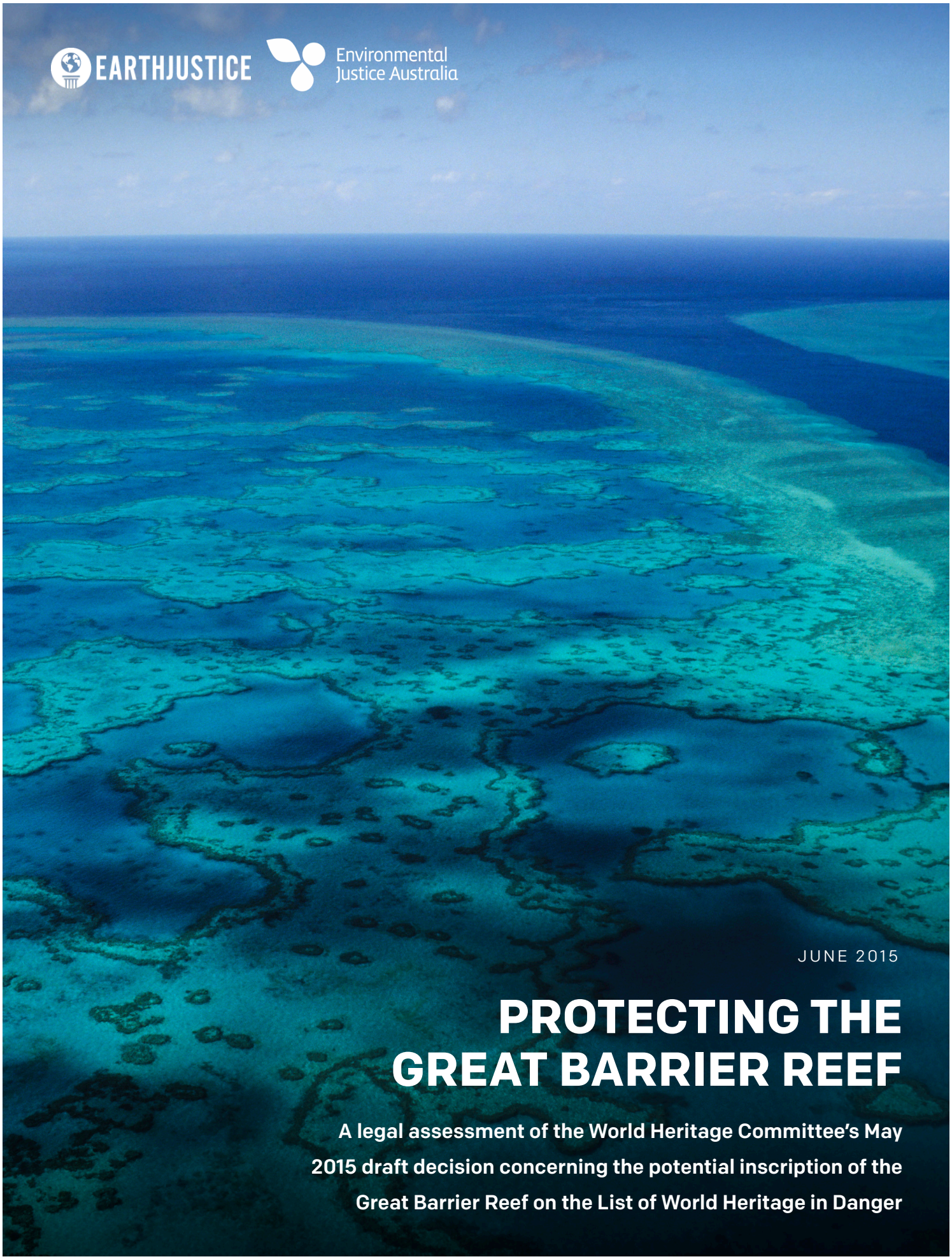

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PROTECTING THE GREAT BARRIER REEF

A legal assessment of the World Heritage Committee's May 2015 draft decision concerning the potential inscription of the Great Barrier Reef on the List of World Heritage in Danger

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"Heritage is our legacy from the past, what we live with today, and what we pass on to future generations."[1]

"World Heritage sites belong to all the peoples of the world, irrespective of the territory on which they are located."[2]

SUMMARY

The Great Barrier Reef – the world's largest coral reef ecosystem – is a unique and irreplaceable part of the Earth's natural heritage, home to innumerable species of animals and plants, many of which are found nowhere else on earth. Through the international Convention Concerning the Protection of the World Cultural and Natural Heritage (known as the "World Heritage Convention"), the nations of the world have recognized that the Great Barrier Reef is part of the heritage of all humans; although located in Australia, Australia holds it in trust for all.

Although the natural beauty of large parts of the Great Barrier Reef remains intact, especially in many of the outer coral reefs, recent scientific research and monitoring shows that the overall outlook for the Reef is poor, and the Reef is in danger. The cumulative effects of coastal development such as industrial ports, ocean acidification and warming related to climate change, and water pollution have caused substantial deterioration of the reef ecosystem. Over half the coral cover has disappeared in the last 40 years. Populations of key species like dugongs and dolphins have decreased alarmingly, and important habitats like seagrass meadows have been significantly degraded. As the threats increase, so does the deterioration of the entire reef ecosystem.

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The World Heritage Committee is currently considering whether to inscribe the Great Barrier Reef on the List of World Heritage in Danger (also referred to as the "in danger list") under the Convention. This list is intended to identify threats to endangered World Heritage sites and to facilitate their protection through international collaboration and regular assessment. The ultimate aim is to restore threatened sites to safety and remove them from the list.

The World Heritage Committee has been monitoring the status of the Reef for many years, and undertook a monitoring mission to the Reef in 2012 due to concerns about threats to it.[3] In 2012, 2013 and 2014, the Committee requested that Australia take certain corrective actions and submit annual reports on the implementation of those actions and the state of conservation of the Reef, with a view to considering the possible inscription of the Reef on the List of World Heritage in Danger.[4]

On May 29, 2015, the Committee released its draft decision concerning the status of the Reef and whether to include it on the in danger list. The Committee expressed very serious concern about the condition of the Reef, and noted the importance of restricting port development. In the draft decision, the Committee

> [n]otes with concern the conclusion of the 2014 Great Barrier Reef Outlook Report that the *overall Outlook for the property is poor*, and that *climate change, poor water quality and impacts from coastal development are major threats to the property's health* and regrets that *key habitats, species and ecosystem processes in the central and southern inshore areas have continued to deteriorate from the cumulative effects of these impacts.*[5]

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Despite the condition of and threats to the Reef, the draft decision does not recommend that the Reef be inscribed on the List of World Heritage in Danger at this time. However, contrary to assertions by Australia that the Reef is off the Committee's watch-list,[6] the Committee's draft decision requires that Australia submit a report in eighteen months on the progress of its implementation of the "Reef 2050 Long-Term Sustainability Plan" ("Reef 2050 Plan")[7] and the establishment of the Investment Strategy, a framework for investment necessary to reach the targets of the Reef 2050 Plan.[8] After eighteen months, if the Committee assesses that Australia has not rigorously implemented all of its commitments to halt the decline of the Reef, it will reconsider whether to inscribe the Reef on the in danger list at the World Heritage Committee meeting in 2017.[9] The Committee will make a final decision whether to adopt the draft decision – or some modified version – at its next meeting in Bonn, Germany, in late June this year.

This report analyzes the criteria under the World Heritage Convention for inscription of World Heritage sites on the List of World Heritage in Danger. It concludes that the condition of the Great Barrier Reef meets several of the criteria developed to guide inclusion of properties on the list and that it is clearly open to the World Heritage Committee to list the Reef when it meets in June this year. The report also demonstrates that there is precedent for the Committee to list the Reef as it has previously included

other World Heritage sites on the list where the evidence of danger to those sites is of the scope and degree evident for the Great Barrier Reef.

Even if the World Heritage Committee decides not to list the Reef as in danger at this time, it will remain open to the Committee to do so until the Reef no longer meets any of the criteria for inscription.

If the Australian Government wishes to ensure the Committee does not list the Reef when it considers the condition of the Reef at its 2017 meeting, Australia's compliance with the Reef 2050 Plan and the Investment Strategy will be necessary but not sufficient. Significantly more corrective action is required to ensure that the Reef no longer meets the criteria for inscription on the in danger list – and that conditions are created for its sustained recovery to ensure it can be enjoyed by future generations. In particular, as the Australian Academy of Science has stated, the actions identified in the Reef 2050 Plan are insufficient to "overcome or limit the trajectory of deterioration" of the Reef, and Australia must take additional actions and limit the effects of cumulative impacts of the Reef from climate change, coastal development, and dredging.[10] This includes minimizing harm to the Reef from dredging for port expansions and the dumping of maintenance dredge spoil, and using its global influence to ensure swifter and more substantial action by the international community to mitigate climate change.[11]

To properly ensure the protection of the Reef that is required to halt its decline and create the conditions for its sustained recovery, we recommend that the Committee modify the draft decision at its June 2015 meeting to:

1. **Inscribe the Great Barrier Reef on the List of World Heritage In Danger; and**

2. **Regardless of whether the Great Barrier Reef is inscribed on the List of World Heritage in Danger:**
    a. **Require annual monitoring of progress of both the implementation of the Reef 2050 Plan and the achievement of quantitative targets for ecosystem health and biodiversity;**
    b. **Require amendments to the Reef 2050 Plan to address its inadequacies as discussed in this report; and**
    c. **Explicitly state at paragraph 8 that if the anticipated progress towards both implementation of the Reef 2050 Plan and achievement of quantitative targets for ecosystem health and biodiversity is not being made, the Committee will consider the possible inscription of the Reef on the List of World Heritage in Danger in 2017.**

THE GREAT BARRIER REEF: PRICELESS, IRREPLACEABLE, AND HERITAGE OF THE WORLD

World Heritage sites are "priceless and irreplaceable assets, not only of each nation, but of humanity as a whole."[12]

The Great Barrier Reef, the world's most extensive coral reef ecosystem, contains some of the most spectacular scenery on earth – above and below the water.[13] Stretching 2,300 kilometers along the coast of Queensland, Australia, it has around 3,000 individual reefs and 1050 islands and is one of the few living structures visible from space.[14] It is also one of the world's richest and most complex ecosystems, vital to the conservation of biodiversity.[15] Its sheer size and diversity of water depth make it a globally unique area of ecological communities, habitats and species, home to thousands of species of plants and animals – including turtles, whales, dolphins, and the iconic dugong.[16]

As a result of the Great Barrier Reef's unique and irreplaceable value, it was inscribed on the World Heritage List in 1981.[17] The World Heritage List is established under the World Heritage Convention,[18] to which Australia was one of the first signatories, ratifying it in 1974.[19]

In the World Heritage Convention, the nations of the world recognize that "parts of the cultural or natural heritage [of the world] are of outstanding interest and therefore need to be preserved as part of the world heritage of mankind as a whole."[20] The Convention describes such places as having "Outstanding Universal Value," which means having significance "so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity. As such, the permanent protection of this heritage is of the highest importance to the international community as a whole."[21] The Convention aims to protect these places for the benefit of future generations by providing for the "identification, protection, conservation, presentation and transmission to future generations of … heritage of Outstanding Universal Value."[22]

The World Heritage Convention provides that is the "duty of the international community as a whole to co-operate" to protect these places of outstanding universal value.[23] This duty is reflected in the World Heritage system of "international co-operation and assistance designed to support State Parties … in their efforts to conserve" world heritage.[24]

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THE LIST OF WORLD HERITAGE IN DANGER

> "The List of World Heritage in Danger is designed to inform the international community of conditions which threaten the very characteristics for which a property was inscribed on the World Heritage List, and to encourage corrective action."[25]

Recognizing that protecting world heritage requires international cooperation, the World Heritage Convention establishes a List of World Heritage in Danger for properties "threatened by serious and specific dangers."[26] The inscription of a site on this list "should … not be considered as a sanction, but as a system established to respond to specific conservation needs in an efficient manner" (although the World Heritage Committee recognizes that some countries may perceive inclusion on the list to be a dishonor).[27] By enabling the international community to respond to specific threats to World Heritage sites, the in danger list contributes to the fulfillment of the commitment to collective protection of sites of universal value.

If a World Heritage site meets certain criteria established under the Convention, the World Heritage Committee can place the site on the List of World Heritage in Danger.[28] At the same time, the Committee also proposes a program of corrective measures to address the threats to the site.[29] The Committee then reviews the site's state of conservation annually.[30] The Committee can also allocate immediate assistance for the site from a communal pool of money called the World Heritage Fund.[31] The purpose and value of the in danger list then is to address the threats to an endangered World Heritage site through international collaboration and regular assessment, with the ultimate aim of restoring the site so it can be removed from the List of World Heritage in Danger.

The World Heritage Convention provides that the World Heritage Committee may place a world heritage site on the List of World Heritage in Danger where the site is threatened by "serious and specific" dangers, such as the "threat of disappearance caused by accelerated deterioration, large-scale public or private projects or rapid urban or tourist development projects; destruction caused by changes in the use or ownership of the land; [or] major alterations due to unknown causes."[32]

Determining whether a site is threatened by "serious and specific" dangers is guided by the World Heritage Committee's "Operational Guidelines for the Implementation of the World Heritage Convention" ("Operational Guidelines"), which establish two cases for inscription of a site on the List of World Heritage in Danger: "*ascertained danger*" and "*potential danger*."[33] The Operational Guidelines then enumerate criteria for each of these cases, which are described and analyzed in depth below.

Importantly, a site only needs to meet one of the criteria provided in the Operational Guidelines in one of the cases of "ascertained danger" or "potential danger" to be eligible for inscription on the List of World Heritage in Danger.[34]

THE GREAT BARRIER REEF MEETS THE CRITERIA FOR INCLUSION ON THE LIST OF WORLD HERITAGE IN DANGER

Introduction

In this report, we analyze the evidence available to the World Heritage Committee and conclude that the Great Barrier Reef clearly meets five of the eight legal criteria for inscription on the List of World Heritage in Danger established by the Committee's Operational Guidelines, and arguably meets one additional criterion. As noted above, a site need only meet one of the criteria to be inscribed.[35]

Key excerpts from the evidence are set out below, and Table 1 below summarizes our findings. We do not address all of the evidence presented by scientific and technical experts that supports inclusion of the Reef on the in danger list, as it is extensive;[36] rather, we have identified the most significant evidence of the danger to the Reef. Much of this evidence is found in the Great Barrier Reef Marine Park Authority's report, "The Great Barrier Reef Outlook Report 2014" ("2014 Outlook Report"),[37] the findings of which were noted with concern by the World Heritage Committee in its draft decision of May 29, 2015.[38] There is far more evidence of the threats to and poor health of the Reef than we cite here.

Our findings are contrary to the Australian Government's 2015 report to the World Heritage Committee ("2015 State Party Report"), which purported to assess the condition of the Great Barrier Reef World Heritage Area against the criteria for inclusion on the List of World Heritage in Danger, having regard to the findings of the 2014 Outlook Report and the "Great Barrier Reef Region Strategic Assessment: Strategic Assessment Report" conducted by Great Barrier Reef Marine Park Authority in 2014.[39] Australia's 2015 State Party Report has been criticized for including only some factual evidence and for ignoring that the evidence demonstrates the deterioration of 25 of the 41 key values for which the Reef is listed as a World Heritage site.[40]

Matt Kieffer / flickr

Table 1 – Great Barrier Reef World Heritage Area: Assessment against the criteria for the inscription of the site on the List of World Heritage In Danger (*Operational Guidelines for the Implementation of the World Heritage Convention*, WHC.13/01, July 2013)[41]

CRITERIA		LEGAL ASSESSMENT OF THE EVIDENCE
Paragraph 180 a) ASCERTAINED DANGER – The property is faced with specific and proven imminent danger, such as:	**180 a) i) A serious decline in the population of the endangered species or the other species of Outstanding Universal Value for which the property was legally established to protect, either by natural factors such as disease or by man-made factors such as poaching.**	**The evidence satisfies this criterion.**
	180 a) ii) Severe deterioration of the natural beauty or scientific value of the property, as by human settlement, construction of reservoirs which flood important parts of the property, industrial and agricultural development including use of pesticides and fertilizers, major public works, mining, pollution, logging, firewood collection, etc.	The evidence arguably satisfies this criterion.
	180 a) iii) Human encroachment on boundaries or in upstream areas which threaten the integrity of the property.	**The evidence satisfies this criterion.**
Paragraph 180 b) POTENTIAL DANGER – The property is faced with major threats which could have deleterious effects on its inherent characteristics. Such threats are, for example:	180 b) i) a modification of the legal protective status of the area.	The evidence does not satisfy this criterion.
	180 b) ii) planned resettlement or development projects within the property or so situated that the impacts threaten the property.	**The evidence satisfies this criterion.**
	180 b) iii) outbreak or threat of armed conflict.	The evidence does not satisfy this criterion.
	180 b) iv) the management plan or management system is lacking or inadequate, or not fully implemented.	**The evidence satisfies this criterion.**
	180 b) v) threatening impacts of climatic, geological or other environmental factors.	**The evidence satisfies this criterion.**

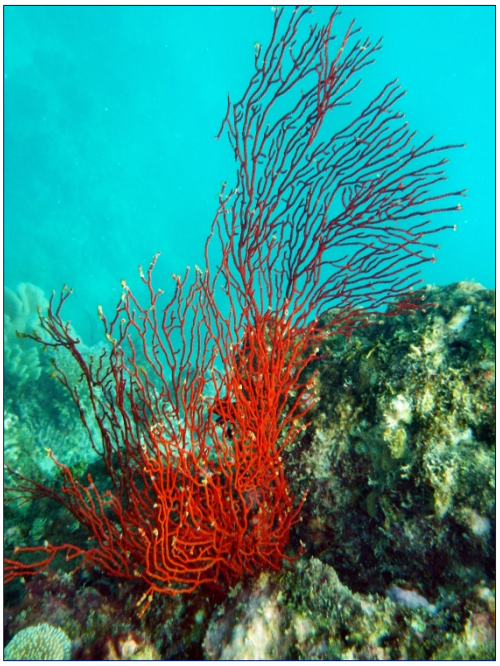
Assessment against criteria in Operational Guidelines for ascertained and potential danger

This section summarizes the evidence leading to the conclusions indicated in Table 1 above.

1. **Ascertained danger – "The property is faced with specific and proven imminent danger," such as a "serious decline in the population of endangered species or other species of Outstanding Universal Value for which the property was legally established to protect, either by natural factors such as disease or by man-made factors such as poaching."[42]**

   The evidence satisfies this criterion.

   The Great Barrier Reef World Heritage Area was legally established to protect species that are part of the Outstanding Universal Value of the Reef, including corals, dugongs, seagrass, and dolphins.[43] Some species, such as mangroves, crocodiles and whales, are recovering from past declines.[44] However, there has been a serious decline in many of the Reef's key species, just a few of which are discussed below.[45]



Paul Toogood / flickr

One of the most significant declines has been to the health of **coral**, the diversity and natural beauty of which are major contributors to the Reef's outstanding universal value. Coral cover has decreased by 50% in the last 40 years[46] and the rate of decline has increased substantially in recent years.[47] The rate of degradation is more severe in the southern third of the Reef where, between 2006 and 2012, coral cover declined from 35% to just 8%.[48] Since 2005, coral cover on inshore reefs has declined by an average of 34%, and this is accompanied by low numbers of juvenile coral and slow rates of increase in cover during periods free from disturbances.[49] Scientific evidence indicates that, without significant changes to the rates of disturbance and coral growth, coral cover in the central and southern regions of the Reef is likely to decline by 5-10% by 2022.[50] In addition, coral diversity has decreased in inshore areas affected by chronic poor water quality and disease outbreaks, leading to the loss of sensitive species.[51] Furthermore, assessments of coral condition in recent decades are almost certainly from a shifted baseline, with the condition of inshore reefs already substantially reduced before monitoring began.[52] The 2014 Outlook Report assesses both coral reef habitat and corals as a species as being in "poor" condition and declining.[53]

The abundance of **seagrass meadows** has declined significantly, and remaining seagrasses are highly vulnerable to further harm as they have been reduced to small remnant patches and have few seed banks.[54] Seagrass is an important component of the Reef ecosystem, as it is a main food source for dugongs and green turtles, a nursery habitat for many fish species, and it stabilizes sediment and cycles nutrients.[55] The 2014 Outlook Report assesses both seagrass habitat and seagrass as a species as being in "poor" condition and declining.[56] For example, at Mourilyan Harbour almost all seagrass meadows have been lost, and there are substantial reductions in meadows adjacent to Cairns, Townsville and Gladstone.[57] Where seagrasses have been disturbed, there has also been a change in species composition, as fast-growing pioneer species return first and a more diverse seagrass habitat generally takes years to reestablish.[58]

The Reef is home to a globally significant population of **dugongs**, and provides essential habitat and connectivity between populations in the Torres Strait and the waters off south-east Queensland.[59] Whilst the northern dugong population is considered in good condition, in the central and southern two-thirds of the Reef, the dugong population has declined by more than 95%.[60] By 2011, the southern population was estimated at only 600 animals, compared with around 2000 in 2005, representing the lowest population estimate since surveys began in 1987 and coinciding with significant losses in seagrass, a key food source for dugongs.[61] The 2014 Outlook Report assesses the dugong population as being in "poor" condition and declining.[62]

Populations of two **dolphin** species – the Australian snubfin and Indo-Pacific humpback dolphins (both of which live in inshore waters) – are considered "at risk and likely to be in serious decline," primarily because of their small, localized populations and exposure to high levels of human activity.[63] Indeed, the four known populations of Indo-Pacific humpback dolphins consist of 64, 107, 85 and 50 or less animals only,[64] and the "long-term viability" of the snubfin dolphin population in Cleveland-Halifax Bays (less than 100 animals) and Keppel Bay-Fitzroy River (less than 70) is at risk.[65]

There are significant concerns about many **shark** species. For example, it appears that the speartooth shark (listed as critically endangered under Australian legislation) has now become extinct on the Australian east coast, and there have been significant range contractions and population declines recorded for the largetooth, green and dwarf sawfish sharks (all listed as vulnerable under Australian legislation).[66] There are also concerns about the condition and vulnerability of a number of other shark and ray species. For example, 17 currently caught shark species have been assessed as particularly vulnerable to exploitation.[67] The 2014 Outlook Report assesses the shark and ray population as being in "poor" condition and declining.[68]

The scientific evidence clearly indicates that there has been a serious decline in the population of some of the endangered species and species of Outstanding Universal Value that the Great Barrier Reef World Heritage Area was legally established to protect. Accordingly, this criterion for including the property on the List of World Heritage in Danger is met.

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2. **Ascertained danger – "The property is faced with specific and proven imminent danger" such as a "[s]evere deterioration of the natural beauty or scientific value of the property, as by human settlement, construction of reservoirs which flood important parts of the property, industrial and agricultural development including use of pesticides and fertilizers, major public works, mining, pollution, logging, firewood collection, etc."[69]**

The evidence arguably satisfies this criterion.

There is no doubt that the natural beauty of large parts of the Great Barrier Reef remains intact, especially the outer coral reefs, aerial vistas and neighboring islands, as do many aspects of its

scientific value.[70] The Great Barrier Reef Marine Park Authority's 2014 Strategic Assessment Report, which describes the overall condition of the northern inshore and offshore areas as very good and the condition of the southern offshore area as good, highlights some of these values:

> The Great Barrier Reef demonstrates superlative natural beauty above and below the water, providing spectacular scenery. It is one of a few living structures visible from space, appearing as a complex string of reefs along Australia's north-east coast. From the air, the vast mosaic patterns of reefs, islands and coral cays produce an unparalleled aerial panorama. The Whitsunday Islands provide a magnificent vista of green vegetated islands and spectacular sandy beaches. Hinchinbrook Island supports vast mangrove forests, rugged vegetated mountains and lush rainforest gullies. The Reef's natural phenomena include annual coral spawning, migrating whales, nesting turtles, and significant spawning aggregations of many fish species.[71]

Despite this, the natural beauty and scientific value of the Great Barrier Reef have deteriorated, and are showing a continuing deteriorating trend.[72] Some aspects have deteriorated to a greater extent than others. It is arguable that, overall, the deterioration of these factors amounts to severe deterioration.

One of the most significant components of the Reef's natural beauty is its coral coverage and diversity,[73] which has severely deteriorated (as described above).[74] Crown-of thorn starfish outbreaks, which are encouraged by nutrient pollution from human activities, contribute to this decline,[75] as do mass coral bleaching events (such as those in 1998, 2002 and 2006) and damage caused by severe weather events, both of which are likely to increase with climate change.[76] Increased coastal infrastructure (such as industrial ports), industrial shipping, water turbidity that reduces underwater visibility, and marine debris also harm the Reef's aesthetics.[77]

Many aspects of the Reef's scientific value – such as its ecological and biological processes – have also deteriorated, especially in the inshore and southern two-thirds of the Reef.[78] This is recognized in the World Heritage Committee's recent draft decision of May 28, 2015.[79] For example, there is evidence of widespread regional-scale declines in ecological processes such as recruitment (the addition of new individual organisms to successive stages of their lifecycle), herbivory (the consumption of plants for food, thereby moving energy through the food chain) and predation (animals consuming other animals), and in the inshore southern two-thirds, connectivity (the movement of species and materials across and through seascapes), nutrient cycling (the movement of nutrients between the physical environment and living organisms) and sedimentation, principally associated with adjacent land-based activities.[80] Introduced weeds have affected native vegetation on a number of islands.[81]

Finally, the Reef's value as a significant natural habitat for in-situ conservation has severely deteriorated, although this varies with location. For example, as described above there has been severe deterioration of key habitats, including corals and seagrass meadows, particularly in inshore areas and as a result of coastal development such as ports, land-based runoff, severe weather events and crown-of-thorn starfish outbreaks.[82]

Although the natural beauty of large parts of the Reef remains intact, it is arguable that, overall, the deterioration in natural beauty and scientific value is severe and, accordingly, that this criterion for including the Reef on the in danger list is met.

3. Ascertained danger – "The property is faced with specific and proven imminent danger" such as "[h]uman encroachment on boundaries or in upstream areas which threaten the integrity of the property."[83]

The evidence satisfies this criterion.

The integrity of the Reef is threatened by the impacts of human encroachment on its edges and in its upstream areas, including impacts from coastal development such as port development and expansion, and from land-based runoff.[84] The cumulative impact of these activities also reduces the Reef's overall resilience – its ability to survive and recover from other stressors.[85]

One of the most significant human encroachments on the Great Barrier Reef is the development and maintenance of industrial ports, including at Gladstone, Abbot Point and Hay Point, all of which are major hubs for the export of coal.[86] There has been major growth in port activity over the past two decades, and dredging – the extraction of parts of the seafloor to deepen areas for improved access – has been undertaken in ports and access channels for many decades, but now involves much greater volumes.[87]

Pete Niesen / Shutterstock

There is widespread agreement, including from the Great Barrier Reef Marine Park Authority, that dredging can cause substantial environmental degradation:

> The specific effects of dredging activities are well documented and include: seabed disturbance; removal or modification of seafloor habitats; loss of species, including benthic organisms and injury or mortality to species of conservation concern; changes in species behaviour; degradation of water quality, including increased sedimentation and turbidity from dredge plumes; changes to hydrodynamics and coastal hydrology; increased underwater noise; and an increased risk of oil spills. The most severe effects are at the site of dredging but some, including sedimentation, turbidity, noise and disruption of fish habitats, may also occur some distance from the site.[88]

A 2015 report by an independent panel of experts synthesizing the current knowledge of the biophysical impacts of dredging and disposal in the Great Barrier Reef confirmed that dredging removes seabed organisms and substrate; suspends sediments, which increases turbidity, reduces light and leads to sediment deposition; creates underwater noise that can be harmful to marine life, including dolphins; releases contaminants such as nutrients and organic matter; and changes underwater topography and movement of water.[89]

Recent modeling suggests that sediment plumes from dredging may migrate over greater distances and for longer periods than previously understood, thus causing harm beyond the immediately impacted area.[90] Empirical, field-based evidence links sedimentation and turbidity associated with dredging to elevated levels of coral disease and other indicators of compromised coral health.[91] The sedimentation and turbidity caused by dredging also reduces the amount of light available for the photosynthesis necessary for coral health, and the sediment falling onto the coral can interfere with its ability to feed.[92]

In addition to the impacts of coastal development, runoff from land-based activities in the catchment areas of the Great Barrier Reef threatens its integrity by causing significant degradation of water quality. The Reef receives terrestrial runoff from 35 catchments that drain 424,000 square kilometers of coastal Queensland.[93] This runoff contains pesticides, sediments, nutrients and other pollutants from agricultural, industrial and urban areas.[94] Compared to pre-European conditions, modeled mean-annual river loads to the Reef lagoon have increased 3.2- to 5.5-fold for total suspended solids, 2.0- to 5.7-fold for total nitrogen and 2.5- to 8.9-fold for total phosphorus (although these increases vary regionally).[95]

The "decline of marine water quality associated with terrestrial runoff from the adjacent catchments is a major cause of the current poor state of many of the key marine ecosystems of the Great Barrier Reef."[96] For example, poor water quality contributes to crown-of-thorns starfish outbreaks and coral bleaching, suspended sediments reduce the light available to seagrass and corals and can smother marine organisms, and pesticides pose a high risk particularly in coastal, freshwater and estuarine habitats.[97]

Furthermore, a report by the Queensland Auditor-General, released in June 2015 and addressing the Queensland Government's contribution to improving the quality of water that enters the Reef from adjacent terrestrial catchments has found that government statements in relation to improvements in water pollution levels from runoff cannot be relied upon as fact:

> The statement in the 2012–13 reef report card [issued by the Australian and Queensland governments] that the 2009 goal of halting and reversing the decline in water quality entering the reef was achieved is easily misinterpreted as fact. There is a high level of uncertainty in the modelled outcomes on which this statement is based because of the number of assumptions and data limitations in such a complex model. This uncertainty is not evident in the headline (tier one) report card, and public reporting would be enhanced if the report card was more transparent.[98]

The Auditor-General also found that the Queensland Government's response to its commitments in the "Reef Water Quality Protection Plan" (a collaboration between the Queensland and Australian governments to improve the quality of water entering the Reef) has "lacked urgency and purpose, characterised by disparate projects with no central authority and no clear accountability for their delivery or for achievement," and that state government programs "are not close to achieving the scale of land management practice change necessary" to achieve the goals of the Reef Water Quality Protection Plan, due to the government's "disproportionate reliance on voluntary participation and slow industry take-up in improvement programs. … This lack of progress casts doubt that nitrogen and sediment reduction targets will be reached by 2018."[99]

The harms caused by human encroachment on the edges of the Reef and in its upstream areas, through port development and runoff, pose a danger to the Reef and threaten its integrity. Accordingly, this criterion for including the property on the List of World Heritage in Danger is met.

4. Potential danger – "The property is faced with major threats which could have deleterious effects on its inherent characteristics," such as "*a modification of the legal protective status of the area.*"[100]

The evidence does not satisfy this criterion.

There is no current evidence of a major threat from any modification of the legal protective status of the Great Barrier Reef.

5. Potential danger – "The property is faced with major threats which could have deleterious effects on its inherent characteristics," such as "*planned … development projects within the property or so situated that the impacts threaten the property.*"[101]

The evidence satisfies this criterion.

The Great Barrier Reef is seriously threatened by planned development projects, especially port expansions, which are likely to have deleterious effects on its inherent characteristics.

Although the Australian and Queensland governments have recently committed not to dump capital dredge spoil within the World Heritage area, planned port expansions remain a significant threat to the Reef.[102] One of the most significant development proposals is the expansion of Abbot Point Port on the coast bordering the Reef.[103] The current proposal for the Abbot Point Port expansion, which the Queensland Government submitted in April this year and which replaces two previous proposals that would have involved the dumping of dredge spoil within the World Heritage Area and then on coastal wetlands, involves dredging 1.1 million cubic metres of previously undisturbed seabed within the World Heritage Area and dumping it onshore on existing industrial port land.[104] This dredging is of particular concern given the significant harm that dredging can cause to the health of the Reef ecosystem, described above in relation to criterion 3. In a recent report, the Australian Coral Reef Society, the professional organization for coral reef scientists and managers in Australia, has identified concerns about the impacts of dredging specific to the Abbot Point region, including potential impacts on turtles, dugongs and fish.[105] Furthermore, although the Queensland Government proposes that the dredging contractor will use a cutter and suction dredge to reduce the extent of the sediment plume,[106] the Australian Coral Reef Society has noted that this technology is intended for use in harbors and is unsuitable for use in rough seas like the ocean waters at Abbot Point.[107]

Tom Jefferson / Greenpeace

In addition, as noted above, the dredge spoil is proposed to be dumped on existing industrial port land. This land is adjacent to the World Heritage Area and dredge spoil may run off into the World Heritage Area, especially during severe weather events, which are likely to increase in frequency due to climate change. This matter has yet to be assessed, as the proposed expansion is currently undergoing environmental impact assessment. However, if dumped dredge spoil did run off into the World Heritage Area, it would likely have detrimental effects on the Reef.[108]

The planned port development projects, such as that at Abbot Point, are likely to have deleterious effects on the Reef's inherent characteristics. Accordingly, this criterion for including the property on the List of World Heritage in Danger is met.

6. Potential danger – "The property is faced with major threats which could have deleterious effects on its inherent characteristics," such as "*outbreak or threat of armed conflict*"[109]

The evidence does not satisfy this criterion.

There is no evidence of any risk of armed conflict.

7. Potential danger – "The property is faced with major threats which could have deleterious effects on its inherent characteristics," such as "*the management plan or management system is lacking or inadequate, or not fully implemented*"[110]

The evidence satisfies this criterion.

The Reef 2050 Plan is the overarching framework for managing the Great Barrier Reef until 2050.[111] Unfortunately, the Australian Academy of Science and a number of respected reef scientists have concluded that the actions identified in the Reef 2050 Plan are inadequate to "overcome or limit the trajectory of deterioration" of the Reef,[112] and the plan fails to create the conditions necessary for the Reef's sustained recovery, especially given clear and significant cumulative threats.

There are a number of concerns about the Reef 2050 Plan. First, it does not contain enough scientifically justified and clearly defined targets for improving the conservation of the Reef,[113] contrary to the recommendations of the World Heritage Committee.[114] For example, respected reef scientists have found the Reef 2050 Plan to be inadequate because its "targets for ecosystem health and biodiversity … are general and qualitative, making achievement subject to argument. Enhancements to management of coastal land-use change are described using terms such as 'add to', 'require', 'strengthen', and 'ensure' – vaguely encouraging, but essentially lacking in specific commitment."[115] This critique reflects the concern of the Australia Academy of Science with respect to the draft of the Reef 2050 Plan that, although the plan advocates targets that are "specific, measurable, achievable, realistic and time-bound," "many important targets are not quantified, nor are they connected to any mechanisms through which they can be achieved."[116]

Second, although the effectiveness of the Reef 2050 Plan will depend on its implementation and enforcement, the Plan is not enforceable. As the Australian Network of Environmental Defender's Offices said in relation to the draft Reef 2050 Plan:

> There is no statutory basis for the [Reef 2050 Plan] and it is not enforceable. The [Reef 2050 Plan] is proposed to be a schedule to the Intergovernmental Agreement on the Great Barrier Reef, however when in isolation from legislation, intergovernmental

> agreements are unenforceable through the courts. If one or both of the Commonwealth and Queensland Governments failed to take action on the objectives and targets, there are no legal consequences or implications for either one of them. The community has no recourse to hold government to account for failing to properly act on the [Reef 2050 Plan].[117]

Third, the Reef 2050 Plan still allows capital dredging for new or expanding ports within regulated port limits, and fails to properly address the potential harms from such dredging. This is despite the widespread acknowledgment of the harms caused by dredging, described above in relation to criterion 3. Because "the development of major port terminals that require significant dredging or reclamation [are] one of the major drives of increasing current and future impact" on the Reef, the Australian Academy of Science has proposed that the Reef 2050 Plan be amended to:

1. clarify what activities are appropriate within port exclusions both inside and outside the boundaries of the Great Barrier Reef Marine Park;
2. ensure all options for port developments, including trestles for loading further offshore and avoiding dredging, are properly considered when environmental impact assessments occur;
3. clarify that certain areas (like Princess Charlotte Bay and the Fitzroy Delta) are not suitable for port developments, and designate these areas in a way that such developments cannot proceed, thus providing certainty for developers and the community; and
4. [e]nsure all port activities in the Great Barrier Reef World Heritage Area are undertaken (assessed, planned, operated and monitored) at a level which is commensurate with being within a World Heritage Area.[118]

In addition, the Reef 2050 Plan does not restrict "the volume or disposal of maintenance dredge spoil," even though such spoil "can have even greater impacts than capital dredge spoil through re-suspension of much finer sediments."[119] The plan also permits land disposal of dredge spoil, which can harm habitats critical to the Reef's health.[120] The Australian Academy of Science thus recommends that the Reef 2050 Plan be amended to:

1. clarify how port authorities or contractors will be monitored so they are not able to conduct and dump capital dredging at sea under the guise of maintenance dredging;
2. ensure investigations of alternatives to sea dumping of maintenance dredge spoil are conducted and the results used to inform regulation and future legislation; and
3. ensure all maintenance dredging activities and any dumping that does occur in the Great Barrier Reef World Heritage Area are undertaken (assessed, planned, operated and monitored) at a level which is commensurate with being within a World Heritage Area.[121]

Fourth, the Reef 2050 Plan fails to address long-term protection of the Reef from cumulative stressors, such as harms resulting from coastal development, climate change, poor water quality and unsustainable fishing, despite establishing the development of "ecosystem resilience in the face of a variable and changing climate" as a key principle.[122] This is particularly concerning in the face of climate change-related impacts such as ocean warming and acidification, because the Reef needs to be resilient if it is going to adapt to climate change.

There is no doubt that the Reef's ecosystem is "under pressure" and that, although coral reefs have a natural ability to recover from periodic disturbances, cumulative effects are "diminishing the ecosystem's ability to recover from disturbances."[123] For example, corals exposed to

"chronic pressures, such as poor water quality, are likely to have less resilience. …[C]orals have also been shown to be more susceptible to bleaching and disease in the presence of elevated nutrients."[124] Indeed, the Australian Government recognizes that "the natural resilience of the [Reef] may be being overwhelmed by increases in levels of disturbance, and consequent impacts."[125] Climate change is of particular concern in eroding the Reef's resilience, as it can amplify the harm caused by other effects of coastal development and runoff.[126]

The Reef's resilience to climate change-related impacts can be enhanced by the reduction of "local and regional anthropogenic pressures"[127] such as the impacts from coastal development and poor water quality identified in the World Heritage Committee's draft decision.[128] As the 2014 Outlook Report states: "More than ever, a *focus on building resilience by reducing all threats* is important in protecting the Region's ecosystem and its Outstanding Universal Value into the future."[129] The concept of reducing local and regional pressures to assist a World Heritage site to adapt to climate change is not new: for example, as described below, the World Heritage Committee considered that restoring the aquatic ecosystem of the Everglades National Park by reinstating historic levels of water flow (which had previously been diverted for urban and agricultural uses and flood control purposes) was the single most effective strategy to enable the Everglades to adapt to climate change.[130]

Because the Reef 2050 Plan does not significantly restrict sources of local and regional pressures, such as the impacts of coastal development, it is unlikely to result in an increase in the Reef's resilience to cumulative stressors, including climate change.

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Finally, the Reef 2050 Plan relies on current Australian government policy to address the effect of current and projected climate change on the health of the Reef.[131] However, the Australian Government's current policies to mitigate climate change are completely inadequate, despite clear scientific recognition (described below) that climate change is one of the most, if not the most, serious threats to the Reef, and despite Australia's substantial contribution to greenhouse gas emissions. Already one of the world's biggest exporters of coal, Australia is committed to massively increasing its coal production, including through opening new mega-mines in the Galilee Basin.[132] For example, in July 2014, the Australian Government approved a new 200 square kilometer coal mine development in outback Queensland that would produce up to 60 million tonnes of thermal coal annually for more than 60 years, accounting for 4% or more of the world's total emissions by mid-century, depending on the reduction in global emissions.[133]

Despite this substantial contribution to climate change, in 2014 the Australian Government repealed climate change mitigation laws[134] and reduced Australia's renewable energy target.[135] The current centerpiece of Australia's commitment to reduce its greenhouse gas emissions to five per cent below 2000 by 2020 is the Emissions Reduction Fund ("ERF").[136] The first ERF auction, at which the Australian Clean Energy Regulator (a federal statutory body) commenced purchasing emissions abatement, was held in April 2015.[137] Unfortunately, it appears unlikely that the ERF will achieve the emissions reduction goal because, among other things, the current budget available to purchase carbon emissions is insufficient to purchase all necessary emissions, and almost all of the abatement purchased at the first auction appears to be from projects that were already in place sometime before the ERF came along, or rely on a one-off land clearing permit regime.[138]

In these circumstances, the Reef 2050 Plan's reliance on Australia's inadequate climate policy is likely to contribute to threats to the Reef's inherent characteristics. Instead of pursuing its current climate policy, Australia should

> play a more active role in transitioning away from fossil fuels to renewable energy, and rejoin the global community in tackling dangerous climate change. The era of thermal coal is coming to an end and efforts to prolong it by opening new coal mines are too risky for the [Great Barrier Reef] and for climate-sensitive ecosystems elsewhere.[139]

Furthermore, even if the management plan in the form of the Reef 2050 Plan were adequate, it has yet to be fully implemented. This alone would mean that this criterion has not been satisfied. If and when the Reef 2050 Plan is implemented, an assessment can be made as to whether the threat to the Reef has been sufficiently addressed to remove the need for inscription on the List of World Heritage in Danger.

In relation to a separate management system – the Reef Water Quality Protection Plan, as described in relation to criterion 3 above, the Queensland Auditor-General has recently raised serious concerns about the Queensland Government's inadequate implementation this plan, which aims to improve the quality of water entering the Reef.[140]

The above discussion demonstrates that the management plans for the Reef are inadequate or not fully implemented. This will have deleterious effects on the Reef's inherent characteristics and, accordingly, this criterion for including the property on the List of World Heritage in Danger is met.

8. Potential danger – "The property is faced with major threats which could have deleterious effects on its inherent characteristics," such as "*threatening impacts of climatic, geological or other environmental factors.*"[141]

The evidence satisfies this criterion.

The threat of climate change to coral reefs is well documented and is one of the most, if not the most, serious threats to the Great Barrier Reef, potentially causing deleterious effects on its inherent characteristics.[142] As the Australian Government recognized in 2014:

> 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.[143]

And in 2015:

> The biggest long-term threat to coral reefs worldwide is climate change – and the Great Barrier Reef is no exception. Damage to reefs as a consequence of climate change comes from ocean acidification, sea temperature increases, altered weather patterns (such as more intense storms) and rising sea levels.[144]

Corals – a key attribute of the Reef's Outstanding Universal Values – are considered to be some of the species most vulnerable to climate change.[145] The following are some of the effects of climate change on the Reef identified in the 2014 Outlook Report:[146]

- Ocean acidification could "ultimately affect most marine life through habitat destruction or modification, food web deterioration and disruption of physiological processes. … Even relatively small decreases in ocean pH reduce the capacity of corals to build skeletons, which in turn reduces their capacity to create habitat for reef biodiversity in general."

- Sea-level rise is significant for the Reef ecosystem as some habitats are shallow and strongly influenced by sea level. Small changes in sea level will also increase erosion and land inundation, causing significant changes in tidal habitats such as mangroves, and saltwater intrusion into low-lying freshwater habitats. Turtle and seabird nesting beaches are particularly vulnerable to rising sea levels.

- The capacity of hard corals to grow and reproduce will be increasingly compromised with flow-on effects on other species dependent on coral reefs.

- Continued increases in air and sea temperature pose significant risks as they influence a range of physical, chemical and biological processes and, hence, many different habitats and species.

- Pelagic-foraging seabirds are highly vulnerable to changes in ocean currents, and there is evidence that climate change has driven the ranges of Australian seabirds further south, reducing breeding success. Also, altered ocean circulation patterns may affect the transport of eggs and larvae of many species.

- Climate change-induced shifts that increase the frequency or intensity of extreme weather events, or that change their distribution, will increase coral damage.

The threat posed by climate change to the inherent values of the Reef is exacerbated by the decreasing resilience of the Reef and its reduced capacity to recover from disturbances, described above.

The effects of climate change are a major threat to the Great Barrier Reef that will seriously harm its inherent characteristics. The "far-reaching consequences" of climate change, such as sea-temperature rise, ocean acidification and more intense weather events, will lead to an increased risk of mass coral bleaching, increasingly restricted coral growth, and storm damage. All these harms will have deleterious effects on the inherent characteristics of the Reef.

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Additional matters for consideration under the Operational Guidelines

In addition to the criteria for adding a property to the List of World Heritage in Danger described above, the Operational Guidelines also provide that the "the threats and/or their detrimental impacts on the integrity of the property must be those which are amenable to correction by human action."[147] As is evident from the above discussion, the threats to the Great Barrier Reef are created by humans, and may be corrected by humans.[148]

Conclusion: The criteria for inscribing the Great Barrier Reef on the List of World Heritage in Danger are met

As set out above, the evidence demonstrates that the Great Barrier Reef meets five, and arguably six, of the eight legal criteria for listing a natural property in danger. Even the 2014 Outlook Report, which was prepared by the Great Barrier Reef Marine Park Authority (an Australian federal statutory body) and which was noted with concern by the World Heritage Committee in its recent draft decision, found that the long-term outlook for the Reef is **poor**, **deteriorated** and **deteriorating**. As that report states:

> The Great Barrier Reef is under pressure. Cumulative effects are diminishing the ecosystem's ability to recover from disturbances. Some threats are increasing, driven mainly by climate change, economic growth and population growth. The emerging success of some initiatives (such as improving land-based run-off) means some threats may be reduced in the future. However, there are significant lags from when actions are taken to improvements being evident in the ecosystem. More than ever, a focus on building resilience by reducing the threats is important in protecting the Region's ecosystem and its Outstanding Universal Value into the future.[149]

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INCLUDING THE GREAT BARRIER REEF AS WORLD HERITAGE IN DANGER WOULD BE CONSISTENT WITH PREVIOUS DECISIONS OF THE WORLD HERITAGE COMMITTEE

It would not be unusual for the World Heritage Committee to list the Great Barrier Reef as in danger. This is because there is clear precedent for inscribing natural properties – such as the Great Barrier Reef – on the List of World Heritage in Danger when the evidence of ascertained and potential danger is of the scope and degree as that described in this report in relation to the Reef. This section summarizes these precedents.

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The **Belize Barrier Reef Reserve System** – the second largest reef system in the world after the Great Barrier Reef[150] – was inscribed on the List of World Heritage in Danger in 2009, because the World Heritage Committee considered there was ascertained danger to its Outstanding Universal Values.[151] The Committee was particularly concerned about the impacts of land-based activities – such as mangrove cutting, infilling, coral dredging, and other activities associated with real estate development on islands in the Reef System – on the marine ecosystem.[152] This was because the health of terrestrial and marine ecosystems is closely associated, and the outstanding values of the Belize Barrier Reef require both ecosystems to be intact.[153] The Committee found that these "ongoing damaging activities, *particularly in the terrestrial areas of the property*," together with other concerns (including the absence of a management framework, the lack of funds for proper management, introduced species, illegal fishing and absence of no-take zones), facilitated the erosion of the site's integrity and threatened the ecosystem and biodiversity values.[154] This "ascertained danger ... provide[d] sufficient evidence" to inscribe the site on the List of World Heritage in Danger.[155]

The Committee requested that Belize take corrective actions, such as preventing mangrove cutting and coral dredging, restoring lands degraded by unauthorized activities, and ensuring that development within the World Heritage area was consistent with conserving the Outstanding Universal Values. Furthermore, since the addition of the Belize Barrier Reef Reserve System to the in danger list, the Committee has expressed concerns about oil exploration in the area, noting that such exploration is incompatible with World Heritage status.[156] It has also noted that the large number of pressures on the Belize Barrier Reef reduces its resilience to the impacts of climate change[157] – similarly to the situation being observed by scientists with respect to the Great Barrier Reef.[158]

The **Everglades National Park** in the United States was placed on the List of World Heritage in Danger in 2010 (having been first placed on the list in 1993 and removed in 2007).[159] The United States had requested that the Everglades be re-inscribed on the in danger list for a short period until corrective measures that had been previously proposed were fully implemented, together with additional measures necessary to secure the Everglades' long-term restoration, and to allow the United States the opportunity to assess the ecosystem response to these measures.[160] When re-inscribing the Everglades on the list, the Committee noted that "*key ecological indicators have continued to deteriorate*."[161] For example, wading bird population sizes were only five to ten percent of early 1900s numbers, algal blooms had led to mortality of estuarine species such as seagrasses and coral, the habitats of marine species were degraded, and populations of large predators were

decreasing. As a result of this "continuing degradation" of the Everglades, "evidenced through the monitoring of key ecological indicators," the Committee found the property was in ascertained danger of losing its Outstanding Universal Values.[162]

In addition, the Committee noted that the rapid implementation of projects to restore the aquatic ecosystem – through restoration of historic water flows – was the "single most effective strategy to preserve the Everglades aquatic ecosystem in the face of climate change and sea level rise."[163] Accordingly, the proposed restoration measures served as climate change adaptation tools.[164]

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Finally, at least one World Heritage site – **East Rennell in the Solomon Islands** – has been inscribed on the List of World Heritage in Danger due to climate change concerns. East Rennell is part of Rennell Island, which is the largest raised coral atoll in the world and is mostly covered in untouched, dense forest.[165] When the Committee inscribed East Rennell on the in danger list in 2013, it noted that

> weather patterns over the past two decades suggest that climate change may be inducing a higher frequency of cyclonic activity, which in the past has led to extensive damage to forests and high mortality of birds and bats in particular. In addition, climate change effects, including increasing cyclone activity, as well as increasing water levels and salinity in Lake Tegano [a major feature on Rennell Island], induced by sea level rise, have led to shortages of housing, food and medical supplies.
> ...
> [T]he effects of climate change are having a serious detrimental impact on the natural values of the property.... [166]

CONCLUSION AND RECOMMENDATIONS: THE WORLD HERITAGE COMMITTEE AND THE AUSTRALIAN GOVERNMENT MUST TAKE STRONGER ACTION TO ENSURE PROTECTION OF THE GREAT BARRIER REEF

The unique and priceless Great Barrier Reef is under serious threat and meets the criteria to be inscribed on the List of World Heritage in Danger. Contrary to the claims in some media reports about the World Heritage Committee's draft decision,[167] the draft decision acknowledges that the overall outlook for the Reef is "poor," that the impacts of coastal development, climate change and water pollution are "major threats" to the Reef's health, and that the cumulative effects of these impacts have caused key habitats, species and ecosystem processes to continue to deteriorate.[168] These are threats that, as the Operational Guidelines described above require, are amenable to correction by human action.

However, the World Heritage Committee's draft decision is insufficient to prevent further deterioration of the Reef and to create the conditions necessary for the Reef's sustained recovery. This is especially so, given the clear and significant threats to the Reef, the Committee's reliance on the implementation of the Reef 2050 Plan to protect the Reef, which as discussed above is inadequate to respond to those threats, and the Committee's decision to stop the annual scrutiny of the Reef that it began in 2011.

Although the draft decision did not propose to list the Reef as in danger, to ensure the protection of the Reef and create the conditions for its recovery, the Committee should amend the draft decision to:

1. **Inscribe the Great Barrier Reef on the List of World Heritage In Danger; and**

2. **Regardless of whether the Great Barrier Reef is inscribed on the List of World Heritage in Danger:**
    a. **Require annual monitoring of progress of both the implementation of the Reef 2050 Plan and the achievement of quantitative targets for ecosystem health and biodiversity;**
    b. **Require amendments to the Reef 2050 Plan to address its inadequacies as discussed in this report; and**
    c. **Explicitly state at paragraph 8 that if the anticipated progress towards both implementation of the Reef 2050 Plan and achievement of quantitative targets for ecosystem health and biodiversity is not being made, the Committee will consider the possible inscription of the Reef on the List of World Heritage in Danger in 2017.**

If the World Heritage system is to have any value, it must address the most serious threats to the most iconic examples of world heritage. If any site falls into this category, it is the Great Barrier Reef, the largest coral reef on the planet and one of its richest and most complex ecosystems, which is in serious jeopardy as a result of the actions of Australia and the world. A failure by the World Heritage Committee to inscribe the Reef on the List of World Heritage in Danger or make stronger recommendations for its protection would represent a failure to ensure the preservation of an outstanding piece of world heritage and would undermine the World Heritage Convention's purpose to preserve heritage for the benefit of future generations.

These recommendations will be the best course of action to ensure that the Great Barrier Reef – a unique and threatened part of humanity's world heritage – is not lost forever.

[1] United Nations Educational, Scientific and Cultural Organization ("UNESCO"), *World Heritage*, http://whc.unesco.org/en/about/ (accessed May 27, 2015).
[2] *Id.*
[3] *See* Douvere, F., and Badman, T., *Mission Report – Reactive Monitoring Mission to Great Barrier Reef (Australia) 6th to 14th March 2012*, available to download at http://whc.unesco.org/en/documents/117104/ (accessed June 4, 2015).
[4] *See generally*, World Heritage Committee, 36 COM 7B.8 (2012), http://whc.unesco.org/en/soc/86; World Heritage Committee, 37 COM 7B.10 (2013), http://whc.unesco.org/en/soc/1874; World Heritage Committee, 38 COM 7B.63 (2014), http://whc.unesco.org/en/soc/2867 (all accessed June 4, 2015).
[5] World Heritage Committee, 39 COM 7B.7 (draft), para. 3 (emphasis added), http://whc.unesco.org/en/soc/3234 (accessed May 31, 2015).
[6] *See, for example*, Ludlow, M., AFR Weekend, *Great Barrier Reef off 'endangered' list* (May 29, 2015), http://www.afr.com/news/politics/great-barrier-reef-off-endangered-list-20150529-ghcd41 (accessed June 5, 2015) ("'The decision moves the reef from the watch list and it achieves real and profound change in the long-term management of the Reef,' [Federal Environment Minister] Mr Hunt told AFR Weekend.").
[7] *See generally*, Australian Government, *Reef 2050 Long-Term Sustainability Plan* (2015), http://www.environment.gov.au/system/files/resources/d98b3e53-146b-4b9c-a84a-2a22454b9a83/files/reef-2050-long-term-sustainability-plan.pdf (accessed June 4, 2015).
[8] World Heritage Committee, 39 COM 7B.7 (draft), above n 5, paras. 6-8.
[9] *Id.*
[10] Australian Academy of Science, *Reef 2050 Long Term Sustainability Plan – Position Statement* (April 1, 2015), https://www.science.org.au/reef-2050-long-term-sustainability-plan (accessed May 31, 2015).
[11] *Id.*
[12] UNESCO, Intergovernmental Committee for the Protection of the Cultural and Natural Heritage of Outstanding Universal Value, *Operational Guidelines for the Implementation of the World Heritage Convention* ("*Operational Guidelines*"), WHC. 13/01 (July 2013), para. 4, http://whc.unesco.org/archive/opguide13-en.pdf (accessed June 4, 2015).
[13] UNESCO, *Great Barrier Reef*, http://whc.unesco.org/en/list/154 (accessed June 3, 2015).
[14] Australian Government, Great Barrier Reef Marine Park Authority, *Facts about the Great Barrier Reef*, http://www.gbrmpa.gov.au/about-the-reef/facts-about-the-great-barrier-reef (accessed June 3, 2015).
[15] UNESCO, *Great Barrier Reef*, above n 13.
[16] *Id.*
[17] *Id.* The Great Barrier Reef meets all four of the World Heritage Convention's criteria for inscribing a natural site on the World Heritage List. *Id.* These criteria are that the site "contain superlative natural phenomena or areas or exceptional natural beauty and aesthetic importance," "be outstanding examples representing major stages of earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features," "be outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals," and "contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation." *See* UNESCO, *The Criteria for Selection*, Criteria (vii), (viii), (ix) and (x), http://whc.unesco.org/en/criteria/ (accessed June 3, 2015).
[18] *Convention Concerning the Protection of the World Cultural and Natural Heritage* ("*World Heritage Convention*") (1972), Article 11(2), http://whc.unesco.org/en/conventiontext/ (accessed May 28, 2015).
[19] UNESCO, *States Parties: Ratification Status*, http://whc.unesco.org/en/statesparties/ (accessed May 30, 2015).
[20] *World Heritage Convention*, above n 18, Preamble.
[21] *Id.*, Articles 1, 2; UNESCO, *Operational Guidelines*, above n 12, para. 49.
[22] UNESCO, *Operational Guidelines*, above n 12, para. 7.
[23] *World Heritage Convention*, above n 18, Article 6(1).
[24] *Id.*, Article 7. *See also*, *id.,* Preamble ("[I]t is incumbent on the international community as a whole to participate in the protection of the cultural and natural heritage of outstanding universal value, by the granting of collective assistance which, although not taking the place of action by the State concerned, will serve as an efficient complement thereto.").
[25] UNESCO, *World Heritage in Danger*, http://whc.unesco.org/en/158/ (accessed May 26, 2015).
[26] *World Heritage Convention*, above n 18, Article 11(4).

[27] UNESCO, *World Heritage in Danger*, above n 25.
[28] *World Heritage Convention*, above n 18, Article 11(4). The criteria are elaborated in the *Operational Guidelines*. *See* UNESCO, *Operational Guidelines*, above n 12, paras. 177-182.
[29] UNESCO, *Operational Guidelines*, above n 12, para. 186.
[30] *Id.*, para. 190.
[31] *Id.*, para. 189.
[32] *World Heritage Convention*, above n 18, Article 11(4). Article 11(4) also provides that, for a World Heritage site to be added to the List of World Heritage in Danger, "major operations" must be necessary for its conservation, and assistance must be requested for the site under the Convention. Such assistance may be requested by any World Heritage Committee member or the Secretariat. UNESCO, *Operational Guidelines*, above n 12, para. 177(d) ("[T]he Committee is of the view that its assistance in certain cases may most effectively be limited to messages of its concern, including the message sent by inscription of a property on the List of World Heritage in Danger and that such assistance may be requested by any Committee member or the Secretariat."). There is no doubt that "major operations" are required to conserve the Reef; this is demonstrated by the Australian Government's recent commitment of $200 million to the Reef and the evidence, described in this report, that even that amount is not enough. Article 11(4) also requires that the Committee's assistance has been requested for the site. As evident from the time and resources the Committee has invested in considering whether to inscribe the Reef on the List of World Heritage in Danger, this requirement has clearly been met.
[33] *See generally*, UNESCO, *Operational Guidelines*, above n 12, para. 180.
[34] *Id.*, para. 178 (A property "can be inscribed on the List of World Heritage in Danger by the [World Heritage] Committee when it finds that the condition of the property corresponds to at least one of the criteria in either of the two cases [ascertained danger or potential danger] described below.").
[35] *Id.*
[36] *See*, for example, Commonwealth of Australia, Great Barrier Reef Marine Park Authority, ("GBRMPA"), *The Great Barrier Reef Outlook Report 2014* ("*2014 Outlook Report*") (2014), available to download at http://elibrary.gbrmpa.gov.au/jspui/handle/11017/2855; Australian Government, *State Party Report on the State of Conservation of the Great Barrier Reef World Heritage Area (Australia)* (2015) ("*2015 State Party Report*"), http://www.environment.gov.au/system/files/resources/cb36afd7-7f52-468a-9d69-a6bdd7da156b/files/gbr-state-party-report-2015.pdf; GBRMPA, *Great Barrier Reef Region Strategic Assessment: Strategic Assessment Report* ("*Strategic Assessment Report*") (2014), available to download at http://elibrary.gbrmpa.gov.au/jspui/handle/11017/2861 (all accessed June 4, 2015).
[37] *See generally*, GBRMPA, *2014 Outlook Report*, above n 36.
[38] World Heritage Committee, 39 COM 7B.7 (draft), above n 5, para. 3.
[39] *See generally*, Australian Government, *2015 State Party Report*, above n 36, Part 2.2 (pages 13-23).
[40] Day, Jon C., The Conversation, *Six ways Australia is selectively reporting to the UN on the Great Barrier Reef*, (February 4, 2015), http://theconversation.com/six-ways-australia-is-selectively-reporting-to-the-un-on-the-great-barrier-reef-37161 (accessed May 31, 2015).
[41] *See* UNESCO, *Operational Guidelines*, above n 12, para. 180.
[42] *Id.*, para. 180(a)(i).
[43] *See generally*, UNESCO, *Great Barrier Reef*, above n 13.
[44] GBRMPA, *2014 Outlook Report*, above n 36, pages 35, 36, 95.
[45] *See generally*, *id.*, pages 15-44.
[46] Hughes, Terry P., et al, "Securing the future of the Great Barrier Reef" ("*Securing the future*"), *Nature Climate Change* 5, 508-511 (April 6, 2015), page 1.
[47] GBRMPA, *2014 Outlook Report*, above n 36, page 20.
[48] *Id.*
[49] *Id.*
[50] De'ath, G., et al , "The 27-year decline of coral cover on the Great Barrier Reef and its causes" ("*Coral cover decline*"), *PNAS* (Vol. 109, no. 44, October 30, 2012), page 17998, http://www.pnas.org/content/109/44/17995.full.pdf (accessed May 28, 2015).
[51] GBRMPA, *2014 Outlook Report*, above n 36, page 25.
[52] *Id.*, page 20.
[53] *Id.*, pages 34, 35.
[54] *Id.*, pages 19, 34, 35.
[55] *Id.*, page 19.
[56] *Id.*, pages 34, 35.

[57] *Id.*, page 19. Since 2009, monitoring of 30 intertidal seagrass meadows along the central and southern coast indicates that their overall abundance has declined, as has the abundance of shallow subtidal meadows. *Id.*
[58] *Id.*, pages 19, 23.
[59] *Id.*, page 33.
[60] Hughes T., et al, *Securing the future*, above n 46, page 2.
[61] GBRMPA, *2014 Outlook Report*, above n 36, page 33.
[62] *Id.*, page 36.
[63] *Id.*, page 32.
[64] *Id.*
[65] *Id.*, pages 32-33.
[66] *Id.*, page 28. For a list of fauna listed as threatened under Australian legislation, see Australian Government, Department of the Environment, *EPBC Act List of Threatened Fauna*, http://www.environment.gov.au/cgi-bin/sprat/public/publicthreatenedlist.pl?wanted=fauna (accessed May 27, 2015).
[67] GBRMPA, *2014 Outlook Report*, above n 36, page 28.
[68] *Id.*, page 36.
[69] UNESCO, *Operational Guidelines*, above n 12, para. 180(a)(ii).
[70] GBRMPA, *Strategic Assessment Report*, above n 36, pages 4-7 to 4-8.
[71] *Id.*
[72] *See generally*, *id.*, pages 7-34 to 7-40.
[73] UNESCO, *Great Barrier Reef*, above n 13 ("The [Great Barrier Reef] is of superlative natural beauty above and below the water, and provides some of the most spectacular scenery on earth.").
[74] Hughes T., et al, *Securing the future*, above n 46, page 1.
[75] GBRMPA, *2014 Outlook Report*, above n 36, page 25.
[76] *Id.*, pages 51, 156, 159.
[77] *Id.*, page 93.
[78] *Id.*, page 95. *See also*, Hughes, T., et al, *Securing the future*, above n 46, page 2.
[79] World Heritage Committee, 39 COM 7B.7 (draft), above n 5, para. 3.
[80] GBRMPA, *2014 Outlook Report*, above n 36, page 95. *See also*, Hughes, T., et al, *Securing the future*, above n 46, page 2.
[81] GBRMPA, *2014 Outlook Report*, above n 36, page 95.
[82] *Id.*, pages 95-96.
[83] UNESCO, *Operational Guidelines*, above n 12, para. 180(a)(iii).
[84] GBRMPA, *2014 Outlook Report*, above n 36, page 96.
[85] Australian Government and Queensland Government. *Great Barrier Reef Report Card 2012 and 2013 – Reef Water Quality Protection Plan* ("*Water Quality Report Card*") (2014), final page, http://www.reefplan.qld.gov.au/measuring-success/report-cards/assets/report-card-2012-2013.pdf (accessed May 28, 2015).
[86] *See generally*, GBRMPA, *2014 Outlook Report*, above n 36, pages 129-130.
[87] *Id.*, page 129.
[88] *Id.*, page 131 (citations omitted). *See also*, GBRMPA, *Strategic Assessment Report,* above n 36, page 5-25 ("The dredging itself, plus the disposal of dredge material and its later resuspension, can have direct effects on ecosystems, such as coral reefs and other habitats. Examples include: removal of existing habitats such as seagrasses; disturbance to the seabed; increased underwater noise; reduced water quality; transport and resuspension of contaminants and nutrients; burial and smothering of life on the seafloor, both at the disposal site and in surrounding areas after resuspension; and increased turbidity." (Citations omitted.)); GBRMPA, *Dredging and Spoil Disposal in the Marine Park*, http://www.gbrmpa.gov.au/about-us/consultation/legislative-requirements-for-permits/dredging-and-spoil-disposal-in-the-marine-park ("Dredging and material placement (also called spoil dumping) have relatively well-known potential impacts such as degradation of water quality, changes to hydrodynamics, smothering of benthic fauna and flora, damage to marine wildlife through the dredge mechanism, translocation of species and removal of habitat."); (McCook, L., et al, *Synthesis of current knowledge of the biophysical impacts of dredging and disposal on the Great Barrier Reef: Report of an Independent Panel of Experts*, GBRMPA (2015), pages 11-12, available to download at http://elibrary.gbrmpa.gov.au/jspui/handle/11017/2935 (both accessed June 4, 2015).
[89] McCook, L., et al, above n 88, pages 11-13.
[90] GBRMPA, *2014 Outlook Report*, above n 36, page 131.
[91] Pollock F.J., et al, "Sediment and turbidity associated with offshore dredging increase coral disease prevalence on nearby reefs," *PLOS One*, Vol 9 Issue 7 (July 2014), pages 1, 2, 7, 8, available at

http://www.plosone.org/article/fetchObject.action?uri=info:doi/10.1371/journal.pone.0102498&representation=PDF (accessed June 9, 2015).
[92] *Id.*, page 7.
[93] Australian Government and Queensland Government. *Water Quality Report Card*, above n 85, final page.
[94] Brodie, J., et al, *Scientific Consensus Statement: Land use impacts on Great Barrier Reef water quality and ecosystem condition* ("*Scientific Consensus Statement*") (2013), page 7, http://www.reefplan.qld.gov.au/about/assets/scientific-consensus-statement-2013.pdf (accessed May 28, 2015)..
[95] *Id.*, page 7.
[96] *Id.*, page 3.
[97] *Id.*, pages 3-5.
[98] The State of Queensland, Queensland Audit Office, *Managing water quality in Great Barrier Reef catchments* (Report 20: 2014-15) (June 2015), page 4, https://www.qao.qld.gov.au/files/file/Reports%20and%20publications/Reports%20to%20Parliament%202014-15/RtP20GreatBarrierReef.pdf (accessed June 10, 2015).
[99] *Id.*, pages 2, 33.
[100] UNESCO, *Operational Guidelines*, above n 12, para. 180(b)(i).
[101] *Id.*, para. 180(b)(ii).
[102] For a list of port expansion proposals in the Great Barrier Reef World Heritage Area currently under assessment, *see* GBRMPA, *Proposals – under assessment*, http://www.gbrmpa.gov.au/about-us/consultation/current-proposals-under-assessment (accessed June 5, 2015).
[103] *See* generally, Australian Coral Reef Society, *The impacts of the Abbot Point Port development on the Outstanding Universal Value of the Great Barrier Reef World Heritage Area* (March 2015), http://www.australiancoralreefsociety.org/c/document_library/get_file?uuid=e4c75a35-4edd-4567-8b44-cfea5b82e97b&groupId=10136 (accessed June 5, 2015).
[104] *See Referral of proposed action: Abbot Point Growth Gateway Project* (April 2015), submitted by the State of Queensland, http://www.environment.gov.au/cgi-bin/epbc/epbc_ap.pl?name=show_document;document_id=59842;proposal_id=7467 (accessed June 9, 2015).
[105] Australian Coral Reef Society, *The impacts of the Abbot Point Port development on the Outstanding Universal Value of the Great Barrier Reef World Heritage*, above n 103, pages 12-16.
[106] *Referral of proposed action: Abbot Point Growth Gateway*, above n 104, pages 9, 47.
[107] Australian Coral Reef Society, *The impacts of the Abbot Point Port development on the Outstanding Universal Value of the Great Barrier Reef World* Heritage, above n 103, page 8.
[108] *Id.*, pages 9-12. *See also*, GBRMPA, *Strategic Assessment Report,* above n 36, page 6-27.
[109] UNESCO, *Operational Guidelines*, above n 12, para. 180(b)(iii).
[110] *Id.*, para. 180(b)(iv).
[111] *See generally*, Australian Government, *Reef 2050 Plan*, above n 7.
[112] Australian Academy of Science, *Reef 2050 Long Term Sustainability Plan – Position Statement*, above n 10. *See also*, Day, J., *Six ways Australia is selectively reporting to the UN on the Great Barrier Reef*, above n 40; Pressey, B., et al, The Conversation, *Development and the Reef: the rules have been lax for too long* (May 28, 2015), http://theconversation.com/development-and-the-reef-the-rules-have-been-lax-for-too-long-39383 (accessed June 4, 2015).
[113] Day, J., *Six ways Australia is selectively reporting to the UN on the Great Barrier Reef*, above n 40.
[114] World Heritage Committee, 36 COM 7B.8 (2012), above n 4, para. 8.
[115] Pressey, B., et al, *Development and the Reef: the rules have been lax for too long*, above n 112.
[116] Australian Academy of Science, *Response to the Draft Reef 2050 Long-Term Sustainability Plan* (October 2014), page 2, https://www.science.org.au/sites/default/files/user-content/response-to-the-draft-reef-2050-long-term-sustainability-plan.pdf (accessed June 9, 2015). *See also*, *id.*, page 5 ("The draft plan states 'to ensure that the Plan is effective, the Targets will be Specific, Measureable, Achievable, Realistic, and Time-Bound (SMART)'. Unfortunately most of the targets for 2015 to 2020 in the draft plan are NOT measurable, realistic nor time-bound as stipulated – and they would only be achievable by 2020 if both state and federal governments provide more targeted resourcing for management activities.").
[117] Australian Network of Environmental Defender's Offices ("ANEDO"), *Submission on the Reef 2050 Long Term Sustainability Plan* (October 27, 2014), page 4, http://www.edoqld.org.au/wp-content/uploads/2014/10/2014-10-27-ANEDO-submission-on-the-Reef-2050-Plan1.pdf (accessed June 4, 2015).
[118] Australian Academy of Science, *Reef 2050 Long Term Sustainability Plan – Position Statement*, above n 10.
[119] *Id.*

[120] GBRMPA, *Strategic Assessment Report,* above n 36, page 6-27 ("Coastal reclamation").
[121] Australian Academy of Science, *Reef 2050 Long Term Sustainability Plan – Position Statement*, above n 10.
[122] Australian Government, *Reef 2050 Plan*, above n 7, page 3.
[123] GBRMPA, *2014 Outlook Report*, above n 36, page 266.
[124] *Id.*, page 20.
[125] *Id.*, page 243.
[126] *Id.*, page 160. For example, extreme weather events can damage coastal and marine habitat, and carry nutrients, sediments, pesticides and other pollutants from the catchment area. *Id.*
[127] De'ath, G., et al , *Coral cover decline*, above n 50, pages 17995, 17998.
[128] World Heritage Committee, 39 COM 7B.7 (draft), above n 5, para. 3.
[129] GBRMPA, *2014 Outlook Report*, above n 36, page 266 (emphasis added).
[130] UNESCO, *State of Conservation (SOC) – Everglades National Park (United States of America)* ("*Everglades 2010 SOC*") (2010), http://whc.unesco.org/en/soc/492 (accessed May 28, 2015).
[131] Australian Government, *Reef 2050 Plan*, above n 7, pages 22-23.
[132] Hughes, T., et al, *Securing the future*, above n 46, page 1.
[133] *Id.*
[134] *Clean Energy Legislation (Carbon Tax Repeal) Act 2014* (Cth).
[135] Cox, L., Sydney Morning Herald, *New renewable energy target will mean $6 billion cut to investment: analysts* (May 18, 2015), http://www.smh.com.au/federal-politics/political-news/new-renewable-energy-target-will-mean-6-billion-cut-to-investment-analysts-20150518-gh4ffd.html (accessed June 8, 2015).
[136] *See generally*, Australian Government, Department of the Environment, *Emissions Reduction Fund*, http://www.environment.gov.au/climate-change/emissions-reduction-fund (accessed June 9, 2015).
[137] The Hon. Greg Hunt MP, Minister for the Environment, *First Emissions Reduction Fund auction delivers significant abatement* (Media release, April 23, 2015), http://www.environment.gov.au/minister/hunt/2015/mr20150423a.html (accessed June 9, 2015).
[138] Climate Action Network International, *Australian climate policy: lies, damned lies and statistics* (June 4, 2015), http://www.climatenetwork.org/press-release/australian-climate-policy-lies-damned-lies-and-statistics (accessed June 5, 2015) ("[T]he fund is unlikely to achieve even a 5% emissions reduction by 2020. The first ERF auction held in April 2015 was hailed as stunning by the government. Assuming the cost for carbon emissions remains at the average of almost AUD$14 per tonne of CO_2 as paid in the first auction, the $1.89 billion budgeted will buy another 135 million tonnes of emissions. But even assuming all the 47.3 million tonnes bought in the first auction are delivered, and the price per tonne of carbon remains the same, then the total emissions reduction bought by the ERF will be around 182 million tonnes of CO_2. This is 54 million tonnes (or about 23%) short of Australia's overall target. However it is likely that this first auction has already picked most of the "low-hanging fruit."). *See also* Australian Government, Climate Change Authority, *Carbon farming initiative review* (December 2014), page 62, http://climatechangeauthority.gov.au/sites/prod.climatechangeauthority.gov.au/files/files/CCA-CFI-Review-published.pdf ("The size of Australia's abatement task to 2020 is unclear, and it is difficult to estimate precisely the amount of emissions reductions the ERF purchasing scheme will deliver. It is clear, however, that by itself and as currently funded, the scheme is unlikely to deliver sufficient emissions reductions to reach even Australia's minimum 2020 target of 5 per cent below 2000 levels. A range of complementary actions will be required, now and beyond 2020."); Christoff, P., The Conversation, *On these numbers, Australia's emissions auction won't get the job done* (April 26, 2015), http://theconversation.com/on-these-numbers-australias-emissions-auction-wont-get-the-job-done-40761; Wood, T., The Conversation, *Without a safeguard, Australia will burn through our emissions target* (May 19, 2015), http://theconversation.com/without-a-safeguard-australia-will-burn-through-our-emissions-target-41762 (all accessed June 6, 2015).
[139] Hughes, T., et al, *Securing the future*, above n 46, page 3.
[140] The State of Queensland, Queensland Audit Office, *Managing water quality in Great Barrier Reef catchments*, above n 98, pages 2, 31-41.
[141] UNESCO, *Operational Guidelines*, above n 12, para. 180(b)(v).
[142] *See generally*, GBRMPA, *2014 Outlook Report*, above n 36, pages 155-162. In addition, the World Heritage Committee and its advisory bodies have long recognized climate change as a major threat to World Heritage properties. *See, for example*, Tim Badman et al., IUCN, *World Heritage in Danger* (2009), page 26, https://portals.iucn.org/library/efiles/documents/2009-066.pdf (accessed May 30, 2015) ("Climate Change was identified as a key issue of concern in relation to the State of Conservation of World Heritage Properties….").
[143] GBRMPA, *2014 Outlook Report*, above n 36, page v.
[144] Australian Government, *2015 State Party Report*, above n 36, page 24.

[145] GBRMPA, *2014 Outlook Report*, above n 36, page 158.
[146] *See generally*, *id.*, pages 159-160.
[147] UNESCO, *Operational Guidelines*, above n 12, para. 181.
[148] Paragraph 182 of the *Operational Guidelines* includes "supplementary factors" that the World Heritage Committee "may wish to bear in mind" when considering the inclusion of a property on the List of World Heritage in Danger. *Id.*, para. 182. Although the Australian Government addressed these factors in its 2015 State Party Report, in our view none of the matters raised by the Australian Government weigh sufficiently against inscribing the Reef on the List of World Heritage in Danger to overcome the matters raised in this report that support an inscription of the Reef on the list. For example, in relation to the Operational Guidelines' suggestion that the Committee consider that, in relation to potential danger to a site, "the threat should be appraised according to the normal evolution of the social and economic framework in which the property is situated," Australia notes that the Reef extends almost the entire length of the state of Queensland, that Queensland and Australia depend on economic benefits derived from sustainable use of the Reef and land uses in its catchments, that Australia is taking measures to ensure uses avoid impacts on the Reef's values, and that adaptive and progressive improvement of management systems and legislative protection has been a feature of governance of the region since 1975. Whilst these matters may be true, they are irrelevant to whether the Reef merits inclusion on the "in danger" list. *See* Australian Government, *2015 State Party Report*, above n 36, pages 22-23.
[149] GBRMPA, *2014 Outlook Report*, above n 36, page 266.
[150] UNESCO, *Belize Barrier Reef Reserve System*, http://whc.unesco.org/en/list/764 (accessed June 7, 2015).
[151] UNESCO, *State of Conservation (SOC) – Belize Barrier Reef Reserve System (Belize)* (2009), http://whc.unesco.org/en/soc/743 (accessed May 28, 2015).
[152] *Id.*
[153] *Id.*
[154] *Id.*, (emphasis added).
[155] *Id.*
[156] UNESCO, *State of Conservation (SOC) – Belize Barrier Reef Reserve System (Belize)* (2012), http://whc.unesco.org/en/soc/116 (accessed May 28, 2015).
[157] *Id.*
[158] *See generally*, Hughes, T., et al, *Securing the future*, above n 46, and De'ath, *Coral cover decline*, above n 50.
[159] World Heritage Committee, CONF 002 X, SOC: Everglades National Park (United States of America), http://whc.unesco.org/en/decisions/3272; World Heritage Committee, 31 COM 7A.12 (Everglades National Park (United States of America) (N 76)), July 31, 2007, paras. 3, 4, http://whc.unesco.org/en/decisions/1275 (both accessed May 28, 2015).
[160] UNESCO, *Everglades 2010 SOC*, above n 130.
[161] *Id.*
[162] *Id.*
[163] *Id.*
[164] *Id.*
[165] UNESCO, *East Rennell*, http://whc.unesco.org/en/list/854 (accessed May 28, 2015).
[166] UNSECO, *State of Conservation (SOC) – East Rennell (Solomon Islands)* (2013), http://whc.unesco.org/en/soc/1876 (accessed May 27, 2015).
[167] *See, for example*, Williams B., The Courier Mail, *Great Barrier Reef: UNESCO report recommends Reef not be listed as "in danger*," (May 29, 2015), http://www.couriermail.com.au/news/queensland/great-barrier-reef-unesco-report-recommends-reef-not-be-listed-as-in-danger/story-fnn8dlfs-1227375122037 (accessed June 4, 2015).
[168] World Heritage Committee, 39 COM 7B.7 (draft), above n 5, para. 3.


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