively [map commitments in each work area to the threats identified in the 2019 Outlook Report](#).
- Clear commitments to **limit the impacts of climate change** on the Reef, with 3 goals relating to climate mitigation and adaptation:
 - Australia contributes to an effective global response to climate change through the Paris Agreement.
 - The capacity of Reef communities, Traditional Owners, and industries to adapt to a changing climate is increased.
 - Species and habitats are supported to adapt to a changing climate.

- A continued commitment to **strong action to improve water quality** by reducing land-based impacts from both rural and urban areas. It commits to the implementation of the [Reef 2050 Water Quality Improvement Plan 2017–2022](#) (a nested plan under the overall Reef 2050 Plan) to meet water quality targets.
- An increased focus on **empowering communities** to take stronger action to protect the Reef, and greater reflection on and inclusion of **Traditional Owner aspirations**. There is a stronger focus on stewardship, collaboration and partnerships, supported by established and strong governance arrangements.
- A **maintained focus on an integrated approach to ports management and shipping**, to ensure enduring benefits from improved planning systems for ports, as identified in the 2019 Outlook Report. Existing measures that have enhanced management effectiveness include:
 - Restricting new port activities and development to within established ports.
 - Prohibiting transshipment of bulk materials within the Great Barrier Reef World Heritage Area outside of existing port boundaries.
 - Restricting capital dredging to 4 major ports along the Reef coast.
 - Prohibiting the disposal of capital dredge material in the World Heritage Area.
- A continued commitment to the **Reef 2050 Integrated Monitoring and Reporting Program** that draws together multiple environmental, social and economic monitoring and modelling programs as a joint partnership involving Australian and Queensland government entities, together with Traditional Owner members. This provides Reef managers with integrated access to information, guide management decisions and help track progress against the Reef 2050 Plan, drive better alignment between existing programs and help to fill monitoring and modelling knowledge gaps.
- An **updated investment framework** within the Reef 2050 Plan (rather than a separate document), with 3 new investment priorities: climate change, reef restoration and adaptation, and modern marine park management.

Reef 2050 updated vision and context statement

The Reef 2050 Plan's vision for the Reef in 2050 is that: **The Great Barrier Reef is sustained as a living natural and cultural wonder of the world.**

The Reef is under significant pressure. The challenge to sustain the Reef for future generations is big and requires everyone to do more. Actions taken now by governments, industry, land managers, scientists, Traditional Owners and the community are essential to improving the Reef's future. Strong local, national and global action is required to support our vision for the Reef.

The vision reflects the Outstanding Universal Value of the Reef and its international importance. The Reef 2050 Plan aims to create a future in which the Reef is in a better condition and is sustained for future generations.

Limiting global temperature rise to the maximum extent possible, and certainly within the objectives of the Paris Agreement, is critical to improving the outlook for the Reef. Strengthening actions now to reduce pressures and developing interventions to support adaptation can help the Reef but must be combined with concerted global action to reduce greenhouse gas emissions as quickly as possible.

6 Improvements in Reef Water Quality

44 COM 7B.90 Paragraph 5:

Also notes with the utmost concern that despite many positive achievements, **progress has been largely insufficient in meeting key targets of the Reef 2050 Plan, in particular the water quality and land management targets, as evidenced by the conclusions of the 2017-2018 and 2019 Reef Quality Report Cards.**

The Great Barrier Reef's water quality has seen significant and consistent improvements, towards Australia's 2025 targets for the Reef. We are making progress to the 2025 Reef water quality pollutant reduction targets – as of June 2019 this included:

- More than halfway to the water quality target for fine sediment – 15.2% reduction achieved toward the target of 25%.
- Almost halfway to the water quality target for dissolved inorganic nitrogen – 27.7% reduction achieved toward the target of 60%.

The [Reef 2050 Water Quality Improvement Plan 2017-2022](#) is Australia's blueprint for achieving its water quality commitments under the Reef 2050 Plan. It establishes a framework to coordinate, deliver and evaluate the actions taken toward meeting these commitments across each part of the Reef.

The Water Quality Improvement Plan is guided by:

- Clear and measurable water quality targets.
- A system for prioritisation of investment, between catchments, target pollutants and intervention types, through the [Reefonomics tool](#).
- A robust and transparent program for monitoring and evaluation of progress toward meeting the targets, through tools such as the [Paddock to Reef Integrated Monitoring, Modelling and Reporting program](#).
- A mechanism for public reporting on progress, through the [Reef Water Quality Report Card](#).
- A process to review and update the Water Quality Improvement Plan (it has been reviewed three times since 2003), as new data and research surfaces in the scientific literature, with the next review due in 2023.

Funding programs to improve water quality focus on 3 key areas of change:

- **Minimum practice standards** designed to **eliminate the highest risk land management practices** in the Reef catchments.
- **Building the capacity of land managers** to **reduce nutrient and sediment runoff** through more efficient farming systems.
- **Catchment restoration** to **reduce soil erosion and land degradation**, through activities such as gully and streambank rehabilitation.



A riparian revegetation site at Innisfail, funded through the Queensland Government's Reef Assist program: © Terrain NRM
Source: Queensland Government

6.1 Progress towards water quality targets

The world-leading Paddock to Reef Integrated Monitoring, Modelling and Reporting Program (Paddock to Reef program) has provided the framework for evaluating and reporting progress towards Water Quality Improvement Plan targets since 2009. It evaluates management practice adoption and effectiveness, catchment condition, pollutant runoff and marine condition through a combination of on ground monitoring, satellite technology and modelling to predict outcomes.

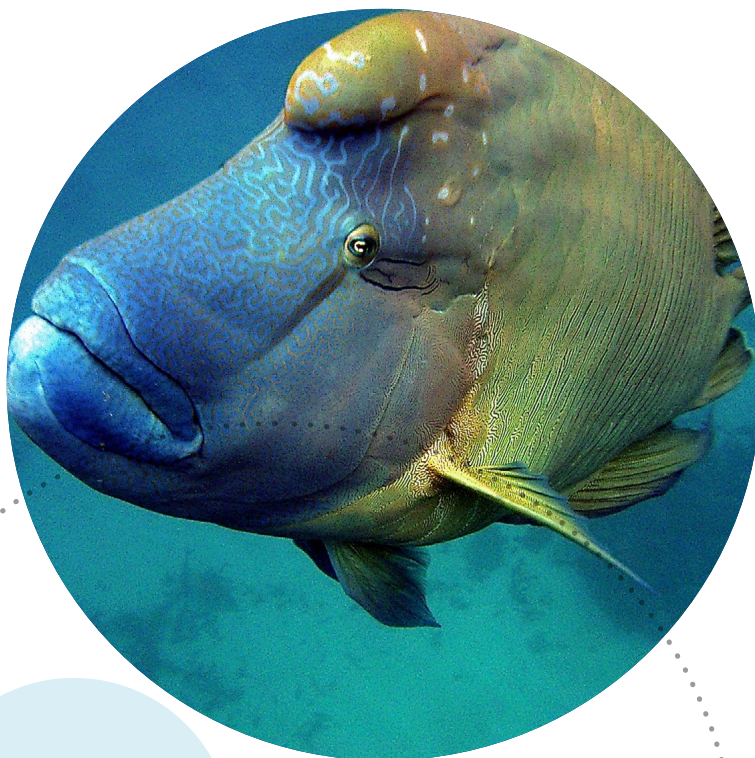
The forthcoming 2020 Reef Water Quality Report Card will show that some of the targets in the Reef have already been met or exceeded - such as the pesticide target in the Kolan catchment of the Burnett Mary region, and the sediment target in the Normanby catchment of Cape York. At a Reef-wide scale, the 2020 Reef Water Quality Report Card showed:

- 27.7% reduction in dissolved inorganic nitrogen pollution towards the 60% reduction target.
 - The introduction of regulated minimum practice standards for the agricultural sector is projected by the Queensland Government to increase this figure to approximately 48.9% by 2025.
- 15.2% reduction in fine sediment pollution towards the 25% reduction target.
 - The introduction of regulated minimum practice standards for the agricultural sector is projected by the Queensland Government to increase this figure to approximately 18.7% by 2025.

These results are a conservative estimate of actual progress because projects to improve water quality are in different stages of implementation. Not all results achieved during the reporting period have been captured in available reports.

The Australian Government's recent \$1 billion funding announcement for the Reef includes \$579.9 million on measures to accelerate these achievements, in collaboration with farmers and other landholders.

Over the next 2 years we will be able to provide more accurate data from our water quality programs (funded through the Trust Partnership, the Australian Government Reef Trust, the Queensland Government Reef Water Quality Program and Queensland Government Natural Resources Investment Program), and from the Queensland Government's strengthened regulatory changes (see section 6.3 below).



world-leading

Humphead Maori Wrasse fish swimming in waters of the Great Barrier Reef: © Commonwealth of Australia (GBRMPA) Photograph: C Jones

6.2 Further investment in water quality

Since the completion of the 2019 State Party Report significant additional investment has been delivered to improve Reef water quality:

- **December 2019** - \$46 million through the Australian Government's partnership with the Great Barrier Reef Foundation, for landscape remediation and improvements in agriculture practices in the Lower Herbert, Lower Burdekin and Mary catchments. Priority was given to projects focused on dissolved organic nitrogen and fine sediment control.
- **December 2019** - Introduction of minimum practice agricultural standards by the Queensland Government, to be rolled out over a 5-year period. The regulated standards will reduce sediment and nutrient runoff from properties in Reef catchments.
- **January 2020** - The Queensland Government introduces its Land Restoration Fund, with funding applications sought from Queensland landowners. Part of this funding will be used to finance projects in the Reef catchments, delivering co-benefits for biodiversity, Reef water quality and carbon sequestration. In the first Land Restoration Fund Investment Round in 2020, 11 projects delivering benefits to Reef water quality in priority catchments for sediment reduction were contracted to the value of \$53 million.
- **January 2020** - \$10 million committed in grants through the Reef Trust Partnership to drive transformational change in how water quality improvement activities are designed, funded and implemented.
- **April 2020** - \$12.6 million through the Australian Government's partnership with the Great Barrier Reef Foundation on a series of grants for farmers and local organisations across catchment areas from Cairns to Mackay. The grants were for on-ground improvements that will reduce sediment, nutrient, and pesticide runoff.
- **June 2020** - \$6.1 million on a 2-year pilot contracting sugarcane growers to stop dissolved organic nitrogen pollution, while simultaneously saving money for participating landowners. This investment has led to an estimated reduction of 700 tonnes of nitrogen flowing into the Reef.
- **September 2020** - \$2 million to restore the Queensland's Bowling Green Bar Ramsar Wetland and adjoining creek catchments, to improve the quality of water flowing from the Burdekin catchment.
- **December 2020** - \$6.1 million allocated through the Reef Trust to reduce fine sediment runoff in the Burnett River catchment. The projects are projected to prevent 16,000 tonnes of fine sediment from reaching the Reef.
- **December 2020** - \$10 million allocated to help kickstart the innovative Reef Credits scheme that, similar to carbon credits, allows landholders to derive additional income through the implementation of improved fertiliser management practices and management of eroded gullies. Credits generated from pollution reduction can be sold to sustainably minded external investors with the first tranches of Reef Credits from sugarcane farms in the Wet Tropics purchased by the Queensland Government and also the global finance institution HSBC.
- **May 2021** - \$30 million allocated through the Reef Trust to 6 major water quality projects that are projected to prevent at least 175 tonnes of dissolved inorganic nitrogen and 36,699 tonnes of fine sediment runoff.
- **June 2021** - the Queensland Government allocates an additional \$270 million to continue the Queensland Reef Water Quality Program to 2025-2026.
- **January 2022** - \$579.9 million announced by the the Australian Government, continuing to work with landowners on the Reef catchments on water quality improvement projects.

These investments and initiatives complement the existing suite of water quality programs that are still underway.

6.3 The Reef Trust Partnership

In 2018, the Australian Government announced the largest ever single investment in Reef protection through a \$443.3 million public-private partnership between the Australian Government's Reef Trust and the [Great Barrier Reef Foundation](#).

This partnership includes a specific objective to mobilise capital at scale from private and institutional sources, to augment ongoing government and philanthropic funding, enable long-term impact and accelerate innovation. Internationally, investors are increasingly seeking opportunities for social and environmental outcomes, alongside market returns. The Partnership is developing Reef-focused finance solutions and identifying activities that can be funded wholly or in part by non-Government sources.

The Foundation has already leveraged the Australian Government's initial funding to raise an additional \$190 million from the private and philanthropic sectors. In 2022, at the mid-point of the Partnership, there are now over 425 partners working on 203 unique projects across the length of the Reef, which have produced the following:

- Improving the quality of water flowing into the Reef through on-ground measures in the highest priority catchments.
- Expanding the Crown-of-Thorns Starfish Control Program, in partnership with the Great Barrier Reef Marine Park Authority and the Reef and Rainforest Research Centre, employing more than 100 professionally trained crew members.
- Delivering scientific breakthroughs through the Reef Restoration and Adaptation Program. At its peak this program will engage 250 scientists from 32 different research bodies, with a goal of planting 10 million thermally tolerant corals by 2030.
- Supporting Reef decision-making by filling critical monitoring gaps, building a system to integrate Reef data, and developing next generation monitoring technologies.
- Co-designing and delivering the largest ever investment in Traditional Owner-led Reef protection activities.
- Inviting investors and donors around the globe to take an active part in Reef conservation efforts by contributing to Reef Recovery 2030, a signature initiative of the UN's Ocean Decade, which is the Foundation's fundraising campaign to turn the tide on coral reef decline.
- Seeding innovative financing pilots across terrestrial and marine based markets.
- Driving new technology and systems through dedicated innovation funds for Crown-of-Thorns Starfish control, Water Quality, Reef monitoring and Reef Restoration.



Reef rehabilitation Green Island: © Commonwealth of Australia (GBRMPA)

6.4 Strengthened water quality regulations

Since December 2019, the Queensland Government has been progressively strengthening regulations, under the Environment Protection Act 1994 (Qld) to address agricultural and industrial sources of water pollution flowing into the Great Barrier Reef. The regulations:

- Mandate **minimum practice agricultural standards** for sugarcane, grazing and bananas.
- Require development of **nitrogen and phosphorous budgets** for all sugarcane producers, to monitor and limit fertiliser usage and nutrient runoff.
- Introduce **new approval requirements** for new or expanded cropping (sugarcane, bananas, grains) and horticulture activities to prevent increased pollution loads.
- Introduce **new discharge requirements** for new, expanded or intensified industrial activities in the Reef catchments mandating no net increase in nitrogen or sediment discharge.
- Legislate water quality targets for each river basin in the Great Barrier Reef World Heritage Area as **catchment load limits**, used for decision making in planning and environmental frameworks.

The Queensland Government has reported that these regulations are already demonstrating outcomes, particularly for producers who are not voluntarily engaging in Reef programs. Compliance amongst this set of producers has improved by more than 20%, with all producers having made some improvements. The Queensland Government is also set to expand its compliance program, doubling effort over the next 5 years.



Girringun Land and Sea Rangers undertaking revegetation: © The State of Queensland

*reef
restoration*

6.5 Water quality monitoring

The Great Barrier Reef is one of the few marine sites on the World Heritage List that has an extensive suite of monitoring programs in place to measure and report on key indicators. These monitoring arrangements are an exemplar of compliance with the 'Process for monitoring the state of conservation of World Heritage properties outlined in the Operational Guidelines' (Operational Guidelines for the Implementation of the World Heritage Convention, WHC.19/01, Part IV).

The Reef monitoring programs provide a long-term source of data that enables the continuous assessment of the state of conservation of the Reef, contributing directly to Outlook Reports, State Party Reports, State of Environment reports and Reef 2050 Water Quality Report Cards.

The [Great Barrier Reef Marine Monitoring Program](#) surveys the health of inshore coral reefs and inshore seagrass and examines satellite images of floods and river plumes entering the Great Barrier Reef. Monitoring teams also collect field samples to measure pollutants (sediment, nutrients, pesticides), and link these and other pressures to effects observed on coral and seagrass meadows. This program has operated since 2005.

The [Reef 2050 Integrated Monitoring and Reporting Program](#) is the key enabler of resilience-based management under the Reef 2050 Plan. It draws together multiple environmental, social and economic monitoring and modelling programs as a joint partnership involving Australian and Queensland government entities, together with Traditional Owner members.

The [Paddock to Reef Integrated Monitoring, Modelling and Reporting Program](#) (Paddock to Reef program), jointly funded by the Australian and Queensland governments, provides a comprehensive framework for evaluating and reporting progress toward the Reef 2050 Water Quality Improvement Plan targets through the Reef water quality report card. The program unites more than 20 industry bodies, government agencies, Natural Resource Management bodies, landholders and research organisations—working together to measure and report on water quality factors that impact Reef health.

Currently, [12 core monitoring and modelling programs operating](#) in Australian waters contribute to the overarching Program. Information sharing is enabled through the [Reef Knowledge System](#) – the online portal for the program, comprehensive governance and a collaboration agreement.

6.6 Future reviews to drive improvements

The Reef 2050 Water Quality Improvement Plan is reviewed and updated every 5 years with the current review due to be completed in 2023. The review will be underpinned by an updated independent Scientific Consensus Statement on water quality (the fourth update since 2002 is due for completion in late 2022). This will allow for adaptive management, in response to program evaluation and new data and research.

Electrofishing in the Russell River for the fish modelling which feeds into the Wet Tropics Waterway Health Report Card:
© The State of Queensland

water



7 Addressing the impacts of a changing climate

44 COM 7B.90 Paragraph 6:

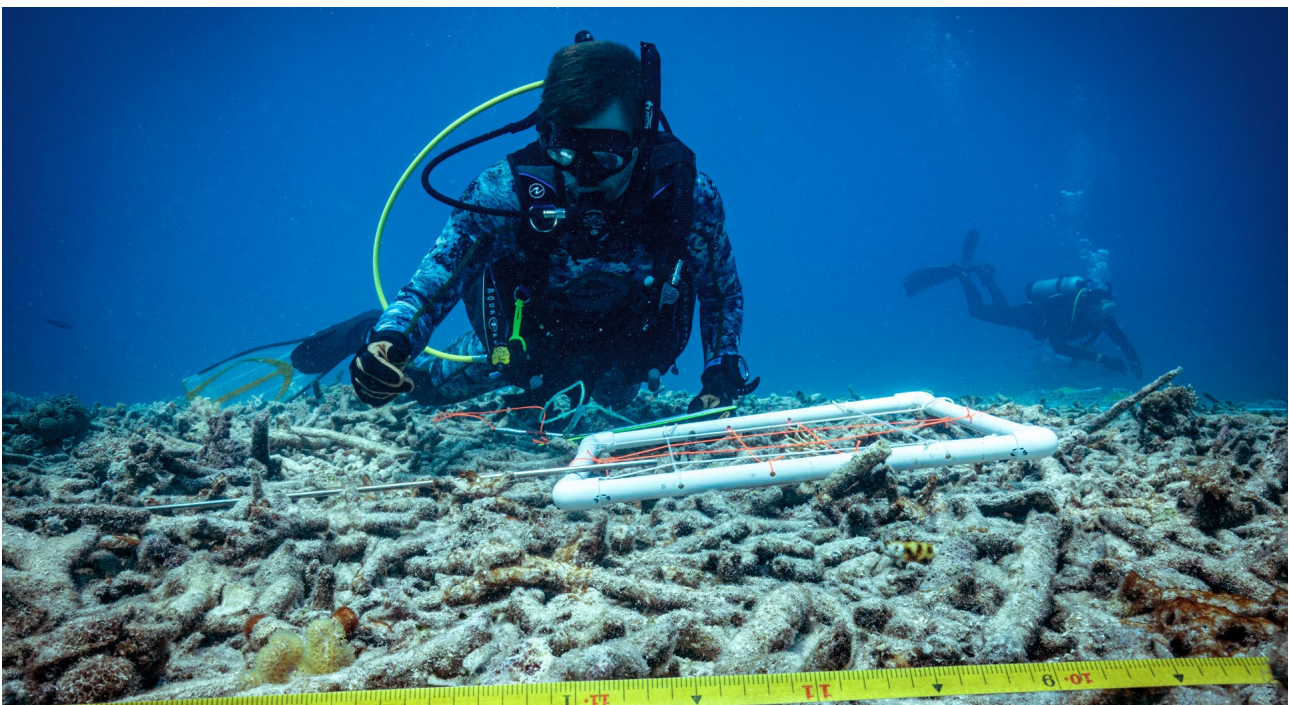
Noting the conclusion of the 2019 GBR Outlook Report that climate change remains the most serious threat to the property, and recognizing that action by the international community and all States Parties to the Convention is urgently required to address threats from climate change, considers that actions to build resilience of the property and address other factors remain of utmost importance.

44 COM 7B.90 Paragraph 7:

Urges the State Party to ensure that the revised Reef 2050 Plan, expected to be finalized in 2021, fully incorporates the conclusions of the 2019 GBR Outlook Report that accelerated action at all possible levels is required to address the threat from climate change, in accordance with the Paris Agreement on Climate Change (2015), and to urgently create opportunities for recovery of the property, in particular with regard to water quality.

44 COM 7B.90 Paragraph 9:

Also recalling Decision 41 COM 7 in which the Committee ‘reiterate[d] the importance of States Parties undertaking the most ambitious implementation of the Paris Agreement of the United Nations Framework Convention on Climate Change (UNFCCC) by ‘holding the increase in the global average temperature to well below 2°C above pre-industrial levels and by pursuing efforts to limit the global average temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change’, strongly invites all States Parties to undertake actions to address Climate Change under the Paris Agreement consistent with their common but differentiated responsibilities and respective capabilities, in the light of different national circumstances, that are fully consistent with their obligations within the World Heritage Convention to protect the OUV of all World Heritage properties.



The Reef Joint Field Management Program team maps the area for the Reef Bags coral rehabilitation trial at Bait Reef, for continued measured monitoring: © Commonwealth of Australia (GBRMPA) Photograph: Bridget Ferguson

7.1 Australia's action on climate change

Australia acknowledges that the biggest threat to the Reef is climate change, and that the most effective response to this threat is successful global action to reduce emissions.

The IPCC Sixth Assessment Report on climate science underscores the criticality of a coordinated, global effort to reduce emissions, and Australia is working to keep the Paris Agreement goal of limiting global warming to 1.5 degrees within reach. A key part of Australia's strategy for improving the long-term outlook for the Great Barrier Reef in the face of global climate change is through playing our part in contributing to global emissions reduction through the Paris Agreement. Australia shares the target of net zero emissions by 2050 with many other nations.

Australia has already reduced its emissions by more than 20% on 2005 levels – much higher than the OECD average over a similar period. The most recent projections show Australia is on track to cut our emissions by 30% on 2005 levels by 2030 and up to 35% in a high-technology uptake scenario, well above our target of 26-28% (Department of Industry, Science, Energy and Resources 2021). This is world-leading performance in emissions reductions.

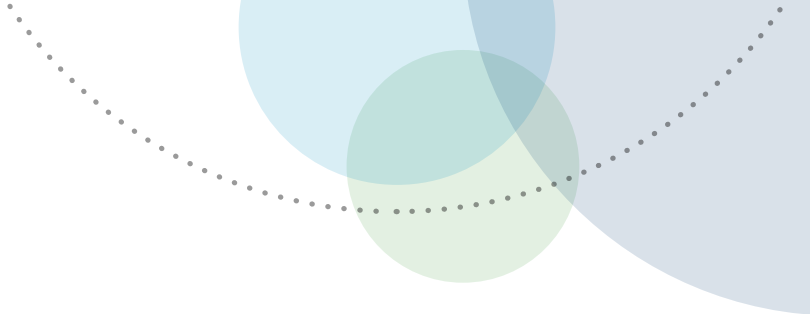
Since 2019, significant global progress has been made in the form of commitments by most countries to reduce emissions on timeframes consistent with the Paris Agreement. The underlying technical frameworks to support achievement of these commitments were agreed at COP26.

Australia has been a constructive participant in these achievements and has revised its own Nationally Determined Contribution to reflect the commitment to achieving technology breakthroughs that will allow the necessary emissions reductions to occur, not just in Australia (which represents just 1.3% of global emissions) but globally⁴. This is important because Australia's efforts to reduce its own emissions would have virtually no impact on the long-term health and resilience of the Reef. By contrast, our efforts to improve water quality and human impacts in Australia can substantially improve the prospects and resilience of the Reef, and we have made significant progress in this regard.

Australia's Nationally Determined Contribution also affirms our net zero emissions by 2050 target, with 7 low emissions technology stretch goals and commitment to meeting the 2030 Paris target. Nearly every country has a commitment to achieve net zero by 2050 but far fewer have an action plan to deliver on this commitment. **Australia is one of the few nations who can say that we have all 3 ingredients for success: a target, a plan and delivery.**

Australia's [Long-Term Emissions Reduction Plan](#), released in October 2021, is our whole-of-economy action plan to achieve net zero emissions by 2050. The Long-Term Emissions Reduction Plan focuses on delivering the technological improvements that will not only deliver on net zero emissions by 2050 in Australia but have the maximum impact on the ability of all countries to rapidly reduce emissions. It builds on other successful government initiatives including the [Renewable Energy Target](#) and the [Emissions Reduction Fund](#) schemes.

⁴ Australia's Long-term Emissions Reduction Plan notes that 90% of commercial solar cells globally use Australian technology



Australia's approach is based on the principle that the fastest and most practical way to ensure the necessary global emissions reductions are able to be delivered, is to adopt known technologies and work with other countries to accelerate technological advancement. The Long-Term Emissions Reduction Plan focuses not only on reducing emissions domestically, but also on how we will play a global leadership role through our low emissions energy exports and contributions to innovation. Our commitment to act globally is visible in the work we do with [Mission Innovation](#), the [International Partnership for Hydrogen and Fuel Cells in the Economy](#), and in the 5 bilateral partnerships we have established. These agreements acknowledge that we cannot achieve our goals alone. They also address low emissions technology supply chain issues such as in steel and aluminium, from mine to furnace.

Australia launched its [Low Emissions Technology Statement \(LETS2021\)](#) at COP26 in Glasgow. LETS 2021 is the second milestone in Australia's [Technology Investment Roadmap](#), and an important element of Australia's Long-Term Emissions Reduction Plan. It includes dedicated funding for programs to support its delivery, including hydrogen and Carbon Capture Use and Storage hubs, electric vehicle charging infrastructure deployment and policy to drive down the cost of renewable electricity. Australia is committed to adaptively expanding the remit of the Technology Investment Roadmap every year to optimally invest in evolving low emissions technologies, to reduce emissions as quickly as possible. The LETS 2021 adds ultra low-cost solar as a priority technology, introduces the category of enabling infrastructure and identifies new actions the Australian Government will take to establish Australia as a leader in low emissions technologies.

Through the 2 Low Emissions Technology Statements, Australia has identified 6 priority technologies and stretch goals:

- Clean hydrogen production under \$2 per kilogram.
- Low-cost solar electricity generation at \$15 per megawatt hour.
- Energy storage, electricity from storage for firming under \$100 per megawatt hour.
- Low emissions steel production under \$700 per tonne and low emissions aluminium production under \$2,200 per tonne.
- Carbon capture and storage, with CO₂ compression, hub transport and storage under \$20 per tonne of CO₂.
- Soil carbon measurement under \$3 per hectare per year.

The Australian Government has allocated more than \$3 billion over the last 2 years to support practical action on climate change and has committed to invest at least \$21 billion in low emissions technologies in the decade to 2030, driving more than \$84 billion in total public and private investment. These government investments leverage additional industry co-investment on average over \$3 for every \$1 of government investment over the decade to 2030.

Initiatives under the Technology Investment Roadmap will make a significant contribution to emissions reduction in Australia and globally. For example, steelmaking currently emits more greenhouse gas emissions than any other industrial subsector and is responsible for 7% of global greenhouse gas emissions. Australia only produces 0.3% of the world's primary steel, but we are the world's largest exporter of iron ore, with 53% of the global export market. Australia has an opportunity to reduce global steel production emissions by reducing our mining emissions through deploying zero emissions mining equipment and transport and exporting value-added products like beneficiated ores and hot briquetted iron. Leveraging these opportunities will support decarbonising our existing industries, provide jobs in regional areas and develop Australia as a world-leading supplier of low emissions steel products.

The technological progress that is occurring in Australia is genuinely ground-breaking. For example, the draft 2022 Integrated System Plan for the National Electricity Market (NEM) ⁵ describes the fact that the transformation towards renewable and distributed electricity in Australia is happening “at world-leading pace, while continuing to provide reliable, secure and affordable electricity to consumers”, and that Australia has and is seeking “world-leading levels of renewable energy output, measured as a percentage of annual generation as well as instantaneously, period by period” (Australian Energy Market Operator 2021). The share of generation from wind and solar in Australia is 18%. This compares with an OECD average of 11% and a global average of 6.5%. More than half of Australia’s electricity is projected to come from renewable sources by 2030. In a system where there is no neighbouring country grid to step into a failure, and no access to nuclear energy as a low emissions electricity source, these efforts are monumental. Australia’s success in these endeavours will support stronger emissions reductions globally.

Australia also recognises that action must be taken to respond to the impacts of changes in climate that cannot be avoided. Australia’s [National Climate Resilience and Adaptation Strategy](#) addresses the threat of climate change that is already expected to occur, even if temperatures are held to the Paris Agreement goals. In October 2021, Australia submitted its first Adaptation Communication to the UNFCCC and announced an increase in our 2020-2025 climate finance to \$2 billion, supporting mitigation and adaptation efforts in our region.

At the local level, since 2015 the Queensland Government has invested over \$4 billion in climate action and committed to reducing Queensland’s carbon emissions by 30% on 2005 levels by 2030 and achieving zero net emissions by 2050. The Queensland Government has launched its **Climate Action Plan** which is supported by \$2 billion Queensland Renewable Energy and Hydrogen Jobs Fund and \$22 million for the Borumba pumped hydro project business case.

The Queensland Government has launched the \$35 million **Natural Capital Fund**, which will facilitate private sector co-investment to generate both commercial and environmental market returns while also producing positive environmental, social and economic co-benefits, including improved water quality.

A further \$25 million for Round 2 of the **Land Restoration Fund** was launched in August 2021 and will prioritise projects in Great Barrier Reef catchments, including those with a regenerative agriculture focus. This round seeks to deliver co-benefits such as healthier waterways, increased habitat for threatened species, and more resilient landscapes and communities.



natural

Birds using constructed wetland in the Wet Tropics.
Image Terrain NRM Source: GBRF and Queensland Government

⁵ Australian Energy Market Operator, Draft 2022 Integrated System Plan, December 2021

7.2 Assessing the risk of climate change on the Reef

The risk of climate change to the Great Barrier Reef was recognised by the Australian Government as early as 2007 when the Great Barrier Reef Marine Park Authority released [Climate change and the Great Barrier Reef: a vulnerability assessment](#). This was followed in 2009, with release of the report [The implications for climate change for World Heritage properties in Australia](#), developed by the Commonwealth Scientific and Industrial Research Organisation.

This report provides a high-level climate vulnerability assessment for each Australian World Heritage property. For the Great Barrier Reef, the risk assessment suggested that coral bleaching could become an annual event and that ‘catastrophic’ exposure of some reefs to climate change impacts could be evident by 2050. It also noted that the Reef has the capacity to recover from disturbances, depending on a variety of factors.

In July 2019, the Reef Authority released its [position statement](#) on climate change:

‘Climate change is the greatest threat to the Great Barrier Reef. Only the strongest and fastest possible actions to decrease global greenhouse gas emissions will reduce the risks and limit the impacts of climate change on the Reef. Further impacts can be minimised by limiting global temperature increase to the maximum extent possible and fast-tracking actions to build Reef resilience.’

The updated Reef 2050 Plan has been tailored to respond to these climate change risks, providing a comprehensive program of corrective measures.

7.3 Reef resilience and adaptation to climate change impacts

Parallel to our action through the UNFCCC and the Paris Agreement, Australia actively supports work under the mandate of the World Heritage Convention to ensure that all properties under threat from climate change are afforded appropriate protection.

Australia has been, and will continue to be, constructively engaged in the update to the World Heritage Climate Change Policy. Australia considers it is crucial we have an updated Climate Policy in place to provide a structured, equitable and transparent approach that can be applied across all properties.

The updated Reef 2050 Plan acknowledges the importance of climate change to the future of the Reef, including the challenge of limiting global temperature increase to 1.5°C above pre-industrial levels, and the anticipated impact of climate change on coral reefs at global temperatures of 1.5°C and 2°C above pre-industrial levels. It states that ‘[t]he long-term outlook for the Reef is critically dependent on limiting global temperature rise to the maximum extent possible, as quickly as possible’.

Australia went to UNFCCC COP26 delivering on the adaptation commitments made in our 2020 Nationally Determined Contribution. Australia released our new [National Climate Resilience and Adaptation Strategy 2021-25](#) which positions Australia to better anticipate, manage and adapt to climate change and sets Australia on the path toward deeper cooperation, knowledge, and capacity sharing with our international partners. This reflects the understanding of the need to take action to respond to climate changes that cannot be avoided. Our efforts to improve water quality, reduce the destructive impacts of Crown-of-Thorns Starfish outbreaks, and improve the sustainability of other human uses in Australia, will directly and substantially improve the prospects and resilience of the Reef.

Under the Emission Reduction Fund (ERF) the first **blue carbon program** will create opportunities to store carbon by restoring mangroves and tidal marshes and reducing emissions in coastal ecosystems. This program is supported by the Queensland Government's **Land Restoration Fund**. Nature-based solutions are part of our response to climate change. The Great Barrier Reef was recognised by UNESCO as one of the world's most powerful blue carbon sites, home to the world's largest seagrass ecosystem which alone hosts an estimated 11% of the world's seagrass blue carbon. By protecting and restoring key ecosystems like seagrass meadows, mangroves and wetlands, these ecosystems can play a key role in combating climate change by storing carbon as well as delivering biodiversity and community benefits.

Australia is also safeguarding our oceans to help address climate change. We have announced a \$100 million Oceans Leadership Package, to invest in protecting oceans and supporting blue carbon habitats and ecosystems and contributing to emissions reduction. This initiative will store carbon through restoration of mangroves and tidal marshes and reduce methane and nitrous oxide emissions. At a global level Australia is a member of the High Level Panel for a Sustainable Ocean Economy, the High Ambition Coalition for Nature and People and the Global Ocean Alliance. Australia is also a founding member of the International Coral Reef Initiative – working in partnership for the protection of coral reefs for over two decades.

At the local scale, the Queensland Government has funded 31 local governments under the **QCoast2100 program**, and 47 local governments under the **Queensland Climate Resilient Councils program** to plan for and respond to climate change.

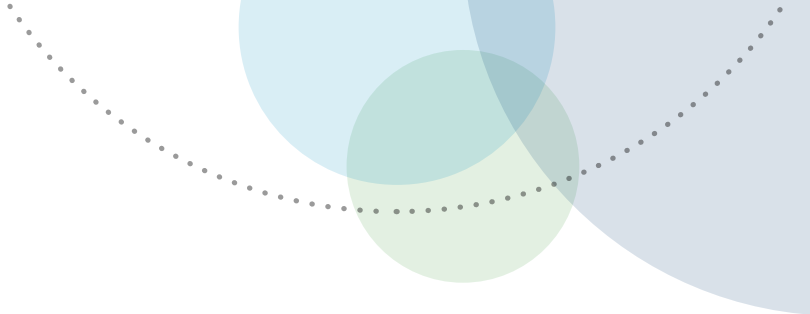
At a property scale, the \$150 million **Reef Restoration and Adaptation Program** is currently investigating and piloting new ways to help coral reefs adapt to climate change. The Program is researching and testing possibilities such as seeding reefs with coral larvae that are more resilient to warmer waters; improving coral larvae survivability; and a concept to shade and cool large areas of reef at risk of bleaching by spraying microscopic saltwater droplets into the air to make clouds more reflective of sunlight. The Australian Government's recent announcement of an additional \$92.7 million for the program will further develop and scale up these initiatives.

In 2018, the joint World Heritage Centre-Great Barrier Reef Foundation *Resilient Reefs Initiative* was launched – supporting resilience-based management in the face of climate change pressures and responding to Decision 41 COM 7. The Reef Authority and Australia's Reef Restoration and Adaptation Program partners have shared their world-leading expertise as part of the initiative, as well as chairing Resilience-Based Management and Reef Restoration committees under the International Coral Reef Initiative.

Indigenous Land
and Sea Rangers:
© The State of
Queensland

ambition





7.4 Potential ‘in danger’ listing from climate change

The World Heritage Convention is at a critical juncture in relation to how it responds to the contemporary challenges facing World Heritage properties caused from climate change—challenges that were not foreseen when the Convention was drafted in 1972. When the Convention was drafted some 50 years ago, the List of World Heritage in Danger was conceived as a tool to draw attention to threats to World Heritage Properties, and garner support for the relevant State Party to respond to those threats through a program of corrective measures that would allow the property to be removed from the List.

The International Union for Conservation of Nature’s 2020 [World Heritage Outlook 3](#) identified 83 World Heritage properties worldwide that are at ‘high or very high threat’ from climate change, including the Great Barrier Reef. The World Heritage Marine Programme’s updated 2018 assessment of the impacts of climate change on World Heritage coral reefs revealed that 25 of the 29 World Heritage reefs are projected to bleach twice per decade by 2040, under a business-as-usual CO2 emissions scenario.

Under the current [Operational Guidelines for the Implementation of the World Heritage Convention](#) all World Heritage properties could theoretically be inscribed on the List of World Heritage in Danger because they are ‘faced with major threats which *could have* deleterious effects on [their] inherent characteristics’, such as the ‘threatening impacts of climatic, geological or other environmental factors’, which is the threshold for inscription under the potential danger criterion for natural properties (paragraph 180 (b)(v)).

While the List of World Heritage in Danger remains a relevant and important tool where corrective measures can be undertaken by individual States Parties to address threats to their World Heritage properties that they can control, it is less instructive where the ongoing impacts of a threat are beyond the control of any individual State Party to address, and where changes to the OUV of a property as a result of climate change will continue for many decades. For climate-impacted properties there may be no prospect of removal from the List regardless of the level of investment or the extent of the program of corrective measures implemented by any individual State Party.

This raises important questions about how to differentiate properties that are in danger through lack of action by a States Party to address threats to its OUV, relative to properties that are in danger as a result of the ongoing impacts of climate change.

It also highlights the lack of guidance under the Convention to manage changing OUV. There are likely to be circumstances where World Heritage listing is still appropriate but the values for which a property was initially listed are changing as a result of the impacts of climate change.

Through its 50 years of operation, the Convention has brought together States Parties to deliver protection of the places that are most important to all of humankind. Many of these places are now facing the global threat of climate change. It is only through collective effort that this threat can be addressed and the Outstanding Universal Value of these places, and their integrity, can be protected.



sustainable strategy

Water testing of creek beside sugarcane field near Cairns: © The State Of Queensland

8 Other conservation issues identified by the State Party which may have an impact on the property's Outstanding Universal Value

This section provides an overview of other conservation efforts to protect the Outstanding Universal Value of the Reef.

8.1 Support for more sustainable fishing

The 2019 Outlook Report identified fishing as the largest extractive use of the Great Barrier Reef. It revealed five high risks (extraction from spawning aggregations, discarded catch, extraction of particle feeders, extraction of predators and damage to reef structure) and two very high risks (illegal fishing and poaching, and incidental catch of species of conservation concern) to the ecosystem values. The sustainability of some species that are targeted, either directly or indirectly, is of concern. These include Spanish mackerel, saucer scallop, pink snapper and by-catch of some species of conservation interest.

The 2019 Outlook Report also noted that fishery management is improving, with the implementation of the Queensland Sustainable Fisheries Strategy 2017–2027. This strategy represents the largest fisheries reform in Queensland's history, **delivering on the commitments under the Reef 2050 Plan**. The Queensland Government remains committed to delivering the balance of the commitments as outlined in the Strategy by 2027. To support these continued reforms, the Queensland Government has provided a further \$42.5 million in funding over the next four years.

The Australian and Queensland governments are committed to ensuring that the Reef's fisheries are sustainable and supported to adopt leading practices. Since 2020 the Australian Government has assessed and managed approvals for eight commercial fisheries operating in the area of the Great Barrier Reef.

For example, the Queensland Coral Fishery was recently reviewed and assessed under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth), and conditions on operation of the fishery have been tightened – including stringent new harvest limits and reporting requirements.

The Queensland Government is implementing a suite of fundamental fisheries management changes that will provide for improved fisheries management and conservation outcomes. These range from setting catch limits to identifying and mitigating risks of specific fisheries. This includes limiting take of saucer scallop and introducing spawning closures for pink snapper.

The Australian and Queensland governments have been investing with partners, including the Fisheries Research and Development Corporation, the Great Barrier Reef Foundation and the broader science community, and have made significant progress to enhance the sustainability of fishing operations over the last two years. For example:

- Vessel tracking required for all commercial vessels.
- Recreational fishing quota for 16 species.
- Aboriginal and Torres Strait Islander Commercial Fishing Development policy has been introduced to support the aspirations of Traditional Owners through fishing.
- Increase in funding to support ecological risk assessments, development of harvest strategies, joint compliance operations and stock assessments.
- Investing with partners in fisheries-specific climate change research and monitoring, minimising interactions with protected species along with continual improvement in accurate and timely reporting, fishing practice and mitigation strategies.
- The Australian Government's recent \$1 billion funding commitment for the Reef, ensures that these activities will be further extended and accelerated.

8.2 Control of the Crown-of-Thorns Starfish

Outbreaks of Crown-of-Thorns Starfish (COTS) can cause substantial coral declines across much of the Reef. They also reduce the ability of the Reef to recover from tropical cyclones and coral bleaching events.

COTS control provides significant ecological and economic benefits to the Great Barrier Reef World Heritage Area and the industries and communities that rely upon it. By supporting the ability of the Reef to recover, COTS control can mitigate against the cumulative and escalating impacts of climate change. Investment in COTS control complements other initiatives under the Reef 2050 Plan, including water quality improvements and initiatives being developed under the Reef Restoration and Adaptation Program.

When it commenced in 2012, the COTS Control Program focused on localised, site-level culling to protect key tourism reefs. During the past decade, advances in our understanding of COTS outbreak dynamics, combined with improved approaches to prioritise reefs and detect and cull COTS, mean that it is now feasible to suppress outbreaks and protect coral across broad and ecologically-relevant scales. No other current management intervention can deliver this scale of outcome.

Targeted control of COTS is now widely recognised as an effective, scalable, cost-efficient action that can effectively suppress COTS outbreaks and protect coral across entire reefs and at regional scales. This has been confirmed by findings from the COTS Control Program and the Australian Institute of Marine Science Long-Term Monitoring Program. Importantly, these positive coral protection outcomes have been achieved during a period of unprecedented impacts from a series of three mass coral bleaching events.

Research and innovation under the COTS Control Innovation Program – another initiative supported through the Australian Government's Reef Trust Partnership – will ensure the COTS Control Program continues to improve into the future as a flagship Reef resilience activity.

Increased funding for the COTS Control Program has been secured through the Australian Government's \$1 billion Reef protection package. The increased funding for COTS control responds directly to a key threat identified in the 2019 Outlook Report.



Crown of thorns starfish Cull:
© Commonwealth of Australia (GBRMPA)

8.3 Intervention and restoration of key habitats to support threatened species

The Reef Joint Field Management Program delivers world class conservation actions to protect and recover important values, including coral reefs, coral cays, islands and threatened species.

Significant efforts are underway to protect the nesting habitats of shorebirds, seabirds and marine turtles. For example, collaborative work on Raine Island, the most globally significant green turtle nesting site, is helping to restore critical nesting habitat through beach re-profiling. In 2020 the green turtle egg hatchling success was the highest in recent seasons at 74% across the island, with the restored nesting areas having higher success than unmodified areas. The project recently won the Queensland Premier's Award for Excellence in the Environment and Culture division. It was also highly commended in the 2021 Queensland Reconciliation Awards for its integral collaboration with the Wuthathi and Meriam Nation (Ugar, Mer, Erub) Traditional Owners.

The Queensland Government's \$12 million Reef Assist program commenced in September 2020. This program has dual aims of creating alternative employment opportunities in highly tourism dependent regions impacted by the COVID-19 pandemic, while delivering much-needed land management projects that contribute environmental outcomes, including those linked to protecting the Great Barrier Reef. Activities being undertaken in these projects include streambank rehabilitation; gully remediation; soil condition improvement; threatened species habitat restoration; wetland restoration; tree planting; marine debris clean-ups; coral monitoring; and pest and weed management. The program has delivered 11 projects in the Wet Tropics, Burdekin, and Mackay-Whitsunday regions.

8.4 Working in partnership with Traditional Owners

The Indigenous Heritage Values of the Great Barrier Reef are significant and the Reef's Traditional Owners have a continuous cultural connection stretching back over 60,000 years, long before the formation of the Reef as we currently know it.

The Reef 2050 Plan acknowledges the significance of this connection. Since the 2019 State Party Report, further progress has been made to strengthen the involvement of the Reef's Traditional Owners in the management of the Reef including:

- Continuing to deliver the largest single investment in Traditional Owner Reef protection through the Reef Trust Partnership, with a total of \$52.8 million including:
 - A recent announcement of \$74.4 million for Traditional Owner and community-based protection work.
 - Awarding 42 grants to Traditional Owner groups for a range of water quality, Crown-of-Thorns Starfish control, Reef restoration and adaptation science and integrated monitoring activities.
 - Involving over 570 Indigenous children in junior ranger activities.
 - Supporting leadership and capacity building projects focusing on women and youth leadership.
 - Launching the *Crown-of-Thorns Starfish Manual Control and Leadership Program*, to deliver qualifications and leadership skills to a cohort of Traditional Owners.
- Accreditation of the Darumbal Traditional Use of Marine Resources Agreement. The accreditation is in place until 2037 and will be implemented in partnership with Darumbal Traditional Owners, the Great Barrier Reef Marine Park Authority and Queensland Parks and Wildlife Service. The Agreement covers an area of 36,606 km² and **more than 40% of the Great Barrier Reef Coastline is now managed under Traditional Use of Marine Resources Agreements or Indigenous Land Use Agreements.**

- Increasing the number of Indigenous Land and Sea Rangers working on the Great Barrier Reef as part of a doubling of the Queensland Government's Land and Sea Country program. Under this program 39 new rangers have been employed in 2021.
- Investing an additional \$9 million for Traditional Owner led projects to protect and manage the Reef, including coastline management, weed and feral animal control, Indigenous fire management and protection of threatened species.
- The handback by the Queensland Government of over 160,000 hectares of the Daintree, Ngalba-bulal, Kalkajaka and the Hope Islands National Parks to the Eastern Kuku Yalanji people in September 2021.
- Establishing the Australian Institute of Marine Science's Indigenous Partnerships Policy which outlines their commitment to engagement and formal partnerships with Traditional Owners.

8.5 Tackling plastic waste

Queensland's **Plastic Pollution Reduction Plan** sets the direction for Queensland to be part of the global solution to plastic pollution. One of the headline actions in the Plan is to enact a ban on the supply of specific single-use plastic items. The first phase of this ban commenced on 1 September 2021, with a ban on the supply of straws, cutlery, unenclosed bowls and plates, stirrers, and expanded polystyrene takeaway food containers and cups. The Queensland Government is consulting on expanding the ban in 2022 to include other single-use plastic items such as takeaway coffee cups and lids, drinking cups, magazine wrapping, fruit and vegetable bags and expanded polystyrene fruit and meat trays.

The Queensland Government **Community Sustainability Action grants** provide \$18 million over six years to eligible community groups and individuals for innovative projects. In July 2021 a total of 28 projects were successful in applying for more than \$1.1 million in grant funding for projects which seek to reduce the amount of waste going to landfill and/or litter and marine debris in the environment. This funding will support community groups, universities and organisations to clean up litter hotspots, roll out the latest waste-catching technology and educate the community about the importance of cleaning up our beaches, rivers and creeks.



Water quality sampling at lower Liverpool Creek for the Wet Tropics Major Integrated Project: © Terrain NRM Source: Queensland Government

9 Potential major restorations, alterations and/or new construction(s) intended within the property, the buffer zone(s) and/or corridors or other areas, where such developments may affect the Outstanding Universal Value of the property, including authenticity and integrity.

9.1 Quarterly reporting

In 2011 Australia formalised a procedure for providing quarterly notification reports to the World Heritage Centre of proposed developments within or outside a property that may impact upon a property's Outstanding Universal Value. Under the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* (EPBC Act), any action with a significant action on the Reef requires approval from the federal Environment Minister.

Notification reports and a full list of proposed, approved and withdrawn actions relating to the property that require consideration under the national EPBC Act are available at: awe.gov.au/parks-heritage/heritage/about/world/notification-development-proposals.



Reef rehabilitation Green Island:
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APPENDIX A:

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APPENDIX B:

World Heritage Committee Decision 44 COM 7B.90

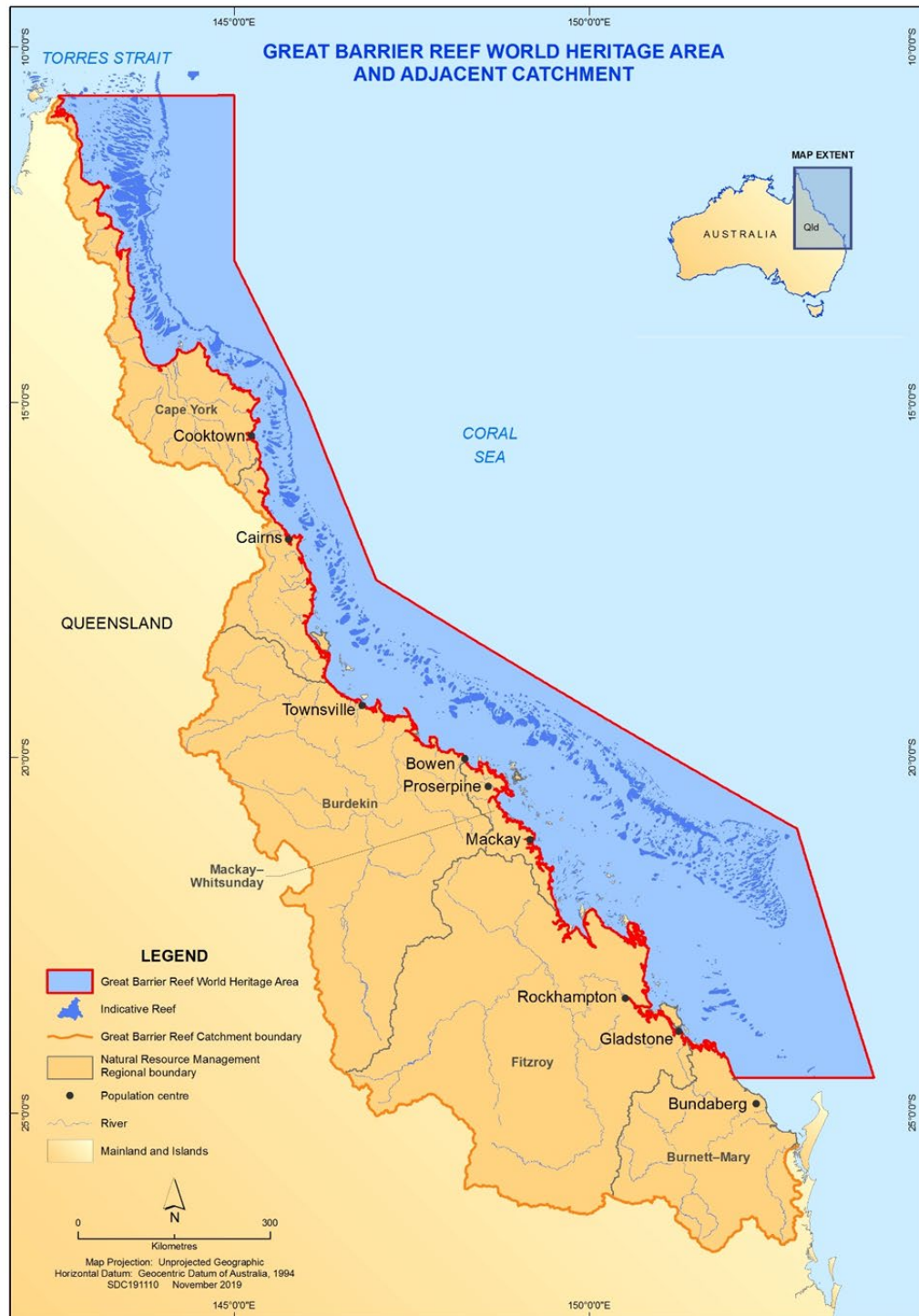
The World Heritage Committee,

1. **Having examined** Document WHC/21/44.COM/7B. Add;
2. **Recalling** Decisions 39 COM 7B.7 and 41 COM 7B.24, adopted at its 39th (Bonn, 2015) and 41st (Krakow, 2017) sessions, respectively;
3. **Commends** the State Party for the strong and continued efforts to create conditions for the implementation of the Reef 2050 Long-term Sustainability Plan (Reef 2050 Plan), including through unprecedented financial commitments;
4. **Notes with the utmost concern and regret** the conclusions of the 2019 Great Barrier Reef Outlook Report (2019 GBR Outlook Report) that the long-term outlook for the ecosystem of the property has further deteriorated from poor to very poor, that the deterioration of the ecological processes underpinning the Outstanding Universal Value (OUV) of the property has been more rapid and widespread than was previously evident, and that the property has suffered significantly from mass coral bleaching events in 2016, 2017 and 2020;
5. **Also notes with the utmost concern** that despite many positive achievements, progress has been largely insufficient in meeting key targets of the Reef 2050 Plan, in particular the water quality and land management targets, as evidenced by the conclusions of the 2017-2018 and 2019 Reef Quality Report Cards;
6. **Noting** the conclusion of the 2019 GBR Outlook Report that climate change remains the most serious threat to the property, and recognizing that action by the international community and all States Parties to the Convention is urgently required to address threats from climate change, considers that actions to build resilience of the property and address other factors remain of utmost importance;
7. **Urges** the State Party to ensure that the revised Reef 2050 Plan, expected to be finalized in 2021, fully incorporates the conclusions of the 2019 GBR Outlook Report that accelerated action at all possible levels is required to address the threat from climate change, in accordance with the Paris Agreement on Climate Change (2015), and to urgently create opportunities for recovery of the property, in particular with regard to water quality;
8. **Requests** the State Party to invite a joint World Heritage Centre/IUCN Reactive Monitoring centred around ensuring that the revised Reef 2050 Plan addresses the threat posed to the property by climate change and determines a pathway for accelerated actions in other areas affecting the conservation of the property;
9. **Also recalling** Decision 41 COM 7 in which the Committee “reiterate[d] the importance of States Parties undertaking the most ambitious implementation of the Paris Agreement of the United Nations Framework Convention on Climate Change (UNFCCC) by “holding the increase in the global average temperature to well below 2°C above pre-industrial levels and by pursuing efforts to limit the global average temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change”, strongly invites all States Parties to undertake actions to address Climate Change under the Paris Agreement consistent with their common but differentiated responsibilities and respective capabilities, in the light of different national circumstances, that are fully consistent with their obligations within the World Heritage Convention to protect the OUV of all World Heritage properties;
10. **Further requests** the State Party to submit to the World Heritage Centre, by **1 February 2022**, an updated report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 45th session.

APPENDIX C:

Map of the Great Barrier Reef World Heritage Area

Figure 1 Map of the Great Barrier Reef World Heritage Area and catchment



The World Heritage Area includes all waters seaward of the low water mark, including those around 12 trading ports, and about 1,050 islands. Appendix B describes the difference between the World Heritage Area, the Great Barrier Reef Region and the Great Barrier Reef Marine Park.

APPENDIX D:

Long-term Monitoring Program Annual Summary Report on Coral Reef Condition 2020/2021 (Australian Institute of Marine Science 2021)

A 'QUICK LOOK' AT THE LONG-TERM MONITORING PROGRAM ANNUAL SUMMARY REPORT ON CORAL REEF CONDITION 2020/2021

Reef in recovery window after decade of disturbances



For 35 years, the Australian Institute of Marine Science has surveyed the condition of selected reefs across the Great Barrier Reef (GBR). This program, called the Long-Term Monitoring Program (LTMP), comprises an essential resource for governments and agencies involved in the management and protection of the GBR.

Results are published annually. The latest edition, *Long-Term Monitoring Program - Annual Summary Report of Coral Reef Condition 2020/2021*, has just been released.

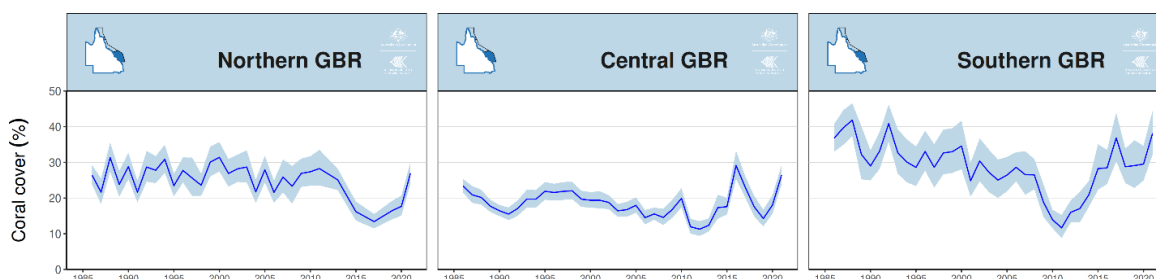
Researchers use hard coral cover as an indicator of the condition of each reef. The LTMP also estimates crown-of-thorns starfish populations, coral bleaching levels and fish numbers, including the commercially and recreationally important coral trout.

For this report, the perimeters of 127 reefs were surveyed between August 2020 and April 2021. Survey reefs are primarily on the mid to outer shelf of the GBR.

Overall findings

After a series of severe and widespread disturbances over the last decade, most of the coral reefs surveyed by AIMS this year are currently in a recovery window.

Hard coral cover increased across all three regions (Northern, Central and Southern) of the GBR since last year, indicating widespread recovery was underway.



Trends in the percentage of hard coral cover on the Northern, Central and Southern Great Barrier Reef from underwater surveys from the AIMS Long-Term Monitoring Program.

There were no major cyclones or prolonged heat stress events during the survey period, resulting in very little coral bleaching and, despite ongoing crown-of-thorns starfish outbreaks in the Southern region, outbreaks decreased across much of the GBR, providing time for the reefs to continue recovery.

Increases in the percentage of hard coral cover across the GBR has largely been driven by fast-growing branching and table corals (*Acropora* species).

Percentage of hard coral cover was variable across the GBR:

- 15 reefs had low (>0% - 10%) coral cover
- 59 reefs had moderate (>10% - 30%) coral cover
- 36 reefs had high (>30% - 50%) coral cover
- 17 reefs had very high (>50% - 75%) coral cover

Impact of the 2020 mass bleaching event

In the summer of 2020, the GBR experienced a marine heatwave, which resulted in mass coral bleaching across much of the Marine Park. However, heating across the Marine Park was not uniform. Most of the survey reefs (101 out of 127) experienced accumulated heat stress likely to cause bleaching, but not mortality.

This agrees well with the LTMP observations that most reefs surveyed in 2021 appear to have undergone minimal coral mortality following the 2020 bleaching event.

The LTMP surveys a representative but small proportion of GBR reefs. There are reefs not surveyed which experienced levels of accumulated heat stress in 2020 where coral mortality would be expected.

What do our findings mean for the Great Barrier Reef?

This year's results show that recovery continues on the GBR, indicating coral reefs still have the capacity to recover during periods of low disturbance.

The current rate of recovery has been observed previously during the 35 years of the LTMP. However, over the past decade, instances of recovery have been arrested or reversed by frequent disturbances.

The predicted consequences of climate change, including more severe cyclones and more frequent and intense marine heatwaves, are now a reality as seen between 2014 and 2020. Periods of low disturbance, such as that seen in 2021, are becoming shorter, reducing the time for recovery. The recovery to date will be easily undone by the next severe tropical cyclone or widespread bleaching event.

Complementary detailed fixed site SCUBA surveys of reefs by the LTMP show much of the increase in coral cover is due to fast-growing table and branching corals (*Acropora* species). This group of corals are dominant on many reefs of the GBR and are important for creating habitats for fish and other marine life. However, they are also more susceptible to cyclones and coral bleaching and are the preferred food source of crown-of-thorns starfish. Future disturbances may quickly remove table and branching corals and cause a rapid decline in coral cover.

There are early indications that coral communities on some reefs are changing. In the Northern and Central regions, some outer shelf reefs that were once dominated by branching and table corals (*Acropora*) are now dominated by slower growing 'cauliflower' corals (*Pocillopora*), which may have implications for rates of recovery and biodiversity.

The Northern region – from Cape York to Cooktown

- The survey covered 54 reefs.
- Average hard coral cover was estimated at 27%, an increase from its most recent low point of 13% in 2017. The historical high for coral cover in this region was 32%, recorded in 1988.

There was much variation in hard coral cover between reefs in the Northern region. Several reefs had low coral cover, most had moderate to high coral cover and a few had very high coral cover.

Out of 32 reefs surveyed within the last two years, only six had decreased in hard coral cover, suggesting mortality from the 2020 bleaching event was minimal in the region.

There was little evidence of crown-of-thorns starfish activity in this area.

Hard coral cover in this region is showing strong recovery after significant coral losses due to the cumulative effects of severe tropical cyclones in 2014 and 2015, crown-of-thorns starfish outbreaks and the 2016 mass bleaching event.

Despite the recovery, coral cover has not yet reached 2013 pre-disturbance levels.

The Central region – from Cooktown to Proserpine

- The survey covered 53 reefs.
- Average hard coral cover was estimated at 26%, an increase from the most recent average low of 14% in 2019. The highest regional average, recorded in 2016, was 29%.

Coral cover was variable among reefs in this region. Most reefs had low to moderate hard coral cover. There were many reefs with high hard coral cover and a few reefs had low or very high hard coral cover. Of the 30 reefs surveyed within the last two years, all but two reefs had increased in coral cover.

Large, rapid fluctuations in coral cover in this region are not unprecedented. In 2012, the region recorded its lowest coral cover of 11%, primarily due to Tropical Cyclone Yasi. By 2016, coral cover had reached a record high (29%), but then decreased to a record low in 2019 (14%), largely due to mass coral bleaching in 2016 and 2017 and crown-of-thorns starfish outbreaks.

Despite outbreaks of crown-of-thorns starfish on many reefs in recent years, there were no outbreaks recorded on the survey reefs in the region this year, likely due to active removal of substantial numbers of starfish by the Crown-of-thorns Control Program in this area.

The Southern region – from Proserpine to Gladstone

- The survey covered 20 reefs.
- Average hard coral cover was estimated at 39%, up from the lowest level of 12% in 2011.

Coral cover between individual reefs was variable; however, there was a greater proportion of reefs with high coral cover than low or moderate, in contrast to the Northern and Central regions.

The Southern region has experienced the largest changes in coral cover since the start of the LTMP. Tropical Cyclone Hamish in 2009 decreased coral cover to a record low in 2011. A period of recovery brought coral cover to 37% in 2017, but this was reduced again in 2018 by crown-of-thorns outbreaks. The Southern GBR, which escaped the bleaching events of 2016 and 2017, was affected by the mass bleaching in 2020, but minimal coral mortality was observed on the survey reefs.

More information

- The full *Annual Summary Report of Coral Reef Condition 2020/2021* is available [online](#)
- Learn more about the AIMS [Long-Term Monitoring Program](#).
- Access the [survey reports on the AIMS website](#).

For media enquiries, please contact media@aims.gov.au

<https://www.aims.gov.au/>

APPENDIX E:

Key documents released since January 2019

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APPENDIX F:

Factsheet: Protecting the Great Barrier Reef



Australian Government
Department of Agriculture,
Water and the Environment



Protecting the Great Barrier Reef

28 January 2022

The Australian Government is investing a further **\$1 billion over 9 years (2021-22 to 2029-30)** to help ensure that one of Australia's national treasures, the Great Barrier Reef, is protected for future generations.

Since 2014, the Australian Government has committed more than \$2 billion for Reef protection which has helped to improve water quality, control outbreaks of coral-eating crown-of-thorns starfish, address plastic pollution and rehabilitate island, coastal and reef habitats.

Total combined Australian and Queensland government investment in the Reef is now at **more than \$4.2 billion** since 2014.

Through this additional **\$1 billion** investment, we will build on those achievements by substantially increasing our efforts to protect the Reef, ensuring our management of this national treasure remains world-leading, and generating social and economic benefits for Reef communities.

We will invest in the latest marine science, in water quality and on water management that will play a key role in protecting the Reef and help it withstand the pressures it currently faces.

Our record investment in protecting the Reef will be driven by the best science, genuine engagement with local communities and industries, and respect for the rights and knowledge of Traditional Owners. Our communities carry Australia's pride in the Reef and we will continue to support our farmers, tourism operators, fishers and all our local communities to be our Reef champions and partners. We will support them to be ambitious in their efforts, and will celebrate their achievements, as stewards of the Reef.

What will the \$1 billion fund?

The Australian Government will continue its efforts to reduce pressures on the Reef and develop interventions to help it adapt through a series of measures.

Accelerating Actions to Improve Water Quality (\$579.9 million over 2021-22 to 2029-30)

This latest investment will accelerate efforts to improve the quality of water entering the Great Barrier Reef and meet Reef 2050 Plan water quality targets. Improving water quality will improve the health of the Great Barrier Reef and increase its resilience to global climate change. This investment will:

- support farmers to voluntarily reduce the runoff of fertiliser, pesticide and soil from their properties through the adoption of more efficient farming practices, helping to build a more sustainable and profitable agricultural sector;
- repair landscapes with actively eroding gullies and streambanks to significantly reduce sediment pollution while improving land productivity;

- address sources of water pollution across other land uses, including pollutants from urban and public lands; and
- provide continued support for science and innovation, and monitoring and evaluation to ensure activities are targeted and efficient, and informed by the best scientific and expert advice

Support for World Leading Reef Management (\$252.9 million over 2021-22 to 2029-30)

The Great Barrier Reef is the best managed coral reef in the world and the Australian Government's investment under this package will help keep it that way. To maintain Australia's position and reputation as a world-leading coral Reef manager, the new package will:

- Support the Great Barrier Reef Marine Park Authority (Reef Authority) to advance and adapt its management regime to ensure it is contemporary and focused on the needs of the Reef and Reef-dependent communities, including the tourism sector and fishers.
- Boost coral reef protection through targeted control of the crown-of-thorns starfish; and
- Fund high-impact activities that will deliver enhanced protection of the Reef through direct engagement with the community and Reef industries.

Reef Restoration and Adaptation (\$92.7 million over 2022-23 to 2029-30)

Existing investment by the Australian Government in the \$150 million innovative and ground-breaking Reef Restoration and Adaptation Program (RRAP) is developing a suite of interventions to help the Reef resist, adapt to, and recover from climate change. This new funding will further support Reef restoration and adaptation science to:

- accelerate research and development and the deployment of interventions at scale. Approaches being investigated include seeding reefs with coral larvae that are more resilient to warmer waters and marine cloud brightening – the process of making larger and more reflective clouds over the ocean to cool the water underneath.
- identify innovative financing opportunities to attract greater private sector investment in reef restoration and adaptation activities.

Strengthening Partnerships and Stewardship (\$74.4 million over 2021-22 to 2029-30)

To engage local Reef communities and support local action in protecting the Reef's Outstanding Universal Value this funding will support local partnerships and local action on marine species protection. This will strengthen stewardship of the Reef to enhance Reef resilience through:

- Traditional Owner and Reef community on-ground Reef protection projects including clean-up of marine debris, weed and pest control, habitat restoration, and citizen science initiatives.
- Working with industry to invest in solutions and gather information that will deliver a leading edge sustainable fishing sector in the waters of the Reef.

More information

For more information about our package to protect the Great Barrier Reef visit awe.gov.au/parks-heritage/great-barrier-reef/billion-dollar-reef-protection-package



awe.gov.au



*our reef
our future*

Left: K.I. Ross vessel on boating and fisheries patrol in the Reef © The State of Queensland
Right: The Reef Joint Field Management Program team work to restore sections of Bait Reef:
 © Commonwealth of Australia (GBRMPA) Photograph: Johnny Gaskell.

