Logo of the Great Barrier Reef Marine Park Authority

Great Barrier Reef Outlook Report 2014

[Underwater photograph of green turtle above coral reef being watched by snorkellers]

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This Report contains photos of Aboriginal and Torres Strait Islanders. Readers of this report should be aware that, in some Aboriginal and Torres Strait Islander communities, seeing images of deceased persons in photographs may cause sadness or distress and, in some cases, offend against strongly held cultural prohibitions.

None of the report is intended to have the effect of extinguishing native title.

# Logo of the Great Barrier Reef Marine Park AuthorityLETTER OF TRANSMITTAL

Hon. Greg Hunt MP

Minister for the Environment

Parliament House

CANBERRA

Dear Minister

I am pleased to provide the ***Great Barrier Reef Outlook Report 2014*** 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 2014 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.* 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 specific inclusion of ‘heritage’ is new and responds to both revised requirements of the Act and a World Heritage Committee request (36COM 7B.8) to include an explicit assessment of the Great Barrier Reef World Heritage Area’s outstanding universal value in subsequent Outlook Reports.

The legislation requires that an Outlook Report be prepared every five years. As in the first Outlook Report in 2009, this second report identifies that the Great Barrier Reef Region faces significant pressures ranging in scale from local to global. Since 2009, management initiatives and local actions have demonstrated positive outcomes and the Great Barrier Reef is retaining its outstanding universal value as a world heritage area. Nevertheless, extreme weather events, combined with the lag times 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 poor and getting worse. These findings will be best addressed through coordinated action across governments, industries and the community.

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

Yours sincerely

Russell Reichelt

Chairman and Chief Executive Officer

Great Barrier Reef Marine Park Authority

# ACKNOWLEDGEMENTS

The *Great Barrier Reef Outlook Report 2014* 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 a scientific consensus workshop and informally by checking information used in the report to ensure the correct interpretation of results. The scientific consensus workshop was independently facilitated by Greenward Consulting (Trevor Ward).

Members of the Great Barrier Reef Marine Park Authority's twelve Local Marine Advisory Committees (Cooktown, Douglas, Cairns, Cassowary Coast, Hinchinbrook, Townsville, Burdekin/Bowen, Whitsunday, Mackay, Capricorn Coast, Gladstone Region, Burnett) and members of Reef Guardian Councils and Reef Guardian Schools provided advice on relevant aspects during the Report's development.

The independent assessment of the existing measures to protect and manage the Great Barrier Reef was led by Uniquest Pty Ltd (Marc Hockings and Andrea Leverington) with assistance with the defence, ports and shipping assessments by Ground Zero Environmental Pty Ltd (Colin Trinder, John Polglaze). Their report was independently peer reviewed by Brian Gilligan and Bob Spiers, two experts in assessing the effectiveness of protected area management.

Finally, the contents of the Outlook Report were formally peer reviewed by Neil Byron (University of Canberra, Australia), Peter Fairweather (Flinders University, Australia), Terry Hughes (ARC Centre of Excellence for Coral Reef Studies, Australia) and Peter Valentine (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.

# EXECUTIVE SUMMARY

The Great Barrier Reef is an icon under pressure. Everyone’s actions, whether big or small, to reduce threats and help restore its condition will improve its outlook. Combined, they will make the Reef more able to recover from the legacy of past actions and better able to withstand those predicted to threaten its future.

In 2009, the Great Barrier Reef was considered to be at a crossroad, with decisions made in subsequent years likely to determine its long-term future. Since then, continuing investment in management of the Reef has had some positive results. For example, pollutant loads entering the Reef have measurably reduced as a result of comprehensive planning and local action, and Traditional Use of Marine Resource Agreements are improving Traditional Owner control of dugong and turtle hunting for traditional purposes.

Notwithstanding positive actions since 2009, the greatest risks to the Great Barrier Reef have not changed. Climate change, poor water quality from land-based run-off, impacts from coastal development, and some remaining impacts of fishing remain the major threats to the future vitality of the Great Barrier Reef.

In recent years, a series of major storms and floods have affected an ecosystem already under pressure. The accumulation of all impacts on the Reef has the potential to further weaken its resilience. This is likely to affect its ability to recover from serious disturbances, such as major coral bleaching events, which are predicted to become more frequent in the future.

The system as a whole retains the qualities contributing to its outstanding universal value as recognised in its listing as a world heritage property. The assessments of biodiversity and ecosystem health show that the northern third of the Great Barrier Reef Region has good water quality and its ecosystem is in good condition. In contrast, key habitats, species and ecosystem processes in central and southern inshore areas have continued to deteriorate from the cumulative effects of impacts. For example, the population of the iconic and culturally important dugong, which was already at very low levels compared with a century ago, has declined further in this part of the Region.

There are good examples of species continuing to show recovery after past significant declines. Populations of humpback whales, estuarine crocodiles, loggerhead turtles and the southern stock of green turtles are all increasing.

An assessment of heritage values was introduced into this report for the first time. It shows that many are inextricably linked to the health of the ecosystem and none more so than Indigenous heritage values. Traditional Owners with connections to the Region maintain their cultural practices and customs; however, these values have deteriorated as changes in coastal environments have reverberated through their culture, both now and in the past.

Some of the Region’s historic heritage values are well recognised and managed, especially known shipwrecks and Commonwealth heritage-listed lightstations. Many other places of historic significance are poorly recorded and their condition is not well understood.

The Great Barrier Reef remains a significant economic resource for regional communities and Australia. 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 on an intact, healthy and resilient ecosystem.

The Great Barrier Reef continues to be valued around the globe, well beyond its local communities. People’s experiences while visiting the Reef, combined with strong programs of information, education and interpretation, serve to maintain its social significance.

Climate change remains the most serious threat to the Great Barrier Reef. It is already affecting the Reef and is likely to have far-reaching consequences in the decades to come. Sea temperatures are on the rise and this trend is expected to continue, leading to an increased risk of mass coral bleaching; gradual ocean acidification will increasingly restrict coral growth and survival; and there are likely to be more intense weather events. The extent and persistence of these impacts depends to a large degree on how effectively the issue of rising levels of greenhouse gases is addressed worldwide. The impacts of increasing ocean temperatures and ocean acidification will be amplified by the accumulation of other impacts such as those caused by excess nutrient run-off.

Large areas of the Region continue to be exposed to elevated concentrations of suspended sediments, excess nutrients and pesticides, which are significantly affecting inshore areas along the developed coast. While improving land management practices are reducing amounts entering the Region, there will be significant time lags before improvements are evident in the Region’s water quality. Until then, chronic impacts, for example on the recovery of seagrass meadows and coral reefs, and outbreaks of the coral-eating crown-of-thorns starfish are likely to continue.

Intact coastal habitats (for example freshwater wetlands, floodplains and saltmarshes) are vital to a healthy Great Barrier Reef. They are important in the life cycle of some marine species and also play a role in slowing overland water flow and trapping sediments and nutrients. While not on the same scale as historic broadscale clearing, without active planning and management, incremental modification of these habitats is likely to continue based on projected economic and population growth.

Fishing, including recreational, charter and commercial fishing, occurs in many parts of the Region. There have been management reforms in recent decades, such as the use of bycatch reduction devices including those specifically for marine turtles, total allowable commercial catch limits (quotas) for some species, capping commercial fishing licences and fishery symbols, fish size and possession limits, restrictions on fishing apparatus, closed areas and seasonal closures. Notwithstanding these changes, across all fisheries risks to the ecosystem remain, especially from overfishing of some predators, incidental catch of species of conservation concern, effects on other discarded species and fishing of unprotected spawning aggregations. Illegal fishing continues to be a very high risk to the Reef. While understanding of commercial fishing has improved, recreational fishing and the cumulative impacts of fishing remain poorly understood.

Port activities in and adjacent to the Region are increasing and there are proposals for further expansions, including new capital works and continuing or increasing dredging in the coming decade. The direct and flow-on effects of port activities generally occur in areas of the Region that are already under pressure from an accumulation of impacts. Understanding of the ecosystem effects of port activities, in particular the fate of dredge material disposed at sea, is still incomplete but improving. While the effects of port activities are significant, they are relatively more localised than the broadscale impacts from land-based run-off.

Several strategic approaches are underway to address the risks to the Reef’s future and improve its resilience. For example, in addition to current major programs such as the *Reef Water Quality Protection Plan 2013*, the 2014 *Queensland Ports Strategy* and the draft *North–East Shipping Management Plan,* a strategic assessment for the Great Barrier Reef Region and adjacent coastal zone has been drafted by the Australian and Queensland governments. A Reef 2050 Long-term Sustainability Plan for the Great Barrier Reef is in preparation during 2014.

The independent assessment of management effectiveness undertaken for this report recognised the difficulties in achieving positive outcomes, given the complexity of the high risk issues, the geographic extent and time scales of the threats and the diminishing resource base to implement actions. This is reflected in the continuing poor outcomes grade for some management topics. The assessment concludes that, while many of the management measures implemented in the Great Barrier Reef Region and beyond are making a positive difference — for example the *Great Barrier Reef Marine Park Zoning Plan 2003* and the *Reef Water Quality Protection Plan 2013* — the ability to address cumulative impacts remains weak.

The independent assessment noted that management measures have improved in a number of areas since the Outlook Report 2009, in part as a result of that report. For example, planning effectiveness has improved for the management of land-based run-off and traditional use, and understanding of the scope of the Region’s heritage values has been considerably strengthened. At the same time, more users of the Region and residents and industries in the catchment are adopting best practices and contributing to monitoring to reduce impacts on the Reef and better protect it.

This 2014 Outlook Report, which is based on the best available information, has shown that there have been significant improvements in understanding of the Region’s values and impacts since the 2009 report (for example Reef water quality), however important information gaps still exist. In particular, knowledge and understanding of the cumulative impacts of the multitude of uses and activities remains to be developed.

Even with the recent management initiatives to reduce threats and improve resilience, the overall outlook for the Great Barrier Reef is poor, has worsened since 2009 and is expected to further deteriorate in the future. Greater reductions of all threats at all levels, Reef-wide, regional and local, are required to prevent the projected declines in the Great Barrier Reef and to improve its capacity to recover.

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