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The state of the Great Barrier Reef: Experts respond

James Whitmore
The Conversation

Michael Hopkin
The Conversation

Alison Jones
Central Queensland University

Bob Kearney
University of Canberra

Ove Hoegh-Guldberg
University of Queensland

See next page for additional authors

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The state of the Great Barrier Reef: Experts respond

Abstract

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Keywords

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Authors

James Whitmore, Michael Hopkin, Alison Jones, Bob Kearney, Ove Hoegh-Guldberg, Sarah Hamylton, and Timothy Stephens

THE CONVERSATION

Academic rigour, journalistic flair

The state of the Great Barrier Reef: experts respond

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Authors



James Whitmore

Deputy Editor: Arts + Culture, The Conversation



Michael Hopkin

Section Editor: Energy + Environment, The Conversation

Interviewed



Alison Jones

Adjunct Researcher, CQUniversity Australia



Bob Kearney

Emeritus Professor in Fisheries, University of Canberra



Ove Hoegh-Guldberg

Director, Global Change Institute, The University of Queensland



Sarah Hamylton

Senior Lecturer, School of Earth and

Environmental Sciences, University of
Wollongong



Tim Stephens

Professor of International Law and ARC
Future Fellow, University of Sydney



Health in decline: the outlook has worsened for the Great Barrier Reef over the past five years.
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Two landmark reports on the health of the Great Barrier Reef have outlined the pressure it is being put under by climate change and other environmental factors.

The Great Barrier Reef Marine Park Authority's five-yearly outlook report found that the reef's overall health is poor, and getting worse.

But federal environment minister Greg Hunt said he is confident the reef will not lose its World Heritage Listing, which comes up for review next year.

The federal and Queensland governments' strategic assessment outlines how the reef can be better looked after in response to a United Nations request for improved management.

Both reports identify climate change is the reef's most significant threat, along with poor water quality, fishing and coastal development.

Below, experts give their reactions:

Sarah Hamylton, School of Earth and Environmental Sciences, University of Wollongong

It is pleasing to read about the progress for whales, crocodiles and turtles, but it is important to recognise the alarms that are being raised. Coral is one of the most important keystone species for the wider Great Barrier Reef ecosystem and the declines are worrying.

Corals are the major calcifiers, a key process whereby marine organisms convert ions from seawater into rigid calcium carbonate. Preliminary calculations based on information collected by the Joint Benthic Field and Remote Sensing Survey suggest that the reefs of the Capricorn-Bunker group are producing 624,000 tonnes of calcium carbonate per year (about 2,000 Olympic swimming pools). The calcification work they do to build up their skeletons and the structural architecture of the reef platforms and carbonate sands that make up reef islands and beaches is valuable.

It would have been nice to see more attention paid to the geomorphic implications of climate change for the reef. What are the follow-on consequences of ocean acidification for the production of carbonate sands that constitute the reef islands? At Lady Elliot Island, we found that although contemporary calcification rates are remarkably similar to historical values, our simulations of anticipated future seawater chemistry scenarios suggested that carbonate sediments might no longer sustain island growth by 2150.

Tim Stephens, Deputy Director, University of Sydney Institute of Marine Science

It is now a question of “when” rather than “if” the Great Barrier Reef will be placed on the List of World Heritage In Danger. These reports paint a bleak picture of the reef’s future.

The outlook for the Great Barrier Reef ecosystem is considered poor, and to have deteriorated since the previous Outlook Report in 2009. Greg Hunt has said he is confident that the Commonwealth and Queensland governments will prevent the reef from being placed on the In Danger list, and that his task is to “make sure the reef recovers to its former glory”. The reality is that even with the most ambitious management initiatives to reduce local threats to the reef from run-off, this will only buy the reef some time.

The biggest threats to the reef are climate change and ocean acidification, and the Commonwealth’s approach to these issues is completely at odds with the protection of the reef. With the repeal of the Clean Energy Future legislation, and with little prospect of Direct Action being passed by the Senate, Australia now has no legislated policy to reduce the greenhouse gas emissions that are causing the waters of the reef to warm, and changing their chemistry.

In addition, the government has committed to reduce carbon emissions by only 5% by 2020 compared with 2000 levels. We know from the work of the Climate Change Authority (which Minister

Hunt is seeking to abolish) that this objective is far short of the 15-19% reduction needed for Australia to do its fair share and to be on track to keep temperature rises within safe limits that would give the reef a reasonable chance of surviving.

Not only is the Abbott government failing to cut Australia's carbon emissions (which are very high on a per capita and national basis – they are similar in total to those of large countries such as France), it is also expediting the approval of coal projects, including the massive Carmichael Coal and Rail project in the Galilee Basin. The emissions from this project alone (including those from burning the coal) could account for 4% of global emissions by mid-century. If this and other projects go ahead it is game over for the Great Barrier Reef, even if all agricultural, industrial and stormwater run off were to cease tomorrow.

Without a complete change in policy, it is inevitable that the Great Barrier Reef will lose most of the heritage values that justified its inclusion on the World Heritage List in 1981. The systemic failure to protect the reef also raises questions as to whether Australia has met its obligations under the World Heritage Convention, which in Article 4 requires member states to do their utmost to protect, conserve, present and transmit to future generations world cultural and natural heritage. Apart from some fragmentary remnants, current policy settings mean that the bulk of the Great Barrier Reef will not be bequeathed to future generations in the way the World Heritage Convention requires.

Alison Jones, Technical Director, ReefCSI.org and Adjunct Researcher, Central Queensland University

I'm bemused as to why people are worried about the Committee's findings. Whether the reef is in decline or not, or however UNESCO labels it, there are two irrefutable facts - human use and climate change pressures are increasing; and it will continue to be the best reef in the world - and worthy of World Heritage listing - for the foreseeable future.

Reef management efforts must increase, but they must continue to be based on good science. Now is not the time to be reactionary, but to show steady leadership, regardless of what the World Heritage committee says.

Bob Kearney, Emeritus Professor in Fisheries, University of Canberra *

The magnificence of the Great Barrier Reef and its worthiness of extraordinary efforts to protect it from whatever threats may arise remain unquestioned. Yet almost four decades after the declaration of the Great Barrier Reef Marine Park Act, which resulted in Australia's most expensive and intensely researched marine protected area (MPA), "the overall outlook for the Great Barrier Reef is poor and getting worse", says GBRMPA chairman Russell Reichelt.

Australia's reliance on uncritical assumption of benefits from declaring huge areas as marine parks has been at the expense of targeted management of the properly identified threats to marine environments, including the GBR. The impacts of not managing the major threats are increasingly

obvious. The current predicament highlights the needs for more critical evaluation of how marine environments, including the GBR, can be protected effectively and for increased commitment by governments to targeted management of priority threats.

Ove Hoegh-Guldberg, Director, Global Change Institute, University of Queensland

The report, and the process around it, has not shied away from some very significant statements about port developments along the coast of Queensland. These perspectives have been – to much encouragement - picked up by Minister Hunt who was clearly put himself behind the statement that there will be no port development outside the long key established ports of Townsville, Abbott Point, Hay Point-Mackay and Gladstone.

The fact that this is now supported by those State and Federal governments is very significant.

However, we can't escape from the fact that reef-building coral - absolutely essential to the Great Barrier Reef - is continuing to decline, and that we still got a very long way to go. Climate change is a cornerstone problem that we need to get right, and at this point that doesn't look particularly promising. Our state and federal policies in this respect are minimal and simplistic.

I suspect the current set of reports and responses will go down favourably with UNESCO, especially the commitment to limiting port development to its current footprint. That said, UNESCO would be wise to examine the fine print - especially with respect to what consequences port development. Does this mean that we can dramatically increase the number of terminals and hence shipping traffic at each of the ports? In this case, I think shipping traffic needs to be considered in the light of the overall port 'footprint'.

Minister Hunt states that "the Commonwealth and Queensland governments are jointly investing approximately A\$180 million annually in the reef's health." This should be applauded. However, the amount of resources relative to the scale of the problem remains small.

In this respect, we need to remind ourselves that this ecosystem provides over A\$6 billion worth of benefits.

Many of my CEO friends would probably have a similar perspective. In terms of GBR Inc, this essentially means that we are investing 3% into 'a business' that earns us over A\$6 billion each year. Any normal 'business' would be investing 5-10% to ensure that the business was viable and sustainable.

Why are we not seeing things similarly with respect to GBR Inc.?

**Comment prepared with the help of Graham Farebrother, Senior Research Fellow, Sydney Fish Market*

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