

The Senate

Environment and Communications
References Committee

Management of the Great Barrier Reef

September 2014

© Commonwealth of Australia 2014
ISBN 978-1-76010-068-1

Committee address

PO Box 6100

Parliament House

Canberra ACT 2600

Tel: 02 6277 3526

Fax: 02 6277 5818

Email: ec.sen@aph.gov.au

Internet:

[http://www.aph.gov.au/Parliamentary Business/Committees/Senate/Environment and Communications](http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications)

This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivs 3.0 Australia License.



The details of this licence are available on the Creative Commons website:
<http://creativecommons.org/licenses/by-nc-nd/3.0/au/>.

This document was printed by the Senate Printing Unit, Parliament House, Canberra

Committee membership

Committee members (from 1 July 2014)

Senator Anne Urquhart, Chair	ALP, Tasmania
Senator Anne Ruston, Deputy Chair	LP, South Australia
Senator Joe Bullock	ALP, Western Australia
Senator James McGrath	LP, Queensland
Senator the Hon Lisa Singh	ALP, Tasmania
Senator Larissa Waters	AG, Queensland

Committee members (to 30 June 2014)

Senator the Hon Lin Thorp, Chair	ALP, Tasmania
Senator John Williams, Deputy Chair	NATS, New South Wales
Senator Louise Pratt	ALP, Western Australia
Senator Anne Ruston	LP, South Australia
Senator the Hon Ursula Stephens	ALP, New South Wales
Senator Larissa Waters	AG, Queensland

Substitute members

Senator Anne McEwen (ALP, South Australia) replaced Senator Anne Urquhart from 20 July to 22 August 2014

Participating members

Senator the Hon Ian Macdonald	LP, Queensland
Senator Matthew Canavan	NAT, Queensland

Committee secretariat

Ms Christine McDonald, Committee Secretary
Ms Sophie Power, Principal Research Officer
Mr Hari Gupta, Senior Research Officer
Ms Meryl Hampson, Research Officer
Mrs Dianne Warhurst, Administrative Officer
Ms Ruth Edwards, Administrative Officer

Table of Contents

Committee membership	iii
Recommendations	ix
Abbreviations and Acronyms	xiii
Chapter 1.....	1
Introduction	1
Referral of the inquiry	1
Conduct of the inquiry	2
Acknowledgement.....	2
Notes on references	3
Structure of the report.....	3
Chapter 2.....	5
Background	5
About the Great Barrier Reef	5
Legal framework	7
Background—World Heritage Committee concerns	11
Plans, policies and strategies relating to the Great Barrier Reef.....	16
Other relevant reports	23
Chapter 3.....	25
The science: health of the Great Barrier Reef.....	25
Decline of the reef	25
Reasons behind the decline	27
Scientific work underpinning decision-making	36
Chapter 4.....	47
The impact of land-based activity on the health of the reef	47
Introduction	47
Run-off caused by broad-scale land use.....	48
Management of the impacts of run-off caused by broad-scale land use	54
Impacts from non-agricultural activities	64

Chapter 5.....	73
Managing ports in the Great Barrier Reef region.....	73
General overview of concerns	73
Ports in the Great Barrier Reef region.....	76
Impacts of ports, dredging and dredge spoil disposal	87
Chapter 6.....	103
Port case studies: Gladstone Harbour and Abbot Point.....	103
Gladstone Harbour.....	103
Abbot Point.....	115
Chapter 7.....	135
Management of shipping in the Great Barrier Reef	135
Trends in shipping traffic through the reef.....	135
Management and regulatory measures in relation to shipping.....	137
Impacts of increased shipping	140
Chapter 8.....	149
Governance and management arrangements	149
General comments on the overall management of the Great Barrier Reef	149
Role and resourcing of GBRMPA.....	151
Coordination and cooperation between governments	161
Decision-making processes	169
Strategic Assessments and the Long-Term Sustainability Plan	172
Chapter 9.....	179
Conclusions and recommendations.....	179
Dredging and dredge disposal	180
Strategic Assessments and Long-Term Sustainability Plan	183
Science underpinning the management of the Great Barrier Reef.....	184
Great Barrier Reef Marine Park Authority	185
Climate change	186
Water quality and catchment management	186
Shipping.....	192
Governance and decision-making processes	193

Coalition Senators' Dissenting Report.....	197
Australian Greens – Additional Comments	207
Appendix 1	217
Submissions, tabled documents, additional information and	
answers to questions taken on notice	217
Submissions	217
Tabled documents.....	218
Additional information	219
Answers to questions taken on notice	220
Appendix 2	221
Public Hearings.....	221

Recommendations

Recommendation 1

9.16 The committee recommends that, in light of the precautionary principle, no further approvals should be given under the *Environment Protection and Biodiversity Conservation Act 1999* or the *Environment Protection (Sea Dumping) Act 1981* for the disposal of dredge spoil in the Great Barrier Reef World Heritage Area until the Great Barrier Reef Marine Park Authority and Australian Institute of Marine Science Dredge Panel work is finalised.

Recommendation 2

9.17 The committee recommends that the Minister for the Environment examine whether a cap or a ban should be introduced on the disposal of dredge spoil in the Great Barrier Reef World Heritage Area.

Recommendation 3

9.21 The committee recommends that the Department of the Environment ensure that conditions of approval under the *Environment Protection and Biodiversity Conservation Act 1999* are stringently worded, monitored and enforced.

Recommendation 4

9.22 The committee recommends that the Minister for the Environment ensure that funding for, and resourcing and staffing levels within, the Department of the Environment are sufficient to ensure adequate capacity to monitor and enforce conditions of approval under the *Environment Protection and Biodiversity Conservation Act 1999*.

Recommendation 5

9.29 The committee recommends that the Reef 2050 Long-Term Sustainability Plan be drafted and finalised, subject to full community consultation, as a matter of high priority.

Recommendation 6

9.30 The committee recommends that the Reef 2050 Long-Term Sustainability Plan bring together all existing strategies, plans and reports in relation to the Great Barrier Reef.

Recommendation 7

9.31 The committee recommends that the Australian and Queensland Governments ensure that the Reef 2050 Long-Term Sustainability Plan contains concrete targets and actions to improve the health of the Great Barrier Reef.

Recommendation 8

9.32 The committee recommends that the Australian and Queensland Governments ensure that the Reef 2050 Long-Term Sustainability Plan adequately addresses the cumulative impacts of all activities on the Great Barrier Reef Region and its world heritage values.

Recommendation 9

9.36 The committee recommends that funding for, and staffing for the Australian Institute of Marine Science be maintained, and wherever possible, increased, in order to ensure that they can continue to conduct the important research work needed to support management and decision-making in relation to the Great Barrier Reef.

Recommendation 10

9.40 The committee recommends that the Australian National Audit Office expand its proposed and current audits relating to the Great Barrier Reef to include an audit of the performance of the Great Barrier Reef Marine Park Authority.

Recommendation 11

9.42 The committee recommends that funding and staffing of the Great Barrier Reef Marine Park Authority be maintained in order to ensure that it can concentrate on providing independent, world-class management of the Great Barrier Reef Marine Park.

Recommendation 12

9.44 The committee recommends that the Great Barrier Reef Marine Park Authority create a single, searchable database of all relevant reports and publications relating to the Great Barrier Reef.

Recommendation 13

9.46 The committee recommends that the Australian Government take strong action, and an international leadership role, on the issue of climate change.

Recommendation 14

9.51 The committee recommends that the Minister for the Environment examine the Reef Water Quality Protection Plan to identify explicit load reduction targets as well as management strategies to achieve these targets.

Recommendation 15

9.61 The committee recommends that research funding be directed towards improving farming technologies, such as fertilisers, to make them more cost effective and less likely to negatively impact on the water quality of the Great Barrier Reef.

Recommendation 16

9.62 The committee recommends that the Minister for the Environment commission a scientific review of the impacts on water quality of farm-related products. In undertaking such a review, the committee recommends that an assessment be undertaken of:

- the potential benefits of new farming technologies, including use of new types of fertiliser; and
- mechanisms to decrease the use of pesticides.

Recommendation 17

9.63 The committee recommends that the Australian Government work closely with stakeholders to deliver enhanced environmental outcomes through the Reef Trust Programme and the Reef Water Quality Protection Plan.

Recommendation 18

9.66 The committee recommends that there should be a strict adherence to the precautionary principle when assessing the potential impact of the development of Northern Australia, especially in previously undeveloped areas in catchments of the Great Barrier Reef.

Recommendation 19

9.70 The committee recommends that the Queensland Government provide funding to local government authorities to assist with the upgrade of sewage treatment plants in the Great Barrier Reef catchment areas.

Recommendation 20

9.73 The committee recommends that the Queensland Government improve the enforcement of the *Transport Operations (Marine Pollution) Act 1995* and associated regulations prohibiting the discharge of sewage from vessels into the waters of the Great Barrier Reef.

9.74 Further, the committee recommends that the Queensland Government provide funding for improved facilities at ports for the effective treatment and disposal of sewage originating from vessels in and around the Great Barrier Reef.

Recommendation 21

9.78 The committee recommends that the Minister for the Environment afford higher levels of environmental protection to areas on, or adjacent to, the Great Barrier Reef, including the Fitzroy River Delta and the Bathurst Bay Region.

Recommendation 22

9.80 The committee recommends that the Minister for the Environment examine measures to reduce coal particulate pollution in the Great Barrier Reef Region.

Recommendation 23

9.85 The committee recommends that the relevant Minister(s) examine whether the Australian Government should adopt the International Maritime Organization's *Guidelines for the Reduction of Underwater Noise from Commercial Shipping to Address Adverse Impacts on Marine Life*.

Recommendation 24

9.86 The committee recommends that the relevant Minister(s) ensure that further consultation be undertaken in relation to the draft North-East Shipping Management Plan.

Recommendation 25

9.91 The committee recommends that the Australian Government not accredit Queensland development approval processes under the *Environment Protection and Biodiversity Conservation Act 1999*.

Recommendation 26

9.92 The committee recommends that the Environment Protection and Biodiversity Conservation Amendment (Bilateral Agreement Implementation) Bill 2014 not be passed.

Recommendation 27

9.94 The committee recommends that the Minister for the Environment, conduct a review to examine ways to improve the rigour and independence of the environmental assessment process under the *Environment Protection and Biodiversity Conservation Act 1999*.

Recommendation 28

9.97 The committee recommends that the Department of the Environment develop a separate offsets policy in relation to the marine environment.

Recommendation 29

9.98 The committee recommends that the *Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy* be revised to provide greater guidance on developments in which offsets are unacceptable, such as a list of 'red flag' areas, including within the Great Barrier Reef World Heritage Area.

Abbreviations and Acronyms

AIMS	Australian Institute of Marine Science
ANAO	Australian National Audit Office
BMP	Best Management Practice
CAFNEC	Cairns and Far North Environment Centre
CO ₂	carbon dioxide
COTS	crown-of-thorns starfish
CSG	coal seam gas
CSIRO	Commonwealth Scientific and Industrial Research Organisation
EMC	Environmental Management Charge
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999 (Cth)</i>
GBR	Great Barrier Reef
GBRMPA	Great Barrier Reef Marine Park Authority
GBRMP Act	<i>Great Barrier Reef Marine Park Act 1975 (Cth)</i>
GBRWHA	Great Barrier Reef World Heritage Area
IMO	International Maritime Organization
IMP	Integrated Monitoring Program
LTPSD	Long-Term Plan for Sustainable Development
Marine Park	Great Barrier Reef Marine Park
MNES	Matters of National Environment Significance
MPA	Marine Protected Area
MEPC	Marine Environment Protection Committee
NQBP	North Queensland Bulk Ports
NERP	National Environmental Research Program
Outlook Report 2014	GBRMPA, Great Barrier Reef Outlook Report 2014
OUV	Outstanding Universal Value
PCIMP	Port Curtis Integrated Monitoring Program
PPDA	Priority Port Development Area
PSSA	Particularly Sensitive Sea Area
Reef Water Quality Plan	2013 Reef Water Quality Protection Plan

REEFVTS	Great Barrier Reef and Torres Strait vessel traffic service
Sea Dumping Act	Environment Protection (Sea Dumping) Act 1981 (Cth)
SPP	State planning policy
TBT	tributyltin
TRRAC	Tourism Recreation Reef Advisory Committee
TSF	tailings storage facility
UNCLOS	United Nations Convention on the Law of the Sea
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNESCO report	Reactive Monitoring Mission Report into the Great Barrier Reef in June 2012
WHA	World Heritage Area

Chapter 1

Introduction

Referral of the inquiry

1.1 On 25 March 2014, the Senate referred the following matter to the Environment and Communications References Committee (the committee) for inquiry and report by 25 June 2014:

The adequacy of the Australian and Queensland Governments' efforts to stop the rapid decline of the Great Barrier Reef, including but not limited to:

- (a) management of the impacts of industrialisation of the reef coastline, including dredging, offshore dumping, and industrial shipping, in particular, but not limited to, current and proposed development in the following regions or locations:
 - (i) Gladstone Harbour and Curtis Island,
 - (ii) Abbot Point,
 - (iii) Fitzroy Delta, and
 - (iv) Cape Melville and Bathurst Bay;
- (b) management of the impacts of agricultural runoff;
- (c) management of non-agricultural activities within reef catchments impacting on the reef, including legacy mines, current mining activities and practices, residential and tourism developments, and industrial operations including Yabulu;
- (d) ensuring the Great Barrier Reef Marine Park Authority has the independence, resourcing and capacity to act in the best interest of the long-term health of the reef;
- (e) the adequacy, timeliness and transparency of independent scientific work undertaken to support government decisions impacting the reef;
- (f) whether government decision processes impacting the reef are consistent with the precautionary principle;
- (g) whether the Strategic Assessments currently underway are likely to protect the reef from further decline;
- (h) the identification and protection of off-limits areas on the reef coastline to help protect the health of the reef;
- (i) consistency of efforts with the World Heritage Committee's recommendations on what is required to protect the reef;
- (j) the extent to which government decisions impacting the reef, including development of the Strategic Assessments and Reef 2050 Plan, involve genuine, open and transparent consultation with the Australian

community, affected industries and relevant scientific experts, and genuine consideration of the broader community's views in final decisions; and

(k) any other related matters.¹

1.2 The reporting date was subsequently extended to 27 August 2014.² It was then extended again to 3 September 2014.³

Conduct of the inquiry

1.3 The committee advertised the inquiry on its website and in *The Australian* newspaper. The committee also wrote to relevant organisations and individuals inviting submissions by 2 June 2014. The committee received 64 submissions, which were published on the committee's website and are listed at Appendix 1.

1.4 The committee held public hearings relating to its inquiry in Brisbane on 21 July 2014, Mackay on 22 July 2014, and Townsville on 23 July 2014. A list of witnesses who appeared at the hearings may be found at Appendix 2.

1.5 The committee notes that there were some comments in the media⁴ from a member of the House of Representatives about whether this Senate inquiry was being conducted in a balanced manner, and in particular, whether North Queensland Bulk Ports Corporation was given the opportunity to 'defend themselves' during this inquiry. The committee notes that it wrote to the North Queensland Bulk Ports Corporation (along with numerous other industry groups), inviting it to make a submission to the inquiry. North Queensland Bulk Ports Corporation did eventually make a submission responding to evidence received during the inquiry.⁵ Ports North, who did make a submission, were invited to come to the hearing in Townsville but declined, noting that they would be represented at the inquiry through their industry bodies, Queensland Ports Association and Ports Australia, in Brisbane on 21 July 2014.

Acknowledgement

1.6 The committee would like to thank all the organisations, individuals and government departments that contributed to the inquiry.

1 *Journals of the Senate*, No. 24, 25 March 2014, p. 709.

2 *Journals of the Senate*, No. 28, 14 May 2014, p. 793.

3 *Journals of the Senate*, No. 47, 27 August 2014, p. 1313.

4 See, for example, 'Christensen labels Senate inquiry a 'kangaroo court'', *The Whitsunday Times*, 24 July 2014, <http://www.whitsundaytimes.com.au/news/christensen-labels-senate-inquiry-a-kangaroo-court/2327364/> (accessed 8 August 2014); 'MP slams reef hearing as a 'waste of time'', *Daily Mercury*, 23 July 2013, <http://www.dailymercury.com.au/news/mp-slams-reef-hearing-as-a-waste-of-time/2326772/>, (accessed 8 August 2014).

5 North Queensland Bulk Ports Corporation, *Submission 62*.

Notes on references

1.7 Hansard references in this report are to the proof committee Hansard. Page numbers may vary between the proof and the official Hansard transcript.

Structure of the report

1.8 This chapter outlines the conduct of the inquiry. Chapter 2 provides an introduction and background in relation to the Great Barrier Reef, in particular the legal and policy framework relating to the reef, primarily at the Commonwealth level. It also examines the World Heritage Committee's concerns about the Great Barrier Reef World Heritage Area, as well as some of the relevant reviews, reports, plans and strategies relating to the Great Barrier Reef.

1.9 Chapter 2 sets out background information relating to the management of the Great Barrier Reef, including a summary of the legal framework at the Commonwealth level. It also examines the World Heritage Committee deliberations and outlines some of the relevant recent policies, reports, plans and strategies.

1.10 Chapter 3 provides an overview of the scientific evidence on the health of the Great Barrier Reef, including evidence that the Great Barrier Reef is in decline and the reasons behind this decline; as well as the importance of scientific work underpinning decision-making, including incorporation of the precautionary principle.

1.11 Chapter 4 examines catchment management and the quality of water entering the Great Barrier Reef from the catchment areas. The chapter examines the issues relating to broad scale run-off and those related to specific, more localised, activities. The chapter also examines the use of no-go zones in the catchments and within the Great Barrier Reef Marine Park.

1.12 Chapter 5 considers issues relating to the management of the impacts of port developments, including dredging and disposal of dredge spoils, in the Great Barrier Reef Region. Chapter 6 examines particular issues in relation to the development of the Port of Abbot Point and the Port of Gladstone. Chapter 7 outlines issues relating to the management of shipping.

1.13 Chapter 8 looks at governance, management and funding arrangements relating to the Great Barrier Reef, including the role, resourcing and independence of the Great Barrier Reef Marine Park Authority, as well as cooperation and coordination between governments, along with role of the Strategic Assessments and proposed long-term sustainability plan.

1.14 Chapter 9 draws together the committee's conclusions and recommendations in relation to the management of the Great Barrier Reef.

1.15 In terms of the four regions identified in the inquiry's term of reference (a), Fitzroy Delta and Cape Melville/Bathurst Bay are considered in Chapter 5. Gladstone Harbour/Curtis Island and Abbot Point are outlined in further detail in Chapter 6.

1.16 The committee notes that term of reference (i), relating to the efforts to respond to the World Heritage Committee's recommendations, is considered where relevant in each chapter.

1.17 Finally, the committee notes that it received very little evidence on the issue of fishing.⁶ As such the committee does not examine this issue in any detail in this report. The committee notes, however, that there is a comprehensive discussion of the impacts of, and issues in relation to, fishing in section 5.4 of the *Outlook Report 2014*.

6 The most notable exception is the submission from Carefish (*Submission 16*).

Chapter 2

Background

2.1 This chapter provides some background relating to the management of the Great Barrier Reef, including a summary of the legal framework at the Commonwealth level. It also examines the World Heritage Committee deliberations and outlines some of the relevant recent policies, reports, plans and strategies.

About the Great Barrier Reef

2.2 The Great Barrier Reef World Heritage Area stretches for approximately 2300 kilometres along the coast of Queensland from the northern tip of Queensland down to just north of Bundaberg. The Great Barrier Reef World Heritage Area was inscribed on the World Heritage List in 1981, and:

- covers 348 000 km²;
- includes the world's most extensive coral reef ecosystem; and
- includes some 3000 coral reefs, 600 continental islands, 300 coral cays and about 150 inshore mangrove islands.¹

2.3 Coral reefs 'only comprise about seven per cent of the Marine Park and the World Heritage Area' and the rest is:

...an extraordinary variety of marine habitats, ranging from shallow inshore areas—such as seagrass, mangroves, sand, algal and sponge gardens, and inter-reefal communities—to deep oceanic areas more than 250km offshore.²

2.4 The Great Barrier Reef was inscribed in 1981 for meeting all four of the natural criteria for Outstanding Universal Value (OUV) and for its integrity. This includes having superlative natural phenomena and areas of exceptional natural beauty; being an outstanding example of major stages in the Earth's evolutionary history; representing significant ongoing ecological and biological processes and Traditional Owners' interaction with the natural environment; and containing the most important and significant natural habitats for *in situ* conservation of biological diversity.³

1 Department of the Environment, *Fact Sheet – The Great Barrier Reef World Heritage Area*, September 2012: <http://www.environment.gov.au/system/files/resources/d9257a3b-566a-4f9c-98b1-779a3da78153/files/gbr-factsheet.pdf>; and also Great Barrier Reef Marine Park Authority (GBRMPA), *Facts about the Great Barrier Reef*, <http://www.gbrmpa.gov.au/about-the-reef/facts-about-the-great-barrier-reef> (accessed 27 June 2014).

2 GBRMPA, *Facts about the Great Barrier Reef*, <http://www.gbrmpa.gov.au/about-the-reef/facts-about-the-great-barrier-reef> (accessed 27 June 2014).

3 GBRMPA, *Great Barrier Reef Outlook Report 2014 (Outlook Report 2014)*, p. 7, <http://www.gbrmpa.gov.au/managing-the-reef/great-barrier-reef-outlook-report> (accessed 13 August 2014); Department of the Environment, *Great Barrier Reef World Heritage Values*, <http://www.environment.gov.au/heritage/places/world/gbr/values> (accessed 13 August 2014).



Figure 1- the Great Barrier Reef region⁴

4 Source: Australian and Queensland Governments, *Submission 34*, p. 5.

2.5 A distinction can be made between the Great Barrier Reef World Heritage Area, the Great Barrier Reef region and the Great Barrier Reef Marine Park (see Figure 1 above):

The Region's boundaries match those of the Great Barrier Reef Marine Park, except the Region includes the areas around major ports that are not part of the Marine Park. The Great Barrier Reef World Heritage Area also has similar boundaries to the Region, except that it includes all islands and all Queensland internal waters that are within its outer boundary.⁵

2.6 The Great Barrier Reef is the world's largest marine park, and is a multi-use area. Activities in the area include tourism, fishing, shipping, research, agriculture and defence.⁶ It is estimated that the Great Barrier Reef's goods and services contribute around \$6 billion annually to the Australian economy and support around 69 000 jobs. These estimates are likely to be 'only a portion of the total economic value' of the Great Barrier Reef as 'most ecosystem services have not yet been calculated'.⁷

2.7 A significant proportion of the economic value of the area comes from the tourism industry:

The Great Barrier Reef is one of Australia's most iconic tourism assets receiving up to 2 million visits each year. Tourism is an important economic driver for the Great Barrier Reef, contributing \$5.7 billion to the national economy in 2012–13. The diverse range of tourism opportunities available on the Great Barrier Reef mean it is also an important creator of jobs.⁸

Legal framework

2.8 There is a range of legislation specifically applicable to the Great Barrier Reef. Key Commonwealth legislation relevant to the Great Barrier Reef includes the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act); the *Great Barrier Reef Marine Park Act 1975* (GBRMP Act) and the *Environment Protection (Sea Dumping) Act 1981* (Sea Dumping Act). Key aspects of these Acts are summarised below.⁹

Environment Protection and Biodiversity Conservation Act 1999

2.9 The EPBC Act is the primary piece of Commonwealth legislation regulating environmental matters, and has among its objects:

- to provide for the protection of the environment, especially those aspects which are a matter of national environmental significance;

5 GBRMPA, *Outlook Report 2014*, p. 3.

6 Australian and Queensland Governments, *Submission 34*, p. 6.

7 GBRMPA, *Outlook Report 2014*, p. 109; AIMS, *Submission 36*, p. 1.

8 Australian and Queensland Governments, *Submission 34*, p. 6.

9 Note that there is a range of Queensland legislation that is also relevant to the protection and management of the Great Barrier Reef and its catchments: see further Australian and Queensland Governments, *Submission 34*, pp 10–12.

- to provide for the protection and conservation of heritage;
- to promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources; and
- to assist in the co-operative implementation of Australia's international environmental responsibilities.¹⁰

2.10 In general, the EPBC Act prohibits a person from taking an 'action' without approval from the environment minister if the action is likely to have a significant impact on a 'matter of national environmental significance'.¹¹ Matters of national environmental significance currently covered by the EPBC Act are:

- world heritage properties;
- national heritage places;
- wetlands of international importance (listed under the Ramsar Convention);
- listed threatened species and ecological communities;
- migratory species protected under certain international agreements;
- Commonwealth marine areas;
- the Great Barrier Reef Marine Park;
- nuclear actions (including uranium mines); and
- a water resource, in relation to coal seam gas development and large coal mining development.¹²

2.11 The Great Barrier Reef Marine Park has been recognised as a matter of national environmental significance under the EPBC Act in its own right since 25 November 2009. It is prohibited to take any action in, as well as outside, the Great Barrier Reef Marine Park that will have a significant impact on the environment within the Great Barrier Reef Marine Park, unless the action has previously been approved, or is being undertaken, by the Commonwealth.¹³

2.12 The Great Barrier Reef Marine Park is also protected under the EPBC Act, for example, as a world heritage area,¹⁴ a national heritage place,¹⁵ and to the extent that it

10 EPBC Act, ss. 3(1).

11 Section 523 of the EPBC Act defines an 'action' to include a project, development, undertaking, activity or series of activities, or an alteration of any of these.

12 EPBC Act, Part 3, Division 1. See also Department of the Environment, *What is protected under the EPBC Act?*, <http://www.environment.gov.au/topics/about-us/legislation/environment-protection-and-biodiversity-conservation-act-1999/what> (accessed 8 July 2014).

13 *Environment Protection and Biodiversity Conservation Act 1999*, s. 24B.

14 The Great Barrier Reef was inscribed on the World Heritage List in 1981.

15 The Great Barrier Reef was included in the National Heritage List on 21 May 2007. See further: Department of the Environment, *The Great Barrier Reef, Queensland, Overview*, <http://www.environment.gov.au/heritage/places/world/great-barrier-reef/index.html> (accessed 27 June 2014).

provides habitat for listed threatened species and listed migratory species. There are also two internationally listed Ramsar wetlands in the Great Barrier Reef region: Bowling Green Bay and Shoalwater and Corio Bays.¹⁶

2.13 In 2014, the Department of the Environment released *EPBC Act Referral Guidelines for the Outstanding Universal Value of the Great Barrier Reef World Heritage Area*. The referral guidelines are intended to provide guidance to proponents on the need to refer an action to which the EPBC Act applies.¹⁷

Great Barrier Reef Marine Park Act 1975

2.14 The GBRMP Act established the Great Barrier Reef Marine Park (Marine Park) and the Great Barrier Reef Marine Park Authority (GBRMPA). The main object of the GBRMP Act is to provide for the long-term protection and conservation of the environment, biodiversity and heritage values of the Great Barrier Reef region.¹⁸

2.15 In the second reading speech to the Great Barrier Reef Marine Park Bill 1975, the then Minister for Environment and Conservation, Dr Cass, stated that:

Conservation and protection of the Great Barrier Reef will be the paramount aim of the [Great Barrier Reef Marine Park] Authority.¹⁹

2.16 To this end, the GBRMP Act and associated Regulations contain provisions which:

- provide a framework for planning and management of the Marine Park, including through zoning plans, plans of management and a system of permissions;
- prohibit mining operations (including prospecting and exploration) in the Great Barrier Reef region; and
- require compulsory pilotage for certain ships in prescribed areas of the Great Barrier Reef region.²⁰

Zoning under the GBRMP Act

2.17 As noted above, the Great Barrier Reef Marine Park is recognised as a multiuse area that provides for a range of activities, including commercial marine

16 GBRMPA, *Great Barrier Reef Biodiversity Conservation Strategy 2013*, p. 7, <http://www.gbrmpa.gov.au/about-the-reef/biodiversity/biodiversity-conservation-strategy-2013> (accessed 27 June 2014).

17 Department of the Environment, *EPBC Act Referral Guidelines for the Outstanding Universal Value of the Great Barrier Reef World Heritage Area*, <http://www.environment.gov.au/resource/epbc-act-referral-guidelines-outstanding-universal-value-great-barrier-reef-world-heritage> (accessed 8 July 2014).

18 GBRMP Act, s. 2A.

19 The Hon Moses Cass, Former Minister for Environment and Conservation, *House of Representatives Debates*, 1975, vol. HR95 R2680.

20 GBMPA, *Legislation*, <http://www.gbrmpa.gov.au/zoning-permits-and-plans/legislation-regulations-and-policies/legislation> (accessed 9 July 2014).

tourism, fishing, recreation, scientific research, Indigenous traditional use and ports and shipping. The *Great Barrier Reef Marine Park Zoning Plan 2003* (Zoning Plan)²¹ is the primary planning instrument for the conservation and management of the Marine Park. Each zone has different rules for the activities that are allowed, the activities that are prohibited and the activities that require a permit. Zones may also place restrictions on how some activities are conducted.²² The Zoning Plan divides the Great Barrier Reef into eight zones and sets out the purposes for which each zone may be used or entered.²³ The major zones are:

- General Use (Light Blue);
- Habitat Protection (Dark Blue);
- Conservation Park (Yellow); and
- Marine National Park (Green).

2.18 Other zones include Preservation (Pink), Scientific Research (Orange), Buffer (Olive Green) and Commonwealth Island Zones, which make up less than five per cent of the Marine Park.²⁴

2.19 Plans of management complement the Zoning Plan and address issues specific to an area or species.²⁵

Environment Protection (Sea Dumping) Act 1981

2.20 The Sea Dumping Act regulates the disposal of waste at sea in waters surrounding Australia's coastlines. Under the Act, permits are required from the Department of the Environment for all ocean disposal activities, including dredging operations. The Sea Dumping Act fulfils Australia's international obligations under the London Protocol to prevent marine pollution caused by dumping of wastes and other matter.²⁶

2.21 Some sea dumping projects may require approval under both the EPBC Act and the Sea Dumping Act. In these cases, applications can be assessed concurrently under both Acts. If sea dumping activities within the boundaries of the Great Barrier

21 Available at: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0015/3390/GBRMPA-zoning-plan-2003.pdf (accessed 9 July 2014)

22 GBRMPA, *Zoning*, at: <http://www.gbrmpa.gov.au/zoning-permits-and-plans/zoning> (accessed 9 July 2014).

23 Australian and Queensland Governments, *Submission 34*, p. 12.

24 GBRMPA, *About Zoning*, <http://www.gbrmpa.gov.au/zoning-permits-and-plans/zoning/about-zoning> (accessed 9 July 2014).

25 There are currently four plans of management: for the Cairns Area, Whitsundays, Hinchinbrook, and a Shoalwater Bay (Dugong) Plan of Management: Australian and Queensland Governments, *Submission 34*, p. 12.

26 Department of the Environment, *Sea dumping*, <http://www.environment.gov.au/topics/marine/marine-pollution/sea-dumping> (accessed 27 June 2014). See also *1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972*.

Reef Marine Park are proposed, they will be assessed by the Great Barrier Reef Marine Park Authority.²⁷

2.22 Through the Sea Dumping Act, to mitigate and manage environmental impacts, the Australian Government assesses proposals to load and dump wastes and other matter at sea, permits acceptable activities, and places conditions of approval. The *National Assessment Guidelines for Dredging 2009* set out the framework for the environmental impact assessment and for permissions relating to ocean disposal of dredged material. The guidelines set out a framework for:

- evaluating alternatives to ocean disposal;
- assessing sites for loading and disposal;
- assessing potential impacts on the marine environment and other users; and
- determining management and monitoring requirements.²⁸

2.23 GBRMPA also has a policy on dredging and spoil disposal that guides assessment and management processes for dredging and dredge material disposal, which includes restrictions on: the location of dredging and dredge material disposal; contaminated dredge material disposal; and annual volumes of sea disposal within the Marine Park.²⁹

Background—World Heritage Committee concerns

2.24 As noted earlier, the Great Barrier Reef was inscribed on the World Heritage List in 1981. In recent years, the World Heritage Committee has considered the state of conservation of the Great Barrier Reef World Heritage Area and made a number of decisions and recommendations relating to the area. A summary of these is set out below.

UNESCO Reactive Monitoring Mission to Great Barrier Reef Report

2.25 In response to a 2011 decision of the United Nations Educational, Scientific and Cultural Organisation (UNESCO) World Heritage Committee,³⁰ the Committee researched and drafted a Reactive Monitoring Mission Report into the Great Barrier Reef in June 2012 (UNESCO report).³¹ The UNESCO report noted that there had

27 Department of the Environment, *Environment Protection (Sea Dumping) Act 1981*, <http://www.environment.gov.au/coasts/pollution/dumping/act.html> (accessed 27 June 2014).

28 Department of the Environment, *National Assessment Guidelines for Dredging*, available at: <http://www.environment.gov.au/coasts/pollution/dumping/publications/guidelines.html> (accessed 27 June 2014).

29 GBRMPA, *Outlook Report 2014*, p. 130; GBRMPA, *Dredging and Spoil Disposal Policy*, http://www.gbrmpa.gov.au/_data/assets/pdf_file/0019/3844/gbrmpa_DredgingandSpoilDisposalPolicy_2004.pdf (accessed 27 August 2014).

30 UNESCO World Heritage Committee, Decision 35 COM 7B.10, Great Barrier Reef (Australia), <http://whc.unesco.org/en/decisions/4418> (accessed 9 July 2014).

31 UNESCO, *Mission Report: Reactive Monitoring Mission to Great Barrier Reef (Australia)*, June 2012, p. 2, <http://whc.unesco.org/en/list/154/documents/> (accessed 27 June 2014).

been positive trends with regards to managing threats such as oil and gas development and fishing and tourism in the Great Barrier Reef, and water quality from catchment run-off. However, the report stated that:

Despite these positive trends, the future conservation of the Great Barrier Reef World Heritage area is at crossroads and decisions that will be taken in the immediate future will be decisive for the long-term health of the property as a whole. The mission concludes that the property is affected by a number of current and potential threats and that decisive and immediate action is required to secure its Outstanding Universal Value over the long-term. Climate change, catchment runoff, coastal development, ports and shipping and direct extractive use pose the most important threats to the long-term conservation of the property.³²

2.26 In particular, the report stated that:

Considering the rapid increase of coastal developments, including ports infrastructure, and the fact that circa 35 new development proposals are awaiting determination by 2013, including in highly sensitive or already pressured areas, the mission concludes that this is of high concern to the conservation of the OUV for which the property is inscribed on the World Heritage List.³³

2.27 Due to these concerns, the UNESCO report made 14 recommendations designed to keep the Great Barrier Reef off the 'List of World Heritage in Danger'.³⁴

World Heritage Committee decisions

2.28 Following the UNESCO Mission Report, the committee has considered the state of conservation of the Great Barrier Reef at its meetings in 2012, 2013 and most recently in June 2014.

2.29 A summary of the World Heritage Committee's decisions and requests in relation to the Great Barrier Reef is set out below.

2012 decision

2.30 In 2012, the World Heritage Committee requested that Australia address a number of matters, including the mission report recommendations. Other matters included:

- to not permit any further port development or associated infrastructure outside existing major port areas within or adjoining the Great Barrier Reef property,

32 UNESCO, *Mission Report: Reactive Monitoring Mission to Great Barrier Reef (Australia)*, June 2012, p. 4.

33 UNESCO, *Mission Report: Reactive Monitoring Mission to Great Barrier Reef (Australia)*, June 2012, p. 4.

34 UNESCO, *Mission Report: Reactive Monitoring Mission to Great Barrier Reef (Australia)*, June 2012, pp 6–9. For further detail on the List of World Heritage in Danger, see: UNESCO, *World Heritage in Danger*, at: <http://whc.unesco.org/en/158/> (accessed 9 July 2014). There are currently 45 properties around the world on the List of World Heritage in Danger. The full list is available at: <http://whc.unesco.org/en/danger/> (accessed 9 July 2014).

and to ensure that development is not permitted if it would impact on the values of the property;

- to complete the Strategic Assessment for the sustainable development of the Great Barrier Reef World Heritage Area and to ensure that the assessment fully addresses impacts on the reef;
- to sustain and increase its efforts and available resources to conserve the property, and to develop and adopt clearly defined and scientifically justified targets for improving its state of conservation and enhancing its resilience, and ensure that plans, policies and development proposals affecting the property demonstrate a positive contribution to the achievement of those targets, and an overall net benefit to the protection of OUV; and
- to undertake an independent review of the management arrangements for Gladstone Harbour to ensure that port development is consistent with international best practice standards.³⁵

2.31 The World Heritage Committee requested a response to its recommendations by 1 February 2013, stating that a lack of substantial progress could place the Great Barrier Reef on the 'List of World Heritage in Danger'.³⁶

2013 decision

2.32 In 2013, the World Heritage Committee's decision:

- welcomed Australia's progress with the Strategic Assessment and reiterated its request for Australia to ensure that the assessment and the long-term sustainable development plan follow the defined criteria for success, fully address direct, indirect and cumulative impacts on the reef, and lead to concrete measures ensuring the conservation of the OUV of the property;
- welcomed the establishment of an independent review of the management arrangements for Gladstone Harbour and requested that these efforts result in the optimisation of port development and operation in Gladstone Harbour and on Curtis Island, as well as other existing port developments, consistent with the highest internationally recognised standards for best practice, commensurate with the iconic World Heritage status;
- welcomed the renewed commitment to the Reef Water Quality Protection Plan and associated Reef Rescue measures and the positive results indicated in the Second Reef Plan Record Card; and
- noted with concern the limited progress on requests in relation to port developments, and urged Australia to rigorously ensure:

35 UNESCO World Heritage Committee, Decision 36 COM 7B.8, 2012 <http://whc.unesco.org/en/decisions/4657> (accessed 9 July 2014).

36 UNESCO World Heritage Committee, Decision 36 COM 7B.8, 2012, <http://whc.unesco.org/en/decisions/4657> (accessed 9 July 2014).

- (a) that development is not permitted if it would impact individually or cumulatively on the OUV of the property or compromise the Strategic Assessment and resulting Long-Term Plan for Sustainable Development of the Property (LTPSD);
- (b) that no port developments or associated port infrastructure are permitted outside the existing and long-established major port areas within or adjoining the property; and
- (c) that the legislation protecting the property remains strong and adequate to maintain and enhance its OUV.

2.33 The World Heritage Committee requested a response to these recommendations by 1 February 2014, again stating that a lack of substantial progress could place the Great Barrier Reef on the 'List of World Heritage in Danger'.³⁷

2014 decision

2.34 Most recently, earlier this year, the World Heritage Committee:

- welcomed Australia's progress with the Strategic Assessment and reiterated its request for Australia to complete this work, responding fully to the past decisions of the Committee in order to ensure that the LTPSD results in concrete and consistent management measures that are sufficiently robust, effectively governed and adequately financed from the point of view of addressing cumulative impacts and increasing reef resilience to ensure the overall long-term conservation of the property and its OUV;
- welcomed Australia's progress with regard to water quality, in particular the endorsement of the 2013 Reef Water Quality Protection Plan (Reef Water Quality Plan), the release of the 2013 Scientific Consensus Statement and the progress toward the Reef Water Quality Plan targets as stated in the most recent Reef Water Quality Plan Report Card, and encouraged Australia to sustain and, where necessary, expand these efforts and their funding to achieve the ultimate goal of no detrimental impact on the health and resilience of the Great Barrier Reef;
- welcomed Australia's intention to focus port development to 'Priority Port Development Areas' (PPDAs) and its confirmation that these will exclude the Fitzroy Delta, Keppel Bay and north Curtis Island, as well as the stated commitment to 'protect greenfield areas from the impacts of port development', and urged Australia to ensure that the finalised Queensland Ports Strategy fully integrates these commitments, is consistent with the LTPSD, and confirms that no port developments or associated port infrastructure are permitted outside the existing and long-established major port areas within or adjoining the property;

37 UNESCO World Heritage Committee, Decision 37 COM 7B.10, 2013, <http://whc.unesco.org/en/decisions/4959> (accessed 9 July 2014).

- requested Australia to ensure the full completion of the independent review of the institutional and management arrangements for the property as a key input to the LTPSD, and considered that it would be premature to transfer decision-making powers from Federal to State levels, before the vision, framework with desired outcomes and targets and governance requirements to deliver the LTPSD have been adopted, and that it should be postponed to allow further consideration;
- noted with concern the recent approvals for coastal developments in the absence of the completed Strategic Assessment and resulting LTPSD, and regretted Australia's approval for dumping three million cubic metres of dredge material inside the property prior to having undertaken a comprehensive assessment of alternative and potentially less impacting development and disposal options, and requested Australia to ensure that the option selected does not impact the OUV of the property and is the least damaging option available; and
- noted with concern that the Queensland Ports Strategy cannot be applied retroactively and strongly urged Australia to:
 - (a) rigorously ensure that proposed development outside PPDA's is not permitted and that developments within PPDA's do not have an individual or cumulative impact on the OUV of the property, and
 - (b) ensure that plans to be developed for each PPDA exclude from development areas identified as being of conservation significance under the Zoning Plan.³⁸

2.35 The World Heritage Committee requested that the Australian Government submit an updated report on the conservation of the property, and on the implementation of actions outlined in its decision, by 1 February 2015. The World Heritage Committee will consider the possible inscription of the Great Barrier Reef on the 'List of World Heritage in Danger' at its 39th session in 2015.³⁹

Responding to the World Heritage Committee recommendations

2.36 In response to the World Heritage Committee's requests, Australia submitted State Party Reports to the World Heritage Committee in 2012, 2013 and 2014. These reports outlined the nature of the threats to the Great Barrier Reef as well as the initiatives taken in response to these challenges.⁴⁰ The Australian and Queensland

38 UNESCO World Heritage Committee, Decision 38 COM 7B.63, 2014, pp 116–117, <http://whc.unesco.org/archive/2014/whc14-38com-16en.pdf> (accessed 9 July 2014).

39 UNESCO World Heritage Committee, Decision 37 COM 7B.10, 2013, <http://whc.unesco.org/en/decisions/4959> (accessed 9 July 2014).

40 These reports are available at: Department of the Environment, *The Great Barrier Reef, Queensland - More Information*, <http://www.environment.gov.au/heritage/places/world/gbr/more-information> (accessed 9 July 2014).

Governments noted that a further State Party Report will be provided by 1 February 2015.⁴¹

2.37 The Australian and Queensland Governments' submission also contained a table outlining Australia's progress in responding to the World Heritage Committee's 2013 decision, claiming that 'significant progress' has been made in relation to a number of recommendations.⁴² The two Governments submitted that further progress will be made in 2014 on a number of matters, including:

- release of a Reef Water Quality Report Card for 2012 and 2013;
- release of a draft of the Reef 2050 Long-Term Sustainability Plan for comment;
- introduction of Queensland legislation relating to port planning and development;
- finalisation of the North-East Shipping Management Plan; and
- release of the first tranche of strategic investment through the new Reef Trust.⁴³

Plans, policies and strategies relating to the Great Barrier Reef

2.38 There are a plethora of plans, policies and strategies relating to the Great Barrier Reef, many of which have been prepared in response to the World Heritage Committee's concerns and requests. This section provides a brief overview of some of the key policies, plans and strategies relating to the Great Barrier Reef, including, amongst others:

- the Strategic Assessments by the Australian and Queensland Governments;
- the proposed Reef 2050 Plan
- the Outlook Report 2014;
- the Scientific Consensus Statement 2013 and Reef Water Quality Protection Plan 2013;
- the Queensland Ports Strategy 2014;
- the proposed North-East Shipping Management Plan; and
- the reports of the Independent Review of the Port of Gladstone and Gladstone Harbour Bund Wall Review.

Great Barrier Reef region and Coastal Zone Strategic Assessment 2014

2.39 The Australian Government and the Queensland Government have completed a comprehensive Strategic Assessment of the Great Barrier Reef World Heritage Area and adjacent coastal zone under section 146 of the EPBC Act. The final Strategic

41 Australian and Queensland Governments, *Submission 34*, p. 17.

42 Australian and Queensland Governments, *Submission 34*, p. 7.

43 Australian and Queensland Governments, *Submission 34*, pp 16–17.

Assessment was released on 12 August 2014 and was described as a 'comprehensive analysis of issues affecting the reef and what is needed for its protection'.⁴⁴

2.40 The comprehensive Strategic Assessment had two key components—a marine component led by GBRMPA (the Great Barrier Reef Region Strategic Assessment) and a coastal component led by the Queensland Government (the coastal zone Strategic Assessment).⁴⁵ The coastal zone Strategic Assessment focused primarily on the terrestrial values of the coastal zone adjacent to the Great Barrier Reef while the Great Barrier Reef Region Strategic Assessment focused mainly on the marine values of the Great Barrier Reef region. Where there were areas of joint management or overlap in values, they were covered in both Strategic Assessments.⁴⁶

2.41 Each component of the Strategic Assessment culminated in two reports—a program report which outlined the suite of policies, plans and programs being assessed, and a Strategic Assessment Report, which analysed how effective these policies, plans and programs have been at protecting matters of national environmental significance, including the Outstanding Universal Values of the Great Barrier Reef.⁴⁷

2.42 The Great Barrier Reef Region Strategic Assessment Report found that:

The Reef remains one of the most resilient tropical marine ecosystems in the world. However, the accumulation of impacts through time and over an ever-increasing area is diminishing the Reef's resilience and its health in the southern two-thirds is declining...A decade of extreme weather, including

44 The Hon Greg Hunt MP, 'Strategic assessment bolsters protection of the Great Barrier Reef', *Media release*, 12 August 2014, <http://www.environment.gov.au/minister/hunt/2014/mr20140812.html> (accessed 20 August 2014).

45 Department of the Environment, *Strategic assessment—Great Barrier Reef*, at: <http://www.environment.gov.au/protection/assessments/strategic/great-barrier-reef> (accessed 15 August 2014); see also Australian and Queensland Governments, *Submission 34*, p. 30.

46 Queensland Department of State Development, Infrastructure and Planning, *Great Barrier Reef Coastal Zone Strategic Assessment 2014, Strategic Assessment Report*, July 2014, Executive Summary, p. 4, <http://www.dsdip.qld.gov.au/resources/report/gbr/full-report-chapters-1-5.pdf> (accessed 15 August 2014).

47 GBRMPA, *Great Barrier Reef Region Strategic Assessment, Strategic Assessment Report*, August 2014, pp 1–9, http://elibrary.gbrmpa.gov.au/jspui/bitstream/11017/2861/1/GBR%20Region%20SA_Strategic%20Assessment%20Report_FINAL.pdf (accessed 13 August 2014); Queensland Department of State Development, Infrastructure and Planning, *Great Barrier Reef Coastal Zone Strategic Assessment 2014, Strategic Assessment Report*, August 2014, Executive Summary, p. 4, <http://www.dsdip.qld.gov.au/resources/report/gbr/full-report-chapters-1-5.pdf> (accessed 15 August 2014).

severe cyclones and floods, has contributed to the decline, and reduced the capacity of the ecosystem to recover from these and other disturbances.⁴⁸

2.43 According to the Minister for the Environment, a number of initiatives are to be adopted by the Australian and Queensland Governments, as a result of the Strategic Assessments, including:

- a cumulative impact assessment policy and guidelines for a transparent, consistent and systematic approach to identifying, measuring and managing collective impacts on the region and its values;
- a net benefit policy to guide actions aimed at restoring ecosystem health and improve the condition of values;
- a new approach to decision making based on clear targets for maintaining the reef's Outstanding Universal Value;
- no port development outside the key long-established ports of Townsville, Abbot Point, Hay Point-Mackay and Gladstone;
- a reef recovery program to support local communities and other stakeholders to protect and restore sites of high environmental value and critical ecosystem functions through cooperative regional-scale management approaches; and
- reef-wide integrated monitoring and reporting that underpins GBRMPA's adaptive management and provides good feedback on the effectiveness of management actions.⁴⁹

2.44 The outcomes of the Strategic Assessment will inform the Reef 2050 Long-Term Sustainability Plan.⁵⁰

Proposed Reef 2050 Plan

2.45 The 'Reef 2050 Plan' is being developed by the Australian Government, Queensland Government and GBRMPA. It will 'guide the sustainability and management of the Great Barrier Reef, to continue efforts to protect species such as dugongs and turtles, and deal with key threats like nutrient run-off and

48 GBRMPA, *Great Barrier Reef Region Strategic Assessment, Information Sheet*, August 2014, p. 2, http://www.gbrmpa.gov.au/_data/assets/pdf_file/0007/180457/GBRMPA_InfoSheet_Strategic_Assessment.pdf (accessed 15 August 2014).

49 The Hon Greg Hunt MP, Minister for the Environment, 'Strategic assessment bolsters protection of the Great Barrier Reef', *Media release*, 12 August 2014, <http://www.environment.gov.au/minister/hunt/2014/mr20140812.html> (accessed 20 August 2014).

50 Australian and Queensland Governments, *Submission 34*, pp 30–31; see also Department of the Environment, *Strategic assessment—Great Barrier Reef*, at: <http://www.environment.gov.au/protection/assessments/strategic/great-barrier-reef> (accessed 15 August 2014).

crown-of-thorns starfish outbreaks'. The Reef 2050 Plan will be supported by the Reef 2050 Long-Term Sustainability Plan and the new Reef Trust.⁵¹

Reef 2050 Long-Term Sustainability Plan

2.46 The Reef 2050 Long-term Sustainability Plan aims to inform future development by drawing together the Strategic Assessment, providing an overarching framework to guide protection and management of the Great Barrier Reef World Heritage Area from 2015 to 2050.⁵²

Reef Trust

2.47 As part of the Reef 2050 Plan, the Australian Government has committed \$40 million to the Reef Trust program to 'build on existing investment in the Great Barrier Reef focusing on known critical areas for investment—improving water quality and coastal habitat, controlling the current outbreak of crown-of-thorns starfish, and protecting threatened and migratory species, particularly dugong and turtles'.⁵³ Funding for the Reef Trust will also be derived from the pooling of offset funds that target specific impacts on the Great Barrier Reef from development activities, and there may be opportunity for future funding through private investments and philanthropic contributions. The program will draw on advice from the Australian Institute of Marine Science, CSIRO and other science organisations and is jointly coordinated by the Australian Government and the Queensland Government.⁵⁴

2.48 The trust is 'designed to consolidate investments in the Great Barrier Reef and disburse funds strategically to maximise outcomes that improve the health and resilience of the Great Barrier Reef'. The program is designed to build on, and not duplicate, existing programs and to complement new initiatives, such as the Green Army and the National Landcare Programme.⁵⁵

Great Barrier Reef 2014 Outlook Report

2.49 Under the GBRMP Act, GBRMPA is required to prepare an 'outlook report' every five years to assess the health of the reef ecosystem and its management.⁵⁶ GBRMPA published the first *Great Barrier Reef Outlook Report* in 2009 and has recently released its Outlook Report 2014. The 2014 report identified climate change,

51 Australian and Queensland Governments, *Submission 34*, pp 8, 31; see also Department of the Environment, *About the Reef 2050 Plan*, <http://www.environment.gov.au/marine/gbr/reef2050> (accessed 7 August 2014).

52 Australian and Queensland Governments, *Submission 34*, p. 31.

53 Department of Environment, *Reef Trust—Frequently asked questions*, p. 1, <http://www.environment.gov.au/system/files/pages/e40fbc03-3d32-4116-b7bf-fcad4702b2b4/files/reef-trust-faqs.pdf> (accessed 14 August 2014); see also Australian and Queensland Governments, *Submission 34*, p. 32.

54 Department of the Environment, *Reef Trust—Frequently asked questions*, pp 1–2; see also Australian and Queensland Governments, *Submission 34*, p. 32.

55 Department of the Environment, *Reef Trust—Frequently asked questions*, p. 1.

56 GBRMPA Act, s. 54.

poor water quality from land-based run-off, impacts from coastal development and some remaining impacts from fishing as the main threats to the health of Great Barrier Reef ecology. The report noted that a series of major storms and floods in recent years affected the ecosystem, which was already under pressure. These natural events highlighted the fact that the accumulation of all impacts has the potential to further weaken the resilience of the Great Barrier Reef ecology, which will affect its capacity to recover from further serious disturbances, such as major coral bleaching events, which are predicted to become more frequent in the future.⁵⁷ The report concluded that:

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.⁵⁸

Scientific Consensus Statement 2013 and Reef Water Quality Protection Plan 2013

2.50 The *Great Barrier Reef Water Quality Protection Plan* (Reef Water Quality Plan) is a joint initiative of the Australian and Queensland Governments, and has been in existence since 2003. The Reef Water Quality Plan is a collaborative program of coordinated projects and partnerships aimed at improving the quality of water entering the Great Barrier Reef. The long-term objective is to ensure that by 2020 the quality of water entering the reef from broadscale land use has no detrimental impact on the health and resilience of the reef.⁵⁹

2.51 The Reef Water Quality Plan is primarily focused on diffuse source pollution from broad-scale land use and aims to take an innovative, targeted and whole-of-catchment approach to reducing agricultural run-off and improving water quality outcomes through the implementation of three priority areas: prioritising investment and knowledge; responding to the challenge of maximising improvements to reef water quality; and evaluating the performance of all stakeholders. The plan also states that:

Reducing the impacts of land use on reef water quality is not solely the responsibility of governments. Achieving the goals of [the] Reef [Water Quality] Plan will rely on a partnership involving all levels of government, industry, community groups and individual landholders.

The Australian and Queensland Governments will incorporate Reef [Water Quality] Plan goals, targets and actions into relevant planning processes (e.g. business and strategic plans) to ensure actions are achieved in appropriate timeframes with maximum efficiency. The lead organisations

57 GBRMPA, *Outlook Report 2014*, p. v, <http://www.gbrmpa.gov.au/media/external-links/external/outlook-report-flipbook> (accessed 13 August 2014).

58 GBRMPA, *Outlook Report 2014*, p. vi, <http://www.gbrmpa.gov.au/media/external-links/external/outlook-report-flipbook> (accessed 13 August 2014).

59 Australian and Queensland Governments, *Submission 34*, pp 17–18.

are responsible for driving implementation of the actions and working with the identified stakeholders to achieve outcomes.⁶⁰

2.52 The Reef Water Quality Plan is renewed every five years, and was last signed in July 2013. The updated plan built on the successful Reef Rescue program, which provided funds to land managers to improve land management practices with a mind to deliver water quality improvements.⁶¹

2.53 An annual report card measures progress towards the Reef Water Quality Plan's goals and targets. The first Report Card was based on 2008-09 data and established the baseline for future reports. Report Card 2012 and 2013, released in June 2014, has shown positive trends in land management practice change which have been translated into reductions of key pollutants.⁶²

2.54 The 2013 Reef Water Quality Plan was guided by the *2013 Scientific Consensus Statement*, which was made by a multidisciplinary group of scientists, with oversight from the Reef Water Quality Plan Independent Science Panel, engaged to support the development of the updated Reef Water Quality Plan and 'to review and synthesise the significant advances in scientific knowledge of water quality issues in the Great Barrier Reef and to reach consensus on the current understanding of the system'.⁶³ The scientists found:

The overarching consensus is that key Great Barrier Reef ecosystems are showing declining trends in condition due to continuing poor water quality, cumulative impacts of climate change and increasing intensity of extreme events.⁶⁴

60 Australian and Queensland Governments, *Reef Water Quality Protection Plan 2013: Securing the health and resilience of the Great Barrier Reef World Heritage Area and adjacent catchments*, p. 7, <http://www.reefplan.qld.gov.au/about/assets/scientific-consensus-statement-2013.pdf> (accessed 6 August 2014).

61 Australian and Queensland Governments, *Reef Water Quality Protection Plan 2013: Securing the health and resilience of the Great Barrier Reef World Heritage Area and adjacent catchments*, p. 7, <http://www.reefplan.qld.gov.au/about/assets/scientific-consensus-statement-2013.pdf> (accessed 6 August 2014); see also Australian Government National Landcare Program, *Reef Rescue 2008–2013*, <http://www.nrm.gov.au/about/key-investments/reef-rescue.html> (accessed on 15 August 2014).

62 See Queensland Government, *Reef Water Quality Protection Plan: Report Cards*, <http://www.reefplan.qld.gov.au/measuring-success/report-cards.aspx> (accessed 2 September 2014).

63 Australian and Queensland Governments, *Submission 34*, pp 27–28; see also Reef Water Quality Protection Plan Secretariat, *2013 Scientific Consensus Statement: Land use impacts on Great Barrier Reef water quality and ecosystem condition*, p. 1, <http://www.reefplan.qld.gov.au/about/assets/scientific-consensus-statement-2013.pdf> (accessed 5 August 2014).

64 Reef Water Quality Protection Plan Secretariat, *2013 Scientific Consensus Statement: Land use impacts on Great Barrier Reef water quality and ecosystem condition*, p. 1.

Queensland Ports Strategy 2014

2.55 The Queensland Government recently released the Queensland Ports Strategy, which outlines the Queensland Government's framework for port development over the next 10 years. The vision of the strategy is to:

Drive economic growth through the efficient use and development of Queensland's long-established major port areas, while protecting and managing Queensland's outstanding environmental assets.⁶⁵

2.56 The strategy proposes a new Ports Act to prohibit dredging within and adjoining the Great Barrier Reef World Heritage Area for the development of new, or the expansion of existing port facilities, outside Priority Port Development Areas (PPDAs) at Gladstone, Hay Point/Mackay, Abbot Point and Townsville, over next 10 years.⁶⁶

Proposed North-East Shipping Management Plan

2.57 The North-East Shipping Management Plan is being developed by the Australian Maritime Safety Authority in consultation with a range of government agencies and stakeholders. The draft plan 'sets out Australia's intentions to enhance ship safety and environmental protection' in the Great Barrier Reef, Torres Strait and Coral Sea regions'. The plan was made available for public comment and consultation in late 2013. The Australian and Queensland Governments advised that the plan will be finalised in 2014.⁶⁷

Independent Review of the Port of Gladstone and Gladstone Harbour Bund Wall Review

2.58 As part of its response to the 2012 decision of the World Heritage Committee, the Australian Government commissioned an Independent Review into the Port of Gladstone. The review provided an initial report on findings to the Australian Government on 30 July 2013. Interested parties were invited to provide comments on the initial report by 6 September 2013. The review delivered a Supplementary Report focused on port optimisation issues on 1 November 2013.⁶⁸

2.59 According to the submission from the Australian and Queensland Governments, the review found 'that environmental management and governance

65 Queensland Government, *Queensland Ports Strategy 2014*, p. 1, <http://www.dsdp.qld.gov.au/infrastructure-and-planning/queensland-ports-strategy.html> (accessed 8 July 2014).

66 Australian and Queensland Governments, *Submission 34*, p. 14.

67 Australian and Queensland Governments, *Submission 34*, pp 17 and 31; Australian Maritime Safety Authority, *North-East Shipping Management Plan*, <http://www.amsa.gov.au/community/consultation/nsm-consultation.asp> (accessed 31 July 2014).

68 Department of the Environment, *Independent review of the Port of Gladstone*, July 2013, at: <http://www.environment.gov.au/topics/marine/great-barrier-reef/port-gladstone-review> (accessed 27 June 2014).

within the Port of Gladstone is generally comprehensive'. The three key areas for improvement are:

- the need to incorporate better World Heritage and other environmental protection considerations in a single, comprehensive and consultative port planning process;
- the need for better assessment and consideration of cumulative impacts; and
- the need for more meaningful and ongoing stakeholder engagement to improve the amount of information and community confidence in environmental management and governance.⁶⁹

2.60 After the review reported on its findings in 2013 information came to light regarding the design and construction of the reclamation bund wall at the Port of Gladstone. As a result, on 30 January 2014, the Minister for the Environment commissioned an addendum to the independent review so that an independent panel could examine the latest information. On 9 May 2014, the Minister accepted and released the independent review into the leaking bund wall incidents at the Port of Gladstone. The review contained 37 findings and 19 recommendations.⁷⁰

2.61 The Australian and Queensland Governments advised that 'the relevant findings will be used to inform the assessment of future developments with reclamation areas in coastal environments' and that an Australian Government response to the reviews is being prepared.⁷¹

Other relevant reports

2.62 The following reports are also relevant to the management of the Great Barrier Reef.

Great Barrier Reef Biodiversity Conservation Strategy 2013

2.63 GBRMPA has also published the *Great Barrier Reef Biodiversity Conservation Strategy 2013*, which 'provides a framework for improving biodiversity conservation in the Great Barrier Reef Region'. The GBRMPA website states that:

In developing the strategy it has become clear that inshore habitats along the developed coast and many of the species that rely on them are impacted by a range of threats. These include declining water quality due to catchment run-off, loss of habitat due to coastal and port development, and climate change. Illegal fishing and poaching are also having some impact.⁷²

69 Australian and Queensland Governments, *Submission 34*, p. 24.

70 See further Department of the Environment, *Gladstone Bund Wall Review*, May 2014, <http://www.environment.gov.au/topics/marine/gbr/gladstone-bund-wall-review> (accessed 6 August 2014); and also Australian and Queensland Governments, *Submission 34*, p. 24.

71 Australian and Queensland Governments, *Submission 34*, p. 24.

72 GBRMPA, *Biodiversity Conservation Strategy 2013*, <http://www.gbrmpa.gov.au/about-the-reef/biodiversity/biodiversity-conservation-strategy-2013> (accessed 9 July 2014) and see also GBRMPA, *Great Barrier Reef Biodiversity Conservation Strategy 2013*, p. 18.

2.64 The strategy further states that 'there is an urgent need for a systematic approach to addressing the cumulative impacts on inshore biodiversity'.⁷³

Senate Environment and Communications Legislation Committee Report: Environment Protection and Biodiversity Conservation Amendment (Great Barrier Reef) Bill 2013

2.65 In June 2013, the Senate Environment and Communications Legislation Committee considered the Environment Protection and Biodiversity Conservation Amendment (Great Barrier Reef) Bill 2013. The Bill was a private senators' bill which proposed to prohibit certain port developments on the Great Barrier Reef coastline in order to implement recommendations made by the World Heritage Committee to ensure that the Great Barrier Reef is not included on the 'World Heritage in Danger' list. Although the report recommended that the bill not be passed, it did make a number of recommendations, including that:

- port development in the Great Barrier Reef be confined to existing (already developed) major port areas, pending the outcomes of the Strategic Assessments being conducted by the Commonwealth and Queensland Governments (recommendation 1);
- if the Minister decides to approve any port developments or port-related activities in existing (already developed) major port areas in the Great Barrier Reef region, these developments and activities should be subject to stringent conditions under the EPBC Act, including robust monitoring and reporting requirements (recommendation 2);
- the Commonwealth Government review the regulatory regime surrounding sea dumping in the Great Barrier Reef region, with a view to ensuring that dumping of any dredge spoil in the Great Barrier Reef World Heritage Area is subject to the highest scientific and environmental analysis and taken only as an option of last resort; and
- the Commonwealth Government closely examine any additional safeguards arising from the Strategic Assessments and independent review with a view to developing robust regulatory and legislative safeguards to protect the Great Barrier Reef World Heritage Area.⁷⁴

73 GBRMPA, *Great Barrier Reef Biodiversity Conservation Strategy 2013*, p. 18.

74 Senate Environment and Communications Legislation Committee, *Environment Protection and Biodiversity Conservation Amendment (Great Barrier Reef) Bill 2013*, June 2013, pp 44–46, http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Completed_inquiries/2010-13/greatbarrierreef2013/report/index (accessed 6 August 2014).

Chapter 3

The Science: Health of the Great Barrier Reef

3.1 This chapter provides an overview of the scientific evidence on the health of the Great Barrier Reef, including:

- evidence that the Great Barrier Reef is in decline and the reasons behind this decline; and
- the importance of scientific work underpinning decision-making, including incorporation of the precautionary principle.

Decline of the reef

3.2 The evidence to the committee indicated that there has been a considerable decline of the health in the reef in recent years, and that the decline is continuing. As noted in Chapter 2, GBRMPA's *Outlook Report 2014* concluded that:

...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.¹

3.3 Many submissions and witnesses referred to a 2012 paper which showed that, in the past 27 years, the Great Barrier Reef has lost around 50 per cent of its coral cover.² Professor Peter Mumby of the Australian Coral Reef Society told the committee that 'the reef is in the worst state it has ever been since records began'.³ By 2050, he predicted that:

...the reef will be vastly less healthy than it is now...it would look pretty ugly. There would be very few corals, lots of big seaweed waving everywhere and relatively few fish.⁴

1 GBRMPA, *Outlook Report 2014*, p. vi.

2 See, for example, Professor Ove Hoegh-Guldberg and contributing authors (Professor Hoegh-Guldberg), *Submission 6*, p. 3; AIMS, *Submission 36*, p. 1; Professor John Pandolfi, Councillor and Past President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 5; Mr Anthony Brown, President, Whitsunday Charter Boat Industry Association, *Committee Hansard*, 22 July 2014, p. 9; Professor Terry Hughes, *Committee Hansard*, 23 July 2014, p. 29; Mr Tony Fontes, *Committee Hansard*, 22 July 2014, p. 1; see also De'ath, Glenn et al, 'The 27-year decline of coral cover on the Great Barrier Reef and its causes', *Proceedings of the National Academy of Sciences of the United States of America*, 109(44), pp 17995–17999, <http://www.pnas.org/content/109/44/17995.full> (accessed 30 July 2014).

3 Professor Peter Mumby, President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 2.

4 Professor Peter Mumby, President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 5.

3.4 The committee heard that the decline in health is not uniform across the entire reef. The Australian and Queensland Governments submitted that the northern third of the reef and offshore areas 'remain in good condition', with 'southern inshore areas feeling the effects of human use and natural disasters'.⁵ As the *Outlook Report 2014* states:

...the northern third of the Great Barrier Reef Region has good water quality and its ecosystem is in good condition. In contrast, key habitats, species and ecosystem processes in central and southern inshore areas have continued to deteriorate from the cumulative effects of impacts. For example, the population of the iconic and culturally important dugong, which was already at very low levels compared with a century ago, has declined further in this part of the Region.⁶

3.5 The Cairns and Far North Environment Centre (CAFNEC) similarly noted that the health of the reef is 'considered to be much better north of Cooktown than south, particularly for inshore reefs'. CAFNEC suggested that the reason for this difference was due to 'the absence of large scale land based activities adjacent to the reef north of Cooktown'.⁷

3.6 Professor Ove Hoegh-Guldberg also told the committee that 'the threats and changes to the Great Barrier Reef are accelerating as opposed to slowing':

Fifty per cent of the corals in the Great Barrier Reef have disappeared since the early 1980s. If you had told me that in the early 1980s when I was exiting my university degree I would have said, 'That's impossible,' but it is happening and the pace is quickening.⁸

3.7 A key concern for many submitters and witnesses was the prospect that the decline of the reef could result in the listing of the Great Barrier Reef as 'World Heritage in Danger' by the World Heritage Committee.⁹

3.8 Professor Mumby expressed concern about the consequences of the decline of the reef and what might be lost for commercial fishing, the tourism industry, recreation, and coastal defences.¹⁰ The *Outlook Report 2014* similarly noted:

5 Australian and Queensland Governments, *Submission 34*, p. 6.

6 GBRMPA, *Outlook Report 2014*, p. v and see also p. 69; see also Professor Terry Hughes, *Committee Hansard*, 23 July 2014, p. 25.

7 CAFNEC, *Submission 19*, p. 1; Mr Josh Coates, CAFNEC, *Committee Hansard*, 23 July 2014, p. 10.

8 Professor Ove Hoegh-Guldberg, *Committee Hansard*, 21 July 2014, p. 13.

9 See, for example, Professor Hoegh-Guldberg, *Submission 6*, p. 6; Professor John Pandolfi, Councillor and Past President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 2; Mr Tony Brown, President, Whitsunday Charter Boat Industry Association, *Committee Hansard*, 22 July 2014, pp 9 and 14.

10 Professor Peter Mumby, President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 6.

The Great Barrier Reef remains a significant economic resource for regional communities and Australia. Major changes to the condition of the ecosystem have social and economic implications for regional communities because some uses, such as commercial marine tourism and fishing, depend on an intact, healthy and resilient ecosystem.¹¹

3.9 A key concern was the impact on the tourism industry, and particularly the detrimental impact that a 'World Heritage in Danger' listing might have on the tourism industry.¹² For example, the Whitsunday Charter Boat Industry Association submitted that:

Commercial marine tourism is the largest direct contributor to economic activity in the region when compared to other reef-based industries. A loss of World Heritage status, or actual loss of ecological values....would have significant implications for the [Great Barrier Reef] tourism industry.¹³

3.10 Similarly, the Whitsunday Charter Boat Industry Association submitted that:

It has taken a long time to build the brand that is the World Heritage Great Barrier Reef and making the wrong decision could ruin that reputation.¹⁴

3.11 At the same time, some witnesses noted that a 'World Heritage in Danger' listing could spark 'last chance to see'-type tourism in the short term.¹⁵

3.12 However, the Australian and Queensland Governments submitted that they are 'determined to continue to manage and protect the World Heritage site for future generations' and 'do not consider that the Great Barrier Reef World Heritage Area warrants inclusion on the List of World Heritage in Danger'.¹⁶

Reasons behind the decline

3.13 The *Outlook Report 2014* identified the greatest risks to the Great Barrier Reef as climate change, poor water quality from land-based run-off, impacts from coastal development and remaining impacts from fishing.¹⁷ It further noted that:

These threats have the potential to work in combination to weaken the resilience of the Great Barrier Reef ecosystem and therefore its ability to

11 GBRMPA, *Outlook Report 2014*, p. v.

12 Professor Hoegh-Guldberg, *Submission 6*, p. 6 and *Committee Hansard*, 21 July 2014, p. 10; Whitsunday Charter Boat Industry Association, *Submission 46*, p. 8; Professor Terry Hughes, *Committee Hansard*, 23 July 2014, p. 30; Mr Anthony Brown, President, Whitsunday Charter Boat Industry Association, *Committee Hansard*, 22 July 2014, p. 14.

13 Whitsunday Charter Boat Industry Association, *Submission 46*, p. 8; see also, for example, Mr Jeremy Tager, *Committee Hansard*, 23 July 2014, p. 5.

14 Whitsunday Charter Boat Industry Association, *Submission 46*, p. 10.

15 See, for example, Mr Colin McKenzie, Executive Director, Association of Marine Park Tourism Operators, *Committee Hansard*, 23 July 2014, pp 37–38; Professor Ove Hoegh-Guldberg, *Submission 6*, p. 6 and *Committee Hansard*, 21 July 2014, p. 10.

16 Australian and Queensland Governments, *Submission 34*, p. 9.

17 GBRMPA, *Outlook Report 2014*, p. v.

recover from serious disturbances (such as major coral bleaching events) that will become more frequent in the future.¹⁸

3.14 The Australian Institute of Marine Science (AIMS) similarly submitted that the Great Barrier Reef:

...faces pressures from multiple sources, ranging from coral bleaching events, a series of severe cyclones, Crown of Thorns Starfish outbreaks, declining water quality from agriculture run-off and dredging operations. Understanding of the impact of these stressors on the Reef, especially their cumulative impacts and the Reef's capacity to respond to these stresses (its resilience) is critical for ongoing effective management.¹⁹

3.15 This section contains some general observations about the relative contributions of these threats and the key underlying causes. The issues of climate change, and storms and cyclones are discussed further later in this chapter. Water quality from catchment run-off, crown-of-thorns starfish and coastal development is discussed in further detail in the next chapter. A more specific consideration of coastal development relating to ports and shipping, including dredging and disposal, is contained in Chapters 5 and 6.

3.16 While there appeared to be scientific consensus on the causes of the decline of the reef, there was some discussion during the committee's inquiry about the relative contributions of the various threats to the Great Barrier Reef. Dr Jamie Oliver of AIMS observed that, amongst scientists, 'there is general consensus' about the threats, but perhaps not 'full consensus on the relative priorities and contributions to the overall decline that these threats represent'. He suggested that this 'requires further research, to be honest, and further discussion'.²⁰

3.17 Professor Peter Mumby agreed that 'most scientists agree about what is happening to the reef...I do not really believe that the scientific community are in that much disagreement. They argue about the details...but, on the major issues, the major threats, I think people are pretty much in agreement'.²¹

3.18 Professor Hoegh-Guldberg similarly submitted that:

There is strong scientific consensus that key Great Barrier Reef ecosystems such as reef building corals are showing declining trends in condition due to continuing poor water quality, cumulative impacts of climate change, and increasing intensity of extreme events.²²

18 GBRMPA, *Outlook Report 2014*, p. 264; see also Professor Hoegh-Guldberg, *Submission 6*, p. 1.

19 AIMS, *Submission 36*, p. 1; Dr Jamie Oliver, Research Director, AIMS, *Committee Hansard*, 23 July 2014, p. 18.

20 Dr Jamie Oliver, Research Director, AIMS, *Committee Hansard*, 23 July 2014, p. 20; see also Mr Jon Brodie, *Committee Hansard*, 23 July 2014, p. 26.

21 Professor Peter Mumby, President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 2.

22 Professor Hoegh-Guldberg, *Submission 6*, p. 3.

3.19 As noted earlier, many submissions and witnesses referred to a 2012 study by AIMS which showed that, in the past 27 years, the Great Barrier Reef has lost around 50 per cent of its coral cover. The study attributed the decline to tropical cyclones (48 per cent), coral predation by the crown-of-thorns starfish (COTS) (42 per cent), and coral bleaching (10 per cent).²³ This study was relied on by some submitters and witnesses to identify these as the main reasons for the decline in the Great Barrier Reef. For example, Shipping Australia submitted that it is aware of:

...studies that have been carried out with respect to causes of coral death on the Great Barrier Reef and we have no reason to doubt the findings that climate-change induced coral bleaching, damage from adverse weather events (cyclones) and predatory activities of the crown of thorns starfish that is native to Australian waters are the main reasons for their demise.²⁴

3.20 However, other submitters and witnesses cautioned against over-reliance on this study.²⁵ For example, Mr Coates of CAFNEC told the committee to:

Read the very second sentence of the very first paragraph of that paper, which does point out that dredging and dumping is a serious threat to the reef and really consider the broader picture. They are the causes of damage to coral, but the underlying problem is the resilience of the reef, its rate of recovery. That is intrinsically linked to water quality, which is of course intrinsically linked to a range of factors, including dredging and dumping.²⁶

3.21 Professor Pandolfi of the Australian Coral Reef Society similarly cautioned that the study 'did not consider all sources of mortality' and suggested that 'the real issue is not what killed [the corals]; it is why aren't they recovering?'.²⁷

3.22 Indeed, the committee heard from AIMS itself that this study was limited in some respects, and that there are a range of other interacting factors. In particular, Dr Oliver of AIMS told the committee that the dataset on which the paper focused was 'biased towards mid-shelf to offshore reefs', and 'probably likely to underestimate the impacts of water quality'. He explained that:

23 Professor Hoegh-Guldberg, *Submission 6*, p. 3; Professor Ove Hoegh-Guldberg, *Committee Hansard*, 21 July 2014, p. 12; Property Rights Australia, *Submission 9*, p. 1; Australian and Queensland Governments, *Submission 34*, p. 8; see also De'ath, Glenn et al, 'The 27-year decline of coral cover on the Great Barrier Reef and its causes', *Proceedings of the National Academy of Sciences of the United States of America*, 109(44), pp 17995–17999.

24 Shipping Australia, *Submission 3*, p. 4; see also, for example, Mr David Anderson, Chief Executive Officer, Ports Australia, *Committee Hansard*, 21 July 2014, p. 23.

25 See, for example, CAFNEC, *Submission 19*, p. 3; Mr Josh Coates, CAFNEC, *Committee Hansard*, 23 July 2014, p. 10.

26 Mr Josh Coates, Marine Program Coordinator, CAFNEC, *Committee Hansard*, 23 July 2014, p. 10.

27 Professor John Pandolfi, Councillor and Past President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 6.

...we did not explicitly include water quality or dredging or other issues in the analysis. We really cannot comment on whether or not these other issues are a particularly important cause of coral decline, particularly in inshore reefs, because that was not the hypothesis we addressed in the paper. As we even point out in the paper itself, in the discussion and introduction, these other factors are important generally on the Great Barrier Reef and need to be looked at in more detail.²⁸

3.23 He further explained that:

We did not have really good comprehensive information on water quality or other threats and we did not put that into the analysis. But we know from other studies that these are important. Particularly in local areas, we know that dredging can kill corals. For water quality, it is well understood that there is a major threat particularly to inshore and coastal coral reefs. That just did not get included in the analysis, because we were actually doing a different type of analysis.²⁹

3.24 Several submissions and witnesses identified climate change and poor water quality as two of the key underlying issues behind the decline of the reef, and that these are linked to crown-of-thorns starfish outbreaks, coral bleaching and the resilience of the reef to recover from storms and cyclones.³⁰

3.25 For example, Professor Hoegh-Guldberg identified the two core issues as climate change and water quality. He submitted that climate change as 'undoubtedly the most serious threat to the [Great Barrier Reef] over the longer term', with declining water quality as a challenge over the short term.³¹ He told the committee that:

...the health of the Great Barrier Reef is declining rapidly as a result of deteriorating water quality and climate change. The evidence of this is undeniable...It is as a result of multiple disturbances. Things like crown of the thorns outbreaks are linked to water quality...Things like recovery from storms are linked to water quality...We are increasing the cumulative impacts that are making it harder for it to come back from disturbances...³²

3.26 Professor Hoegh-Guldberg further submitted that:

28 Dr Jamie Oliver, Research Director, AIMS, *Committee Hansard*, 23 July 2014, p. 22.

29 Dr Jamie Oliver, Research Director, AIMS, *Committee Hansard*, 23 July 2014, p. 22.

30 See, for example, Professor John Pandolfi, Councillor and Past President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 5; Professor Ove Hoegh-Guldberg, *Committee Hansard*, 21 July 2014, p. 8; Professor Terry Hughes, *Committee Hansard*, 23 July 2014, p. 29; CAFNEC, *Submission 19*, p. 3.

31 Professor Hoegh-Guldberg, *Submission 6*, p. 3; see also Professor Peter Mumby, President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 5; and Professor Ove Hoegh-Guldberg, *Committee Hansard*, 21 July 2014, pp 8 and 10.

32 Professor Ove Hoegh-Guldberg, *Committee Hansard*, 21 July 2014, p. 8.

...impacts from disturbances such as cyclones, COTS and bleaching are clearly aggravated by a background decline in the health and hence ability of corals to grow back after disturbances...³³

3.27 The committee further notes that the *Outlook Report 2014* stated:

In recent years, a series of major storms and floods have affected an ecosystem already under pressure. The accumulation of all impacts on the Reef has the potential to further weaken its resilience. This is likely to affect its ability to recover from serious disturbances, such as major coral bleaching events, which are predicted to become more frequent in the future.³⁴

3.28 Indeed, the *Outlook Report 2014* noted that there is concern that the resilience of the Great Barrier Reef is being seriously, and increasingly rapidly, eroded.³⁵ The report acknowledged that:

The emerging loss of ecosystem resilience is particularly critical in the context of the projected major increase in the effects of climate change impacts and the lag time between improved land management practices and observable ecosystem improvements...As these effects worsen, it is very likely that interactions between climate-related threats and other threats will have increasingly serious consequences.³⁶

Climate change

3.29 As noted above, many submitters and witnesses highlighted climate change as a major contributor to the decline of the health of the Great Barrier Reef. For example, Dr Chris McGrath told the committee that 'the major issue for the reef is the enormous threat that climate change and ocean acidification pose'.³⁷ Professor Hoegh-Guldberg described climate change as 'undoubtedly the most serious threat' to the Great Barrier Reef 'over the longer term'.³⁸

3.30 Indeed, the *Outlook Report 2014* similarly states that '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

33 Professor Hoegh-Guldberg, *Submission 6*, p. 3.

34 GBRMPA, *Outlook Report 2014*, p. v.

35 GBRMPA, *Outlook Report 2014*, p. 243.

36 GBRMPA, *Outlook Report 2014*, p. 243.

37 Dr Chris McGrath, *Committee Hansard*, 21 July 2014, p. 1.

38 Professor Hoegh-Guldberg, *Submission 6*, p. 3; see also, for example, Mr Jon Brodie, *Committee Hansard*, 23 July 2014, p. 25; Professor Terry Hughes, *Committee Hansard*, 23 July 2014, p. 29.

growth and survival; and there are likely to be more intense weather events.³⁹

3.31 The *Outlook Report 2014* further notes that:

The impacts of increasing ocean temperatures and ocean acidification will be amplified by the accumulation of other impacts such as those caused by excess nutrient run-off.⁴⁰

3.32 The committee received evidence that the two key impacts of climate change on the Great Barrier Reef relate to increased temperatures and ocean acidification. In terms of increased temperatures, Professor Hoegh-Guldberg explained that 'rising sea temperatures pose serious threats to reef-building corals which undergo mass coral bleaching and mortality'. He cited research which indicates that:

Prior to 1979, there were no scientific reports of mass coral bleaching and mortality, however, over the past 25 years there has been numerous bleaching events which have had significant damage to coral reefs world-wide...In two separate events, 1998 and 2002, over 50% of the Great Barrier Reef was affected, with the loss of corals estimated to be around 10%. By mid-century, it is expected that such events will result in the loss of close to 100% of corals on the GBR.⁴¹

3.33 Professor Terry Hughes told the committee that these bleaching events demonstrate 'the impacts of climate change have been happening for some time' and 'will increase in frequency and severity as global warming continues'.⁴²

3.34 In terms of ocean acidification, Professor Hoegh-Guldberg explained that rising levels of carbon dioxide (CO₂) in the atmosphere, generated by the burning of fossil fuels, are being absorbed by the upper layers of the ocean:

On entering the ocean, CO₂ reacts with water to create a dilute acid (Carbonic acid) subsequently reducing the pH of the ocean, while at the same time decreasing the carbonate ion concentration. The pH of the upper layers of the ocean has decreased by 0.1 pH units since the advent of the industrial revolution...There is now a growing body of experimental evidence that shows that coral growth and calcification decrease substantially as the concentration of CO₂ increases.⁴³

3.35 Professor Hoegh-Guldberg summarised that 'in combination, increased temperature and acidity both kill corals and dissolve the reef framework'. He told the committee the consensus in the most recent Intergovernmental Panel on Climate Change report is that:

39 GBRMPA, *Outlook Report 2014*, p. v.

40 GBRMPA, *Outlook Report 2014*, p. v.

41 Professor Hoegh-Guldberg, *Submission 6*, p. 7.

42 Professor Terry Hughes, *Committee Hansard*, 23 July 2014, p. 29.

43 Professor Hoegh-Guldberg, *Submission 6*, p. 7.

...if we keep up the rate of temperature change, average global temperature and the rate at which we are acidifying the ocean, which I should point out is the highest in 65 million years, we will not have much of a reef in terms of a coral dominated ecosystem by the middle of this century.⁴⁴

3.36 Several submissions and witnesses stressed that that factors such as climate change and water quality impact on the reef's ability and resilience to recover from other impacts, such as tropical cyclones and the crown-of-thorns starfish.⁴⁵ For example, Professor Hoegh-Guldberg described the reef as a 'prize fighter' that is getting sicker all round.⁴⁶

3.37 Professor John Pandolfi told the committee that reducing 'local stressors on the reef' means that the reef 'will have a much better chance of being resilient to the climate change effects'.⁴⁷

3.38 Dr McGrath similarly considered that 'the major issue for the reef is the enormous threat that climate change and ocean acidification pose'.⁴⁸ Dr McGrath was concerned that there is a danger of 'becoming lost in the detail of relatively localised threats to the [Great Barrier Reef], such as port expansions, and miss the bigger picture of the immense and widespread threat that climate change and ocean acidification pose to the reef system'.⁴⁹

3.39 To address the issue of climate change, submissions emphasised the need to reduce greenhouse gas emissions from fossil fuels and deforestation.⁵⁰ For example, Dr McGrath submitted that:

Australia must take strong and comprehensive measures to reduce greenhouse gas emissions. Such measures should include setting policy targets for stabilising atmospheric greenhouse gas concentrations and limiting increases in global temperatures.⁵¹

3.40 Dr McGrath described our current emissions reduction target of five per cent by 2020 as 'woefully inadequate'. He also suggested that most of Australia's coal reserves should be left in the ground, and that we should not be allowing the further development of new coal mines.⁵²

44 Professor Ove Hoegh-Guldberg, *Committee Hansard*, 21 July 2014, p. 10.

45 Professor Ove Hoegh-Guldberg, *Committee Hansard*, 21 July 2014, p. 10.

46 Professor Ove Hoegh-Guldberg, *Committee Hansard*, 21 July 2014, p. 10.

47 Professor John Pandolfi, Councillor and Past President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 5.

48 Dr Chris McGrath, *Committee Hansard*, 21 July 2014, p. 1 and *Submission 32*, p. 2.

49 Dr Chris McGrath, *Submission 32*, p. 1.

50 Professor Hoegh-Guldberg, *Submission 6*, p. 8.

51 Dr Chris McGrath, *Submission 32*, p. 3.

52 Dr Chris McGrath, *Submission 32*, p. 4 and *Committee Hansard*, 21 July 2014, p. 2.

3.41 Similarly, Professor Hoegh-Guldberg told the committee that 'a failure to deal with the overriding climate issue will make all efforts meaningless' and that it is 'quite incredible' that Australia is 'expanding activities that will drive increasing amounts of fossil fuels into the global market at a time when we know that we will kill the reef'.⁵³

3.42 Professor Hughes agreed:

Australia has one of the highest per capita CO₂ emissions in the world, and the government policy is to triple our exports of coal over the next 25 years, which of course is completely counter to the stated aim of reducing Australia's CO₂ emissions.⁵⁴

3.43 However, Mr Michael Roche of the Queensland Resources Council told the committee that while they fully support action on climate change, 'coal will continue to be a major source of satisfying the world's energy demand'. He further suggested that 'the strategy of focusing on coal or gas exports out of Australia does nothing to deal with global emissions. Where there is demand for coal, the produce will be supplied'.⁵⁵

3.44 The committee notes that the *Outlook Report 2014* states:

The extent and persistence of these [climate] impacts depends to a large degree on how effectively the issue of rising levels of greenhouse gases is addressed worldwide.⁵⁶

3.45 In response to questions as to the role of Australia in reducing greenhouse gas emissions reduction, and whether Australia can achieve sufficient greenhouse gas reductions on its own, Dr McGrath told the committee that Australia should be at the forefront:

We are the biggest exporter of coal in the world...so we are a major player in the fossil fuel market in the world...it is like, say, the World Cup in football: we send a team and they play. We have to engage as well as we can and then other teams come from other countries and they help...The reality is a lot of other countries are taking serious action to respond to this, and Australia should be at the forefront.⁵⁷

3.46 Similarly, Professor Pandolfi of the Australian Coral Reef Society told the committee that 'we need to act responsibly on a global stage to begin to reduce

53 Professor Ove Hoegh-Guldberg, *Committee Hansard*, 21 July 2014, p. 8.

54 Professor Terry Hughes, *Committee Hansard*, 23 July 2014, p. 29; see also, for example, NQCC, *Submission 30*, p. 3.

55 Mr Michael Roche, Chief Executive, Queensland Resources Council, *Committee Hansard*, 21 July 2014, p. 32 and see also p. 35.

56 GBRMPA, *Outlook Report 2014*, p. v.

57 Dr Chris McGrath, *Committee Hansard*, 21 July 2014, p. 4.

emissions so that we can reduce the effects of warming and high CO₂ in our Great Barrier Reef waters'.⁵⁸

3.47 Mr Jeremy Tager further told the committee that:

...making the Galilee Basin [in Queensland] into the largest coalmining area in the world and sending that overseas through the Great Barrier Reef in order for it to be burnt to contribute to climate change that will further kill the reef makes us as much responsible as anybody in the world.⁵⁹

3.48 Other submissions also noted the need to consider the impacts of climate change, and the need for adaptation strategies, in the context of planning and management in the Great Barrier Reef region.⁶⁰

Storms and cyclones

3.49 As noted earlier in this chapter, a large part of the decline in the reef's coral cover has been attributed to tropical storms and cyclones. The *Outlook Report 2014* notes that there were six category 3 or above cyclones that affected the Great Barrier Reef between 2005 and 2013, which caused significant damage to coral reef habitats.⁶¹

3.50 However, several submitters and witnesses cautioned that tropical cyclones and storms have always been an issue for the reef, and the key problem now is that the reef's ability to recover from these storms is impaired by other contributing factors. As Professor Hughes observed, 'It is very convenient to blame the weather, like cyclones, but we have always had cyclones. Cyclones are basically background mortality'.⁶²

3.51 Professor Mumby of the Australian Coral Reef Society explained:

Tropical storms have been with us forever and they have not been a long-term problem because, once a reef has been impacted, it can quickly recover.⁶³

3.52 Professor Mumby further explained that:

There is no question that tropical storms have had a significant impact on the reef as they always do. We have just been through a period of very high intense activity, but the real problem is that the recovery rate of reefs may be impaired...If you start reducing the rate of recovery, then things like

58 Professor John Pandolfi, Councillor and Past President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 5.

59 Mr Jeremy Tager, *Committee Hansard*, 23 July 2014, p. 5.

60 See, for example, Professor Hoegh-Guldberg, *Submission 6*, p. 8; Professor Barbara Norman, *Submission 49*, pp 2–3; Ms Margaret Moorhouse, Spokesperson, Alliance to Save Hinchinbrook, *Committee Hansard*, 23 July 2014, p. 11.

61 GBRMPA, *Outlook Report 2014*, pp 48–49; see also Dr Russell Reichelt, Chairman and Chief Executive, GBRMPA, *Committee Hansard*, 23 July 2014, pp 53–54.

62 Professor Terry Hughes, *Committee Hansard*, 23 July 2014, p. 29.

63 Professor Peter Mumby, President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 6.

cyclones will have a longer, more persistent impact, which is one of the reasons why they can be such a problem.⁶⁴

3.53 Professor Hoegh-Guldberg similarly submitted that 'there is limited evidence that demonstrates that the frequency and intensity of cyclones has increased dramatically within the [Great Barrier Reef] region'. As mentioned above, he suggested that their impacts (along with other impacts) 'are clearly aggravated by a background decline in the health and hence ability of corals to grow back after disturbances'.⁶⁵ Professor Hoegh-Guldberg further explained that the impact that storms and cyclones are having on the Great Barrier Reef is linked to other problems, such as water quality:

Storms have occurred over thousands of years, but corals have bounced back very quickly. If you do not have storms coming more than every 10 years the reef still survives, but what we have done with the water quality is that the corals are being poisoned by pesticides, nutrients and sediments and they [are] just not going back fast enough to keep up with the big storms that come through.⁶⁶

Scientific work underpinning decision-making

3.54 This section examines:

- the importance of science, including monitoring and research, to support management and decision-making in relation to the Great Barrier Reef;
- areas for further research;
- need for independent scientific work and evidence; and
- whether decision-making in relation to the Great Barrier Reef is consistent with the precautionary principle.

Importance of scientific research and monitoring

3.55 The committee received evidence emphasising the important role of scientific research and monitoring in supporting decision-making in relation to the Great Barrier Reef.

3.56 The Australian and Queensland Governments submitted that there are a range of research providers within the Great Barrier Reef region, including:

...the Australian Institute of Marine Science (AIMS), CSIRO, government agencies (such as GBRMPA, the Queensland Parks and Wildlife Service and the Queensland Department of Agriculture, Fisheries and Forestry) and

64 Professor Peter Mumby, President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 6.

65 Professor Hoegh-Guldberg, *Submission 6*, p. 3.

66 Professor Ove Hoegh-Guldberg, *Committee Hansard*, 21 July 2014, p. 12.

universities, as well as by commercial companies and consultants, stakeholders, Traditional Owners and community members.⁶⁷

3.57 They also referred to research investment through the National Environmental Research Program (NERP) Tropical Ecosystems Hub, which is:

...addressing critical issues for management, conservation and sustainable use of the GBRWHA and its catchments, tropical rainforests including the Wet Tropics World Heritage Area...⁶⁸

3.58 The Australian Coral Reef Society submitted that 'science is now playing a stronger role than ever in supporting day-to-day decision making', such as how to intervene to mitigate crown-of-thorns starfish outbreaks. The Australian Coral Reef Society further submitted that:

...programmes like the National Environmental Research Programme (NERP) are proving to be effective in providing the science to help manage the reef and undertake cost-effective interventions. Management agencies have excellent links with the research community and the NERP provides a great example for having researchers work closely with managers and industry.⁶⁹

3.59 Professor Hoegh-Guldberg noted that 'it is important that State and Federal governments heed the conclusions of the best science for responding to any threats' to the Great Barrier Reef. He further expressed the view that GBRMPA 'has developed a clear understanding of the major threats to the health of the Great Barrier Reef', by engaging with national and international scientific communities and through State of the Reef and Outlook Reports.⁷⁰ Professor Hoegh-Guldberg further noted that the research community is looking forward to being involved in the future planning and management of the Great Barrier Reef, including the Reef 2050 Plan:

The scientific community can provide the evidence-base necessary for future decision-making regarding the sustainability and resilience of the [Great Barrier Reef].⁷¹

3.60 AIMS also expressed support for GBRMPA's use of science and its communication with the scientific community:

GBRMPA uses science evidence from multiple sources to support decision-making, including long-term baselines and an in-depth system-level understanding to predict environmental risk. GBRMPA regularly communicates with the scientific community both to seek advice on current management issues, to stay abreast of current scientific understanding of

67 Australian and Queensland Governments, *Submission 34*, p. 27; see also Dr Sue Pillans, *Committee Hansard*, 21 July 2014, p.11.

68 Australian and Queensland Governments, *Submission 34*, p. 27.

69 Australian Coral Reef Society, *Submission 8*, p. 2.

70 Professor Hoegh-Guldberg, *Submission 6*, p. 4; see also p. 2 and Professor Ove Hoegh-Guldberg, *Committee Hansard*, 21 July 2014, p. 13.

71 Professor Hoegh-Guldberg, *Submission 6*, p. 7.

the status, threats, and vulnerabilities of the [Great Barrier Reef] and communicate its research priorities to the scientists.⁷²

Monitoring

3.61 Other submitters and witnesses also noted the need for ongoing monitoring of the health of the Great Barrier Reef. For example, Professor Hoegh-Guldberg submitted that:

The most fundamental information required for sound environmental management to ensure the long term health of the reef is knowledge of, and capability to measure, what is in the environment and how it is changing over time.⁷³

3.62 AIMS similarly highlighted that the need for 'effective monitoring to support management decisions' is 'greater than ever, and will increase as cumulative pressures on the GBRWHA grow under global and regional environmental change'. AIMS expressed support for an Integrated Monitoring Program (IMP) to 'comprehensively link historical trends to present-day status and to risks under projected environmental conditions'. AIMS noted that such a program was proposed in the Strategic Assessment Program Report, and suggested that:

...the proposed IMP should be developed as soon as possible and that significant resources will be needed to both fill gaps in the existing coverage of key indicators and to develop and monitor new indicators that will arise from the decision to adopt a target-based management approach for the GBRWHA.⁷⁴

3.63 A representative of the Department of the Environment noted that the Strategic Assessment for the Great Barrier Reef Marine Park did look at 'creating an integrated monitoring system', which he suggested will be 'very important for across the reef in tracking its overall health and progress'.⁷⁵

3.64 The Australian and Queensland Governments referred to a number of initiatives to monitor the health of the reef, including the GBRMPA Outlook Reports (as outlined in the previous chapter). The Australian and Queensland Governments submitted that the Outlook Reports play an important role in the management of the area:

To address the challenges facing the Reef, while achieving the greatest value for the available resources, GBRMPA's management must be well-targeted, knowledge-based, scientifically robust and measureable. GBRMPA regularly reviews its management priorities and arrangements, including through the Outlook Report, to ensure its resources are applied

72 AIMS, *Submission 36*, p. 3.

73 Professor Hoegh-Guldberg, *Submission 6*, p. 4; see also p. 2 and Professor Ove Hoegh-Guldberg, *Committee Hansard*, 21 July 2014, p. 13.

74 AIMS, *Submission 36*, p. 4; see also Minerals Council of Australia, *Submission 35*, p. 9.

75 Mr Dean Knudson, First Assistant Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, p. 55.

most effectively to achieve the long-term protection, ecologically sustainable use, understanding and enjoyment of the Great Barrier Reef.⁷⁶

3.65 In terms of monitoring, some witnesses and submitters also mentioned the 'Eye on the Reef' monitoring program, which enables reef users to collect information and report sighting and observations to GBRMPA.⁷⁷ The *Outlook Report 2014* acknowledges that:

Reef health monitoring information provided by tourism operators through the Great Barrier Reef Marine Park Authority's Eye on the Reef program improves the information available for decision making. Monitoring information is better integrated, and the program has a user-friendly data portal and online training.⁷⁸

Australian Institute of Marine Science (AIMS)

3.66 As noted above, one of the key research providers is AIMS, which is a Commonwealth statutory authority established under the *Australian Institute of Marine Science Act 1972*. Its functions include carrying out research and development in relation to marine science and marine technology. It has a staff of 198 (average full-time equivalent) and its total revenue (from government and external sources in 2012-13) was \$51.7 million.⁷⁹

3.67 AIMS explained its role as a 'key independent science provider and adviser' to GBRMPA, which uses its science and advice 'across a range of issues to develop improved monitoring programs and adaptive management solutions as part of a long-term sustainability plan for the Reef'.⁸⁰

3.68 Dr Oliver stated that one of their 'primary goals is to provide the evidence base for sound environmental decision making' and that it had 'established strong links' to environmental regulators and industry, governments and especially the Great Barrier Reef Marine Park Authority. He further told the committee that:

GBRMPA has consistently identified good science as a key foundation to effective management and has consistently supported relevant research and sought expert scientific advice on controversial issues where there is residual uncertainty.⁸¹

76 Australian and Queensland Governments, *Submission 34*, p. 28; see also Dr Kimberley Dripps, Deputy Secretary, Department of the Environment, 21 July 2014, p. 54.

77 See, for example, Mrs Jan Claxton, *Committee Hansard*, 22 July 2014, p. 3; Mr Allen Grundy, Director, Southern Cross Sailing Adventures, *Committee Hansard*, 22 July 2014, p. 41; see also GBRMPA, *Eye on the Reef program*, <http://www.gbrmpa.gov.au/managing-the-reef/how-the-reefs-managed/eye-on-the-reef> (accessed 20 August 2014).

78 GBRMPA, *Outlook Report 2014*, p. 202.

79 AIMS, *Annual Report 2012–13*, pp 55, 77 and 131.

80 AIMS, *Submission 36*, p. 1.

81 Dr Jamie Oliver, Research Director, AIMS, *Committee Hansard*, 23 July 2014, p. 18.

3.69 However, the committee also heard that the AIMS has had to accommodate an \$8 million cut to its budget for 2014–15. Dr Oliver explained that AIMS is trying not 'to make any structural changes to the organisation' and to 'maintain our underlying capacity to do research' but that:

...we would have to cut back to some extent on some of the fundamental research that provides the long-term building blocks for the more applied research that we do. There are a number of areas that we may decide to cut back on as a result of that—that is inevitable when you get a cut—but we are confident that we will maintain our capacity to do this research.⁸²

3.70 However, some witnesses and submitters expressed concern about whether there is sufficient funding for research for the reef. For example, The North Queensland Conservation Council (NQCC) identified that 'GBRMPA and related research organisations need to be funded at a level to ensure that all necessary research is undertaken as a matter of priority'. Ms Tubman of NQCC told the committee that they 'would like to see greater funding for science in GBRMPA but also in AIMS and in CSIRO'.⁸³ Funding for GBRMPA is also discussed further in Chapter 8.

Gaps and areas for further research

3.71 Several key areas for further research were identified during the committee's inquiry. Some of these are discussed elsewhere in this report, in the relevant chapter discussing specific issues (for example, there is discussion in Chapter 5 in relation to ports and the need for more research on the longer term dispersal of dredge spoil). Other more general needs and approaches are discussed here.

3.72 The committee notes that the *Outlook Report 2014* stated that while there have been 'significant improvements in understanding of the region's values and impacts' since the 2009 report, 'important information gaps still exist'.⁸⁴ It identified, for example, in relation to biodiversity:

...the assessment of many habitats and species or groups of species is principally based on limited evidence and anecdotal information. Key gaps in knowledge include understanding of deeper reefs and deep-water seagrass meadows, islands, and identification of new biodiversity hotspots. Biological and ecological information is lacking on inshore dolphins and populations of seabirds that breed in the Great Barrier Reef as well as some targeted 'at risk' fishery species and populations of bycatch species. Sea snakes and some shark and ray populations are poorly understood as are turtle populations after migration out of the Marine Park.⁸⁵

82 Dr Jamie Oliver, Research Director, AIMS, *Committee Hansard*, 23 July 2014, p. 24; see also Mr John Gunn, Chief Executive Officer, AIMS, *Senate Environment and Communications Committee Estimates Hansard*, 2 June 2014, pp 64–65.

83 Ms Wendy Tubman, Coordinator, NQCC, *Committee Hansard*, 23 July 2014, p. 1; see also NQCC, *Submission 30*, p. 4.

84 GBRMPA, *Outlook Report 2014*, p. vi.

85 GBRMPA, *Outlook Report 2014*, p. 37.

3.73 Professor Hoegh-Guldberg suggested there is also a need for a better mapping of the reef, including:

...all reef locations/boundaries, their dimensions (depth) and their composition in terms of benthic communities and substrate types, and in more detail the amount of coral cover. Currently there are no existing maps and no plan to establish a baseline map or to regularly update a map that provides details of the location, depth and composition (benthic communities and substrate types) of the entire Great Barrier Reef.⁸⁶

3.74 AgForce recommended that a single searchable database be created of all reef reports and publications, noting that 'from an industry perspective, it is difficult to know where to look for relevant reef reports'. They suggested that this would reduce duplication and the 'disconnect' between reef research and development and industry research and development.⁸⁷ The Minerals Council of Australia agreed that 'improved communication and access to information will be important for building public confidence' in the management of the Great Barrier Reef.⁸⁸

3.75 Dr Oliver told the committee that 'there is much we do not know about the reef ecosystems and the complex interactions that will determine their response to changing climate, coastal development and increased use' and that:

Support for this research to address these knowledge gaps has been provided through a variety of initiatives by the state and federal government. Ongoing support is essential in order to reduce the uncertainty in environmental management decisions that underpins much of the controversy surrounding the reef today.⁸⁹

3.76 AIMS highlighted that there is an 'increasing number and complexity of issues facing management agencies for the Great Barrier Reef World Heritage Area', meaning that decision-making needs to draw on 'an exponentially increasing volume of information'. AIMS were concerned that:

Fully dealing with this complexity and information load requires both capability and capacity that may exceed GBRMPA's current resources, both in terms commissioning the acquisition or collation of empirical data and interpreting these in a policy, decision-making context. Additional resources would allow for significant improvements in the timeliness and quality of decisions and policies to protect the GBR.⁹⁰

3.77 AIMS identified that GBRMPA 'has substantial additional science information needs relating to the development of policies and management plans and

86 Professor Hoegh-Guldberg, *Submission 6*, p. 4.

87 AgForce Queensland, *Submission 14*, p. 5 and see also pp 9–10 and Mr Charles Burke, Chief Executive Officer, AgForce Queensland, *Committee Hansard*, 21 July 2014, p. 38.

88 Minerals Council of Australia, *Submission 35*, p. 9.

89 Dr Jamie Oliver, Research Director, AIMS, *Committee Hansard*, 23 July 2014, p. 19.

90 AIMS, *Submission 36*, p. 2; see also Dr Jamie Oliver, Research Director, AIMS, *Committee Hansard*, 23 July 2014, p. 19.

day to day management'. As noted earlier, much of this research is 'carried out by research institutions' such as AIMS, CSIRO, universities and NERP. However, AIMS was concerned that:

GBRMPA is only able to influence the research agenda of these agencies indirectly, through publication of its research priorities and other forms of communication. In general, the information needs articulated by GBRMPA significantly exceed the resources available from all the above sources, so it is important that a careful prioritisation of research, taking which considers needs, feasibility and timescales for results is carried out.⁹¹

3.78 Dr Oliver of AIMS suggested that this prioritisation of research could be achieved through the development of a 'collaborative [Great Barrier Reef] Strategic Research Plan' involving GBRMPA, Commonwealth and State Governments and key research providers.⁹²

3.79 The Australian and Queensland Governments stated that the Australian Government had invested in new research to inform the Strategic Assessment of the GBRWHA, targeted to address 'key information gaps relating to the future management of the Great Barrier Reef'. The Strategic Assessments are discussed further elsewhere in this report.⁹³ The Australian and Queensland Governments also noted that:

Key information needs to improve management of the Reef are also identified in GBRMPA's Scientific information needs for the management of the Great Barrier Reef Marine Park 2009–2014. This document, along with partnership agreements with key research institutions, provides the basis for focusing research on matters relevant to the long-term protection and management of the Reef.⁹⁴

Independence of scientific work

3.80 Many submitters and witnesses supported the need for science underpinning decision-making to be independent and apolitical.⁹⁵ A key issue raised by some in this context was the fact that regulatory decision-making is often underpinned by scientific work and environmental assessments which are commissioned and provided by

91 AIMS, *Submission 36*, p. 3; see also Dr Jamie Oliver, Research Director, AIMS, *Committee Hansard*, 23 July 2014, p. 19.

92 AIMS, *Submission 36*, p. 3; see also Dr Jamie Oliver, Research Director, AIMS, *Committee Hansard*, 23 July 2014, p. 19.

93 Australian and Queensland Governments, *Submission 34*, p. 27.

94 Australian and Queensland Governments, *Submission 34*, p. 27; see also GBRMPA, *Scientific Information Needs for the Management of the Great Barrier Reef Marine Park 2009–2014*, http://www.gbrmpa.gov.au/data/assets/pdf_file/0019/3376/GBRMPA_Scientific_Information_Needs.pdf (accessed 6 August 2014).

95 See, for example, Queensland Ports Association, *Submission 13*, p. 15; AgForce, *Submission 14*, p. 7; Minerals Council of Australia, *Submission 35*, p. 8; Whitsunday Residents Against Dumping, *Submission 39*, p. 3; Whitsunday Charter Boat Industry Association, *Submission 46*, p. 9; Ms Wendy Tubman, NQCC, *Committee Hansard*, 23 July 2014, p. 1.

proponents. In particular, several submissions and witnesses expressed concern that environmental assessment documentation is prepared by the proponent (or consultants commissioned by the proponent), rather than by an independent third party. It was suggested that the fact that the work is commissioned and provided by proponents may affect the independence of that scientific work.⁹⁶

3.81 For example, AIMS noted that developers are often required to commission work and provide the results of that work to decision-making authorities such as GBRMPA. AIMS observed that:

While this mechanism allows for adequate resourcing of that scientific work, it does not guarantee independence. There is a clear potential for conflicts of interest since the oversight and quality control of the work is carried out by the developer, whose interests in controlling development costs could conflict with the [Great Barrier Reef Marine Park] Authority's interests in minimising environmental and social impacts.⁹⁷

3.82 AIMS suggested that:

A more effective mechanism to ensure independence, which has been successfully applied by GBRMPA in the past, would be for the Authority, or some other independent agency, to commission and oversee the work, while still requiring the developer to pay the costs.⁹⁸

3.83 In contrast, industry groups such as Ports Australia told the committee that 'Queensland Ports undertake rigorous and transparent environmental assessment for all major projects undertaken'.⁹⁹

3.84 At the same time, many submitters and witnesses were also concerned that the science of the reef is becoming politicised.¹⁰⁰ For example, Ms Wishart of AMCS expressed concern that, in the case of the Abbot Point dredging and dumping approvals (as discussed further in Chapter 6), 'we saw politics overriding science'.¹⁰¹

96 See, for example, WWF-Australia and AMCS, *Submission 23*, p. 12; Whitsunday Charter Boat Industry Association, *Submission 46*, p. 9; Arabon Seafoods, *Submission 44*, p. 2; Ms Wendy Tubman, Coordinator, NQCC, *Committee Hansard*, 23 July 2014, p. 1; Ms Suzanne Arnold, Coordinator, Australians for Animals, *Committee Hansard*, 23 July 2014, p. 48.

97 AIMS, *Submission 36*, p. 3; see also Dr Jamie Oliver, Research Director, AIMS, *Committee Hansard*, 23 July 2014, p. 20.

98 AIMS, *Submission 36*, p. 3; see also Dr Jamie Oliver, Research Director, AIMS, *Committee Hansard*, 23 July 2014, p. 20.

99 Mr David Anderson, Chief Executive Officer, *Ports Australia*, 21 July 2014, p. 22.

100 See, for example, AgForce, *Submission 14*, p. 17; NQCC, *Submission 30*, p. 4; Whitsunday Charter Boat Industry Association, *Submission 46*, p. 9; Ms Wendy Tubman, Coordinator, NQCC, *Committee Hansard*, 23 July 2014, p. 1.

101 Ms Felicity Wishart, Great Barrier Reef Campaign Director, Australian Marine Conservation Society, *Committee Hansard*, 21 July 2014, p. 20.

3.85 Professor Pandolfi of the Australian Coral Reef Society similarly expressed concern about 'the role of science and the uptake of that science by government in meeting its obligations and its stated concerns over the reef'.¹⁰²

3.86 The Whitsunday Charter Boat Industry Association submitted that research to fill gaps in scientific knowledge 'must be independently done and peer reviewed. So the process becomes more about the process rather than a political football'.¹⁰³

3.87 In the context of shipping (discussed further elsewhere in this report), Mr Geoff McPherson, a marine acoustic specialist, told the committee that the available scientific information on the impacts of underwater noise pollution is not being utilised.¹⁰⁴ He suggested that one possible explanation for this might be 'to marginalise any perceived threat to unfettered shipping transit through the Great Barrier Reef'.¹⁰⁵

3.88 Industry groups expressed concerns that claims are being made, and particularly about the impacts of port developments and shipping on the reef, which are not supported by sufficient scientific evidence.¹⁰⁶ For example, Ports Australia submitted that there is a lot of 'uninformed rhetoric about the impact of port developments in the broader [Great Barrier Reef] which, among other things, is not based on good scientific evidence or objective analysis'.¹⁰⁷ Mr Chris McCombe of the Minerals Council agreed that:

...many of the claims about the scale and impact of development on the Great Barrier Reef are not science based or are founded on wildly incorrect assumptions.¹⁰⁸

Consistency of decision-making with the precautionary principle

3.89 Another issue raised during the committee's inquiry was whether government decision processes impacting the reef are consistent with the precautionary principle.

3.90 Section 3A of the EPBC Act sets out the principles of ecologically sustainable development and encapsulates the precautionary principle at paragraph (b):

If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

102 Professor John Pandolfi, Councillor and Past President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 2.

103 Whitsunday Charter Boat Industry Association, *Submission 46*, p. 9.

104 Mr Geoff McPherson, *Committee Hansard*, 23 July 2014, p. 42.

105 Mr Geoff McPherson, *Committee Hansard*, 23 July 2014, p. 41.

106 See, for example, Queensland Ports Association, *Submission 13*, p. 15; Queensland Resources Council, *Submission 28*, pp 12–14; Mr Michael Roche, Chief Executive, Queensland Resources Council, *Committee Hansard*, 21 July 2014, p. 30.

107 Ports Australia, *Submission 11*, p. 2.

108 Mr Chris McCombe, Assistant Director, Environmental Policy, Minerals Council of Australia, *Committee Hansard*, 21 July 2014, p. 31.

3.91 The precautionary principle is defined in the same way in section 3 of the GBRMP Act. Subsection 7A(3) of the GBRMP Act then provides that, in managing the Marine Park and in performing its other functions, GBRMPA must have regard to (amongst other matters) the principles of ecologically sustainable use, which includes the precautionary principle.¹⁰⁹

3.92 Some submitters and witnesses suggested that government decision-making processes are consistent with the precautionary principle. For example, Shipping Australia submitted that the strict conditions imposed on recent dredging projects, including the Abbot Point projects, 'support our assessment that the government decision processes are consistent with the precautionary principle'.¹¹⁰ Ports Australia submitted that 'all of the ports located in the [Great Barrier Reef] region continue to apply a high precautionary approach with new development proposals'.¹¹¹

3.93 Queensland Ports Association agreed that:

Where the science indicates impacts or uncertainty then appropriate avoidance, mitigation, monitoring and precaution are warranted.¹¹²

3.94 In contrast, others expressed doubt as to whether recent government decision-making concerning the reef has been consistent with the precautionary principle.¹¹³ A particular example cited was the Abbot Point decision, where it was suggested that there is considerable uncertainty about the impacts of dumping of dredge spoil and that a more precautionary approach should have been taken (this is discussed further in Chapters 5 and 6).¹¹⁴ However, in response to questioning on this issue, the Department of the Environment advised that:

The precautionary principle has been taken into account in making decisions of approval on dredging proposals under the *Environment Protection and Biodiversity Conservation 1999*. This is a legal requirement under section 391 of the Act.¹¹⁵

3.95 Others suggested, with concern, that activities and developments are being approved with conditions requiring further research to discover the impacts of those

109 GBRMP Act, ss 7A(3)(b), s. 3AB and s. 3.

110 Shipping Australia, *Submission 3*, p. 5.

111 Ports Australia, *Submission 11*, p. 2.

112 Queensland Ports Association, *Submission 13*, p. 15.

113 See, for example, Australian Coral Reef Society, *Submission 8*, p. 3; Carefish, *Submission 16*, p. 3; CAFNEC, *Submission 19*, p. 9; Wildlife Preservation Society of Queensland, *Submission 33*, p. 3; Association of Marine Park Tourism Operators Pty Ltd (AMPTO), *Submission 41*, p. 3; Save the Reef, *Submission 50*, p. 11; Ms Margaret Moorhouse, Spokesperson, Alliance to Save Hinchinbrook, *Committee Hansard*, 23 July 2014, p. 11; Mr Colin McKenzie, Executive Director, Association of Marine Park Tourism Operators, *Committee Hansard*, 23 July 2014, p. 36.

114 See, for example, CAFNEC, *Submission 19*, p. 7; NQCC, *Submission 30*, p. 4; Whitsunday Residents Against Dumping, *Submission 39*, pp 3–4.

115 Department of the Environment, *Answers to written questions on notice of 1 August 2014*, p. 4.

activities and developments. It was suggested that this was inappropriate and not consistent with the precautionary principle.¹¹⁶

3.96 Professor Hoegh-Guldberg submitted that application of the precautionary principle in decision-making in relation to the Great Barrier Reef is variable. He suggested that the Great Barrier Reef Marine Park rezoning process 'has been exemplary and the resulting Marine Protected Area (MPA) is consistent with the precautionary principle'. In contrast, Professor Hoegh-Guldberg was concerned that 'smaller scale decision-making and development approvals appear to follow this principle to a lesser extent'. By way of example, he suggested that:

...recent port development approvals and offset strategies build on the assumption that the impact of dredging and seagrass and reef habitats is quantifiable when this is not consistent with the precautionary principle – where in this case we are assuming high potential impacts when there is high uncertainty with impact predictions...¹¹⁷

3.97 WWF-Australia and Australian Marine Conservation Society were concerned as to whether the precautionary principle will continue to be applied if Commonwealth approval powers are delegated to Queensland under the one-stop shop proposal (which is discussed further in Chapter 8).¹¹⁸

116 See, for example, NQCC, *Submission 30*, p. 4; Ms Ellen Roberts, Coordinator, Mackay Conservation Group, *Committee Hansard*, 22 July 2014, p. 15.

117 Professor Hoegh-Guldberg, *Submission 6*, p. 5.

118 WWF-Australia and AMCS, *Submission 23*, p. 13.

Chapter 4

The impact of land-based activity on the health of the reef

Introduction

4.1 As noted in the previous chapter, the Great Barrier Reef Marine Park Authority (GBRMPA) *Outlook Report 2014* stated that two of the key threats to the health of the Great Barrier Reef ecosystem are land-based run-off and coastal development.¹ Therefore, this chapter discusses threats posed by run-off caused by broad-scale land use, including threats resulting from:

- nutrients from run-off mainly associated with the use of fertilisers;
- pesticides from run-off; and
- sediments from run-off mainly associated with broad-scale land clearing.

4.2 This chapter then looks at the management schemes and activities used to protect the health of the reef, including direct control of crown-of-thorns starfish outbreaks and indirect measures aimed at improving water quality.

4.3 The chapter also gives attention to impacts to the health of the Great Barrier Reef that may arise from large-scale development in the future, with specific reference to the proposed development of Northern Australia.

4.4 Finally, the context of existing plans and programs, in this chapter examines direct and indirect impacts of non-agricultural activities on the health of the reef, including impacts resulting from:

- the modification of coastal habitats as a result of mining and other forms of development;
- the creation of artificial barriers to hydrological flows; and
- the role of national parks and no-go zones in protecting the health of the reef.²

The related topic of disposal and resuspension of dredge material will be examined in the next chapter.

Water quality

4.5 As noted in Chapter 3, poor water quality has posed a major challenge to the health of the Great Barrier Reef. The *Reef Water Quality Protection Plan 2013* noted that:

1 GBRMPA, *Outlook Report 2014*, p. 255.

2 GBRMPA, *Outlook Report 2014*, pp 170–171, 255; Reef Water Quality Protection Plan Secretariat, *2013 Scientific Consensus Statement: Land use impacts on Great Barrier Reef water quality and ecosystem condition*, p. 1, <http://www.reefplan.qld.gov.au/about/assets/scientific-consensus-statement-2013.pdf> (accessed 5 August 2014).

Over the past 100 years, the land catchment areas adjacent to the Great Barrier Reef World Heritage Area have undergone extensive development for agricultural production, urban expansion, transport infrastructure, tourism and mining. This has led to elevated levels of pollutants leaving these catchments and entering the reef, with the largest contributor being agricultural land use activities.³

4.6 The *Outlook Report 2014* noted that the availability of light is central to the health and productivity of seagrasses and other plants and helps maintain symbiotic relationships between some animals (such as corals and clams) and algae. The amount of light at a particular depth in the water column is directly linked to water turbidity, which is affected by the amount of sediment and nutrients in land-based run-off.⁴ The *Outlook Report 2014* explained that increased nutrient loads in the water of the Great Barrier Reef may contribute to the increased frequency and severity of crown-of-thorns starfish and blooms of phytoplankton and cyanobacteria. The starfish prey on coral species, and cyanobacteria blooms have been directly linked to smothering corals and increasing the bioavailability of heavy metals, having a devastating effect on the health of the reef.⁵

Run-off caused by broad-scale land use

4.7 The committee notes GBRMPA has stated:

The best science available estimates that around 90 per cent of the loads of sediments, nutrients and toxic chemicals entering the Great Barrier Reef lagoon come from agricultural practices in the Great Barrier Reef catchment.⁶

4.8 More recently, the *2013 Scientific Consensus Statement* found that the greatest risks to the water quality of the Great Barrier Reef stem from nitrogen (often associated with the use of fertilisers), pesticides and fine sediment discharge (often

3 Australian and Queensland Governments, Reef Water Quality Protection Plan 2013: Securing the health and resilience of the Great Barrier Reef World Heritage Area and adjacent catchments, p. 6, <http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2013.pdf> (accessed 25 August 2014); see also GBRMPA, *Outlook Report 2014*, p. 168; and Professor Hoegh-Guldberg, *Submission 6*, p. 3.

4 GBRMPA, *Outlook Report 2014*, p. 52; see also Professor Hoegh-Guldberg, *Submission 6*, p. 3.

5 GBRMPA, *Outlook Report 2014*, pp 63–64; see also Professor Hoegh-Guldberg, *Submission 6*, p. 3; Mr Brian Bycroft, *Submission 3*, p. 4; Mr David Arthur, *Submission 26*, p. 3.

6 GBRMPA, *Queensland Agriculture, Resources and Environment Committee 2012 Inquiry into Queensland Agriculture and Resource Industries*, *Submission 28*, p. 3, <http://www.parliament.qld.gov.au/documents/committees/AREC/2012/QldARIndustries/submissions/28-GBRMPA.pdf> (accessed 5 August 2014). See also, Queensland Resources Council, *Submission 28*, p. 16; see also World Heritage Committee, *Mission Report of the Reactive Monitoring Mission to Great Barrier Reef 6th to 14th March 2012*, June 2012, p. 41, <http://whc.unesco.org/document/117104> (accessed 7 August 2014).

associated with soil run-off), and the main source has been diffuse source pollution from agriculture.⁷ To this end, this section will examine these risks with regard to:

- the use of fertilisers;
- the use of pesticides; and
- broad-scale vegetation clearing and soil erosion.

Use of fertilisers

4.9 The committee received evidence that the environmental issue of greatest concern surrounding the use of fertilisers was eutrophication of fresh and marine waters. Eutrophication is the process where water becomes enriched with nutrients such as nitrogen and phosphorus, both of which can promote excessive plant growth, including algae, causing a diminution in water quality. Eutrophication can also directly harm aquatic plants and animals.⁸ It was acknowledged:

While there are numerous sources of eutrophication, it is clear that inefficient fertilizer use, particularly if combined with inappropriate farm management practices, has the potential to be a significant contributor. Poor storage, handling and transport can also result in fertilizers entering fresh and marine waters.⁹

4.10 Eutrophication has also been linked to outbreaks of crown-of-thorns starfish, one of the causes of coral loss.¹⁰ However, as Professor Terry Hughes, Director of the ARC Centre of Excellence for Coral Reef Studies, James Cook University, explained:

There are two plausible but unproven theories about the causes of outbreaks of crown-of-thorns starfish. One suggests that dredging and runoff of nutrient pollution from land promotes blooms of phytoplankton which speeds up the development of starfish larvae, contributing to outbreaks. The other surmises that the changes we have made to the structure of foodwebs have resulted in fewer juvenile starfish being eaten.¹¹

7 Reef Water Quality Protection Plan Secretariat, *2013 Scientific Consensus Statement: Land use impacts on Great Barrier Reef water quality and ecosystem condition*, p. 1, <http://www.reefplan.qld.gov.au/about/assets/scientific-consensus-statement-2013.pdf> (accessed 5 August 2014). See also GBRMPA, *Outlook Report 2014*, p. 170–171.

8 Fertilizer Australia, *Submission 22, Attachment*, p. 9: Fertilizer Industry Federation of Australia and the Australian Fertiliser Services Association, Fertcare, 2012 (Fertcare).

9 Fertilizer Australia, *Submission 22, Attachment*, p. 9: Fertcare.

10 Professor Hoegh-Guldberg, *Submission 6*, p. 3.

11 Mr David Arthur, *Submission 26*, p. 12: Appendix 2, Professor Terry Hughes, 'Crown of Thorns is a symptom of reef decline: let's address the cause', The Conversation, 3 October 2012, <http://theconversation.com/crown-of-thorns-is-a-symptom-of-reef-decline-lets-address-the-cause-9932>.

4.11 To that extent, the committee heard evidence that the 'scientific indications are that the outbreaks of the crown-of-thorns starfish are indeed related to water quality'.¹²

4.12 Professor Hoegh-Guldberg similarly told the committee that, in relation to crown-of-thorns, 'the best scientific evidence', produced by the Australian Institute of Marine Science (AIMS), is that there is a 'strong link' between water quality and crown-of-thorn outbreaks. Professor Hoegh-Guldberg stated:

...periodic flooding bringing nutrients and sediments out of catchments, disturbances to coastal processes, leads to algal blooms that happen more often than feed the baby starfish that then lead to outbreaks in plague proportions.¹³

Use of pesticides

4.13 The *Outlook Report 2014* noted that pesticides, including herbicides and fungicides, in land-based run-off can have a negative impact on marine plants and animals. The report went on to say:

Herbicide concentrations in flood plumes that extend into the marine environment can exceed concentrations shown to have negative effects on certain species of coral, seagrass and microalgae and present risks to marine mammals. Despite this, current levels of pesticides are considered to be a low to moderate threat to inshore coral reefs generally, but the consequences of long-term exposure are not understood. The threat is likely to be higher in some regions, especially when pesticides are present in combination with other pollutants and stressors.¹⁴

4.14 Submitters have called for better regulation of the use and transportation of pesticides.¹⁵ Dr Matthew Landos of the Frenchs Forest Veterinary Surgery said:

We have just recently watered down the regulation of pesticides at the federal level. This will have a further negative effect on the movement of those products, causing harm to the inshore areas and the offshore areas where we are measuring these pesticides travelling. Much further tightening of our pesticide regulation is required to allow the reef to remain, if we want to keep it.¹⁶

12 Professor John Pandolfi, Councillor and Past President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 5; see also Dr Jamie Oliver, Research Director, Australian Institute of Marine Science, *Committee Hansard*, 23 July 2014, p. 22.

13 Professor Ove Hoegh-Guldberg, *Committee Hansard*, 21 July 2014, p. 13.

14 GBRMPA, *Outlook Report 2014*, p. 174.

15 Dr Matthew Landos, Director, Frenchs Forest Veterinary Surgery; Honorary Lecturer and Associate Researcher, Sydney University Faculty of Veterinary Science, *Committee Hansard*, 22 July 2014, p. 57; Frog Safe Inc, *Submission 60*, pp 2–3.

16 Dr Matthew Landos, Director, Frenchs Forest Veterinary Surgery; Honorary Lecturer and Associate Researcher, Sydney University Faculty of Veterinary Science, *Committee Hansard*, 22 July 2014, p. 57.

4.15 Frog Safe argued for a bond to be introduced for chemical manufacturers who want to get approvals for their products to be sold in this country. Furthermore they recommended that:

There also needs to be a policy that chemicals which have been banned overseas need to be banned here automatically and concurrently...[and there] needs to be more research on the effects of chemicals on corals and fish species which come from coastal nursery areas to provide proof of the real impact that chemicals have (which will undoubtedly be far worse than what has been extrapolated so far).¹⁷

4.16 CropLife Australia submitted that pesticides, including herbicides, insecticides and fungicides, are critical to maintaining and improving Australia's agricultural productivity and meeting the global food security challenges of the coming decades. It noted that, without access to pesticides, farmers could lose as much as 50 per cent of their annual crop production to pests, weeds and diseases.¹⁸

4.17 CropLife Australia accepted that pesticides may find their way into river systems and ultimately end up in the Great Barrier Reef. However, CropLife Australia cited evidence from scientific research and monitoring which indicated that pesticides posed no threat to the overall health of the Great Barrier Reef and argued that the mere presence of pesticides in waterways did not necessarily mean that harm was being caused.¹⁹ CropLife went on to suggest that it would be beneficial to determine whether the concentration of pesticides in reef water actually presented a risk of environmental harm before calling for limits or a ban on the use of pesticides on agricultural land in catchments—an outcome that would have devastating impacts on rural economies and Australia's ability to produce food.²⁰ CropLife Australia stated:

...Governments need to balance the risk from pesticide use with the benefits accorded to the entire community from pesticide use...Furthermore, efforts to reduce pesticide concentrations to below detectable levels are unlikely to be successful in light of constantly improving detection technologies. These efforts may not be cost effective and may not result in better [Great Barrier Reef] health due to the negligible impacts that these chemicals currently have. Governments, farmers, land managers and pesticide suppliers need to work together to develop cost effective tools, products and procedures that will continue to reduce the risk to the [Great Barrier Reef] from pesticides.²¹

4.18 AgForce Queensland submitted that, on occasion, incorrect assumptions and toxicology impacts of pesticides have been used for pesticide modelling, resulting in

17 Frog Safe Inc, *Submission 60*, p. 3.

18 CropLife Australia Ltd, *Submission 21*, p. 1.

19 CropLife Australia Ltd, *Submission 21*, p. 1.

20 CropLife Australia Ltd, *Submission 21*, pp 2–4.

21 CropLife Australia Ltd, *Submission 21*, p. 4.

false claims about detected levels of pesticide run-off and the consequential impact on marine organisms in coastal waters. AgForce submitted that:

- (a) two herbicides (hexazinone and tebuthiuron) were modelled for runoff from cropping areas, which are not registered nor used in cropping;
- (b) the area used for calculating annual herbicide runoff loads was less than 0.16% of the grazing area and the herbicides were only applied every seven to twenty years;
- (c) end of catchment herbicide runoff values were added together across five herbicides for comparison to water quality trigger values, but all five herbicides were never detected together in run-off; and
- (d) herbicide exposure concentrations that could impact on corals and marine organisms were at least five times greater than any detected herbicide concentrations monitored in end of catchment watercourses.²²

4.19 As a result, AgForce recommended that the Australian Government conduct a scientific review of reef pesticide science using data derived from monitoring collected by independent expert pesticide scientists experienced in environmental toxicology. Such a review could help to ensure that future funding of environmental protection programs is targeted at actual threats to the health of the Great Barrier Reef, not perceived threats.²³

Broad-scale vegetation clearing and soil erosion

4.20 The *Outlook Report 2014* noted that past broad-scale land clearing, 'principally in the southern two-thirds of the Great Barrier Reef catchment, has significantly affected each of the supporting terrestrial habitats'. It went on to say:

Ongoing agricultural use of these habitats also affects their ability to support the Reef ecosystem...The resultant loss and modification of habitats has led to significant increases in pollutants, principally nutrients and sediments, entering the Great Barrier Reef lagoon which has reduced the ecosystem's ability to bounce back after impacts, especially in southern inshore areas. In addition, the loss of freshwater coastal habitats has affected some ecological functions and numerous marine species...²⁴

4.21 As submitted by Mr David Arthur, a major source of sediment load in river discharge stems from riverbank erosion consequent to excessive vegetation clearing.²⁵ Although the clearing of vegetation is regulated under the *Vegetation Management Act 1999* (Qld) and the *Water Act 2000* (Qld), the Capricorn Conservation Council

22 AgForce Queensland, *Submission 14*, p. 6.

23 AgForce Queensland, *Submission 14*, p. 6; see also Mr Charles Burke, Chief Executive Officer, AgForce Queensland, *Committee Hansard*, 21 July 2014, p. 39.

24 GBRMPA, *Outlook Report 2014*, p. 59. See also World Heritage Committee, *Mission Report of the Reactive Monitoring Mission to Great Barrier Reef 6th to 14th March 2012*, June 2012, p. 26, <http://whc.unesco.org/document/117104> (accessed 7 August 2014).

25 Mr David Arthur, *Submission 26*, p. 4.

submitted that illegal clearing of vegetation by both commercial entities and recreational visitors still occurs.²⁶

4.22 Submitters observed that recent amendments to the *Vegetation Management Act 1999* (Qld) have significantly reduced vegetation protection in Great Barrier Reef catchment areas. Submitters agreed that the legislation now allows for clearing of 'high value regrowth' and clearing of protected (native) vegetation for new purposes such as 'high value agriculture' or 'necessary environmental clearing'. As a consequence, many hundreds of thousands of hectares of vegetation are now vulnerable to clearing.²⁷

4.23 The *Water Act 2000* (Qld) has also been amended. Submitters noted that the requirement to obtain a river protection permit to destroy vegetation in a watercourse or spring has been removed. Furthermore, while the 50-metre riparian vegetation 'buffer zones' apply in certain catchments, there are reduced protections for watercourse clearing in other areas which may impact on the Great Barrier Reef. These changes make large quantities of riparian vegetation vulnerable to clearing.²⁸

4.24 Submitters explained that these recent amendments may have considerable negative consequences for land management, and may result in increased erosion and consequential sediment and nutrient run-off to the Great Barrier Reef. The resulting detriment to the water quality of the Great Barrier Reef will have negative impacts on the health of the Great Barrier Reef ecology.²⁹

26 Capricorn Conservation Council, *Submission 27*, p. 9.

27 WWF-Australia and the Australian Marine Conservation Society, *Submission 23*, p. 9; Alliance to Save Hinchinbrook, *Submission 37*, p. 2; Cairns and Far North Environment Centre, *Submission 19, Attachment 5*, pp 10, 43; WWF-Australia and Australian Marine Conservation Society, 'Report to UNESCO World Heritage Committee: Status of Implementation of recommendations in World Heritage Committee Decision 36 COM 7B.8 and 37 COM 7B.10, Great Barrier Reef (Australia) and the March 2012 Reactive Monitoring Mission', 30 January 2014 (WWF and AMCS report to WHC) and Environmental Defenders Office (Qld), 'Legislative Protection of the Great Barrier Reef World Heritage Area, Australia' (EDO analysis), Appendix 5 to WWF and AMCS report to WHC. See also *EDO Qld and EDO NQ Submission on the Draft Coastal Zone Strategic Assessment Report*, p. 7, <http://www.edoqld.org.au/wp-content/uploads/2014/01/2014-01-31-EDO-Qld-and-EDO-NQ-Joint-Submission-on-the-Draft-GBR-Coastal-Zone-SA-Program-Report.pdf> (accessed 7 August 2014); Capricorn Conservation Council, *Submission 27*, p. 2.

28 Cairns and Far North Environment Centre, *Submission 19, Attachment 5*, pp 10, 50; WWF and AMCS report to WHC and EDO analysis. See also, WWF-Australia and the Australian Marine Conservation Society, *Submission 23*, p. 9; *EDO Qld and EDO NQ Submission on the Draft Coastal Zone Strategic Assessment Report*, p. 14, <http://www.edoqld.org.au/wp-content/uploads/2014/01/2014-01-31-EDO-Qld-and-EDO-NQ-Joint-Submission-on-the-Draft-GBR-Coastal-Zone-SA-Program-Report.pdf> (accessed 7 August 2014).

29 Cairns and Far North Environment Centre, *Submission 19*, p. 6; WWF-Australia and the Australian Marine Conservation Society, *Submission 23*, p. 9; Alliance to Save Hinchinbrook, *Submission 37*, p. 2.

4.25 Offering a solution, Mr David Arthur proposed that Green Army participants should be deployed to restore vegetation on riverbanks and thereby minimise topsoil run-off via rivers into the Great Barrier Reef.³⁰

Management of the impacts of run-off caused by broad-scale land use

4.26 Activities, plans and programs have been designed to directly and indirectly abate the threats to the health of the Great Barrier Reef. Direct actions have targeted the symptoms of poor reef health by controlling outbreaks of crown-of-thorns starfish directly.³¹ Indirect actions have looked at combatting the root causes of poor reef health by trying to improve the quality of water that flows into the Great Barrier Reef from its catchments.

Direct control of outbreaks of crown-of-thorns starfish

4.27 Direct measures have been taken to control outbreaks of crown-of-thorns starfish. The Australian and Queensland Governments submitted that they are:

...addressing a key threat to the reef caused by destructive outbreaks of crown-of-thorns starfish. In late 2013, the Government allocated an extra \$1.1 million to support culling efforts. This adds to the more than \$7 million already committed to deal with the key threats.³²

4.28 The Australian Government recently implemented a culling program of crown-of-thorns starfish, with more than a quarter of a million starfish culled to April 2014. The process involved using a single injection causing an allergic reaction in the starfish which breaks it apart and causes it to die within 24 hours. Divers deployed by the local Association of Marine Park Tourism Operators in Cairns have found they can cull over 1000 crown-of-thorns starfish on a 40-minute dive. The culling has taken place in various parts of the Great Barrier Reef, including the area stretching from Cairns to Cooktown.³³

4.29 AIMS has conducted research into the effectiveness of direct control mechanisms on the total population levels of crown-of-thorns starfish. The research looked into interventions to control starfish numbers like culling programs, the introduction of specific diseases and the use of natural predators. Research has also been conducted into the life cycle of the crown-of-thorns starfish to better understand larvae ecology. Dr Oliver of AIMS told the committee that it was hoped that these

30 Mr David Arthur, *Submission 26*, p. 4.

31 Professor Terry Hughes, Director, ARC Centre of Excellence for Coral Reef Studies, James Cook University, *Committee Hansard*, 23 July 2014, p. 29; Mr David Arthur, *Submission 26*, p. 10; Appendix 2, Professor Terry Hughes, 'Crown of Thorns is a symptom of reef decline: let's address the cause', *The Conversation*, 3 October 2012, <http://theconversation.com/crown-of-thorns-is-a-symptom-of-reef-decline-lets-address-the-cause-9932>.

32 Australian and Queensland Governments, *Submission 34*, p. 8.

33 The Hon Greg Hunt and the Hon Warren Entsch, *Media Release*, '250,000 crown-of-thorns starfish culled', 22 April 2014, <http://www.environment.gov.au/minister/hunt/2014/pubs/mr20140422.pdf> (accessed 15 August 2014). See also Shipping Australia Limited, *Submission 3*, p. 4.

studies would lead to more accuracy in predicting future outbreaks and show ways that existing aggregations could be disrupted, such as through the use of pheromones.³⁴

4.30 Professor Hoegh-Guldberg cautioned that the task of 'trying to kill every last crown-of-thorns in outbreaks across the reef is enormous' and that solving the problem of crown-of-thorns should be 'all about dealing with the coastal water quality issue'.³⁵

Indirect measures designed to improve quality of water entering the reef

4.31 The *2013 Scientific Consensus Statement* acknowledged that there had been significant progress over the past four years towards better water quality through a greater scientific understanding and measurement of 'catchment to reef' processes and progress by the farming community towards improved land management practices. The improved land and agricultural management practices have been proven to reduce the run-off of suspended sediment, nutrients and pesticides. The reduction in sediment flows and consequential improvement in water quality help to improve ecosystem resilience to other pressures.³⁶

4.32 Submitters and witnesses also recognised the hard work of the agricultural sector in improving land management practices and the extent to which the sector has made financial contributions in cash and in-kind to mitigate the impacts on water quality.³⁷ Fertilizer Australia agreed that farm management practices can assist in the management of nutrients and ensure that run-off into waterways is minimised but argued that these measures must be established on a site-specific basis to be most effective, given the diverse range of soil types, use history and farming practices used in catchment areas.³⁸

34 Dr Jamie Oliver, Research Director, Australian Institute of Marine Science, *Committee Hansard*, 23 July 2014, p. 21–22.

35 Professor Ove Hoegh-Guldberg, *Committee Hansard*, 21 July 2014, p. 13. See also Mr David Arthur, *Submission 26*, p. 12; Appendix 2, Professor Terry Hughes, 'Crown of Thorns is a symptom of reef decline: let's address the cause', *The Conversation*, 3 October 2012, <http://theconversation.com/crown-of-thorns-is-a-symptom-of-reef-decline-lets-address-the-cause-9932>.

36 Reef Water Quality Protection Plan Secretariat, *2013 Scientific Consensus Statement: Land use impacts on Great Barrier Reef water quality and ecosystem condition*, p. 1, <http://www.reefplan.qld.gov.au/about/assets/scientific-consensus-statement-2013.pdf> (accessed 5 August 2014).

37 Cairns Local Marine Advisory Committee, *Submission 7*, p. 2; North Queensland Conservation Council, *Submission 30*, p. 2; Whitsunday Residents Against Dumping, *Submission 39*, p. 2. See also Capricorn Conservation Council, *Submission 27*, p. 18; Wildlife Preservation Society of Queensland, *Submission 33*, p. 3; Professor Peter Mumby, President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 4; Mr Tony Fontes, *Committee Hansard*, 21 July 2014, p. 4; Mrs Marie Vitelli, Policy Officer, AgForce Queensland, *Committee Hansard*, 21 July 2014, p. 40; Ms Ellen Roberts, Co-ordinator, Mackay Conservation Group, *Committee Hansard*, 22 July 2014, p. 20; Mr Michael McCabe, Coordinator, Capricorn Conservation Council, *Committee Hansard*, 22 July 2014, p. 35.

38 Fertilizer Australia Inc, *Submission 22*, p. 2.

4.33 Despite all the efforts made by the agricultural sector to improve land management practices, the committee notes that the improvements may not be enough to protect the overall health of the reef. The *Outlook Report 2014* explained that:

Significant investments in land management practices from 2009 to 2013 have resulted in a modelled 11 per cent reduction in the average annual suspended sediment load delivered to the Great Barrier Reef. However, there is likely to be a significant lag time before there are measurable and ecologically significant water quality improvements in the Region, with effects continuing for at least decades.³⁹

4.34 Further, the Environmental Defenders Office (Qld) stated that:

Even if all farmers adopted the [best management practices] it will not achieve sufficient reduction in the nitrogen load from cane farms to allow [Great Barrier Reef] recovery—the best available science says about 70 to 80% reduction is required. 100% adoption of the [best management practices] would reduce the nitrogen load by 14 – 30% which would be a substantial improvement.⁴⁰

4.35 The Wildlife Preservation Society of Queensland submitted that, although agricultural practices have had some impact on stemming the flow of nutrients, the potential cost of rehabilitation could be prohibitive. As noted, it would therefore be important to establish whether the current policies have not just had the effect of arresting the decline but managed to reverse the trend.⁴¹ The AIMS stated that research into this is currently underway.⁴²

4.36 Mr Josh Coates of the Cairns and Far North Environment Centre voiced concerns about the accuracy of some of the data coming from research. He stated:

The data that is used in our reef report card, for example, is very much based on modelling and there are some serious questions regarding the accuracy of that modelling. What I would like to see is more on-ground monitoring, actual recordings of things like erosion and pesticide loads,

39 GBRMPA, *Outlook Report 2014*, p. 50. See also WWF-Australia and the Australian Marine Conservation Society, *Submission 23*, p. 7; World Heritage Committee, *Mission Report of the Reactive Monitoring Mission to Great Barrier Reef 6th to 14th March 2012*, June 2012, p. 41, <http://whc.unesco.org/document/117104> (accessed 7 August 2014).

40 Cairns and Far North Environment Centre, *Submission 19, Attachment 5*, p. 45: EDO analysis. See also WWF-Australia and the Australian Marine Conservation Society, *Submission 23*, p. 8; Cairns and Far North Environment Centre, *Submission 19, Attachment 5*, pp 8, 44: WWF and AMCS report to WHC and EDO analysis; *EDO Qld and EDO NQ Submission on the Draft Coastal Zone Strategic Assessment Report*, p. 9, <http://www.edoqld.org.au/wp-content/uploads/2014/01/2014-01-31-EDO-Qld-and-EDO-NQ-Joint-Submission-on-the-Draft-GBR-Coastal-Zone-SA-Program-Report.pdf> (accessed 7 August 2014).

41 The Wildlife Preservation Society of Queensland, *Submission 33*, p. 3.

42 Australian Institute of Marine Science, *Submission 36*, p. 2.

rather than relying on modelling to determine the levels of impact and that those impacts are being addressed.⁴³

4.37 The Wildlife Preservation Society of Queensland also noted that without ongoing monitoring it would be impossible to determine the effectiveness of the management strategies and submitted that State and Commonwealth funding must be amended to allow for this ongoing monitoring.⁴⁴

Reef Water Quality Protection Plan

4.38 The 2013 *Reef Water Quality Protection Plan* (Reef Water Quality Plan) set targets for improved water quality and land management practices, identified management actions that could be taken to improve the quality of water entering the reef and outlined specific actions and deliverables to be completed by 2018. By 2018, the program aims for:

- at least a 50 per cent reduction in anthropogenic end-of-catchment dissolved inorganic nitrogen loads in priority areas;
- at least a 20 per cent reduction in anthropogenic end-of-catchment loads of sediment and particulate nutrients in priority areas; and
- at least a 60 per cent reduction in end-of-catchment pesticide loads in priority areas.⁴⁵

4.39 The Reef Water Quality Plan also required that best management practice systems be put in place for 90 per cent of sugarcane, horticulture, cropping and grazing lands located in priority areas, for a minimum of 70 per cent of late dry season groundcover on grazing lands, for an increase in the extent of riparian vegetation and for no further net loss in the extent of natural wetlands.⁴⁶

4.40 The ongoing success of the plan has been documented, with Australian and Queensland Governments submitting that 'the management changes and water quality improvements being implemented are having a positive impact on water quality across the Great Barrier Reef catchments'.⁴⁷

43 Mr Josh Coates, Marine Program Coordinator, Cairns and Far North Environment Centre, *Committee Hansard*, 23 July 2014, p. 16. See also Mrs Marie Vitelli, Policy Officer, AgForce Queensland, *Committee Hansard*, 21 July 2014, p. 43.

44 The Wildlife Preservation Society of Queensland, *Submission 33*, p. 3. See also Australian Institute of Marine Science, *Submission 36*, p. 4.

45 Australian and Queensland Governments, Reef Water Quality Protection Plan 2013: Securing the health and resilience of the Great Barrier Reef World Heritage Area and adjacent catchments, p. 20, <http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2013.pdf> (accessed 6 August 2014).

46 Australian and Queensland Governments, Reef Water Quality Protection Plan 2013: Securing the health and resilience of the Great Barrier Reef World Heritage Area and adjacent catchments, p. 20, <http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2013.pdf> (accessed 6 August 2014).

47 Australian and Queensland Governments, *Submission 34*, p. 18.

4.41 Mr Brian Bycroft, a water quality expert and former Assistant Director for the Water Quality Policy at the former Commonwealth Department of Sustainability, Environment, Water, Population and Communities, questioned whether the targets set by the Reef Water Quality Plan were sufficiently specific to achieve its overall goal of ensuring that by 2020 the quality of water entering the reef would have no detrimental impact on the health and resilience of the Great Barrier Reef.⁴⁸ Further, as sustainable load targets were not specifically defined, Mr Bycroft submitted that it would not be possible to properly target management actions to best achieve goals and that explicit load reduction targets should be introduced to reflect estimated sustainable loads.⁴⁹

4.42 Mr Bycroft also noted that management actions should be undertaken by reference to robust scientific evidence, not just based on best management practice, so as to ensure that actions are properly targeted. Further, current management strategies may need to be revised as they would require significant land use changes to properly achieve their goals.⁵⁰

4.43 The report to World Heritage Committee commissioned by WWF-Australia and the Australian Marine Conservation Society also suggested that a different approach may be needed. It stated:

While present management measures that are primarily tackling land based agricultural activities are likely to improve conditions for water quality...benefits are unlikely to be realised in the short to medium term...The underlying problem for management is that, due to the lowered resilience of the Reef's ecosystems and the likelihood that management actions will not catalyse immediate recovery of declined systems, halting and reversing the overall declining condition of the Reef won't be possible using current approaches. There is growing consensus that recovery of the Reef will require significant additional investments and a different approach than business as usual.⁵¹

Funding of land management programs

4.44 Submitters have acknowledged the reduction in funding to land management programs. The Australian Government's initial commitment of \$200 million over five years has been reduced to \$160 million, with \$40 million being diverted into the Reef

48 Brian Bycroft, *Submission 3*, p. 1. See also Conference of the Parties to the Convention on Biological Diversity, Tenth meeting, Nagoya, Japan, 18–29 October, Item 4.2 of the provisional agenda, UNEP/CBD/COP/10/9 18 July 2010, Target 8, p. 5.

49 Brian Bycroft, *Submission 3*, pp 1–2; WWF-Australia and the Australian Marine Conservation Society, *Submission 23*, p. 7. See also Cairns and Far North Environment Centre, *Submission 19, Attachment 5*, p. 6; WWF and AMCS report to WHC; WWF-Australia and the Australian Marine Conservation Society, *Submission 23*, p. 7.

50 Brian Bycroft, *Submission 3*, pp 1–3.

51 Cairns and Far North Environment Centre, *Submission 19, Attachment 5*, p. 8; WWF and AMCS report to WHC.

Trust program.⁵² It was also noted that, when taking into account the effects of inflation and the fact that a wider diversity of activities have been placed under the same budget, the amount of funding that can be put into land management programs has effectively been reduced.⁵³

4.45 The Australian Coral Reef Society acknowledged that programs to reduce agricultural run-off through improving land management practices have progressed well, even if they have not reached their targets, and therefore it would be disastrous to reduce the funding allocated to them.⁵⁴ The 2012 Mission Report of the World Heritage Committee also stated:

Considering the overarching importance of water quality to the [Great Barrier Reef's] health, it is indispensable that the current level of investment in measures to tackle this threat is maintained and the recent positive trends are sustained.⁵⁵

4.46 WWF-Australia and the Australian Marine Conservation Society noted that there was insufficient detail on how the funding commitment was to be invested, concluding that if this investment were simply placed into supporting industry-developed voluntary best management practice programs without any further regulation or standards it would be unlikely that the Reef Water Quality Plan would be able to reach its environmental targets.⁵⁶

4.47 The submission by Professor Hoegh-Guldberg stated that:

A cost effective prioritisation of management actions that explicitly considers the economic costs, feasibility, and biodiversity benefits of a range of marine and terrestrial management actions to identify priorities has not been done in the [Great Barrier Reef], and is urgently required if we want to spend the limited budget effectively.⁵⁷

Reef Trust

4.48 As previously noted, \$40 million has been allocated to the Reef Trust program. The Australian and Queensland Governments explained that the Reef Trust

52 Professor Hoegh-Guldberg, *Submission 6*, p. 9; Australian Coral Reef Society, *Submission 8*, p. 1; WWF-Australia and the Australian Marine Conservation Society, *Submission 23*, p. 8; see also, Cairns and Far North Environment Centre, *Submission 19, Attachment 5*, p. 8; WWF and AMCS report to WHC; Australian and Queensland Governments, *Submission 34*, pp 8, 18.

53 Australian Coral Reef Society, *Submission 8*, p. 1; Cairns and Far North Environment Centre, *Submission 19, Attachment 5*, p. 10; WWF and AMCS report to WHC.

54 Australian Coral Reef Society, *Submission 8*, p. 1; Professor Peter Mumby, President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 5.

55 World Heritage Committee, *Mission Report of the Reactive Monitoring Mission to Great Barrier Reef 6th to 14th March 2012*, June 2012, p. 4, <http://whc.unesco.org/document/117104> (accessed 7 August 2014).

56 Cairns and Far North Environment Centre, *Submission 19, Attachment 5*, p. 9; WWF and AMCS report to WHC.

57 Professor Hoegh-Guldberg, *Submission 6*, p. 9.

will provide funding for activities through a range of mechanisms. Funding will initially go to farmers and land managers to assist them to implement land management practices to improve water quality, and then go towards actions designed to control crown-of-thorns starfish outbreaks and reduce the incidence of new outbreaks. It will also fund programs to provide greater protection for threatened species.⁵⁸ The Reef Trust will eventually also provide funds to target site-specific threats to water quality such as urban sewage discharge.⁵⁹

4.49 Submitters and witnesses noted that funds derived from environmental offsets may be incorporated into the Reef Fund.⁶⁰ The Mackay Conservation Group were concerned that incorporating money from offsets into the Reef Trust may create a conflict of interest for GBRMPA. They submitted that management activities:

...should not be tied to offsets funding. They should be part of GBRMPA's regular budget. Such a practice just encourages GBRMPA to allow destructive projects and spend money on projects elsewhere which should have been funded through its budget not through offset funding.⁶¹

4.50 WWF-Australia and the Australian Marine Conservation Society recognised that the Reef Trust 'has good potential if it results in building a multi-billion dollar fund to invest in the actions that will bring the greatest bang for buck for [Great Barrier] Reef health', but remarked that the '[Australian] Government contribution is only \$40 million and [this] is merely a rebadging of existing [Great Barrier] Reef funding.'⁶²

The Great Barrier Reef Region Strategic Assessment

4.51 In order to target the ongoing effects of catchment run-off, the Great Barrier Reef Region Strategic Assessment Report recommended:

- the further promotion of improved land management practices, the development and implementation of more regionally based water quality improvement plans for the catchments;
- the development of stronger links between water quality improvement initiatives and actions designed to protect and restore inshore biodiversity;

58 Australian and Queensland Governments, *Submission 34*, p. 33; see also Department of the Environment, *Answers to questions on notice from public hearing on 21 July 2014*, p. 6.

59 Dr Kimberley Dripps, Deputy Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, p. 55.

60 Shipping Australia Limited, *Submission 3*, p. 6; Australian and Queensland Governments, *Submission 34*, p. 32; Mackay Conservation Group, *Submission 42*, p. 53; Dr Kimberley Dripps, Deputy Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, p. 55; Ms Ellen Roberts, Co-ordinator, Mackay Conservation Group, *Committee Hansard*, 22 July 2014, pp 20–21.

61 Mackay Conservation Group, *Submission 42*, p. 53; see also Ms Ellen Roberts, Co-ordinator, Mackay Conservation Group, *Committee Hansard*, 22 July 2014, pp 20–21.

62 WWF-Australia and the Australian Marine Conservation Society, *Submission 23*, p. 8.

- the expansion of the Reef Water Quality Plan to include other sources of pollutants, such as from urban and industrial activities; and
- the better application of water quality guidelines across the Great Barrier Reef.⁶³

4.52 Some submitters supported the recommendations to better coordinate water quality testing, to promote improved land management practices and to expand the focus of the Reef Water Quality Plan to non-agricultural sources of pollution.⁶⁴ The Cairns Local Marine Advisory Committee suggested that providing local government authorities with the necessary funding to improve sewage treatment infrastructure through programs like the Reef Water Quality Plan would ensure that in the future sewage is not dumped at sea but properly treated on land.⁶⁵ Property Rights Australia recommended that:

...more research be done into other causes of "plausible" runoff such as inefficient sewage systems, fertiliser from parks and gardens, heavy metals from tyre residue, erosion caused by urban development and the fallout from mining.⁶⁶

4.53 These site-specific activities are examined in the next section.

Further improvements

4.54 Some submitters claimed that the agricultural sector can still do more to better protect the health of the Great Barrier Reef ecology.⁶⁷ For example, the Cairns Local Marine Advisory Committee called for improved regulation and monitoring of chemical application and run-off by requiring farmers to register chemicals and the authorities should adopt random tests of compliance.⁶⁸ The Environmental Defenders Office (Qld) recommended that regulatory mechanisms should be improved by establishing better enforcement of activities causing the harm, a re-examination of

63 GBRMPA, *Great Barrier Reef Region Strategic Assessment, Strategic Assessment Report*, August 2014, p. 12–10, http://elibrary.gbrmpa.gov.au/jspui/bitstream/11017/2861/1/GBR%20Region%20SA_Strategic%20Assessment%20Report_FINAL.pdf (accessed 13 August 2014).

64 Cairns Local Marine Advisory Committee, *Submission 7*, p. 2; Cairns and Far North Environment Centre, *Submission 19, Attachment 3*, pp 5, 7.

65 Cairns Local Marine Advisory Committee, *Submission 7*, pp 2–3.

66 Property Rights Australia, *Submission 9*, pp 2–3.

67 See, for example, Cairns Local Marine Advisory Committee, *Submission 7*, p. 2; North Queensland Conservation Council, *Submission 30*, pp 2–3; Cairns and Far North Environment Centre, *Submission 19, Attachment 5*, pp 45–46: EDO analysis.

68 Cairns Local Marine Advisory Committee, *Submission 7*, p. 2.

application allowances and an extension of the current regulatory regimes to all industries and catchments.⁶⁹

4.55 AgForce Queensland disagreed, opining that the best way to change land management practices would be through creating an 'economic imperative', that is, by showing farmers that if they put certain land management practices in place it would increase their financial bottom line and, at the same time, deliver environmental outcomes. The committee also heard that the improvement of land management practices is an ongoing and evolving process that cannot be measured by reference to static points in time and therefore the discussion should focus on where the process is going rather than on what has happened in the past.⁷⁰

4.56 AgForce observed that a major component of reef science is undertaken remotely, using computer generated models. AgForce argued that this research method undermines the potential to build connections between scientists and land managers. It was recommended that there should be increased community involvement in regional monitoring of run-off as this could foster more community ownership and also a better understanding by scientists of the need to co-manage issues such as productivity, and economic and environmental outcomes.⁷¹

4.57 AgForce Queensland opined that the risk of sediment run-off from grazing is determined more by the condition of grazing land rather than by grazing management practices. AgForce supported the new practice of monitoring fractional ground cover as an indicator of the condition of grazing land. This practice was used by agricultural industry groups five years ago in research and development. It recommended that in the future reef science should be built on existing industry science to avoid 'reinventing the wheel'.⁷²

4.58 The *2013 Scientific Consensus Statement* suggested that, in addition to continuous improvement in land management practices, transformational changes in some farming technologies may also be necessary to reach the ultimate goal of 'no detrimental impact on the health and resilience of the reef'.⁷³

69 Cairns and Far North Environment Centre, *Submission 19, Attachment 5*, pp 45–46: EDO analysis. See also *EDO Qld and EDO NQ Submission on the Draft Coastal Zone Strategic Assessment Report*, p. 9, <http://www.edoqld.org.au/wp-content/uploads/2014/01/2014-01-31-EDO-Qld-and-EDO-NQ-Joint-Submission-on-the-Draft-GBR-Coastal-Zone-SA-Program-Report.pdf> (accessed 7 August 2014).

70 Mr Charles Burke, Chief Executive Officer, AgForce Queensland, *Committee Hansard*, 21 July 2014, pp 40, 42.

71 AgForce Queensland, *Submission 14*, p. 5. See also Mr Charles Burke, Chief Executive Officer, AgForce Queensland, *Committee Hansard*, 21 July 2014, p. 38.

72 AgForce Queensland, *Submission 14*, p. 7. See also Mr Charles Burke, Chief Executive Officer, AgForce Queensland, *Committee Hansard*, 21 July 2014, p. 39.

73 Reef Water Quality Protection Plan Secretariat, *2013 Scientific Consensus Statement: Land use impacts on Great Barrier Reef water quality and ecosystem condition*, p. 1, <http://www.reefplan.qld.gov.au/about/assets/scientific-consensus-statement-2013.pdf> (accessed 5 August 2014).

4.59 Fertilizer Australia suggested that changes to the type of fertiliser used may make a difference:

There are a number of commercially available products including nitrification inhibitors and controlled release technologies that have shown good results in other parts of the world. However they have a significant cost and have not been widely adopted in the [Great Barrier Reef] catchments.

Field research in the [Great Barrier Reef] catchments to better quantify the efficacy of these products in local conditions would provide valuable information to growers and policy makers about the technical potential and economic viability of these products.⁷⁴

Future impacts from large-scale development

4.60 The extent and nature of future development has been and will be directly and indirectly influenced by the assessment and approvals processes, which are discussed in Chapter 8. More specifically, some submitters and witnesses expressed concerns about proposals to develop Northern Australia, especially development that would result in large-scale land clearing, animal husbandry and diversion of existing hydrological flows.

The proposed development of Northern Australia

4.61 The Cairns and Far North Environment Centre submitted that the push to develop Northern Australia, including catchment areas, could pose a significant threat to the health of the Great Barrier Reef. The submission noted:

Approvals that result in large scale land clearing, damming of seasonal flow rivers and runoff from large agricultural and intensive animal husbandry concerns would pose a significant threat, not only to the current natural values of the [Great Barrier Reef], but its existence as an ecosystem in its current stable state...⁷⁵

4.62 As a consequence, the Cairns and Far North Environment Centre recommended that the approval of large-scale development of the Cape York Peninsula, or other catchments adjacent to the reef, should not be allowed to be fast-tracked; rather:

The precautionary principle must be applied, particularly in areas of limited scientific understanding of biodiversity and interactions of ecosystems that depend on each other (for example, reef and rainforest).⁷⁶

4.63 Professor Mumby of the Australian Coral Reef Society expressed similar concerns about the Queensland Government's plans to develop the Cape York area. He noted that development and economic opportunity are not inherently problematic,

74 Fertilizer Australia, *Submission 22*, p. 2.

75 Cairns and Far North Environment Centre, *Submission 19*, p. 6.

76 Cairns and Far North Environment Centre, *Submission 19*, p. 11.

but it is important to have a discussion about what they may mean to the future state of the Great Barrier Reef.⁷⁷

4.64 WWF-Australia and the Australian Marine Conservation Society submitted:

Significant agricultural and mining development in Cape York's eastern catchments is likely to cause significant adverse impacts to [the] northern section of the [Great Barrier Reef] unless appropriately controlled, yet the draft Cape York Regional Plan does not contain any provisions to ensure that adverse impacts to the [Great Barrier Reef] are avoided. These impacts could include increased sediment loads caused by vegetation clearing, water quality degradation caused by contaminated agricultural runoff and alteration of catchment hydrology caused by mining activities...it is essential that all development activities in Cape York's eastern catchments are strictly controlled to protect the northern section of the [Great Barrier Reef] by ensuring degradation which has occurred to the reefs central and southern sections is avoided.⁷⁸

4.65 The 2012 Mission Report of the World Heritage Committee also recommended strict adherence to the precautionary principle when assessing the potential impact of development. The report further commented:

An extension of the footprint of development outside of currently industrialized areas would clearly present a significant threat to the [outstanding universal value] and integrity of the property.⁷⁹

Impacts from non-agricultural activities

4.66 Site-specific activities have had broad-ranging direct and indirect impacts on the health of the Great Barrier Reef. The health of parts of the reef has been affected by the poor quality of water flowing into the reef as a result of:

- current mining activities and practices;
- legacy mines; and
- urban developments, including residential and tourism developments.

4.67 There have also been direct site-specific impacts to the health of the Great Barrier Reef stemming from:

- the construction of artificial dams, weirs, estuarine barriers and fishways; and
- challenges to the protection offered by national parks and other protected areas.

4.68 This section examines each of these issues in turn.

77 Professor Peter John Mumby, President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 5.

78 WWF-Australia and the Australian Marine Conservation Society, *Submission 23*, p. 15.

79 World Heritage Committee, *Mission Report of the Reactive Monitoring Mission to Great Barrier Reef 6th to 14th March 2012*, June 2012, pp 4, 8, <http://whc.unesco.org/document/117104> (accessed 7 August 2014).

Current mining activities and practices

4.69 The Queensland Resources Council explained that the resources sector is a significant contributor to the economic wealth and stability of Queensland and the nation. This contribution has indirectly helped fund environmental protection programs. Resource companies have also contributed directly to a broad range of environmental programs that have had direct or indirect benefits for the management and protection of the Great Barrier Reef.⁸⁰ However, these benefits are partially tainted by the impacts that the resources sector has had on the health of the Great Barrier Reef. The committee received evidence that examined the impacts of current mining activities and practices on the quality of water flowing into the reef from catchments.

4.70 The Australian and Queensland Governments submitted that:

The Queensland Government manages water quality impacts from mining and industrial operations primarily through the use of regulatory approvals...and by working in partnership with the resources sector to support continual improvement in on-site water management and disposal strategies.

The Queensland Government also requires that regulated structures such as tailings dams are designed, constructed, operated and maintained to a high engineering standard that reflects the environmental risk associated with the contents of the structure and local climate conditions.⁸¹

4.71 Despite these precautions, mining and industrial activities may have impacts on the quality of water entering the Great Barrier Reef. The 2012 Mission Report of the World Heritage Committee acknowledged that mining activities in the region's catchments do pose a risk of pollution and sedimentation of waterways draining into the Great Barrier Reef. However, mine discharges are not as significant a threat to the water quality of the Great Barrier Reef as nutrients and pesticides from agricultural sources, as shown by the fact that the catchments having the worst effects on water quality were not the main catchments impacted by mining.⁸²

4.72 This was reiterated by the *Outlook Report 2014*:

While the contribution of pollutants from terrestrial point source discharges, such as mining and industrial releases, sewage, wastewater and stormwater, is relatively small compared to diffuse pollutant sources, discharges can be locally significant.⁸³

80 Queensland Resources Council, *Submission 28*, pp 5–6; see also GBRMPA, *Outlook Report 2014*, p. 152.

81 Australian and Queensland Governments, *Submission 34*, pp 25–26.

82 World Heritage Committee, *Mission Report of the Reactive Monitoring Mission to Great Barrier Reef 6th to 14th March 2012*, June 2012, p. 42, <http://whc.unesco.org/document/117104> (accessed 7 August 2014).

83 GBRMPA, *Outlook Report 2014*, p. 168.

4.73 Submitters argued that the relative impacts of mining activities must still be taken into account due to the projected increase in resource extraction in the catchments and the possible cumulative effects of these activities. The potentially adverse impacts to the Great Barrier Reef include the release of toxic waste and legacy floodwaters into the river systems draining into the Great Barrier Reef, and the modification of catchment hydrology caused by diverting and damming watercourses and disturbing groundwater discharge areas.⁸⁴

4.74 Although the Capricorn Conservation Council called for better regulation of the extraction of resources, it noted that improvements have been made to some mining practices, such as water management. These improvements have resulted in 'fewer pit total flooding events and uncontrolled discharges, increased water quality monitoring and reporting, improved compliance regimes and agreed water quality standards'.⁸⁵

Queensland Nickel Yabulu Refinery

4.75 Previous activities of the Queensland Nickel Yabulu Refinery were brought to the attention of the committee. WWF-Australia submitted a report to the inquiry specifically examining the impacts on the Great Barrier Reef of mining activities by the Queensland Nickel Yabulu Refinery. The report noted that the refinery, located at Yabulu, has been operating since 1974, producing nickel and cobalt from imported laterite ore through leaching the ore in ammonium carbonate and then washing it in an ammonia solution. The waste streams of the process are passed through stills to remove some of the ammonia and carbon dioxide before being sent to, and stored in, an on-site tailings storage facility (TSF).⁸⁶

4.76 It was submitted that, historically, the excess wastewater from the TSF would be discharged via a pipeline, 1.8 kilometres into Halifax Bay. However, since 2004, a permit to discharge has been required. The refinery held a permit to maintain and then decommission the pipeline until 2013, but this permit did not allow for discharge through the pipeline.⁸⁷

4.77 WWF-Australia reported that in 2004, 2009 and 2010 the refinery requested permission to discharge via the pipeline, but permission was not granted. GBRMPA cited the refinery in 2009 and 2011 for unauthorised discharges in 2009 and 2011 but did not prosecute the infringements.⁸⁸

84 WWF-Australia and the Australian Marine Conservation Society, *Submission 23*, p. 10; Capricorn Conservation Council, *Submission 27*, pp 19–20; see also Save the Reef, *Submission 50*, p. 10.

85 Capricorn Conservation Council, *Submission 27*, p. 20; see also WWF-Australia and the Australian Marine Conservation Society, *Submission 23*, p. 10.

86 WWF-Australia, *Submission 24*, pp 2–4.

87 WWF-Australia, *Submission 24*, p. 4.

88 WWF-Australia, *Submission 24*, p. 4.

4.78 The WWF-Australia report explained that:

While the precise concentrations of contaminants within the TSF are currently unavailable, the contaminants known to be in the system...suggest that these ponds do represent a significant threat (if released) to the ecology of Halifax Bay (within the [Great Barrier Reef]) and the coastal area adjacent the Yabulu refinery. Acute toxicity effects aside, the unauthorised release in March-April 2011 equated to approximately 20% of the total nitrogen load released from the Burdekin catchment annually, the single largest source of inorganic nitrogen input to the [Great Barrier Reef]. This single release was more than twice the size of the reported gains achieved under the Reef Rescue and [the] Reef [Water Quality] Plan programs...⁸⁹

4.79 The Australian and Queensland Governments stated that the refinery had not been in contravention of the conditions of its development approval under the EPBC Act, which remains in force until 2031. However, a variety of compliance actions have been taken against the refinery by the Queensland Government since it began its operations. In 2013, the Queensland Government, taking into account community concerns, amended the environmental authority conditions attached to the refinery's development approval to require better water management and improved dam safety.⁹⁰ It was submitted that:

In April 2014, shortly after Cyclone Ita crossed the coast in the Townsville area, the tailings dams at the Yabulu Refinery reached capacity and water from the dams began flowing over the spillway. In response, the Yabulu Refinery ceased deposition of tailings material and initiated mitigation measures. The matter is being investigated by the Queensland Government and the GBRMPA. The Yabulu Refinery is required by the Queensland Government to increase the capacity of its tailings dams before the next wet season begins in late 2014.⁹¹

Legacy mines

4.80 Abandoned mines continue to pose a risk to the quality of water entering the reef from catchments. Many abandoned mines have been left in the same state as they were when mining activities ceased. WWF-Australia and the Australian Marine Conservation Society claimed that the uncontrolled release of contaminated water from abandoned mine sites has had adverse impacts on freshwater ecosystems that support and maintain the health of the Great Barrier Reef ecology. It was recommended that:

Due to the projected increase of mining and CSG development in [Great Barrier Reef] catchments, it is essential that all relevant legislation is strengthened to ensure that adverse impacts to the [Great Barrier Reef]

89 WWF-Australia, *Submission 24*, p. 11.

90 Australian and Queensland Governments, *Submission 34*, p. 25; see also Queensland Government, *Answers to written questions on notice*, pp 35-36.

91 Australian and Queensland Governments, *Submission 34*, p. 25.

potentially caused by mining and CSG development are avoided and minimised to greatest extent possible.⁹²

4.81 With regard to rehabilitation of legacy mines, the Capricorn Conservation Council noted that:

...there is little evidence of any success in rehabilitating the often sodic soils of the region to any state useful for productive agriculture or natural habitats and corridors.⁹³

4.82 Save the Reef suggested that no meaningful rehabilitation of land is currently carried out in Queensland because the program for rehabilitation of old mines was put on hold by the current Queensland Government. It was claimed that, as a result of this failure to rehabilitate legacy mines, contaminated run-off from tailings storage facilities is inevitable during heavy rainfall events, even if waters are routinely pumped out of these facilities. Similarly to WWF-Australia and the Australian Marine Conservation Society, Save the Reef called for more regulation of the resources industry.⁹⁴

4.83 The evidence of the Australian and Queensland Governments contradicted the submission of Save the Reef in part, stating:

The management of abandoned mines in Queensland is overseen by the Queensland Government through the Abandoned Mines Land Program. Abandoned mines are sites of former mining activity for which no individual, company or organisation is responsible.

The Abandoned Mines Land Program manages the public safety and environmental risks associated with abandoned mines.⁹⁵

Urban developments including residential and tourism developments

4.84 The committee heard that run-off from urban developments has had a detrimental effect on the quality of water that enters the Great Barrier Reef. The main issues raised were related to stormwater, sediment and nutrient run-off and the release of sewage into the Great Barrier Reef.

Urban run-off and sewage

4.85 In relation to planning and development approvals, the Australian and Queensland Governments submitted that water quality impacts from diffuse urban sources have been managed under the *State Planning Policy: State interest—water quality*. Under this policy, developers have been required to incorporate drainage and erosion and sediment controls during the construction phase and water sensitive urban

92 WWF-Australia and the Australian Marine Conservation Society, *Submission 23*, p. 10.

93 Capricorn Conservation Council, *Submission 27*, p. 20.

94 Save the Reef, *Submission 50*, p. 10.

95 Australian and Queensland Governments, *Submission 34*, p. 26. See also Queensland Department of Natural Resources and Mines, *Abandoned Mines Land Program*, <http://mines.industry.qld.gov.au/safety-and-health/abandoned-mine-lands-program.htm>.

design features to address ongoing stormwater, sediment and nutrient run-off controls after completion. The policy also:

...encourages continual improvement in on-site water management and disposal strategies by requiring best practice environmental management adapted for local climatic condition...The State Planning Policy also protects Great Barrier Reef wetlands by ensuring development is regulated to prevent the loss or degradation of wetland environmental values, and ensuring wetlands continue to function to protect water quality of receiving waters.⁹⁶

4.86 In contrast, the North Queensland Conservation Council stated:

Run-off from non-agricultural, in particular urban, activities would appear to be the blind spot when it comes to protecting the [Great Barrier] Reef.⁹⁷

4.87 WWF-Australia and the Australian Marine Conservation Society noted that key issues affecting the Great Barrier Reef include increased contaminated urban stormwater run-off, the capacity of existing sewage treatment plants to manage current and future pollution loads and whether tourism development located in the coastal zone would be able to avoid and minimise impacts caused by wastewater discharges, marine moorings, loss of critical coastal habitat and increased sedimentation resulting from the clearing of vegetation.⁹⁸

4.88 The North Queensland Conservation Council observed that the removal of vegetation from urban blocks remains uncontrolled, stormwater from urban settlements is free to drain directly into the waters of the Great Barrier Reef and plastic shopping bags are still being widely used. Although these sources of pollution may be relatively small when compared to some of the perceived main threats to the health of the Great Barrier Reef ecology, given that the majority of the population living in the reef catchments create the sources of pollution, they must be taken seriously.⁹⁹

4.89 The Whitsunday Residents Against Dumping raised concerns about the marine disposal of urban sewage.¹⁰⁰ This concern was reiterated by Property Rights Australia, which observed that 'if nitrogen is a major part of the problem then untreated urban sewage has to be part of the problem also'.¹⁰¹

4.90 General Electric highlighted that, as the population in catchment areas is projected to grow by 44 per cent over the next 17 years, the discharge of secondary-

96 Australian and Queensland Governments, *Submission 34*, p. 26.

97 North Queensland Conservation Council, *Submission 30*, p. 3.

98 WWF-Australia and the Australian Marine Conservation Society, *Submission 23*, pp 10–11. See also Capricorn Conservation Council, *Submission 27*, p. 19.

99 North Queensland Conservation Council, *Submission 30*, p. 3.

100 Whitsunday Residents Against Dumping, *Submission 39*, p. 2.

101 Property Rights Australia, *Submission 9*, p. 4.

treated sewage is likely to be an increasing issue for the water quality of the Great Barrier Reef.¹⁰²

4.91 General Electric observed that:

All coastal sewage treatment plants that discharge into the marine environment had been required by Queensland Government policy to meet the most stringent treatment standards (i.e. tertiary treatment) by 2010.¹⁰³

4.92 However, due to a discontinuation of funding programs, most of the funds for upgrading the sewage treatment plants had to come from local government rates, making it less economically viable for smaller communities to upgrade their secondary treatment processes to tertiary treatment. The company recommended that sewage plant upgrades by local authorities be considered for funding under Reef Trust and the Australian Government's National Stronger Regions Fund, making the upgrade process less financially onerous on the local communities.¹⁰⁴

4.93 The Alliance to Save Hinchinbrook submitted that the directions calling for a high ecological (ecologically sustainable) standard of installation and management of sewage should be upheld as, without this direction, lower standards would prevail, potentially causing problems for water quality in the future as the human population in catchments expands.¹⁰⁵

Sewage originating from vessels

4.94 With regard to sewage originating from vessels, the Alliance to Save Hinchinbrook observed that most marinas do not have waste disposal facilities, and those that do have these facilities do not allow the emptying of sewage from porta-potties and the like into their toilets. Therefore, where no waste disposal facilities are available, all sewage generated on board a vessel enters the Great Barrier Reef. The alliance went on to state:

The marine sewage regulations contain elaborate directions as to particle size and where macerated sewage can be dumped inside the Great Barrier Reef World Heritage Area. Quite clearly these regulations have little to do with ecological considerations, and much to do with aesthetic and human health considerations. Apart from those rare sites where there may be land-based facilities, the total amount of sewage going onto the [Great Barrier Reef], its value as nutrient and particle pollution, is exactly the same as before the regulations came into effect.¹⁰⁶

4.95 The Cairns Local Marine Advisory Committee submitted that it had been lobbying for some time for sewage pump-out facilities to service the large tourism and recreational fleet based in Cairns. The submission stated that:

102 General Electric, *Submission 29*, p. 1.

103 General Electric, *Submission 29*, p. 2.

104 General Electric, *Submission 29*, p. 2.

105 Alliance to Save Hinchinbrook, *Submission 37, Supplement 3, Attachment 2*, p. 5.

106 Alliance to Save Hinchinbrook, *Submission 37, Supplement 3, Attachment 2*, p. 9.

It is time to review the inconsistencies in state and federal legislation and fund the facilities required to ensure sewage is not dumped at sea, but properly treated on land.¹⁰⁷

Dams, weirs, estuarine barriers and artificial fishways

4.96 Capricorn Conservation Council submitted that ecological barriers and the consequential loss of river corridors and changes to water flows and quality will have consequences for the Great Barrier Reef. Capricorn Conservation Council also observed that dams, weirs and estuarine barriers have reduced the connectivity of river systems. This has affected migratory species, including fish and turtles. Although attempts have been made to create artificial fishways using fish lock systems, little is known about their effectiveness.¹⁰⁸ Dams and weirs also drown remnant riparian vegetation.¹⁰⁹

4.97 The *Outlook Report 2014* also acknowledged that:

...artificial barriers to river and estuarine flow...affect the natural hydrology of the catchment and those Great Barrier Reef species that move between freshwater habitats and the sea. Many marine and estuarine fish species use the freshwater systems for part of their life cycle and can be affected by changes in water flow and the presence of artificial barriers. Artificial barriers have [also] disrupted sediment supply to some beaches.¹¹⁰

The role of national parks and protected areas

4.98 National parks and 'no-go' zones for development play vital roles in protecting the health of the Great Barrier Reef. These areas provide numerous benefits to the overall health of the Great Barrier Reef by supporting a high level of biodiversity, providing a refuge to different species, helping to control flood waters, allowing for the discharge of groundwater and acting as a filter for nutrient rich waters. The modification of these areas may impact on their capacity to perform these functions and may also have significant effects on the feeding and reproductive habits of many marine species.¹¹¹

4.99 A report by the Environmental Defenders Office (Qld) noted that:

In the past year, the State Government introduced amendments to the [*Nature Conservation Act 1992* (Qld)] which weakened protection of

107 Cairns Local Marine Advisory Committee, *Submission 7*, pp 2–3.

108 Capricorn Conservation Council, *Submission 27*, p. 18.

109 Capricorn Conservation Council, *Submission 27*, p. 2.

110 GBRMPA, *Outlook Report 2014*, p. 166.

111 See GBRMPA, *Outlook Report 2014*, p. 166; WWF-Australia and Australian Marine Conservation Society, *Submission 23*, pp 14–15; Capricorn Conservation Council, *Submission 27*, p. 19; see also Keppel and Fitzroy Delta Alliance, *Submission 40*, p. 1.

protected areas, including the national parks and other protected areas in the [Great Barrier Reef] in Queensland's jurisdiction.¹¹²

4.100 The Cairns and Far North Environment Centre's submission raised concerns about allowing proposed activities such as 'emergency grazing' in national parks and national reserve system properties, as such activities could increase sediment and nutrient loads reaching the Great Barrier Reef.¹¹³

4.101 The *Outlook Report 2014* noted that clearing or modifying coastal habitats has had a significant effect on the feeding and reproductive habits of many marine species and has also diminished the number of dry season refuges of marine species. These activities have the potential to increase the volume and speed of freshwater flows in the future, especially when taking climate change into account.¹¹⁴

4.102 WWF-Australia and the Australian Marine Conservation Society cited that an estimated 70 to 90 per cent of coastal wetlands in the Great Barrier Reef catchment have been lost. It was submitted that:

It is critical that these remaining areas are protected from future developments and become 'no-go areas'.

Not only do wetlands buffer the impact of pollutants entering rivers, streams and the Great Barrier Reef, they also support a high level of biodiversity, provide flood control, groundwater discharge and water purification...¹¹⁵

4.103 The Environmental Defenders Office (Qld) recommended that:

More areas in, adjacent to and in the catchments of, the [Great Barrier Reef] should be classified as national parks and afforded the highest level of protection. Queensland and GBRMPA should develop a plan for increasing the protected area estate, including mapping of 'no-go' zones for development in the [Great Barrier Reef], its coastline and catchments.¹¹⁶

112 Cairns and Far North Environment Centre, *Submission 19, Attachment 5*, p. 46: EDO analysis. See also *EDO Qld and EDO NQ Submission on the Draft Coastal Zone Strategic Assessment Report*, p. 10, <http://www.edoqld.org.au/wp-content/uploads/2014/01/2014-01-31-EDO-Qld-and-EDO-NQ-Joint-Submission-on-the-Draft-GBR-Coastal-Zone-SA-Program-Report.pdf> (accessed 7 August 2014).

113 Cairns and Far North Environment Centre, *Submission 19*, p. 5.

114 GBRMPA, *Outlook Report 2014*, p. 166.

115 WWF-Australia and Australian Marine Conservation Society, *Submission 23*, pp 14–15.

116 Cairns and Far North Environment Centre, *Submission 19, Attachment 5*, p. 47: EDO analysis. See also *EDO Qld and EDO NQ Submission on the Draft Coastal Zone Strategic Assessment Report*, p. 11, <http://www.edoqld.org.au/wp-content/uploads/2014/01/2014-01-31-EDO-Qld-and-EDO-NQ-Joint-Submission-on-the-Draft-GBR-Coastal-Zone-SA-Program-Report.pdf> (accessed 7 August 2014).

Chapter 5

Managing ports in the Great Barrier Reef region

5.1 The terms of reference for this inquiry require the committee to examine the 'management of impacts of industrialisation of the Great Barrier Reef coastline, including dredging, offshore dumping, and industrial shipping'.¹ This chapter therefore focuses on the management of industrialisation of the Great Barrier Reef region, and in particular on issues relating to ports and dredging, including:

- a general overview of the concerns about industrial development including ports along the Great Barrier Reef;
- an overview of existing ports and proposed expansions and new ports in the Great Barrier Reef region, including the Queensland Ports Strategy; and
- an examination of the impacts of ports and the associated dredging and disposal of dredge spoil.

General overview of concerns

5.2 Many submitters and witnesses were concerned about 'unprecedented growth' in industrial activities in the Great Barrier Reef region, particularly port developments and the associated dredging and disposal of dredge spoil, which they suggested would increase pressure on the reef.² For example, Mr Richard Leck of WWF-Australia told the committee that 'the pace and scale of industrial development along the coast in the last few years is unprecedented in the reef's history'.³

5.3 Some submitters referred to a 'declaration by concerned scientists on industrial development of the Great Barrier Reef coast', signed by over 140 scientists in June 2013. The statement expressed concern about:

...the additional pressures that will be exerted by expansion of coastal ports and industrial development accompanied by a projected near-doubling in shipping, major coastal reclamation works, large-scale seabed dredging and dredge spoil disposal—all either immediately adjacent to, or within the

1 Term of reference (a).

2 See, for example, Professor Hoegh-Guldberg, *Submission 6*, pp 1 and 2; CAFNEC, *Submission 19*, p. 3; Ms Felicity Wishart, Great Barrier Reef Campaign Director, Australian Marine Conservation Society, *Committee Hansard*, 21 July 2014, p. 15; Mr Richard Leck, National Manager, Marine Conservation and Sustainable Development, WWF-Australia, *Committee Hansard*, 21 July 2014, p. 18.

3 Mr Richard Leck, National Manager, Marine Conservation and Sustainable Development, WWF-Australia, *Committee Hansard*, 21 July 2014, p. 18.

Great Barrier Reef World Heritage Area. We believe these activities will exacerbate impacts upon an ecosystem already in decline.⁴

5.4 The statement called upon the Queensland and Australian Governments to, amongst other matters, restrict port developments to within existing major, long-established port areas until an agreed future coastal development strategy for the entire Great Barrier Reef coastline is completed; require new development to minimise its industrial footprint through efficient sharing of infrastructure; and improve all aspects of the management of shipping through the World Heritage Area to ensure maximum environmental protection.⁵

5.5 Professor Hoegh-Guldberg told the committee that the Great Barrier Reef is 'now under serious threat due to the increasing and competing uses and the cumulative impacts' of activities, including:

...dredging, offshore dumping of dredging spoils, and international shipping, all of which further contribute to the problems that Queensland is facing with respect to the health of its [Great Barrier Reef]...it is absolutely vital that disturbances to catchments along the Queensland coastline are being decreased as opposed to being increased.⁶

5.6 He further suggested that recent port developments and expansions have sent the wrong message to the world on the management of the reef:

They suddenly got a message that said that we were not really the best marine park managers in the world and doing the best for the Great Barrier Reef, that we were cutting corners...there is a real risk that we could get to a point where the Great Barrier Reef is listed as World Heritage in danger.⁷

5.7 Professor Terry Hughes told the committee that 'if Australia does not adequately address the issue of poor governance of ports and its energy policy, I believe UNESCO will put the [Great] Barrier Reef on the endangered list'.⁸

Response to concerns from ports and related industry groups

5.8 In contrast, ports and related industry groups suggested that their impact is relatively minor, that they are highly regulated and are strongly committed to environmental sustainability.⁹

4 *Declaration by concerned scientists on industrial development of the Great Barrier Reef coast*, June 2013, p. 1, http://www.australiancoralreefsociety.org/c/document_library/get_file?uuid=fbae2bca-0dc2-41e3-b4b3-16a269ad8e5d&groupId=10136 (accessed 7 August 2014); referred to, for example, by Whitsunday Charter Boat Industry Association, *Submission 46*, p. 5; CAFNEC, *Submission 19*, p. 3; Mr Tony Brown, Whitsunday Charter Boat Industry Association, *Committee Hansard*, 22 July 2014, p. 9.

5 *Declaration by concerned scientists on industrial development of the Great Barrier Reef coast*, June 2013, p. 1.

6 Professor Hoegh-Guldberg, *Submission 6*, pp 1 and 2.

7 Professor Ove Hoegh-Guldberg, *Committee Hansard*, 21 July 2014, p. 10.

8 Professor Terry Hughes, *Committee Hansard*, 23 July 2014, p. 30.

5.9 For example, Ports Australia submitted that 'claims around the environmental impacts of dredging and shipping in Queensland ports have been exaggerated whereas scientific research has indicated that the impacts are at a low or minimal level...port developments and shipping activities are not recognised as the primary impacts upon the Reef'.¹⁰ Mr Anderson from Ports Australia told the committee that port developments are undertaken with a 'highly precautionary approach' and that:

...the science tells us that ports are not a significant contributor to the damage to the reef such as it has occurred.¹¹

5.10 Mr Chris McCombe from the Minerals Council of Australia similarly told the committee that:

...current debate on management of the Great Barrier Reef is disproportionately focused on what are already highly regulated activities and not the recognised major drivers of decline. Whilst it is entirely appropriate that these activities are tightly managed and continually improved in line with the science, it is important to ensure that government, industry and community efforts are proportionally directed towards addressing the priority threats to the outstanding universal value of the reef.¹²

5.11 Ports Australia further submitted that:

...port development can and must be permitted to continue in an environmentally responsible manner whilst ensuring that the Outstanding Universal Value of the World Heritage Area is protected together with the values of the Great Barrier Reef Marine Park.¹³

5.12 Ports North similarly submitted that it strongly believes that 'port operations and growth can continue whilst ensuring important environmental values are protected'. It suggested that they 'have a long and successful history of responsible, well managed operations near areas of high conservation value', as well as a strong commitment to ensuring the 'long term capacity of natural values in and surrounding port areas are appropriately conserved and protected'.¹⁴

9 See, for example, Mr Chris McCombe, Assistant Director, Environmental Policy, Minerals Council of Australia, *Committee Hansard*, 21 July 2014, p. 31; Ports Australia, *Submission 11*, p. 2; Queensland Ports Association, *Submission 13*, p. 3.

10 Ports Australia, *Submission 11*, p. 2; see also Queensland Resources Council, *Submission 28*, p. 7.

11 Mr David Anderson, Chief Executive Officer, Ports Australia, *Committee Hansard*, 21 July 2014, pp 23 and 27.

12 Mr Chris McCombe, Assistant Director, Environmental Policy, Minerals Council of Australia, *Committee Hansard*, 21 July 2014, p. 31; see also Minerals Council of Australia, *Submission 35*, pp 7 and 8.

13 Ports Australia, *Submission 11*, p. 3 and see also Mr David Anderson, Chief Executive Officer, Ports Australia, *Committee Hansard*, 21 July 2014, p. 22.

14 Ports North, *Submission 12*, p. 1.

5.13 The Queensland Ports Association similarly emphasised that its members 'are strongly committed to environmental sustainability and ensuring that the World Heritage values in and surrounding port areas are conserved and protected'.¹⁵

5.14 Industry groups also emphasised that 'oil drilling, mining and exploration' have been prohibited in the Great Barrier Reef region since the *Great Barrier Reef Marine Park Act 1975* came into force.¹⁶

5.15 Dr Russell Reichelt of GBRMPA noted that ports have had a lot of focus, and told the committee that governments have endorsed the notion of 'fewer, better managed ports is a better way'. He described the Queensland Ports Strategy, which 'restricts the expansion of new ports' as 'a positive step'. He further noted that there are opportunities to 'improve technologies and to restrict the footprint of ports further'.¹⁷

Ports in the Great Barrier Reef region

5.16 This section outlines the existing ports in the Great Barrier Reef region, the proposed expansions, and the Queensland Ports Strategy. As the *Outlook Report 2014* states:

Port activities in and adjacent to the Region are increasing and there are proposals for further expansions, including new capital works and continuing or increasing dredging in the coming decade. The direct and flow-on effects of port activities generally occur in areas of the Region that are already under pressure from an accumulation of impacts. Understanding of the ecosystem effects of port activities, in particular the fate of dredge material disposed at sea, is still incomplete but improving. While the effects of port activities are significant, they are relatively more localised than the broadscale impacts from land-based run-off.¹⁸

5.17 The *Outlook Report 2014* also states that:

The significantly elevated number of port development proposals in the Region has accentuated concerns, both in Australia and internationally, about the likely future impacts of ports and port activities on the Region. Although some of the proposed port developments had the potential to threaten the Region's ecological processes and integrity, it is pertinent to recognise that to date port developments have not resulted in any significant, widespread deterioration of the Region. Some localised effects are recognised, for example at dredging and marine disposal sites.¹⁹

15 Queensland Ports Association, *Submission 13*, p. 3.

16 See, for example, Shipping Australia, *Submission 3*, p. 4; Queensland Resources Council, *Submission 28*, p. 5.

17 Dr Russell Reichelt, Chairman and Chief Executive, GBRMPA, *Committee Hansard*, 23 July 2014, p. 52.

18 GBRMPA, *Outlook Report 2014*, p. vi.

19 GBRMPA, *Outlook Report 2014*, p. 205.

Existing ports in the Great Barrier Reef region

5.18 There are currently 12 ports in or adjacent to the Great Barrier Reef region. The *Outlook Report 2014* states that Gladstone, Hay Point, Townsville and Cairns are the busiest ports in relation to commercial vessel visits. In terms of infrastructure and operational capacity, the largest ports are Abbot Point, Gladstone, Hay Point and Townsville. The Gladstone, Abbot Point and Hay Point ports are major hubs for the export of coal. Hay Point is one of the largest coal export terminals in world.²⁰

Economic importance of ports and shipping in the Great Barrier Reef region

5.19 Industry groups highlighted the importance and value of ports and shipping in the Great Barrier Reef region. Ports Australia noted that 'Australia's seaborne trade is worth about 97% of our total trade in goods'.²¹

5.20 Ports Australia further noted that Australia, as an island-trading nation, is 'reliant on seaports for linkages to global markets' and identifies shipping as 'the most environmentally efficient form of bulk transportation'.²² Ports Australia submitted that:

...Australia's shipping channels are key pieces of national economic infrastructure and like our road and rail networks need to be maintained and developed to support the competitiveness of our economy...a substantial portion of Australia's GDP is generated by our seaborne trade with direct implications for Australian industries and jobs.²³

5.21 Mr Michael Roche, Chief Executive of the Queensland Resources Council, told the committee that exports worth around \$40 billion per year are moved through the ports along the Great Barrier Reef.²⁴

5.22 The *Outlook Report 2014* notes that, for all Queensland ports combined, coal makes up 63 per cent of the throughput volume, petroleum six per cent, and metals and minerals five per cent. Other commodities include agricultural products and general cargo. Ports in or adjacent to the Great Barrier Reef Region account for 76 per cent of the total throughput for all Queensland ports combined.²⁵

20 GBRMPA, *Outlook Report 2014*, p. 129; see also GBRMPA, *Ports and Shipping Information Sheet: Ports in the Great Barrier Reef*, p. 2, http://www.gbrmpa.gov.au/_data/assets/pdf_file/0009/28809/Ports-in-the-Great-Barrier-Reef.pdf (accessed 11 July 2014).

21 Ports Australia, *Submission 11*, p. 1.

22 Ports Australia, *Submission 11*, Attachment 1, p. 59; see also Queensland Ports Association, *Submission 13*, p. 2.

23 Ports Australia, *Submission 11*, p. 3 and Attachment 1; see also Mr David Anderson, Chief Executive Officer, Ports Australia, *Committee Hansard*, 21 July 2014, p. 22.

24 Mr Michael Roche, Chief Executive, Queensland Resources Council, *Committee Hansard*, 21 July 2014, p. 30; see also Queensland Resources Council, *Submission 28*, p. 5; Mr David Anderson, Chief Executive Officer, Ports Australia, *Committee Hansard*, 21 July 2014, p. 22.

25 GBRMPA, *Outlook Report 2014*, p. 129.

5.23 Queensland Ports Association similarly submitted that ports adjacent to the Great Barrier Reef support the four key pillars of the Queensland economy: the resources, agriculture, tourism and construction sectors. The Association emphasised that ports in the Great Barrier Reef region:

...contribute significantly to the underlying economic well-being and social infrastructure of Queensland by supporting thousands of jobs.²⁶

5.24 Shipping Australia also emphasised the importance of shipping routes through the reef from an economic perspective, submitting that 'there is no doubt that routine ship access to Queensland ports via the Great Barrier Reef is crucial to Australia's economic future'.²⁷ Shipping Australia further submitted that:

Australia's economy is dependent on shipping to export vast volumes of bulk cargo from ports located around Australia including the eastern seaboard, which require vessels to transit the Great Barrier Reef (GBR) and Torres Strait. Unreasonable restrictions placed on shipping, which increase cost and reduce reliability of the supply chain, will no doubt lead to overseas consumers sourcing their products from other countries. This would be severely damaging to Queensland's and Australia's economies and reduce the national resources available to monitor and protect the Great Barrier Reef.²⁸

5.25 Shipping Australia submitted that the Great Barrier Reef 'is one of the most closely managed marine areas in the world and already sets the example for effective multi-use management of a particular sensitive sea area'.²⁹

Proposed port expansions

5.26 There has been a 'major growth in port activity' on the Great Barrier Reef regions over the past two decades. Many of the existing 12 commercial ports in the region have active proposals for port expansions, including, for example, Cairns, Townsville, Hay Point and Gladstone.³⁰ In December 2013, the Minister for the Environment also approved four projects at Abbot Point and the Port of Gladstone. These are outlined in further detail in the next chapter.

5.27 However, Mr Anderson of Ports Australia told the committee that 'there has been no explosion in port development'.³¹ Mr Kaveney of Queensland Ports Association agreed that there is no 'rapid expansion of port development'. The

26 Queensland Ports Association, *Submission 13*, p. 1.

27 Shipping Australia, *Submission 3*, p. 1.

28 Shipping Australia, *Submission 3*, p. 2.

29 Shipping Australia, *Submission 3*, p. 3.

30 GBRMPA, *Outlook Report 2014*, p. 129; see also GBRMPA, *Answers to questions taken on notice at hearing on 21 July 2014*, pp 11–12, 14–15; GBRMPA, *Great Barrier Reef Region Strategic Assessment, Strategic Assessment Report*, August 2013, p. 5–24.

31 Mr David Anderson, Chief Executive Officer, Ports Australia, *Committee Hansard*, 21 July 2014, p. 24.

Queensland Resources Council further advised that 'a large number of publicly announced projects do not proceed to construction or completion': of 25 port-related projects referred under the EPBC Act, only five have been approved, nine have been withdrawn and none have commenced.³²

5.28 Shipping Australia submitted its support for current and proposed port developments in the Great Barrier Reef region and suggested that 'dredging and offshore dumping are subject to very strict environmental conditions'.³³ Shipping Australia further submitted that:

...port areas should be excluded from the World Heritage Area as their core purpose is industrial and inconsistent with absolute conservation. That being said, their conservation achievements in concert with recent developments have been commendable.³⁴

Port capacity issues

5.29 Some submissions queried the need to expand existing ports, arguing that Queensland ports are operating at below capacity. For example, WWF-Australia and AMCS submitted that 'it is crucial that there is an optimisation of existing port capacity prior to further expansions'. They referred to reports showing that 'existing coal ports are operating at 65 per cent of capacity'.³⁵

5.30 This issue was also identified in the GBRMPA Region Strategic Assessment Report, which noted that the three major coal ports (Hay Point, Gladstone and Abbot Point) operated at only 52 per cent of their combined capacity in 2011–12 and that 'the total capacity of planned infrastructure projects progressing through the approval process exceeds the projected volumes of commodity exports out to 2025'. At the same time, the report noted that 'a lower than expected ability to make use of this capacity was identified as a key risk' and that 'further capacity expansion may be required to compensate for the lack of consistent throughput'.³⁶

5.31 In contrast, Mr Michael Roche of the Queensland Resources Council told the committee that there is 'very little latent capacity' in Queensland Ports 'under the

32 Queensland Resources Council, *Submission 28*, p. 7; see also Mr Thomas Kaveney, Environmental Policy Advisor, Queensland Ports Association, *Committee Hansard*, 21 July 2014, p. 26.

33 Shipping Australia, *Submission 3*, p. 2.

34 Shipping Australia, *Submission 3*, p. 6.

35 WWF-Australia and AMCS; *Submission 23*, p. 2; see also Mr Richard Leck, National Manager, Marine Conservation and Sustainable Development, WWF-Australia, *Committee Hansard*, 21 July 2014, p. 21; Mr Michael McCabe, Coordinator, Capricorn Conservation Council, *Committee Hansard*, 22 July 2014, p. 33; Ms Ginny Gerlach, Director and Coordinator, Keppel and Fitzroy Delta Alliance, *Committee Hansard*, 22 July 2014, p. 38; Mr Allen Grundy, Director, Southern Cross Sailing Adventures, *Committee Hansard*, 22 July 2014, p. 42.

36 GBRMPA, *Great Barrier Reef Region Strategic Assessment: Strategic Assessment Report*, August 2014, p. 5–24. Note that capacity issues at Abbot Point are discussed further in the next chapter.

anticipated growth rates' and that 'our industry does not build *Field of Dreams* ports. The ports are developed in anticipation of a need'. He suggested that 'industry will make a judgement about whether and when further expansions are required to meet demand'.³⁷

5.32 Mr Anderson from Ports Australia agreed that:

People are not going to make investments, and the private sector certainly is not going to make investments, in increased port capacity unless they have reasonable surety of contracts and supply.³⁸

5.33 Mr Kaveney from the Queensland Ports Association also explained that 'terminals never run at that 100 per cent' and that there are 'a range of other factors that affect the ability to get product through the terminal, and that includes supply chain issues and climate conditions'. He suggested that around 75 to 85 per cent of terminal capacity is what is achievable.³⁹

5.34 The Department of the Environment similarly advised that 'the actual capacity of port infrastructure is dependent on many factors, including maintenance shutdowns and adverse weather'.⁴⁰

5.35 Mr Anderson from Ports Australia further noted that the Queensland Ports Strategy (discussed in further detail below) has 'generated a more rigorous conversation about supply chains and the utilisation and efficiency of our supply chains' and will create an 'impetus' to get the best out of our supply chains.⁴¹

New port proposals

5.36 The Australian and Queensland Governments submitted that:

Since 2011 no port developments or associated port infrastructure projects have been approved outside the existing and long-established major port areas within or adjoining the GBRWHA.⁴²

5.37 However, there are proposals for the development of new ports on previously undeveloped sites at Wongai (in Cape York) and Fitzroy Terminal (in the vicinity of

37 Mr Michael Roche, Chief Executive, Queensland Resources Council, *Committee Hansard*, 21 July 2014, pp 32 and 34.

38 Mr David Anderson, Chief Executive Officer, Ports Australia, *Committee Hansard*, 21 July 2014, p. 25.

39 Mr Thomas Kaveney, Environmental Policy Advisor, Queensland Ports Association, *Committee Hansard*, 21 July 2014, p. 25.

40 Department of the Environment, *Answers to written questions on notice*, p. 12.

41 Mr David Anderson, Chief Executive Officer, Ports Australia, *Committee Hansard*, 21 July 2014, p. 26.

42 Australian and Queensland Governments, *Submission 34*, p. 21.

Port Alma).⁴³ These are discussed briefly below. The company involved in a proposed development at Balaclava Island (near Curtis island, Gladstone) announced its withdrawal of the project in May 2013, citing, among other reasons, 'poor current market conditions', 'excess port capacity in Queensland' and 'specific shipping limitations'.⁴⁴

Fitzroy Delta

5.38 The Fitzroy River Delta⁴⁵ is the delta and coastal floodplain of the Fitzroy River downstream of the barrage in Rockhampton. It is listed as a nationally important wetland.⁴⁶ Ms Ginny Gerlach of the Keppel and Fitzroy Delta Alliance described the Fitzroy Delta as a 'unique and sensitive estuarine habitat' that 'requires urgent, long-term protection and definitive regulation that it is not included in the priority port development area of Gladstone'.⁴⁷ Mr Leck from WWF-Australia agreed that the Fitzroy Delta deserves listed protection as an area of high conservation value.⁴⁸

5.39 Some submissions and witnesses expressed concern about that status of a 'transshipping' proposal in the Fitzroy River Delta region.⁴⁹ Under the proposed Fitzroy Terminal Project, a coal export facility would be developed and operated at Port Alma. The coal would be transported onto export vessels via covered barges and

43 GBRMPA, *Ports and Shipping Information Sheet: Ports—challenges for the Great Barrier Reef*, p. 4, http://www.gbrmpa.gov.au/_data/assets/pdf_file/0019/28810/Ports-challenges-for-the-Great-Barrier-Reef.pdf (accessed 11 July 2014); see also GBRMPA, *Outlook Report 2014*, p. 129.

44 Glencore Xstrata, 'Glencore Xstrata relinquishes Balaclava Island Coal Export Terminal (BICET) development', *Media release*, 13 May 2013, <http://www.glencore.com/assets/Uploads/media/glencore/2013/20130513-GlencoreXstrata-relinquishes-Balaclava-Island-Coal-Export-Terminal-development.pdf> (accessed 10 July 2014); see also Mr Dean Knudson, First Assistant Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, p. 51.

45 See Term of Reference (1)(a)(iii)

46 See further, Department of the Environment, 'Fitzroy River Delta – QLD012', *Directory of Important Wetlands in Australia – Information Sheet*, http://www.environment.gov.au/cgi-bin/wetlands/report.pl?smode=DOIW&doiw_refcodelist=QLD012 (accessed 6 August 2014).

47 Ms Ginny Gerlach, Director and Coordinator, Keppel and Fitzroy Delta Alliance, *Committee Hansard*, 22 July 2014, p. 35 and see also p. 37.

48 Mr Richard Leck, National Manager, Marine Conservation and Sustainable Development, WWF-Australia, *Committee Hansard*, 21 July 2014, pp 15 and 16; see also, for example, Mr Michael McCabe, Coordinator, Capricorn Conservation Council, *Committee Hansard*, 22 July 2014, p. 33; Ms Ginny Gerlach, Director and Coordinator, Keppel and Fitzroy Delta Alliance, *Committee Hansard*, 22 July 2014, pp 35 and 37.

49 WWF-Australia and AMCS, *Submission 23*, pp 2 and 6; Capricorn Conservation Council, *Submission 27*, p. 13; Keppel and Fitzroy Delta Alliance, *Submission 40*, Attachment 1, pp 4 and 24; Ms Felicity Wishart, Great Barrier Reef Campaign Director, AMCS, *Committee Hansard*, 21 July 2014, p. 15; Ms Ginny Gerlach, Director and Coordinator, Keppel and Fitzroy Delta Alliance, *Committee Hansard*, 22 July 2014, p. 35.

transshippers in open waters.⁵⁰ The committee heard that the proposal had lapsed under the Queensland process but was still active under the EPBC Act process.⁵¹

5.40 These submitters and witnesses expressed dismay that, despite GBRMPA's advice, the proposal had 'unacceptable high risks and should not have been referred', the proposed development has progressed to the stage of the development of Environmental Impact Statement.⁵² In answers to questions on notice, the Department of the Environment advised that 'the proponent is currently preparing a draft EIS [Environmental impact Statement]'.⁵³

5.41 There was some discussion as to how the Fitzroy Delta will be treated under the Queensland Ports Strategy (discussed further later in this chapter). For example, Mr Leck of WWF-Australia expressed concern that 'there is no explicit protection or measures given for the Fitzroy Delta' under the ports strategy.⁵⁴ Ms Wishart of AMCS noted that this was despite the fact that the Queensland Government 'gave undertakings to UNESCO recently that it would protect the Fitzroy Delta from such development in its ports strategy' and that it would not be part of a 'Priority Port Development Area' (PPDA) under the Queensland Ports Strategy.⁵⁵

5.42 However, representatives of the Queensland Government informed the committee that 'the boundaries of PPDA's will be determined at a later date'. There was initially no clear evidence as to whether Port Alma in the Fitzroy Delta would be considered part of a PPDA or not. Representatives of the Queensland Government told the committee that 'would be speculation', whereas a Commonwealth official told the committee that 'you would not expect it to be' since 'Port Alma is recognised as part of the port of Rockhampton'.⁵⁶ However, in response to written questions on this

50 See further EPBC Referral 2011/6069, http://www.environment.gov.au/cgi-bin/epbc/epbc_ap.pl?name=referral_detail&proposal_id=6069 (accessed 19 August 2014).

51 See, for example, Ms Ginny Gerlach, Director and Coordinator, Keppel and Fitzroy Delta Alliance, *Committee Hansard*, 22 July 2014, p. 35.

52 See, for example, Ms Felicity Wishart, Great Barrier Reef Campaign Director, Australian Marine Conservation Society, *Committee Hansard*, 21 July 2014, pp 15–16; WWF-Australia and AMCS; *Submission 23*, p. 6; Ms Ginny Gerlach, Director and Coordinator, Keppel and Fitzroy Delta Alliance, *Committee Hansard*, 22 July 2014, p. 35.

53 Department of the Environment, Queensland Government and GBRMPA, *Answers to questions on notice from public hearing on 21 July 2014*, p. 16.

54 Mr Richard Leck, National Manager, Marine Conservation and Sustainable Development, WWF-Australia, *Committee Hansard*, 21 July 2014, pp 18–19; see also Ms Ginny Gerlach, Director and Coordinator, Keppel and Fitzroy Delta Alliance, *Committee Hansard*, 22 July 2014, p. 36.

55 Ms Felicity Wishart, Great Barrier Reef Campaign Director, AMCS, *Committee Hansard*, 21 July 2014, p. 19; see also p. 16; WWF-Australia and AMCS, *Submission 23*, p. 6.

56 Mr Adrian Jeffreys, Executive Director, Environment Taskforce, Queensland Department of Environment and Heritage Protection and Dr Kimberley Dripps, Deputy Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, p. 61.

issue, the Queensland Government confirmed that 'Port Alma, also known as the Port of Rockhampton, will not be declared a PPDA'.⁵⁷

5.43 The Australian and Queensland Governments also submitted that the Queensland Ports Strategy 'will not seek to retrospectively prohibit projects that have been previously approved or proposals that have begun the environmental assessment and approval process'. They noted that the Fitzroy Terminal proposal has been referred to the Commonwealth under the EPBC Act, but had lapsed under the Queensland process in 2014. They noted that only the proponent has the ability to withdraw a proposal under EPBC Act assessment process, and 'to date has not elected to do so'.⁵⁸

Cape Melville and Bathurst Bay

5.44 The committee notes that its terms of reference refer to current and proposed developments in Cape Melville and Bathurst Bay. Cape Melville and Bathurst Bay are north-west of Cooktown on Cape York. There is a proposal currently undergoing assessment for the construction and operation of a new underground coal mine called the 'Wongai Project'. The proposed mine will extract 1.5 million tonnes of coal per annum, and also involves the transport of coal 'via a covered conveyor transport systems to a barge loading facility where it will be barged prior to loading onto ships for export to market'.⁵⁹

5.45 The Wongai Project is currently undergoing assessment under the EPBC Act, the *State Development and Public Works Organisation Act 1971* (Qld) and will also require a permit from GBRMPA under the GBRMP Act.⁶⁰

5.46 While the committee received little evidence on this project, it is noted that the GBRMPA website states that:

The Bathurst Bay and Princess Charlotte Bay areas are biologically significant areas for the Great Barrier Reef Marine Park and the Great Barrier Reef World Heritage Area. It is home to a number of threatened

57 Queensland Government, *Answers to written questions on notice*, p. 29.

58 Australian and Queensland Governments, *Submission 34*, p. 15; see also Department of the Environment, *Answers to written questions on notice*, p. 11.

59 See further Department of the Environment, EPBC Referral 2011/6092, http://www.environment.gov.au/cgi-bin/epbc/epbc_ap.pl?name=referral_detail&proposal_id=6092 (accessed 15 August 2014); GBRMPA, *Wongai underground coal mine project in Cape York*, <http://www.gbrmpa.gov.au/about-us/consultation/current-proposals-under-assessment/wongai-underground-coal-mine-project-in-cape-york> (accessed 15 August 2014).

60 Mr Dean Knudson, First Assistant Secretary, Department of the Environment, *Committee Hansard*, 21 July 2104, p. 51; see also GBRMPA, *Wongai underground coal mine project in Cape York*, <http://www.gbrmpa.gov.au/about-us/consultation/current-proposals-under-assessment/wongai-underground-coal-mine-project-in-cape-york> (accessed 15 August 2014).

and endangered species. It is also an area of significant cultural and heritage values associated with the Flinders Island group.⁶¹

5.47 Several submitters and witnesses referred to the Wongai Project in the context of concerns about the development of Northern Australia (as discussed in the previous chapter). WWF-Australia and AMCS commented that:

The Far Northern Section of the Great Barrier Reef is in good condition and the impacts from coastal development are very limited given the relatively intact condition of the coastal environments and catchments. It is important to maintain the integrity of this region by not allowing any new development in the Far Northern Area, This includes port development, including trans-shipping infrastructure in the Cape Melville and Bathurst Bay area.⁶²

5.48 Mr Josh Coates from CAFNEC told the committee that the Wongai Project was of particular concern to CAFNEC, as it would 'involve transshipping of coal in a particularly sensitive area of the Great Barrier Reef'.⁶³

5.49 Representatives of the Department of the Environment told the committee that an approval decision under the EPBC Act could be considered likely in the fourth quarter of 2015.⁶⁴

Queensland Ports Strategy

5.50 As noted in Chapter 2, the Queensland Government recently released the Queensland Ports Strategy, which outlines the Queensland Government's framework for port development over the next ten years. The strategy proposes a new Ports Act, to prohibit dredging within and adjoining the Great Barrier Reef World Heritage Area for the development of new, or the expansion of existing port facilities outside 'Priority Port Development Areas' (PPDAs) at Gladstone, Hay Point/Mackay, Abbot Point and Townsville, for the next ten years.⁶⁵

5.51 The Australian and Queensland Governments submitted that the Queensland Ports Strategy 'reflects the Queensland Government's commitment to protect pristine areas of the Great Barrier Reef from the impacts of port development'. However, at

61 GBRMPA, *Wongai underground coal mine project in Cape York*, <http://www.gbrmpa.gov.au/about-us/consultation/current-proposals-under-assessment/wongai-underground-coal-mine-project-in-cape-york> (accessed 15 August 2014).

62 WWF-Australia and AMCS; *Submission 23*, p. 6.

63 Mr Josh Coates, CAFNEC, *Committee Hansard*, 23 July 2014, p. 10; see also CAFNEC, *Submission 19*, p. 1.

64 Mr Dean Knudson, First Assistant Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, p. 51; see also GBRMPA, *Wongai underground coal mine project in Cape York*, <http://www.gbrmpa.gov.au/about-us/consultation/current-proposals-under-assessment/wongai-underground-coal-mine-project-in-cape-york> (accessed 15 August 2014).

65 Australian and Queensland Governments, *Submission 34*, p. 14; see also Queensland Government, *Queensland Ports Strategy 2014*, <http://www.dsdp.qld.gov.au/infrastructure-and-planning/queensland-ports-strategy.html> (accessed 8 July 2014).

the same time, they noted that the Strategy 'will not seek to retrospectively prohibit projects that have been previously approved' or proposals that have begun an environmental assessment process prior to the commencement of the Ports Act.⁶⁶

5.52 The Australian and Queensland Governments noted that the proposals (mentioned above) for the Fitzroy Terminal and the Wongai in Cape York have been referred, and as such are exempt from the Ports Strategy restrictions. However, they further noted that the Fitzroy Terminal proposal had lapsed under the Queensland process in 2014, but at this stage the proposal had not been withdrawn from the EPBC Act assessment process. In contrast, the Balaclava Island proposal has been withdrawn and will therefore be prohibited under the Queensland Ports Strategy.⁶⁷

Support for the Queensland Ports Strategy

5.53 Industry groups generally expressed support for the Queensland Ports Strategy.⁶⁸ For example, the Queensland Ports Association submitted that, through the Ports Strategy, the Queensland Government has 'responded appropriately' to the World Heritage Committee's request to restrict major port development to long-established port development areas within the Great Barrier Reef World Heritage Area.⁶⁹

5.54 Mr Anderson of Ports Australia also supported the Ports Strategy, noting that the Queensland Government will 'legislate the requirement of long-term master plans to be developed for each of the priority ports—each to be supported by an environmental management framework and committed to high values'.⁷⁰

5.55 Some submitters and witnesses noted that the World Heritage Committee has welcomed Australia's intention to focus port development to the 'Priority Port Development Areas' and the commitment to protect 'green-field' areas from the impacts of port development.⁷¹ Indeed, Mr Jon Black, Director-General of the Queensland Department of Environment and Heritage Protection, told the committee that 'the Queensland government made a very clear commitment to meeting the World Heritage Committee's desires' and the Queensland Ports Strategy reflects that commitment. In terms of the Priority Port Development Areas (PPDAs), the

66 Australian and Queensland Governments, *Submission 34*, p. 14.

67 Australian and Queensland Governments, *Submission 34*, p. 15.

68 See, for example, Mr Michael Roche, Chief Executive, Queensland Resources Council, *Committee Hansard*, 21 July 2014, p. 31; Mr David Anderson, Chief Executive Officer, *Ports Australia*, 21 July 2014, p. 23; Queensland Ports Association, *Submission 13*, p. 5; Queensland Resources Council, *Submission 28*, p. 9.

69 Queensland Ports Association, *Submission 13*, p. 5; see also Mr David Anderson, Chief Executive Officer, *Ports Australia*, 21 July 2014, p. 31.

70 Mr David Anderson, *Ports Australia*, *Committee Hansard*, 21 July 2014, p. 23.

71 UNESCO World Heritage Committee, Decision 38 COM 7B.63, 2014, p. 116; see also Shipping Australia, *Submission 3*, p. 7; Mr Michael Roche, Chief Executive, Queensland Resources Council, *Committee Hansard*, 21 July 2014, p. 33.

committee was advised that 'the boundaries of PPDAs will be determined at a later date', but that:

...there is a process that includes very, very rigorous public consultation on that process in terms of the definition of those areas and that is obviously a matter for the proponents to take forward.⁷²

5.56 In contrast, Mr Brodie told the committee that the World Heritage Committee wants the Australian and Queensland Governments to 'show some real action on better port governance, and that is just not happening'.⁷³

Criticisms of the Queensland Ports Strategy

5.57 Other submitters were critical of the Queensland Ports Strategy. WWF-Australia and AMCS suggested that it:

...would still allow for significant expansion in the footprint of port facilities within the port limits, a major increase in dredging and dumping, and the number of ships traversing the World Heritage Area.⁷⁴

5.58 CAFNEC agreed that the strategy still allows significant expansions of existing ports, describing the Queensland Ports Strategy as 'misleading'. CAFNEC further noted that most of the concerns 'regarding port expansion on the Great Barrier Reef are in response to significant expansion of existing port limits'.⁷⁵ For example, both CAFNEC and the Cairns Local Marine Advisory Committee expressed grave concerns about the proposed expansion of Cairns Port in Trinity Inlet 'to allow large cruise ships direct access to the city wharf'. This would involve capital dredging of up to five million cubic metres of potentially acid sulphate soils, followed by annual maintenance dredging of 580,000 cubic metres.⁷⁶

5.59 Mr Coates of CAFNEC suggested that there is an existing solution for cruise ships, whereby passengers are transferred to shore by smaller boat. He further explained that the Cairns port development proposal sits outside the Queensland Ports Strategy, and argued that this:

...is not in the spirit or the intent of the Queensland Ports Strategy and it does not fit within what the Queensland government is telling the

72 Mr Jon Black, Director-General, Queensland Department of Environment and Heritage Protection; see also Mr Adrian Jeffreys, Executive Director, Environment Taskforce, Queensland Department of Environment and Heritage Protection, *Committee Hansard*, 21 July 2014, pp 60–61.

73 Mr Jon Brodie, *Committee Hansard*, 23 July 2014, p. 27.

74 WWF-Australia and AMCS, *Submission 23*, p. 2.

75 CAFNEC, *Submission 19*, pp 4–5; see also Ms Ellen Roberts, Coordinator, Mackay Conservation Group, *Committee Hansard*, 22 July 2014, p. 16.

76 CAFNEC, *Submission 19*, p. 1; Cairns Local Marine Advisory Committee, *Submission 7*, p. 2; WWF and AMCS, *Submission 23*, p. 2; see also Mr Josh Coates, Marine Program Coordinator, CAFNEC, *Committee Hansard*, 23 July 2014, p. 9, 12–13.

international bodies like UNESCO...in restricting port expansions to those five priority port areas.⁷⁷

5.60 Both CAFNEC and WWF-Australia and AMCS further submitted that the Queensland Ports Strategy:

- contains very broad exemptions for projects which have already commenced to the planning stage (such as the Cairns and Fitzroy Terminal proposals);
- has a timeframe of only ten years, which is not in keeping with the Strategic Assessment and long-term sustainability plan timeline (which is out to 2050);
- is being completed before the Strategic Assessment and long-term sustainability plan are complete; and
- does not adequately deal with cumulative and combined impacts of port development.⁷⁸

5.61 Ms Wishart of the AMCS described the Queensland Ports Strategy as a 'serious failure':

We had high hopes that the government here in Queensland would increase protection but that is not the case. It is essentially business as usual...we had high hopes that we would see constraints around the ports and that we would see a commitment, for example, to no dredging and dumping in Cairns. But those things are not clearly outlined in the strategy.⁷⁹

5.62 In terms of timeframes, the Australian and Queensland Governments' submission noted that the ten-year timeframe:

...aligns with standard legislative review timeframes. The legislation is required to be reviewed within ten years. The review will determine whether the commitment is extended by the Queensland Government.⁸⁰

Impacts of ports, dredging and dredge spoil disposal

5.63 The *Outlook Report 2014* identifies the impacts of the installation, maintenance and operation of ports as including:

...clearing and modifying coastal habitats; disturbance, displacement, dredging, disposal and resuspension of dredge material; injury and death of wildlife; the risk of large and small chemical and oil spills; some contribution to marine debris; altered light regimes; and diminished

77 Mr Josh Coates, Marine Program Coordinator, CAFNEC, *Committee Hansard*, 23 July 2014, p. 15.

78 CAFNEC, *Submission 19*, pp 12–13; Mr Josh Coates, Marine Program Coordinator, CAFNEC, *Committee Hansard*, 23 July 2014, p. 10; see also WWF-Australia and AMCS, *Submission 23*, p. 2; Ms Ellen Roberts, Coordinator, Mackay Conservation Group, *Committee Hansard*, 22 July 2014, p. 21.

79 Ms Felicity Wishart, Great Barrier Reef Campaign Director, AMCS, *Committee Hansard*, 21 July 2014, p. 19; see also p. 16.

80 Australian and Queensland Governments, *Submission 34*, p. 14.

aesthetic values. Noise pollution associated with general port activities such as pile driving may be affecting marine life. However little is known of its effects in the Region.⁸¹

5.64 However, the key issue raised in evidence to the committee was the impacts of dredging and disposal of dredge spoil in the Great Barrier Reef region. This is discussed in further detail below.

Levels of dredging and disposal in the Great Barrier Reef region

5.65 A key concern with the proposed new ports and port expansions was the associated dredging and dredge spoil disposal. 'Dredging' involves:

...the extraction of parts of the seafloor (predominantly sand and fine silt, but also harder substrate such as rock) to deepen an area and allow increased access for navigation.⁸²

5.66 Both 'capital' dredging and 'maintenance' dredging were discussed during the committee's inquiry. The term 'capital' dredging refers to dredging undertaken to create, lengthen, widen or deepen channels, berth areas, swing basins, marinas and harbour areas. 'Maintenance' dredging is undertaken to ensure that previously dredged depths are maintained (that is, removing accumulated silt from the channel).⁸³

5.67 The *Outlook Report 2014* noted that between 2001 and 2013, the total volume of dredge material (from both capital and maintenance dredging) disposed in the Great Barrier Reef World Heritage Area was around 28 million cubic metres.⁸⁴ Dr Reichelt of GBRMPA advised that an average of around 1.2 million tonnes is disposed of each year within the Great Barrier Reef World Heritage Area.⁸⁵ The largest quantity of dredge material disposed in the Marine Park in a single campaign was 8.6 million cubic metres associated with the Port of Hay Point in 2006.⁸⁶ In January 2014, a proposal for Abbot Point was approved to dispose of three million cubic metres (discussed further in the next chapter).⁸⁷

81 GBRMPA, *Outlook Report 2014*, pp 130–131. Note that noise pollution is considered further in the discussion of the impacts of shipping elsewhere in this report (although the committee acknowledges that noise pollution is not just caused by shipping).

82 GBRMPA, *Great Barrier Reef Region Strategic Assessment: Strategic Assessment Report*, August 2014, p. 6–29.

83 GBRMPA, *Great Barrier Reef Region Strategic Assessment: Strategic Assessment Report*, August 2014, p. 6–29; see also Queensland Ports Association, *Submission 13*, p. 7 and Mr David Anderson, Chief Executive Officer, *Ports Australia*, 21 July 2014, p. 22.

84 GBRMPA, *Outlook Report 2014*, p. 129; see also GBRMPA, *Great Barrier Reef Region Strategic Assessment: Strategic Assessment Report*, August 2014, p. 6–30.

85 Dr Russell Reichelt, Chairman and Chief Executive, GBRMPA, *Committee Hansard*, 23 July 2014, p. 61.

86 GBRMPA, *Great Barrier Reef Region Strategic Assessment: Strategic Assessment Report*, August 2014, p. 6–30.

87 GBRMPA, *Outlook Report 2014*, p. 129.

5.68 In terms of future dredging and disposal projects currently under assessment, the *Outlook Report 2014* states that:

Proposals involving sea disposal [of dredge spoil] in the Great Barrier Reef World Heritage Area that are currently under assessment include (but are not limited to): Cairns shipping development project (five million cubic metres); Townsville port expansion (5.7 million cubic metres); and expansions of the Dudgeon Point coal port facility (up to 13 million cubic metres) and the Port of Gladstone (up to 12 million cubic metres).⁸⁸

5.69 WWF-Australia and AMCS expressed concern that if:

...all new port and port expansions go ahead there will be at least 70 million cubic metres of capital dredging required within the Great Barrier Reef World Heritage Area. At least 43 million cubic metres of this dredge material will be dumped back into the waters of the Great Barrier Reef World Heritage Area.⁸⁹

5.70 At the same time, Ports Australia submitted that dredging 'is not an indulgence but an economic imperative', since shipping channels are 'key pieces of national economic infrastructure and their capacity determines supply chain performance'.⁹⁰ Queensland Ports Association agreed that 'dredging is not an optional activity':

Few ports in the GBRWHA are naturally deep and dredging is needed to allow ships to enter ports efficiently, quickly and safely. Dredging is not an optional activity and has been an essential element of operating ports in the [Great Barrier Reef] for more than 100 years. Maintenance dredging as well as periodic enlarging and development of navigation channels is required to allow trade to occur and enable economic growth. All dredging and at sea placement activities are subject to detailed management measures to ensure impacts are effectively managed and do not result in unapproved impacts.⁹¹

88 GBRMPA, *Outlook Report 2014*, p. 130; see also GBRMPA, *Great Barrier Reef Region Strategic Assessment: Strategic Assessment Report*, August 2014, p. 6–29. Note that some of the exact disposal at sea volumes are yet to be determined: Department of the Environment, Queensland Government and GBRMPA, *Answers to questions on notice from public hearing on 21 July 2014*, pp 11–12.

89 WWF-Australia and AMCS, *Submission 23*, p. 2.

90 Ports Australia, *Submission 11*, p. 1; see also Mr David Anderson, Chief Executive Officer, Ports Australia, *Committee Hansard*, 21 July 2014, p. 22.

91 Queensland Ports Association, *Submission 13*, p. 7; see also Queensland Resources Council, *Submission 28*, pp 11–12.

Impacts of dredging and disposal of dredge spoil

5.71 The committee notes that the GBRMPA *Outlook Report 2014* rated dredging as a 'medium risk' and disposal of dredge material as 'high risk' to the health of the Great Barrier Reef.⁹²

Impacts of dredging

5.72 The Great Barrier Reef Region Strategic Assessment lists the impacts of dredging activities as: seabed disturbance; removal or modification of habitats; loss of, injury or mortality to species; changes to species behaviour; degradation of water quality, including increased turbidity; changes to hydrodynamics and coastal hydrology; increased underwater noise; and an increased risk of oil spills.⁹³ The *Outlook Report 2014* adds that:

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.⁹⁴

5.73 Professor Mumby of the Australian Coral Reef Society told the committee that until recently 'there has not been a real discussion about the actual impact of dredging' in the scientific community, but 'there has been a lot of speculation'.⁹⁵

5.74 Dr Reichelt of GBRMPA told the committee that 'there has been a lot of scientific and technical monitoring of dredging operations' and that 'there is no evidence that I am aware of that shows any impact in the short-term...within a five to 10 kilometre radius'.⁹⁶

5.75 Mr Jon Brodie referred to research indicating that 'dredging has large effects on coral and fish'.⁹⁷ In particular, several witnesses and submitters referred to a recent study which tied dredging to coral disease and coral mortality on the west coast of

92 GBRMPA, *Outlook Report 2014*, p. 256; see also Dr Russell Reichelt, Chairman and Chief Executive, GBRMPA, *Committee Hansard*, 23 July 2014, p. 52; Whitsunday Charter Boat Industry Association, *Submission 46*, p. 9.

93 GBRMPA, *Great Barrier Reef Region Strategic Assessment: Strategic Assessment Report*, August 2014, p. 6–30; see also GBRMPA, *Outlook Report 2014*, p. 131.

94 GBRMPA, *Outlook Report 2014*, p. 131.

95 Professor Peter Mumby, President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 3.

96 Dr Russell Reichelt, Chairman and Chief Executive, GBRMPA, *Committee Hansard*, 23 July 2014, p. 60.

97 Mr Jon Brodie, *Committee Hansard*, 23 July 2014, p. 27.

Australia.⁹⁸ Professor Pandolfi of the Australian Coral Reef Society told the committee that the study has direct implications for the Great Barrier Reef:

One might say, 'What does that have to do with us? The dredging was eight kilometres away from the reef. Is that really an issue for the Great Barrier Reef?' In fact, the Great Barrier Reef and all reef ecosystems share a tremendous amount of connectivity. The sediment plumes and the oceanography dictate that any resuspended sediments caused by dredging or run-off or any kinds of these issues will eventually make their way to the Great Barrier Reef. We even have evidence that these kinds of sediments are reaching the outer part of the Great Barrier Reef. If anybody wants to tell you that it has nothing to do with the Great Barrier Reef, I would like to state here quite unequivocally that it does.⁹⁹

5.76 Professor Mumby agreed that, due to this study, 'there is now unequivocal evidence that sediment from dredging can have a negative effect on coral reefs'.¹⁰⁰

5.77 However, in answers to questions on notice, the Department of the Environment advised that:

There are no past approvals or projects currently under assessment in the Great Barrier Reef that involve a dredging campaign over a similar timeframe and in close proximity to the reef, that would be considered comparable to the study.¹⁰¹

Impacts of disposal of dredge spoil

5.78 Once material is extracted from the seafloor during dredging, it requires disposal. Disposal sites may include ocean disposal sites, near-shore reclamation areas and land-based receiving facilities. Chapter 2 outlined the regulatory arrangements relating to 'sea dumping' in the Great Barrier Reef region. There was considerable discussion during the committee's inquiry of the extent to which all the impacts of the disposal of dredge spoil—direct and indirect, short and long term—are understood.

5.79 Industry groups suggested that the risks and impacts of dredging and its disposal are overstated and well understood. They also emphasised that dredged

98 FJ Pollock et al, 'Sediment and Turbidity Associated with Offshore Dredging Increase Coral Disease Prevalence on Nearby Reefs', July 2014, PLoS ONE 9(7), <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0102498> (accessed 20 August 2014). Note that this study is also discussed in relation to the Abbot Point case study in the next chapter.

99 Professor John Pandolfi, Councillor and Past President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 2; see also for example, Mr Tony Brown, President, Whitsunday Charter Boat Industry Association, *Committee Hansard*, 22 July 2014, p. 11.

100 Professor Peter Mumby, President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 3.

101 Department of the Environment, Queensland Government and GBRMPA, *Answers to questions on notice from public hearing on 21 July 2014*, p. 1.

material is subject to management measures and is never dumped on coral reefs or on habitats of high conservation value.¹⁰²

5.80 For example, Queensland Ports Association submitted its view that the draft Strategic Assessment 'significantly overstates the risks and impacts of dredging and dredge material placement at-sea'.¹⁰³ Queensland Ports Association submitted that impacts associated with 'dredging and dredge material placement in the [Great Barrier Reef] over recent years have been localised and short term', and that 'approaches to predicting such impacts are accurate and dredge management techniques effective'.¹⁰⁴ Queensland Ports Association further submitted that 'where some dispersal [of dredged material] does occur, monitoring studies have shown that this is limited and has not affected areas of high conservation value'.¹⁰⁵

5.81 Shipping Australia agreed that:

...claims of widespread and unintentional effects of many recent dredging projects in northern Australia are not supported by the results of extensive monitoring that has been carried out.¹⁰⁶

5.82 As noted earlier in this chapter, Ports Australia submitted that:

Claims around the environmental impacts of dredging and shipping in Queensland ports have been exaggerated whereas scientific research has indicated that the impacts are at a low or minimal level. We reiterate that port developments and shipping activities are not recognised as the primary impacts upon the Reef.¹⁰⁷

5.83 Mr Anderson from Ports Australia reiterated this during the committee's hearing, telling the committee that 'the impact of dredging on the reef is not significant' and that 'the sediment impacts from dredging are minor in comparison to those from river discharges and cyclones'.¹⁰⁸

5.84 Ports Australia also expressed its disappointment in the process for dredge management research adopted by GBRMPA as part of the Strategic Assessment (the role of GBRMPA and the Strategic Assessments are discussed in further detail in Chapter 8). Ports Australia also supplied a report, *Dredging and Australian Ports*, to 'bring factual information about the impacts of dredging which had been deliberately

102 See, for example, Queensland Ports Association, *Submission 13*, p. 7; Mr David Anderson, Chief Executive Officer, Ports Australia, *Committee Hansard*, 21 July 2014, p. 22; Queensland Resources Council, *Submission 28*, p. 11.

103 Queensland Ports Association, *Submission 13*, p. 10.

104 Queensland Ports Association, *Submission 13*, p. 7.

105 Queensland Ports Association, *Submission 13*, p. 7; see also Mr David Anderson, Chief Executive Officer, Ports Australia, *Committee Hansard*, 21 July 2014, p. 22.

106 Shipping Australia, *Submission 3*, pp 3–4.

107 Ports Australia, *Submission 11*, p. 2.

108 Mr David Anderson, Chief Executive Officer, *Ports Australia*, 21 July 2014, pp 22 and 25.

misrepresented by some groups, particularly in relation to impacts on the Great Barrier Reef'. Ports Australia emphasised that:

...the vast majority of dredging in northern Australian ports involves clean sediments and, where any toxic material are identified, it is disposed of on land not at sea'.¹⁰⁹

5.85 Ports Australia also suggested that ports put 'substantial effort and resources' into 'responsibly assessing and managing dredging projects to protect areas of high conservation value', and that they have 'a proven and positive record in relation to dredging and continually strive to ensure they adopt the latest dredging modelling and management techniques'.¹¹⁰

5.86 Ports Australia further described the legal framework around dredging as 'detailed and complex', and the *National Assessment Guidelines for Dredging* (as mentioned in Chapter 2) as 'internationally recognised as leading practice'.¹¹¹

5.87 Mr Kaveney from the Queensland Ports Association told the committee that 'the impacts that can occur from the placement of material in the marine environment are well understood and can be well managed'. In relation to dredging projects he told the committee that 'understanding what impacts can occur and how you might manage them is a well-developed science'. He further stated that most of the science shows that 'the disposal into the marine environment does not have significant impacts'.¹¹²

5.88 In contrast, many other submitters and witnesses argued that dredging and dredge spoil disposal can have adverse impacts, and identified a need for more information on the impacts of dredging and dredge spoil. For example, Professor Hughes told the committee that:

...the claim by the port authorities that they are having no impact on corals is simply not tenable. The issue here is that the monitoring required of dredging operations and port expansions is woefully inadequate, so there is a lack of information.¹¹³

5.89 CAFNEC submitted that there is 'insufficient scientific information on the effects of sediment dumping in or near coral reef and seagrass ecosystems' and that 'more studies on dredge spoil components and their individual, combined and cumulative impacts are needed prior to any more approvals'.¹¹⁴

109 Ports Australia, *Submission 11*, p. 2; see also Shipping Australia, *Submission 3*, pp 3–4; Queensland Ports Association, *Submission 13*, p. 8.

110 Ports Australia, *Submission 11*, p. 2.

111 Ports Australia, *Submission 11*, p. 3.

112 Mr Thomas Kaveney, Environmental Policy Advisor, Queensland Ports Association, *Committee Hansard*, 21 July 2014, pp 24–25.

113 Professor Terry Hughes, *Committee Hansard*, 23 July 2014, p. 29.

114 CAFNEC, *Submission 19*, pp 7 and 9; see also Mr Josh Coates, Marine Program Coordinator, CAFNEC, *Committee Hansard*, 23 July 2014, p. 10.

Decline in visibility in the Whitsundays

5.90 The committee also received anecdotal evidence, particularly from tourism operators in the Whitsunday region, querying whether dredging and dredge spoil disposal is impacting on water quality and reduced visibility in that area. For example, Mr Colin McKenzie, of the Association of Marine Park Tourism Operators (AMPTO), told the committee that 'we need more information' on this issue:

There has been a drop in visibility in the Whitsundays. The average visibility in 2006 was about 15 metres. The average visibility in 2007 dropped—and it was a very quick event—to less than nine metres and it has not recovered from that.¹¹⁵

5.91 He queried whether it had been caused by dredging at Hay Point in 2006:

The only major event that occurred in that time frame was in 2006 when we dredged Hay Point. A lot of people, particularly tourism operators within the Whitsundays, are concerned that that dredge spoil just continued to drift north and then we had a sudden and dramatic decline in visibility. The water still looks beautiful from the top—a nice blue and it looks pristine—but when you get into it and it is like trying to swim in milk.¹¹⁶

5.92 Similarly, Mr Tony Brown queried 'why is our water quality diminishing, compared to somewhere like Cairns, which has been stable? What is impacting our water quality that is not impacting the Cairns water, because it has had cyclones and flooding?'¹¹⁷

5.93 However, in response to questioning, Dr Reichelt of GBRMPA told the committee that it is difficult to distinguish the impacts of the Hay Point dredging from the impacts of flood events, but that 'the signal from the floods is much greater than the spatial extent of the dredging effects', although the Hay Point dredging 'would have added to that plume from the rivers'.¹¹⁸

5.94 In response to questioning on whether studies have been done regarding the impacts of the dredging and disposal at the Port of Hay Point in 2006, the Department of the Environment responded that the conditions of approval for the dredging and disposal included a range of 'before, during and after monitoring programs' which

115 Mr Colin McKenzie, Executive Director, AMPTO, *Committee Hansard*, 23 July 2014, p. 33; see also Mrs Jan Claxton, *Committee Hansard*, 22 July 2014, p. 3; Mr Tony Fontes, *Committee Hansard*, 22 July 2014, p. 4; Mr Allen Grundy, Director, Southern Cross Sailing Adventures, *Committee Hansard*, 22 July 2014, p. 41.

116 Mr Colin McKenzie, Executive Director, AMPTO, *Committee Hansard*, 23 July 2014, p. 33; see also Mrs Jan Claxton, *Committee Hansard*, 22 July 2014, p. 3; Mr Tony Fontes, *Committee Hansard*, 22 July 2014, p. 4; Mr Allen Grundy, Director, Southern Cross Sailing Adventures, *Committee Hansard*, 22 July 2014, p. 41; Whitsunday Residents Against Dumping, *Submission* 39, pp 3–4.

117 Mr Tony Brown, President, Whitsunday Charter Boat Industry Association, *Committee Hansard*, 23 July 2014, p. 13.

118 Dr Russell Reichelt, Chairman and Chief Executive, GBRMPA, *Committee Hansard*, 23 July 2014, p. 54 and p. 62.

'targeted water quality, inshore coral reefs, seagrass and benthic assemblages'. The department further advised that 'all dredging and disposal activities' permitted by GBRMPA since 2006 'have required monitoring and management of potential changes in water quality'.¹¹⁹

Movement of dredge spoil

5.95 However, many other witnesses and submitters also expressed concern about the potential movement and resuspension of dredge spoil. As Professor Peter Mumby told the committee, the concern is that 'the ocean is highly connected by ocean currents. Therefore, the major concern is that you can dump somewhere but they [the sediments] do not stay there, they move'.¹²⁰ For example, Mr Tony Brown of the Whitsunday Charter Boat Industry Association asked:

How long is sediment considered sediment before it becomes natural? How far does it travel? How long? When it gets resuspended through a weather event, is it sediment? Is it natural now or was it part of the dredge sediment. These are the questions that we keep going to and non-one can answer, because the fact is that studies have not been done to really understand that aspect.¹²¹

5.96 Similarly, Mr Jeremy Tager suggested that 'there is significant resuspension of sediments, from dredging and dumping and things such as storms and extreme events'.¹²² Ms Margaret Moorhouse similarly explained that the issue is that 'every time you dredge...you are re-suspending the solids and giving whatever is in them another life, another time to do damage and to be carried out further towards the outer reefs'.¹²³

5.97 In terms of the fate of sediments that are disposed offshore, Dr Reichelt of GBRMPA told the committee that there 'are some good scientific papers' which indicate that 'sediment does move but you are talking category 4 or category 5 cyclones to make it move'. He further noted that 'it becomes difficult to distinguish the sediments that have come from a one-off suspension by dredging versus all of the other active sediments'.¹²⁴

5.98 The committee notes that the *Outlook Report 2014* states that the 'major direct impacts of sea disposal include the burial or smothering of plants and animals on the sea floor, degradation of water quality, and loss and modification of habitats'. It also

119 Department of the Environment, *Answers to written questions on notice*, p. 5.

120 Professor Peter Mumby, President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 7.

121 Mr Tony Brown, President, Whitsunday Charter Boat Industry Association, *Committee Hansard*, 22 July 2014, p. 11.

122 Mr Jeremy Tager, *Committee Hansard*, 23 July 2014, p. 7.

123 Ms Margaret Moorhouse, Spokesperson, Alliance to Save Hinchinbrook, *Committee Hansard*, 23 July 2014, p. 17; see also, for example, CAFNEC, *Submission 19*, p. 3.

124 Dr Russell Reichelt, Chairman and Chief Executive, GBRMPA, *Committee Hansard*, 23 July 2014, p. 61.

notes that there is 'emerging evidence of a higher prevalence of coral disease in areas exposed to dredge material'. The *Outlook Report 2014* states that 'recent modelling suggests resuspended sediment could potentially travel considerably further than previously understood'. The *Outlook Report 2014* explains:

Dredging and disposal of dredge material can also remobilise, redistribute and resuspend sediments and nutrients that were otherwise held within seafloor sediments. Fine sediments can become resuspended over several years by wind and waves, contributing to increased turbidity.¹²⁵

5.99 The GBRMPA Region Strategic Assessment agreed that the 'effects of dredge disposal may be more widespread than previously understood':

Recent research indicates re-suspended dredge material may move over much greater distances from disposal sites than previously assumed. While the full extent of any effects on the Region's values is not well understood, uncertainty regarding the additional effects of sea dumping is a key concern, particularly given the potential for large volumes of proposed dredge material to be dumped and resuspended in areas of the Region already in poor condition.¹²⁶

5.100 The GBRMPA Region Strategic Assessment also identified a need to improve understanding of the effects of sea dumping, as well as modelling of dredge material movement.¹²⁷ The GBRMPA Region Strategic Assessment states that:

There is evidence that material disposed at existing dredge disposal grounds does not remain within the defined disposal area and that previous modelling of predicted sediment plumes may have significantly underestimated the dispersal and direction of sediments and thus the full extent and potential magnitude of potential impacts.¹²⁸

5.101 Dr Oliver of AIMS told the committee that 'we actually do not have very good data at all on the long-term fate of these dredged spoil disposal areas'.¹²⁹ AIMS noted that work on direct dredging impacts within the Great Barrier Reef Marine Park 'has been carried out to a high scientific standard and with expert peer review', but that:

The less direct impacts of spoil dumping and long-term dispersal of spoil material, and the cumulative impact of repeated dredging or multiple dredging in the region has received less attention...¹³⁰

125 GBRMPA, *Outlook Report 2014*, p. 131 and see also p. 50.

126 GBRMPA, *Great Barrier Reef Region Strategic Assessment: Strategic Assessment Report*, August 2014, p. 6–74.

127 GBRMPA, *Great Barrier Reef Region Strategic Assessment: Strategic Assessment Report*, August 2013, p. 6–40.

128 GBRMPA, *Great Barrier Reef Region Strategic Assessment: Strategic Assessment Report*, August 2014, p. 6–30.

129 Dr Jamie Oliver, Research Director, AIMS, *Committee Hansard*, 23 July 2014, p. 23.

130 AIMS, *Submission 36*, p. 2; see also, for example, CAFNEC, *Submission 19*, p. 9.

5.102 To deal with the 'uncertainties in the science associated with dredging', AIMS explained that GBRMPA and AIMS recently co-convened an expert Dredging Panel to review what is known about the impacts of dredging on the GBRWHA, where key knowledge gaps exist, and to help provide guidance to future dredging operations and assessments. AIMS explained that:

The results of the Panel's work will be communicated later this year, however it is highly likely that work to address identified knowledge gaps will require a significant investment of resources over several years.¹³¹

5.103 As noted in Chapters 3 and 6, some submitters and witnesses queried, in light of this uncertainty, why dredging and disposal approvals are still being approved, given the legislative requirements to consider the precautionary principle. The Department of the Environment responded that 'the precautionary principle has been taken into account in making decisions of approval on dredging proposals'.¹³²

Impact of dredging and disposal on other strategies

5.104 A key concern was that the dredging and disposal will undermine other efforts to reduce run-off to the reef, as discussed in Chapter 3. For example, CAFNEC described the dredging and disposal approvals and proposals as 'a slap in the face' for 'farmers and land managers who have been and still are being asked to change practices, to prevent sediment runoff to the reef'.¹³³

5.105 Similarly, Mr Brodie told the committee that he has 'worked for 30 years to get a scheme together to manage agricultural run-off to the Great Barrier Reef' and it is having some success, but that:

All of that success is now at risk from what is happening in port management, and the work of all those people is put at risk by the poor governance we are seeing at port developments.¹³⁴

5.106 Mr Brodie suggested that the dredging proposals in the region 'dwarf' the efforts to reduce catchment run-off, explaining that the 'anthropogenic sediment delivery to the Great Barrier Reef from all of the catchments is six million tonnes per year on average', which has been reduced by about 10 per cent, or 600 000 tonnes. He calculated that the proposed dredging programs will generate around 10 million tonnes per year.¹³⁵

131 AIMS, *Submission 36*, p. 2; Dr Jamie Oliver, Research Director, AIMS, *Committee Hansard*, 23 July 2014, pp 18–19.

132 Department of the Environment, *Answers to written questions on notice*, p. 4.

133 CAFNEC, *Submission 19*, p. 5; see also, for example, Cairns Local Marine Advisory Committee, *Submission 7*, p. 2; Carefish, *Submission 16*, p. 3; Mr Tony Brown, President, Whitsunday Charter Boat Industry Association, *Committee Hansard*, 23 July 2014, p. 13; Mr Josh Coates, Marine Program Coordinator, CAFNEC, *Committee Hansard*, 23 July 2014, p. 9.

134 Mr Jon Brodie, *Committee Hansard*, 23 July 2014, p. 27.

135 Mr Jon Brodie, *Committee Hansard*, 23 July 2014, p. 28.

5.107 Professor Mumby similarly told the committee that:

...if all of the ports were extended in the way that some plans might have them, we would be more than doubling the current level of sediment entering the system through human impact.¹³⁶

5.108 Professor Mumby also warned that the success of measures to improve catchment run-off quality could be 'dwarfed' by port expansion and that:

...we have to be very careful that we do not, on the one hand, invest in restorative activities in the watershed while we, on the other hand, develop at a very fast rate in maybe not the most environmentally friendly way and completely overwhelm those benefits we have had.¹³⁷

5.109 In the same vein, Mr McKenzie of AMPTO queried why 'hundreds of millions of dollars' are being spent trying to clean up water quality and then 'we are looking at proposals to dump ten or 20 times the amount of sediment that we have saved back on the reef'.¹³⁸

5.110 Professor Hoegh-Guldberg told the committee that, given that water quality has been identified as one of the greatest threats to the Great Barrier Reef, recent decisions to dispose dredge spoil into GBRMPA waters (and particularly the recent Abbot Point decision discussed in the next chapter) are 'inconsistent with solving the problem of declining water quality within the GBRMPA, and with the World Heritage Committee recommendations'.¹³⁹

Alternatives to dredging and sea disposal

5.111 Several submitters and witnesses were concerned that alternatives to dredging and, in particular, disposal of dredge spoil, are not being fully considered and implemented.¹⁴⁰ For example, WWF-Australia and AMCS suggested that:

...all steps be taken to avoid dredging including maximising the efficiency of existing port capacity, utilising alternative designs for port infrastructure such as extended trestles, and introducing limits to the size of ships for coastal ports.¹⁴¹

5.112 Whitsunday Residents Against Dumping similarly submitted:

136 Professor Peter Mumby, President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 7.

137 Professor Peter Mumby, President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 4.

138 Mr Colin McKenzie, Executive Director, Association of Marine Park Tourism Operators, *Committee Hansard*, 23 July 2014, p. 35.

139 Professor Hoegh-Guldberg, *Submission 6*, p. 6.

140 See, for example, Mr Jon Brodie, *Committee Hansard*, 23 July 2014, pp 27 and 31; Professor Terry Hughes, *Committee Hansard*, 23 July 2014, p. 27; WWF-Australia and AMCS, *Submission 23*, p. 3; Whitsunday Residents Against Dumping, *Submission 39*, p. 2.

141 WWF-Australia and AMCS, *Submission 23*, p. 3.

Factors and alternatives to consider to minimise the need for capital dredging should include but not be limited to, maximising the use of existing infrastructure prior to approving any expansions, using alternative designs such as extended trestles, land based disposal, and limiting the size of ships for coastal ports.¹⁴²

5.113 Professor Mumby also expressed concern that alternatives to dredging are not being adequately considered: 'some of the safer and more environmentally friendly options, whilst being more expensive, do not seem to be considered very seriously'.¹⁴³ Mr Leck of WWF-Australia described Abbot Point (discussed further in the next chapter) as a 'case in point' on this issue, arguing that sea disposal was put forward 'because it was cheap'.¹⁴⁴ As Professor Hoegh-Guldberg told the committee:

...if there are other mechanisms to deal with that dredge, we should take them, even if they are more expensive, because the value in perpetuity of the Great Barrier Reef is enormous.¹⁴⁵

5.114 However, the Queensland Ports Association referred to the *National Assessment Guidelines for Dredging* (as mentioned in Chapter 2), noting that they require alternatives to be evaluated prior to any approvals being granted for at-sea placement of dredge spoil. Queensland Ports Association further submitted that:

Placement of material at sea is generally the best environmental option in Queensland. Land based options are not viable as coastal areas of Queensland have high conservation, residential or cultural value. Land based options are viable only for small amounts of material or one-off projects...land placement of dredged material (particularly fine grained maintenance material) was not a viable long term option for the six major ports in the Great Barrier Reef region.¹⁴⁶

5.115 Queensland Ports Association also suggested that 'in many cases the material dredged is not suitable for reclamation or other land based uses'.¹⁴⁷ In response to questioning on this issue, Mr Kaveney from the Queensland Ports Association argued that 'marine disposal is very often—not always—the best outcome'. He explained:

What we are talking about is the dredging of marine sediments and the placement of marine sediments back into the marine environment. It is not a particularly alien concept to return that material to where it has come from.

142 Whitsunday Residents Against Dumping, *Submission 39*, p. 2.

143 Professor Peter Mumby, President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 3.

144 Mr Richard Leck, National Manager, Marine Conservation and Sustainable Development, WWF-Australia, *Committee Hansard*, 21 July 2014, p. 21.

145 Professor Ove Hoegh-Guldberg, *Committee Hansard*, 21 July 2014, p. 10.

146 Queensland Ports Association, *Submission 13*, p. 8, citing SKM (2013). *Improved dredged material management for the Great Barrier Reef Region*. Literature Review and Cost Analysis of Landbased Dredge Material Re-use and Disposal Option. Report prepared in conjunction with Asia-Pacific Applied Science Associates for Great Barrier Reef Marine Park Authority.

147 Queensland Ports Association, *Submission 13*, p. 8.

Globally it is seen as best practice in many situations. Keeping that sediment in the coastal process system is often very desirable...¹⁴⁸

5.116 The committee notes that this appears to be a somewhat simplistic view, given the evidence received in relation to acid sulphate soils which are common along the Queensland coastline and potentially present at some proposed dredging sites.¹⁴⁹

5.117 Other witnesses suggested that alternatives such as trestles are not necessarily a good alternative either. For example, Mr Simon Meyjes from Australian Reef Pilots told the committee that from a port safety perspective, 'you are introducing another range of risks because the further out to sea you are, the worse the weather conditions are likely to be'.¹⁵⁰

Prohibition on disposal of dredge spoil in the Great Barrier Reef

5.118 Several submissions and witnesses suggested there should be a ban on the industrial-scale dumping of dredge spoil anywhere near the Great Barrier Reef World Heritage Area.¹⁵¹ For example, Mr Leck of WWF-Australia, identified 'prohibiting industrial scale dumping of dredge spoil in the Great Barrier Reef World Heritage Area' as a key action to reduce the decline of the reef. He further suggested that in 2015, the World Heritage Committee will be looking for a 'very different policy with regards to dredging and dumping'.¹⁵²

5.119 WWF-Australia and AMCS and others argued dredging and dumping in the Great Barrier Reef area is placing additional stress 'on an already stressed system':

The health and resilience of the reef is in serious decline and drastic actions need to occur now in order to turn things around. While land run-off, crown of thorns and increasing climate change impacts have been the main contributors to the past decline of the Great Barrier Reef, these are issues that will take a long time to be addressed. Proposals for dredging and dumping along the Reef's coast are far beyond what has ever been seen before in the region and it is unknown what this impact will have in addition to current stressors.¹⁵³

148 Mr Thomas Kaveney, Environmental Policy Advisor, Queensland Ports Association, *Committee Hansard*, 21 July 2014, pp 24–25.

149 See, for example, Dr Matt Landos, *Committee Hansard*, 22 July 2014, p. 55; Mr Josh Coates, Marine Program Coordinator, CAFNEC, *Committee Hansard*, 23 July 2014, p. 9; Ms Margaret Moorhouse, Spokesperson, Alliance to Save Hinchinbrook, *Committee Hansard*, 23 July 2014, p. 14; Mr Colin McKenzie, Executive Director, AMPTO, *Committee Hansard*, 23 July 2014, p. 38.

150 Mr Simon Meyjes, Chief Executive Officer, Australian Reef Pilots, *Committee Hansard*, 21 July 2014, p. 46.

151 See, for example, WWF-Australia and AMCS, *Submission 23*, p. 3; CAFNEC, *Submission 19*, p. 11; Professor Terry Hughes, *Committee Hansard*, 23 July 2014, p. 26; Whitsunday Residents Against Dumping, *Submission 39*, p. 1.

152 Mr Richard Leck, National Manager, Marine Conservation and Sustainable Development, WWF-Australia, *Committee Hansard*, 21 July 2014, pp 15 and 18.

153 WWF-Australia and AMCS, *Submission 23*, pp 2–3.

5.120 CAFNEC similarly advocated a 'ban on new (non-maintenance) dredging and dumping in the World Heritage Area' until conclusive evidence can be presented that the resuspension of sediments from capital dredging programs can be undertaken with no impacts on World Heritage values. CAFNEC suggested a 'concurrent review of the impacts of maintenance dredging also be undertaken 'with a focus on implementing practices that lead to a drastic reduction of impacts'.¹⁵⁴

5.121 As noted elsewhere, the committee was advised that as a result of the Strategic Assessment, a dredging policy will be developed by the Queensland Government, and that policy will be one of the elements in the long-term sustainability plan (discussed further in Chapter 8).¹⁵⁵ Dr Reichelt from GBRMPA suggested that 'the principle behind the dredge policy should be a capping and a reduction'.¹⁵⁶

5.122 In response to questioning about the potential for a cap on dredge spoil, GBRMPA noted that 'a strategic reduction on dredge material disposal in the Marine Park could form part of the port master planning process' under the Queensland Ports Strategy. Further GBRMPA advised that it will be facilitating 'the development of a whole of government policy to provide a strategic and consistent approach to the sustainable management of dredging and dredge spoil disposal in the Great Barrier Reef World Heritage Area'.¹⁵⁷

Ports and coal pollution issues

5.123 Other submissions and witnesses expressed a specific concern about the pollution from coal particulates and its impact on the Great Barrier Reef.¹⁵⁸ In particular, Professor Hughes tabled a recent scientific study which concluded that 'coastal sediments offshore of the Hay Point coal port are already contaminated with coal residues which exceed the Australian and New Zealand toxicity guidelines'. He told the committee that this is:

...a very damning conclusion based on samples that were collected across the entire breadth of the Great Barrier Reef. It shows that coal dust has already spread hundreds of kilometres from coal ports and that it has now accumulated everywhere on the Great Barrier Reef and not just the

154 CAFNEC, *Submission 19*, p. 11; see also Mr Josh Coates, Marine Program Coordinator, CAFNEC, *Committee Hansard*, 23 July 2014, p. 10.

155 Dr Kimberley Dripps, Deputy Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, p. 63; Ms Carolyn Cameron, Assistant Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, p. 63.

156 Dr Russell Reichelt, Chairman and Chief Executive, GBRMPA, *Committee Hansard*, 23 July 2014, p. 61.

157 GBRMPA, *Answers to written questions on notice*, p. 23.

158 See, for example, Mackay Conservation Group, *Submission 42*, p. 28; Mr Peter Dallas, *Committee Hansard*, 22 July 2014, pp 17–18; Professor Terry Hughes, *Committee Hansard*, 23 July 2014, p. 25.

dredging sites or near the ports themselves. It is exceeding toxic levels in nearshore locations.¹⁵⁹

5.124 The Mackay Conservation Group also tabled this study and similarly submitted that 'coal ports are a significant source of sediment and coal particulate pollution to the Great Barrier Reef'.¹⁶⁰

5.125 The *Outlook Report 2014* noted this study, stating that:

High concentrations of coal dust have been detected around a loading facility, but the potential effects of this and any other port-generated atmospheric pollution are not well understood.¹⁶¹

5.126 Dr Reichelt of GBRMPA acknowledged the need to do 'more work on the impact of coal particles' as a 'very high priority' and noted that one option might be to cover coal piles and coal stacks in the Great Barrier Reef region.¹⁶²

5.127 In response to questioning as to what action is being taken as a result of this study, the Queensland Government advised that, while it welcomes new research:

...the coal dust study does not indicate whether the associated aromatic hydrocarbons are bio-available and does not say whether the coal dust would accumulate, absorb into corals and be toxic to marine species. The study outlines steps that can be taken to improve port practices to reduce the potential of coal dust entering the Great Barrier Reef ecosystem which will be valuable to port operators and in the development of Port master-plans.¹⁶³

159 Professor Terry Hughes, *Committee Hansard*, 23 July 2014, p. 25.

160 Mackay Conservation Group, *Submission 42*, p. 28.

161 GBRMPA, *Outlook Report 2014*, p. 131.

162 Dr Russell Reichelt, Chairman and Chief Executive, GBRMPA, *Committee Hansard*, 23 July 2014, p. 52 and see also p. 60.

163 Queensland Government, *Answers to written questions on notice*, p. 33.

Chapter 6

Port case studies:

Gladstone Harbour and Abbot Point

6.1 This chapter examines evidence received in relation to port developments at Gladstone Harbour and Abbot Point.

Gladstone Harbour

6.2 The Port of Gladstone is approximately 100 years old. It is located within the World Heritage Area boundary, and adjacent to the Marine Park. The port is the largest multi-cargo port in Queensland (in terms of tonnage) and the fourth largest in Australia.¹

6.3 The submission from the Australian and Queensland Governments specified that the Minister for the Environment, the Hon Greg Hunt MP, approved projects in Gladstone Harbour in December 2013.² These were:

- Arrow Liquefied Natural Gas Facility, Curtis Island, Gladstone;³ and
- Arrow Gas Transmission Pipeline, Gladstone to Curtis Island.⁴

6.4 However, the committee notes that these approvals were only the latest in a series of projects and developments approved in the Gladstone Harbour area. The harbour has been subject to dredging activities since the late 1960s. More extensive projects started around 2011 and included the Gladstone Ports Corporation's Western Basin Dredging and Disposal Project in Gladstone Harbour of 2011 (Gladstone Western Basin project)⁵ and the development of three LNG processing facilities on Curtis Island, approved in 2010 and 2011.⁶

1 Queensland Ports Association, *Submission 13*, p. 6.

2 Australian and Queensland Government, *Submission 34*, p. 21.

3 EPBC referral 2009/5007, http://www.environment.gov.au/cgi-bin/epbc/epbc_ap.pl?name=current_referral_detail&proposal_id=5007 (accessed 27 August 2014).

4 EPBC referral 2009/5008, http://www.environment.gov.au/cgi-bin/epbc/epbc_ap.pl?name=current_referral_detail&proposal_id=5008 (accessed 27 August 2014).

5 EPBC referral 2009/4904, http://www.environment.gov.au/cgi-bin/epbc/epbc_ap.pl?name=current_referral_detail&proposal_id=4904 (accessed 27 August 2014).

6 See, for example, EPBC referrals 2008/4401, 2008/4402, 2008/4405 via Department of the Environment, http://www.environment.gov.au/cgi-bin/epbc/epbc_ap.pl?name=current_referrals&limit=999999&text_search=curtis (accessed 27 August 2014); see also Mr Michael McCabe, Coordinator, Capricorn Conservation Council, *Committee Hansard*, 22 July 2014, p. 31; Capricorn Conservation Council, *Submission 27*, p. 1.

The Gladstone Western Basin project

6.5 The Gladstone Western Basin project approval allowed for a total maximum of 46 million cubic metres of dredge spoil to be removed and disposed of both offshore and within a constructed reclamation area behind a 'bund wall'.⁷ The project commenced in late 2010 and the reclamation area was completed in July 2011. The committee received conflicting evidence about the commencement of dredging in the harbour. According to the Gladstone Ports Corporation, dredging for the project commenced on 20 May 2011.⁸ The Bund Wall Review states that dredging and deposition of dredge spoil behind the bund wall commenced in September 2011.⁹ Dr Matthew Landos, of the University of Sydney's Faculty of Veterinary Science, submitted that 'the dredging commenced in October 2010, not September 2011'.¹⁰ The first stage of the project has been completed and involved around 25 million cubic metres of dredging over two years.¹¹

6.6 The Bund Wall review noted that from September 2011 increased turbidity was reported around Gladstone Harbour.¹² There were also reports of disease in fish and crabs, and the harbour was closed to all fishing in that month.¹³ In October 2011, GBRMPA reported a 'significant increase in the number of dugong and turtle deaths in the southern Great Barrier Reef', including in the Gladstone area.¹⁴ Monitoring of

-
- 7 Department of the Environment, *Independent Review of the Bund Wall at the Port of Gladstone* (Bund Wall Review), April 2014, p. vii, <http://www.environment.gov.au/system/files/resources/82279d41-cb4d-4bae-bcc4-c068577d0d31/files/report-findings.pdf> (accessed 26 August 2014); see also Ports Australia, *Submission 11*, Attachment 1, p. 43; Gladstone Ports Corporation, *Western Basin Port Development*, <http://www.westernbasinportdevelopment.com.au/> (accessed 27 August 2014). Note that, under the EPBC Act, approval was given for two stages of dredging works, with the first stage involving 25 million cubic metres of dredging. For the second stage, approval has been given for 21 million cubic metres of material to be dredged, and is subject to further approval for offshore disposals: see EPBC Approval 2009/4904.
- 8 Gladstone Ports Corporation, *Western Basin Dredging and Disposal Project Annual Compliance Report*, November 2012, p. 6, [http://www.westernbasinportdevelopment.com.au/media/pdf/WBDDP%20Annual%20Compliance%20Report%20of%20Environment%20Protection%20and%20Biodiversity%20Conservation%20Act%20\(ammendme.pdf](http://www.westernbasinportdevelopment.com.au/media/pdf/WBDDP%20Annual%20Compliance%20Report%20of%20Environment%20Protection%20and%20Biodiversity%20Conservation%20Act%20(ammendme.pdf) (accessed 27 August 2014).
- 9 Bund Wall Review, p. 13.
- 10 Dr Matthew Landos, *Submission 57*, p. 11.
- 11 Bund Wall Review, p. 1; see also Gladstone Ports Corporation, *Western Basin Port Development*, <http://www.westernbasinportdevelopment.com.au/> (accessed 27 August 2014).
- 12 Bund Wall Review, p. 13.
- 13 Mr Simon Whittingham, *Committee Hansard*, 22 July 2014, p. 46; see also *Independent Review of the Port of Gladstone*, pp 53–55.
- 14 Department of the Environment, *Independent Review of the Port of Gladstone*, July 2013, p. 50, <http://www.environment.gov.au/system/files/resources/ae7cbcf9-2963-47d7-9029-3aa1a065db51/files/gladstone-review-initial-report.pdf> (accessed 27 August 2014).

seagrass from 2009 to 2012 showed 'significant declines in seagrass abundance' at all sites in the Gladstone area.¹⁵

6.7 As Mr Simon Whittingham of Gladstone Fish Markets told the committee:

Not only was something clearly wrong with the commercial [fish] product being exposed to what was in the water; turtles, dolphins and dugongs were washing up dead. Fish kills were occurring throughout the harbour. Something was terribly wrong...¹⁶

6.8 The impacts on the fisheries were significant, with Mr Ted Whittingham of Gladstone Fish Markets explaining that his company has lost 90 per cent of its business since 2011 as a result of the outbreak of fish disease and the loss of suppliers.¹⁷ The committee heard that they received no compensation for this loss. The committee notes that the problem appears to be that the conditions relating to compensation under the Queensland approval only required Gladstone Ports Corporation to mitigate financial losses to commercial fishing operators to cover loss of access to fishing areas and marine fish habitat.¹⁸ While Gladstone Ports Corporation submitted that claims for compensation from the seafood industry failed in court 'because of an inability to provide evidence which substantiated their case'.¹⁹ In at least one case, the committee notes that the relevant applicant was considered a recreational fisher, rather than a commercial fishing operator.²⁰

6.9 Dr Landos described the scale of the problem affecting Gladstone Harbour:

In Gladstone harbour more than 1,500 hectares of seagrass have been eradicated and have not recovered, large numbers of turtles, dolphins and dugongs have died and a commercial fishery has been virtually eradicated...²¹

6.10 Ms Ginny Gerlach of the Keppel and Fitzroy Delta Alliance gave evidence to the effect that the tourist industry, in particular the charter boat industry, was also

15 Department of the Environment, *Independent Review of the Port of Gladstone*, July 2013, p. 55.

16 Mr Simon Whittingham, *Committee Hansard*, 22 July 2014, p. 46.

17 Mr Ted Whittingham, *Committee Hansard*, 22 July 2014, p. 47; Mr Simon Whittingham, *Committee Hansard*, 22 July 2014, p. 50; see also Mr Terence Must, Owner, Arabon Seafoods, *Committee Hansard*, 22 July 2014, pp 23–24.

18 Qld Coordinator General, *Western basin dredging and disposal project Coordinator-General's report for an environmental impact statement*, July 2010, Conditions 20 and 21, p. 148; see also Gladstone Ports Corporation, *Submission 63*, p. 2; Mr Simon Whittingham, *Committee Hansard*, 22 July 2014, p. 50.

19 Gladstone Ports Corporation, *Submission 63*, p. 2.

20 *Falzon v Gladstone Ports Corporation [2012] QPEC 50*, Planning and Environment Court of Queensland, 30 August 2012, (accessed 29 August 2014).

21 Dr Matthew Landos, *Committee Hansard*, 22 July 2014, p. 54.

negatively affected by the exclusion zones and shipping traffic that resulted from Gladstone Port developments.²²

6.11 Many submitters and witnesses argued that these problems with turbidity and disease and death of marine animals and fish were as a result of dredging project.²³ WWF-Australia and the Australian Marine Conservation Society submitted that 'dredging, dumping and bund wall construction in Gladstone Harbour coincided with massive fish kills, sick and dead turtles and dugongs, and the closure of fishing in the Harbour for three weeks'.²⁴

6.12 Mr Michael McCabe of the Capricorn Conservation Council described Gladstone Harbour prior to 2011 as 'a big marine area' that was sometimes 'clear' and sometimes 'a bit murky in big tides' and it has since become 'a very messy harbour'. He went on to note that, after dredging had commenced, corals and marine megafauna, including fish in and around the harbour, had shown signs of illness and disease and had started dying off.²⁵

6.13 Save the Reef described these impacts as tantamount to 'ecocide' and Ms Suzanne Arnold of Australians for Animals described Gladstone Harbour as 'an environmental disaster'.²⁶

6.14 However, the Queensland Ports Association submitted that 'accusations and claims that dredging-related activities were responsible are not supported by available evidence'. They stated that:

As noted in reports published in 2012 following scientific investigations conducted by the Queensland Department of Environment and Heritage Protection, Queensland Department of Agriculture, Fisheries and Forestry, CSIRO, the University of Tasmania and also in the Independent Review of the Port of Gladstone (2013), the fish health issues in Gladstone Harbour during 2011 were the most likely the result of extreme weather events, freshwater influxes and associated overcrowding from fish that moved into the area after overspilling from Awoonga Dam.²⁷

6.15 Ports Australia, in its report on dredging and Australian ports, acknowledged that the impacts of the project on water turbidity were significantly greater than initially approved or predicted. Ports Australia noted that:

22 Ms Ginny Gerlach, Director and Coordinator, Keppel and Fitzroy Delta Alliance, *Committee Hansard*, 22 July 2014, p. 35.

23 See, for example, Dr Matthew Landos, *Submission 57*; Dr Cary Rogers, *Submission 58*; Australians for Animals, *Submission 52*; Save the Reef, *Submission 50*.

24 WWF-Australia and Australian Marine Conservation Society, *Submission 23*, p. 6; see also *Independent Review of the Port of Gladstone*, July 2013, pp 47–55.

25 Mr Michael McCabe, Coordinator, Capricorn Conservation Council, *Committee Hansard*, 22 July 2014, pp 31–32.

26 Save the Reef, *Submission 50*, p. 2; Ms Suzanne Arnold, Coordinator, Australians for Animals, *Committee Hansard*, 23 July 2014, p. 46.

27 Queensland Ports Association, *Submission 13*, p. 6.

This apparently was the result of a number of factors including the influence of large spring tides, major flood events, unexpected seepage of fine sediments from a reclamation area until a remedial bund sealing operation was complete, hydrodynamic changes, and a major increase in boating traffic (over 20,000 movements per month) with associated wash effects.²⁸

6.16 The report noted that the *Independent Review of the Port of Gladstone* (Independent Review 2013) accepted that dredged sediments were compliant with the requirements of the *National Assessment Guidelines for Dredging 2009* in relation to ocean disposal.²⁹ The Independent Review 2013 stated that water and sediment quality testing demonstrated that dredged sediments were not contaminated to levels that would lead to toxicological effects.³⁰

6.17 Dr Landos rebutted these claims, arguing:

...the project allowed the release of very large volumes of sediment from excavation from the seafloor and it was stirred up by boat activity. A lot of that material contained toxic levels of metals...A lot of the material was also dumped at sea, triggering toxic algal blooms...The combination of events seriously stressed the animals that were exposed to elevated metals. We know they had high metals because we measured turtle blood and it showed very high levels of metals...there is a myriad of data showing that metals were involved; toxic algae were involved; and massive amounts of noise from the increase in boat traffic...³¹

6.18 However, Gladstone Ports Corporation queried much of Dr Landos's evidence. For example, they submitted that they would 'welcome the opportunity to view and review any evidence that supports the claim that algal blooms occurred around the offshore disposal site', as well as the claim that dredged material contained 'metal concentrations at levels likely to cause toxic impacts on the ecosystem'.³²

Investigations and reviews

6.19 As noted in Chapter 2, in response to community concerns, and concerns of the World Heritage Committee, there have been a number of recent investigations and reviews into Gladstone Harbour.³³ These include the Independent Review 2013,

28 Ports Australia, *Submission 11*, Attachment 1, p. 48.

29 *Independent Review of the Port of Gladstone*, July 2013, p. 50; see also Ports Australia, *Submission 11*, pp 48-49.

30 *Independent Review of the Port of Gladstone*, July 2013, pp 50, 58; see also Ports Australia, *Submission 11*, pp 48-49.

31 Dr Matthew Landos, *Committee Hansard*, 22 July 2014, p. 54.

32 Gladstone Ports Corporation, *Submission 63*, p. 9.

33 See World Heritage Committee, 'Recommendation 3', *Mission Report of the Reactive Monitoring Mission to Great Barrier Reef 6th to 14th March 2012*, June 2012, p. 6, <http://whc.unesco.org/document/117104> (accessed 26 August 2014); see also Australian and Queensland Governments, *Submission 34*, p. 24.

commissioned as part of the Australian Government's response to the 2012 decision of the World Heritage Committee.³⁴ After that review reported on its findings, information came to light that the reclamation bund wall at the Port of Gladstone was leaking. This sparked another separate review: the *Independent Review of the Bund Wall at the Port of Gladstone* released in April 2014 (the Bund Wall Review).³⁵

6.20 WWF-Australia and the Australian Marine Conservation Society noted that initial investigations suggested that the cause of the decline in the health of the Gladstone Harbour ecosystem could not be determined conclusively, but there was significant emphasis placed on the role of concurrent flood events.³⁶ However, some submitters and witnesses were concerned that information relevant to the earlier investigations was available but not provided.³⁷

6.21 The Independent Review 2013 found that the fish-health issues and other environmental impacts in 2011 were:

...likely to be the result of multiple pressures, including extreme weather events³⁸ and associated overcrowding from fish that moved into the area after overspilling from Awoonga Dam. These conditions have improved since 2011.³⁹

6.22 However, the Independent Review 2013 found that 'community confidence in the environmental performance of approved developments within the port is generally low'.⁴⁰

6.23 The most recent Bund Wall Review found that 'aspects of the design and construction of the bund wall were not consistent with industry best practice', which 'contributed to changes in turbidity in the vicinity of the bund wall'. It also found deficiencies in Australian Government decision-making processes, compliance, monitoring and recordkeeping practices, which are discussed further below.⁴¹

34 Department of the Environment, *Independent review of the Port of Gladstone*, July 2013, at: <http://www.environment.gov.au/topics/marine/great-barrier-reef/port-gladstone-review> (accessed 27 June 2014).

35 Department of the Environment, *Independent Review of the Bund Wall at the Port of Gladstone* (Bund Wall Review), May 2014, <http://www.environment.gov.au/topics/marine/gbr/gladstone-bund-wall-review> (accessed 6 August 2014); and also Australian and Queensland Governments, *Submission 34*, p. 24; Gladstone Ports Corporation, *Submission 63*, p. 6.

36 WWF-Australia and Australian Marine Conservation Society, *Submission 23*, p. 6.

37 See, for example, WWF-Australia and Australian Marine Conservation Society, *Submission 23*, p. 6; Save the Reef, *Submission 50*, p. 11; see also Dr Matthew Landos, *Committee Hansard*, 22 July 2014, p. 53.

38 'That is... rainfall/cyclone events that results in much higher than average discharge for most rivers...': see *Independent Review of the Port of Gladstone*, July 2013, p. 43.

39 *Independent Review of the Port of Gladstone*, July 2013, p. 58; see also Ports Australia, *Submission 11*, p. 48; Queensland Ports Association, *Submission 13*, p. 6.

40 *Independent Review of the Port of Gladstone*, July 2013, p. 58.

41 Bund Wall Review, pp vii–viii.

6.24 However, the terms of reference for the Bund Wall Review did 'not mandate the examination of issues pertaining to the ecological consequences of the construction and performance of the bund wall, including possible impacts on ecosystem health'.⁴²

6.25 As such, some submitters and witnesses were critical of both reviews. For example, Ms Suzanne Arnold of Australians for Animals suggested that 'there has been no proper independent inquiry as requested by the World Heritage secretariat'. She noted that the Bund Wall Review did not have public hearings and did not call witnesses. Ms Arnold also argued that the appointment of CSIRO scientists as members of the relevant inquiry panels undermined the independence of those panels and she called for a commission of inquiry or a royal commission to be set up to examine the development of Gladstone Port. Ms Arnold told the committee that she knew of some 'whistleblowers' who 'will not come forward unless they have the protection of a royal commission'.⁴³ The call for a royal commission was also voiced by Dr Landos.⁴⁴

6.26 The situation was summed up by Ms Wishart of the Australian Marine Conservation Society, who described the issues affecting Gladstone Harbour as a 'travesty':

There has been a whole series of different studies, reports—you name it—into what occurred there, and yet we are still not at the bottom of that mire...There has clearly been massive failure in the existing regulation....⁴⁵

6.27 Dr Landos stated the legislation did not appear to be the problem. Rather, he suggested it was subverted through poor process. He added that this was evident at every level:

...poor process in the assessment stage; poor process in the writing and drafting of conditions; poor process in compliance activities, and response to very serious harm; and poor process, finally, and that is continuing, in the review and assessment of what the problem was, meaning that future applications which should have learnt from the problems in Gladstone have not learnt at all what is going on.⁴⁶

Issues with the approvals process

6.28 The committee received evidence alleging that port development in Gladstone Harbour was poorly managed and that there were deficiencies in the approval process.

42 Bund Wall Review, p. vii.

43 Ms Suzanne Arnold, Coordinator, Australians for Animals, *Committee Hansard*, 23 July 2014, pp 46–47; Australians for Animals, *Submission 52*, p. 1; see also Dr Matthew Landos, *Submission 57*, pp 2 and 27; Dr Matthew Landos, *Committee Hansard*, 22 July 2014, pp 53–54.

44 Dr Matthew Landos, *Committee Hansard*, 22 July 2014, p. 53; Dr Matthew Landos, *Submission 57*, p. 28.

45 Ms Felicity Wishart, Great Barrier Reef Campaign Director, Australian Marine Conservation Society, *Committee Hansard*, 21 July 2014, p. 16.

46 Dr Matthew Landos, Director, *Committee Hansard*, 22 July 2014, p. 55.

6.29 As noted by WWF-Australia and the Australian Marine Conservation Society, the Bund Wall Review identified serious deficiencies in both the approval process (the environmental conditions attached to the development approval were vague) and follow-up compliance monitoring of the Gladstone Western Basin project. The submission stated that the project had been plagued by poor practice due to the actions of Gladstone Ports Corporation and Australian and Queensland Government officials. Therefore, WWF-Australia and the Australian Marine Conservation Society contended that there was a need for a 'thorough shake-up of all decision-making processes for development approvals, and the need for ongoing vigilance by regulators during the life-time of any project'.⁴⁷

6.30 It was also suggested that the consultation process was inadequate, because, for example, the concerns of the fishing industry had been ignored. Mr Simon Whittingham Gladstone Fish Market gave evidence about a meeting attended by fishing stakeholders in 2009 which exemplified these concerns:

There was a lot of animosity at this meeting due to the importance identified by fishers of the grounds that were going to be reclaimed and the integral role it played to stock recruitment for following seasons of fish, mud crabs and prawns. It must be said that even after all the banging of fingers and fists on the charts, the plan, which was being vigorously contested by local fishermen, was eventually implemented.⁴⁸

6.31 Save the Reef called for 'genuine, open and transparent consultation with the Australian community, affected industries and relevant scientific experts, and genuine consideration of the broader community's views in final decisions'. It was noted that Gladstone Harbour provides a good example of 'how difficult it was to get the balance right'.⁴⁹

Issues relating to compliance with conditions

6.32 Others noted that compliance and monitoring was inadequate. Mr McCabe cited the Bund Wall Review, which noted that most of the environmental conditions in relation to the development of Gladstone Port were satisfied, but companies, port corporations and government officials failed to properly communicate that to the general public, contributing to mistrust amongst community and non-government organisations.⁵⁰ Ports Australia acknowledged the advantages of better communication, using an improved information management system which would include the results of required monitoring programs, as this 'could help to improve

47 WWF-Australia and Australian Marine Conservation Society, *Submission 23*, pp 6–7; see also Bund Wall Review, April 2014, pp vii-viii.

48 Mr Simon Whittingham, Gladstone Fish Market, *Committee Hansard*, 22 July 2014, p. 45.

49 Save the Reef, *Submission 50*, p. 12.

50 Mr Michael McCabe, Coordinator, Capricorn Conservation Council, *Committee Hansard*, 22 July 2014, p. 32; Bund Wall Review, April 2014, pp 40–41; see also Ports Australia, *Submission 11*, p. 52.

public confidence that dredging projects are managed effectively and have not resulted in unanticipated impacts'.⁵¹

6.33 However, Mr McCabe suggested that the main compliance-related issue was not poor communication but 'that the conditions set were inadequate in the first place'. He went on to argue that 'if you are simply complying with an inadequate condition and not reporting on it, that is not good enough'.⁵²

6.34 Dr Landos agreed that the conditions were poor, noting that although there were many conditions placed on the project they 'were hastily prepared without all the information from the proponent'. He went on to say:

Unfortunately, having conditions drawn up to manage these large projects does not in itself prevent harm occurring, and Gladstone serves as a perfect example of this problem.⁵³

6.35 A further problem outlined by Dr Landos was the failure by the Department of the Environment to monitor compliance with conditions. He argued that this was because the conditions that were set were 'too weak to take action on', citing an example of where the department:

...demonstrably approved ongoing dredging during the 2013 flood conditions, further adding to the turbidity loads in the harbour, which were already stressing quite stressed out seagrass. [The department] failed to take any notes on the limited site visits they undertook for compliance.⁵⁴

6.36 Indeed, the committee notes that the Bund Wall Review also found that the Department of the Environment was faced with a number of problems relating to the monitoring of compliance with conditions. In particular, the report of the review noted that 'the large number of approved projects across Australia (currently around 1200) means that departmental monitoring officers cannot confirm project compliance on the ground in real time, but depend on desktop checks'. The report recommended that resource levels within the department should be bolstered to ensure adequate monitoring capacity. The report also noted that, since June 2012, there has been a significant increase in monitoring capacity (now around 30 staff), which allows greater oversight of more projects. Finally, the report recommended that this increased resourcing should be maintained as a matter of priority.⁵⁵

6.37 The committee also notes that the Australian National Audit Office (ANAO) recently conducted an audit of monitoring of compliance with approval conditions under the EPBC Act, published in June 2014. The ANAO's report identified a number

51 Ports Australia, *Submission 11*, p. 52.

52 Mr Michael McCabe, Coordinator, Capricorn Conservation Council, *Committee Hansard*, 22 July 2014, p. 32.

53 Dr Matthew Landos, *Committee Hansard*, 22 July 2014, p. 53.

54 Dr Matthew Landos, *Committee Hansard*, 22 July 2014, p. 53.

55 Bund Wall Review, Recommendation 14, pp 35–40.

of concerns with the Department of the Environment's compliance-monitoring activities and made a number of recommendations to address these shortcomings.⁵⁶

6.38 A representative of the Department of the Environment told the committee that it has stepped up its compliance and monitoring processes in recent years. This has included the implementation of a comprehensive business-improvement program since 2012, to improve its monitoring compliance procedures, including doubling the number of staff in the compliance and enforcement branch, and putting in place a range of standard operating procedures.⁵⁷

6.39 Mr McCombe from the Minerals Council of Australia suggested that the deficiencies in the Australian Government's monitoring and compliance processes identified in the Gladstone Harbour reviews were an illustration of the need for a more efficient and streamlined regulatory process:

...regulatory processes should be more efficient and more streamlined and that those resources should be consolidated. We believe that regulations should be appropriately resourced. We think at the moment the duplication between the Commonwealth and states is a misuse of those Commonwealth resources and we can see how stretched the Commonwealth perhaps have been in recent years in ensuring their compliance activities were completely and wholly undertaken.⁵⁸

6.40 However, Ms Arnold of Australians for Animals told the committee that the compliance monitoring problems in Gladstone actually stemmed from the assessment bilateral agreement between the Commonwealth and Queensland:

The bottom line, the foundational problem, was the bilateral agreement. There were never any proper clear instructions, in spite of what was written in the bilateral agreement, about who would monitor, when they would monitor, how they would monitor and what would be done in terms of compliance issues...complaints of noncompliance that we put to Canberra were basically disregarded...[and] no [Commonwealth environment officials] were allowed to go on site unless they had permission from the Gladstone Ports Corporation.⁵⁹

56 ANAO, *Managing Compliance with EPBC Act 1999 Conditions of Approval*, <http://www.anao.gov.au/Publications/Audit-Reports/2013-2014/Managing-Compliance-with-EPBC-Act-1999-Conditions-of-Approval> (accessed 14 August 2014).

57 Mr Dean Knudson, First Assistant Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, p. 59.

58 Mr Chris McCombe, Assistant Director, Environmental Policy, Minerals Council of Australia, *Committee Hansard*, 21 July 2014, p. 33.

59 Ms Suzanne Arnold, Coordinator, Australians for Animals, *Committee Hansard*, 23 July 2014, p. 48.

6.41 Ms Arnold suggested that, to avoid self-regulation, the approvals process needs to include third-party independent audits of compliance with conditions of approval.⁶⁰

6.42 Other witnesses identified an inherent conflict of interest in the situation at Gladstone. For example, Mr Brodie, of the ARC Centre of Excellence for Coral Reef Studies at James Cook University, cited Gladstone as an example of the need for the Commonwealth to retain its environmental powers:

The Queensland government is both the proponent of the port development and the regulator, and it did not work. It cannot possibly work ever. So, while that is the case, you cannot expect the Queensland government to manage the coastal environment, much less the land environment, at all.⁶¹

6.43 In the same vein, Dr Landos stated:

...there is a clear issue of conflict of interest where we have a government body who stands to make a profit from the operation. For instance, in Gladstone, Gladstone Ports Corporation is a wholly owned government corporation, so there is a flow of income to the government there as well as from the promotion of the mining industry which will export out of that area—in royalty flows to the government. Where there is a financial benefit that flows to the state government, the state government should not be the body responsible for approving these types of developments.⁶²

6.44 The 'one stop shop proposal' and proposed approval bilateral agreement is discussed further in Chapter 8.

Gladstone Healthy Harbour Partnership

6.45 In response to community concern and the World Heritage Committee concerns over the health of Gladstone Harbour, the Queensland Government has developed the 'Gladstone Healthy Harbour Partnership' as a forum to bring together parties and to maintain and, where necessary, to improve the health of Gladstone Harbour. The guiding principles of the partnership were based in open, honest and accountable management; annual reporting of the health of Gladstone Harbour; and management recommendations and actions based on rigorous science and strong stakeholder engagement.⁶³

6.46 The Gladstone Healthy Harbour Partnership was launched in November 2013 with partners across community, government, industry and research organisations. Each partner signed a memorandum of understanding reflecting the guiding

60 Ms Suzanne Arnold, Coordinator, Australians for Animals, *Committee Hansard*, 23 July 2014, p. 47 and see also p. 48.

61 Mr Jon Brodie, *Committee Hansard*, 23 July 2014, p. 28.

62 Dr Matthew Landos, *Committee Hansard*, 22 July 2014, p. 55; see also Dr Matthew Landos, *Submission 57*, p. 2.

63 Australian and Queensland Governments, *Submission 34*, pp 29–30; *Gladstone Healthy Harbour Partnership*, <http://www.healthyharbour.org.au/> (accessed 26 August 2014).

principles.⁶⁴ The Queensland Government has invested \$3 million into the partnership over a two-year period and this has been matched by industry, community, research and local government. The Australian Government is also supporting the Gladstone Healthy Harbour Partnership by committing up to \$1 million to the programme over the next two years.⁶⁵

6.47 The Australian and Queensland Governments submitted that the Gladstone Healthy Harbour Partnership has developed a report card program which will report on 'the community's vision of a healthy harbour across environmental, social, economic and cultural dimensions'. The program will be conducted in partnership with government, research, community and industry and the report card will be guided by recommendations of an independent science panel. The first pilot report card will be developed in 2014, with the first full report card scheduled for 2015.⁶⁶

6.48 In principle, WWF-Australia and the Australian Marine Conservation Society supported the establishment of the Gladstone Healthy Harbour Partnership but at the same time noted that:

...the Queensland government also announced plans to continue development at Gladstone and duplicate the main shipping channel at Gladstone which will involve 12 million m³ of dredging. In December 2013 approval was given for the fourth LNG Facility on Curtis Island and a Gas Transmission Pipeline to Curtis Island...⁶⁷

6.49 In contrast, Ms Arnold of Australians for Animals suggested that the creation of the Gladstone Healthy Harbour Partnership 'sets a most alarming precedent'. She was concerned that there is no representation from non-government organisations, and suggested that 'we cannot have agencies and partnerships put together to monitor state and federal regulations'.⁶⁸

6.50 The Capricorn Conservation Council expressed the view that the Gladstone Healthy Harbour Partnership would not be enough to win back public confidence in the environmental decision-making processes, stating:

While the Gladstone Healthy Harbour Partnership's first report card is expected late in 2014, the public trust in the oversight of the harbour is

64 Australian and Queensland Governments, *Submission 34*, p. 29; see also Cairns and Far North Environment Centre, *Submission 19*, Attachment 5: WWF-Australia and Australian Marine Conservation Society, 'Report to UNESCO World Heritage Committee: Status of Implementation of recommendations in World Heritage Committee Decision 36 COM 7B.8 and 37 COM 7B.10, Great Barrier Reef (Australia) and the March 2012 Reactive Monitoring Mission', 30 January 2014, p. 19.

65 Australian and Queensland Governments, *Submission 34*, p. 30; see also Queensland Ports Association, *Submission 13*, p. 20.

66 Australian and Queensland Governments, *Submission 34*, p. 30.

67 WWF-Australia and Australian Marine Conservation Society, *Submission 23*, p. 7.

68 Ms Suzanne Arnold, Coordinator, Australians for Animals, *Committee Hansard*, 23 July 2014, p. 47.

almost beyond repair. Reasonable requests and recommendations in EIS submissions were generally ignored or dismissed. Most independent reviews simplistically looked at whether or not the project had met with environmental conditions, but not at the adequacy of those conditions.⁶⁹

Abbot Point

6.51 The Port of Abbot Point commenced operations in 1984 and is currently a coal export port. It is located 25 kilometres north of Bowen, and is in the vicinity of the Galilee and Bowen coal basins. The port is located within an exclusion area and therefore, although it is within the Great Barrier Reef World Heritage Area, it remains outside the Marine Park.⁷⁰ The port is also adjacent to the Kaili (Caley) Valley Wetland, a large coastal wetland system covering an area of approximately 5,154 hectares and listed under the Directory of Important Wetlands in Australia. The wetland represents one of the largest intact wetland systems between Townsville and Bowen.⁷¹

6.52 The Queensland Ports Association commented on the development of Abbot Point:

The port is strategically located to provide export capacity from the northern Bowen basin and potentially in the future the Galilee basin. There are a number of projects currently proposed at the port that if realised will result in an expansion of infrastructure and export capacity. Currently two new terminals are in advanced stages of planning, while market demand and interest is being examined to determine what further expansion may be required in the medium to longer term.⁷²

6.53 The issue of dredging and dumping of dredge spoil for port development at Abbot Point, including perceived flaws in the associated decision-making process, was raised repeatedly during the committee's inquiry.

Abbot Point expansion proposals and approvals

6.54 There are a number of proposals, both approved and under consideration, for expansions at the Port of Abbot Point. These include:

69 Capricorn Conservation Council, *Submission 27*, p. 1.

70 GBRMPA, Abbot Point capital dredging project, <http://www.gbrmpa.gov.au/about-us/consultation/current-proposals-completed-assessment/abbot-point-capital-dredging-project> (accessed 20 August 2014); see also North Queensland Bulk Ports, *Abbot Point Port*, <http://www.nqbp.com.au/abbot-point/> (accessed 20 August 2014).

71 Queensland Department of State Development, Infrastructure and Planning, *Kaili (Caley) Valley Wetlands Baseline Report*, February 2012, <http://www.dsdip.qld.gov.au/resources/plan/cg/abbot/baseline-profile-for-the-kail-valley-wetlands.pdf> (accessed on 20 August 2014).

72 Queensland Ports Association, *Submission 13*, p. 6.

- capital dredging program for the proposed terminals 0, 2 and 3 (approved on 10 December 2013 by the Hon. Greg Hunt MP, Minister for the Environment);⁷³
- Adani Abbot Point Coal Terminal 0 (approved on 10 December 2013 by the Minister for the Environment);⁷⁴
- a proposal by BHP Billiton to construct and operate the T2 coal terminal expansion (withdrawn in October 2013);⁷⁵
- a proposal by Waratah Coal, referred in January 2012, to construct and operate a new coal terminal at Abbot Point (still active under consideration);⁷⁶
- Abbot Point Coal Terminal 3, Hancock Coal Infrastructure Pty Ltd (approved on 4 October 2012);⁷⁷ and
- Abbot Point expansion project, known as the AP-X Project, proposed by the Queensland Government (still in the tendering process, no application for environmental approval has been lodged).⁷⁸

6.55 The committee received a considerable amount of evidence during its inquiry in relation to the capital dredging program and in particular the approval of the disposal of the three million cubic metres dredge spoil from the dredging program in the Great Barrier Reef World Heritage Area.

73 See further EPBC referral 2011/6213, <http://www.environment.gov.au/epbc/notices/assessments/2011/6213/2011-6213-approval-decision.pdf> (accessed 20 August 2014).

74 See further EPBC Referral 2011/6194, http://www.environment.gov.au/cgi-bin/epbc/epbc_ap.pl?name=current_referral_detail&proposal_id=6194 (accessed 6 August 2014) and Australian and Queensland Governments, *Submission 34*, pp 22–23.

75 See further EPBC Referral 2011/6185, http://www.environment.gov.au/cgi-bin/epbc/epbc_ap.pl?name=current_referral_detail&proposal_id=6185 (accessed 6 August 2014).

76 See further EPBC Referral 2012/6250, http://www.environment.gov.au/cgi-bin/epbc/epbc_ap.pl?name=current_referral_detail&proposal_id=6250 (accessed 6 August 2014).

77 See further EPBC Referral 2008/4468, <http://gvkhancockcoal.com/documents/Publications/Miscellaneous/Terminal%203%20EPBC%20approval%20-%20October%202012.pdf> (accessed 20 August 2014); Department of the Environment, *Answers to questions taken on notice at hearing on 21 July 2014*, p. 4.

78 WWF-Australia and AMCS, *Submission 23*, p. 5; see also Queensland Government, *Abbot Point Expansion Project*, <http://www.dsdp.qld.gov.au/infrastructure-and-planning/abbot-point-expansion-project.html> (accessed 20 August 2014).

*Capital dredging program for the proposed terminals 0, 2 and 3*⁷⁹

6.56 The dredging is for six new berth pockets and the associated ship apron areas for three coal export terminals (terminals 0, 2 and 3) at the existing Port of Abbot Point. The sediment will be removed from a 185 hectare dredge area within port limits, to a maximum depth of five metres. The proposed spoil disposal site is located 24 kilometres north-east of Abbot Point. The Australian and Queensland Governments advised that:

An offshore option was found to have better results as the silt to be disposed is not toxic and will be disposed on similar material on the sea bed. The proposed disposal site is 20 kilometres from the closest significant areas of seagrass and 40 kilometres from the closet mid-shelf coral reef.⁸⁰

6.57 The original proposal requested approval for the disposal of 38 million cubic metres of dredge spoil. The final approval to the expansion project was granted subject to 95 conditions on 10 December 2013 by the Australian Government and only allowed for the disposal of three million cubic metres of dredge spoil.⁸¹

6.58 On 31 January 2014, the Great Barrier Reef Marine Park Authority (GBRMPA) approved a permit application by North Queensland Bulk Ports Corporation to dispose of dredge spoil at a deepwater location offshore of Abbot Point. The Australian and Queensland Governments advised that 'the permit was assessed in accordance with the GBMP Act and is subject to strict environmental conditions'.⁸²

6.59 The approval by GBRMPA to dispose of dredge spoil included conditions requiring:

- that no more than 1.3 million cubic metres of sediment be dredged or disposed of in a year, unless the proponent can demonstrate that increased dredging will not compromise water quality;
- that dredging and disposal activities only be undertaken between 1 March and 30 June each year to protect water quality during critical times for seagrass growth and coral spawning; and
- an offsets plan to address any loss and potential loss of seagrass. The plan will provide a net benefit outcome to the Outstanding Universal Value of the Great

79 See further EPBC Referral 2011/6213, http://www.environment.gov.au/cgi-bin/epbc/epbc_ap.pl?name=current_referral_detail&proposal_id=6213 (accessed 6 August 2014); and Australian and Queensland Governments, *Submission 34*, pp 21–22.

80 Australian and Queensland Governments, *Submission 34*, p. 21.

81 *Outlook Report 2014*, p. 129; Queensland Government, *Reef Facts*, 2014, p. 8, www.reeffacts.qld.gov.au/documents/reeffacts.pdf (accessed 20 August 2014); see further EPBC referral 2011/6213, <http://www.environment.gov.au/epbc/notices/assessments/2011/6213/2011-6213-approval-decision.pdf> (accessed 20 August 2014).

82 Australian and Queensland Governments, *Submission 34*, p. 24.

Barrier Reef World Heritage Area. It will offset any fine sediments resulting from the dredging and dredge spoil disposal activities and available for re-suspension by an equivalent 150 per cent reduction in the load of fine sediments entering the marine environment from the Burdekin and Don catchments.⁸³

Legal challenges to the Abbot Point decisions

6.60 The committee notes that the Minister's approval decision is being challenged in the Federal Court under the *Administrative Decisions (Judicial Review) Act 1977* (Cth). The case has been set down for trial in October 2014.⁸⁴

6.61 The North Queensland Conservation Council (NQCC), a party to the case, submitted that it will 'focus on the inadequacy of the research undertaken by the proponent and the failure to take into account adequately the London Protocol to which Australia is a signatory'.⁸⁵

6.62 The Administrative Appeals Tribunal is also hearing a challenge to GBRMPA's approval of a permit under the Sea Dumping Act.⁸⁶

World Heritage Committee concerns about Abbot Point

6.63 As set out in Chapter 2, the World Heritage Committee expressly mentioned the Abbot Point approval in its recent June 2014 decision, noting with concern and regret Australia's approval for dumping three million cubic metres of dredge material inside the property prior to having undertaken a comprehensive assessment of alternative and potentially less impacting development and disposal options. The World Heritage Committee further requested that Australia ensure that the option selected does not impact Outstanding Universal Values, and is the 'least damaging option available'.⁸⁷

6.64 As Mr Richard Leck of WWF-Australia observed, expressing concern and regret is 'very strong language' when used by an agency of the United Nations.⁸⁸

83 See GBRMPA, *Abbot Point Capital Dredging Project - Summary of Conditions*, <http://www.gbrmpa.gov.au/about-us/consultation/current-proposals-completed-assessment/abbot-point-capital-dredging-project/summary-of-conditions> (accessed 27 August 2014).

84 Ms Ellen Roberts, Co-ordinator, Mackay Conservation Group, *Committee Hansard*, 22 July 2014, pp 15–16; see further Environmental Defender's Office (Queensland), *Case Summary: Abbot Point dredging*, <http://www.edoqld.org.au/news/mcg-v-minister-for-the-environment-and-nqbp-dredging-case/> (accessed 6 August 2014).

85 NQCC, *Submission 30*, p. 1.

86 WWF-Australia and AMCS, *Submission 23*, p. 5.

87 UNESCO World Heritage Committee, Decision 38 COM 7B.63, 2014, p. 117, <http://whc.unesco.org/archive/2014/whc14-38com-16en.pdf> (accessed 9 July 2014).

88 Mr Richard Leck, National Manager, Marine Conservation and Sustainable Development, WWF-Australia, *Committee Hansard*, 21 July 2014, p. 18; see also Whitsunday Charter Boat Industry Association, *Submission 46*, p. 8.

6.65 However, Mr Roche from the Queensland Resources Council told the committee that:

We felt that the World Heritage Committee misunderstood the rigour of the assessment processes that went into the Abbot Point coal terminal—the multiple assessments, the cumulative impact assessment, the comprehensive scientific studies. We thought that was a misplaced observation.⁸⁹

Other concerns

6.66 Many submitters and witnesses expressed grave concerns or were highly critical of the decision to allow disposal of the dredge spoil from the Abbot Point dredging program in the Great Barrier Reef Marine Park.⁹⁰ For example, the Whitsunday Charter Boat Industry Association submitted that:

Given water quality has been identified as one of the greatest threats to the GBR, recent decisions by the Minister for the Environment, Mr Greg Hunt, to dump 3,000,000 m³ of dredging spoils from the Abbot Point expansion into GBRMPA waters is inconsistent with solving the problem of declining water quality within the GBRMPA, and with the World Heritage Committee recommendations.⁹¹

Location of dredge disposal site

6.67 The committee heard that the Minister's approval decision 'indicated a disposal site', but that the 'conditions also allowed for the proponents to investigate other sites if they choose to', and that they have not yet identified any alternative sites.⁹² A representative of the Department stated:

They have an approval for a particular location. If they want to find a different location, that is in their hands to consider and have assessed a different location.⁹³

89 Mr Michael Roche, Chief Executive, Queensland Resources Council, *Committee Hansard*, 21 July 2014, p. 33.

90 See, for example, AMPTO, *Submission 41*, p. 3; WWF-Australia and AMCS, *Submission 23*, p. 5; Whitsunday Charter Boat Industry Association, *Submission 46*; Mr Anthony Brown, President, Whitsunday Charter Boat Industry Association, *Committee Hansard*, 22 July 2014, p. 9; Ms Ellen Roberts, Co-ordinator, Mackay Conservation Group, *Committee Hansard*, 22 July 2014, p. 16; Mr Jon Brodie, *Committee Hansard*, 23 July 2014, p. 27; Mr Colin McKenzie, Executive Director, Association of Marine Park Tourism Operators, *Committee Hansard*, 23 July 2014, p. 33.

91 Professor Hoegh-Guldberg, *Submission 6*, p. 6.

92 Mr Dean Knudson, First Assistant Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, p. 63.

93 Mr Dean Knudson, First Assistant Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, p. 63.

6.68 Representatives of the Department of the Environment told the committee that the proposed site is '25 kilometres from the nearest seagrass beds and 40 kilometres from the nearest coral'.⁹⁴

6.69 In response to evidence that there may be some coral isolates in the area of the proposed disposal site,⁹⁵ Dr Reichelt told the committee that 'I would not say there is no coral; I would say there are no emergent platform coral reefs within a long distance'.⁹⁶

6.70 In answers to questions on notice, GBRMPA advised that 'the approved dredge material disposal area is approximately 45 kilometres from the nearest offshore reef (Old Reef)'.⁹⁷ The Queensland Government stated that 'while there may be some examples of inshore corals around Abbot Bay, it is important to note that the Abbot Point approval is subject to strict conditions to prevent impacts'.⁹⁸

Possible impacts

6.71 Concerns were expressed about the potential impacts of the Abbot Point expansion and associated dredging and dumping on the Whitsundays, the tourism industry of the area⁹⁹ and on fishing-related businesses in the area.¹⁰⁰

6.72 Mr Terry Must of Arabon Seafoods noted that, although the dredging site is only 12 square kilometres in size, by the time the shipping comes in, its footprint will be hundreds of square miles, with the whole area becoming a 'no-go zone for trawlers and fishermen'. This will have devastating impacts on the fishing industry in the area.¹⁰¹

6.73 Mr Jon Brodie told the committee that 'dredging has large effects on coral and fish...none of which were properly taken into account in the decision at Abbot Point'.¹⁰²

94 Dr Kimberley Dripps, Deputy Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, p. 62; see also Dr Russell Reichelt, Chairman and Chief Executive, GBRMPA, *Committee Hansard*, 23 July 2014, p. 62.

95 Mr Tony Fontes, *Committee Hansard*, 22 July 2014, p. 7; Mr Terence Must, Owner, Arabon Seafoods, *Committee Hansard*, 22 July 2014, p. 26.

96 Dr Russell Reichelt, Chairman and Chief Executive, GBRMPA, *Committee Hansard*, 23 July 2014, p. 61.

97 Department of the Environment, Queensland Government and GBRMPA, *Answers to questions on notice from public hearing on 21 July 2014*, p. 13.

98 Queensland Government, *Answers to written questions notice*, p. 31.

99 Whitsunday Charter Boat Industry Association, *Submission 46*, p. 1.

100 Arabon Seafoods, *Submission 44*, pp 2–3; Mr Terence Must, Owner, Arabon Seafoods, *Committee Hansard*, 22 July 2014, p. 26.

101 Mr Terence Must, Owner, Arabon Seafoods, *Committee Hansard*, 22 July 2014, pp 23, 26.

102 Mr Jon Brodie, *Committee Hansard*, 23 July 2014, p. 27.

6.74 The Whitsunday Charter Boat Industry Association stated that they were 'extremely concerned' about the Abbot Point decision, particularly because the dredging and dumping would add to the water quality problems already being observed in the Whitsundays area.¹⁰³

6.75 Mr McKenzie of the Association of Marine Park Tourism Operators told the committee that, given that the *Outlook Report 2014* identified that the reef is in poor condition and declining, there is 'no logic' to the decision to approve permits for dredging and dumping more silt in the reef area.¹⁰⁴ Submitters also suggested that the decision to allow for the disposal of the dredge spoil had rendered the considerable efforts of the agricultural sector to reduce sediment and nutrient run-off as 'useless'.¹⁰⁵ This issue was discussed at a more general level in Chapter 5.

6.76 In contrast, the Queensland Resources Council submitted:

All dredging and at sea placement activities are subject to detailed environmental assessments and management to ensure impacts are effectively reduced and managed to avoid environmental harm. In addition to sediment plume modelling, each proposed dredging project must undertake a rigorous analysis of the sediment to ensure it is not contaminated or toxic; and also a thorough investigation of disposal options. All dredged material that is placed offshore is placed in designated areas following a detailed environmental assessment and approval process. These seabed areas are generally free of vegetation, distant from major coral reefs and many have been used for decades. Dredged material is never placed on coral reefs or other areas of high conservation value.¹⁰⁶

Composition of dredge material

6.77 The Queensland Government stated that the dredge material to be disposed of in the Marine Park is 'a mixture of sand, silt and clay'.¹⁰⁷ GBRMPA confirmed this by stating that the composition of dredge material is on average 7 per cent gravel, 54 per cent sand, 19 per cent silt and 20 per cent clay. It was noted that the material is unlikely to contain garnet, and any heavy metals or polynuclear aromatic

103 Whitsunday Charter Boat Industry Association, *Submission 46*, pp 1–2; Mrs Janice Claxton, Committee Member, Whitsunday Charter Boat Industry Association, *Committee Hansard*, 22 July 2014, p. 6; Mr Allen Grundy, Director, Southern Cross Sailing Adventures, *Committee Hansard*, 22 July 2014, p. 41.

104 Mr Colin McKenzie, Executive Director, Association of Marine Park Tourism Operators, *Committee Hansard*, 23 July 2014, p. 33.

105 CAFNEC, *Submission 19*, p. 5 and Attachment 3, p. 1; see also, for example, Cairns Local Marine Advisory Committee, *Submission 7*, p. 2; Carefish, *Submission 16*, p. 3.

106 Queensland Resources Council, *Submission 28*, p. 11; see also Queensland Ports Association, *Submission 13*, p. 7.

107 Queensland Government, *Reef Facts*, 2014, p. 8, www.reeffacts.qld.gov.au/documents/reeffacts.pdf (accessed 20 August 2014).

hydrocarbons that may be present were below the relevant screening levels in the *National Assessment Guidelines for Dredging 2009*.¹⁰⁸

6.78 However, Dr Landos told the committee that acid sulphate soils 'may well be present at Abbot Point'.¹⁰⁹ As noted in the previous chapter, there is also an issue of the potential resuspension of sediments and how far they travel. For example, Mr Brown of the Whitsunday Charter Boat Industry Association told the committee that:

...we have a long way to go. The reason we are all on the back foot, and I think the marine park authority would agree with this, is that dredging and sea disposal is just part of business as usual and no-one had really thought about its impacts in any great manner. Now that this has happened, Abbot Point has become this lightning rod and so science is trying to catch up. That is why things keep coming out slowly as our understanding catches up and as more people put more energy into understanding the impacts, if there are impacts. We would be the first to agree that we do not understand fully, and that is our concern.¹¹⁰

Modelling and research

6.79 Several submissions and witnesses expressed concern about the modelling of dredge material dispersion used in Environmental Impact Statements for dredging projects.¹¹¹

6.80 As noted in the previous chapter, the Whitsunday Charter Boat Industry Association pointed to inconsistencies in modelling of sediment drift plumes from dredging near Hay Point in 2006, which they submitted reached the Whitsundays (80 kilometres away) and queried whether the Hay Point dredging and dumping has had an influence on the increased sediment in the Whitsundays.¹¹² Mr Tager pointed to modelling of deep ocean currents 'which showed that sediment was transported further and that dump spoil was resuspended more often than previously believed'.¹¹³ Mrs Janice Claxton of the Whitsunday Charter Boat Industry Association told the committee:

The problem, I believe, is that there is no science—GBRMPA have told us there is no science—that actually measures the movement of sediment once it has been dumped. To a point there is science, but it is targeted. They have

108 GBRMPA, *Answers to written questions on notice*, p. 28.

109 Dr Matthew Landos, *Committee Hansard*, 22 July 2014, p. 54.

110 Mr Anthony Brown, President, Whitsunday Charter Boat Industry Association, *Committee Hansard*, 22 July 2014, pp 10–11.

111 See, for example, Mr Jeremy Tager, *Submission 18*, p. 1; Mr Ted Whittingham, *Committee Hansard*, 22 July 2014, p. 49; Mr Jeremy Tager, *Committee Hansard*, 23 July 2014, p. 6.

112 Whitsunday Charter Boat Industry Association, *Submission 46*, pp 2–4.

113 Mr Jeremy Tager, *Committee Hansard*, 23 July 2014, p. 6.

admitted to us that there have never been any tests to see whether the impacts actually reached the Whitsunday islands.¹¹⁴

6.81 Ports Australia acknowledged the deficiencies in the modelling systems applied to the Hay Point and Gladstone Port activities. However, it was noted that 'improved predictive modelling techniques have enabled environmental risk to be more effectively managed'.¹¹⁵

6.82 However, Dr Oliver of AIMS told the committee that it had provided advice to GBRMPA 'on a number of occasions' in relation to the modelling used for the Abbot Point decision:

We did find that there were deficiencies in the overall modelling that had been done and we pointed them out very clearly to the marine park authority in assisting them with their final assessment. I am not sure to what extent those problems have been addressed, but we certainly did agree that there could be areas where the modelling could be significantly improved.¹¹⁶

6.83 Mr Jon Brodie suggested that documents released under freedom of information requests revealed that the review of the modelling done by AIMS was a 'damning indictment of the sediment transport modelling at Abbot Point, which was found to be inadequate—basically, they were standards of modelling we were able to do 20 years ago, not today'.¹¹⁷

6.84 Mr Black of the Queensland Government advised that 25 per cent of the sediment dredged at Abbot Point could possibly resuspend.¹¹⁸ However, Mr Jon Brodie expressed concern that the entirety of the sediment could be 'completed resuspended, especially in cyclonic conditions'.¹¹⁹

6.85 In response to a recent study undertaken in Western Australia which found that dredging and dumping increases the risk of coral disease, Ms Story of the Queensland Resources Council suggested that the Abbot Point proposal is quite different to the subject of that research. In particular, she told the committee that:

That was a study of seven million cubic metres of spoil that was conducted over an 18-month period. The impacts were highly localised...the impact from the dredge locations had the greatest impact...the placement area had even less impact. So it is about the dredging area rather than the placement area...Comparing that to the Great Barrier Reef and the Abbot Point

114 Mrs Janice Claxton, Committee Member, Whitsunday Charter Boat Industry Association, *Committee Hansard*, 22 July 2014, p. 6; see also Mr Anthony Brown, President, Whitsunday Charter Boat Industry Association, *Committee Hansard*, 22 July 2014, p. 9.

115 Ports Australia, *Submission 11*, pp 11, 48, 50–51.

116 Dr Jamie Oliver, Research Director, AIMS, *Committee Hansard*, 23 July 2014, p. 23.

117 Mr Jon Brodie, *Committee Hansard*, 23 July 2014, p. 27.

118 Mr Jon Black, Director-General, Queensland Department of Environment and Heritage Protection, *Committee Hansard*, 21 July 2014, p. 62.

119 Mr Jon Brodie, *Committee Hansard*, 23 July 2014, p. 29.

proposal: the coral reefs there are 40 kilometres away, the dredging projects are 1.3 million cubic metres at any one time and the project limit is three to four weeks rather than 18 months.¹²⁰

6.86 Similarly, an officer of the Department of the Environment told the committee that:

...with the volumes and the intensity of the dredging campaign and the length of the dredging campaign and its proximity to coral...there were important findings with respect to impacts on coral health which would not seem to apply in the space of Abbot Point.¹²¹

Offsets

6.87 In June this year, this committee examined the proposed environmental offsets for the North Queensland Bulk Ports Corporation's capital dredging project as Appendix 6 to the Senate Environment and Communications References Committee report into Environmental Offsets. That case study outlined many of the issues related to the proposed offsets plans.¹²² During this inquiry, the committee heard from the Department of the Environment that the actual offsets plans have not yet been submitted for the three projects approved at Abbot Point (the dredging project, and Terminal 0 and Terminal 3). The Department noted that:

When submitted, the plans are to include a marine offset strategy to compensate for any residual impacts on Green and Flat back Turtles. They are also required to achieve a net benefit to the outstanding universal value of the Great Barrier Reef World Heritage Area and an offsets plan to address any loss of seagrass from dredging actions.¹²³

6.88 The committee notes that the offsets conditions in relation to Abbot Point were widely criticised in evidence to this inquiry and to its previous inquiry into environmental offsets.¹²⁴ A particular issue was the feasibility of the offset condition requiring 150 per cent of fine sediments to be offset by a reduction in the load of fine sediments entering the marine environment from the Burdekin and Don catchments.

120 Ms Bronwyn Story, Manager, Great Barrier Reef Strategy, Queensland Resources Council, *Committee Hansard*, 21 July 2014, p. 34.

121 Mr Dean Knudson, First Assistant Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, p. 63.

122 Senate Environment and Communications Committee, *Environmental Offsets*, June 2014, Appendix 6, http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Environmental_Offsets/Report/index (accessed on 20 August 2014).

123 Department of the Environment, *Answers to questions on notice from public hearing on 21 July 2014*, p. 4.

124 Senate Environment and Communications References Committee, *Environmental Offsets*, June 2014, Appendix 6; see also Whitsunday Charter Boat Industry Association, *Submission 46*, p. 8; Ms Ellen Roberts, Co-ordinator, Mackay Conservation Group, *Committee Hansard*, 22 July 2014, p. 16; Mr Jeremy Tager, *Committee Hansard*, 23 July 2014, p. 6.

6.89 The committee notes that evidence received in its inquiry into environmental offsets showed that around 1.62 million tonnes of fine sediments would need to be offset. According to information provided by the Department of the Environment to this inquiry, the average cost of reducing one tonne of sediment through the Reef Rescue program would cost approximately \$140. The committee notes that the total cost of this offset would therefore be in the order of \$226.8 million.¹²⁵

6.90 Mr Brodie described the offsets to reduce sediments from the Burdekin and Don catchments as a 'farce' and 'technically and financially impossible to implement'.¹²⁶

Consideration of alternatives

6.91 Several submissions queried why alternative options to dumping, such as land-based disposal, or the use of trestles, were not taken.¹²⁷ For example, Mr Jeremy Tager submitted that 'there were viable land based alternatives' but that the ports authority claimed that land based disposal would involve 'disproportionate costs'. He argued against this claim, stating that:

...the cost of dumping on land as a proportion of the total cost of the project and the total revenue of the project—which is a multibillion dollar project—is not disproportionate at all.¹²⁸

6.92 Mr Richard Leck of WWF-Australia similarly told the committee:

The proposal that was put forward was done because it was cheap. If you were to develop Abbot Point, it is possible to do it to minimise the amount of dredging and dumping that occurs at Abbot Point...I would argue vehemently that an additional \$500 million is a perfectly reasonable price to pay to operate alongside one of the world's premier World Heritage areas.¹²⁹

6.93 Mr Brodie also confirmed the availability of more environmentally sound options by telling the committee:

Abbot Point could have gone ahead with a better option and a better process to get to an option that would have allowed the port to go ahead with limited damage to the Great Barrier Reef.¹³⁰

6.94 Mr Brodie suggested that there were five options:

125 Senate Environment and Communications References Committee, *Environmental Offsets*, June 2014, Appendix 6, p. 149; Department of the Environment, *Answers to written questions on notice*, p. 13.

126 Mr Jon Brodie, *Committee Hansard*, 23 July 2014, p. 27 and see also p. 29.

127 See, for example, Mr Jeremy Tager, *Submission 18*, p. 1; Arabon Seafoods, *Submission 44*, p. 3; Whitsunday Charter Boat Industry Association, *Submission 46*, pp 6–7.

128 Mr Jeremy Tager, *Submission 18*, p. 1 and *Committee Hansard*, 23 July 2014, p. 4.

129 Mr Richard Leck, National Manager, Marine Conservation and Sustainable Development, WWF-Australia, *Committee Hansard*, 21 July 2014, p. 21.

130 Mr Jon Brodie, *Committee Hansard*, 23 July 2014, p. 27.

- building a very long jetty where there is no dredging involved at all;
- building a medium-length jetty where there is only a very small amount of dredging;
- dredging three million cubic metres and dumping offshore;
- dredging three million cubic metres and putting it behind a small bunded area; and
- dredging three million cubic metres and putting it on the land.

6.95 Mr Brodie examined the pros and cons of these options and was of the opinion that the long jetty with no dredging was the most environmentally friendly, particularly as it involved no dredging. In his view the second best option was to dredge and place the spoil behind a small bunded area.¹³¹

6.96 Mr Brodie went on to comment that 'there was no consideration of some of the more feasible options or options that caused less damage to the Great Barrier Reef than the one that has now been chosen—for instance, a small bund wall was never considered'. He concluded that:

...we got a result out of that process that was the quickest, cheapest and dirtiest option for the Great Barrier Reef, designed specifically, really, to cause most damage to the Great Barrier Reef of all the possible options.¹³²

6.97 Submitters and witnesses noted, for example, that GBRMPA had suggested that best environmental practice, and their preferred option, would have been to minimise dredging through extending trestles into deeper water.¹³³ However, this advice was not followed. It was suggested that the reason for this was that the proponent rejected this option as being unfeasible 'due to uncertainty in approval requirements and timeframes and significant additional costs'.¹³⁴ The Whitsunday Charter Boat Industry Association referred to the GBRMPA risk assessment, which identified extended trestles as GBRMPA's preferred option, disposal on-shore as the second best option, and disposal in the Marine Park as the least favoured option.¹³⁵

6.98 However, in response to questioning on this issue, a representative of the Department of the Environment told the committee that 'there was an extremely

131 Mr Jon Brodie, *Committee Hansard*, 23 July 2014, p. 31.

132 Mr Jon Brodie, *Committee Hansard*, 23 July 2014, p. 26.

133 See, for example, WWF-Australia and AMCS, *Submission 23*, p. 5; Whitsunday Charter Boat Industry Association, *Submission 46*, pp 6–7; Mr Tony Fontes, *Committee Hansard*, 22 July 2014, p. 2; Mr Jeremy Tager, *Committee Hansard*, 23 July 2014, p. 4. See also Mr Bruce Elliot, General Manager, Biodiversity Conservation and Sustainable Use, GBRMPA, *Committee Hansard*, 23 July 2014, p. 57.

134 WWF-Australia and AMCS, *Submission 23*, p. 5; Whitsunday Charter Boat Industry Association, *Submission 46*, p. 6.

135 Whitsunday Charter Boat Industry Association, *Submission 46*, p. 6; see also Mr Anthony Brown, President, Whitsunday Charter Boat Industry Association, *Committee Hansard*, 22 July 2014, pp 9, 12.

comprehensive assessment of the propositions that were put to us around Abbot Point'.¹³⁶ In response to a question on notice, the Department stated that a 'multi-criteria analysis concluded that offshore disposal of dredged sediment was the best option for disposal on environmental grounds, prior to consideration of costs'.¹³⁷

6.99 Mr Elliot from GBRMPA told the committee that GBRMPA's decision in relation to the disposal of dredge spoil in the Great Barrier Reef Marine Park 'was independently taken from the minister's' decision about dredging.¹³⁸ He said:

Under our legislation, a decision under the Great Barrier Reef Marine Park Act cannot occur before a decision under the EPBC Act. So the minister must make his decision first and then there is a statutory time frame under which we have to make a decision...¹³⁹

6.100 Mr Elliot explained that 'alternatives were investigated', including 'land disposal and trestles':

Those alternatives were investigated, in particular in the supplementary public environment report that was done by the proponent, and that was after we had actually engaged with them to request additional work to be done on a number of alternatives. So they were considered as part of the process.¹⁴⁰

6.101 In terms of the change in advice, Mr Elliot explained that GBRMPA:

...worked with the proponent throughout the process to try to shape that proposal and we required them to investigate alternatives as well. But when we got to the end of the process, the proposal we were making a decision on was for offshore disposal not for any other option.¹⁴¹

6.102 He noted that GBRMPA's preferred options were set out in a document in 2013, released during the approval process:

When we were examining alternatives such as trestles and land-based options, we were providing feedback to the proponent and to the department to suggest that we believed there were alternatives that would have a better environmental outcome for the marine park. That does not

136 Dr Kimberley Dripps, Deputy Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, p. 58.

137 Department of the Environment, *Answers to questions on notice from public hearing on 21 July 2014*, p. 2.

138 Mr Bruce Elliot, General Manager, Biodiversity Conservation and Sustainable Use, GBRMPA, *Committee Hansard*, 23 July 2014, p. 57.

139 Mr Bruce Elliot, General Manager, Biodiversity Conservation and Sustainable Use, GBRMPA, *Committee Hansard*, 23 July 2014, p. 56.

140 Mr Bruce Elliot, General Manager, Biodiversity Conservation and Sustainable Use, GBRMPA, *Committee Hansard*, 23 July 2014, p. 56.

141 Mr Bruce Elliot, General Manager, Biodiversity Conservation and Sustainable Use, GBRMPA, *Committee Hansard*, 23 July 2014, p. 57.

mean that they were engineeringly feasible or that there were not other issues associated...

The other thing to note of course is that the proposal we were making a decision on was for an offshore disposal...We could not provide a permit for something other than what was applied for. So we could not say, 'We are going to give you a permit to dispose it on land.'¹⁴²

6.103 In response to questioning, Mr Elliot told the committee that the accusation that GBRMPA had been 'leaned on' to change its position was not correct.¹⁴³ Dr Reichelt noted that an 'alternative disposal site analysis' was done as part of the conditions of approval, with 'much improved modelling'.¹⁴⁴

6.104 One land-based disposal option that was offered in January 2014 by Mr Kevin Murphy of Bowen Land Development Corporation was that the dredge material from the Abbot Point expansion be pumped into the old Cheetam salt works, 17 kilometres from Abbot Point. Mr Murphy explained that the salt works is divided into 27 sealed ponds covering a site of 300 hectares. The ponds have a capacity to accommodate over six million cubic metres of fill.¹⁴⁵ When questioned about why the salt works were not considered, GBRMPA and the Department of the Environment stated:

We are advised that Mr Murphy's salt works was not available as an alternative at the time the assessments were completed.

North Queensland Bulk Ports have not submitted a proposal for the assessment of the disposal of dredged material at the salt works site to date.¹⁴⁶

6.105 GBRMPA also explained that land-based disposal of dredge material is generally more expensive than off-shore disposal 'due to the de-watering process...which involves the storage of the dredge material, as well as the de-watering, stabilisation and separation of the material'.¹⁴⁷ However, Mr Murphy explained that the proposed salt works site could act as 'a giant filtration system', initially allowing for the treatment of potential acid sulphate soil and for the water to be flocculated. Then, the clear surface water would naturally flow through the ponds

142 Mr Bruce Elliot, General Manager, Biodiversity Conservation and Sustainable Use, GBRMPA, *Committee Hansard*, 23 July 2014, p. 57.

143 Mr Bruce Elliot, General Manager, Biodiversity Conservation and Sustainable Use, GBRMPA, *Committee Hansard*, 23 July 2014, p. 57.

144 Dr Russell Reichelt, Chairman and Chief Executive, GBRMPA, *Committee Hansard*, 23 July 2014, p. 61.

145 Mr Kevin Murphy, *Submission 55*, pp 1–2; see also Tony Moore, 'New ideas for reef dredge spoil should be investigated: Queensland MP', *Brisbane Times*, 27 August 2014, <http://www.brisbanetimes.com.au/queensland/new-ideas-for-reef-dredge-spoil-should-be-investigated-queensland-mp-20140827-1090z5.html> (accessed 28 August 2014).

146 Department of the Environment, *Answers to written questions on notice*, p. 13; GBRMPA, *Answers to written questions on notice*, p. 27.

147 GBRMPA, *Answers to written questions on notice*, p. 24.

into the ocean.¹⁴⁸ In response to this option, Mr George Christensen MP, the Federal Member for Dawson, has asked North Queensland Bulk Ports Corporation to exhaustively investigate every land-based option and has stated 'if a viable option emerges I will ensure that the spoil is dumped on land, not at sea'.¹⁴⁹ The committee notes reports that North Queensland Bulk Ports Corporation is considering altering its plans to dispose of dredge spoil material at sea.¹⁵⁰ The committee further notes that the Minister for the Environment recently stated that he would welcome and consider alternative options to offshore disposal.¹⁵¹

Capacity at Abbot Point

6.106 As discussed in the previous chapter, there was some discussion as to whether port expansions, including the expansion at Abbot Point, are even necessary, and whether existing ports are operating at full capacity.

6.107 Mr Anderson from Ports Australia told the committee that Abbot Point 'is pretty much close to capacity at the moment'.¹⁵² Nevertheless, the committee notes that the North Queensland Bulk Ports Corporation website, the website of the company responsible for the Port of Abbot Point, states that the current export capacity of Abbot Point Terminal 1 (T1) is 50 Mtpa and, last year, the annual throughput was around 22.9 Mtpa.¹⁵³

6.108 However, Mr Roche from the Queensland Resources Council explained that at Abbot Point T1 'there is one ship loader that is not functional at the moment'. He further stated that 'the current port capacity of that operation is 33 million tonnes', and that the port will 'go close to capacity' by the end of next financial year.¹⁵⁴

6.109 As noted in the previous chapter, the Queensland Government explained that the listed capacity of a port is often given in terms of its theoretical maximum throughput and this figure does not take into account factors such as maintenance shutdowns and adverse weather. It was noted that the entire present capacity of the

148 Mr Kevin Murphy, *Submission 55*, p. 1.

149 Tony Moore, 'New ideas for reef dredge spoil should be investigated: Queensland MP', *Brisbane Times*, 27 August 2014, <http://www.brisbanetimes.com.au/queensland/new-ideas-for-reef-dredge-spoil-should-be-investigated-queensland-mp-20140827-1090z5.html> (accessed 28 August 2014).

150 Joanna Heath, 'Great Barrier Reef dumping plans scrapped: report', *Sydney Morning Herald*, 2 September 2014, <http://www.smh.com.au/federal-politics/political-news/great-barrier-reef-dumping-plans-scrapped-report-20140902-10b8uv.html> (accessed 2 September 2014).

151 ABC Radio, 'Abbot Point offshore dumping looks unlikely', *PM*, 2 September 2014, <http://www.abc.net.au/pm/content/2014/s4079498.htm> (accessed 3 September 2014).

152 Mr David Anderson, Chief Executive Officer, Ports Australia, *Committee Hansard*, 21 July 2014, p. 25.

153 North Queensland Bulk Ports, *Abbot Point Port*, <http://www.nqbp.com.au/abbot-point/> (accessed 12 August 2014).

154 Mr Michael Roche, Chief Executive, Queensland Resources Council, *Committee Hansard*, 21 July 2014, p. 34.

Port of Abbot Point has already been allocated to resource companies, meaning that new capacity will be required for new and expanding coal producers.¹⁵⁵

Process for approval

6.110 Mr McKenzie of AMPTO explained that they were surprised that the permit was granted before the Strategic Assessment was finalised:

...we did not expect to see any of the permits being granted until such a time as we understood the full cumulative impact of all the proposed port development. The real issue is that then they turned around, six months before the finalisation of that document, and issued permits. Quite frankly, our industry felt betrayed in the trust that we had given to the federal government on that document and that process.¹⁵⁶

6.111 Based on documents received under freedom of information requests, it was claimed that experts in GBRMPA had initially recommended that the dumping permit not be issued.¹⁵⁷ For example, Mr Coates of CAFNEC told the committee that 'internally the advice seems to have been quite different to what has gone to the minister in the end'.¹⁵⁸

6.112 It was suggested that, as the Department of the Environment gave its approval first, before GBRMPA had made a decision about the sea dumping permit, GBRMPA was then left in a politically difficult position.¹⁵⁹ Mr Jeremy Tager told the committee that 'despite really clear evidence that the staff at GBRMPA were not recommending approval of either the dredging or the dumping, approval was given, which seems to me to be a clearly political decision'.¹⁶⁰ He also noted that a change occurred in GBRMPA after a change in the delegated decision-maker and 'it is hard to conclude anything except that there was political interference'.¹⁶¹

155 Queensland Government, *Answers to written questions on notice*, p. 30.

156 Mr Colin McKenzie, Executive Director, Association of Marine Park Tourism Operators, *Committee Hansard*, 23 July 2014, p. 34.

157 CAFNEC, *Submission 19*, p. 7.

158 Mr Josh Coates, Marine Program Coordinator, CAFNEC, *Committee Hansard*, 23 July 2014, p. 16.

159 See CAFNEC, *Submission 19*, pp 7–8.

160 Mr Jeremy Tager, *Committee Hansard*, 23 July 2014, p. 3; see also Dr Charlie Veron, former Chief Scientist, AIMS, 'The Battle for the Barrier Reef', *Four Corners*, 18 August 2014, ABC transcript, <http://www.abc.net.au/4corners/stories/2014/08/18/4067593.htm> (accessed 21 August 2014).

161 Mr Jeremy Tager, *Committee Hansard*, 23 July 2014, p. 6.

Impact on GBRMPA

6.113 It was submitted that the Abbot Point decision has undermined community confidence in GBRMPA and its independence.¹⁶² For example, the North Queensland Conservation Council submitted that:

Having been involved in public education in relation to marine issues in Townsville, we can attest to the fact that very, very many in the community feel let down by the action of GBRMPA in providing permits to allow the dumping of dredge spoil in the GBRMP at Abbot Point. The agency that was seen as 'the good guys' 'on the side of the Reef' is now, sadly, regarded as an agency that can be swayed by the government of the day.¹⁶³

6.114 They further submitted that they are aware that many GBRMPA staff also 'did not agree with the dumping decision and are sad, mortified and angry that their expert advice was not accepted'.¹⁶⁴

6.115 The Cairns Local Marine Advisory Committee submitted that it wants 'a strong and trusted advocate' for the Great Barrier Reef and that 'the reputation of the Authority has been badly damaged'.¹⁶⁵ Similarly, CAFNEC submitted that:

Community confidence in decision making around GBR protection is at a low point and huge improvements in consultation, research and policy will be required to ensure that problems that have come to light around the Abbot Point decision are not repeated.¹⁶⁶

6.116 Ms Felicity Wishart of the Australian Marine Conservation Society told the committee that:

There was clear advice from the marine park authority experts that dumping should not occur, and yet approval was given by the marine park authority. That raises serious questions about whether that organisation is fulfilling its mission.¹⁶⁷

6.117 In response to further questioning on this issue, Ms Wishart further explained:

...there were serious concerns by the experts about the impact particularly of dumping in the marine park. They were strongly recommending that this was not the preferred option, that other options should have been taken first. In the case of Abbott Point, in my opinion, the Marine Park authority has been put in an invidious position where the minister approved the dredging and a dumpsite within the marine park, even though he anticipated it would

162 See, for example, Cairns Local Marine Advisory Committee, *Submission 7*, p. 3; CAFNEC, *Submission 19*, p. 7; North Queensland Conservation Council, *Submission 30*, p. 3.

163 North Queensland Conservation Council, *Submission 30*, p. 3.

164 North Queensland Conservation Council, *Submission 30*, p. 3.

165 Cairns Local Marine Advisory Committee, *Submission 7*, p. 3; CAFNEC, *Submission 19*, p. 8.

166 CAFNEC, *Submission 19*, p. 7.

167 Ms Felicity Wishart, Great Barrier Reef Campaign Director, Australian Marine Conservation Society, *Committee Hansard*, 21 July 2014, p. 15.

not be the final dump site, which then put inordinate pressure on the Marine Park Authority to then have to issue the permit...we saw politics overriding science in that particular circumstance.¹⁶⁸

Other process issues

6.118 It was also suggested that there was a 'lack of transparent consultation and provision of timely information' in relation to the Abbot Point decision.¹⁶⁹ The Whitsunday Charter Boat Industry Association submitted that it was:

...never consulted by NQBP or the GBRMPA which we would expect as our operators have permits to operate at Holbourne Island only 6 km from the catalina dump site.¹⁷⁰

6.119 It was also suggested that, on the basis of the precautionary principle, the disposal should not have been approved, and the permit should not have been issued, since there is insufficient information on the impacts of dumping.¹⁷¹

6.120 However, industry groups such as the Queensland Ports Association pointed to the Abbot Point 'Cumulative Impact Assessment' as a 'comprehensive evaluation of the combined effects of port development'.¹⁷² The Queensland Ports Association submitted that this cumulative impact assessment, combined with the environmental assessment Public Environment Report:

...highlight that port development, including a 3 million m³ capital dredging campaign, can occur in a sustainable manner and deliver conservation objectives that maintain or improve the current environmental situation. Further, the studies also showed that the marine values of the area could be protected and that the Outstanding Universal Value (OUV) of the GBR preserved through appropriate design, management, monitoring and offsetting residual impacts.¹⁷³

6.121 In contrast, WWF-Australia and AMCS submitted that:

...the environmental impact assessments undertaken for the recent Abbot Point dredging and dumping approvals do not take into account cumulative

168 Ms Felicity Wishart, Great Barrier Reef Campaign Director, Australian Marine Conservation Society, *Committee Hansard*, 21 July 2014, p. 20.

169 CAFNEC, *Submission 19*, p. 13.

170 Whitsunday Charter Boat Industry Association, *Submission 46*, p. 1.

171 See, for example, CAFNEC, *Submission 19*, p. 7; NQCC, *Submission 30*, p. 4; Whitsunday Residents Against Dumping, *Submission 39*, pp 3–4.

172 Queensland Ports Association, *Submission 13*, p. 4; see also Mr Thomas Kaveney, Environmental Policy Advisor, Queensland Ports Association, *Committee Hansard*, 21 July 2014, p. 28 and Mr Michael Roche, Chief Executive, Queensland Resources Council, *Committee Hansard*, 21 July 2014, p. 30. Note that the cumulative impact assessment is available at: <http://www.nqbp.com.au/abbot-point/> (accessed 8 August 2014).

173 Queensland Ports Association, *Submission 13*, pp 6–7; see also Mr Thomas Kaveney, Environmental Policy Advisor, Queensland Ports Association, *Committee Hansard*, 21 July 2014, p. 28.

impacts and were done prior to the establishment of an evidence-based framework for assessing impacts at a regional scale on the Outstanding Universal Value of the Great Barrier Reef.¹⁷⁴

6.122 Furthermore, Mr Tager noted that the 2012 dredging guidelines, which took into account the effects of deep ocean currents on sediment transportation, were not imposed on the Abbot Point development. He went on to infer:

...because the Abbot Point development application went in before the guidelines took effect, GBRMPA decided they could not impose them on the ports authority. The ports authority, although they certainly could have modelled based on deep ocean currents and the current knowledge that was available about deep ocean currents, simply stuck to the legal requirements rather than best practice and allowed themselves to do work that did not reflect the reality on the ground.¹⁷⁵

Lessons from Gladstone Harbour

6.123 Arabon Seafoods was concerned that the issues that have occurred in Gladstone Harbour will occur again in the Abbot Point area.¹⁷⁶ Arabon Seafoods suggested that there are clear lessons to learnt from the issues in Gladstone Harbour:

There is potential for considerable environmental harm by maritime developments in Abbot Point—such environmental concerns evident from the port developments in Gladstone. The Gladstone Port outcomes cannot be ignored for Abbot Point.¹⁷⁷

6.124 Similarly, Mr Jon Brodie told the committee that the:

...at Abbot Point now it is meant to be all okay because we are going to have stringent conditions. I do not believe it for a moment. We saw what the stringent conditions did at Gladstone: they did nothing. So there is no way we could ever trust the conditions¹⁷⁸

174 WWF-Australia and AMCS, *Submission 23*, p. 5.

175 Mr Jeremy Tager, *Committee Hansard*, 23 July 2014, p. 6.

176 Arabon Seafoods, *Submission 44*, pp 4–5.

177 Arabon Seafoods, *Submission 44*, p. 2.

178 Mr Jon Brodie, *Committee Hansard*, 23 July 2014, p. 27; see also Mr Anthony Brown, President, Whitsunday Charter Boat Industry Association, *Committee Hansard*, 22 July 2014, p. 9.

Chapter 7

Management of shipping in the Great Barrier Reef

7.1 This chapter examines key issues raised in relation to shipping¹ in the Great Barrier Reef, including:

- rates of shipping through the Great Barrier Reef;
- management and regulatory measures in relation to shipping (including the proposed North-East Shipping Management Plan); and
- the impacts of shipping.

Trends in shipping traffic through the reef

7.2 There was a consensus in evidence to the committee that shipping is increasing in the Great Barrier Reef region, although there were differing perspectives on the likely extent of this increase.

7.3 The *Outlook Report 2014* states that shipping in the Great Barrier Reef region 'has increased substantially since 2000, driven mainly by industrial and mining activity'. It forecasts that 'the number of vessel calls to ports adjacent to the region will increase by about 250 per cent over the next 20 years'. This forecast is based on 'projected export capacities, information from existing development proposals and predictions for the region's four major ports' and, in particular, growth in the mining and liquefied natural gas industry and port expansions. The report provided a graph indicating that by 2020 there will be around 7500 vessel calls to Great Barrier Reef ports (including around 4200 coal vessels), up from around 4000 total calls in 2012.²

7.4 However, the extent of any future increases in shipping was the subject of discussion in evidence to this inquiry. GBRMPA pointed out that there is uncertainty in forecasting shipping volumes:

As levels of shipping activity are affected by a number of economic factors, it is difficult to predict the amount of shipping that will occur through the waters of the Great Barrier Reef in future years.³

1 Note that there is a range of shipping occurring in the Great Barrier Reef region. The terms of reference for this inquiry refer to 'industrial' shipping, hence that is the focus in this chapter where possible, although it is noted that not all evidence made this distinction.

2 GBRMPA, *Outlook Report 2014*, pp 135–136; see also graph in GBRMPA, 'Shipping – challenges for the Great Barrier Reef', *Ports and Shipping Information Sheet*, p. 3; WWF-Australia and AMCS, *Submission 23*, p. 3. All these forecasts cite PGM Environment, *Great Barrier Reef Shipping: Review of Environmental Implications*, December 2012, <http://www.environment.gov.au/system/files/pages/884f8778-caa4-4bd9-b370-318518827db6/files/23qrc-doc3.pdf> (accessed 31 July 2014).

3 GBRMPA, 'Shipping – challenges for the Great Barrier Reef', *Ports and Shipping Information Sheet*, p. 1.

7.5 The Queensland Ports Association observed that, in recent times, there have been 'a number of widely varying and in some instances inaccurate estimates of future shipping numbers in the GBR'.⁴ WWF Australia and AMCS also acknowledged that 'estimates vary for the projected increase in shipping' in the Great Barrier Reef region.⁵ Mr Roche from the Queensland Resources Council explained that 'there is a difference of view about what is a realistic picture for the expansion of the industry over the decade'.⁶ He tabled a document indicating that 'at the upper end of official forecasts, ship calls could increase from a current 4600 vessels a year to around 6000 by 2020'.⁷

7.6 At the other end of the spectrum, some submitters and witnesses referred to a Greenpeace report predicting that coal ships passing through the Great Barrier Reef World Heritage Area will increase to around 10,000 by the end of the decade.⁸ However, the Queensland Resources Council described these figures as 'ludicrous' and 'incorrect'. Both the Queensland Ports Association and the Queensland Resources Council noted that forecasts are being lowered, reflecting changes in market conditions, including lower resources demand, over the past 12–18 months.⁹ Queensland Ports Association also submitted that 'any increase in shipping traffic of itself, presents a minimal change to the risk if managed accordingly'.¹⁰

4 Queensland Ports Association, *Submission 13*, p. 9; see also Mr Michael Roche, Chief Executive, Queensland Resources Council, *Committee Hansard*, 21 July 2014, pp 30 and 35.

5 WWF-Australia and AMCS, *Submission 23*, p. 3.

6 Mr Michael Roche, Chief Executive, Queensland Resources Council, *Committee Hansard*, 21 July 2014, p. 35.

7 Mr Michael Roche, Chief Executive, Queensland Resources Council, *Committee Hansard*, 21 July 2014, p. 35, referring to Queensland Resources Council, *Working alongside the Great Barrier Reef*, 2013.

8 See, for example, Capricorn Conservation Council, *Submission 27*, p. 19, citing Greenpeace, *Boom Goes the Reef: Australia's coal export boom and the industrialisation of the Great Barrier Reef*, March 2012, p. 4, http://www.greenpeace.org/australia/Global/australia/reports/Boom_goes_the_Reef_Report_4_MB.pdf (accessed 1 August 2014).

9 Queensland Ports Association, *Submission 13*, p. 9; Queensland Resources Council, *Submission 28*, p. 14; citing Braemar Seascope (2013) *North Queensland Ship Traffic Growth Study Supplementary Report*, March 2013, Prepared for Australian Maritime Safety Authority, available at: <http://www.amsa.gov.au/community/consultation/nsm-consultation.asp> (31 July 2014); see also Mr Michael Roche, Chief Executive, Queensland Resources Council, *Committee Hansard*, 21 July 2014, p. 30; Mr David Rynne, Director, Economic and Infrastructure Policy, Queensland Resources Council, *Committee Hansard*, 21 July 2014, pp 36–37.

10 Queensland Ports Association, *Submission 13*, p. 9.

7.7 The committee also received evidence that the size of ships in the region is increasing, and that there is a global trend towards longer ships with deeper drafts.¹¹ The Mackay Conservation Group, for example, were concerned that the use of larger ships means that there is a need for more dredging.¹² Indeed, the committee notes that the GBRMPA Region Strategic Assessment states that:

In order to accommodate deeper draft ships, some ports may require more capital and ongoing maintenance dredging into the future.¹³

7.8 However, Mr Anderson of Ports Australia told the committee that, while 'container ships are getting a lot bigger', he did not think there will be a 'massive increase in the size of vessels coming to Queensland'.¹⁴

7.9 Dr Reichelt noted that GBRMPA is looking at the 'idea of a reef-class vessel that is wider and shallower and does not need deep channels'.¹⁵

Management and regulatory measures in relation to shipping

7.10 Other submissions and witnesses argued that work is being done to minimise the risks of shipping to the reef. In particular, government and industry groups told the committee that shipping in the Great Barrier Reef region is well managed, highly regulated and relatively low risk.¹⁶

7.11 For example, Commodore Rod Nairn of Shipping Australia told the committee that 'the existing regulatory environment for shipping in the Great Barrier Reef is both comprehensive and efficient'.¹⁷

7.12 The Australian and Queensland Governments submitted that:

11 GBRMPA, *Outlook Report 2014*, p. 135; see also GBRMPA, *Great Barrier Reef Region Strategic assessment, Strategic Assessment Report*, August 2013, p. 5–29; see also Ms Wendy Tubman, Coordinator, North Queensland Conservation Council (NQCC), *Committee Hansard*, 15 August 2014, p. 2.

12 Mackay Conservation Group, *Submission 42*, p. 43.

13 GBRMPA, *Great Barrier Reef Region Strategic Assessment, Strategic Assessment Report*, August 2013, p. 5–29.

14 Mr David Anderson, Chief Executive Officer, Ports Australia, *Committee Hansard*, 21 July 2014, pp 23–24; see also Mr Tom Kaveney, Environmental Policy Advisor, Queensland Ports Association, *Committee Hansard*, 21 July 2014, p. 24; Commodore Rod Nairn, Chief Executive Officer, Shipping Australia, *Committee Hansard*, 21 July 2014, p. 45.

15 Dr Russell Reichelt, Chairman and Chief Executive, GBRMPA, *Committee Hansard*, 23 July 2014, p. 52.

16 See, for example, Shipping Australia, *Submission 3*, p. 3; Queensland Ports Association, *Submission 13*, p. 9; Queensland Resources Council, *Submission 28*, p. 14; Minerals Council of Australia, *Submission 35*, p. 8; Mr David Anderson, Chief Executive Officer, Ports Australia, *Committee Hansard*, 21 July 2014, p. 24; Commodore Rod Nairn, Chief Executive Officer, Shipping Australia, *Committee Hansard*, 21 July 2014, p. 44; see also GBRMPA, *Outlook Report 2014*, p. 26.

17 Commodore Rod Nairn, Chief Executive Officer, Shipping Australia, *Committee Hansard*, 21 July 2014, p. 44.

Commercial shipping has been occurring in the reef area for around 100 years and all but the smallest vessels are confined to a few well-defined routes. The shipping is highly regulated by international, Commonwealth, state and local regulations and reef-specific policies. Despite a substantial increase in ship movements since 1996, groundings have reduced in the same time period.¹⁸

7.13 The committee received evidence referring to a range of existing measures that regulate and manage shipping through the Great Barrier Reef. These included:

- the Great Barrier Reef has been declared a Particularly Sensitive Sea Area (PSSA) by the International Maritime Organization (IMO), which was extended southward to the southern extent of the reef and enables Australia to apply specific maritime controls, such as compulsory pilotage, designation of shipping routes and mandatory location reporting;¹⁹
- the Great Barrier Reef and Torres Strait Vessel Traffic Service (REEFVTS) to monitor ship movements in the Great Barrier Reef and intervene if shipping moves beyond defined limits such as designated shipping areas;²⁰
- a compulsory pilotage regime for certain ships²¹ which covers certain parts of the reef, including the inner route of the Great Barrier Reef and around the Whitsundays;²²
- numerous international conventions which Australia has ratified that relate to the safety of shipping and protection of the marine environment;²³ and
- ship quality vetting.²⁴

7.14 The Queensland Ports Association concluded that:

18 Australian and Queensland Governments, *Submission 34*, p. 8.

19 Shipping Australia, *Submission 3*, p. 2; Queensland Ports Association, *Submission 13*, p. 9; see also Commodore Rod Nairn, Chief Executive Officer, Shipping Australia, *Committee Hansard*, 21 July 2014, p. 44.

20 Shipping Australia, *Submission 3*, pp 2–3; Queensland Ports Association, *Submission 13*, p. 9; Queensland Resources Council, *Submission 28*, p. 14; Commodore Rod Nairn, Chief Executive Officer, Shipping Australia, *Committee Hansard*, 21 July 2014, pp 44 and 46; Mr Michael McCabe, Coordinator, Capricorn Conservation Council, *Committee Hansard*, 22 July 2014, p. 31.

21 That is, ships over 70 metres, and also loaded oil tankers, chemical carriers and liquefied gas carriers: *Outlook Report 2014*, p. 136.

22 Shipping Australia, *Submission 3*, pp 2–3; Queensland Ports Association, *Submission 13*, p. 9; Queensland Resources Council, *Submission 28*, p. 14; Commodore Rod Nairn, Chief Executive Officer, Shipping Australia, *Committee Hansard*, 21 July 2014, pp 44 and 46; see also *Outlook Report 2014*, p. 136; and draft *North East Shipping Management Plan*, p. 47.

23 Shipping Australia, *Submission 3*, p. 3.

24 Queensland Ports Association, *Submission 13*, p. 9; Queensland Resources Council, *Submission 28*, p. 14.

Overall the impacts and risks to the [Great Barrier Reef] from shipping are considered to be extremely well managed and are improving over time to address the increased shipping volumes and related risks.²⁵

North-East Shipping Management Plan

7.15 In addition to these measures, the Australian and Queensland Governments referred to the draft North-East Shipping Management Plan (as mentioned in Chapter 2), noting that the plan 'identifies measures to manage risks associated with shipping' in the Great Barrier Reef region and that:

These measures are to be implemented through a work program, to prevent or mitigate ship-sourced pollution and other environmental impacts associated with the projected growth of shipping over the next 10 years.²⁶

7.16 The plan was made available for public comment and consultation in August 2013, and will be finalised this year.²⁷

7.17 Some submitters and witnesses were concerned that the Strategic Assessment contains little detail on measures to reduce risks from shipping but rather defers to the proposed North-East Shipping Management Plan.²⁸

7.18 Most industry groups were supportive of the North-East Shipping Management Plan.²⁹ For example, Shipping Australia described it as 'extensive', stating that it provides 'an integrated approach to the planning, regulation and management of ports and shipping activity' in the Great Barrier Reef region, and 'should allay any fears that shipping activities may negatively impact' on the reef.³⁰

7.19 The Minerals Council of Australia agreed that the North-East Shipping Management Plan:

...should provide further confidence that shipping through the [Great Barrier Reef] area will remain well managed into the future and present a low risk to listed [Great Barrier Reef] values.³¹

25 Queensland Ports Association, *Submission 13*, p. 9.

26 Australian and Queensland Governments, *Submission 34*, p. 31.

27 Australian and Queensland Governments, *Submission 34*, p. 31; Australian Maritime Safety Authority, *North-East Shipping Management Plan*, <http://www.amsa.gov.au/community/consultation/nesm-consultation.asp> (accessed 31 July 2014); see also Department of the Environment, *Answers to written questions on notice*, p. 10.

28 See, for example, Cairns Marine Local Advisory Committee, *Submission 7*, p. 4; IFAW, *Submission 10*, p. 2; CAFNEC, *Submission 19*, Attachment 3, p. 7; Ms Sharon Livermore, Marine Campaigner, IFAW, *Committee Hansard*, 23 July 2014, p. 39.

29 See, for example, Mr David Anderson, Chief Executive Officer, Ports Australia, *Committee Hansard*, 21 July 2014, p. 24.

30 Shipping Australia, *Submission 3*, p. 2.

31 Minerals Council of Australia, *Submission 35*, p. 7.

7.20 Mr Simon Meyjes of Australian Reef Pilots noted, for example, that there are proposals under the North-East Shipping Management Plan to extend the some of the compulsory pilotage areas south and possibly make it mandatory by 2020.³²

7.21 However, many submitters and witnesses were critical of the North-East Shipping Management Plan. For example, the Cairns Local Marine Advisory Committee submitted that the draft North-East Shipping Management Plan:

...falls short in addressing issues such as sediment plumes from shipping movements (under-vessel clearance), noise pollution and the expected increases in size and number of vessels both visiting Queensland ports and travelling past without coming ashore in Queensland.³³

7.22 The Cairns and Far North Environment Centre (CAFNEC) commented that the plan 'is characterised by a lack of detail regarding existing and future impacts of shipping in the [Great Barrier Reef] region and a lack of real commitment to addressing impacts...'. CAFNEC suggested that 'the plan should be withdrawn and resubmitted with adequate detail on both known and potential impacts'.³⁴

7.23 WWF-Australia and the Australian Marine Conservation Society recognised that the draft plan 'provides an important set of priority actions', but submitted that urgent changes are needed if the Great Barrier Reef is to be adequately protected. Their suggestions included, for example, requiring compulsory pilotage for the entire Great Barrier Reef region, regimes to encourage the use of high-standard ships in Great Barrier Reef waters, and improved marine biosecurity arrangements.³⁵

7.24 Other issues identified in relation to the draft North-East Shipping Management Plan included the lack of ship speed controls (as discussed later in this chapter),³⁶ and the inadequate consideration of underwater noise pollution.³⁷ These issues are both discussed further later in this chapter.

Impacts of increased shipping

7.25 The committee heard a number of concerns related to the potential impacts of increased shipping on the Great Barrier Reef, including:

32 Mr Simon Meyjes, Chief Executive Officer, Australian Reef Pilots, *Committee Hansard*, 21 July 2014, p. 46.

33 Cairns Marine Local Advisory Committee, *Submission 7*, p. 4; see also CAFNEC, *Submission 19*, Attachment 3, p. 7.

34 CAFNEC, *Submission 19*, Attachment 2, p. 1.

35 WWF Australia and AMCS, *Submission 23*, p. 4.

36 IFAW, *Submission 10*, p. 2; Ms Sharon Livermore, Marine Campaigner, International Fund for Animal Welfare, *Committee Hansard*, 23 July 2014, p. 39.

37 See, for example, Mr Geoff McPherson, *Submission 15*, pp 11–12 and 44 and *Committee Hansard*, 23 July 2014, p. 41; CAFNEC, *Submission 19*, Attachment 2, p. 2; Australians for Animals, *Submission 52*, p. 84; Ms Suzanne Arnold, Coordinator, Australians for Animals, *Committee Hansard*, 23 July 2014, p. 47.

- increased ship strikes, affecting mainly larger animals, such as dugongs, whales, turtles and dolphins;³⁸
- increased acoustic noise pollution from ships (and dredging);³⁹
- the risk of ballast water being released from ships moving through the reef, which carry contaminants and invasive species;⁴⁰
- the use of tributyltin (TBT), an antifouling agent used on ships hulls;⁴¹ and
- shipping incidents, accidents and collisions with the reef system itself.⁴²

7.26 However, Commodore Nairn of Shipping Australia suggested that, compared to the major threats to the Great Barrier Reef:

...the negative impacts of shipping seem to be a disproportionate focus, as they are in fact negligible in the reef environment and are far outweighed by the economic benefit to Australia of effective shipping operations, which accounted for \$60 billion in trade in Queensland in 2010–11.⁴³

7.27 The committee received evidence during the inquiry on the risk of ship groundings and collisions; as well as two other issues in relation to shipping where it was argued that management measures could be significantly improved: ship strike and underwater noise pollution. All of these issues are discussed further below.

Shipping incidents

7.28 It was noted that there have been improvements in shipping safety management in the Great Barrier Reef over the past decade (see further 'Management and regulatory measures in relation to shipping'), and that there have been very few shipping incidents,⁴⁴ the main exception being the grounding of the *Shen Neng* in April 2010.⁴⁵ In particular the introduction of the REEFVTS in 2004 was a noted

38 See, for example, IFAW, *Submission 10*, p. 1; see also Ms Sharon Livermore, Marine Campaigner, IFAW, *Committee Hansard*, 23 July 2014, p. 39; Mackay Conservation Group, *Submission 42*, p. 6.

39 Mr Geoff McPherson, *Submission 15*; Mr Jeremy Tager, *Submission 18*, p. 3; Australians for Animals, *Submission 52*, pp 1 and 76–80.

40 See, for example, WWF Australia and AMCS, *Submission 23*, p. 4.

41 See, for example, Mackay Conservation Group, *Submission 42*, p. 6; Mr Michael McCabe, Coordinator, Capricorn Conservation Council, *Committee Hansard*, 22 July 2014, p. 31.

42 See, for example, Capricorn Conservation Council, *Submission 27*, p. 14; Mr Michael McCabe, Coordinator, Capricorn Conservation Council, *Committee Hansard*, 22 July 2014, p. 31.

43 Commodore Rod Nairn, Chief Executive Officer, Shipping Australia, *Committee Hansard*, 21 July 2014, p. 44.

44 See, for example, Australian Reef Pilots, *Submission 47*, p. 2 and Mr Simon Meyjes, Chief Executive Officer, Australian Reef Pilots, *Committee Hansard*, 21 July 2014, p. 45; Commodore Rod Nairn, Chief Executive Officer, Shipping Australia, *Committee Hansard*, 21 July 2014, p. 47; Minerals Council of Australia, *Submission 35*, p. 7.

45 See, for example, Capricorn Conservation Council, *Submission 27*, p. 14; Mr Michael McCabe, Coordinator, Capricorn Conservation Council, *Committee Hansard*, 22 July 2014, p. 31.

improvement by several witnesses and submitters.⁴⁶ For example, in expressing support for the REEFVTS, the Queensland Resources Council submitted that:

Shipping incidents since the introduction of REEFVTS have reduced from on average 1 a year to a single incident in the REEFVTS coverage area since 2003 (being a temporary bulk carrier grounding in the Torres Strait). The Shen Neng incident at Douglas Shoal in 2010 occurred outside the then coverage area for REEFVTS. That coverage area was subsequently expanded to include the southern area of the GBR.⁴⁷

7.29 However, Mr Meyjes of Australian Reef Pilots warned against complacency, citing recent examples of shipping accidents elsewhere in the world which 'remind us of our vulnerabilities'. He noted that 'all of these accidents occurred as a result of some form of human error'. He suggested that although:

...shipping in Australia appears safe because we do not see high accident rates, that does not mean that a bad accident is not perhaps around the corner. We believe a lot more can be done and should be done in practical terms to ensure the safety of shipping.⁴⁸

7.30 He expressed a particular concern:

Ships that do not have a coastal pilot or a port pilot on board are navigated through dangerous waters with crews of unknown training often from ships registered in foreign flags of convenience, where safety standards are not shared with Australia... We are not at all confident in the training standards delivered by a lot of other countries... We are aware of the ready availability of forged qualifications in some countries.⁴⁹

7.31 The Keppel and Fitzroy Delta Alliance expressed support for compulsory pilotage and for pilots to have sufficient training, skills, experience and knowledge in relation to the Great Barrier Reef waters.⁵⁰

7.32 Mr Leck of WWF-Australia identified 'reducing the risk of shipping by prohibiting rogue vessels from entering the Great Barrier Reef World Heritage area' as a key action to improve the management of the reef.⁵¹

46 See, for example, Queensland Resources Council, *Submission 28*, p. 14; Mr David Anderson, Chief Executive Officer, Ports Australia, *Committee Hansard*, 21 July 2014, p. 24; Mr Michael Roche, Chief Executive, Queensland Resources Council, *Committee Hansard*, 21 July 2014, p. 31.

47 Queensland Resources Council, *Submission 28*, p. 14.

48 Simon Meyjes, Chief Executive Officer, Australian Reef Pilots, *Committee Hansard*, 21 July 2014, p. 45.

49 Simon Meyjes, Chief Executive Officer, Australian Reef Pilots, *Committee Hansard*, 21 July 2014, p. 46.

50 Keppel and Fitzroy Delta Alliance, *Submission 40*, Attachment 1, p. 23; see also Ms Ginny Gerlach, Director and Coordinator, Keppel and Fitzroy Delta Alliance, *Committee Hansard*, 22 July 2014, p. 39.

51 Mr Richard Leck, National Manager, Marine Conservation and Sustainable Development, WWF-Australia, *Committee Hansard*, 21 July 2014, p. 15.

7.33 Mr Roche also mentioned the RightShip program, which he told the committee ensures that 'bulk carriers are subject to independent vetting to exclude substandard ships from reef waters'. He suggested that the committee consider 'recommending that such vetting apply to all commercial shipping through the reef'.⁵²

7.34 The Capricorn Conservation Council acknowledged that improvements have been made to 'better track ship movement', but noted that 'incidents of ships' captains taking short cuts through [Great Barrier Reef] are still occurring'.⁵³ Indeed, the committee notes that crew members of a bulk carrier were recently fined for taking a short cut through the Great Barrier Reef Marine Park.⁵⁴

Ship strike

7.35 The submissions from the International Fund for Animal Welfare (IFAW) focused on 'the increasing risk of ship strike to whales in the Great Barrier Reef as a result of current and projected increases in shipping'. Ms Livermore from IFAW expressed concern that 'there is no ship strike strategy' and that 'there has been no attention to ship strikes either within the Great Barrier Reef or in Australian waters to date'.⁵⁵ IFAW explained that an analysis of shipping traffic in the Great Barrier Reef shows 'considerable overlap between shipping lanes and critical whale habitat' (including mating and calving grounds).⁵⁶ In terms of evidence of ship strikes, IFAW submitted that:

While records show just a handful of reports of ship strikes of humpback whales in Australia, it is widely recognised that these figures likely under-represent actual incidences. Many mariners do not know of reporting requirements for ship strikes and in many cases ship strikes may go unnoticed; even an animal as large as a whale pales into insignificance against a 300m cargo vessel.⁵⁷

7.36 However, Commodore Nairn of Shipping Australia told the committee that he has 'not been involved in a ship strike', despite having spent 20 years at sea (and 15

52 Mr Michael Roche, Chief Executive, Queensland Resources Council, *Committee Hansard*, 21 July 2014, p. 31.

53 Capricorn Conservation Council, *Submission 27*, p. 14; Mr Michael McCabe, Coordinator, Capricorn Conservation Council, *Committee Hansard*, 22 July 2014, p. 31.

54 The Hon Greg Hunt MP, Minister for the Environment, 'Hefty fines for bulk carrier travelling outside of shipping area', *Media release*, 30 July 2014; see also Samantha Healy, 'Everything sweet for Chinese sailors after copping measly fine for Great Barrier Reef shortcut', *Courier Mail*, 30 July 2014, <http://www.couriermail.com.au/news/queensland/everything-sweet-for-chinese-sailors-after-copping-measly-fine-for-great-barrier-reef-shortcut/story-fnihsrf2-1227006379949?nk=406309be43579d90c40d3a7fd3d6b80a> (accessed 31 July 2014).

55 Ms Sharon Livermore, Marine Campaigner, IFAW, *Committee Hansard*, 23 July 2014, p. 42 and see also pp 39 and 44.

56 IFAW, *Submission 10*, p. 1; see also Ms Sharon Livermore, Marine Campaigner, IFAW, *Committee Hansard*, 23 July 2014, p. 39.

57 IFAW, *Submission 10*, p. 7; see also Ms Sharon Livermore, Marine Campaigner, IFAW, *Committee Hansard*, 23 July 2014, pp 39 and 44.

years inside the Great Barrier Reef) and that 'the speeds of my ships were 15 knots and less'.⁵⁸ Mr Meyjes of Australian Reef Pilots similarly noted a discussion with a senior pilot who had 'spent nearly his nearly his whole life on the reef and has not personally experienced a ship strike with a whale or a dugong but he has seen carcasses at sea. We would all have to assume that these things happen'.⁵⁹

7.37 Nevertheless, IFAW suggested further steps be taken to reduce the risk of ship strikes. IFAW noted that efforts elsewhere in the world 'have focused on separating areas where whales and ships are or reducing ship speeds'.⁶⁰ They suggested that 'ship speed controls should be introduced in the Great Barrier Reef to reduce the risk of fatal ship strikes on whales'.⁶¹ IFAW noted that the most common speed for ships passing through core whale habitat areas of the Great Barrier Reef was around 12-14 knots. Ms Livermore, IFAW, explained that higher ship speed increases the risks of fatal injuries:

At these speeds, if a ship hits a whale there is a 50 to 70 per cent chance of it being killed instantly...at 18 knots there is a 90 per cent chance a whale will be killed; if you reduce the speed down to 10 knots there is only a 30 per cent chance. Speed is really the key: the severity of the injury a whale will sustain after being struck is directly linked to ship speed.⁶²

7.38 Ms Livermore proposed a speed limit of 10 knots in the Great Barrier Reef Marine Park, particularly for cargo and container ships in critical whale habitat areas.⁶³ IFAW further suggested a number of additional measures to reduce the risk of ship strike to whales, including:

...assessing whether shipping lanes can be moved at all to avoid areas of whale habitat; alerting mariners to areas of whale habitat through navigational charts, the REEFVTS system, and other targeted awareness programmes; improving mariner awareness about the risk of ship strikes and the need to report incidences; and producing as a priority the Government's planned ship strike strategy...⁶⁴

7.39 In response to questions on notice on this issue, the Department of the Environment advised that an 'expected action' out of the North-East Shipping Management Plan is the development of the National Vessel Strike Strategy for

58 Commodore Rod Nairn, Chief Executive Officer, Shipping Australia, *Committee Hansard*, 21 July 2014, p. 48.

59 Mr Simon Meyjes, Chief Executive Officer, Australian Reef Pilots, *Committee Hansard*, 21 July 2014, p. 48.

60 IFAW, *Submission 10*, p. 7; see also Ms Sharon Livermore, Marine Campaigner, IFAW, *Committee Hansard*, 23 July 2014, p. 39.

61 IFAW, *Submission 10*, p. 1 and see also pp 4–5.

62 Ms Sharon Livermore, Marine Campaigner, IFAW, *Committee Hansard*, 23 July 2014, p. 39; see also IFAW, *Submission 10*, p. 4.

63 Ms Sharon Livermore, Marine Campaigner, IFAW, *Committee Hansard*, 23 July 2014, p. 43.

64 IFAW, *Submission 10*, p. 2.

cetaceans, which will aim to 'minimise the risk of vessel strikes and the impacts they may have on human safety, property and marine megafaunal populations'. The Department further advised that the objectives of the strategy include:

- data collection to understand the scale of the problem in Australian waters;
- development of more assessable and efficient reporting procedure; and
- development of mitigation measures in response to this information.

7.40 Finally, the Department noted that 'the development and implementation of appropriate mitigation measures will be undertaken with relevant stakeholders including the shipping industry and may include speed restrictions'.⁶⁵

Noise pollution

7.41 As noted in relation to the draft North-East Shipping Management Plan earlier in this chapter, some evidence suggested that the issue of underwater noise has not been adequately addressed in the Great Barrier Reef region.⁶⁶ For example, Mr McPherson explained that noise pollution comes from both shipping and port conservation and maintenance.⁶⁷ He further explained that noise can 'alter habitats of marine animals and potentially mask communications for species that rely on sound to mate, feed, avoid predators and navigate' and can have stress impacts on those mammals.⁶⁸ Australians for Animals similarly referred to a range of research which outlines the impacts of underwater noise on marine mammals.⁶⁹

7.42 Mr McPherson and Australians for Animals noted that research indicates that noise pollution impacts may also affect other aspects of the marine ecosystem, not just marine mammals. For example, shipping noise may also mask the 'biological noise of coral reefs', and that masking could inhibit 'the settlement of coral, crab and fish larvae on the reefs'.⁷⁰

7.43 Mr McPherson noted that underwater noise is a recognised marine pollutant under the United Nations *Convention on the Law of the Sea* (UNCLOS) and that in April 2014, the International Maritime Organization (IMO) approved voluntary guidelines for the reduction of shipping noise from commercial ships on the marine environment. The guidelines address issues such as measurement of shipping noise, ship design and maintenance to help reduce noise and also suggest that:

65 Department of the Environment, *Answers to written questions on notice*, p. 10.

66 Mr Geoff McPherson, *Submission 15*; Mr Jeremy Tager, *Submission 18*, p. 3; Australians for Animals, *Submission 52*, pp 1 and 76–80.

67 Mr Geoff McPherson, *Submission 15*, p. 3; see also Australians for Animals, *Submission 52*, p. 77.

68 Mr Geoff McPherson, *Submission 15*, pp 13 and 45; see also *Committee Hansard*, 23 July 2014, p. 40.

69 Australians for Animals, *Submission 52*, pp 86–90.

70 Mr Geoff McPherson, *Committee Hansard*, 23 July 2014, p. 40 and see also *Submission 15*, pp 31–34; Australians for Animals, *Submission 52*, pp 90–92.

Speed reductions or routing decisions to avoid sensitive marine areas including well-known habitats or migratory pathways when in transit will help to reduce adverse impacts on marine life.⁷¹

7.44 However, Mr McPherson submitted that there appears to be a 'strong reluctance' by Australian authorities to recognise marine underwater noise as a pollutant impacting the GBRWHA despite its international acknowledgement. Mr McPherson told the committee that:

There is no reason why acoustic noise pollution, as defined by UNCLOS in 1982 and accepted by IMO, should be so clearly ignored. In fact, reduction of shipping noise pollution offers one of the most readily documented and readily achievable pollution mitigation schemes going...⁷²

7.45 Mr McPherson recommended that shipping noise be mitigated by 'improved propulsion system redesigns and by more appropriate scheduling of shipping through the [Great Barrier Reef] on a seasonal and locational basis'.⁷³

7.46 Australians for Animals were similarly concerned that the issue of underwater noise is being ignored, including by the recent draft North-East Shipping Management Plan and the Queensland Ports Strategy.⁷⁴

7.47 The committee notes that noise pollution is acknowledged as an issue in the Great Barrier Reef Region Strategic Assessment, which identifies 'an urgent need for greater understanding of the ecological impacts of noise within the region and for guidance on measures to avoid or mitigate these impacts'.⁷⁵ However, Mr McPherson was critical of the Strategic Assessment's treatment of noise pollution and refuted the statement that there is a need for further guidance. He suggested that international organisations have in fact provided that guidance.⁷⁶

71 International Maritime Organization, *Guidelines for the Reduction of Underwater Noise from Commercial Shipping to Address Adverse Impacts on Marine Life*, 7 April 2014, Annex, pp 3–6, available at: http://docs.nrdc.org/water/files/wat_14050501a.pdf (accessed 31 July 2014); see also IMO, *Marine Environment Protection Committee (MEPC), 66th session, 31 March to 4 April 2014*, <http://www.imo.org/MediaCentre/MeetingSummaries/MEPC/Pages/MEPC66.aspx> (accessed 31 July 2014); Mr Geoff McPherson, *Committee Hansard*, 23 July 2014, pp 38 and 40 and *Submission 15*, pp 37–38; see also Australians for Animals, *Submission 52*, p. 1.

72 Mr Geoff McPherson, *Committee Hansard*, 23 July 2014, p. 41; see also Mr Geoff McPherson, *Submission 15*, pp 4 and 44.

73 Mr Geoff McPherson, *Submission 15*, p. 44; see also p. 47 and *Committee Hansard*, 23 July 2014, p. 45.

74 Australians for Animals, *Submission 52*, p. 80.

75 GBRMPA, Great Barrier Reef Region Strategic Assessment, p. 6–47.

76 Mr Geoff McPherson, *Submission 15*, pp 12 and 15.

7.48 At the same time, the committee heard there is a move towards newer ships with built-in noise reduction systems and/or which are more efficient at lower speeds.⁷⁷ The committee was told that lower speeds would mean that ships are quieter.⁷⁸

77 Mr Geoff McPherson, *Committee Hansard*, 23 July 2014, pp 44–45; Mr Simon Meyjes, Chief Executive Officer, Australian Reef Pilots, *Committee Hansard*, 21 July 2014, p. 48.

78 Ms Sharon Livermore, Marine Campaigner, IFAW, *Committee Hansard*, 23 July 2014, pp 41– 42.

Chapter 8

Governance and management arrangements

8.1 This chapter examines the evidence received about governance arrangements and decision-making processes relating to the management of the Great Barrier Reef, including:

- general comments on the overall management of the Great Barrier Reef;
- the role, resourcing and independence of the Great Barrier Reef Marine Park Authority;
- cooperation and coordination between governments, including the government's one stop shop proposal;
- decision-making processes relating to the Great Barrier Reef;
- the role and value of the Strategic Assessments and proposed Long-Term Sustainability Plan.

General comments on the overall management of the Great Barrier Reef

8.2 Most submitters and witnesses were in agreement that more needs to be done to prevent and, indeed, reverse the decline of the Great Barrier Reef. For example, Professor Hoegh-Guldberg told the committee that 'not enough is being done' and that 'current Australian and Queensland government efforts to stop the rapid decline of the Great Barrier Reef are proving inadequate'.¹

8.3 Shipping Australia agreed that 'a persistent and bigger effort will be required in the future to achieve complete protection of the reef from further decline'.²

8.4 Ms Wendy Tubman of the North Queensland Conservation Council (NQCC) told the committee that the 'parlous state of the reef' means that 'almost by definition we have to say that things are not working'. She identified 'lack of political will' as the key underlying problem and expressed concern that 'governments want to find simple and speedy solutions to what is an extremely complex issue'.³

8.5 Mr Jeremy Tager agreed that the political culture surrounding the Great Barrier Reef needs to change:

...the politics of the reef is the impossible dream, the notion that you can build massive coal ports and coalmines, dredge and dump on a scale so far beyond anything that has happened in the past and even beyond what I can imagine and that you can protect the reef at the same time by imposing

1 Professor Ove Hoegh-Guldberg, *Committee Hansard*, 21 July 2014, p. 8.

2 Shipping Australia, *Submission 3*, p. 6.

3 Ms Wendy Tubman, Coordinator, NQCC, *Committee Hansard*, 23 July 2014, p. 1; see also Mr Jeremy Tager, *Committee Hansard*, 23 July 2014, p. 2.

conditions and offsets is pure fantasy. Until that changes, I'm afraid nothing will change.⁴

8.6 Several submitters and witnesses also expressed a desire to move away from a 'business as usual' approach.⁵ Mr Tager suggested that 'the solutions at a general level are really clear: reverse declines, avoid impacts and build resilience'. He cautioned that 'you cannot manage away all impacts; you must learn to say no' and:

...when you have opportunities to demonstrate a commitment to protecting the reef...you make those decisions.⁶

8.7 Mr Richard Leck from WWF-Australia agreed that concrete action is needed:

To date, the response we have seen from both governments has been to announce a series of reviews, inquiries and plans, many of which total thousands of pages. What I think the Australian people, and certainly conservation groups like WWF, want to see is real solutions, not the endless reports that document the reef's decline.⁷

8.8 In contrast, the Minerals Council of Australia supported 'the current program of science based Strategic Assessments, management plans and development strategies as the right mix of approaches to complement and strengthen the existing regulatory framework', although noted that that effort will be needed to ensure 'success in implementation' and 'that the outcomes sought are achieved'.⁸

8.9 Dr Oliver of the Australian Institute of Marine Science (AIMS) also acknowledged:

...the significant accomplishments of the Commonwealth and state governments and in particular the Great Barrier Reef Marine Park Authority in its work to establish world-leading management practices and new globally recognised standards for the protection and multiple-use management of the park.⁹

8.10 At the same time, he described managing the pressures on the Great Barrier as a 'Sisyphean task': It is huge, it is complex and it is never-ending.¹⁰ The committee also notes that the *Outlook Report 2014* recognised that 'progress in reducing threats is

4 Mr Jeremy Tager, *Committee Hansard*, 23 July 2014, p. 3.

5 See, for example, Mr Tony Fontes, *Committee Hansard*, 22 July 2014, p. 2; Mr Jeremy Tager, *Committee Hansard*, 23 July 2014, pp 3 and 5.

6 Mr Jeremy Tager, *Committee Hansard*, 23 July 2014, p. 3.

7 Mr Richard Leck, National Manager, Marine Conservation and Sustainable Development, WWF-Australia, *Committee Hansard*, 21 July 2014, p. 15; see also Ms Ginny Gerlach, Director and Coordinator, Keppel and Fitzroy Delta Alliance, *Committee Hansard*, 22 July 2014, p. 35; Mr Jeremy Tager, *Committee Hansard*, 23 July 2014, p. 3.

8 Minerals Council of Australia, *Submission 35*, p. 9.

9 Dr Jamie Oliver, Research Director, AIMS, *Committee Hansard*, 23 July 2014, p. 18.

10 Dr Jamie Oliver, Research Director, AIMS, *Committee Hansard*, 23 July 2014, p. 18.

slow' and there are difficulties in 'achieving positive outcomes', given the complexity of the issues.¹¹

8.11 Nevertheless, the Australian and Queensland Governments expressed confidence that:

...we have the processes, resources, environmental protection mechanisms, and the appropriate level of investment in place to ensure that the Great Barrier Reef continues to be among the best managed and protected World Heritage areas in the world.¹²

8.12 However, as the *Outlook Report 2014* concluded:

A business as usual approach to managing threats will not be enough. Achieving a healthy and resilient Great Barrier Reef into the future will require continued focus and even more effective action...Without promptly reducing threats, there is a serious risk that resilience will not be improved and there will be irreversible declines in the Region's values.¹³

Role and resourcing of GBRMPA

8.13 As outlined in Chapter 2, GBRMPA was established under the GBRMP Act in 1975 and is responsible for the protection and management of the environment, biodiversity and heritage values of the Great Barrier Reef Marine Park. The Australian and Queensland Governments advised that:

In managing the Marine Park, GBRMPA must have regard to, and seek to act in a way that is consistent with the objects of the GBRMP Act, the protection of the world heritage values of the GBRWHA, and the principles of ecologically sustainable use – including the precautionary principle.¹⁴

8.14 The Australian and Queensland Governments submitted that:

Australia and Queensland are world leaders in marine park management, and have a long history in this area. The Great Barrier Reef Marine Park Authority was created almost 40 years ago to protect the reef. The first agreement between the Australian and Queensland governments to jointly manage the reef was signed in 1979, and just two years later we were privileged to receive a World Heritage listing.¹⁵

8.15 Professor Pandolfi described GBRMPA as:

...one of the key agencies that provides liaison between the scientific evidence on the reef and the science from the reef, and incorporating that into the management of the reef. Without the marine park authority, the scientists are left with a muddle of individuals to deal with. The Great Barrier Reef Marine Park Authority represents a place where we can go to

11 GBRMPA, *Outlook Report 2014*, p. vi and see also p. 220.

12 Australian and Queensland Governments, *Submission 34*, p. 9.

13 GBRMPA, *Outlook Report 2014*, p. 275.

14 Australian and Queensland Governments, *Submission 34*, p. 12.

15 Australian and Queensland Governments, *Submission 34*, p. 6.

tell government what the science is about the reef, and they can use that information to transfer into real management practice.¹⁶

8.16 Others expressed concern about GBRMPA's role. For example, Professor Terry Hughes expressed concern that GBRMPA is being disempowered, and that it is 'no longer the one-stop shop custom-designed institution for managing and governing the Great Barrier Reef that it once was'.¹⁷ Similarly, WWF-Australia and the Australian Marine Conservation Society submitted that there has been a progressive 'erosion of clarity of responsibilities' and a dilution in the independence of GBRMPA over the years.¹⁸ Some submitters and witnesses therefore suggested that the role of GBRMPA needs to be expanded, or that GBRMPA needs greater power.¹⁹

8.17 Several witnesses and submitters referred to the objects of the GBRMP Act. As noted in Chapter 2, the main object of the GBRMP Act is to 'provide for the long term protection and conservation of the environment, biodiversity and heritage values of Great Barrier Reef Region'. However, Mr Colin McKenzie of the Association of Marine Park Tourism Operators (AMPTO) queried whether GBRMPA is adequately applying the Act in practice.²⁰ For example, Mr Jeremy Tager suggested that there needs to be 'greater enforcement of the overriding objectives' of the GBRMP Act.²¹

8.18 Ms Moorhouse of the Alliance to Save Hinchinbrook suggested that the object should be strengthened along the lines of the preamble to the *Wet Tropics World Heritage Protection and Management Act 1993* (Qld), which states that the area 'should be established and maintained as a world heritage area of the highest standard'.²²

8.19 NQCC submitted that 'there appears to be confusion' at high levels of GBRMPA about:

...how the objects of the GBRMP Act should influence the use of the [Marine Park]. The [Marine Park] is regularly referred to by both Federal and State governments as a 'multiple use park', without acknowledgment of the fact that the Act allows uses only to the extent that they are consistent with the main object of providing for the long term protection and

16 Professor John Pandolfi, Councillor and Past President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 3.

17 Professor Terry Hughes, *Committee Hansard*, 23 July 2014, p. 25.

18 WWF-Australia and the Australian Marine Conservation Society, *Submission 23*, p. 11.

19 See, for example, Mr Jeremy Tager, *Committee Hansard*, 23 July 2014, p. 3; Mr Tony Fontes, 22 July 2014, p. 2.

20 Mr Colin McKenzie, Executive Director, AMPTO, *Committee Hansard*, 23 July 2014, pp 33 and 36.

21 Mr Jeremy Tager, *Committee Hansard*, 23 July 2014, p. 3.

22 Ms Margaret Moorhouse, Spokesperson, Alliance to Save Hinchinbrook, *Committee Hansard*, 23 July 2014, p. 11.

conservation of the Great Barrier Reef Region. Greater emphasis on the primary object is needed if the [Great Barrier Reef] region is to survive.²³

8.20 In contrast, the Minerals Council emphasised the need for the Great Barrier Reef to remain available for multiple uses, particularly given the importance of the industries located adjacent to or exported through the reef to the Queensland and national economies and local communities.²⁴

Independence of, and confidence in, GBRMPA

8.21 Concern was also expressed about the independence of GBRMPA, with several submissions and witnesses emphasising the need for GBRMPA to be a strongly independent authority.²⁵ For example, Professor Hoegh-Guldberg told the committee:

Continuing to have a strong Great Barrier Reef Marine Park Authority is really important—maintaining that independence, which has been eroded somewhat over the past decade. But rebuilding that independence is really important, because this goes beyond politics.²⁶

8.22 Shipping Australia submitted that the *Great Barrier Reef Marine Park Act 1975* 'provides GBRMPA with sufficient legislative backing to work as an independent body to act in the best interest of the long-term health of the GBR'.²⁷ Shipping Australia further stated that 'GBRMPA conducts continuous assessments of the health of the [Great Barrier Reef] and addresses any shortcomings without procrastinating'.²⁸

8.23 However, other witnesses and submitters expressed concerns that GBRMPA's independence has eroded in recent years.²⁹ For example, CAFNEC submitted that it has 'serious concerns regarding actual and perceived independence of GBRMPA'.³⁰ Mr Coates from CAFNEC explained confidence in GBRMPA has been undermined as

23 NQCC, *Submission 30*, p. 3; see also Ms Wendy Tubman, Coordinator, NQCC, *Committee Hansard*, 23 July 2014, p. 2.

24 Minerals Council of Australia, *Submission 35*, p. 5; see also Mr Chris McCombe, Assistant Director, Environmental Policy, Minerals Council of Australia, *Committee Hansard*, 21 July 2014, p. 31.

25 See, for example, Mr Jeremy Tager, *Submission 18*, p. 1; WWF-Australia and the Australian Marine Conservation Society, *Submission 23*, p. 11; Whitsunday Residents Against Dumping, *Submission 39*, p. 3; Whitsunday Charter Boat Industry Association, *Submission 46*, p. 9; Ms Wendy Tubman, Coordinator, NQCC, *Committee Hansard*, 23 July 2014, p. 1 and NQCC, *Submission 30*, p. 3.

26 Professor Ove Hoegh-Guldberg, *Committee Hansard*, 21 July 2014, p. 11.

27 Shipping Australia, *Submission 3*, p. 4.

28 Shipping Australia, *Submission 3*, p. 6.

29 See, for example, Mr Tony Fontes, *Committee Hansard*, 22 July 2014, p. 2; WWF-Australia and the Australian Marine Conservation Society, *Submission 23*, p. 11.

30 CAFNEC, *Submission 19*, p. 7.

a result of concerns about the independence of the GBRMPA Board, the Abbot Point decision and whether GBRMPA has 'the resources it needs to do its job'.³¹

GBRMPA Board

8.24 Several submitters and witnesses raised issues relating to the composition of the GBRMPA Board. In particular, it was suggested that some current members of the GBRMPA Board may have a conflict of interest. For example, Southern Cross Sailing Adventures suggested that the independence of GBRMPA has been 'compromised' by the appointment of two directors with mining interests on the five person board'.³² Mr Jeremy Tager similarly told the committee that 'individuals with deeply vested financial interests in the coal industry' have been appointed to the GBRMPA Board.³³

8.25 The committee notes that there was an investigation into these allegations of conflicts of interest, which were found to be 'unfounded'.³⁴ Nevertheless, it seems from evidence to the committee that a perception of bias and lack of independence remains. As CAFNEC submitted:

The perceived or real conflict of interest of GBRMPA board members with mining or other interests was not alleviated by an exonerating investigation or the subsequent divestment of some of the interests by a GBRMPA board member.³⁵

8.26 Others queried why the Chief Executive Officer is also the Chair of the Marine Park Authority, suggesting that the Chair of GBRMPA should be an independent person, appointed by the Minister, who 'should be ensuring that the GBRMPA is performing correctly'.³⁶ Ms Moorhouse of the Alliance to Save Hinchinbrook similarly noted that the Chair and the CEO of GBRMPA 'are vested in the same person', which she described as 'a bit like somebody making a recommendation and then sitting on the recommendation themselves'.³⁷

8.27 Ms Tubman of the NQCC also suggested that GBRMPA needs to have larger board with a greater skills base, and in particular members with marine science

31 Mr Josh Coates, Marine Program Coordinator, CAFNEC, *Committee Hansard*, 23 July 2014, p. 15.

32 Southern Cross Sailing Adventures, *Submission 25*, p. 1; see also Whitsunday Charter Boat Industry Association, *Submission 46*, p. 2; Mr Tony Brown, President, Whitsunday Charter Boat Industry Association, *Committee Hansard*, 23 July 2014, p. 13.

33 Mr Jeremy Tager, *Committee Hansard*, 23 July 2014, p. 2.

34 The Hon Greg Hunt MP, Great Barrier Reef Marine Park Authority conflict of interest inquiry, 24 February 2014, <http://www.environment.gov.au/minister/hunt/2014/mr20140224a.html> (accessed 12 August 2014).

35 CAFNEC, *Submission 19*, p. 7; see also, for example, Ms Wendy Tubman, Coordinator, NQCC, *Committee Hansard*, 23 July 2014, p. 1.

36 AMPTO, *Submission 41*, p. 3.

37 Ms Margaret Moorhouse, Spokesperson, Alliance to Save Hinchinbrook, *Committee Hansard*, 23 July 2014, p. 13.

experience or qualifications.³⁸ In response to questioning on this issue, Dr Reichelt noted that he was the only one with scientific qualifications on the board but that there was also a 'traditional owner with traditional marine values' and a 'marine diving expert'.³⁹

8.28 The committee notes that the role and independence of GBRMPA, including the composition of the GBRMPA Board, was examined in detail in the review of the *Great Barrier Reef Marine Park Act 1975* in 2006.⁴⁰ The Australian and Queensland Governments submitted that this review:

...concurred with the original conception of a dedicated statutory authority responsible for advising and acting on behalf of the Australian Government in relation to management of the Marine Park. The Review Panel considered the statutory authority allows for a focused, specialised and expertise-based approach to management, as well as providing a degree of independence from government, while being accountable to government.⁴¹

Relationships with stakeholders

8.29 Some submitters, such as the Cairns Local Marine Advisory Committee, praised GBRMPA for its 'genuine willingness to engage with stakeholders and community members and actively seek input to policies and management decisions'.⁴²

8.30 However, this was in contrast to other evidence. For example, the Association of Marine Park Tourism Operators, submitted that:

Over the last two years there has been a significant drop in consultation and interaction with the industry. The Tourism Recreation Reef Advisory Committee (TRRAC) has not met to discuss any issues other than the strategic assessment and many issues are now reaching crisis point. As the only industry user group that pays for access to the GBRMP, our industry should be able to at least be listened to.⁴³

8.31 Ports Australia also expressed concern that their attempts to be 'willing participants in a clear and transparent assessment processes are not reciprocated by GBRMPA':

Port proponents have increasingly experienced less certainty with environmental assessment and approval conditions from the GBRMPA...

38 Ms Wendy Tubman, Coordinator, NQCC, *Committee Hansard*, 23 July 2014, pp 1 and 3–4; see also Mr Jeremy Tager, *Submission 18*, p. 4.

39 Dr Russell Reichelt, Chairman and Chief Executive, GBRMPA, *Committee Hansard*, 23 July 2014, pp 58–59.

40 Department of the Environment and Heritage, *Review of the Great Barrier Reef Marine Park Act 1975—Review Panel Report*, 2006, <http://www.environment.gov.au/resource/review-great-barrier-reef-marine-park-act-1975-review-panel-report> (accessed 21 August 2014).

41 Australian and Queensland Governments, *Submission 34*, p. 12.

42 Cairns Local Marine Advisory Committee, *Submission 7*, p. 5.

43 AMPTO, *Submission 41*, p. 3.

we require a coherent management approach from GBRMPA that provides clarity on process and adherence to specified time frames instead of capricious regulation that adds a significant cost to projects and is becoming increasingly detached from the macro-economic goals of the Government.⁴⁴

Abbot Point decision

8.32 Several submissions and witnesses expressed concern at GBRMPA's role in the approval process in relation to Abbot Point (as discussed in Chapter 6). The evidence to the committee indicated that the recent decision by GBRMPA to approve the dumping of dredge spoil near Abbot Point has undermined community confidence in the role and independence of GBRMPA.⁴⁵ For example, Mr Colin McKenzie of the Association of Marine Park Tourism Operators told the committee that they have had a 'close working relationship' with GBRMPA in the past but were 'disappointed, shocked, dismayed, even angry at the decisions we have seen from GBRMPA'.⁴⁶

8.33 In this context, the committee notes that the Australian National Audit Office has recently commenced an audit to assess the effectiveness of the Great Barrier Reef Marine Park Authority's regulation of permits and approvals within the Great Barrier Reef Marine Park.⁴⁷

8.34 Ms Wishart of the Australian Marine Conservation Society told the committee that GBRMPA's advice had also been ignored in relation to other decisions, such as the Fitzroy Delta transshipping proposal (mentioned in Chapter 5), where GBRMPA's advice was that the proposal had 'unacceptable high risks and should not have been referred'.⁴⁸

Zoning in the Marine Park

8.35 In contrast, several submissions and witnesses expressed support for GBRMPA and its management of the rezoning process. In 2004, after a considerable period of consultation, GBRMPA introduced zoning maps depicting permitted activities in various areas of the Great Barrier Reef. Some areas were defined as off-limits areas while other zones prohibited certain specified activities, such as

44 Ports Australia, *Submission 11*, pp 1–2.

45 See, for example, Cairns Local Marine Advisory Committee, *Submission 7*, p. 3; AMPTO, *Submission 41*, p. 3; CAFNEC, *Submission 19*, p. 8; NQCC, *Submission 30*, p. 3; Ms Felicity Wishart, Great Barrier Reef Campaign Director, Australian Marine Conservation Society, *Committee Hansard*, 21 July 2014, pp 15 and 20; Mr Josh Coates, Marine Program Coordinator, CAFNEC, *Committee Hansard*, 23 July 2014, pp 11 and 15.

46 Mr Colin McKenzie, Executive Director, AMPTO, *Committee Hansard*, 23 July 2014, p. 33; see also Mrs Jan Claxton, *Committee Hansard*, 22 July 2014, p. 6.

47 Australian National Audit Office, *Regulation of Great Barrier Reef Marine Park Approvals*, <http://www.anao.gov.au/Publications/Audits-in-Progress/2015/Winter/Regulation-of-Great-Barrier-Reef-Marine-Park-Permits-and-Approvals> (accessed 27 August 2014).

48 Ms Felicity Wishart, Great Barrier Reef Campaign Director, Australian Marine Conservation Society, *Committee Hansard*, 21 July 2014, pp 15–16.

commercial fishing. Professor Hughes observed that the rezoning of the Great Barrier Reef was recognition by GBRMPA that the health of the marine park was suffering as a result of human activity.⁴⁹ The zones were designed to enable better management and protection of plants, animals and habitats in accordance with best practice principles.⁵⁰

8.36 For example, AIMS submitted that GBRMPA 'has established an international reputation as a leader in marine park management':

In the last [Great Barrier Reef] rezoning plan, it led the way in setting new international benchmarks for establishment of no-take areas that are comprehensive, adequate and representative. GBRMPA's international reputation is, in part, based on the emphasis it has placed on scientific information to manage the GBRWHA.⁵¹

8.37 Submitters noted that the zoning plans were positive steps towards improving the overall health of the Great Barrier Reef. Research shows that both fish numbers and the average size of fish have improved in zones where fishing has been prohibited.⁵² Shipping Australia submitted that although the zoning restrictions have helped to protect the health of the Great Barrier Reef, the patrol and enforcement capabilities of GBRMPA have not been sufficient to prevent prohibited activities.⁵³ Professor Hughes noted that there have been and continue to be issues with fishing, particularly with bycatch and with poaching.⁵⁴ The Cairns Local Marine Advisory Committee suggested that GBRMPA needs to play a greater role in fisheries management.⁵⁵

8.38 Professor Hoegh-Guldberg submitted that additional areas may need to be rezoned in order to improve resilience of the Great Barrier Reef ecology to accommodate the emerging threats of climate change. Furthermore, it was suggested

49 Professor Terry Hughes, Director, ARC Centre of Excellence for Coral Reef Studies, James Cook University, *Committee Hansard*, 23 July 2014, p. 25.

50 Shipping Australia Limited, *Submission 3*, p. 6; Tom Farrell Institute for the Environment, University of Newcastle, *Submission 43*, p. 7; see also Professor Peter Mumby, President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 5; Professor Ove Hoegh-Guldberg, *Committee Hansard*, 21 July 2014, p.10.

51 AIMS, *Submission 36*, p. 1.

52 Shipping Australia Limited, *Submission 3*, p. 6; Tom Farrell Institute for the Environment, University of Newcastle, *Submission 43*, p. 7; see also Professor Peter Mumby, President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 5; Professor Ove Hoegh-Guldberg, *Committee Hansard*, 21 July 2014, p.10.

53 Shipping Australia Limited, *Submission 3*, p. 6.

54 Professor Terry Hughes, Director, ARC Centre of Excellence for Coral Reef Studies, James Cook University, *Committee Hansard*, 23 July 2014, p. 25.

55 Cairns Local Marine Advisory Committee, *Submission 7*, p. 4; see also CAFNEC, *Submission 19*, p. 9 and Mr Josh Coates, Marine Program Coordinator, CAFNEC, *Committee Hansard*, 23 July 2014, p. 11; Ms Margaret Moorhouse, Spokesperson, Alliance to Save Hinchinbrook, *Committee Hansard*, 23 July 2014, p. 12.

that the current zoning plan should be revisited at least every 10 years to assess whether new areas of zoning are required to combat the effects of increased urban and industrial activities. It was also submitted that, before rezoning takes place, GBRMPA should comprehensively consider the impacts of land-based activities when deciding what and where to protect.⁵⁶

Funding and resourcing of GBRMPA and reef management

8.39 Submissions and witnesses were also concerned about resourcing for GBRMPA, and particularly recent cuts to GBRMPA's budget and staffing levels.⁵⁷ It was suggested that GBRMPA actually needs more funding for its increasing workload.⁵⁸ For example, CAFNEC submitted that it has 'serious concerns regarding resourcing of GBRMPA', and that:

...recent cuts to GBRMPA funding are very poorly timed: they come at a time when more resources are required to address the serious ongoing problems and threats faced by the GBR.⁵⁹

8.40 CAFNEC submitted that GBRMPA needs increased resourcing, particularly in the areas of compliance, ecological research into threats, and fisheries management.⁶⁰

8.41 The Australian Coral Reef Society expressed the view that the government 'needs to invest more heavily in the management of the Great Barrier Reef and watershed improvement in particular'.⁶¹ The Australian Coral Reef Society further submitted that:

We are also significantly dismayed to see that the Commonwealth government has significantly cut the funding of the GBRMPA at a time when the reef is in its worst state ever.⁶²

8.42 Professor Ove Hoegh-Guldberg suggested that Australia is not putting enough resources into managing the threats to the reef:

...the economic value of this ecosystem is enormous, yet we are spending a tiny fraction on what are clear threats to the reef. If you were running a business, you would not be spending a part of one per cent on research and

56 Professor Hoegh-Guldberg, *Submission 6*, p. 3; see also Brian Bycroft, *Submission 3*, p. 5.

57 See, for example, Australian Coral Reef Society, *Submission 8*, p. 2; WWF-Australia and the Australian Marine Conservation Society, *Submission 23*, pp 11–12; Save the Reef, *Submission 50*, p. 11; Mr Tony Fontes, 22 July 2014, p. 2; Mr Colin McKenzie, Executive Director, AMPTO, *Committee Hansard*, 23 July 2014, pp 33–34.

58 See, for example, Ms Wendy Tubman, Coordinator, NQCC, *Committee Hansard*, 23 July 2014, p. 1; Ms Margaret Moorhouse, Spokesperson, Alliance to Save Hinchinbrook, *Committee Hansard*, 23 July 2014, pp 11–12.

59 CAFNEC, *Submission 19*, p. 7.

60 CAFNEC, *Submission 19*, p. 8.

61 Australian Coral Reef Society, *Submission 8*, p. 1.

62 Australian Coral Reef Society, *Submission 8*, p. 2.

development or minimising risk; you would be spending a lot more—10 per cent or so.⁶³

8.43 Professor Pandolfi of the Australian Coral Reef Society told the committee that GBRMPA is being compromised by 'severe cutbacks':

The Great Barrier Reef Marine Park Authority has been held up as the world's best practice in a reef management context. Its budget has been severely cut; there has been a recent round of severance and many of the top scientists within GBRMPA are moving on.⁶⁴

8.44 Mr Jon Brodie expressed a similar concern that:

...all the people who are competent in this field in the Great Barrier Reef Marine Park Authority are about to leave, disillusioned with what is happening in the Great Barrier Reef Marine Park Authority and with the fact that their advice [in relation to Abbot Point] was overturned by the chair of the marine park authority.⁶⁵

8.45 The Cairns Local Marine Advisory Committee agreed that, 'given the extent of corporate knowledge set to leave the organisation with voluntary redundancies, there is a question mark over the capacity of the Authority to deliver existing programs to a meaningful and worthwhile extent'.⁶⁶

8.46 In response to questioning on this issue, Dr Reichelt of GBRMPA advised that they had reduced from around 220 full-time equivalent staff to 'about 200 or just less' and that 'a number of senior people' have left GBRMPA 'for their own reasons'.⁶⁷

Industry contributions

8.47 Several tourism industry representatives noted that they help GBRMPA collect an Environmental Management Charge (EMC) from visitors. The EMC is currently set at \$3.50 per day per visitor. The committee heard that this will rise to \$6.50 in 2015.⁶⁸

63 Professor Ove Hoegh-Guldberg, *Committee Hansard*, 21 July 2014, p. 9.

64 Professor John Pandolfi, Councillor and Past President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 3; see also Professor Peter Mumby, President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 2.

65 Mr Jon Brodie, *Committee Hansard*, 23 July 2014, p. 27.

66 Cairns Local Marine Advisory Committee, *Submission 7*, p. 3.

67 Dr Russell Reichelt, Chairman and Chief Executive, GBRMPA, *Committee Hansard*, 23 July 2014, p. 53; see also Department of the Environment, Queensland Government and GBRMPA, *Answers to questions on notice from public hearing on 21 July 2014*, pp 9–10.

68 Mr Colin McKenzie, Executive Director, Association of Marine Park Tourism Operators, *Committee Hansard*, 23 July 2014, p. 34; see also Mrs Jan Claxton, *Committee Hansard*, 22 July 2014, p. 4; Mr Tony Brown, President, Whitsunday Charter Boat Industry Association, *Committee Hansard*, 22 July 2014, p. 11; Mr Allen Grundy, Director, Southern Cross Sailing Adventures, *Committee Hansard*, 22 July 2014, p. 42.

8.48 The committee notes that the GBRMPA website states that the EMC is a charge associated with most commercial activities, including tourism operations, non-tourist charter operations and facilities, operated under a permit issued by GBRMPA and that:

The funds received from the EMC are vitally important in the day-to-day management of the Great Barrier Reef Marine Park and in improving its long-term resilience.

All funds received as EMC payments are applied directly to management of the Great Barrier Reef Marine Park including education, research, ranger patrols and policy development.⁶⁹

8.49 However, the committee heard some resentment about the charge from the tourism industry in light of recent decisions made by GBRMPA. For example, the Whitsunday Charter Boat Industry Association submitted that:

It seems extremely ironic that tourism collects an environment management charge for the GBRMPA who then do a risk assessment on the impacts of dredging and sea dumping and finds that it is medium to high to the environment and high to stakeholders. They then pass the permit for this action to the detriment of the only industry that collects money for the GBRMPA in the form of an environment management charge.⁷⁰

8.50 As Professor Terry Hughes noted:

Tourism is the big loser in this shift away from protection of the Great Barrier Reef. The tourism industry have been exemplary in supporting management of the Great Barrier Reef and they feel very threatened—rightly so—by these dredging projects.⁷¹

8.51 Tourism operators further queried, for example, why there is no charge for sea dumping permits.⁷² However, industry groups pointed out that they contribute to a range of programs in the Great Barrier Reef region. For example, Mr David Anderson, Chief Executive Officer of Ports Australia, told the committee that Queensland Ports have 'developed and funded nearly all of the seagrass research and monitoring in Queensland for a period of more than a decade'.⁷³

8.52 Similarly the Queensland Resources Council submitted that their industry:

...makes significant direct contributions to the protection, management and improvement of the [Great Barrier Reef] environment. For instance, during the 2012/13 financial year resource companies contributed almost \$40

69 GBRMPA, *Environmental Management Charge*, <http://www.gbrmpa.gov.au/zoning-permits-and-plans/environmental-management-charge> (accessed 8 August 2014).

70 Whitsunday Charter Boat Industry Association, *Submission 46*, p. 8; see also Mr Colin McKenzie, Executive Director, AMPTO, *Committee Hansard*, 23 July 2014, p. 33.

71 Professor Terry Hughes, *Committee Hansard*, 23 July 2014, p. 27.

72 Whitsunday Charter Boat Industry Association, *Submission 46*, p. 9.

73 Mr David Anderson, Chief Executive Officer, *Ports Australia*, 21 July 2014, p. 22.

million to a broad range of environmental programs that had a direct or indirect benefit to the management and protection of the GBR. Additionally, future spending on [Great Barrier Reef] related environmental programs, based on current commitments, is expected to be in the order of \$250 million over the next 5 years.⁷⁴

Prioritisation of spending

8.53 Several submissions and witnesses emphasised the need to prioritise management actions to ensure efficient and effective use of funds to manage the Great Barrier Reef. For example, Professor Hoegh-Guldberg suggested that it is 'really important to prioritise' in terms of spending to manage the reef:

To improve Reef health, we need to significantly invest in better management of current activities...as well as restoring key ecosystems...Not only is increased investment needed from the private and public sectors, we need to ensure this money is spent to most cost-effectively address the key risks to the Reef's health. A cost-effective prioritization of management actions that explicitly considers the economic costs, feasibility, and biodiversity benefits of a range of marine and terrestrial management actions to identify priorities has not been done in the [Great Barrier Reef], and is urgently required if we want to spend the limited budget effectively.⁷⁵

8.54 In terms of priorities, CAFNEC suggested that 'maintaining northern reef health' should be a priority, 'to conserve existing ecosystem values and function and provide the basis for recovery of southern reefs'.⁷⁶

Coordination and cooperation between governments

8.55 The committee also received evidence on the importance of coordination between all levels of government involved in management of the Great Barrier Reef and its catchments. As AIMS observed:

...responsibility for protecting the health and integrity of the GBRWHA is not solely GBRMPA's. There is a pressing need to ensure that we have a coherent and active program of environmental management across all levels of Government...⁷⁷

8.56 Other witnesses and submitters also emphasised the importance of a coordinated effort involving all stakeholders working together in partnership. For example, Dr Jamie Oliver of AIMS told the committee that restoring the reef 'will require concerted and coordinated efforts between all stakeholders'.⁷⁸ The Minerals

74 Queensland Resources Council, *Submission 28*, p. 6.

75 Professor Hoegh-Guldberg, *Submission 6*, p. 4; see also Professor Ove Hoegh-Guldberg, *Committee Hansard*, 21 July 2014, p. 9; Professor Peter Mumby, President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 5.

76 CAFNEC, *Submission 19*, p. 1.

77 AIMS, *Submission 36*, p. 1.

78 Dr Jamie Oliver, Research Director, AIMS, *Committee Hansard*, 23 July 2014, p. 19.

Council of Australia similarly submitted that collaboration between government, industry, landholders and other key stakeholders on programs to improve the Great Barrier Reef should be encouraged.⁷⁹ A representative of the Department of the Environment observed that there is 'a very large swag of partners working very proactively towards the future protection of the reef'.⁸⁰

8.57 In their joint submission to the inquiry, the Australian and Queensland Governments referred to their history of working together, including the 'Emerald Agreement' in 1979 and the Great Barrier Reef Intergovernmental Agreement, signed by the Prime Minister and Queensland Premier, in 2009. They noted that this agreement 'recognises that key pressures on the Reef cannot be effectively addressed by either government on their own', the:

...objective of this agreement is to ensure an integrated and collaborative approach is taken by the Australian and Queensland governments to manage marine and land environments within and adjacent to the [Great Barrier Reef World Heritage Area].⁸¹

One stop shop proposal

8.58 A key issue raised during the committee's inquiry relating to the coordination between governments was the proposed 'one stop shop' approach to environmental assessments and approvals in the context of the Great Barrier Reef.

8.59 The Australian and Queensland Governments have signed a Memorandum of Understanding to create a 'one stop shop' for environmental approvals. A refreshed assessment bilateral agreement was signed in December 2013. This agreement accredits Queensland Government assessment processes for the purposes of the EPBC Act. The Commonwealth is currently still responsible for making the final approval decision under the EPBC Act.⁸² However, the Memorandum of Understanding also included a commitment to develop an approval bilateral agreement within 12 months. A draft approval bilateral agreement was released for public consultation on 14 May 2014. The draft agreement proposes the accreditation of Part 4A of the *State Development and Public Works Organisation Act 1971 (Qld)* and Chapter 5 of the *Environmental Protection Act 1994 (Qld)*. If this approval agreement is finalised, actions that are assessed and approved under these processes will not require further

79 Minerals Council of Australia, *Submission 35*, p. 9.

80 Dr Kimberley Dripps, Deputy Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, p. 54.

81 Australian and Queensland Governments, *Submission 34*, p. 13.

82 Australian and Queensland Governments, *Submission 34*, p. 34.

approval under the EPBC Act, including actions that may significantly impact on the Great Barrier Reef.⁸³

8.60 The submission from the Australian and Queensland Governments referred to the one stop shop proposal as evidence of 'significant progress' towards responding to the World Heritage Committee's 2013 decision which urged Australia to ensure that 'legislation protecting the property remains strong and adequate to maintain and enhance Outstanding Universal Value'.⁸⁴ However, the committee notes that, in its most recent decision in June 2014 (made after the Governments' submission), the World Heritage Committee considered that it 'would be premature to transfer decision-making powers from Federal to State levels' before the Long-Term Sustainability Plan is completed, and that any transfer should be postponed to allow further consideration.⁸⁵

8.61 Some submitters and witnesses expressed support for the proposed one stop shop proposal. For example, the Minerals Council of Australia suggested that there is a 'need to improve the coordination and consistency of existing regulatory processes' and that this 'can be achieved through the implementation of approval bilateral agreements'.⁸⁶

8.62 The Queensland Ports Association similarly supported a 'single and centralised approach to policy development and environmental assessment'. The Association suggested that the 'combined reform of the State planning process with Commonwealth accreditation' could provide:

...a simplified and more efficient legal and policy framework that gives a clear 'line of sight' alignment of broad national and state policies right through to project approvals and delivery.⁸⁷

8.63 Ports Australia similarly expressed support for a more streamlined assessment and approval process, noting that there is a need for a 'higher degree of consistency and regulatory certainty', as well as better communication with proponents. They suggested that:

83 Australian and Queensland Governments, *Submission 34*, pp 34–35, citing Department of the Environment, *Standards for Accreditation of Environmental Approvals under the Environment Protection and Biodiversity Conservation Act 1999*, 2004, http://www.environment.gov.au/system/files/resources/40e7000f-4d52-47fe-9a61-ff2b321aec3b/files/standards-accreditation-2014_0.pdf (accessed 7 August 2014). See also Dr Kimberley Dripps, Deputy Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, p. 52.

84 Australian and Queensland Governments, *Submission 34*, p. 7; see also UNESCO World Heritage Committee, Decision 37 COM 7B.10, 2013, <http://whc.unesco.org/en/decisions/4959> (accessed 9 July 2014).

85 UNESCO World Heritage Committee, Decision 38 COM 7B.63, 2014, pp 116–117, <http://whc.unesco.org/archive/2014/whc14-38com-16en.pdf> (accessed 9 July 2014).

86 Minerals Council of Australia, *Submission 35*, p. 8.

87 Queensland Ports Association, *Submission 13*, p. 12, see also pp 13–14.

As part of the government's one-stop-shop process and the internal strategic review of the Department, we propose that assessments and referrals under the EPBC Act, Sea Dumping Act and the GBRMP Act should be undertaken by a single, Canberra based team...One team would reduce the burden on proponents, make the internal processes considerably more efficient, eliminate duplication and reduce the overlap between different regulators who are essentially undertaking a similar function.⁸⁸

8.64 Mr Anderson of Ports Australia further noted that the Australian Government will continue to 'stay very close to the process', for example, by 'embedding staff in the state agencies to ensure that the standards that are safeguarded by the EPBC Act continue'.⁸⁹

8.65 However, other submitters and witnesses were concerned about the government's one stop shop proposal.⁹⁰ A key concern was that if, Commonwealth approval powers were delegated to the Queensland Government, a conflict of interest may arise as the Queensland Government has been a vocal supporter of major economic developments or, in some cases, the actual proponent.⁹¹ A related issue was that the Queensland Government may not allocate sufficient resources to impose and enforce the relevant conditions in development approvals necessary to protect the Great Barrier Reef.⁹²

8.66 For example, CAFNEC submitted that:

88 Ports Australia, *Submission 11*, p. 3.

89 Mr David Anderson, Chief Executive Officer, *Ports Australia*, 21 July 2014, p. 28; see also Department of the Environment, *Answers to written questions on notice*, p. 21.

90 See, for example, Cairns Local Marine Advisory Committee, *Submission 7*, pp 4–5; Australian Coral Reef Society, *Submission 8*, p. 2; CAFNEC, *Submission 19*, p. 5; WWF-Australia and the Australian Marine Conservation Society, *Submission 23*, p. 4; Wildlife Preservation Society of Queensland, *Submission 33*, p. 3; Dr Chris McGrath, *Committee Hansard*, 21 July 2014, p. 3; Mr Richard Leck, National Manager, Marine Conservation and Sustainable Development, WWF-Australia, *Committee Hansard*, 21 July 2014, p. 16; Mr Tony Fontes, 22 July 2014, p. 2; Mr Josh Coates, Marine Program Coordinator, CAFNEC, *Committee Hansard*, 23 July 2014, p. 10; Professor Ove Hoegh-Guldberg, *Committee Hansard*, 21 July 2014, p. 9; Mr Josh Coates, Marine Program Coordinator, CAFNEC, *Committee Hansard*, 23 July 2014, p. 10; Ms Suzanne Arnold, Coordinator, Australians for Animals, *Committee Hansard*, 23 July 2014, pp 46–47 and 49.

91 Mr Josh Coates, Marine Program Coordinator, CAFNEC, *Committee Hansard*, 23 July 2014, p. 10; see also Cairns Local Marine Advisory Committee, *Submission 7*, pp 4–5; CAFNEC, *Submission 19*, p. 5; Keppel and Fitzroy Delta Alliance, *Submission 40*, p. 4; Dr Chris McGrath, *Committee Hansard*, 21 July 2014, p. 3.

92 Cairns Local Marine Advisory Committee, *Submission 7*, pp 4–5; Cairns and Far North Environment Centre, *Submission 19*, p. 5.

We have little confidence that the Queensland Government will allocate the resources, or have the appropriate culture, to impose and enforce the conditions necessary to protect the Reef.⁹³

8.67 Mr Richard Leck of WWF-Australia described it as a 'very inopportune time' to be transferring assessment and approval powers, explaining that their concerns included that:

...there have been significant rollbacks in environmental protection at a state level for the reef. There have also been issues with enforcement of and compliance with the state government's own approval conditions for their developments that they have approved.⁹⁴

8.68 Mr Leck also suggested that there would be an inherent conflict of interest in situations where the Queensland Government (and in particular, the Coordinator-General) was responsible for approving projects for which it is the development proponent:

...the Coordinator-General would be charged both with the promotion of major projects in Queensland and with their approval as well. To WWF that removes a whole bunch of checks and balances that should be in place to ensure that big projects do not damage the reef.⁹⁵

8.69 Professor Mumby of the Australian Coral Reef Society was similarly concerned that the proposal would remove:

...the oversight that Commonwealth provides over decisions that would affect the Great Barrier Reef, including proposals from state governments themselves. It means that the state governments would be able to propose a development that affects the Great Barrier Reef and authorise it as well, without significant oversight.⁹⁶

8.70 Ms Wishart of the Australian Marine Conservation Society also expressed a concern as to whether third-party appeal rights might be lost under the one stop shop proposal.⁹⁷ Queensland Government representatives told the committee that judicial review 'is in the legislation before the Queensland parliament'.⁹⁸ As to whether those

93 CAFNEC, *Submission 19*, p. 5 and Mr Josh Coates, Marine Program Coordinator, CAFNEC, *Committee Hansard*, 23 July 2014, p. 10; see also Cairns Local Marine Advisory Committee, *Submission 7*, pp 4–5; WWF-Australia and the Australian Marine Conservation Society, *Submission 23*, p. 5.

94 Mr Richard Leck, National Manager, Marine Conservation and Sustainable Development, WWF-Australia, *Committee Hansard*, 21 July 2014, pp 16–17.

95 Mr Richard Leck, National Manager, Marine Conservation and Sustainable Development, WWF-Australia, *Committee Hansard*, 21 July 2014, p. 17.

96 Professor Peter Mumby, President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 2; see also Australian Coral Reef Society, *Submission 8*, p. 2.

97 Ms Felicity Wishart, Great Barrier Reef Campaign Director, Australian Marine Conservation Society, *Committee Hansard*, 21 July 2014, p. 17.

98 Mr Jon Black, Director-General, Queensland Department of Environment and Heritage Protection, *Committee Hansard*, 21 July 2014, p. 62.

rights are comparable with those in the EPBC Act, in answers to questions on notice, the Queensland Government advised that:

Under the new Part 4A of the *State Development and Public Works Organisation Act 1971* (Qld), decisions in relation to assessment and approval of coordinated projects under the Approval Bilateral Agreement between Queensland and the Commonwealth is subject to the *Judicial Review Act 1991* (Qld) (JR Act). Case law relating to standing under the JR Act indicates that, in practical terms, there is close congruence with the 'extended' standing provisions of the EPBC Act.⁹⁹

8.71 Dr Chris McGrath acknowledged that there is a 'complex system of laws that regulate activities impacting on the GBR'.¹⁰⁰ However, Dr McGrath told the committee that, under the current system, the Commonwealth plays an oversight role and has in a number of instances 'showed real independence in oversight and planning'. He expressed concern that the one stop shop proposal will:

...effectively give approval of the major projects to the Coordinator-General in Queensland, who is a powerful public servant who is pretty well dedicated to development of the state. So you are taking final approval from the federal environment minister and effectively giving it to a state bureaucrat who is dedicated to development of the major projects...to the very entity that has shown a poor track record in the past. That has got to be, objectively, a problem.¹⁰¹

8.72 Professor Barbara Norman submitted that there should be a:

...clear statement of national responsibility for the environmental outcomes in the Great Barrier Reef region by the Australian Government. The responsibilities of international obligations and long term stewardship is a matter of national interest and should not be delegated to subnational governments, and subjected to significant local and regional vested interests.¹⁰²

8.73 Indeed, it was suggested that the Australian Government needs to maintain and improve its Great Barrier Reef assessment and approval powers.¹⁰³ For example, Ms Wishart suggested that there has been too much rhetoric about 'green tape'. She cited a number of examples of significant failures in current regulation, and urged that there needs to be 'greater protections' for the Great Barrier Reef. This included the approval of dumping dredge spoil for developments at Abbot Point; transshipping

99 Department of the Environment, Queensland Government and GBRMPA, *Answers to questions on notice from public hearing on 21 July 2014*, pp 18–19; and see also Department of the Environment, *Answers to written questions on notice*, p. 20.

100 Dr Chris McGrath, *Submission 32*, p. 1.

101 Dr Chris McGrath, *Committee Hansard*, 21 July 2014, p. 3.

102 Professor Barbara Norman, *Submission 49*, p. 1.

103 Mr Richard Leck, National Manager, Marine Conservation and Sustainable Development, WWF-Australia, *Committee Hansard*, 21 July 2014, p. 15; see also Cairns Local Marine Advisory Committee, *Submission 7*, p. 5.

proposals near the Fitzroy Delta; and the Gladstone Harbour (as discussed in Chapters 5 and 6 of this report).¹⁰⁴ Some of these issues with decision-making processes are discussed later in this chapter.

8.74 It was also suggested that the one stop shop proposal is inconsistent with the World Heritage Committee's recommendations in relation to the management of the Great Barrier Reef (as noted above).¹⁰⁵ WWF-Australia and the Australian Marine Conservation Society expressed further concern that 'this transfer of powers is happening very rapidly' and will be completed before the Long-Term Sustainability Plan for the reef is written.¹⁰⁶

8.75 However, Shipping Australia submitted its understanding that the draft Long-Term Sustainability Plan will at least be released for public comment before the approval bilateral agreement with Queensland is finalised.¹⁰⁷

8.76 In response to questioning on this issue, the Department of the Environment advised that:

The Government has considered the World Heritage Committee's request to postpone the accreditation of Queensland planning systems until the Reef 2050 Long-Term Sustainability Plan is released. The Government intends to release the Reef 2050 Long-Term Sustainability Plan for public comment before the Approval Bilateral Agreement with Queensland is considered for finalisation.¹⁰⁸

8.77 The Australian and Queensland Governments advised that any accreditation of Queensland processes under an approval bilateral agreement will only take place after Queensland has met the relevant standards embedded within the EPBC Act. The Australian Government has developed 'an Assurance Framework to ensure standards are maintained under approval bilateral agreements'.¹⁰⁹ A representative of the Department of the Environment explained that there are '122 standards for protection that exist under the EPBC Act' and that:

...the work that has been undertaken with Queensland on the strategic assessments provides considerable confidence about the way in which the Queensland system works.¹¹⁰

104 See, for example, Ms Felicity Wishart, Great Barrier Reef Campaign Director, Australian Marine Conservation Society, *Committee Hansard*, 21 July 2014, pp 15–16.

105 Australian Coral Reef Society, *Submission 8*, p. 3.

106 WWF-Australia and the Australian Marine Conservation Society, *Submission 23*, p. 4.

107 Shipping Australia, *Submission 3*, p. 7.

108 Department of the Environment, *Answers to written questions on notice*, p. 15.

109 Australian Government and Queensland Government, *Submission 34*, pp 34–35; Dr Kimberley Dripps, Deputy Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, p. 56; see also Queensland Resources Council, *Submission 28*, p. 15.

110 Dr Kimberley Dripps, Deputy Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, p. 56.

8.78 She further noted there 'are number of measures in the assurance framework for the one-stop shop' which provide for a 'stepped level of intervention'. These include arrangements such as: a senior officials committee to oversight the operation of the agreement; processes of audit, monitoring and compliance with the agreement; the ability for Queensland to decide to opt out of the agreement if it feels it is not going to be able to meet the standards; and the ability of the Commonwealth Minister to call in a project under certain circumstances. Finally, she noted that the EPBC Act also includes the ability to terminate an approval bilateral agreement if that should be necessary. She concluded that:

These are all intended to step the regulation or the oversight of the agreement up to a point so that it is not necessary for projects to be considered by the Commonwealth minister and so that it is not necessary to ever consider the termination of the agreement.¹¹¹

Role of GBRMPA under the 'one stop shop'

8.79 The role of GBRMPA under the one stop shop proposal was also raised as an issue, with some submitters and witnesses worried that GBRMPA would be sidelined by the bilateral agreements.¹¹² For example, the Australian Coral Reef Society was concerned that under the proposal GBRMPA would be:

...relegated to simply an advisory role over plans advanced by the State to develop infrastructure that might affect the GBR. This is unacceptable and clearly undermines the ability of the GBRMPA to undertake its mandate.¹¹³

8.80 In response to questioning on this issue, a representative of the Department of the Environment noted that:

There are two roles of GBRMPA under the system as it operates presently. One is to provide technical advice to the department as one part of constructing an assessment under the EPBC Act, and that role will continue, with an MOU between GBRMPA and the Queensland government in order for them to provide an equivalent level of technical advice to the Queensland government. In terms of the roles of the Great Barrier Reef Marine Park Authority under its own act, I am not aware of any plans to revisit those powers.¹¹⁴

8.81 In answers to questions on notice, the Department further explained that:

111 Dr Kimberley Dripps, Deputy Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, pp 56–57; and see also Department of the Environment, *Answers to written questions on notice*, pp 18–19.

112 See, for example, Ms Margaret Moorhouse, Spokesperson, Alliance to Save Hinchinbrook, *Committee Hansard*, 23 July 2014, p. 12; see also Australian Coral Reef Society, *Submission 8*, p. 2.

113 Australian Coral Reef Society, *Submission 8*, p. 2.

114 Dr Kimberley Dripps, Deputy Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, p. 57.

The Approvals Bilateral Agreement, if endorsed, would allow Queensland to assess and approve actions that are taken within the state waters, or may significantly impact on, the Great Barrier Reef Marine Park and World Heritage Area.

The Great Barrier Reef Marine Park Authority continues to be responsible for permit requirements under the *Great Barrier Reef Marine Park Act 1975* (Cth).

The Australian Government continues to be responsible for permits under the *Sea Dumping Act 1981* (Cth) and for approvals for actions under the EPBC Act that are taken within a Commonwealth area of the Great Barrier Reef Marine Park and World Heritage Area or are undertaken by a Commonwealth agency.¹¹⁵

Decision-making processes

8.82 As noted above, the need for better coordination and even streamlining of decision-making processes was discussed during the committee's inquiry. However, a range of additional concerns were also raised about decision-making processes in relation to the Great Barrier Reef and, in particular, environmental assessment and approval processes.

8.83 As noted in Chapter 3, several submissions and witnesses expressed concern about the fact that regulatory decision-making is often underpinned by scientific work and environmental assessments which are commissioned and provided by proponents. It was suggested that this may affect the independence of that scientific work.

8.84 As noted in Chapter 5, and in the context of the Abbot Point case study, another issue raised was whether alternative measures are being adequately considered.¹¹⁶ A further concern related to the adequacy of conditions of approval and their enforcement. This issue is also discussed in further detail in the Gladstone Harbour case study in Chapter 6. For example, Mr Coates of CAFNEC told the committee:

We also have very serious concerns about the current trend in Queensland of approving projects with conditions without adequate consideration or knowledge of the effectiveness or the practicality of the conditions, combined with a lack of political will and resourcing for the enforcement of these conditions.¹¹⁷

8.85 The Australian Coral Reef Society also suggested that 'approval processes should be revisited in the context of climate change'. The Society argued, for example, that the scenario of a 'one in a 100-year storm' may no longer be adequate given sea level rise and changes to storm intensity the resulting from the changing climate.¹¹⁸

115 Department of the Environment, *Answers to written questions on notice*, p. 16.

116 See also, for example, Australian Coral Reef Society, *Submission 8*, p. 1.

117 Mr Josh Coates, Marine Program Coordinator, CAFNEC, *Committee Hansard*, 23 July 2014, p. 10.

118 Australian Coral Reef Society, *Submission 8*, pp 1–2.

8.86 As outlined in Chapter 3, concern was expressed that activities and developments are being approved with conditions requiring further research to discover the impacts of those activities and developments. It was suggested that this was inappropriate and not consistent with the precautionary principle.¹¹⁹

8.87 Another issue was the ability of the environmental assessment process to deal with the cumulative impacts of developments. The issue of cumulative impacts is discussed further later in this chapter.

Offsets

8.88 Professor Hughes told the committee that the environmental impact assessment processes is 'deeply flawed' and needs to be reformed'. In this regard, he had particular concerns about the use of offsets, telling the committee that offsets need to be abandoned.¹²⁰ Indeed, although the Australian and Queensland Governments' submission discussed offsets under the heading of 'recent regulatory and policy improvements',¹²¹ many submitters and witnesses to this inquiry did not appear to consider offsets as a 'regulatory improvement'. Rather, concerns were raised about the use of offsets as conditions of approval for decisions relating to developments impacting on the Great Barrier Reef.¹²² The conditions relating to the proposed offsets in the Abbot Point port development were discussed in further detail in Chapter 6.

8.89 For example, Mr McCabe of the Capricorn Conservation Council told the committee that 'offsets can work in theory but we have little evidence that they ever have'.¹²³ Ms Tubman of the NQCC described the use of offsets as 'smoke and mirrors'.¹²⁴ Mr Coates from CAFNEC expressed concerned about the 'move towards offsets as a solution to environmental damage', and in particular the use of:

...offsets that are unrealistic, have inappropriate time lines, are not enforced and are not backed by credible science. They will not achieve the stated goals and are not an acceptable justification for allowing damaging coastal developments.¹²⁵

119 See, for example, NQCC, *Submission 30*, p. 4; Ms Ellen Roberts, Coordinator, Mackay Conservation Group, *Committee Hansard*, 22 July 2014, p. 15.

120 Professor Terry Hughes, *Committee Hansard*, 23 July 2014, p. 26.

121 Australian and Queensland Governments, *Submission 34*, pp 13, 15–16; Professor Terry Hughes, *Committee Hansard*, 23 July 2014, p. 25.

122 See, for example, CAFNEC, *Submission 19*, pp 4 and 11; Professor Hoegh-Guldberg, *Submission 6*, pp 8–9; Whitsunday Charter Boat Industry Association, *Submission 46*, p. 9; Ms Wendy Tubman, Coordinator, NQCC, *Committee Hansard*, 23 July 2014, p. 2; Mr Josh Coates, Marine Program Coordinator, CAFNEC, *Committee Hansard*, 23 July 2014, p. 10.

123 Mr Michael McCabe, Coordinator, Capricorn Conservation Council, *Committee Hansard*, 22 July 2014, p. 29.

124 Ms Wendy Tubman, Coordinator, NQCC, *Committee Hansard*, 23 July 2014, p. 2.

125 Mr Josh Coates, Marine Program Coordinator, CAFNEC, *Committee Hansard*, 23 July 2014, p. 9.

8.90 The committee also notes that it recently conducted an extensive inquiry into environmental offsets, which included consideration of the offsets in relation to Abbot Point and Curtis Island, and a discussion of the problems with the use of offsets in the marine environment and in relation to World Heritage Areas such as the Great Barrier Reef. The committee notes that a number of recommendations in that report are particularly relevant to the use of offsets in the context of the Great Barrier Reef, including, for example, that:

- the EPBC Act Offsets Policy be revised to provide greater guidance on developments in which offsets are unacceptable, including a list of 'red flag' areas, such as World Heritage and critically endangered ecological communities and species (recommendation 6); and
- the Department of the Environment develop a separate offsets policy in relation to the marine environment (recommendation 10).¹²⁶

Cumulative impacts

8.91 A key discussion during the committee's inquiry was whether the cumulative impacts of activities and developments affecting the Great Barrier Reef are being adequately addressed and considered in management and decision-making. For example, CAFNEC were concerned that:

There is no legislative or policy framework that consider[s] cumulative impacts, with the narrow exception of the Reef Water Quality Program.¹²⁷

8.92 In contrast, the Minerals Council of Australia submitted that 'there is an increasing focus on the assessment of cumulative impacts as part of EPBC approvals'.¹²⁸

8.93 The *Outlook Report 2014* noted that there is concern that the resilience of the Great Barrier Reef is being seriously, and increasingly rapidly, eroded.¹²⁹ It was noted that resilience is determined by a range of variables and therefore a loss of resilience generally 'cannot be attributed to any single cause, but is almost certainly the consequence of impacts from all the different activities and influencing factors, and their accumulation through time'.¹³⁰ The *Outlook Report 2014* noted that 'the ability to address cumulative impacts remains weak'.¹³¹ The *Outlook Report 2014* concluded:

126 See further Senate Environment and Communications References Committee, *Environmental Offsets*, June 2014, http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Environmental_Offsets/Report/index (accessed 31 July 2014).

127 CAFNEC, *Submission 19*, p. 4.

128 Minerals Council of Australia, *Submission 35*, p. 5.

129 GBRMPA, *Outlook Report 2014*, p. 243.

130 GBRMPA, *Outlook Report 2014*, p. 226.

131 GBRMPA, *Outlook Report 2014*, p. vi and see also p. 220.

...threats have the potential to work in combination to weaken the resilience of the Great Barrier Reef ecosystem and therefore its ability to recover from serious disturbances...An increasing understanding of the cumulative effects of threats has highlighted the need for a management approach that takes into account all threats affecting an area and for a combination of Reef-wide, regional and local solutions.¹³²

8.94 The *Coastal Zone Strategic Assessment 2014 Program Report* acknowledged this problem, stating that:

Despite the fact cumulative impact assessments are considered in EPBC Act decisions, there is currently no established methodology to inform the preparation of project-specific assessments in relation to regionally based cumulative impacts.¹³³

8.95 Dr Reichelt of GBRMPA told the committee that the need to manage cumulative impacts was addressed in the Strategic Assessments.¹³⁴ The committee also notes that one of the outcomes of the Strategic Assessment is for cumulative impact assessment policy and guidelines to be developed to help a transparent, consistent and systematic approach to identifying, measuring and managing collective impacts on the region and its values.¹³⁵ However, the committee notes that one of the purposes of Strategic Assessments is to deal with cumulative impacts on matters of national environmental significance.¹³⁶ The Strategic Assessments are discussed further below.

Strategic Assessments and the Long-Term Sustainability Plan

8.96 As outlined in Chapter 2, the Commonwealth and Queensland Governments recently finalised their 'comprehensive Strategic Assessment' of the Great Barrier Reef

132 GBRMPA, *Outlook Report 2014*, p. 264.

133 Queensland Department of State Development, Infrastructure and Planning, *Great Barrier Reef Coastal Zone Strategic Assessment 2014, Program Report*, July 2014, p. 64, <http://www.dsdip.qld.gov.au/resources/report/gbr/gbr-coastal-zone-strategic-assessment-program-report.pdf> (accessed 13 August 2014). See also, Cairns and Far North Environment Centre, *Submission 19, Attachment 5*, p. 50: EDO analysis; *EDO Qld and EDO NQ Submission on the Draft Coastal Zone Strategic Assessment Report*, p. 15, <http://www.edoqld.org.au/wp-content/uploads/2014/01/2014-01-31-EDO-Qld-and-EDO-NQ-Joint-Submission-on-the-Draft-GBR-Coastal-Zone-SA-Program-Report.pdf> (accessed 7 August 2014).

134 Dr Russell Reichelt, Chairman and Chief Executive, GBRMPA, *Committee Hansard*, 23 July 2014, p. 52.

135 The Hon Greg Hunt MP, Minister for the Environment, 'Strategic Assessment bolsters protection of the Great Barrier Reef', *Media release*, 12 August 2014, <http://www.environment.gov.au/minister/hunt/2014/mr20140812.html> (accessed 13 August 2014); see also Ms Carolyn Cameron, Assistant Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, p. 60; *Great Barrier Reef Coastal Zone Strategic Assessment 2014, Program Report*, July 2014, p. 64.

136 Department of the Environment, *Strategic Assessments*, <http://www.environment.gov.au/topics/environment-protection/environment-assessments/strategic-assessments> (accessed 21 August 2014).

World Heritage Area and adjacent coastal zone. The Great Barrier Reef Strategic Assessment had two key components: a marine component led by GBRMPA and a coastal component led by the Queensland government. The Commonwealth and Queensland Governments advised that the Strategic Assessments 'will inform a long-term plan for protecting the reef and coastal zone'.¹³⁷

8.97 The committee notes that most of the evidence to its inquiry was received prior to the release of the final Strategic Assessments. Nevertheless, some submitters and witnesses were very supportive of the Strategic Assessment process. For example, the Minerals Council of Australia submitted that the Strategic Assessments 'represent a leading practice approach which could be emulated in other parts of the world'.¹³⁸

8.98 Queensland Ports Association suggested that the draft Strategic Assessment is a 'testament to the strong, coordinated approach to environmental management within the region'.¹³⁹ However, as noted in Chapter 5, the Queensland Ports Association also submitted its view that the Strategic Assessment 'significantly overstates the risks and impacts of dredging and dredge material placement at-sea' and 'significantly under represents the role and need for ports and shipping'.¹⁴⁰ Finally, the Queensland Ports Association called for the 'coordination and alignment of the various reviews, inquiries, Strategic Assessment and operational activities' and suggested that 'further standalone or separate process[es] must be avoided where possible'.¹⁴¹

8.99 The Australian Institute of Marine Science (AIMS) similarly submitted that the Strategic Assessments 'comprehensively reviewed the multiple elements' of the Great Barrier Reef World Heritage Area system.¹⁴² In AIMS' view, the Strategic Assessments have 'effectively synthesised a number of critical issues' and propose 'ways forward to enhance the management and protection' of the Great Barrier Reef. AIMS commended GBRMPA and the Queensland Government for 'their compilation of this resource in a relatively short time frame'.¹⁴³

137 Australian and Queensland Governments, *Submission 34*, p. 8; see also Department of the Environment, *Strategic assessment – Great Barrier Reef*, at: <http://www.environment.gov.au/protection/assessments/strategic/great-barrier-reef> (accessed 27 June 2014).

138 Minerals Council of Australia, *Submission 35*, p. 7.

139 Queensland Ports Association, *Submission 13*, pp 3 and 10.

140 Queensland Ports Association, *Submission 13*, pp 10 and 11; see also Ports Australia, *Submission 11*, p. 2

141 Queensland Ports Association, *Submission 13*, p. 15.

142 AIMS, *Submission 36*, p. 2; see also Dr Jamie Oliver, Research Director, AIMS, *Committee Hansard*, 23 July 2014, p. 19.

143 AIMS, *Submission 36*, p. 3.

8.100 At the same time, other submitters and witnesses identified a number of deficiencies in the Strategic Assessments.¹⁴⁴ In particular, AIMS suggested that they tended to 'downplay or leave the bad news until the end of the sections':

For example, the statement that "at the scale of the [Great Barrier Reef] region, most of its habitats and species are assessed to be in good to very good condition." may be technically correct, but as most of its KEY habitats and vulnerable species (corals, seagrasses, seabirds, dolphins, dugong, turtles) are in very poor to poor condition and declining in the southern GBR, it would seem appropriate to lead with this point.¹⁴⁵

8.101 AIMS also submitted that:

...the depth of coverage across the many topics is variable with respect to the attention paid to, and quality of, knowledge synthesis. Scientific literature specific to the [Great Barrier Reef] is generally well referenced, however the international science related to our understanding of general drivers and impacts in tropical systems is not as comprehensively reviewed.¹⁴⁶

8.102 It was also suggested that the treatment of cumulative impacts needed strengthening in the Strategic Assessments.¹⁴⁷ Ms Wishart suggested that the World Heritage Committee was expecting the Strategic Assessments to deal with the issue of cumulative impacts.¹⁴⁸

8.103 Finally, while AIMS agreed with the initiatives proposed in the Strategic Assessment and associated Program Report, AIMS was concerned that they only provide a 'limited assessment of the scope and scale of additional work and additional resources that may be required to fully implement these initiatives'. AIMS noted that:

If the resources needed to carry out the various recommendations and initiatives set out in the Assessments and Program Reports are not fully scoped and provided within appropriate time scales, the ability of these documents to catalyse the protection of the Reef from further decline will be significantly compromised.¹⁴⁹

144 See, for example, Cairns Local Marine Advisory Committee, *Submission 7*, p. 4; CAFNEC, *Submission 19*, p. 10 and Attachment 3; WWF-Australia and the Australian Marine Conservation Society, *Submission 23*, p. 14; NQCC, *Submission 30*, Attachment 1; AIMS, *Submission 36*, pp 3–4.

145 AIMS, *Submission 36*, pp 3–4.

146 AIMS, *Submission 36*, p. 3.

147 WWF-Australia and the Australian Marine Conservation Society, *Submission 23*, p. 14; AIMS, *Submission 36*, p. 4; see also Mr Colin McKenzie, Executive Director, AMPTO, *Committee Hansard*, 23 July 2014, p. 34.

148 See, for example, Ms Felicity Wishart, Great Barrier Reef Campaign Director, Australian Marine Conservation Society, *Committee Hansard*, 21 July 2014, p. 19; see also Mr Colin McKenzie, Executive Director, AMPTO, *Committee Hansard*, 23 July 2014, p. 37.

149 AIMS, *Submission 36*, p. 4.

8.104 In response to questioning on this issue, the Department of the Environment noted that the Strategic Assessment agreements require the 'commitments in both Programs to be adequately resourced throughout their life'.¹⁵⁰

8.105 The Australian Coral Reef Society remarked that the Strategic Assessments were 'comprehensive and generally accurate'.¹⁵¹ However, the Society was concerned that the Strategic Assessment did not adequately consider 'future development scenarios', such as the potential for agricultural development in north Queensland.¹⁵²

8.106 WWF-Australia and the Australian Marine Conservation Society submitted that the Strategic Assessments 'represent plans for more planning, rather than a significant investment in effective management interventions to address the critical issues confronting the health of the Reef'.¹⁵³ Mr Leck of WWF-Australia applauded the Australian Government 'for getting key stakeholders around a table and building on the absolute plethora of knowledge that we have about the reef's decline and what is needed'. However, he emphasised the need for the Strategic Assessment process to deliver 'clear outcomes, not more strategic reviews, not more inquiries but actual clear outcomes that can be implemented immediately'. At the same time, he noted that the two assessments:

...are quite different in their outlook and their analysis of the condition and trend of the reef...it is quite confusing when you look at them because one paints a very positive picture of the reef and one paints a very negative picture. How those two documents and how those two views with the different levels of government are going to come together is a big challenge.¹⁵⁴

8.107 CAFNEC told the committee that it does not consider that the Strategic Assessments are likely protect the reef from further decline. They submitted that it 'contains a good collation and assessment of the reef health' and 'many positive initiatives', but does not 'go far enough in the proposed actions to reverse these trends or minimise the threats'. In particular, they suggested that:

The strategic assessment reports also lack real actions and targets and instead comprise motherhood statements that fail to link to real actions and shifts responsibility for action on to other inadequate plans, policies which in many cases are yet to be produced or are in draft form.¹⁵⁵

150 Department of the Environment, *Answers to Written Questions on Notice*, p. 2.

151 Professor Peter Mumby, President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 2.

152 Australian Coral Reef Society, *Submission 8*, p. 3.

153 WWF-Australia and the Australian Marine Conservation Society, *Submission 23*, p. 14.

154 Mr Richard Leck, National Manager, Marine Conservation and Sustainable Development, WWF-Australia, *Committee Hansard*, 21 July 2014, p. 19.

155 CAFNEC, *Submission 19*, p. 10 and Attachment 3, p. 1.

8.108 Some submitters and witnesses were particularly critical of the Queensland Coastal Strategic Assessment. For example, NQCC described it as 'sadly lacking'.¹⁵⁶ CAFNEC submitted that the Queensland report 'concludes by recommending a plan for a plan to better coordinate plans'.¹⁵⁷

8.109 CAFNEC also queried whether the Strategic Assessments incorporated sufficient consultation and genuine consideration of community views, stating that:

At this time CAFNEC has no confidence that the input that was provided to the strategic assessments by us and other community groups and members will be incorporated into the final draft. We have seen no consultation whatsoever on the reef 2050 plan.¹⁵⁸

8.110 The Environment Minister noted when releasing the final Strategic Assessment that a number of initiatives will be adopted by the Commonwealth and Queensland Government, including:

- a cumulative impact assessment policy and guidelines for a transparent, consistent and systematic approach to identifying, measuring and managing collective impacts on the region and its values;
- a net benefit policy to guide actions aimed at restoring ecosystem health and improve the condition of values;
- a new approach to decision making based on clear targets for maintaining the reef's Outstanding Universal Value;
- no port development outside the key long-established ports of Townsville, Abbot Point, Hay Point/Mackay and Gladstone;
- a Reef recovery program to support local communities and other stakeholders to protect and restore sites of high environmental value and critical ecosystem functions through cooperative regional-scale management approaches; and
- reef-wide integrated monitoring and reporting that underpins the Great Barrier Reef Marine Park Authority's adaptive management and provides good feedback on the effectiveness of management actions.¹⁵⁹

Reef 2050 Long-Term Sustainability Plan

8.111 As noted elsewhere, the Strategic Assessments will inform the Reef 2050 Long-Term Sustainability Plan, which aims to provide an overarching framework to

156 NQCC, *Submission 30*, p. 4.

157 CAFNEC, *Submission 19*, p. 10 and Attachment 3, pp 1–2; see also Mr Josh Coates, Marine Program Coordinator, CAFNEC, *Committee Hansard*, 23 July 2014, p. 10.

158 CAFNEC, *Submission 19*, p. 13.

159 The Hon Greg Hunt MP, Minister for the Environment, 'Strategic Assessment bolsters protection of the Great Barrier Reef', *Media release*, 12 August 2014, <http://www.environment.gov.au/minister/hunt/2014/mr20140812.html> (accessed 13 August 2014); see also Ms Carolyn Cameron, Assistant Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, p. 60.

guide protection and management of the Great Barrier Reef World Heritage Area from 2015 to 2050.¹⁶⁰ The committee heard that Reef 2050 Long-Term Sustainability Plan will be released for public comment in August, with a view to refining it after comment by the end of the year in time for consideration by the World Heritage Committee.¹⁶¹

8.112 The Queensland Ports Association, Ports Australia and the Queensland Resources Council expressed support for the proposed Long-Term Sustainability Plan, noting that they had contributed to its development and are 'keen to participate in future management activities and consultation activities'.¹⁶²

8.113 Shipping Australia expressed its view that the consultation process in relation to the draft Long-Term Sustainability Plan:

...will involve genuine, open and transparent consultation with the Australian community, affected industries and relevant scientific experts, and genuine consideration of the broader community's views in coming to a final decision.¹⁶³

8.114 However, Ms Tubman of NQCC expressed concern that the plan 'has to be presented to UNESCO in February', so 'there is an extremely short period of time in which comments that are made can be considered and incorporated'.¹⁶⁴

8.115 In response to questioning, representatives from the Department of the Environment explained that the long-term sustainability plan is not just 'a plan for a plan' and will contain clear actions:

The long-term sustainable development plan is intended to bring all of the pieces of reef management together into an easily digestible form so that the community can see what is being done across the whole gamut of different programs, policies, investments and areas, between the Commonwealth, the universities, GBRMPA, the Queensland government and all of the relevant institutions. That is a piece of work that should be out shortly. It is a very complex task to bring together that system of targets and visions, and to bring those actions together into a format that is easy to understand...¹⁶⁵

160 Australian and Queensland Governments, *Submission 34*, p. 31.

161 Dr Russell Reichelt, Chairman and Chief Executive, GBRMPA, *Committee Hansard*, 23 July 2014, p. 55.

162 Queensland Ports Association, *Submission 13*, p. 11; see also Mr David Anderson, Chief Executive Officer, *Ports Australia*, 21 July 2014, p. 23; Mr David Anderson, Chief Executive Officer, *Ports Australia*, 21 July 2014, p. 31.

163 Shipping Australia, *Submission 3*, p. 7.

164 Ms Wendy Tubman, Coordinator, NQCC, *Committee Hansard*, 23 July 2014, p. 3.

165 Ms Carolyn Cameron, Assistant Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, p. 63; Dr Kimberley Dripps, Deputy Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, p. 54.

8.116 Dr Reichelt from GBRMPA described the Long-Term Sustainability Plan as 'a blueprint for managing the reef for the next 25 years'. He explained that:

It will become an intergovernmental agreement to a ministerial forum that governs the Marine Parks Act and the joint operations with Queensland. It has a strong governance basis. The challenge over the next four or five months will be to ensure that there is continued buy-in and cooperation with the stakeholders—there is quite a big group of industry-sector and conservation people working on it—and that we can put some serious standards, targets and outcomes in that long-term plan in the same way that the authority did with water quality guidelines 10 years ago.¹⁶⁶

166 Dr Russell Reichelt, Chairman and Chief Executive, GBRMPA, *Committee Hansard*, 23 July 2014, p. 54.

Chapter 9

Conclusions and recommendations

9.1 The Great Barrier Reef is the largest coral reef ecosystem and one of the most beautiful and diverse natural ecosystems on Earth. It is clearly a world treasure that is fully deserving of its World Heritage Listing and warrants strong protection and effective management.

9.2 The committee is deeply concerned that the health of the Great Barrier Reef has declined and appears to be on a continual downward trajectory. The recent *Great Barrier Reef Outlook Report 2014* concluded that 'the overall outlook for the Great Barrier Reef is poor, has worsened since 2009 and is expected to further deteriorate in the future'.¹

9.3 The *Outlook Report 2014* identified climate change, poor water quality from land-based run-off, impacts from coastal development and some remaining impacts from fishing as the main threats to the health of Great Barrier Reef ecology. The report noted that a series of major storms and floods in recent years also affected the ecosystem, which was already under pressure. These natural events highlighted the fact that the accumulation of all impacts has the potential to further weaken the resilience of the Great Barrier Reef, which will affect its capacity to recover from further serious disturbances.² These issues were also repeatedly identified in evidence to this committee.

9.4 The committee also heard evidence which referred continually to a 2012 study showing that in the past 27 years, the reef has lost around 50 per cent of its coral cover. The committee was told that same study attributed the decline in coral cover primarily to three factors: tropical cyclones; predation by crown-of-thorns starfish; and coral bleaching. However, the committee also heard that these factors are linked to the key underlying concerns of poor water quality and climate change, which are impacting upon the reef and its resilience.

9.5 The committee recognises that the Great Barrier Reef, and its catchments, support a range of activities and industries, including tourism, fishing, and shipping. However, the committee considers that greater effort is required to manage these activities and their impact on the reef; it is not only the health of the Great Barrier Reef which is at risk but also the long-term sustainability of economically important industries.

9.6 The committee acknowledges that progress has been made in recent years in some respects by both the Australian and Queensland Governments. However, it is clear that there is more that needs to be done. The Great Barrier Reef is facing pressures from multiple sources, all of which need to be managed effectively and their

1 GBRMPA, *Outlook Report 2014*, p. vi, <http://www.gbrmpa.gov.au/media/external-links/external/outlook-report-flipbook> (accessed 13 August 2014).

2 GBRMPA, *Outlook Report 2014*, p. v.

impacts minimised, in order to reduce the stress on the reef and improve its resilience. The committee acknowledges evidence of the importance of addressing and minimising the cumulative impacts of *all* activities occurring in the Great Barrier Reef Region.

9.7 Most submitters and witnesses were in agreement that more needs to be done to prevent, and indeed, reverse the decline of the Great Barrier Reef. The committee is concerned that without urgent, concrete action and political will for change, the reef will be lost to future generations.

9.8 At the same time, the committee recognises the complex and difficult task of managing the pressures on the Great Barrier Reef. It will require all stakeholders to work together, to coordinate their efforts to ensure that the aspirations of those members of parliament who passed the Great Barrier Reef Marine Park Bill in 1975 are met:

The long term objective of this legislation is to permit this Parliament to take such steps as may be within its power to preserve for posterity the wonders of the Great Barrier Reef and...to preserve not only a major part of Australia's heritage but also to preserve an important and valuable part of the heritage of the world.³

Dredging and dredge disposal

9.9 The committee recognises the importance of ports and shipping to the Queensland and Australian economy, and the need to maintain shipping routes through the Great Barrier Reef. The committee received evidence from ports and industry groups that the relative contribution of ports and shipping to the problems in the Great Barrier Reef are minor compared to other impacts. The committee acknowledges these views, but considers that any additional stress on the health of the Great Barrier Reef should be avoided wherever possible.

9.10 The committee is also persuaded by the evidence that we should not be undermining work being done by other sectors (and the government funding being spent) to improve reef water quality by reducing run-off in reef catchments. The committee further notes that the *Outlook Report 2014* rated dredging as a 'medium risk' and disposal of dredge material as 'high risk'. The committee was also persuaded by evidence that some of the long-term and indirect impacts of dredge spoil disposal are not well understood.

9.11 The committee welcomes, as did the World Heritage Committee, the commitment in the Queensland Ports Strategy to limit port development to existing, well-developed port areas. However, the committee notes evidence that there are still considerable concerns about the development proposals in those existing port areas.

9.12 The committee recognises the need for dredging, and particularly maintenance dredging. However, the committee was concerned to hear that there are numerous proposals for increased dredging, particularly capital dredging, which would also

3 Senator the Hon Peter Durack, *Senate Debates*, 12 June 1975, p. 2657.

potentially involve the disposal of large quantities of dredge spoil in the Great Barrier Reef World Heritage Area.

9.13 The committee is of the opinion that it is time to reconsider the idea that it is acceptable to dispose of dredge spoil in the Great Barrier Reef World Heritage Area. The committee acknowledges the evidence that toxic sediments are disposed of on land and that dredge spoil is never dumped on sensitive ecosystems such as corals or seagrass. Nevertheless, the committee is concerned by evidence that the large-scale and long-term cumulative impacts of dredging and dumping are not well understood.

9.14 To this end, the committee was pleased to hear that the Great Barrier Reef Marine Park Authority and the Australian Institute of Marine Science have co-convened an expert Dredging Panel to examine what is known about the impacts of dredging and dredge disposal and to address knowledge gaps. However, the committee queries why approvals are continuing to be made prior to this research being completed. The committee considers that, in light of the precautionary principle, no further approvals should be given under the *Environment Protection and Biodiversity Conservation Act 1999* or the *Environment Protection (Sea Dumping) Act 1981* for the disposal of dredge spoil in the Great Barrier Reef World Heritage Area until the expert Dredging Panel finalises its work.

9.15 The committee also suggests that the Minister for the Environment examine whether a cap or a ban should be introduced on dredge spoil disposal in the Great Barrier Reef World Heritage Area, and if a cap is introduced, the benefits or otherwise of reducing the amount of dredge spoil that is disposed in the area over time.

Recommendation 1

9.16 The committee recommends that, in light of the precautionary principle, no further approvals should be given under the *Environment Protection and Biodiversity Conservation Act 1999* or the *Environment Protection (Sea Dumping) Act 1981* for the disposal of dredge spoil in the Great Barrier Reef World Heritage Area until the Great Barrier Reef Marine Park Authority and Australian Institute of Marine Science Dredge Panel work is finalised.

Recommendation 2

9.17 The committee recommends that the Minister for the Environment examine whether a cap or a ban should be introduced on the disposal of dredge spoil in the Great Barrier Reef World Heritage Area.

Gladstone Harbour

9.18 The committee was deeply concerned by the evidence it received in relation to the significant problems that have occurred in Gladstone Harbour, which appears to have been an environmental disaster. The committee recognises that there have been numerous inquiries into this issue, including the Independent Review of the Port of Gladstone and the more recent Bund Wall Review. These reviews revealed flaws in the conditions placed on approvals as well as in compliance and monitoring processes. Indeed, the Bund Wall Review identified 'deficiencies' in the performance of

environmental regulators and Gladstone Ports Corporation (a state owned corporation).⁴

9.19 The committee notes the evidence that these inquiries could have been more comprehensive, and this prompted some submitters and witnesses to call for a Royal Commission into the issues that have occurred in Gladstone Harbour. The committee acknowledges these calls, but does not consider that a Royal Commission is warranted. However, the committee does consider that lessons need to be learned from the Gladstone Harbour experience, and that it is crucial to ensure that this type of problem never occurs again.

9.20 In particular, the committee considers that there is a need for the Department of the Environment to ensure that conditions of approval under the EPBC Act are stringently imposed, monitored and enforced. In addition, the Department of the Environment needs to maintain strong oversight over the monitoring of relevant developments. As is discussed further later in this chapter, the committee also considers that federal approval powers should not be delegated to the Queensland Government.

Recommendation 3

9.21 The committee recommends that the Department of the Environment ensure that conditions of approval under the *Environment Protection and Biodiversity Conservation Act 1999* are stringently worded, monitored and enforced.

Recommendation 4

9.22 The committee recommends that the Minister for the Environment ensure that funding for, and resourcing and staffing levels within, the Department of the Environment are sufficient to ensure adequate capacity to monitor and enforce conditions of approval under the *Environment Protection and Biodiversity Conservation Act 1999*.

Abbot Point

9.23 The committee received a large amount of evidence expressing concerns about the proposals to develop Abbot Point and, in particular, the recent approvals by the Environment Minister and the Great Barrier Reef Marine Park Authority to dispose of three million cubic metres of dredge spoil in the Great Barrier Reef Marine Park. The committee recognises that the decisions in relation to Abbot Point are currently the subject of legal challenges, and therefore it would not be appropriate for the committee to comment on the merits or legality of the decisions themselves.

9.24 Nevertheless, the committee is deeply concerned by evidence that the decision has damaged the reputation of, and community confidence in, the Great Barrier Reef Marine Park Authority. The committee also agrees with evidence that it is difficult to

4 Department of the Environment, *Gladstone Bund Wall Review*, May 2014, p. viii, <http://www.environment.gov.au/topics/marine/gbr/gladstone-bund-wall-review> (accessed 6 August 2014).

be reassured by the so-called 'strict'⁵ conditions on the Abbot Point development when 'strict'⁶ conditions were also placed on projects in the Gladstone Harbour and Curtis Island region (as discussed further above).

Strategic Assessments and Long-Term Sustainability Plan

9.25 It appears to the committee that there is now a plethora of plans, strategies and reports relating to the management of the Great Barrier Reef, but little in the way of concrete action. The most notable exception to this is the commendable work being done to improve catchment run-off. However, it seems to the committee that the only other concrete action occurring in the Great Barrier Reef Region is the approval of more port expansions, including the associated dredging and dredge spoil disposal.

9.26 The committee notes that the strategic assessments were due to be completed in 2013, yet the final versions have only just been released. The committee considers that these delays are regrettable, given the importance of putting in place the Reef 2050 Long-term Sustainability Plan as soon as possible. The committee notes the Department of the Environment's evidence that the plan will be provided to the World Heritage Committee by February next year.

9.27 The committee notes that the intention is that the Reef 2050 Plan will provide an overarching framework to guide the protection and management of the Great Barrier Reef World Heritage Area from 2015 to 2050. However, the committee is concerned that this could be yet another plan for more planning. Not only will this be unlikely to satisfy the concerns of the World Heritage Committee, but as some witnesses told the committee, governments have now prepared many reviews, inquiries and plans, which 'total thousands of pages'. The committee agrees that what is now needed 'is real solutions, not the endless reports that document the reef's decline'.⁷

9.28 The committee considers that it is vital that the Reef 2050 Plan contains concrete targets and actions to help stop the decline of the Great Barrier Reef, and addresses the issue of cumulative impacts of all activities impacting on the health of the Great Barrier Reef. The committee also considers that the Reef 2050 Long-Term Sustainability Plan draw on, and bring together, all existing strategies, plans and reports in relation to the Great Barrier Reef. The Reef 2050 Long-Term Sustainability Plan should also be subject to a full community consultation process. Finally, the committee notes that this chapter identifies a number of issues and contains recommendations which should also be considered in the development of the Reef 2050 Long-Term Sustainability Plan.

5 Australian and Queensland Governments, *Submission 34*, p. 21.

6 Department of the Environment, *Gladstone coal seam and dredging projects*, <http://www.environment.gov.au/node/18620> (accessed 12 August 2014).

7 Mr Richard Leck, National Manager, Marine Conservation and Sustainable Development, WWF-Australia, *Committee Hansard*, 21 July 2014, p. 15.

Recommendation 5

9.29 The committee recommends that the Reef 2050 Long-Term Sustainability Plan be drafted and finalised, subject to full community consultation, as a matter of high priority.

Recommendation 6

9.30 The committee recommends that the Reef 2050 Long-Term Sustainability Plan bring together all existing strategies, plans and reports in relation to the Great Barrier Reef.

Recommendation 7

9.31 The committee recommends that the Australian and Queensland Governments ensure that the Reef 2050 Long-Term Sustainability Plan contains concrete targets and actions to improve the health of the Great Barrier Reef.

Recommendation 8

9.32 The committee recommends that the Australian and Queensland Governments ensure that the Reef 2050 Long-Term Sustainability Plan adequately addresses the cumulative impacts of all activities on the Great Barrier Reef Region and its world heritage values.

Science underpinning the management of the Great Barrier Reef

9.33 The committee acknowledges the importance of ensuring that management and decision-making in relation to the Great Barrier Reef is underpinned by robust and independent science. In this context, the committee recognises and commends the research work provided by government agencies such as the Australian Institute of Marine Sciences and CSIRO, and university researchers. The committee was also pleased to hear the evidence from the Australian and Queensland Governments that they have invested in new research to address 'key information gaps in relation to the future management of the Great Barrier Reef'.⁸

9.34 However, the committee was concerned by evidence that the science in relation to the Great Barrier Reef is becoming politicised. The committee also heard that there are numerous areas where further research is required to better understand the health of the Great Barrier Reef. A number of these areas have been identified in the strategic assessments and include, for example, the need to better understand the large-scale and long-term impacts of dredging and dumping associated with ports development (as discussed further later in this chapter).

9.35 The committee is especially concerned about evidence of recent funding cuts to the Australian Institute of Marine Science, which is one of Australia's leading authorities on marine science and ecology, including for the Great Barrier Reef. Given concerns about many matters affecting the Great Barrier Reef, the committee considers it is an inopportune time to underfund quality research that is crucial to the management of the Great Barrier Reef. The committee considers that adequate

8 Australian and Queensland Governments, *Submission 34*, p. 27.

funding and support for institutions such as the Australian Institute of Marine Science is needed to ensure that they can continue to conduct and direct research in an independent and apolitical manner.

Recommendation 9

9.36 The committee recommends that funding for, and staffing for the Australian Institute of Marine Science be maintained, and wherever possible, increased, in order to ensure that they can continue to conduct the important research work needed to support management and decision-making in relation to the Great Barrier Reef.

Great Barrier Reef Marine Park Authority

9.37 The committee recognises the difficulties faced by the Great Barrier Reef Marine Park Authority (GBRMPA) and the complexities of managing a World Heritage Area of the size and scale of the Great Barrier Reef. In particular, the committee realises that many of the activities impacting upon the reef occur on land, in the catchments, over which GBRMPA has no jurisdiction.

9.38 The committee acknowledges that aspects of GBRMPA's management have been exemplary, including for example, its management of the rezoning within the marine park. However, the committee is concerned that community confidence in GBRMPA has been damaged, particularly by the recent Abbot Point decision. Most disturbingly, evidence to the committee revealed perceptions of bias and allegations of lack of independence in decision-making. The committee considers that these views are highly damaging for a government entity, particularly one that has been entrusted with the protection of one of the world's most significant and beautiful ecosystems.

9.39 The committee notes with approval that the Australian National Audit Office (ANAO) has recently commenced an audit to assess the effectiveness of the Great Barrier Reef Marine Park Authority's regulation of permits and approvals within the Great Barrier Reef Marine Park.⁹ The committee also notes that the ANAO is considering an audit of the Australian Government Reef Programme (previously known as the Reef Rescue Initiative), which is jointly administered by the Departments of Environment and Agriculture.¹⁰ However, the committee considers that there may be merit in the ANAO expanding these audits to include a broader audit of the performance of GBRMPA in executing its functions under the *Great Barrier Reef Marine Park Act 1975*, including whether it is acting in a manner that is consistent with the objects of that Act.

9 Australian National Audit Office, *Regulation of Great Barrier Reef Marine Park Approvals*, <http://www.anao.gov.au/Publications/Audits-in-Progress/2015/Winter/Regulation-of-Great-Barrier-Reef-Marine-Park-Permits-and-Approvals> (accessed 27 August 2014).

10 Australian National Audit Office, *ANAO Work Program — July 2014*, pp 56–57 <http://www.anao.gov.au/About-Us/~media/Files/Audit%20Work%20Programs/AWP-July-2014-accessible.pdf> (accessed 2 September 2014).

Recommendation 10

9.40 The committee recommends that the Australian National Audit Office expand its proposed and current audits relating to the Great Barrier Reef to include an audit of the performance of the Great Barrier Reef Marine Park Authority.

9.41 The committee was also concerned by evidence about recent cuts to funding and staffing in the Great Barrier Reef Marine Park Authority, and that experienced staff have left the Authority in recent months.

Recommendation 11

9.42 The committee recommends that funding and staffing of the Great Barrier Reef Marine Park Authority be maintained in order to ensure that it can concentrate on providing independent, world-class management of the Great Barrier Reef Marine Park.

9.43 The committee also acknowledges suggestions that there needs to be improved access to information, including scientific information, relating to the Great Barrier Reef. The committee agrees with suggestions that the Great Barrier Reef Marine Park Authority develop a single searchable database of all reef reports and publications. The committee considers a searchable database will be of great value to all stakeholders and improve the accessibility of information.

Recommendation 12

9.44 The committee recommends that the Great Barrier Reef Marine Park Authority create a single, searchable database of all relevant reports and publications relating to the Great Barrier Reef.

Climate change

9.45 The committee recognises that climate change is the major long-term threat to the Great Barrier Reef. In particular, the committee received evidence that the Great Barrier Reef is already feeling the effects of climate change in the form of coral bleaching events, which are likely to increase in the future, along with ocean acidification. As such, while Australia cannot ameliorate climate change on its own, the committee considers that Australia should take strong action and show international leadership on the issue of climate change.

Recommendation 13

9.46 The committee recommends that the Australian Government take strong action, and an international leadership role, on the issue of climate change.

Water quality and catchment management

9.47 The committee notes that a great deal of effort has gone into managing the use of catchment areas to improve the water quality of the Great Barrier Reef. There has been an ongoing commitment made at all levels to engage in practices and develop plans to reduce land-based run-off into the Great Barrier Reef. The continued commitments of investment by the Australian and Queensland Governments have

been supported by the work of regional natural resource management bodies, industry groups, other organisations and participating landholders.

9.48 These commitments have resulted in changes to land management practices which have, in turn, resulted in reduced total pollutant and sediment loads. However, although the trends towards reduced diffuse source pollution are encouraging and it is accepted that it will take time for these achievements to translate into improved conditions in the marine environment, the quality of water entering the Great Barrier Reef from catchment areas continues to pose a threat to the health of the reef. The committee considers that further measures are required to abate the threats to the health of the reef posed by poor water quality.

Reef Water Quality Protection Plan

9.49 The committee recognises that the efficiency and effectiveness of the Reef Water Quality Protection Plan is measured through comprehensive monitoring and evaluation, including progress reporting through Reef Plan Report Cards, which have been released since 2011.¹¹ However, the committee received evidence that the Reef Water Quality Protection Plan did not specifically quantify the sustainable load targets. These are required to achieve the overall goal of ensuring that, by 2020, the quality of water entering the Great Barrier Reef from catchment areas has no detrimental impact on the health and resilience of the reef. The committee considers that specific load targets should be included in the Plan.

9.50 The committee also considers that the management strategies incorporated in the Reef Water Quality Protection Plan need to support the achievement of the specific load targets.

Recommendation 14

9.51 The committee recommends that the Minister for the Environment examine the Reef Water Quality Protection Plan to identify explicit load reduction targets as well as management strategies to achieve these targets.

Funding

9.52 The committee notes that, in real terms, funding to the Reef Water Quality Protection Plan has been cut. Not only has \$40 million been removed from the program and placed in the Reef Trust program but also inflation will affect the real value of the remaining funding over time. The committee notes the success of the plan in reducing run-off from broad-scale land use and the commitment by the agricultural sector in Queensland to reduce run-off and improve water quality entering reef waters. The committee is therefore concerned funding cuts will undermine these significant achievements.

11 Australian and Queensland Governments, *Reef Water Quality Protection Plan Report cards*, <http://www.reefplan.qld.gov.au/measuring-success/report-cards.aspx> (accessed 2 September 2014).

Reef Trust

9.53 The committee recognises that Reef Trust has great potential to channel funds into site-specific projects to improve the quality of water entering the Great Barrier Reef and provide greater protection to threatened species.

9.54 However, there was evidence that Reef Trust may be a direct recipient of funds used for environmental offsets for developments impacting on the Great Barrier Reef. The committee was concerned that this may create a conflict of interest for GBRMPA, given that these funds could benefit GBRMPA and GBRMPA is the main authority charged with advising the Australian and Queensland Governments on the potential impacts of development on the Great Barrier Reef.

Fertilisers and pesticides

9.55 The committee considers that even if the best management practices were universally adopted by the agricultural sector, damage to the reef would still occur from fertiliser run-off. The committee notes that the inclusion of nitrification inhibitors and control release technologies into fertilisers has achieved good results in reducing fertiliser run-off in other parts of the world. The committee therefore believes that such technologies should be examined as an additional means of achieving the goal of improved water quality in the Great Barrier Reef Marine Park.

9.56 The committee notes that these products are currently significantly more expensive than the standard fertilisers used in Great Barrier Reef catchments. The committee therefore considers that further research is needed to assess the potential benefits of these products and whether there are ways to make these products more cost effective and accessible for the agricultural sector.

9.57 The committee acknowledges that some pesticide use is necessary to maintain and improve agricultural productivity. Pesticides are used in Great Barrier Reef catchments and some of these pesticides are washed into the waters of the Great Barrier Reef. The committee notes that higher concentrations of pesticides may have negative impacts on the health of the reef.

9.58 Despite this, the committee notes that the *Outlook Report 2014* states that the current levels of pesticide run-off pose a low to moderate threat to the health of the ecology of the Great Barrier Reef and, even then, generally only to the ecology of inshore reefs.

9.59 The committee acknowledges that a considerable amount of work has already been done to contribute to our understanding of agriculture and methods to lessen its footprint on water quality. This includes, for example, scientific work to improve the efficacy of nitrogen application in the Great Barrier Reef catchments. The committee also recognises the importance of the Reef Trust and the Reef Water Quality Protection Plan in this regard.

9.60 Nevertheless, the committee notes that measurement of pesticide concentrations is usually conducted by reference to modelling and the committee received evidence suggesting that the modelling could be improved. The committee considers that it would be beneficial for scientific studies into the effects of pesticide run-off on the health of the reef to be undertaken. This would allow a greater

appreciation of the effects of pesticides on the health of the reef and ensure that the future funding of environmental protection programs is properly targeted.

Recommendation 15

9.61 The committee recommends that research funding be directed towards improving farming technologies, such as fertilisers, to make them more cost effective and less likely to negatively impact on the water quality of the Great Barrier Reef.

Recommendation 16

9.62 The committee recommends that the Minister for the Environment commission a scientific review of the impacts on water quality of farm-related products. In undertaking such a review, the committee recommends that an assessment be undertaken of:

- **the potential benefits of new farming technologies, including use of new types of fertiliser; and**
- **mechanisms to decrease the use of pesticides.**

Recommendation 17

9.63 The committee recommends that the Australian Government work closely with stakeholders to deliver enhanced environmental outcomes through the Reef Trust Programme and the Reef Water Quality Protection Plan.

Crown-of-thorns starfish

9.64 Outbreaks of crown-of-thorns starfish have had a devastating effect on the Great Barrier Reef. The committee notes that research into direct control mechanisms of starfish populations has resulted in improved control techniques and a better knowledge of the starfish lifecycle. However, the committee considers that continued research is required to fully identify the triggers, including water quality aspects, of an outbreak.

The large-scale development of Northern Australia

9.65 The committee notes concerns about the large-scale development of Northern Australia and the evidence received that the health of Great Barrier Reef could suffer as a result. Of particular concern is large-scale land clearing, damming of rivers and an intensification of anthropogenic run-off, especially from previously undeveloped areas. It follows that any proposed development outside the currently developed areas of the Great Barrier Reef catchment should only be done with the utmost caution. The committee notes that the *Environment Protection and Biodiversity Conservation Act 1999* requires consideration of the precautionary principle, and therefore suggests strict adherence to this principle when assessing the potential impact of the development of Northern Australia, especially in previously undeveloped areas in catchments of the Great Barrier Reef.

Recommendation 18

9.66 The committee recommends that there should be a strict adherence to the precautionary principle when assessing the potential impact of the development of Northern Australia, especially in previously undeveloped areas in catchments of the Great Barrier Reef.

Urban sewage

9.67 The committee received evidence indicating that, over the next two decades, the population in catchment areas of the Great Barrier Reef is expected to grow dramatically. This population expansion will result in more urban sewage discharge into the waters of the Great Barrier Reef and thus result in detrimental effects on the water quality.

9.68 The committee supports the Queensland Government policy requiring all coastal sewage treatment plants to meet high ecological tertiary treatment standards before discharging sewage into the waters of the Great Barrier Reef. However, the committee notes that local government authorities lack adequate funding for upgrade works. As a consequence, that not all treatment plants in the catchment areas currently meet the requisite standards.

9.69 The committee therefore recommends that the tertiary treatment standards should be properly enforced. In addition, the committee considers that the Queensland Government should allocate funding to assist local government authorities to undertake the necessary upgrades.

Recommendation 19

9.70 The committee recommends that the Queensland Government provide funding to local government authorities to assist with the upgrade of sewage treatment plants in the Great Barrier Reef catchment areas.

Sewage originating from vessels

9.71 The committee understands from evidence that in the Great Barrier Reef and its catchment areas there is a dearth of land-based facilities for the disposal and treatment of sewage originating from vessels. Existing Queensland Government legislation is quite specific about where and what can be discharged into the waters of the Great Barrier Reef.

9.72 However, the lack of land-based disposal facilities could encourage the illegal dumping within the Great Barrier Reef Marine Park of sewage from vessels. The committee therefore recommends that the Queensland Government improve the enforcement of its Transport Operations (Marine Pollution) legislation and provide funding to expand facilities for the treatment and disposal of sewage originating from vessels in and around the Great Barrier Reef.

Recommendation 20

9.73 The committee recommends that the Queensland Government improve the enforcement of the *Transport Operations (Marine Pollution) Act 1995* and associated regulations prohibiting the discharge of sewage from vessels into the waters of the Great Barrier Reef.

9.74 Further, the committee recommends that the Queensland Government provide funding for improved facilities at ports for the effective treatment and disposal of sewage originating from vessels in and around the Great Barrier Reef.

National Parks and Protected Areas

9.75 The committee acknowledges evidence that national parks, coastal wetlands and protected areas act as buffer zones, limiting the extent to which pollutants can enter riverine systems and the Great Barrier Reef. These areas provide significant benefits to the overall health of the Great Barrier Reef by supporting a high level of biodiversity, providing a refuge to different species, helping to control flood waters, allowing for the discharge of groundwater and acting as a filter for nutrient rich waters.

9.76 Given the acknowledged benefits derived from those areas already protected, the committee considers that it important to ensure that all ecologically significant areas are adequately protected for their own sake and for the demonstrated benefits on the health of the reef.

9.77 In this context, the committee particularly notes evidence received expressing concern about proposed developments in the Fitzroy River Delta near Rockhampton and in the Cape Melville/Bathurst Bay area. The committee notes that both these areas are of high conservation value. The committee considers that the Minister for the Environment should undertake an examination of the conservation values of these areas in order to ascertain whether the level of protection for these areas should be increased. The committee notes that this approach would be consistent with the spirit and intent of the Queensland Ports Strategy.

Recommendation 21

9.78 The committee recommends that the Minister for the Environment afford higher levels of environmental protection to areas on, or adjacent to, the Great Barrier Reef, including the Fitzroy River Delta and the Bathurst Bay Region.

Coal Particulates

9.79 The committee was also concerned about evidence received and new research revealing the problem of pollution from coal particulates and its impact on the Great Barrier Reef. The committee notes evidence from GBRMPA that it is looking at measures to address this problem, and considers that this issue should be examined closely.

Recommendation 22

9.80 The committee recommends that the Minister for the Environment examine measures to reduce coal particulate pollution in the Great Barrier Reef Region.

Shipping

9.81 In terms of shipping, the committee acknowledges evidence to the committee that shipping is generally well managed and poses a relatively low risk to the reef compared to other activities and impacts. The committee also recognises the excellent work of the Australian Maritime Safety Authority and the REEFVTS system in minimising shipping incidents in the Great Barrier Reef Region.

9.82 The committee notes that the *North-East Shipping Management Plan* is currently being developed and aims to address impacts associated with the projected growth of shipping in the Great Barrier Reef over the coming years. The committee was advised that the plan will be finalised this year.

9.83 While the committee considers that shipping is generally well managed in the Great Barrier Reef, the committee also received evidence in relation to shipping where it appears that some management measures could be improved. For example, in relation to underwater noise pollution, the committee heard that consideration should be given to the adoption and implementation of the International Maritime Organization's *Guidelines for the Reduction of Underwater Noise from Commercial Shipping to Address Adverse Impacts on Marine Life*. In relation to ship strike, the committee welcomes the Department of the Environment's evidence that there is a proposal to develop a National Vessel Strike Strategy in consultation with relevant stakeholders.

9.84 The committee also notes that it received evidence indicating a number of deficiencies in the draft *North-East Shipping Management Plan*, which it hopes are addressed in the final plan. The committee therefore recommends that a further consultation process be undertaken in relation to the draft North-East Shipping Management Plan, in particular to give greater consideration to the issues such as extending compulsory pilotage, and underwater noise pollution.

Recommendation 23

9.85 The committee recommends that the relevant Minister(s) examine whether the Australian Government should adopt the International Maritime Organization's *Guidelines for the Reduction of Underwater Noise from Commercial Shipping to Address Adverse Impacts on Marine Life*.

Recommendation 24

9.86 The committee recommends that the relevant Minister(s) ensure that further consultation be undertaken in relation to the draft North-East Shipping Management Plan.

Governance and decision-making processes

9.87 The committee notes that the Australian and Queensland Governments made a comprehensive joint submission to the inquiry, which in itself is quite an unusual occurrence in terms of Senate inquiries. The committee further notes that a range of agencies from both governments were involved in the preparation of the joint submission.

9.88 The committee recognises the need for greater consistency and coordination in the governance arrangements relating to the management of the Great Barrier Reef. However, the committee has grave concerns about the Australian Government's 'one stop shop' proposal, particularly in the context of developments in Queensland where the State Government may be the proponent. It seems to the committee that it is completely inappropriate for a government to be regulating itself in this manner. The committee is also concerned that the one stop shop proposal may further undermine the role and independence of the Great Barrier Marine Park Authority.

9.89 Finally, the Great Barrier Reef is a World Heritage Area with international significance, and the committee considers that it is important for the Commonwealth to retain a significant role in the oversight of the area. The committee also recognises the World Heritage Committee's comments that the proposal to transfer decision-making power to Queensland is 'premature' and 'should be postponed to allow further consideration'.¹²

9.90 The committee therefore considers that it is inappropriate for the Commonwealth to be devolving its responsibilities for matters of national environmental significance to the states and territories. As such, the committee recommends that the Environmental Protection and Biodiversity Conservation Amendment (Bilateral Agreement Implementation) Bill 2014 currently before the Senate not be passed.

Recommendation 25

9.91 The committee recommends that the Australian Government not accredit Queensland development approval processes under the *Environment Protection and Biodiversity Conservation Act 1999*.

Recommendation 26

9.92 The committee recommends that the Environment Protection and Biodiversity Conservation Amendment (Bilateral Agreement Implementation) Bill 2014 not be passed.

12 UNESCO World Heritage Committee, Decision 38 COM 7B.63, 2014, pp 116–117, <http://whc.unesco.org/archive/2014/whc14-38com-16en.pdf> (accessed 9 July 2014).

Independence of environmental assessments

9.93 In addition, in terms of regulatory decision-making, the committee heard concerns about the lack of independence of environmental assessments, whereby the assessments are commissioned and provided by proponents. The committee notes that this has been a recurring concern in recent inquiries to the committee, such as the inquiry into threatened species last year and the inquiry into environmental offsets earlier this year. The committee suggests that the Minister for the Environment conduct a review, including a public consultation process, to examine ways to improve the independence and rigour of the environmental assessment process.

Recommendation 27

9.94 The committee recommends that the Minister for the Environment, conduct a review to examine ways to improve the rigour and independence of the environmental assessment process under the *Environment Protection and Biodiversity Conservation Act 1999*.

Use of offsets in the Great Barrier Reef World Heritage Area

9.95 The committee once again heard concerns about the use of offsets as conditions of approvals for developments significantly impacting on the Great Barrier Reef World Heritage Area. For example, the committee again heard concerns as to whether the offsets conditions proposed for the Abbot Point development (of a 150% reduction in fine sediments coming from the Burdekin and Don catchments) are even achievable. This is similar evidence to that which the committee heard during its recent inquiry into the issue of environmental offsets. The committee therefore reiterates the recommendations made in its report for that inquiry.¹³

9.96 In the offsets inquiry, the committee also recognised the specific concerns as to the application of offsets in the marine environment. The committee therefore suggested that the Department of the Environment consider developing a separate offsets policy in relation to the marine environment, and the committee wishes to reiterate that specific recommendation. The committee also recommends again that the existing Offsets Policy be revised to provide greater guidance on 'red flag' areas where offsets are unacceptable, including World Heritage areas including in the Great Barrier Reef World Heritage Area.

13 See further Senate Environment and Communications References Committee, *Environmental Offsets*, June 2014, http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Environmental_Offsets/Report/index (accessed 31 July 2014).

Recommendation 28

9.97 The committee recommends that the Department of the Environment develop a separate offsets policy in relation to the marine environment.

Recommendation 29

9.98 The committee recommends that the *Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy* be revised to provide greater guidance on developments in which offsets are unacceptable, such as a list of 'red flag' areas, including within the Great Barrier Reef World Heritage Area.

Senator Anne Urquhart
Chair

Coalition Senators' Dissenting Report

Introduction

1.1 The Australian Government recognises that the changing climate is one of a number of threats to the Great Barrier Reef. Accordingly, the Australian Government is advancing a suite of climate change policies to improve carbon abatement and reduce carbon emissions.

1.2 Coalition senators acknowledge the need for ongoing action to protect the Great Barrier Reef.

1.3 The major contributors to the decline of the Great Barrier Reef were cyclones, crown of thorns star fish, coral bleaching and land based run off, while dredging activity can have a localised impact.

1.4 Coalition senators are disappointed that the Chair's Report has been made unnecessarily political when all senators involved in the hearings were genuine in their concerns about the future of the Great Barrier Reef and the actions that need to be taken to protect this valuable and important asset now and for future generations.

1.5 Coalition senators support proactive action and accordingly support many of the recommendations of the Chair's Report. However, there were a number of the recommendations in the Chair's Report that Coalition senators believe do not reflect the evidence received during the hearings. Consequently, Coalition senators make the following comments.

Positions of agreement

Recommendation 1

1.6 The Coalition Senators support the recommendation that no further approvals should be given under the *Environment Protection and Biodiversity Conservation Act 1999* or the *Environment Protection (Sea Dumping) Act 1981* for the disposal of capital dredge spoil in the Great Barrier Reef World Heritage Area until the Great Barrier Reef Marine Park Authority and Australian Institute of Marine Science Dredge Panel work is finalised.

1.7 The committee heard evidence from tourism operators in the Whitsundays about sediment increase in their area and the need for an understanding of what has caused the increase in sedimentation. Mr Tony Brown, President of the Whitsunday Charter Boat Industry Association stated:

Overall, our industry deserves some certainty and we expect that sedimentation, which is of great concern for our region—we have seen this through Reef Check. That showed alarming increases in sediment in the past four to five years—I think that was in my submission—and we need to understand whether dredging will have an impact on our area, particularly the sea-dumping aspect of dredging, to create certainty in our industry so

that we can all invest in the future in an industry that is sustainable and hopefully can be there for a long time into the future¹

1.8 Coalition senators note the Queensland Ports Strategy sets the direction for how future port developments will occur in Queensland. Through major reform to port planning, governance, environmental management and supply chain connections, the Strategy will guide an efficient port network that supports economic growth and effectively manages environmental objectives. The Coalition further notes that, within and adjoining the Great Barrier Reef World Heritage Area, the Queensland Government will prohibit dredging for the development of new, or the expansion of existing, port facilities outside Priority Port Development Areas for the next ten years.

Recommendation 2

1.9 The Coalition Senators support the recommendation of the merits of an examination of a cap on the disposal of dredge spoil in the Great Barrier Reef World Heritage Area.

Recommendation 3

1.10 Coalition Senators support the committee's recommendation that the Department of the Environment ensure that conditions of approval under the *Environment Protection and Biodiversity Conservation Act 1999* are stringently worded, monitored and enforced.

Recommendation 4

1.11 Coalition Senators note the recommendation that adequate resources are provided to Department of the Environment ensure adequate capacity to monitor and enforce conditions of approval under the *Environment Protection and Biodiversity Conservation Act 1999* and consider the Department is adequately resourced for this purpose.

Recommendation 5

1.12 Coalition Senators support the committee's recommendation that the Reef 2050 Long-Term Sustainability Plan be drafted and finalised, subject to full community consultation, as a matter of high priority.

1.13 The Coalition and the Queensland Government are working closely, through the Reef 2050 Partnership Group on the development of the Reef 2050 Long Term Sustainability Plan. The Reef 2050 Partnership Group comprises a wide range of stakeholders from industry sectors including agriculture, ports and tourism, as well as conservation groups, Indigenous representatives, natural resource managers and scientific experts. Together, this group are expected to release a Reef 2050 Plan for public comment imminently.

1 Tony Brown, President of the Whitsunday Charter Boat Industry Association, *Committee Hansard*, 22 July 2014, p. 9.

Recommendation 6

1.14 Coalition Senators support the committee's recommendation that the Reef 2050 Long-Term Sustainability Plan bring together all existing strategies, plans and reports in relation to the Great Barrier Reef.

1.15 The committee heard the following evidence from Dr Dripps, Deputy Secretary of the Department of Environment:

The long-term sustainable development plan is intended to bring all of the pieces of reef management together into an easily digestible form so that the community can see what is being done across the whole gamut of different programs, policies, investments and areas, between the Commonwealth, the universities, GBRMPA, the Queensland government and all of the relevant institutions. That is a piece of work that should be out shortly. It is a very complex task to bring together that system of targets and visions, and to bring those actions together into a format that is easy to understand, but that is the purpose of the long-term sustainable development plan.²

Recommendation 7

1.16 Coalition Senators note the committee's recommendation that the Australian and Queensland Governments ensure that the Reef 2050 Long-Term Sustainability Plan contains concrete targets and actions to improve the health of the Great Barrier Reef.

1.17 The Reef 2050 Long-Term Sustainability Plan is the Government's commitment to working in partnership with industry and the community to provide an overarching framework for directing the management of the Great Barrier Reef, and external pressures, out to 2050. It will set out how Australia will improve resilience of the global icon so it is healthier and stronger in the long-term and protected for future generations.

1.18 The Plan recognises it is vital to strike a balance between protecting the cultural, environmental, economic, heritage and social values of the Reef; and providing continuing opportunities for ecologically sustainable multiple-use.

1.19 The Plan will include outcomes, objectives, targets and actions for protecting the Reef's Outstanding Universal Value, as well as an integrated monitoring and reporting program.

1.20 The Plan will integrate actions across jurisdictions and ensure that current and future threats to the Reef are addressed in an effective, efficient and appropriate manner.

Recommendation 8

1.21 Coalition Senators support the committee's recommendation that the Reef 2050 Long-Term Sustainability Plan adequately addresses the cumulative

2 Dr Kimberly Dripps, Deputy Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, p. 54.

impacts of all activities on the Great Barrier Reef Region and its World Heritage values. Coalition Senators note the *Environment Protection and Biodiversity Conservation Act 1999* and the environmental approval framework for decision-making requires proponents to avoid, mitigate or offset potential impacts to matters of national environmental significance. The principles of the *Environment Protection and Biodiversity Conservation Act 1999* have been used effectively by successive Governments to deliver environmental safeguards in the context of development.

1.22 In addition, the recently released Comprehensive Strategic Assessment of the Great Barrier Reef flags that proponents in or near the Reef zone will have to pay greater attention to how their activities contribute to cumulative impacts on the Reef. To ensure cumulative impacts receive greater prominence in decision-making, a cumulative impact assessment policy and guidelines for a transparent, consistent and systematic approach to identifying, measuring and managing collective impacts on the region and its Outstanding Universal Value will be developed.

Recommendation 9

1.23 Coalition Senators support the recommendation that adequate resources are available to Australian Institute of Marine Science to ensure it can continue to conduct the important research work needed to support management and decision-making in relation to the Great Barrier Reef.

Recommendation 11

1.24 Coalition Senators support the recommendation that adequate resources are available to Great Barrier Reef Marine Park Authority in order to ensure that it can concentrate on providing independent, world-class management of the Great Barrier Reef Marine Park.

Recommendation 12

1.25 Coalition Senators support the creation of a single, searchable database of all relevant reports and publications relating to the Great Barrier Reef.

1.26 The committee heard from Mr Charles Burke, the Chief Executive Officer of AgForce Queensland that:

We need to ensure a single searchable database for all reef reports and publications. There are thousands of reef reports and publications, and these need to be housed under one searchable, assessable website for end users and researchers. Future research and implementation needs to build on existing knowledge and not duplicate previous efforts.³

3 Mr Charles Burke, Chief Executive Officer, AgForce Queensland, *Committee Hansard*, 21 July 2014, p. 38.

Recommendation 13

1.27 Coalition Senators note the committee's recommendation that the Australian Government take strong action, and an international leadership role, on the issue of climate change.

1.28 Coalition Senators consider that the Abbott Government is already taking strong action on the issue of climate change, with the introduction of a suite of measures including the signature \$2.55 billion Emissions Reduction Fund and complimentary initiatives.

Recommendation 14

1.29 Coalition Senators support the recommendation that the Reef Water Quality Protection Plan identify explicit load reduction targets as well as management strategies to achieve these targets be examined.

1.30 The Reef Water Quality Protection Plan sets ambitious targets for improved water quality and land and catchment management practices and identifies actions to improve the quality of water entering the reef. Water quality targets have been set based on estimated load reductions that can be achieved through delivery of best management practice systems, with the exception of the nitrogen target which remains ambitious and may require new thinking and approaches in the Wet Tropics and Burdekin regions. Land and catchment management targets relate to implementation of best management practice systems across each of the industries and include targets for groundcover and wetland management.

1.31 Reef Plan is developed with advice from a partnership committee of key stakeholders and an independent science panel.

1.32 The efficiency and effectiveness of the Reef Plan is measured through a comprehensive monitoring, evaluation and reporting program. Progress is reported against goals and targets annually through the Reef Plan Report Card.

Recommendation 15

1.33 Coalition Senators support the continuation of research into improved farming technology and practices to make them more cost effective and less likely to negatively impact on the water quality of the Great Barrier Reef.

1.34 Mr Charles Burke, the CEO of AgForce Queensland stated at the Brisbane hearing:

We have been working very successfully with what we call our BMP [best management practice]. It is a voluntary program which the Queensland government assists with. As I alluded to in my opening comments, a lot of the time it is about being able to drive change in practices through an economic imperative and being able to show people that if they implement certain things it will increase their bottom line and, along the way, will deliver environmental outcomes as well. We honestly believe that is the best way. We have had a lot more success with that—bringing people in

voluntarily with a business imperative and delivering environmental outcomes along the way.⁴

Recommendation 17

1.35 Coalition Senators agree with the committee's recommendation that the Australian Government work closely with stakeholders to deliver enhanced environmental outcomes through the Reef Trust Programme and the Reef Water Quality Protection Plan. Coalition senators note the Government is currently working with all relevant stakeholders towards this outcome.

Recommendation 18

1.36 The Coalition Senators support the recommendation that there should be an adherence to the precautionary principle when assessing the potential impact of the development of Northern Australia, especially in previously undeveloped areas in catchments of the Great Barrier Reef.

1.37 Coalition Senators note that the EPBC Act 1999 requires that the precautionary principle apply. The potential impacts of any development, in any landscape, are thoroughly considered and where appropriate, conditions applied to mitigate those impacts.

Recommendation 19

1.38 Coalition Senators recommend the upgrade of sewage treatment plants in the Great Barrier Reef catchment areas to the level of best practice.

Recommendation 20

1.39 Coalition Senators note the recommendation that the Queensland Government improve the enforcement of the *Transport Operations (Marine Pollution) Act 1995* and associated regulations prohibiting the discharge of sewage from vessels into the waters of the Great Barrier Reef. Coalition senators note the Queensland Government's commitment to ensuring adequate resources are provided to this end.

Recommendation 21

1.40 Coalition Senators note the recommendation for high levels of environmental protection being applied to areas on, or adjacent to, the Great Barrier Reef, including the Fitzroy River Delta and the Bathurst Bay Region.

1.41 Coalition senators note that on 18 August 2014, the Commonwealth Environment Minister stated that the Commonwealth and Queensland Governments had agreed that the development at the Fitzroy Delta would not be proceeding.⁵

4 Charles Burke, CEO AgForce Queensland, *Committee Hansard*, 21 July 2014, p. 40.

5 The Hon Greg Hunt MP, Minister for the Environment, 'The Battle for the Barrier Reef', *Four Corners*, 18 August 2014, <http://www.abc.net.au/4corners/stories/2014/08/18/4067593.htm> (accessed 1 September 2014).

Recommendation 22

1.42 Coalition Senators support the recommendation to examine measures to reduce coal particulate pollution in the Great Barrier Reef region.

1.43 The Chairman and Chief Executive Officer of the Great Barrier Reef Marine Park Authority, Dr Russell Reichelt, stated during the Townsville hearing:

What I think we do need is more work on the impact of coal particles, because they are definitely spread. I fully accept that they are detectable at fine levels right across the continental shelf. I think that should be a very high priority to prevent in the future.⁶

Recommendation 23

1.44 Coalition Senators support the examination of the International Maritime Organisation's *Guidelines for the Reduction of Underwater Noise from Commercial Shipping to Address Adverse Impacts on Marine Life* with a view to possible adoption.

Recommendation 24

1.45 Coalition Senators support ongoing consultation in relation to the draft North-East Shipping Management Plan.

Recommendation 27

1.46 Coalition Senators note the recommendation to examine ways to improve the rigour and independence of the environmental assessment process under the *Environment Protection and Biodiversity Conservation Act 1999*.

1.47 Coalition senators consider the process is both rigorous and independent, providing for the application of exacting environmental standards.

Dissenting comments**Recommendation 10**

1.48 Coalition Senators do not support any additional or expanded audits by the Australian National Audit Office into the Great Barrier Reef Marine Park Authority. The recommendation to increase or expand an audit of the Great Barrier Reef Marine Park Authority implies that during the hearing evidence suggested the need for additional scrutiny. Coalition senators consider this assertion is unsubstantiated by the evidence.

Recommendation 16

1.49 Coalition Senators consider that the commissioning of another scientific review into the impact on water quality of farm-related fertiliser and pesticides is unnecessary as existing and ongoing research is currently successfully addressing the issues. Coalition senators support, to ensure accuracy, investigating the data

6 Dr Russell Reichelt, Chairman and Chief Executive Officer, Great Barrier Reef Marine Park Authority, *Committee Hansard*, 23 July 2014, p59.

and assumptions for the modelling used to predict the impact of pesticide usage on the Great Barrier Reef.

1.50 In point 4 of their submission AgForce Queensland raised the issue of pesticide runoff:

In some cases, reef scientific work has not considered other existing science in regards to agriculture and pesticide environmental toxicology. The adequacy and transparency of reef pesticide runoff science is therefore subject to question by industry. There have been instances where incorrect assumptions and toxicity impacts have been used for pesticide modelling...

AgForce is concerned that reef pesticide science, at times, has resulted in false claims about detected levels of pesticide runoff causing impact on marine organisms in coastal receiving waters. The pesticide model is unique to the reef and does not consider all the pesticide properties considered by national runoff models used by the Australian Pesticides and Veterinary Medicines Authority (APVMA).⁷

1.51 This point was discussed at the hearing in Brisbane:

Senator RUSTON: As a farmer myself, I was just interested in your point No. 4 in relation to the pesticide run-off, the way the information has been collected and the inference that some of the modelling has probably suggested a much worse situation than currently exists. Am I reading what you are saying correctly?

Mrs Vitelli: Yes.

Mr Burke: There are assumptions made. When there is a measurement taken it ascribes that measurement right across all the agricultural producers in a catchment at a certain time, and that is unrealistic in practical agricultural terms because that does not always happen at once and not everybody uses the same pesticide—and not everybody uses pesticide—that may have been included in the assumption. So it is very difficult to be categorical and say, 'This is what is happening,' when the assumptions are not necessarily accurate.⁸

Recommendations 25

1.52 Coalition Senators reject the committee's recommendation not to accredit Queensland development approval processes under the *Environment Protection and Biodiversity Conservation Act 1999*.

Recommendation 26

1.53 Coalition Senators reject the committee's recommendation that the Environment Protection and Biodiversity Conservation Amendment (Bilateral Agreement Implementation) Bill 2014 not be passed.

7 *Submission 14*, p. 6.

8 Mr Charles Burke, Chief Executive Officer, Mrs Marie Vitelli, Policy Officer, AgForce Queensland, *Committee Hansard*, 21 July 2014, p. 41.

1.54 The Government's One-Stop Shop will streamline environmental assessment and approval processes by removing duplication between the Australian Government and states and territories. Importantly, this will be achieved while maintaining high environmental standards.

1.55 The One-Stop Shop will be implemented through approval bilateral agreements with the states and territories under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act). Approval bilateral agreements allow a state to conduct a single environmental assessment and approval process that satisfies both state and Australian Government requirements.

1.56 Approval bilateral agreements have been possible under the EPBC Act since it was first passed. The Government is now implementing the efficiencies envisaged when the EPBC Act was first introduced.

1.57 All states and territories have committed to implementing the One-Stop Shop by the end of 2014.

1.58 Queensland is pursuing a bilateral approval agreement under the One Stop Shop to streamline regulation while maintaining high environmental standards and have already introduced legislation to make sure they are well placed to meet high Commonwealth environmental standards.

1.59 Australia's strong environmental standards will be maintained and business efficiency will be improved through this process:

- Business will only need to deal with one regulator and undertake one assessment and approval process.
- A simpler, faster, more comprehensive assessment and approval process will increase certainty for investors, reduce costs for business, boost productivity and create jobs.
- There will be increased sharing of environmental information and data between business, governments and the community which will improve our ability to understand and manage the environment.

Recommendation 28

1.60 Coalition Senators reject the committee's recommendation that the Department of the Environment develop a separate offsets policy in relation to the marine environment. Coalition senators consider existing Government policy provides for adequate coverage.

Recommendation 29

1.61 Coalition Senators reject the recommendation that the *Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy* be revised to provide greater guidance on developments in which offsets are unacceptable, such as a list of 'red flag' areas, including within the Great Barrier Reef World Heritage Area.

1.62 Dr Dripps stated during the Brisbane Hearing:

The way in which it will work, should the Commonwealth enter into an approvals bilateral, is that there are a number of pieces of Queensland law that are being considered for accreditation under the one-stop shop. Those laws need to demonstrate that they meet the 112 standards under the EPBC Act for accreditation, including offsets. They need to demonstrate that they deliver an equivalent outcome to the Commonwealth offsets calculator. There are, of course, differences in the approaches to environmental assessment between Queensland and the Commonwealth, because the Commonwealth only looks at matters of national environmental significance. So we need to be quite sure that the protection that the Queensland legislation is providing to matters of state significance is not unintentionally lost as part of the process. The draft approvals bilateral with Queensland was out for public comment in April and early May, and, if I recall correctly, it states that the Queensland government will, in regard to matters of national environmental significance, use the Commonwealth's offset calculator and guide in calculating what an offset ought to be.⁹

Additional comments

1.63 Coalition senators note evidence received from the owners of the Gladstone Fish Market in relation to pollution impacts from the Gladstone Harbour bund wall breach. Coalition senators note that fishermen impacted by the bund wall breach were compensated under the conditions of the EIS, however secondary industries, and specifically the Gladstone Fish Market, were denied compensation by the Gladstone Port Corporation on the basis of the conditions of the EIS. Coalition senators consider the case for compensating the Gladstone Fish Markets should be considered through appropriate channels.

Senator Anne Ruston
Deputy Chair
Senator for South Australia

Senator James McGrath
Senator for Queensland

Senator the Hon Ian Macdonald
Senator for Queensland

Senator Matthew Canavan
Senator for Queensland

9 Dr Kimberly Dripps, Deputy Secretary, Department of the Environment, *Committee Hansard*, 21 July 2014, p. 52.

Australian Greens – Additional Comments

1.1 The Australian Greens set up this inquiry because the Great Barrier Reef is facing its gravest threat since scientific records began. The science is telling us that the health of the Reef is in decline, and without immediate action we will see drastic changes and the end of the Reef as we know it within our lifetimes.

1.2 The latest threat of rapid industrialisation of the Great Barrier Reef coastline, largely due to massive coal and gas port expansions, could be the last straw. The biggest ever dredging, dumping and shipping program in the Great Barrier Reef's history threatens its integrity directly and also indirectly by facilitating fossil fuel burning to worsen climate change, and will seriously reduce the Reef's resilience.

1.3 The Reef is a wonder of the natural world, and a place of surpassing beauty, but it is also a vital economic asset for Australia. It provides more than 63,000 jobs and contributes \$6 billion each year to the Australian economy. Aside from this direct contribution, the Reef provides many other 'ecosystem services' such as protecting the Queensland coastline from dangerous tropical storms, the value of which has not been calculated.¹

1.4 The Reef has lost 50% of its coral cover in 27 years.² The latest science in the recently released *Outlook Report 2014* compiled by the Great Barrier Reef Marine Park Authority, states that the outlook for the Reef is poor, and is deteriorating. The pressures the Reef faces are climate change, poor water quality from land-based runoff, impacts from coastal development including ports, and some remaining impacts from fishing.³ All levels of government and all sectors of the community in Australia must act to arrest this decline.

1.5 We welcome the Senate Committee's report and recommendations, but they fall sadly short of the action we so urgently must take if we want the Great Barrier Reef to survive this century.

Ban dumping in the Reef

1.6 Dumping of port dredging spoil offshore in the Great Barrier Reef World Heritage Area seriously threatens the health of marine life and corals including by

1 GBRMPA *Outlook Report 2014*, p 109; AIMS *Submission 34*, p 6.

2 See, for example, Professor Ove Hoegh-Guldberg and contributing authors (Professor Hoegh-Guldberg), *Submission 6*, p. 3; AIMS, *Submission 36*, p. 1; Professor John Pandolfi, Councillor and Past President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 5; Mr Anthony Brown, President, Whitsunday Charter Boat Industry Association, *Committee Hansard*, 22 July 2014, p. 9; Professor Terry Hughes, *Committee Hansard*, 23 July 2014, p. 29; Mr Tony Fontes, *Committee Hansard*, 22 July 2014, p. 1; see also De'ath, Glenn et al, 'The 27-year decline of coral cover on the Great Barrier Reef and its causes', *Proceedings of the National Academy of Sciences of the United States of America*, 109(44), pp 17995–17999, <http://www.pnas.org/content/109/44/17995.full> (accessed 30 July 2014).

3 GBRMPA, *Outlook Report 2014*, p. v.

degrading water quality, mobilising legacy pollutants, including heavy metals found in ports and harbours, and smothering flora and fauna.

1.7 While offshore dumping is meant to be a last resort option under our current domestic laws, it is a frequent occurrence. There is inadequate consideration of alternatives to offshore dumping and no independent cost benefit analysis of alternatives is done by the regulators. They merely accept the claims by proponents that it would be too expensive to dump dredge sludge onshore. The fact that it is cheaper for the ports and big miners to dump sludge into the waters of the Great Barrier Reef, which makes it politically attractive to the big parties, does not make it the right option for the Reef's health. The science is clear, dumping sludge in the Reef's waters is damaging, and this natural wonder of the world should not be a rubbish tip for the financial convenience of the big miners.

1.8 The evidence is now overwhelmingly in favour of an immediate ban on offshore dumping in the Great Barrier Reef World Heritage Area. As a step towards that necessary outcome, we welcome the Committee's recommendation for a temporary moratorium on dumping until the work of the expert Dredge Panel is complete, and the recommendation that the Minister should examine whether a cap or a ban on dumping should be introduced. It is clear that such a ban is needed now.

1.9 The evidence received during the inquiry and expressed by internal and former GBRMPA scientists justifies an immediate ban on dumping. Those views have been expressed publicly on ABC's 4 Corners program and internally in documents obtained via freedom of information laws and under a Greens-initiated Senate order for production of documents.

1.10 The Reef should not be a rubbish tip for dumping dredge sludge. No new offshore dumping within the Great Barrier Reef World Heritage Area should be approved. As Professor Pandolfi of the Australian Coral Reef Society stated:

We are over the limit. Once you are over the limit, how can you justify putting more on? We have a problem. We have to reduce it, we can't add to it.⁴

1.11 Under sustained community, scientific, international and political pressure, Environment Minister Greg Hunt has attempted to claim he agrees offshore dumping should not occur. However, the so-called "line in the sand" he says he has drawn under dumping in the Reef is so full of holes as to be meaningless. The Minister excluded dumping from maintenance dredging, and confined his commitment to the Marine Park (not the larger World Heritage Area), and said it would apply to 'future' projects without specifying whether that includes projects which have been applied for but not yet approved. The enormous dredging projects planned for Trinity Inlet at Cairns and the Townsville port expansion have already been applied for, so Minister Hunt must clarify whether the livelihood of those local communities in tourism, fisheries and the associated industries will be safe from dumping. If Minister Hunt's

4 Professor John Pandolfi, Councillor and Past President, Australian Coral Reef Society, *Committee Hansard*, 21 July 2014, p. 2.

commitment excludes any dumping application that has already been applied for (but not yet approved), it is a meaningless commitment. The damaging projects that UNESCO have expressed such concern about are those that have been approved or already applied for. It is hard to countenance that there would be any geographic room (or any economic viability) for additional “future” offshore dumping applications, hence Minister Hunt’s ‘commitment’ is designed to sound good but mean absolutely nothing in practice.

Recommendation 1: Ban offshore dumping - The Australian government must not approve any new offshore dumping in the Great Barrier Reef World Heritage Area, including spoil from capital and maintenance dredging, and including not approving any projects which have already been applied for but not yet approved.

Overturn Abbot Point approvals

1.12 In December 2013 Minister Hunt approved the construction of the world’s largest coal port in the middle of the Great Barrier Reef World Heritage Area. This expansion of the coal export terminal at Abbot Point would involve the dredging and dumping of 3 million cubic metres of sludge just 8km from coral reefs at Nares Rock and Holborne Island. Much of that dredge spoil would spread far beyond the dump site.

1.13 The UNESCO World Heritage Committee has expressed concern and regret that the Abbot Point approval was taken prior to any comprehensive assessment of alternative and less damaging alternatives.

1.14 Recent scientific findings conclusively show that dredge spoil doubles the risk of coral diseases, including the deadly white syndrome disease.⁵ There is strong evidence that dredge plumes can extend much further than anticipated by GBRMPA during the assessment process for Abbot Point.⁶

1.15 Furthermore, documents released under freedom of information laws and Greens-initiated Senate orders for the production of documents have shown that GBRMPA’s own internal staff and scientists held serious concerns about approving the Abbot Point project throughout 2013. One GBRMPA staff member told the Department of Environment that the proposed 150% water quality offset, which was trumpeted by Minister Hunt, was ‘unachievable’. However, a non-scientifically trained GBRMPA bureaucrat then approved the offshore dumping. The Greens believe that politics trumped science.

1.16 The Abbot Point decision has sparked an unprecedented but entirely justified public outcry. In the week immediately preceding the publication of this report, the

5 Pollock et. al, Sediment and Turbidity Associated with Offshore Dredging Increase Coral Disease Prevalence on Nearby Reefs, *PLoS ONE*: 9(7).

6 See evidence of Mr Jeremy Tager, *Committee Hansard*, 23 July 2014, p 6, Mr Jon Brodie, *Committee Hansard*, 23 July 2014, p 27; and Dr Jamie Oliver, Research Director, AIMS, *Committee Hansard*, 23 July 2014, p 23.

proponent of the project, North Queensland Bulk Ports, has indicated that they will seek an alternative to offshore disposal. We welcome this, but it should not be a voluntary choice by companies, the government should mandate a ban on offshore dumping in the Great Barrier Reef World Heritage Area.

1.17 In this age of climate change, the world's largest coal port should never have been approved, let alone in the World Heritage Great Barrier Reef. Even if the dredge sludge is dumped onshore, the climate impacts which the port will facilitate, the increased shipping traffic with its increase in likelihood of accidents and other impacts, and the dredging required for this port are all unacceptable. It is shameful that both the Queensland and the Australian governments approved this project, and the approval should be revoked immediately.

Recommendation 2: That Minister Hunt immediately revoke the approvals for the Abbot Point coal port expansion and the associated offshore dumping of dredge sludge.

A strong and independent Great Barrier Reef Marine Park Authority (GBRMPA)

1.18 The Greens believe that a combination of funding cuts by the Abbott government, staff redundancies driven by those cuts and resignations, which may well have been due to decisions like Abbot Point; political pressure to facilitate the fossil fuel export industry; lack of scientific expertise on the board of GBRMPA and the presence of board members with links to the mining industry is compromising the independence and effectiveness of GBRMPA.

1.19 The Greens support the work of GBRMPA and want to see its capacity and its independence strengthened.

Recommendation 3: Funding and staffing of the GBRMPA should be increased in order to ensure that they can provide independent, world-class management of the Great Barrier Reef Marine Park.

Recommendation 4: The GBRMPA should review its staffing structure in order to ensure that it is acting in an independent manner.

Recommendation 5: The GBRMP Act should be amended to ensure that GBRMPA is truly independent of the Environment Minister and not vulnerable to political pressure. Anyone with coal and gas interests should be precluded from serving on the board of GBRMPA.

Climate change

1.20 The evidence is clear that climate change is the most significant long term threat to the Reef. Rising ocean temperatures and ocean acidification can literally dissolve the physical structure of the corals which support the incredible diversity of

marine life on the Reef.⁷ Without ambitious, global action on climate change, Australia risks losing the benefits the Reef provides.

1.21 The *Outlook Report*, which was supported by the expert scientific witnesses at hearings, identifies climate change as the ‘most serious threat to the Great Barrier Reef’.⁸ These impacts are already happening, manifesting in coral bleaching, more serious tropical storms, and decreased resilience in the face of other threats, and they will continue to increase in severity.⁹

1.22 The government is living in a climate policy fantasy land. Current climate policy is inconsistent with the government’s stated objective of protecting the Reef. The current inadequate 5% greenhouse gas reduction target by 2020 puts Australia and the world on track for global warming which would see the Reef seriously degraded.¹⁰

1.23 To safeguard the Reef, the current scientific evidence tells us that the world must leave 80% of current known fossil fuel reserves, including coal and gas, in the ground.¹¹ Confronting that challenge will be difficult, but the current government’s policy of ignoring climate change while enthusiastically greasing the wheels of coal exports is irresponsible in the extreme. As Dr McGrath observed at the hearing:

At the moment, we are in a situation like a fellow who is a pack a day smoker, who has been diagnosed with lung cancer—I am not sure how he could afford a packet a day. The doctor says to him: ‘Look, you’ve got to give up your cigarettes.’ He looks the doctor in the eye and says, ‘Doctor, I hear you and I am going to smoke two packets from now on.’ That is pretty well the response we giving to climate change.¹²

1.24 The coal and gas which Australia is exporting will eventually come back to harm the Reef in the form of dangerous climate change.

Recommendation 6: That Australia adopts ambitious targets to reduce greenhouse gas pollution and takes a leadership role in global action to address climate change. This must include an acknowledgement that 80% of known fossil fuel reserves must stay in the ground.

7 See evidence of Mr Jeremy Tager, *Committee Hansard*, 23 July 2014, p 6, Mr Jon Brodie, *Committee Hansard*, 23 July 2014, p 27; and Dr Jamie Oliver, Research Director, AIMS, *Committee Hansard*, 23 July 2014, p 23.

8 GBRMPA, *Outlook Report 2014*, p. v.

9 Professor Terry Hughes, *Committee Hansard*, 23 July 2014, p. 29.

10 Professor Hoegh-Guldberg, *Submission 6*, p. 7.

11 See Dr Chris McGrath, *Submission 32* and Professor Hoegh-Guldberg, *Submission 6*.

12 Dr Chris McGrath, *Committee Hansard*, 21 July 2014, pp 1–2.

Water quality and Reef Rescue funding cuts

1.25 Despite welcome gains in reducing agricultural runoff, the Reef's inshore water quality remains poor, which will only get worse with mass dredging and dumping planned for the Reef's coastline.

1.26 The Abbott and Newman governments are completely undermining the good work of farmers reducing their Reef runoff, by allowing the big mining companies to dump millions of tonnes of sediment directly into the Reef's World Heritage waters.

1.27 What's more, the Abbott Government has cut \$40 million in funding from the federal program to reduce agricultural runoff, Reef Rescue, and put that money into a thought bubble policy, Reef Trust, the details of which have not been worked out.

1.28 Ripping money out of a proven program for an ill-defined experiment is bad news for the Reef.

1.29 Degraded water quality from land-based run-off, especially in inshore areas is a serious short- and long-term threat to the Reef identified repeatedly in expert and community submissions. GBRMPA's *Outlook Report 2014* and the Australian Institute of Marine Science both observe that water quality is directly affecting the Reef, but also severely limiting its ability to recover from other pressures. In the words of Professor Hoegh-Guldberg, the Reef is a 'prize fighter' who is getting too sick to bounce back from injury.¹³

1.30 The Greens support the Reef Water Quality Program (previously called Reef Rescue), but more must be done. The stated goal of the program is that, by 2020, the quality of water entering the Great Barrier Reef from catchment areas has no detrimental impact on the health and resilience of the Reef, but it is not clear that the government understands what will be required to achieve that goal. That is why the Greens support the Committee's recommendation that explicit load reduction targets be established.

1.31 Many submissions to this inquiry as well as local residents, tourism operators and fishers raised the issue of water quality, and pointed to the hypocrisy of allowing ports and the mining industry to dump its waste products in the Reef's waters while closely regulating other industries such as tourism, and while spending public money on schemes to reduce agricultural run-off.¹⁴

Recommendation 7: The Australian Government should immediately reverse cuts to the funding for the Reef Water Quality Protection Plan.

Gladstone Harbour dredging and dumping

1.32 In relation to the Gladstone Western Basin Dredging and Dumping project, the Committee heard deeply disturbing evidence about serious and ongoing environmental harm occurring in the context of inadequate regulation and deeply

13 Professor Ove Hoegh-Guldberg, *Committee Hansard*, 21 July 2014, p. 10.

14 CAFNEC, *Submission 19*, p. 5; Mr Tony Brown, President, Whitsunday Charter Boat Industry Association, *Committee Hansard* 23 July 2014, p 13; Carefish, *Submission 16*, p 3.

inappropriate conflicts of interest.¹⁵ Extensive criticisms were also levelled against the consultant ecologists contracted to monitor the dredging project. Outside of this inquiry, each of the Queensland Auditor-General's report, the federal ANAO report and the bund wall inquiry initiated by Minister Hunt all discussed below reveal serious failings in our environmental regulatory system. It is clear that the environmental regulators at a State and Federal level are failing and have lost the trust of the community.

1.33 As reiterated throughout the hearings, the dredging and dumping at Gladstone Harbour caused an environmental disaster, with mass dolphin, dugong and turtle deaths and outbreaks of fish mutilations. Under pressure, Minister Hunt established the Gladstone Bund Wall Review, which found a staggering failure of regulation, from poorly drafted conditions of approval, to inadequate monitoring and enforcement.

1.34 The Australian National Audit Office report *Managing Compliance with EPBC conditions of approval* has recently found that the Environment Department does not have enough staff to enforce conditions, adding to the Bund Wall Review's finding that inadequate staffing contributed to the failures in Gladstone. The Federal government's recent Budget has cut a further 129 staff from the division responsible for enforcement.

1.35 The Greens would like to thank the many local residents and other stakeholders who made submissions and gave evidence, often recounting painful personal circumstances, regarding Gladstone Western Basin project. We understand that the Bund Wall Review's narrow terms of reference precluded any considerations of the wider impacts of the Gladstone Harbour dredging. In establishing this inquiry we sought to give a proper airing to the many outstanding issues. Unfortunately many submissions were accepted as confidential and evidence taken in-camera. The issues surrounding the Gladstone Western Basin project warrant a further comprehensive – and public – investigation.

1.36 Even though the Gladstone Harbour environmental disaster, which crippled local fishing and tourism businesses, has not yet been comprehensively independently investigated, approvals for dredging and dumping in the Great Barrier Reef have continued unabated.

Recommendation 8: That the events surrounding environmental harm caused by the Gladstone Western Basin dredging project be comprehensively independently investigated.

15 See testimony of, Dr Matthew Landos, Director, Frenchs Forest Veterinary Surgery; Honorary Lecturer and Associate Researcher, Sydney University Faculty of Veterinary Science, *Committee Hansard* 22 July 2014; Mr Michael McCabe, Coordinator, Capricorn Conservation Council, *Committee Hansard*, 22 July 2014, p. 32; Department of the Environment, *Gladstone Bund Wall Review*, May 2014, <http://www.environment.gov.au/topics/marine/gbr/gladstone-bund-wall-review>.

Recommendation 9: That the Australian Government immediately strengthen its capacity and willingness to undertake independent monitoring of environmental approval conditions it imposes.

Reef Trust and environmental offsets

1.37 The Greens do not support the use of environmental offsets. They are based on a fiction that the environment is replaceable, and they are used to allow otherwise unacceptable projects to proceed. A previous Senate Committee references inquiry established by the Greens documented a litany of failures on the part of environmental offsets. The Greens acknowledge that offsets cannot and will not ever work as intended.

1.38 In the interests of delivering a majority report we accept the Committee's recommendations 28 and 29 regarding offsets but note that it remains the Greens view that World Heritage cannot be offset because all of it is precious and irreplaceable. We also note the clear evidence taken in the inquiry that offsets in the marine environment are even more difficult to both calculate and deliver.

1.39 The Greens support any program aimed at improving the health and resilience of the Reef, but Reef Trust represents a serious risk of producing a conflict of interest. At present, Reef Trust appears to be a re-badging of old Reef Rescue funding to create the impression of progress. The government has announced that it will source some Reef Trust funding from financial offsets. Tying critical conservation funding to payments under financial offsets creates a conflict of interest for GBRMPA. GBRMPA would rely on projects being approved with generous financial offsets in order to continue its much needed work. As the decision maker in those applications, GBRMPA would be faced with a dangerous conflict of interest.

Recommendation 10: That projects within or impacting on the Great Barrier Reef World Heritage Area which are unacceptable without offsets be rejected outright.

Recommendation 11: That funding for future activities under the Reef Trust not be sourced from existing Reef Rescue funds or from financial offsets from proponents.

Conclusion

1.40 The inquiry into this bill has given the community and our best reef scientists a critical opportunity to put to our nation's leaders, and on the public record, their serious concerns about the huge threats to the Great Barrier Reef posed particularly by industrialisation of the Reef coast, and the steps we urgently need to take to protect the Reef.

1.41 We would like to thank the Acting Committee Chair, committee members and the secretariat for facilitating the inquiry process that allowed evidence from the community, experts and industry to be presented and carefully examined by the Committee.

1.42 There are innumerable experts, environment groups and community members working hard across Australia to secure better understanding and political action to

save our Reef. We warmly acknowledge their tireless work and invaluable contributions to this inquiry.

1.43 The Greens take the concerns of the Queensland community, our fishers, tourism operators and reef scientists and the UN World Heritage Committee seriously. That is why in the last Parliament we introduced a bill in March 2103 to implement the World Heritage Committee's recommendations to keep the Great Barrier Reef off the *World Heritage In Danger list*, namely to rule out new ports, to stop port expansions that would damage the overall universal value of the Reef, for a moratorium on new approvals until a long term plan for the Reef had been completed, and for any approval after that to have a net benefit for the Reef.

1.44 We reintroduced that bill in the current Parliament in February 2014 and included a ban on new offshore dumping. That bill, and these additional comments, proposes to ban offshore dumping of port dredging sludge within the Great Barrier Reef's waters, and are backdated to ensure that the plan to dump dredge spoil offshore at Abbot Point is stopped.

1.45 The Greens believe our environment laws are failing to protect the Reef. The Reef is too precious to lose, and the Greens will fight for its future.

Senator Larissa Waters
Greens Senator for Queensland

Appendix 1

Submissions, tabled documents, additional information and answers to questions taken on notice

Submissions

- 1 Mr Graeme Kelleher
- 2 Mr Brian Bycroft
- 3 Shipping Australia Limited
- 4 Mr Jeremy Goldberg
- 5 Ms Jenny Chester
- 6 Professor Hoegh-Guldberg and contributing authors
- 7 Cairns Local Marine Advisory Committee
- 8 Australian Coral Reef Society Inc
- 9 Property Rights Australia
- 10 International Fund for Animal Welfare
- 11 Ports Australia
- 12 Ports North
- 13 Queensland Ports Association
- 14 AgForce Queensland
- 15 Mr Geoff McPherson
- 16 Carefish
- 17 Ms Lisa Serpa
- 18 Mr Jeremy Tager
- 19 Cairns and Far North Environment Centre
- 20 Ms Petrina van Reyk
- 21 CropLife Australia
- 22 Fertilizer Australia
- 23 WWF Australia and the Australian Marine Conservation Society
- 24 WWF Australia
- 25 Southern Cross Sailing Adventures/Tornado Dive
- 26 Mr David Arthur
- 27 Capricorn Conservation Council
- 28 Queensland Resources Council
- 29 GE
- 30 North Queensland Conservation Council
- 31 Australian Recreational Fishing Foundation
- 32 Dr Chris McGrath
- 33 Wildlife Preservation Society of Queensland
- 34 Australian Government and Queensland Government
- 35 Minerals Council of Australia
- 36 Australian Institute of Marine Science
- 37 Alliance to Save Hinchinbrook Inc

38	Confidential
39	Whitsunday Residents Against Dumping (WRAD)
40	Keppel and Fitzroy Delta Alliance
41	AMPTO
42	Mackay Conservation Group
43	Tom Farrell Institute for the Environment, University of Newcastle
44	Arabon Seafoods
45	Confidential
46	Confidential
47	Australian Reef Pilots Pty Ltd
48	Dr Alison Jones
49	Professor Barbara Norman
50	Save the Reef
51	Confidential
52	Australians for Animals Inc
53	Australian Prawn Farmers Association
54	Mr Dorin Preda
55	Mr Kevin Murphy
56	Mr Rod Moffat
57	Dr Matt Landos
58	Dr Cary Rogers
59	Burdekin Shire Council
60	Frog Safe Inc
61	Confidential
62	North Queensland Bulk Ports Corporation
63	Gladstone Ports Corporation Limited
64	Queensland Seafood Industry Association

Tabled documents

Public hearing, Brisbane, 21 July 2014

Queensland Resources Council

- John Hepburn, Bob Burton and Sam Hardy, 'Stopping the Coal Export Boom: Funding proposal for the Australian anti-coal movement', November 2001
- Queensland Resources Council, 'Working Alongside the Great Barrier Reef', 2013.

Public hearing, Mackay, 22 July 2014

Mr Tony Fontes and Ms Jan Claxton

- 'Key messages from Mr Tony Fontes and Ms Jan Claxton'
- M Solomons and M Willacy, 'QCoal's James Mackay developing environmental policy for Newman Government in Queensland', ABC News online, 5 May 2014
- Diagram of the 'Crossing the Blue Highway'

Mackay Conservation Group

- Photograph of coal dust on beach, date and location unknown
- Kathryn A. Burns, 'PAH in the Great Barrier Reef Lagoon reach potentially toxic levels from coal port activities', *Estuarine, Coastal and Shelf Science* 144 (2014), pp 39–45
- Photographs of Dalrymple Bay coal terminal and nearby creek, taken in 2012 and 2014

Mr Terry Must, Arabon Seafoods

- Excerpt from North Queensland Bulk Ports Corporation, 'Abbot Point, Terminal O, Terminal 2 and Terminal 3, Capital Dredging, Public Environment Report', December 2012
- Correspondence from GBRMPA to North Queensland Bulk Ports Corporation, dated 25 March 2014
- Correspondence from North Queensland Bulk Ports Corporation to GBRMPA, dated 10 April 2014
- Maps from the Bowen fishing decline report in the GBRMP, 2008
- Map of 'Dredge Material Disposal Area Investigation – Constraints Mapping' by North Queensland Bulk Ports, dated 31 October 2013

Southern Cross Sailing Adventures

- Photographs of Blue Pearl Bay and Ravens Cove, dated April 2014
- Maps of Whitsunday currents, and power point slides of Reefcheck water quality concerns

Public hearing, Townsville, 23 July 2014

Professor Terry Hughes

- Kathryn A. Burns, 'PAH in the Great Barrier Reef Lagoon reach potentially toxic levels from coal port activities', *Estuarine, Coastal and Shelf Science* 144 (2014), pp 39–45

International Fund for Animal Welfare

- IFAW report titled, 'Collision Course: The Increasing Risk of Ships Strike to Whales in the Great Barrier Reef', 2014

Additional information

Great Barrier Reef Marine Park Authority – clarification of evidence given at public hearing, Townsville, 23 July 2014

Alliance to Save Hinchinbrook Inc – response to matters arising at public hearing, Townsville, 23 July 2014

Dr Leonie Anderson, Vision Environment – response to submission from Dr Matt Landos

Dr Leonie Anderson, Vision Environment – response to submission from Dr Cary Rogers

Dr Andrew Johnson and Dr Ian Cresswell, CSIRO – response to submission from Australians for Animals

Ms Anthea Tinney PSM, Chair, Sydney Harbour Federation Trust – response to submission from Australians for Animals

Mr John Polglaze – response to submission from Mr Geoff McPherson

Professor Allan Dale –

- A Grech et al, 'Guiding principles for the improved governance of port and shipping impacts in the Great Barrier Reef', *Marine Pollution Bulletin*, 75 (2013) 8–20
- A Dale et al, 'A method for risk analysis across governance systems: a Great Barrier Reef case study', *Environmental Research Letters*, 8 (2013) 015037

Regional Development, Australia, Far North Queensland & Torres Strait Inc – Submission to the Great Barrier Reef Strategic Assessment

Answers to questions taken on notice

Mackay Conservation Group – Answer to a question taken on notice from Senator Waters requesting figures on capacities for Hay Point and abbot Point ports (from public hearing, Mackay, 22 July 2014)

Mackay Conservation Group – Answer to a question taken on notice from Senator McGrath (from public hearing, Mackay, 22 July 2014)

Department of the Environment, the Queensland Government and the Great Barrier Reef Marine Park Authority – Answers to questions taken on notice (from public hearings in Brisbane, 21 July 2014 and Townsville, 23 July 2014)

Department of the Environment, the Queensland Government and the Great Barrier Reef Marine Park Authority – Answers to written questions on notice, received 28 August 2014

Appendix 2

Public Hearings

Monday, 21 July 2014 – Brisbane

Australian Coral Reef Society

Professor Peter Mumby, President

Professor John Pandolfi, Councillor and Past President

Dr Chris McGrath, Private capacity

Professor Ove Hoegh-Guldberg, Private capacity

Dr Suzanne Pillans, Private capacity

Australian Marine Conservation Society

Ms Felicity Wishart, Great Barrier Reef Campaign Director

WWF-Australia

Mr Richard Leck, National Manager, Marine Conservation and Sustainable Development

Dr Glen Holmes, Consultant

Ports Australia

Mr David Anderson, Chief Executive Officer

Queensland Ports Association

Mr Tom Kaveney, Environmental Policy Advisor

Minerals Council of Australia

Mr Chris McCombe, Assistant Director, Environmental Policy

Queensland Resources Council

Mr Michael Roche, Chief Executive

Mr David Rynne, Director, Economic and Infrastructure Policy

Ms Bronwyn Story, Manager, Great Barrier Reef Strategy

AgForce Queensland

Mr Charles Burke, Chief Executive Officer

Mrs Marie Vitelli, Policy Officer

Australian Reef Pilots Pty Ltd

Mr Simon Meyjes, Chief Executive Officer

Shipping Australia Limited

Commodore Rod Nairn AM, Chief Executive Officer

Department of the Environment

Dr Kimberley Dripps, Deputy Secretary
Mr Dean Knudson, First Assistant Secretary
Ms Carolyn Cameron, Assistant Secretary

Department of Environment and Heritage Protection

Mr Jonathan Black PC, Director-General

Department of the Premier and Cabinet

Mr Adrian Jeffreys, Executive Director, Environment Taskforce

Tuesday, 22 July 2014 – Mackay

Mr Tony Fontes, Private capacity

Mrs Janice Claxton, Private capacity

Whitsunday Charter Boat Industry Association

Mr Tony Brown, President

Mr Peter Dallas, Private capacity

Ms Elizabeth Hobbs, Private capacity

Mackay Conservation Group

Ms Ellen Roberts, Coordinator

Arabon Seafoods

Mr Terry Must, Owner

Mr Tub Wilson, Private capacity

Capricorn Conservation Council

Mr Michael McCabe, Coordinator

Keppel and Fitzroy Delta Alliance

Ms Ginny Gerlach, Director and Coordinator

Southern Cross Sailing Adventures

Mr Allen Grundy, Director

Mr Ted Whittingham, Private capacity

Mr Simon Whittingham, Private capacity

Dr Matt Landos

Wednesday, 23 July 2014 – Townsville

Mr Jeremy Tager, Private capacity

North Queensland Conservation Council

Ms Wendy Tubman, Coordinator

Cairns and Far North Environment Centre

Mr Josh Coates, Marine Program Coordinator

Alliance to Save Hinchinbrook Inc

Ms Margaret Moorhouse, Spokesperson

Australian Institute of Marine Science

Ms Sue English, Manager, Government Business

Dr Jamie Oliver, Research Director

ARC Centre of Excellence for Coral Reef Studies, James Cook University

Mr Jon Brodie

Professor Terry Hughes, Director

Association of Marine Park Tourism Operators

Mr Colin McKenzie, Executive Director

International Fund for Animal Welfare

Ms Sharon Livermore, Marine Campaigner

Mr Geoffrey McPherson, Private capacity**Australians for Animals (NSW) Inc**

Ms Sue Arnold, Coordinator

Great Barrier Reef Marine Park Authority

Dr Russell Reichelt, Chairman and Chief Executive

Mr Bruce Elliot, General Manager, Biodiversity Conservation and Sustainable Use

