



Australian Government

Great Barrier Reef
Marine Park Authority

G R E A T B A R R I E R R E E F
OUTLOOK REPORT
2019





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————— **2019** —————

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LETTER OF TRANSMITTAL



Australian Government

**Great Barrier Reef
Marine Park Authority**

Hon. Sussan Ley
Minister for the Environment
Parliament House
CANBERRA

Dear Minister

I am pleased to provide the **Great Barrier Reef Outlook Report 2019** to you as Minister for the Environment and, through you, to the Australian Parliament and the people of Australia.

The Great Barrier Reef Outlook Report 2019 has been prepared by the Great Barrier Reef Marine Park Authority based on the best available information. It fulfils the requirements of Section 54 of the *Great Barrier Reef Marine Park Act 1975* (Cth). The report includes nine assessments covering biodiversity, ecosystem health, heritage values, commercial and non-commercial use, factors influencing the Reef's values, existing protection and management, resilience, risks and the long-term outlook for both the ecosystem and heritage values. The contents of the report were independently peer reviewed.

The legislation requires that an Outlook Report be prepared every five years. As in the first Outlook Report in 2009 and second report in 2014, this third report identifies that the Great Barrier Reef Region faces significant pressures ranging in scale from local to global. Since 2014, management initiatives and local actions have demonstrated positive outcomes for small scale, less complex activities. However, achieving outcomes on the ground continues to be difficult for complex and spatially broad topics, such as climate change, land-based run-off and biodiversity.

While the Great Barrier Reef is retaining its outstanding universal value as a World Heritage Area, its integrity is being increasingly challenged. Cumulative pressures, predominantly from climate change, combined with the time required for the recovery of key habitats, species and ecosystem processes, have caused the continued deterioration of the overall health of the Great Barrier Reef. The accumulation of impacts, through time and over an increasing area, is reducing its ability to recover from disturbances, with implications for Reef-dependent communities and industries. Even with the recent management initiatives to reduce threats and improve resilience, the overall outlook for the Great Barrier Reef is very poor. These findings will be best addressed through timely and coordinated action across governments, industries and the community to address climate change, improve water quality and strengthen effective on-ground management actions.

I commend this Outlook Report to you for tabling in both Houses of the Australian Parliament.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Ian R. Poiner', with a horizontal line underneath.

Ian Poiner
Chair
Great Barrier Reef Marine Park Authority

ACKNOWLEDGEMENTS

The *Great Barrier Reef Outlook Report 2019* was prepared by the Great Barrier Reef Marine Park Authority with assistance and contributions from many others.

A number of Australian and Queensland government departments and agencies provided information, expertise and comment throughout the development process.

Many Great Barrier Reef scientists willingly contributed their knowledge and information, both formally through an expert elicitation workshop and informally by reviewing information used in the report to ensure the correct interpretation of results. The expert elicitation workshop was independently facilitated by Terraform Design Pty Ltd (Terry Harper).

The independent assessment of the existing measures to protect and manage the Great Barrier Reef was led by Uniquest Pty Ltd (Marc Hockings, Andrea Leverington and Fiona Leverington) with assistance from Ground Zero Environmental Pty Ltd (Colin Trinder and John Polglaze) for the topics of defence, ports and shipping.

Finally, the contents of the Outlook Report were formally peer reviewed by Kate Auty (ACT Commissioner for Sustainability and Environment, Australia), Karen Hussey (The University of Queensland, Australia), Terry Hughes (ARC Centre of Excellence for Coral Reef Studies, Australia) and Helene Marsh (James Cook University, Australia).

The Great Barrier Reef Marine Park Authority acknowledges the continuing sea country management and custodianship of the Great Barrier Reef by Aboriginal and Torres Strait Islander Traditional Owners, whose rich cultures, heritage values, enduring connections and shared efforts protect the Reef for future generations.

The Great Barrier Reef Marine Park Authority further acknowledges the Wulgurukaba and Bindal Traditional Owners of the Great Barrier Reef and their continuing connections to the land and sea country of this region. We pay respect to them, their cultures and their Elders, both past and present.



'Step of Change' by Nicky Bidju Pryor commissioned as part of the Great Barrier Reef Marine Park Authority's Reconciliation Action Plan.

EXECUTIVE SUMMARY

The Great Barrier Reef is a vast and spectacular ecosystem and one of the most complex natural systems on Earth. The Great Barrier Reef Region's natural beauty and natural phenomena endure, but they are showing signs of deterioration in several areas. In 2009, the Reef was considered to be at a crossroads between a positive, well-managed future and a less certain one. In 2014, it was seen as an icon under pressure, with continued efforts needed to address key threats. Since then, the Region has further deteriorated and, in 2019, Australia is caring for a changed and less resilient Reef. The challenge to restore Reef resilience is big, but not insurmountable. However, it requires mitigation of climate change and effective implementation of the *Reef 2050 Long-Term Sustainability Plan* (Reef 2050 Plan).

The scientific evidence is clear: initiatives that will halt and reverse the effects of climate change at a global level and effectively improve water quality at a regional scale are the most urgent to improve the Region's long-term outlook. More than ever before, uses of the Region must be sustainable and effectively managed. To protect and restore habitats, species and heritage values, management agencies must complement proven techniques with innovative approaches that are targeted, science-based and risk-managed.

Climate change is escalating and is the most significant threat to the Region's long-term outlook. Significant global action to address climate change is critical to slowing deterioration of the Reef's ecosystem and heritage values and supporting recovery. Such action will complement and greatly increase the effectiveness of local management actions in the Reef and its catchment.

Gradual sea temperature increase and extremes, such as marine heat waves, are the most immediate threats to the Region as a whole and pose the highest risk. Sea temperature extremes caused successive mass bleaching events in 2016 and 2017. These events led to unprecedented and widespread coral loss, and flow on effects to fish and invertebrate communities. Such impacts also weaken Traditional Owners' enduring connection to sea country and the quality and quantity of economic and social wellbeing provided by the Reef.

Inshore water quality is improving on a regional scale, but too slowly; poor water quality continues to affect many inshore areas of the Reef. The rate of reduction of pollutant loads has been slow, reflecting modest improvements in agricultural land management practices. Future initiatives need to deliver timely, best practice agricultural land management over a wider area to improve water quality.

Natural values of the Region include species, habitats and ecosystem processes. Overall, habitats are assessed as being in *poor* condition. Habitat loss, degradation and alteration have occurred in a number of areas, substantially affecting populations of some dependent species. For example, the significant and large-scale impacts from record-breaking sea surface temperatures have resulted in coral reef habitat transitioning from *poor* to *very poor* condition. Not all habitats have been equally affected and their condition varies across the Region. For instance, coral reefs that have escaped impacts of bleaching, cyclones and crown-of-thorns outbreaks remain in *good* condition.

Concern for the condition of the Region's species is also high; many species and species groups are assessed as being in *poor* to *very poor* condition. Species assessments reflect both ongoing effects of past significant population declines (for example, from historical commercial harvesting of dugongs and turtles) and current impacts that add further pressure. Humpback whales and the southern green turtle population continue to recover and the breeding rate of urban coast dugongs has improved since the impacts of cyclone Yasi and floods in 2011.

The Region relies upon the healthy functioning of a range of physical, chemical and ecological processes, and connection to functioning coastal ecosystems. Of the 31 ecosystem health components assessed, about 60 per cent remain in *good* to *very good* condition, but the remainder are in *poor* to *very poor* condition. Some critical ecosystem functions have deteriorated since 2014, mainly due to declines in ecological processes, such as symbiosis and recruitment, and deterioration of some physical processes, such as sea temperature and light. Some processes important to replenishment and recovery of species and habitats, such as currents, connectivity and primary production, remain in *good* to *very good* condition.

Many of the Region's heritage values are closely tied to the condition of the ecosystem, particularly Indigenous heritage value. Overall, many heritage values remain in *good* condition, with the exception of Indigenous heritage and some aspects of historic heritage, which are assessed as being in *poor* condition. Community awareness and appreciation of the Region's Indigenous and historic heritage values are important to their protection and resilience. While significant work has occurred, identification and monitoring of the broad range of Indigenous, historic and other heritage values is not yet comprehensive. Greater shared knowledge of heritage values among the Region's managers, Traditional Owners and stakeholders is critical to ensuring recognition and continued protection of those values.

While the property's outstanding universal value as a World Heritage Area remains whole and intact, its integrity is challenged and deteriorating. Given the global scale of human-induced climate change, the size of the property is becoming a less effective buffer to broadscale and cumulative impacts. Attributes that remain in good condition at a Region-wide scale include the spectacular scenery, over half of the ecosystem processes, and some species components.

The Great Barrier Reef remains a significant economic resource for regional communities and Australia as a whole. Major changes to the condition of the ecosystem have social and economic implications for regional communities because some uses, such as commercial marine tourism and fishing, depend heavily on a functioning, resilient ecosystem. As Reef waters continue to heat, coral reefs will become less diverse than a decade ago, and the fishes seen while snorkelling and caught while fishing, will also change. Reef-dependent users need to prepare for this change.

The Region is protected and managed by a partnership between many government agencies, Traditional Owners, stakeholders and community members, and is influenced by activities occurring within and adjacent to the Region. An independent assessment of the Region's management found it to be *effective* for small-scale, less complex activities. Port management is already achieving positive outcomes following improvements in planning. Fisheries management is also expected to improve over the next five years with the proper implementation and resourcing of the *Queensland Sustainable Fisheries Strategy 2017–2027*.

Implementation of the Reef 2050 Plan began in 2015, marking a shift in how the Australian and Queensland governments and their partners collaborate in addressing challenges that face the Reef. Independent assessors determined the Reef 2050 Plan had improved jurisdictional consistency, coordination and resourcing across many management topics. However, achieving on-ground outcomes continues to be difficult for complex and spatially broad topics, such as climate change, land-based run-off and biodiversity.

Global, regional and local actions taken now can influence the Reef's future. Since 2014, investment in management of the Reef and its catchment has been unprecedented. This has enabled the delivery of significant protections and tangible actions through the *Great Barrier Reef Blueprint for Resilience* and the *Reef 2050 Water Quality Improvement Plan*, which have set the framework for improved resilience-based management and protection of values.

Threats to the Reef are multiple, cumulative and increasing. Researchers and management agencies are constantly being challenged as research and monitoring efforts strive to keep pace with a rapidly changing Reef. The Reef 2050 Integrated Monitoring and Reporting Program, once established, will be a game-changer — providing coordinated access to information about the Reef, its catchment and human use of the Region.

A comprehensive risk assessment of 45 threats to the Region's ecosystem and heritage values considered the residual risk, after taking into account the current management regime. The 10 threats identified in 2014 as presenting a *very high* risk to the Region's ecosystem and heritage values are again the highest ranked in 2019. Of the *very high* risk threats, most relate to climate change or land-based run-off (water quality) affecting values on a Region-wide scale. Given the current state of the Region's values, actions to reduce the highest risks have never been more time-critical.

Without additional local, national and global action on the greatest threats, the overall outlook for the Great Barrier Reef's ecosystem will remain *very poor*, with continuing consequences for its heritage values also. The window of opportunity to improve the Reef's long-term future is now. Strong and effective management actions are urgent at global, regional and local scales. The Reef is core to Australia's identity and improving its outlook is critical. For the Region to remain resilient and maintain its myriad of values, society must play a pivotal and urgent role in mitigating impacts and adapting to change. It is important to remain vigilant, active and optimistic in managing the Reef. Actions taken now by managers, Traditional Owners, researchers, stakeholders and the community will matter and make a difference to the Region's long-term outlook.

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