Great Barrier Grief

Risks to the Great Barrier Reef World Heritage Area
March 2015
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1. Executive summary

The Great Barrier Reef (GBR) is a natural wonder under great pressure. There has been a 50% decline in coral cover since 1985\(^1\) and the Australian Government’s Strategic Assessment for the Reef shows that 24 out of the 41 metrics or attributes that collectively comprise the Outstanding Universal Value (OUV) of the World Heritage Area have deteriorated since its inscription in 1981.\(^2\) The Australian Government's 2014 Outlook Report identified climate change as the most serious threat to the GBR,\(^3\) and the Great Barrier Reef Marine Park Authority (GBRMPA) has noted that, ‘(i)f carbon dioxide levels are allowed to reach 450 parts per million, scientists predict reefs will be in rapid and terminal decline worldwide from multiple impacts including mass bleaching and ocean acidification.’\(^4\)

UNESCO has expressed concerns about multiple facets of the GBR’s health and management. While the Australian government has made some management improvements in response to UNESCO’s concerns, it is Greenpeace’s view that at the time of writing (early March 2015) Australia has not made sufficient progress against UNESCO’s recommendations to avoid an ‘in danger’ listing.

This submission highlights two key concerns. First, Australia’s legislative and management framework contains structural inadequacies, as identified by Australia’s scientific and environmental law experts, that preclude its ability to protect the Great Barrier Reef (GBR). Notably, the framework fails to adequately address the impacts of climate change, and fails to measure – let alone mitigate against – cumulative impacts on the Reef. In addition, legislative protection of the Reef has not been strengthened – as UNESCO requested – but rather weakened over recent years. As IUCN is no doubt aware, there is currently a high level of volatility in the legislative and policy framework for Reef management. For example, while the Queensland government has made policy commitments impacting on GBR protection, none have currently been implemented in binding legislation.

Second, Greenpeace wishes to alert IUCN to the individual and cumulative impacts of planned industrialisation in and adjacent to the GBR WHA. The impacts of industrialisation, including port expansion, will add to the wide range of existing and likely impacts on the World Heritage Values of the GBR. In Greenpeace’s view, these impacts are unacceptable in the context of the deterioration of the GBR’s World Heritage Values as identified in the Outlook Report. Abbot Point provides a sobering case study of the detrimental impacts on the GBR OUV of an individual development, even within an existing port area. Disturbance activities related to the proposed Abbot Point port expansion will negatively impact water quality, seagrass, coral, turtles, dugongs, fish and other marine populations.
The Australian government has so far failed to comply with UNESCO’s consistent recommendation that development should not be permitted ‘if it would impact individually or cumulatively on the Outstanding Universal Value of the property.’ Two new coal terminals were approved at Abbot Point, despite the Strategic Assessment and long-term Reef Sustainability Plan not being finalised at that time. A report by the Australian Coral Reef Society (ACRS) outlines key impacts of coal port expansion at Abbot Point that are likely to affect the OUV of the GBR. These impacts alone are unacceptable. When multiplied by the six or so port expansions that are currently in the assessment process, the total impacts - including the impacts of multiple coal port expansions and a vast increase in the amount of shipping through the GBR - will negatively affect the OUV of the GBR.

At this critical juncture for the GBR’s future, it is imperative that pressures that will cumulatively impact on the GBR are reduced. The efforts undertaken by the Australian Government to date have been inadequate and the significant industrial projects planned in the GBR region will have direct individual and cumulative impacts on the GBR OUV, which will exacerbate the deterioration of the GBR. In Greenpeace’s view, it is critical to the goal of increasing the Great Barrier Reef’s resilience that projects affecting the GBR’s OUV are not permitted. The GBR therefore must be considered in danger until adequate management practices are in place and industrial projects like (but not limited to) Abbot Point coal port expansion are not permitted.
2. Key scientific findings about the health of the Reef and its OUV


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

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

These grim predictions about the GBR’s overall health follow the finding that there has been a 50% decline in coral cover since 1985. The Australian Government’s Great Barrier Reef Region Strategic Assessment Report ('Strategic Assessment') demonstrates that 24 out of the 41 values (or 58.5% of the total attributes) that collectively comprise the OUV of the World Heritage Area have deteriorated since its inscription in 1981. Of these 24 deteriorating attributes, 10 are currently assessed as ‘poor’ rather than ‘good’ or ‘very good.’ These ten include significant attributes such as coral assemblages, breeding colonies of seabirds, seagrass, dugong, Indigenous connection to country and a component of the Integrity of the GBR. In GBRMPA’s assessment, ‘(t)he deteriorating condition of many (ecosystem processes) is likely to be affecting its outstanding universal value.’ The Australian Academy of Science has observed that the findings of the Strategic Assessment, ‘demonstrates a clear need to restore many of the values for which the area was inscribed on the World Heritage list.’

The Strategic Assessment assessed 25 impacts as having high or very high effects on the Region’s values. The most severe past and present impacts were identified as climate change; catchment run-off; modifying supporting terrestrial habitats; and several impacts of direct use, including dredging, dumping and re-suspension of dredge material.

Climate Change is foregrounded by the Outlook Report as, ‘the most serious threat to the Great Barrier Reef.’ The Outlook Report warns that, ‘(s)ea 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.' 14 The Strategic Assessment outlines the impacts of climate change on the GBR, which include altered ocean currents, increased sea temperature, increased cyclones, ocean acidification, and rising sea level.15 It concludes:

‘The future impacts of climate change are predicted to be very serious. As greenhouse gas concentrations continue to rise at unprecedented rates, effects on the Great Barrier Reef become more severe. The concentration of carbon dioxide has increased from a pre-Industrial Revolution concentration of 280 parts per million to 396 parts per million in March 2013. Already coral bleaching as a result of elevated sea temperature has been a major cause of coral decline. If carbon dioxide levels are allowed to reach 450 parts per million, scientists predict reefs will be in rapid and terminal decline worldwide from multiple impacts including mass bleaching and ocean acidification.46

In his covering letter to the Australian government’s 2015 State of Conservation Report, Federal Environment Minister Greg Hunt writes that ‘the Outstanding Universal Value and the integrity of the (World Heritage) property remain in good condition.’17 Jon Day, however, presents a contrary view demonstrating that restoration of World Heritage Values is currently essential18: a view that is supported by the weight of current scientific evidence summarised in this section.
3. Impacts of industrial projects on the Great Barrier Reef WHA

Greenpeace wishes to alert IUCN to the threats to GBR WH values posed by the individual and cumulative impacts of industrialisation, which includes port development and its most significant drivers: coal and gas mining expansion in Queensland. Industrial developments similar to that which first alerted UNESCO to the State of Conservation of the GBR in 2012 continue to pose an unacceptable threat to the OUV of the GBR, a threat that the State Party has so far failed to adequately address.

3.1 UNESCO’s concerns about industrial development
The 2012 World Heritage Centre and IUCN Joint Mission (‘Joint Mission’) visit resulted in a suite of recommendations to the Australian and Queensland governments to avoid the threat of the GBR WHA being listed ‘in danger’. Recommendations particularly relevant to industrialisation are:

R2: Not permit any new port development or associated infrastructure outside of the existing and long-established major port areas within and adjoining the property. It is essential that development is not permitted if it would impact individually or cumulatively on OUV, including the integrity of the property. This measure should apply both within and in the adjacent areas to the property. This measure should take immediate effect and requires full application until the Strategic Assessment and the resulting long-term plan for the sustainable development of the property has been completed, and has been considered by the World Heritage Committee at its 39th session in 2015.

R8: Adopt the highest level of precaution in decision-making regarding development proposals with potential to impact the property, and to Prevent any approval of major projects that may compromise the outcomes of the Strategic Assessment, until the Strategic Assessment is completed and its resulting plan for the long-term sustainable development for the property has been considered by the World Heritage Committee. During this period, the State Party is requested to ensure no developments are permitted which create individual, cumulative or combined impacts on the OUV of the Great Barrier Reef World Heritage area and its long-term conservation.
As a result, in 2012, the World Heritage Committee ('WHC') requested the State Party ‘to not permit any new port development or associated infrastructure outside of the existing and long-established major port areas within or adjoining the property, and to ensure that development is not permitted if it would impact individually or cumulatively on the Outstanding Universal Value of the property.’ In 2013 and 2014 they reiterated that this recommendation applied to existing Port areas, including Abbot Point, as well as new areas.

### 3.2 Australia’s subsequent approach to industrialisation

Since the WHC made its requests, developments have been authorised by the Australian and Queensland governments that likely impact individually and cumulatively on the OUV of the property. The WHC knows that these developments were authorised by the Australian government in the absence of a long-term management plan, which is why in 2014 the WHC noted ‘with concern the recent approvals for coastal developments in the absence of a completed Strategic Assessment and resulting Long-Term Plan for Sustainable Development.’ In practice, the government has granted environmental approvals for these developments using so-called ‘process conditions’ – conditions that require information about environmental impacts to be determined after approval that should have been available before. In short, the Australian government has failed to adequately consider, let alone address, the impacts of industrial developments on the GBR.

In 2014 the WHC asked Australia to ‘Ensure rigorously that proposed development outside PPDAs is not permitted and that developments within PPDAs do not impact individually or cumulatively the OUV of the property,’ and ‘Ensure that plans to be developed for each PPDA exclude from development areas identified as of conservation significance under the 2003 Great Barrier Reef Zoning plan.’ This has not been done. Australia's 2015 State Party Report claims that, ‘Under proposed legislation which will deliver Queensland’s Ports Strategy, there will be no new port development within the GBRWHA outside existing long-established port priority areas’ and ‘Greenfield areas will be protected by a prohibition in the proposed legislation that will restrict significant port development ...to within existing port limits.’ However, under the Ports Strategy, this prohibition is only slated to apply until 2024.19 Further, it is unclear what constitutes a ‘significant’ port – and UNESCO did not ask Australia to ban ‘significant’ new ports, but rather all ports. It is also not clear whether additional ports can be added to the list of ‘significant’ ports in future. In short, this provides no legislative guarantee that greenfield port developments will not proceed in future, or that port developments within existing ports will not impact on the area’s OUV.
In addition, Jon Day has identified that the following World Heritage Committee recommendations have yet to be adequately addressed:

- **Identify planned and potential future developments that could impact the values.** There has been no updated map of where developments might occur on or near the Reef, or more importantly where they should not occur.
- **Ensure that development is not permitted if it would impact individually or cumulatively on the values of the property.** So far the extent of the proposed Port Development Areas have yet to be mapped. Nor is there an effective way to fully address cumulative impacts, including dredging or dumping.\(^{20}\)

### 3.3 Drivers of industrialisation

Over the last few years, Queensland has massively expanded its coal and gas export industries in the Reef catchment – with significant dangers for the GBR. As identified in the Strategic Assessment, ‘(m)uch of Queensland’s economic activity takes place in the Great Barrier Reef catchment’ and ‘(m)uch of the supporting infrastructure for mining and industry is located in coastal areas adjacent to the Region and, in the past two decades, four major State Development Areas have been declared in the catchment.’\(^{21}\) Port expansion cannot be considered in isolation from a key reason for much of the expansion – namely, the expansion of coal and gas exports from Queensland.\(^{22}\) The Strategic Assessment notes the growth in coal mine expansions, new mines and additional mine proposals, resulting in projected export volumes for coal in 2025 range from 267 to 383 million tonnes for thermal coal, and 260 to 306 million tonnes for metallurgical coal.\(^{23}\) It notes that over this period, production of both thermal and metallurgical coal is projected to increase significantly in the Bowen, Surat and Galilee basins in Queensland, which export coal through the Great Barrier Reef.\(^{24}\) The overall trend is clearly towards more production of coal, increased exports – and therefore increased detrimental impacts on the GBR.

### 3.4 Current plans for industrialisation

As a result of plans for expanding the coal industry, two port expansions at the Abbot Point terminal have already been approved, despite the lack of a finalised long-term sustainability plan for the GBR. In addition to these approved projects, GBRMPA is currently assessing at least an additional five proposals for Port expansions, including: Bowen Basin Terminal Proposal; Port of Townsville expansion project; Waratah Coal export facility; Wongai underground coal mine project in Cape York; and Arrow Energy Curtis Island LNG facility.\(^{25}\)

### 3.5 Cumulative risk: Impacts of Industrial development on the Reef

The total impact of this industrial expansion, however, has not been assessed – let alone addressed – by the Australian government. The Strategic Assessment warns that, ‘(i)if not properly managed, industrial development adjacent to the Great Barrier Reef could result in the discharge
of pollutants, potential acid sulphate soils, artificial barriers to estuarine flow and coastal reclamation." In regards to the 12 ports in or adjacent to the Region, the Strategic Assessment identifies impacts including clearing, modifying and fragmenting of coastal habitats, reclamation of marine areas, alteration of natural coastal processes, dredging, disposal and re-suspension of dredge material, modifying supporting terrestrial habitats and physical damage – ship groundings. The Strategic Assessment also identifies the trend of increasing export through the Great Barrier Reef. Over the past two decades, total export tonnage has increased by approximately 300 per cent. Greenpeace’s view is that the ‘Cumulative risk,’ defined in the Strategic Assessment as ‘(t)he combined risks to the environment by multiple impacts’ of current proposed developments is unacceptable. For the purposes of this submission, Greenpeace wishes to alert IUCN that the impacts of increased industrialisation include but are not limited to:

3.5.1 Increased shipping through Reef

The Strategic Assessment predicts that, ‘(d)riven primarily by Queensland’s industrial and mining activity, shipping in the Region is projected to increase by about 150 percent by 2032, resulting in approximately 10,097 commercial vessels calling at Great Barrier Reef ports.’ It identifies that, ‘(c)ontinued growth in shipping activity through the Region presents an increased risk of incidents, including ship-sourced pollution and damage from groundings.’ Shipping impacts outlined in the Strategic Assessment include disturbance from anchorage, ship grounding, oil and chemical spills, vessel strikes on wildlife, introduction of invasive marine pests, and waste discharge from vessels.

To take just one impact associated with increased shipping, the negative impact of shipping incidents can never be completely mitigated. The Strategic Assessment describes what happens when a coal carrier hits the Reef: ‘In April 2010, a Chinese registered coal carrier Shen Neng I ran aground on Douglas shoal in the Great Barrier Reef. The vessel was grounded for nine days, severely damaging an estimated 80,000 to 400,000 square metres of reef. It is the largest ship grounding scar on the Great Barrier Reef.’ And as yet, today, no work to restore the Reef has occurred. At best, it is expected the site of impact will take decades to recover. Anti-fouling chemicals from this and other ship groundings, particularly the Bunga Terati Satu, Doric Chariot and Peacock, are designed to kill marine organisms and unless they are cleaned up will continue to affect marine life. According to the Strategic Assessment, ‘(t)hese chemicals combine with pulverised reef to damage corals at the grounding sites and surrounding areas where currents transport the paint flakes and pulverised particles.’

3.5.2 Dredging and disposal of dredge spoil

The Strategic Assessment says that, as of May 2013, proposals then under assessment would involve a 54 million cubic metres of dredging in the World Heritage Area. At the time of writing,
current projected dredge volumes have not been re-assessed by GBRMPA. However, irrespective of current projections, the Strategic Assessment concludes that, ‘projected increases in economic and population growth over the next 25 years (see Chapter 5) clearly demonstrate that there will be a need for Great Barrier Reef ports to handle increasing volumes of exports and imports and therefore a future need for both capital and maintenance dredging.’ The trend is clearly towards increased impact, at a time when the health of the GBR is in decline.

Expansion of existing Port areas can have devastating impacts. As the IUCN will be well aware, the dredging campaign at Gladstone, for example, resulted in 21 million cubic metres of seabed being removed. Vast quantities of sediment were stirred up, multiple mass fish kills were blamed on the dredging and a breach of the bund wall containing land-dumped material resulted in a toxic algae bloom.

The Strategic Assessment outlines the impacts of dredging and disposal of dredge spoil. It says that, ‘dredging itself, plus the disposal of dredge material and its later re-suspension, can have direct effects on ecosystems, such as coral reefs and other habitats.’ Impacts listed include: removal of existing habitats such as seagrasses; seabed disturbance; increased underwater noise; reduced water quality; transport and re-suspension of contaminants and nutrients; burial and smothering of life on the seafloor, both at the disposal site and in surrounding areas after re-suspension; and increased turbidity; removal or modification of 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 turbidity levels; changes to hydrodynamics and coastal hydrology; increased underwater noise; and an increased risk of oil spills.

The impacts of individual dredging campaigns feed into cumulative effects on the GBR’s ecosystem. According to the Strategic Assessment, ‘(t)he frequency and timing of dredge material disposal can also significantly affect for the cumulative impacts on ecosystems. Catchment inputs occur as strong but highly variable pulses during wet seasons, and are ongoing (decadal scale). Dredge inputs involve major pulses during periods of capital dredging, with ongoing maintenance dredging typically occurring in the dry season. Emerging evidence shows turbidity effects of flood plumes may persist for months after major wet seasons. If dredging activity results in increased turbidity during otherwise natural clear periods of the year, the combined impacts on ecosystems may be considerably greater than either impact alone. Significant volumes of sea dumping over the next five to 10 years has the potential to add further pressure to already declining inshore ecosystems.’
What the Strategic Assessment makes clear is that, while finding alternative dredge spoil disposal sites clearly mitigates some of the direct impacts of sea dumping and dumping on wetlands, an array of unacceptable impacts associated with dredging remain.

### 3.5.3 Installing and maintaining Port Infrastructure

The Strategic Assessment identifies that ‘(i)mports to the marine environment from the installation and maintenance of port infrastructure and general port activities may include: clearing, modifying and fragmenting coastal habitats; reclamation of marine areas; exposure of potential acid sulphate soils; creation of artificial habitats; alteration of natural coastal processes; the risk of large and small chemical and oil spills; marine debris; injury or death of marine wildlife; altered light regimes; displacement of other Marine Park users; and diminished aesthetic values for users and nearby communities. The impacts of ports are also directly linked to impacts associated with shipping and ship anchorages.”

### 3.5.4 Coal mining impacts on Reef

The Strategic Assessment identifies the following impacts on the GBR, all of which will be associated with coal mining in the GBR catchment: Atmospheric pollution, including coal dust; Artificial barriers to flow (within GBR catchment areas due to coal mining); Urban and industrial discharge (waste disposal from coal mines); and modifying supporting terrestrial habitats.

### 3.5.5 GHG emissions and Climate Change

Greenpeace estimated in 2012 that if all the Galilee Basin mines are developed to their maximum potential, 705 million tonnes of CO$_2$ would be released each year, nearly double Australia’s current annual emissions. The emissions from the Carmichael Mine alone – which is the reason behind the expansion of Abbot Point – would negate all of the emissions saving predicted by the Australian government’s ‘Direct Action’ climate mitigation policy. The Australian Academy of Science has observed that, ‘(t)here is no adequate recognition in the draft (Reef 2050) plan of the importance of preventing damaging climate change for the future trajectory of the reef.’ Instead, the Reef 2050 Plan facilitates future port expansions for exporting thermal coal, without any plan for mitigating the climate change impacts of burning this coal.

### 3.6 Abbot Point coal port expansion – Greenpeace’s concerns

The Abbot Point coal terminal expansions provide an illustrative case study of the impacts of industrialisation on the Great Barrier Reef WHA, as well as the gaps in Australia’s management of that risk.
3.6.1 Abbot Point – background
Abbot Point is being expanded to facilitate the export of coal from the proposed Carmichael Mine, which at full capacity is expected to produce 60 million tonnes of coal per year and is predicted to produce an average of 40 million tonnes per annum of coal over its proposed 60 year life. To enable this, the company responsible for the project – Adani Group plans to construct a railway from the Carmichael mine to the port at Abbot Point, within the GBR World Heritage Area. There, a new coal export terminal (Terminal 0 or T0) is planned to load coal that will travel through the GBR Marine Park to export markets. The mine, rail and port have already received environmental approvals from the federal government, with dredging and disposal of dredge spoil for the port the last remaining federal approval barrier. The proposed coal port developments are exactly the kind of industrialisation of the Reef coast which has troubled UNESCO in the past.

Queensland governments have made policy commitments to discontinue two proposals, the first involved dumping of dredge spoil within the WHA, the second involved dumping of dredge spoil on the Caley Valley Wetlands, internationally recognised for their significance. The current proposal is for the Queensland Government and proponents GVK and Adani to deposit the spoil on the site of BHP’s now-abandoned Terminal 2 project. While this clearly mitigates some of the direct impacts of sea dumping and dumping on wetlands, an array of unacceptable impacts associated with the project remain. For a more complete discussion of these impacts we refer IUCN to the report of the Australian Coral Reef Society (ACRS). Some of the impacts identified by the ACRS include:

3.6.2 Dredging
The negative impacts associated with dredging of 1.7 million cubic metres of seafloor are outlined in the ACRS Report. It predicts that significant sediment settlement on the benthos during and after dredging will have negative impacts on surrounding seagrass, corals, soft corals and other macroinvertebrates as well as turtles and dugongs. It points to recent evidence by Pollock et al that has shown a doubling of the incidence of coral disease close to dredged areas. The report continues, ‘(w)hilst avoiding coral spawning times directly for dredging is admirable, there can be no period during which dredging will not adversely affect nearby corals, particularly young corals which have very slow initial growth and are particularly susceptible to sediment effects for at least the first year or two.’ These impacts are compounded by the impacts of dredge disposal. According to the Strategic Assessment, ‘Land disposal of dredge material including reclamation can have localised effects on habitats critical to the Great Barrier Reef’s health.’ More detail about the precise impacts is not available at present because the Queensland government has not finalised its proposal.
3.6.3 Dugongs of the Abbot Point region

According to the ACRS, direct loss of seagrass habitat will likely have the biggest detrimental impact on dugong populations. Findings by McKenna and Rasheed 2013, Rasheed et al. 2014 support the proposition that the cumulative impacts of natural stressors combined with future developments associated with port expansion and onshore activity have the potential to severely impact seagrasses in the region. ACRS conclude that, ‘(i)n summary, a seagrass ‘dead zone’ is likely to perpetuate over a greater area and for longer periods than anticipated by sediment plume modelling alone. It is also probable that inshore seagrass beds at some distance from Abbot Point may be impacted, not only through extensive and lasting chronic sediment plumes, but also through vessel moorings or temporary anchorage of vessels in areas other than the immediate vicinity of the port development.’

3.6.4 Turtles

The beaches of Abbot Point support low density nesting of flatback and green turtles. Potential industry based threats identified by the ACRS include: Light pollution which can disorientate nesting turtles and hatchlings; Dredging which can cause turtle deaths; Possible noise pollution impacts though these are largely unknown and untested and remain a key knowledge gap Australia wide; Boat strikes by commercial and recreational vessels; Impacts to habitat – changes to beach dynamics, coral and rocky reef ecosystems, seagrass habitat, and other structured habitat that turtles use for shelter; Pollution such as plastic in the water and chemicals.

3.6.5 Coal dust

The ACRSs report points to ‘recent work showing that there are high levels of coal dust across hundreds of kilometres of the GBR and that it is at toxic levels close to ports (Burns et al 2014).’

3.7 Conclusion – the unacceptable impacts of industrialisation

The Abbot Point development, despite the changed location for sea dumping, will have individual and cumulative impacts that affect the OUV of the World Heritage Area. Yet Abbot Point is not the only planned port expansion in the pipeline in or adjacent to the GBR WHA. Associated coal mining and coal transport infrastructure will also have individual and cumulative impacts on the GBR. It is, in Greenpeace’s view, a serious deficiency in Australia’s management of the GBR that it has not conducted an inquiry into the collective impacts of coal and gas mining projects and transport on the Reef itself, to conduct a genuine cost-benefit analysis of whether the benefits of the expansion of Queensland’s coal export industry outweigh the clear costs to the GBR directly and indirectly. Greenpeace’s view is that the impacts are unacceptable, and are inconsistent with UNESCO’s recommendations for GBR management to date.
4. Australia: Managing impacts of industrialisation?

4.1 Cumulative impacts and strategic assessment

The current management regime for the environmental impacts of industrialisation is deeply flawed. Recommendation 5 of the Joint IUCN / World Heritage Centre Monitoring Report was that the Long-Term Sustainability plan should include, ‘(a) clear and target-driven framework to support planning and assessment of development proposals to protect OUV, and restore it where necessary, and to ensure resilience of the site, including the consideration of cumulative impacts.’\(^\text{51}\) However, the Australian government has yet to develop a framework for consideration of cumulative impacts. Currently, individual environmental impact assessments do not require cumulative impacts to be taken into account in assessing projects. The Australian government is prioritising the approval of port expansions to facilitate coal export expansion over adequately addressing UNESCO’s concerns.

4.2 Recent Australian and Queensland government commitments regarding port expansion

In the management of port expansion, as with other areas, there remains significant volatility in the legislative and management regimes. Several of the outstanding uncertainties will be outlined. The Australian government has announced draft legislation to ban the disposal of capital dredge spoil within the GBR Marine Park. While this is a small step in the right direction, it does nothing to address the other impacts of port expansion. Firstly, this purported ban does not apply to the entire World Heritage Area, which is not congruent with the Marine Park (MP). The majority of dredge spoil dumping takes place outside the Marine Park but within the World Heritage Area. As WWF’s 2015 Report to UNESCO points out, capital dredge spoil could still be disposed of within the World Heritage Area at Cairns, Townsville, Gladstone and possibly Abbot Point.\(^\text{52}\) Secondly, the policy commitment does not apply to maintenance dredge spoil. Third, there are no limits on the volume or timing of dredging that can be done within existing ports, despite the fact that the Strategic Assessment identifies volume and timing as having significant effect on the impact of dredging. Fourth, the legislation has not been passed.

The recently-elected Queensland government has also made commitments to restrict port development to significant Port Areas. As explained by Jon Day, however, these remain ill-defined and require clarification.\(^\text{53}\) Other pre-election policy commitments to:

- ban the dumping of capital dredge spoil within the GBR WHA;
- prohibit capital dredging outside of existing port areas;
- avoid dumping dredge spoil from Abbot Point onto the Caley Valley Wetlands;

have not yet been implemented in legislation.

Importantly, as the Independent Review into Gladstone identifies, even within existing port areas significant environmental impacts are not currently well-managed. As Pressey et. al write,
‘assessments of new port developments and dredging have been expedient and low-standard.’ Systemic issues associated with the Queensland government often being both proponent and regulator of port expansions remain.

The 2014 Independent Review of the Bund Wall at the Port of Gladstone noted a host of management failings into the Dredging campaign, including that despite the environmental conditions placed on the Gladstone Port expansion, the approval conditions were too vague to be enforced, there was no on-site monitoring of water quality, the Department of Environment was not sufficiently resourced to monitor compliance with environmental conditions, and the framework for oversight of dredging was ‘fragmented.’ Since the Gladstone dredging operation there have been deep budget and staffing cuts to the Federal environmental agency responsible for oversight. There is no guarantee that what happened at Gladstone will not happen again.

A report by the Environmental Defender’s Office (attached as an Annex to this submission) shows that despite promises by Federal and Queensland governments, under the existing legislative and policy framework, (1) There remains no government legislation to stop capital spoil dumping in the GBR World Heritage Area; (2) Maintenance dredge spoil disposal is still possible in the GBRWHA or GBRMP, with no government commitments to prevent this and (3) Capital dredging is still possible in the GBRMP and GBRWHA.

In its consideration of port development, WWF conclude that, ‘(i)n summary, to date, Australia has not satisfied the World Heritage Committee’s request to ensure that no port developments or associated port infrastructure are permitted outside the existing port areas and it is unclear how it will satisfy obligations of how to avoid impacts on OUV from further port development.’ In Greenpeace’s assessment, the Australian government has shown disregard for UNESCO’s recommendations regarding port development, and is at present showing little sign of remedying this. It is clear that the individual and cumulative impacts of proposed industrial projects – including port development – in or near the GBR will add to the wide-range of existing and likely impacts on the World Heritage values of GBR. It is imperative that UNESCO bear this in mind when considering whether Australia has addressed its previous concerns about port development and industrial activity on the GBR coast.
5. Australia: Managing impacts of industrialisation?

In addition to inadequate management of port expansion, Australia's overall response to the threats facing the GBR has not been commensurate to the severity of the threat. While some positive steps have been taken by the Australian and Queensland governments in recent years, so far this has failed to translate into concrete gains in legislative protection for the GBR or major restoration of the values that have deteriorated since its original listing. Three key areas of concern for Greenpeace are Australia’s management to date of cumulative impacts and its plans to increase those impacts, climate change, and port development. However, a range of other concerns have been identified by leading Australian scientists, which Greenpeace also wishes to bring to IUCN’s attention, as it demonstrates that UNESCO’s concerns have not been adequately addressed by Australia in a broad range of areas.

5.1 Current volatility in legislative and management framework

At the time of writing there is considerable volatility in the legislative and policy framework for managing the GBR. A key management tool undertaken by the Australian and Queensland governments to address UNESCO’s concerns, The Reef 2050 Long Term Sustainability Plan, has not been finalised. The recently-elected Queensland government has made various pre-election policy commitments that at the time of writing have not been implemented in legislation.

5.2 The Reef 2050 Plan

The current draft of the Reef 2050 Long-Term Sustainability Plan (‘the Plan’) fails to ensure the GBR's protection. While Greenpeace's particular concerns regard the Plan’s treatment of cumulative impacts and climate change, we wish to draw to IUCN’s attention the broad range of shortcomings identified by Australia’s scientific community. In 2014, for example, the Australian Academy of Science formed the view that the Plan in its current form fails to provide the necessary long-term protection of the Great Barrier Reef (GBR), concluding: ‘based on overwhelming scientific evidence the Academy concludes that, in its present state, the draft plan is inadequate to achieve the goal of restoring or even maintaining the diminished Outstanding Universal Value of the reef.’ 58 We note that the government will finalise the Plan soon and we will provide further analysis to the IUCN subsequently.
The Australian Academy of Science has expressed its concern about the following inadequacies with the *Draft Reef 2050 Long-Term Sustainability Plan*:

1. The draft plan proposes to ‘maintain’ the values for the reef, when it should instead provide a pathway for restoring OUV
2. The draft plan advocates for targets that are specific, measurable, achievable, realistic, and time-bound (SMART), but many important targets are not quantified, nor are they connected to any mechanisms through which they can be achieved
3. The draft plan does not resolve the issue of cumulative impacts, rather it permits new impacts that will be superimposed on those already causing loss of OUV
4. In its current form, the mechanisms and level of funding for implementation of the draft plan are inadequate for achieving its goals: the draft plan is missing targets for key attributes of the reef, and mechanisms to avoid real and perceived conflicts of interest are not yet in place.

There is no adequate recognition in the draft plan of the importance of preventing damaging climate change for the future trajectory of the reef.

In a 2014 article, four eminent professionals in GBR science and management - Terry Hughes, Bob Pressey, Jon Day and Jon Brodie – write that ‘the Plan in its current form fails to address UNESCO’s concerns.’ They conclude, ‘(t)he draft Reef 2050 plan was designed to address the Committee’s concerns, but by not including actions and targets to restore the values of the Reef, limit dredging, ban sea dumping, and address climate change, the future of the Great Barrier Reef is still at risk.’ They have identified 10 ways the Plan needs to be improved if it is to meet UNESCO’s requirements. In summary:

1. Protection must be the primary objective of the Plan.
2. The Plan must be aimed at restoring the Reef’s values (not ‘maintaining’, as they’ve already been degraded)
3. The Plan must address climate change
4. Targets within the Plan must be quantifiable and measurable
5. Problems with the Queensland Ports Strategy must be resolved
6. The Plan’s rules regarding dredging must be improved to address loopholes
7. The Plan must provide practical guidance for addressing cumulative impacts
8. The Plan must give the Marine Park Authority real power
9. The Plan must provide assurance that the required water quality improvements will be achieved.
10. The Plan should be specific about avoiding and mitigating impacts before offsets are considered and developments are approved.

Unless these and other concerns are addressed, it is clear that the Plan is seriously inadequate to protect the GBR.
5.3 Legislative protection of the Reef

In contrast to the Australian government’s claims about GBR management, the legal protection of the GBR has been weakened in recent years. We refer to the work by the Environmental Defender's Office Queensland, which forms Annex 1 to WWF's 2015 UNESCO submission. Their advice lists multiple flaws with the legislative protection of the Reef. These include:

- that the protection of the OUV of the GBR WHA has been weakened in law;
- the Draft Reef 2050 Plan fails to commit to strong regulatory changes;
- Major changes are still required to restrain port development and ban dumping of dredge spoil in the entire GBR WHA;
- Pollution run-off and water quality remains inadequately regulated and enforced;
- changes to the Vegetation Management law has significantly weakened protection for vegetation in the GBR catchments;
- regulation of Water laws have been weakened;
- Northern Reef catchments have lost their statutory protections;
- Land use planning and development laws are becoming weaker;
- New regional planning instruments in GBR catchments do not protect the OUV;
- Coastal development changes allow more coastal development with less assessment of impacts;
- principles of Ecologically Sustainable Development are missing from main Queensland legislation;
- Climate change adaptation laws and policies have been repealed;
- climate change mitigation laws and policies have been repealed;
- federal environmental protection powers have been devolved from Federal to Queensland government to approve impacts on the GBR World Heritage Area and Marine Park;
- Cumulative impact guidelines have been proposed, without indication of their enforceability or how they will be implemented;
- Reduced public participation;
- Offsets can be applied without adequate scrutiny of effectiveness or mitigation;
- threatened species protection laws are inadequate;
- the ban on uranium mining was recently lifted;
- GBRMPA's jurisdictional independence is currently compromised.
- They tell us to ‘expect more projects with significant impacts on the GBR WHA to be approved, possibly without sufficient conditions or scrutiny of impacts.’

While key gaps remain in Australia’s key management framework to protect the GBR, Australia has not addressed UNESCO’s concerns. Greenpeace is concerned that, where management improvements have occurred, this has largely been a response to the pressure generated by
UNESCO’s threat to list the GBR ‘in danger.’ UNESCO’s role in improving the government’s management of the GBR has been vital – but these improvements are not yet sufficient, nor are they secure. We ask UNESCO elevate the GBR to in danger until Australia’s GBR management framework is truly world’s best practice, as befits a country of Australia’s comparatively high level of resources and environmental commitment.

5.4 Cumulative Impacts on the Reef

While UNESCO asked the Australian government to address cumulative impacts on the OUV of the GBR in its management framework, at the time of writing this remains to be done. ‘Cumulative impacts’ are defined by GBRMPA as ‘the successive and combined effects of impacts on the environment, taking into account the direct, indirect and consequential impacts, and the incremental and compounding effects of these impacts over time.’ Current pressures on the GBR include mining, agriculture, ports, shipping, tourism, fishing, urban growth and industrial development, along with naturally-occurring impacts such as cyclones, COTS outbreaks and disease. These current pressures are additional to legacy impacts, that is the impacts of activities previously undertaken within what is now the Great Barrier Reef Region and on the islands. According to the Strategic Assessment, past activities ‘have had severe and long-lasting impacts on the values of the Region. The legacy of these past activities is still affecting the Reef ecosystem and contributing to cumulative impacts in the Region.’

The cumulative impact of all these activities, past and present, has caused an estimated loss of 50% of coral cover and significant declines in dugong and many seabird species.

The Reef 2050 Plan – while mentioning cumulative impacts that combine current and new pressures on the GBR – fails to address them. It merely recommends the development of a policy framework for addressing cumulative impacts, that currently has not been written. Hughes, Pressey, Day and Brodie have written that ‘(t)he plan does little to constrain more dredging, coastal development or fossil fuel extraction (effectively “business-as-usual”), all of which will be superimposed on the current pressures, continuing the implicit policy of “death by a thousand cuts.”’

The Australian government’s Strategic Assessment identifies that the area of cumulative impacts needs considerable work, concluding that, ‘(q)uantitative understanding of cause-and-effect relationships, both now and under a range of future scenarios, will greatly improve understanding of impacts and their cumulative effects — this currently constitutes a major information gap.’ This weakness in Australia’s management regime is particularly acute when it comes to considering developments in or near the Reef.
5.5 Climate change

GBRMPA has clearly identified climate change as the greatest long-term threat to the Great Barrier Reef.\textsuperscript{68} However, Australia's management framework for the Reef does not address this threat – either through adaptation or mitigation actions. In terms of adaptation, the former climate change director of GBRMPA Paul Marshall has publicly stated that budget cuts have left the agency without a dedicated climate program.\textsuperscript{69} Hughes, Pressie, Day and Brodie have observed that, ‘(d)espite having a vision until 2050, the draft plan is virtually silent on climate change or ocean acidification.’\textsuperscript{70} Greenpeace believes the government’s lack of acknowledgement of these factors undermines the positive work they are doing on some management issues – they are treating the patient for diabetes whilst ignoring the sugar he is eating.

In terms of mitigation, the Australian Academy of Science has rightly observed that, ‘(t)here is no adequate recognition in the draft (Reef 2050) plan of the importance of preventing damaging climate change for the future trajectory of the reef.’\textsuperscript{71} Instead, the Reef 2050 Plan enables future port expansions for exporting thermal coal, which will be exported through the GBR and will indirectly drive future climate change.
6. Conclusion and Recommendations

The Great Barrier Reef is in danger. The overall health of the GBR is declining and Australia’s current management and legislative regime is not adequate to arrest this decline, let alone restore WH values to at least the level at the time of the GBR’s listing. Areas of particular concern to Greenpeace are inadequacies in the current legislative and policy framework to acknowledge, let alone address the effects of climate change, cumulative impacts, and industrialisation.

Greenpeace’s view is that the cumulative risk of proposed industrial developments is unacceptable. This is due, firstly, to the direct individual and cumulative impacts of industrial expansion. It is, secondly, because expanding the coal export industry will have the dire indirect impact of driving climate change which is the greatest long-term threat to the GBR. Greenpeace reaffirms the position of the Australian Coral Reef Society that:

“If the Great Barrier Reef is to be protected, the coal mines of the Galilee Basin should not proceed, therefore these port developments will not be needed. The climate change ramifications for the GBR will be detrimental along with the increases in coal dust contamination of the waters, degradation from dredging for the ports and the increases in shipping that are essential for the export of this coal.”

In Greenpeace’s view, UNESCO’s continued close monitoring of the GBR will be essential to its protection. We concur with WWF that, ‘(t)he World Heritage Committee has played a very valuable role over recent years, in drawing attention to shortcomings in management of the GBR and urging Australia to secure the future of this international icon. The expert technical advice from the UNESCO World Heritage Centre, that forms the basis of the Committee’s decisions, has been invaluable.’ However in light of the fact that the Australian government has so far failed to comply with many of UNESCO’s recommendations, including that development should not be permitted ‘if it would impact individually or cumulatively on the Outstanding Universal Value of the property.’ we urge UNESCO to treat the GBR with the highest priority.

Given all of these factors, Greenpeace’s recommendation to IUCN for their draft recommendation to the committee is as follows:

That despite some progress on management issues, the Australian government’s own Strategic Assessment for the Reef, shows that 24 out of the 41 metrics or attributes that collectively encapsulate the OUV of the World Heritage Area have deteriorated since its inscription in 1981 (GBRMPA, 2014); and The Australian Academy of Science, in October 2014 has stated that; “based
on overwhelming scientific evidence the Academy concludes that, in its present state, the draft plan is inadequate to achieve the goal of restoring or even maintaining the diminished Outstanding Universal Value of the reef” (AAS,2014); and the State Party has failed to address multiple recommendations by UNESCO, particularly relating to cumulative impacts, industrialisation and climate change.

In light of inadequate progress against UNESCO’s previous recommendations, that the committee inscribe the Great Barrier Reef on its World Heritage in Danger list at the next WHC meeting in Bonn.


5. UNESCO World Heritage Committee: Decision 36 COM 7B.8 (2012), Decision 37 COM 7B.10 (2013) and Decision 38 COM 7B.63 (2014)


10. Australian Academy of Science (2014) Response to the draft Reef 2050 Long-term Sustainability Plan


Section 6.7.4


Section 6.7.4


section 6.4.1


Section 6.7.4


22. Coal is not the only factor: Queensland also has 98 percent of Australia’s proven coal seam gas reserves: GBRMPA (2014)

Great Barrier Reef Region Strategic Assessment Strategic Assessment Report GBRMPA, Townsville.


43 Australian Academy Of Science (2014) Response To The Draft Reef 2050 Long-Term Sustainability Plan
51 UNESCO World Heritage Centre (WHC) and the International Union for Conservation of Nature (IUCN) Reactive Monitoring Mission to Great Barrier Reef, 2012

Independent Review of the Bund Wall at the Port of Gladstone - Report on Findings - 2014


Australian Academy Of Science (2014) Response To The Draft Reef 2050 Long-Term Sustainability Plan

Australian Academy Of Science (2014) Response To The Draft Reef 2050 Long-Term Sustainability Plan


Section 6.3.


Section 6.3.


Australian Academy Of Science (2014) Response To The Draft Reef 2050 Long-Term Sustainability Plan
The need to restore WH values is highlighted by Jon Day: Jon Day, ‘Six ways Australia is selectively reporting to the UN on the Great Barrier Reef’ 5 February 2015, The Conversation http://theconversation.com/six-ways-australia-is-selectively-reporting-to-the-un-on-the-great-barrier-reef-37161
