
Marine Casualties in the Great Barrier Reef: 'Peacock', 'Bunga Teratai Satu' and 'Doric Chariot'



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Introduction

The issue of groundings in the Great Barrier Reef is a sensitive topic and one capable of generating great public debate given the often accompanying spectacular imagery associated with such incidents. Despite the graphic imagery, the legislative armoury available to authorities adequately to address, in the eyes of the public, such incidents has not always been effective. Nor, it is submitted, has the response by the marine industry necessarily been sufficient to address structural shortcomings in the management of vessels transiting the sensitive waters of the Great Barrier Reef, arguably a necessary measure in any collective endeavour to prevent the recurrence of groundings by commercial vessels.

In recognition of these factors, this article will principally examine three groundings which have occurred within the Great Barrier Reef, namely that of the *Peacock*, *Bunga Teratai Satu* and *Doric Chariot*. Whilst the focus of the article is on the legislative response to the groundings, it is important to appreciate the environment in which the groundings have occurred. To facilitate this, a discussion on the Great Barrier Reef's importance to the World Heritage register and, economic significance to community is furnished. From this discussion, the paper turns to the federal nature of Australian law and the question of jurisdiction, an issue central to any understanding of the complexity underlying any legislative response to and, prosecution of those responsible for, groundings within the Great Barrier Reef. Each of the groundings is then explored, tracing the developments in both public perception and legislative change from the *Peacock* to the present proceedings involving the grounding of the *Doric Chariot* on Piper Reef.

The Great Barrier Reef

Australia's Great Barrier Reef is 'widely acclaimed as one of the world's great natural treasures' and an area of unique importance.¹ Spanning a coastal area of over 2300 kilometres,² the Great Barrier Reef covers an area of some 345 000 square kilometres

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¹ Great Barrier Reef Marine Park Authority, *State of the Great Barrier Reef On-line* <http://www.gbrmpa.gov.au/corp_site/info_services/publications/sotr> at 20 February 2004.

² Australian Maritime Safety Authority, *Review of ship safety and pollution prevention measures in the Great Barrier Reef* <<http://www.amsa.gov.au/sd/gbrreview/final/gbr1.htm#significance>> at 20 February 2004.

and includes some 2904 coral reefs,³ some 300 coral cays and more than 550 continental islands.⁴

Collectively, the Great Barrier Reef supports the most biologically diverse ecosystem known to humankind. The Great Barrier Reef's importance is measured, in part, due to its position as 'part of a global centre of coral diversity' within the Indo-Pacific region.⁵ Within its confines, the Great Barrier Reef supports some 350 individual species of coral,⁶ compared to a global maximum of approximately 450 species in Indonesian and Philippine waters.⁷ Living within the reef's structure include between 1200 to 2000 species of fish; 1.4 to 1.7 million seabirds; 26 species of whale and dolphin; and 37 species of mangroves.⁸

Reflecting the ecologically unique characteristics of the Great Barrier Reef and the fauna and flora that inhabit the reef system, the Great Barrier Reef arguably represents one of the world's most environmentally sensitive areas. Reflecting this sensitivity, the Great Barrier Reef was inscribed on the World Heritage List on 26 October 1981⁹ (under the 1972 Convention Concerning the Protection of World Cultural and National Heritage).¹⁰ The Great Barrier Reef is also the world's largest World Heritage area. In addition to World Heritage Listing, in recognition of the vulnerability of the Great Barrier Reef to oil and chemical pollution,¹¹ the reef was declared the world's first Particularly Sensitive Sea Area (PSSA) by the International Maritime Organization¹² (IMO) in November 1990.¹³ Approximately 97.7% of the Great Barrier Reef World Heritage Listed area lies within the Great Barrier Reef Marine Park. Of the balance, 1.7% lies in Queensland waters and 0.6% in Queensland owned islands.¹⁴

Economic Significance of the Great Barrier Reef

In addition to the Great Barrier Reef's importance as an ecologically unique area, the reef supports a number of industries which materially contribute to the Queensland economy,¹⁵ principally a billion dollar sector of the tourism industry and a \$250 million

³ Environment Australia, *Great Barrier Reef World Heritage Values*,

<www.ea.gov.au/heritage/awh/worldheritage/sites/gbr/gbr.html> at 13 August 2003.

⁴ Great Barrier Reef Marine Park Authority, *State of the Great Barrier Reef World Heritage Area Reports – Island Plants* (1998) <www.gbrmpa.gov.au/corp_site/inof_services/publications/sotr/1998/island_plants_c> at 13 August 2003.

⁵ Great Barrier Reef Marine Park Authority, *State of the Great Barrier Reef World Heritage Area 1998* (1998) <www.gbrmpa.gov.au/corp_site/info_services/publications/sotr/1998/coral_content.html> at 13 August 2003.

⁶ *Ibid.* Whilst most of the hard coral species on the Great Barrier Reef are also found in other reef areas, 10 species are considered endemic, being found only on the Great Barrier Reef.

⁷ *Ibid.*

⁸ Environment Australia, above n 3, at 13 August 2003.

⁹ *Ibid.*

¹⁰ Great Barrier Reef Shipping Review Steering Committee, Parliament of Queensland, *Review of Great Barrier Reef Ship Safety and Pollution Prevention Measures Steering Committee Final Report* (2001) 5.

¹¹ Michael White, 'Marine Pollution from Ships: International Conventions and Australian Laws' in Zada Lipman and Gerry Bates (ed), *Pollution Law in Australia* (2002) 382, 413.

¹² International Maritime Organization <<http://www.imo.org/home.asp>> at 15 August 2003.

The IMO is a specialized agency of the United Nations.

¹³ International Maritime Organization, *Special Areas and Particularly Sensitive Sea Areas* (2003) <www.imo.org/Safety/mainframe.asp?topic_id=305> at 13 August 2003.

¹⁴ White, above n 11, 412.

¹⁵ Senator Bolkus (SA), 'Great Barrier Reef Marine Park Amendment Bill 2001' (Second Reading Speech, Canberra, 23 May 2001) <<http://parlinfoweb.aph.gov.au/piweb/browse.aspx?NodeID=1181>> at 10 August 2003.

sector of the fishing industry. Collectively, the Great Barrier Reef is estimated to contribute approximately \$2 billion annually to the Queensland economy.¹⁶

Outside of direct economic contribution to the Queensland economy, the Great Barrier Reef also serves as an important conduit of Queensland's export earnings.¹⁷ Exports originating from Queensland's 14 commercial ports are valued at \$16.24 billion or 15% of the States gross domestic product (GDP). Of these exports \$10 billion, or approximately 9%, use the 11 ports and shipping lanes in the Great Barrier Reef region.¹⁸ The four major ports in the Great Barrier Reef region (Cairns, Townsville, Mackay and Gladstone) contribute approximately \$3 billion to the Queensland economy and regionally employ approximately 23 000 people.¹⁹

1. Shipping Movements within the Great Barrier Reef

Of the available trade mediums, shipping remains the principal vehicle for transporting cargo to and from Australia.²⁰ Of all shipping movements, approximately 8000 commercial vessel movements occur within the Great Barrier Reef region each year,²¹ of which approximately 6000 are of vessels in excess of 50 metres in length. The majority of these vessels use the inner route of the reef system with the balance transiting through either Hydrographers, Palm or Grafton Passages.²² From November 1997 to April 1998, a total of 723 vessels transited the entire length of the inner route. During the same period an additional 850 vessels entered the inner route via Hydrographers, Palm and other passages. Approximately 3.3% of these shipping movements were tankers.²³

¹⁶ Great Barrier Reef Shipping Review Steering Committee, above n 10, 4.

¹⁷ The economic significance of the Great Barrier Reef through tourism and related activities requires contrast with the value adding activities use and employment of the shipping channels permeating the reef afford. Whilst it is possible to preserve the value of tourism and related activities within the reef through denial of channel access to commercial vessels, such a zero sum approach does not represent a feasible alternative. Whilst an interesting point, further development of this argument lies outside the boundaries of this paper.

¹⁸ Great Barrier Reef Shipping Review Steering Committee, above n 10, 4.

¹⁹ Ibid.

²⁰ Great Barrier Reef Marine Park Authority, *Principal water quality influences on Great Barrier Reef ecosystems*, <www.gbrmpa.gov.au/corp_site/key_issues/water_quality/principal_influences.html> at 13 August 2003.

²¹ John Walkinson, *The Reef Review* (2002) Spillcon 2002 <<http://www.spillcon.com/2002/Papers/final/Watkinson,J.pdf>> at 5 August 2003.

²² Great Barrier Reef Shipping Review Steering Committee, above n 10, 8.

²³ Great Barrier Reef Marine Park Authority, *State of the Great Barrier Reef World Heritage Area 1998* (1998) <http://www.gbrmpa.gov.au/corp_site/info_services/publications/sotr/1998/shipping_frame.html> at 8 March 2004.



**Great Barrier Reef
World Heritage Area
Principal Shipping Routes²⁴**

Of the commercial ships using the Great Barrier Reef, approximately 42% are bulk carriers, between 5% and 10% tankers, 24% container carriers, 22% general cargo with the balance comprising miscellaneous classifications.²⁵ Of the tankers, most are on northerly transits either in ballast or carrying refined petroleum products serving ports geographically located to the north of Brisbane. Outside of commercial cargo vessel movements, approximately 1500 tourism vessels and 25 000 commercial and recreational vessels operate in the Great Barrier Reef.²⁶

A Question of Jurisdiction

Following any grounding within the Great Barrier Reef, one of the first and principal governing issues to be addressed is that of jurisdiction. Australia's powers to govern the actions of foreign ships in Australian waters are subject to UNCLOS.²⁷ In particular, Article 21: Laws and regulations of the coastal State relating to innocent passage, provides:

²⁴ Great Barrier Reef Marine Park Authority, *Principal water quality influences on Great Barrier Reef ecosystems*

<http://www.gbrmpa.gov.au/corp_site/key_issues/water_quality/principal_influences.html#Shipping> at 01 March 2004. Photographs courtesy of the Great Barrier Reef Marine Park Authority.

²⁵ Great Barrier Reef Shipping Review Steering Committee, above n 10, 8.

²⁶ *Ibid.*

²⁷ Robin Churchill and Vaughan Lowe, *The Law of the Sea* (3rd ed, 1999) 330.

1. The Coastal State may adopt laws and regulations, in conformity with the provisions of this Convention and other rules of international law, relating to innocent passage through the territorial sea, in respect of all or any of the following:

And subsections:

- (a) The safety of navigation and the regulation of maritime traffic and
- (f) The preservation of the environment of the coastal State and the prevention, reduction and control of pollution thereof²⁸

The effect of UNCLOS, and in particular Article 21, means that States are not able to legislate so as to hamper or levy charges upon innocent passage, but may legislate for matters including navigation, pollution, fishing and the preservation of the environment of the coastal state. Due to the federal structure of Australian laws²⁹ and the potential for marine pollution to effect Commonwealth, State and Territory jurisdictions it is necessary for the Commonwealth, States and Territories to have their own legislation addressing marine pollution.

The reason for the multitude of legislation rests in the *Seas and Submerged Lands Act 1973* (Cth). The effect of the *Seas and Submerged Lands Act 1973* (Cth) was to allow the Commonwealth to assert sovereignty over areas that were in controversy with the States.³⁰ Not content with the loss in territorial jurisdiction to the Commonwealth, the legislation was subsequently challenged by New South Wales in the High Court in *New South Wales v Commonwealth (Seas and Submerged Lands Act Case)*, with the High Court upholding the Commonwealth's legislative claim to full power over the sea from the low-water mark.³¹

Following the decision in the *Seas and Submerged Lands Act Case*,³² the Commonwealth Government, in June 1979, made arrangements for the States to retain some jurisdiction in coastal waters by way of the Offshore Constitutional Settlement. Whilst a full discussion of the constitutional issues pertaining to the Offshore Constitutional Settlement is beyond the scope of this article³³ the major issues pertaining to select marine casualties within the Great Barrier Reef region include:

- (a) The Commonwealth was to give each State the same powers with respect to the adjacent territorial sea as it would have if the waters were within the limits of the State.
- (b) All of these powers were limited to three miles (the three mile limit was to remain in place irrespective of any increase in Australia's claim to the territorial sea)³⁴
- (c) In relation to ship sourced marine pollution it was agreed that the arrangement that existed before the High Court decision in the *Seas and Submerged Lands case* should be continued, with the Commonwealth legislation having a savings clause to allow the States to legislate to implement certain aspects of marine pollution conventions if they should wish to do so.³⁵

²⁸ Kenneth Simmonds, *U.N. Convention On the Law Of The Sea 1982* (1983) Part I, Introduction, art 1(4) B26.

²⁹ Peter Hanks, *Constitutional Law in Australia* (2nd ed, 2000) 38-9.

³⁰ Michael White, *Marine Pollution Laws of the Australasian Region* (1994) 169.

³¹ *Ibid.*

³² (1975) 135 CLR 337.

³³ For a discussion on the constitutional issues raised by the Offshore Constitutional Settlement see Michael White, *Marine Pollution Laws of the Australasian Region* (1994) Chap 7.

³⁴ Australia's claim to the territorial sea was increased from 3 nautical miles to 12 nautical miles with effect from 20 November 1990.

³⁵ White, above n 30, 173.

The Offshore Constitutional Settlement subsequently gave birth to two important pieces of legislation, namely the *Coastal Waters (State Powers) Act 1980* (Cth) and the *Coastal Waters (State Title) Act 1980* (Cth). The *Coastal Waters (State Powers) Act 1980* (Cth) conferred legislative jurisdiction on the States over 'all activities within three miles of the coast, and over specified activities beyond three miles'.³⁶ The *Coastal Waters (State Title) Act 1980* (Cth) furnished in each State 'the title in the property to the seabed beneath the coastal waters and the space above it'.³⁷ The collective effect of the *Seas and Submerged Lands case*, the Offshore Constitutional Settlement and the various associated legislative instruments dictates Australia's maritime areas being governed by complex legal regimes that attempt to accommodate both State and Commonwealth interests within a Federal system.³⁸

Acknowledging the existence of the array of complex legal regimes which govern the laws pertaining to Australia's territorial waters, this article now considers issues applicable to the grounding of the vessels *Peacock*, *Bunga Teratai Satu* and *Doric Chariot* within the waters of the Great Barrier Reef.

2. PEACOCK

Incident Details

The Panamanian flagged refrigerated cargo vessel *Peacock*, en route from Singapore to New Zealand via the inner route of the Great Barrier Reef, ran aground on Piper Reef at approximately 0200 on 18 July 1996.³⁹ At the time of the grounding the *Peacock* had a marine pilot on board,⁴⁰ was proceeding at approximately 16 knots, in ballast condition and was carrying approximately 605 tonnes of bunker heavy fuel oil.⁴¹ Following the grounding and a number of unsuccessful floatation attempts,⁴² the *Peacock* was eventually refloated with assistance and without incident during the afternoon of 26 July 1996.⁴³

³⁶ Opeskin, 'The Law of the Sea' in Sam Blay, Ryszard Piotrowicz and Martin Tsamenyi (ed), *Public international law: an Australian perspective* (1997) 352.

³⁷ White, above n 30, 174.

³⁸ *Transport Operations (Marine Pollution) Act 1995* (Qld) s 11(1).

³⁹ Steve Raaymakers and Jamie Storrie, 'Reef Shipping – five close calls in two years (1996) 6(4) *Reef Research* <http://www.gbrmpa.gov.au/corp_site/infor_services/publications/reef_research/issue4_96/4> at 12 August 2003.

⁴⁰ Transport and Regional Development, *Department investigation into the grounding of the Panamanian flag refrigerated cargo vessel PEACOCK on Piper Reef, in the Great Barrier Reef, on 18 July 1996*, Report 95 (1997) 15.

⁴¹ The Peacock Incident <<http://www.nyanda.Ink.telstra.net/projects/1998/dmmr/peacock1.html>> at 12 August 2003. Quoting Queensland Transport Principal Advisor on Marine Incidents, James Huggett.

⁴² Transport and Regional Development, above n 40, 12-3.

⁴³ Raaymakers and Storrie, above n 39, at 12 August 2003.



Peacock Aground on Piper Reef⁴⁴

The Australian Transport Safety Bureau⁴⁵ (ATSB) report into the grounding of the *Peacock* concludes the incident was a result of the vessel's failure to alter course as it approached from the north with the reef right ahead.⁴⁶ The ATSB report goes on to furnish nine factors that it considered to have contributed to the grounding.⁴⁷ From these nine factors it is clear the loss of situational awareness, the effects of fatigue and a lack of planning and monitoring (at the strategic, management and operational levels) are material themes, generated as a result of personal and organisational failings. From a professional mariner's perspective, the error chain was therefore clear and easily capable of intervention and arrest at any time prior to the grounding. Yet the grounding demonstrates how industry practices have once again allowed such trends to continue to the point of both economic and physical harm. There is little room left to doubt that industry practices led to the grounding of the *Peacock* by 'human error'.⁴⁸

Marine Pollution

The ATSB report into the grounding of the *Peacock* states in the summary that 'no pollution occurred'.⁴⁹ Whilst similar to the conclusion reached with the grounding of the *Doric Chariot* by Great Barrier Reef Marine Park Authority⁵⁰ (GBRMPA), the conclusion reached by the ATSB ignores the pollutant effect of tributyltin (TBT) release onto Piper Reef. According to former GBRMPA and James Cook University scientist Mr. Ian Zell, the estimated amount of TBT scrapped off the hull of the *Peacock* when it grounded on Piper Reef was in the order of one tonne.⁵¹ Whilst TBT pollution does not

⁴⁴ Great Barrier Reef Marine Park Authority, *Shipping* <http://www.gbrmpa.gov.au/corp_site/key_issues/water_quality/shipping.html> at 1 March 2004. Photographs courtesy of the Great Barrier Reef Marine Park Authority.

⁴⁵ Australian Transport Safety Bureau <<http://www.atsb.gov.au/>> at 6 March 2004.

⁴⁶ Transport and Regional Development, above n 40, 31.

⁴⁷ *Ibid*, 31-2.

⁴⁸ Great Barrier Reef Marine Park Authority, 'Wake-up call as human error, fatigue lead to groundings' (1999) 9(3) *Reef Research* 15, 15.

⁴⁹ Transport and Regional Development, above n 40, 4.

⁵⁰ Great Barrier Reef Marine Park Authority <<http://www.gbrmpa.gov.au/>> at 6 March 2004.

⁵¹ Great Barrier Reef Marine Park Authority, 'Reef Management News: GRMPA urged to press for compensation' (2000) 10(1)

attract the same widespread and intense media attention that other more visible pollutants historically do, witness the global media coverage afforded the grounding of the crude oil tanker *Exxon Valdez* in Prince William Sound where approximately 257 000 barrels of crude oil were released,⁵² the impact of a TBT release into a coral community is arguably no less demanding of attention. This argument is afforded further development and weight with knowledge that the consequences of TBT pollution on the marine environment have been recognised since the early 1980's.⁵³ TBT, being a non-specific biocide, is known to be toxic above threshold concentrations to many marine organisms including corals, anemones and molluscs.⁵⁴ Given the toxic qualities associated with TBT, coupled with the number of passages undertaken by commercial vessels throughout the Great Barrier Reef, it is argued that the risk TBT poses to the reef by way of impact release be awarded greater attention than that which official grounding investigation reports to date have been prepared to furnish.

Powers of Intervention

Piper Reef, located towards the northern end of the Great Barrier Reef, lies outside the three nautical mile jurisdictional limit of Queensland and therefore within the exclusive jurisdiction of the Commonwealth. Due to the reefs' position, the principal legislative instrument available to address the grounding is the *Great Barrier Reef Marine Park Act 1975* (Cth). Despite the grounding, no charges were laid against the owners, operators or crew of the *Peacock* under the *Great Barrier Reef Marine Park Act 1975* (Cth).⁵⁵ The absence of charges against those responsible for the operation, navigation and subsequent grounding of the *Peacock* should have served as a significant wake up call to both the shipping industry and government. The *Peacock* was the 30th marine incident since 1985 in the Great Barrier Reef and Torres Strait region,⁵⁶ the ninth incident with a marine Pilot on board for the region and the second time a bulk carrier had grounded on Piper Reef in the same period.⁵⁷ Given the importance of the Great Barrier Reef, it is difficult to understand why greater efforts were not initiated following the grounding of the *Peacock* to correct inherently obvious shipping industry and legislative deficiencies. Whilst it is in the public interest to ensure that an effective and expeditious inquiry aimed principally at correctly establishing and identifying what went wrong is conducted, it is also in the public interest to ensure that any recommendations following such an inquiry are both practicable and effective to prevent repetition and dissipate residual public concern. Further, it is in the public

<http://www.gbrmpa.gov.au/corp_site/info_services/publications/reef_research/issue1_00/rmn_feature_pg22.html> at 22 August 2003.

⁵² Exxon Valdez Oil Spill Trustee Council, *Oil Spill Facts – Questions and Answers* <<http://www.evostc.state.ak.us/facts/qanda.html>> at 04 March 2004.

⁵³ Ian White and Fionn Molloy, 'Ships and the Marine Environment' (Speech delivered at the Maritime Cyprus 2001 Conference, Limassol, 23-26 September 2001).

⁵⁴ Great Barrier Reef Marine Park Authority, *Response to the grounding of the MV Bunga Teratai Satu on Sudbury Reef* <http://www.gbrmpa.gov.au/corp_site/management/eim/sudbury/> at 26 July 2003.

⁵⁵ Interview with Kevin Priestly (Telephone interview, 22 August 2003). Kevin Priestly is a Barrister-at-Law with a special interest in maritime law and protected area management.

⁵⁶ Australian Maritime Safety Authority, *Review of ship safety and pollution prevention measures in the Great Barrier Reef* (2000) <<http://www.amsa.gov.au/sd/gbrreview/final/gbrex.htm>> at 1 March 2004.

⁵⁷ The Cypriot flagged bulk carrier *Ruca Challenge* grounded on Piper Reef whilst in a loaded condition (potassium nitrate) en route from Haifa, Israel to Cairns, Australia on 21 April 1987. The *Ruca Challenge* grounded as a result of errors of navigation (human error). The ATSB report into the grounding of the *Ruca Challenge* can be found at <<http://www.atsb.gov.au/marine/pdf/rpt18.pdf>> at 1 March 2004.

interest to ensure that where legislation is deficient, it is corrected, and those who commit offences prosecuted.

From a professional mariners perspective, it is clear that in the absence of mechanical or other equipment failure, the human element is the weakest link in the chain and the one element in pre-eminent need of corrective measures given the International Maritime Organization's acknowledgement that many of the worst maritime disasters can be attributed to 'navigational errors'.⁵⁸ In this respect the human element clearly must broaden to capture both those responsible for the navigation of the vessel and those charged with providing pilotage advice. It is in the later direction that legislative change is most easily directed, given the inherent difficulties associated with any attempt to legislatively interfere with the right of foreign vessels to engage in free passage and the professional competence of foreign mariners.

3. BUNGA TERATAI SATU

Incident Details

At approximately 0723 on 2 November 2001 the 22 000 tonne Malaysian flagged container vessel *Bunga Teratai Satu*, en route from Singapore to Sydney, grounded on Sudbury Reef within the Great Barrier Reef Marine Park. At the time of the grounding the *Bunga Teratai Satu* was proceeding at a speed in excess of 20 knots, in a semi loaded condition, and did not have a marine pilot employed on board.⁵⁹

The *Bunga Teratai Satu's* cargo manifest at the time of the grounding indicated the vessel was carrying 857 containers, twelve of which were identified as carrying dangerous goods amounting to approximately 126 tonnes.⁶⁰ The dangerous goods included classes of flammable liquids, toxic substances, corrosive material and other miscellaneous goods.⁶¹



***Bunga Teratai Satu* aground on Sudbury Reef⁶²**

⁵⁸ International Maritime Organization, 'Focus on IMO: IMO and the safety of navigation' (1998) 1 *International Maritime Organization* <<http://www.imo.org/home.asp>> at 1 March 2004.

⁵⁹ Australian Transport Safety Bureau, *Independent investigation into the grounding of the Malaysian flag container ship Bunga Teratai Satu*, Marine Safety Investigation Report 162 (2001) 1.

⁶⁰ *Ibid* 10.

⁶¹ *Ibid*. It should be noted that an assessment of the cargo risk was carried out by the Queensland Emergency Services Chemical Unit with the cargo considered to be 'low risk'.

⁶² Great Barrier Reef Marine Park Authority, above n 54, at 26 July 2003. Photographs courtesy of the Great Barrier Reef Marine Park Authority.

Investigation by the ATSB concluded that the significant unsafe act that resulted in the *Bunga Teratai Satu* grounding on Sudbury Reef was the inattention of the Chief Officer whilst on watch.⁶³ The *Bunga Teratai Satu* was eventually refloated some 13 days later on 14 November 2000, three days prior to the annual mass spawning of corals within the reef system.⁶⁴

Marine Pollution

The ATSB investigation report states 'no oil or other pollutant escaped from the ship'.⁶⁵ Whilst an accurate reflection in the traditional sense of marine pollution, the statement by the ATSB is in conflict with the definition of pollution adopted by UNCLOS, to which Australia is a signatory,⁶⁶ as pollution is defined as the 'introduction by man, directly or indirectly, of substrates or energy into the marine environment ... which is likely to result in deleterious effects as harm to living resources and marine life...'.⁶⁷ The report does not identify TBT residue deposited on the reef as a result of the grounding a pollutant. The ATSB report does, however, note that the effect on the reef from 'mechanical damage' and the 'ship's anti-fouling paint' was yet to be calculated.⁶⁸

Specific Jurisdictional Issues

As already noted, the *Bunga Teratai Satu* grounded on Sudbury Reef, which lies approximately 22 nautical miles to the south east of Cairns. On first inspection, the site of the grounding therefore places the *Bunga Teratai Satu* outside the three mile base line jurisdiction of the Queensland Government as established by the Offshore Constitutional Settlement and associated legislation, and within the boundaries of the Great Barrier Reef Marine Park, as established by the Commonwealth under the *Great Barrier Reef Marine Park Act 1975* (Cth).

However, despite the *Bunga Teratai Satu* grounding within the geographic boundaries of the Great Barrier Reef Marine Park Authority, the grounding location was determined to be within State territorial waters due to the location of a sand cay (Queensland territory) within Sudbury Reef, its location being within three miles of the grounding position.⁶⁹

⁶³ Australian Transport Safety Bureau, above n 59, 1.

⁶⁴ PERMAGON, 'Understanding ship-grounding impacts on a coral reef: potential effects of anti-foulant paint contamination on coral recruitment' (2002) 44 *Marine Pollution Bulletin* 111, 111.

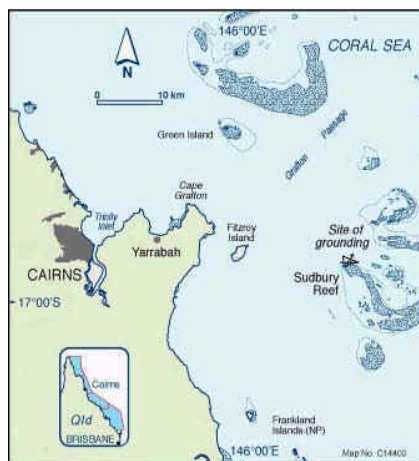
⁶⁵ Australian Transport Safety Bureau, above n 59, 1.

⁶⁶ Simmonds, above n 28, art 1(4) B26.

⁶⁷ United Nations, The Law of the Sea: United Nations Convention on the Law of the Sea with Index and Final Act of the Third United Nations Conference on the Law of the Sea (1983) art 1(4).

⁶⁸ Australian Transport Safety Bureau, above n 59, 1.

⁶⁹ Alan Girdle, 'Record \$400,000 find for environmental offence' (2001) 16(4) *Australian Environment Review* 10, 10.



Grounding Site of the *Bunga Teratai Satu*⁷⁰

During proceedings it was determined that the sand cay on Sudbury Reef was an island within the definition of UNCLOS Art. 121: Regime of islands, which states:

1. An island is a naturally formed area of land, surrounded by water, which is above water at high tide.
2. Except as provided for in paragraph 3, the territorial sea, the contiguous zone, the exclusive economic zone and the continental shelf of an island are determined in accordance with the provisions of this Convention applicable to other land territory.
3. Rocks which cannot sustain human habitation or economic life of their own shall have no exclusive economic zone or continental shelf.⁷¹

The definition of an island as provided by in UNCLOS has the effect of:

1. Removing the doubts which existed in customary international law prior to 1958 as to whether an island had to be capable of effective occupation and making it clear that occupation is not a necessary condition.⁷²
2. Provides that the territorial sea of an island is measured in accordance with the general rules on baselines.⁷³ This has the effect of declaring that the sand cay on Sudbury Reef, once declared an island (Queensland territory) has a territorial sea with the effect being Queensland jurisdiction is capable of being applied to the three mile waters surrounding the sand cay.

Whilst the sand cay was determined to be an island, this point requires further exploration. For the grounding site to be classified as within Queensland territorial waters, the sand cay must retain its classification as an island. Whilst survey work dating from 1986 places the height of the Permanent Survey Mark on Sudbury Cay as being 3.335 meters above Lowest Astronomical Tide (LAT), at the time of the grounding the highest point of Sudbury Cay was found to lie between the tidal planes of Mean High High Water (MHHW) and Mean Sea Level.⁷⁴ The high tide submersion of

⁷⁰ Great Barrier Reef Marine Park Authority, above n 54, at 1 March 2004. Photographs courtesy of the Great Barrier Reef Marine Park Authority.

⁷¹ Kenneth Simmonds, above n 28, art 1(4) B72.

⁷² Robin Churchill and Vaughan Lowe, *The Law of the Sea* (1983) 35.

⁷³ *Ibid* 37-8.

⁷⁴ Interview with Alan Girdle (telephone interview, 30 April 2004).

the sand cay would therefore have the effect of removing the classification of the cay as an island under UNCLOS Article 121(1) in preference to that of a low-tide elevation under Article 13: Low-tide elevations, which states:

1. A low-tide elevation is a naturally formed area of land which is surrounded by and above water at low tide but submerged at high tide. Where a low-tide elevation is situated wholly or partly at a distance not exceeding the breadth of the territorial sea from the mainland or an island, the low-water line on that elevation may be used as the baseline for measuring the breadth of the territorial sea.
2. Where a low-tide elevation is wholly situated at a distance exceeding the breadth of the territorial sea from the mainland or an island, it has no territorial sea of its own.

The implication of this classification would have been to oust Queensland jurisdiction as:

1. Acknowledging a low-tide elevation does not form a territorial sea in international waters, it is presented the same reasoning would be found applicable within Australian domestic law.
2. Sudbury Reef lies at a distance greater than three nautical miles from the Queensland coastline.
3. As the sand cay lies outside the three nautical mile limit, it cannot claim a territorial sea in accordance with UNCLOS Article 13(2).

Whilst the question was resolved between parties in favour of the sand cay acquiring the classification of an island, the absence of judicial interpretation on classification leaves a number of questions undetermined. Principally, questions as to the classification of naturally formed land masses which inhabit the zone between the definitions of an island and a low tide elevation due to accretion and erosion, and the status of naturally formed land masses which have changed in physical characteristics since classification, remain unanswered and in need of judicial resolution.

In addition to classification of the sand cay, two further points require addressing in relation to jurisdiction. First, s 25 of the *Environmental Protection Act 1994* (Qld) allows for the prosecution of a person who causes environmental harm within the State by way of conduct engaged outside of the State providing the conduct would constitute an offence against the Act if it were engaged in by the person within the State. Whilst s 25 purports to furnish license to prosecute extraterritorially, it is open to question whether s 25 would survive constitutional scrutiny under the peace, order and government tests accepted by the High Court.⁷⁵

Second, the question of native title arises. Post the grounding of the *Bunga Teratai Satu*, Sudbury Reef was subject to native title claim by the Gurubana-Gungandjii people. The Gurubana-Gungandjii people have traditionally hunted for turtle eggs on Sudbury Cay and engaged in fishing the surrounding reef.⁷⁶ Whilst it is beyond the scope of this paper to address in length issues pertaining to native title, the decision of Ambrose J in *Jones v Queensland* [1998] 2 Qd. R. 385 requires consideration when entertaining questions in relation to native title and coastal waters jurisdiction.

Ultimately, and within the confines of the parties as stated above, the presence of the sand cay determined that both Queensland and Commonwealth legislation was capable of being applied to the grounding incident, subject to constitutional restraints under s 109 of the Constitution and Queensland's jurisdictional powers under the *Coastal Waters (State Powers) Act 1980* (Cth).

⁷⁵ *Pearce v Florenca* (1976) 135 CLR 507, 517-8.

⁷⁶ Interview with Alan Gidle (telephone interview, 30 April 2004).

Powers of Intervention

Given the joint jurisdiction in existence in relation to the grounding incident, both the Commonwealth and the State (Queensland) were capable of exercising powers of jurisdiction under the *Protection of the Sea (Powers of Intervention) Act 1981* (Cth) s 8 and s 9 and the *Transport Operations (Marine Pollution) Act 1995* (Qld) s 98. The texts of both acts incorporate words including 'grave and imminent danger', 'coastline', 'interests' and 'take measures'. It is apparent from the wording that both the State and Commonwealth had the necessary legal infrastructure to physically intervene with the *Bunga Teratai Satu* in the event that pollution outside of that incurred as a direct result of the grounding (principally TBT release into the reef structure) was to materialize.

Enforcement Response

Commonwealth

The initial enforcement response to the grounding of the *Bunga Teratai Satu* was under s 38A of the *Great Barrier Reef Marine Park Act 1975* (Cth) with the vessels' Chief Officer being charged with negligently entering a Marine Habitat Protection Zone for a purpose not permitted under the relevant zoning plans. In addition, the Chief Officer was also charged under s113 of the *Great Barrier Reef Marine Park Act 1975* (Cth) regulations for 'damaging coral in contravention of the provisions of the Cairns Area Plan of Management 1998'.⁷⁷

Under the legislative arrangements the maximum penalties that could be imposed were \$22 000 and \$1100 respectively. On 10 November 2000 the vessels' Chief Officer pleaded guilty to both charges in the Cairns Magistrates Court and received fines of \$15 000 and \$1000 respectively.⁷⁸

Queensland

On 17 November 2000, Complaints and Summons issued against the *Bunga Teratai Satu's* Chief Officer, Master and the Malaysian Shipping Corporation (MISC). The charges were that between 1 November 2000 and 15 November 2000 at Sudbury Reef and elsewhere each 'wilfully and unlawfully caused serious environmental harm, such act or omission not being authorised to be done under section 119 of the Environmental Protection Act'.⁷⁹ In the alternative, the Complaints and Summons charge the same offences with the difference being that the location was described as 'at Fitzroy Island and elsewhere, in the State of Queensland'.⁸⁰ 'The alternative charges were laid in anticipation of a jurisdictional issue arising as to whether Sudbury Reef was within State waters.'⁸¹

It should also be noted that had the grounding of the *Bunga Teratai Satu* resulted in a discharge of oil into the marine environment, the provisions of s 23 of the *Environmental Protection Act 1994* (Qld), 'relationship with other acts', would have applied. The effect of section 23, in the event of an oil release (bunkers and / or cargo) would have been to preference the *Transport Operations (Marine Pollution) Act 1995* (Qld) (TOMPA) to the extent of any inconsistency with the *Environmental Protection Act 1994* (Qld).

⁷⁷ Kevin Priestly, 'Environmental Offences at Sea: Protection of the Great Barrier Reef' (Paper presented at the Queensland Environmental Law Association Environmental Law Update, Cairns, 23 April 2003) 37.

⁷⁸ Ibid.

⁷⁹ Complaint-General Purposes-Made and Summons, dated 17 November 2000.

⁸⁰ Ibid.

⁸¹ Priestly, above n 77, 37.

Whilst it is beyond the scope of this paper to discuss in greater detail the construction of the prosecution and defence arguments⁸² the prosecution's argument under the *Environmental Protection Act 1994* (Qld) resulted in a plea of guilty on behalf of MISC being entered on 6 February 2001 to a charge of unlawfully causing serious environmental harm. All other charges were withdrawn and a fine of \$400 000 was imposed on MISC.

In delivering sentence, Schemioneck SM indicated his consideration for the following:

- MISC admission of guilt at the earliest opportunity;
- MISC were undertaking the clean up of the TBT deposited onto the reef;
- there was no spillage of oil;
- MISC had no prior convictions;
- the potential harm far exceeded the actual harm; and
- offences of this type could "decimate" the Great Barrier Reef and "the prospect of a catastrophic affect is not to be discounted".⁸³

Legislative Response to the Grounding of the Bunga Teratai Satu

Following the grounding of the *Bunga Teratai Satu*, the *Great Barrier Reef Marine Park Act 1975* (Cth) was amended by the *Great Barrier Reef Marine Park Amendment Act 2001*.⁸⁴ From the second reading speeches by Senator Bolkus (South Australia),⁸⁵ Senator Bartlett (Queensland)⁸⁶ and Senator Cooney (Victoria)⁸⁷ it is clear the principal emphasis in the amendment is in relation to pilotage, enforcement provisions capable of serving as disincentives, the increase of power at Federal level, contravention of conditions of permit or authority in relation to ships entering zoned areas, and vessels causing damage in the Marine Park. These emphases are now legislatively captured in the *Great Barrier Reef Marine Park Act 1975* (Cth) as:

- Repealing of subsection 3(1) (definition of compulsory pilotage area) and substitution with the new definition of compulsory pilotage area.
- Insertion of s 38MB Contravening conditions of permit or authority in relation to ships – zoned area.
- Insertion of s 38MC Vessels causing damage in the Marine Park.

Of particular interest in relation to groundings is s 38MC: Vessels causing damage in the Marine Park, which states:

Operators

(1) A person is guilty of an offence if:

⁸² For a detailed description of the particulars of the offence and the prosecution and defence positions see Kevin Priestly, 'Environmental Offences at Sea: Protection of the Great Barrier Reef' (Paper presented at the Queensland Environmental Law Association Environmental Law Update, Cairns, 23 April 2003) 37-40.

⁸³ Alan Girle, above n 69, 11.

⁸⁴ *Great Barrier Reef Marine Park Amendment Act 2001* (Cth).

⁸⁵ Senator Bolkus (SA), 'Great Barrier Reef Marine Park Amendment Bill 2001' (Second Reading Speech, Canberra, 23 May 2001) <<http://parlinfoweb.aph.gov.au/piweb/browse.aspx?NodeID=1181>> at 10 August 2003.

⁸⁶ Senator Bartlett (Qld), 'Great Barrier Reef Marine Park Amendment Bill 2001' (Second Reading Speech, Canberra, 23 May 2001) <<http://parlinfoweb.aph.gov.au/piweb/browse.aspx?NodeID=1181>> at 10 August 2003.

⁸⁷ Senator Cooney (Vic), 'Great Barrier Reef Marine Park Amendment Bill 2001' (Second Reading Speech, Canberra, 23 May 2001) <<http://parlinfoweb.aph.gov.au/piweb/browse.aspx?NodeID=1181>> at 10 August 2003.

- (a) The person operates a vessel; and
- (b) The vessel is in the Marine Park and the person is negligent as to that fact; and
- (c) That operation results in, or is likely to result in, damage to the Marine Park and the person is negligent as to that fact.

Penalty: 2,000 penalty units.

Owners and operators

- (2) If a vessel is operated in the Marine Park and that operation results in, or is likely to result in, damage to the Marine Park, the operator and the owner of the vessel are each guilty of an offence punishable on conviction by a fine of not more than 500 penalty units.
- (3) An offence under subsection (2) is an offence of strict liability.⁸⁸

The explanatory memorandum to the Great Barrier Reef Marine Park Amendment Bill 2001 states, in part:

This item also inserts section 38MC into the Great Barrier Reef Marine Park Act 1975 which makes it an offence to operate a vessel in the Marine Park, in circumstances where that operation results in, or is likely to result in, damage to the Marine Park, and the person is negligent as to that fact. Given the potential damage to the Marine Park that would result from incidents such as groundings, collisions, and the structural failure of vessels, the penalties for contravention of this provision have been set at a maximum of 2,000 and 10,000 penalty units for natural persons and bodies corporate respectively

The mental fault element has been set at "negligence" and "intention". The use of the lower culpability of "negligence" is to require greater responsibility on the part of persons undertaking activities in the Marine Park. The mental element has been set at a level whereby the standard of care exhibited by the offender is judged by the standard that a reasonable person would have exercised in the circumstances. The fault element of "intention" is imported by virtue of section 5.6(1) of the Criminal Code and is attached to the physical conduct of operating the vessel.⁸⁹

Examination of the text of the legislation highlights three key points. First, the legislative amendment is consistent with the second reading speeches. Second, the amendment introduces strict liability in s 38MC(2). With strict liability the prosecution need only prove damage, or likely damage, to the marine park, thereby reflecting damage as the foundation of the offence. In addition, strict liability provides the prosecution with a procedural advantage by way of a reduction in the standard of proof required when compared to an offence under s 38MC(1). Third, the quantum of fines available under s 38MC reflects the differences in the standard of proof required under the two limbs. As an offence under s 38MC(1) requires proof of negligence, it attracts the higher fine of 2,000 penalty units. In contrast, s 38MC(2), operating under the concept of strict liability, attracts the lower fine of not more than 500 penalty units.

4. DORIC CHARIOT

Incident Details

At approximately 0335 on 29 July 2002 the Greek flagged bulk carrier *Doric Chariot*, en route from Hay Point, Queensland, to Visakhapatnam, India, grounded on Piper

⁸⁸ *Great Barrier Reef Marine Park Amendment Act 2001* (Cth).

⁸⁹ Parliament of Australia, Great Barrier Reef Marine Park Amendment Bill 2001 Revised Explanatory Memorandum (2001) <http://parlinfoweb.aph.gov.au/piweb/view_document.aspx?id=800&table=OLDEMS> at 30 April 2004.

Reef.⁹⁰ At the time of the grounding the *Doric Chariot* was proceeding at a speed of 10 knots,⁹¹ had a licensed marine pilot on board, was loaded with 62 000 tonnes of coal, 375 tonnes of fuel oil and 37 tonnes of diesel.⁹² Following initial attempts to float the vessel, the *Doric Chariot* was eventually refloated on the afternoon of 6 August 2002,⁹³ some eight days after the vessel first grounded on the reef.



Doric Chariot Aground on Piper Reef⁹⁴

Marine Pollution

Throughout the grounding and subsequent refloating operations, no oil or other hydrocarbon products escaped into the marine environment which lead to claims that ‘no pollution’ resulted from the grounding.⁹⁵ Despite the absence of visible surface pollution, as a result of interaction between the vessels hull and the reef structure, evidence of TBT paint from the antifouling system employed on the vessels hull has been found on the reef. According to GBRMPA⁹⁶ and other scientific bodies,⁹⁷ the depositing of TBT on the reef structure has the potential to generate adverse long term impacts on the environment.

Specific Jurisdictional Issues

As noted with the grounding of the *Peacock* in July 1996, Piper Reef is located within the Great Barrier Reef Marine Park and situated outside of the three nautical mile jurisdiction agreed to under the Offshore Constitutional Settlement and legislated in the

⁹⁰ Australian Transport Safety Bureau, *Independent investigation into the grounding of the Greek registered ship Doric Chariot*, Marine Safety Investigation Report 182 (2002) 8.

⁹¹ World Wide Fund for Nature, *Doric Chariot causes significant damage and pollution* (2002) <http://www.gbr.wwf.org.au/content/News/ship_contaminates_reef.htm> at 27 July 2003.

⁹² Planet Ark, *Tugs free Greek bulk carrier from Australian reef* (2002) <<http://www.planetark.org/dailynewsstory.cfm/newsid/17177/story.htm>> at 27 July 2003.

⁹³ Australian Transport Safety Bureau, above n 90, 9.

⁹⁴ Great Barrier Reef Marine Park Authority, *Remediation of Piper Reef following the grounding of the “Doric Chariot”* (2002) <http://www.gbrmpa.gov.au/corp_site/management/eim/piper_reef/> at 1 March 2004. Photographs courtesy of the Great Barrier Reef Marine Park Authority.

⁹⁵ Great Barrier Reef Marine Park Authority, above n 48, 15.

⁹⁶ Great Barrier Reef Marine Park Authority, *Scientists Assess Reef Damage* (2002) <http://www.gbrmpa.gov.au/corp_site/info_services/media/2002/2002-08-07.html> at 13 August 2003.

⁹⁷ PERMAGON, above n 64, 117.

Coastal Waters (State Powers) Act 1980 (Cth) and *Coastal Waters (State Title) Act 1980* (Cth). The location of the reef in relation to its distance from the Queensland coast and position within the Great Barrier Reef Marine Park resulted in the Commonwealth possessing exclusive jurisdiction over the grounding incident. With exclusive Commonwealth jurisdiction, the principal legislative instrument available to address the grounding is the *Great Barrier Reef Marine Park Act 1975* (Cth).

However, as noted above, following the *Peacock* and more recent *Bunga Teratai Satu* groundings, the *Great Barrier Reef Marine Park Act 1975* (Cth) has undergone legislative amendment in an attempt to address public perception of inadequacies in the ability of authorities to sufficiently intercept and punish those responsible for damage to the reef through commercial shipping incidents. As will be seen, those amendments were applied following the *Doric Chariot* grounding on Piper Reef.

Enforcement Response

As a result of the grounding the second officer, chief officer, Master and owners of the *Doric Chariot* were charged with contravening s 38MC(1) of the *Great Barrier Reef Marine Park Act 1975* (Cth). The pilot on board the *Doric Chariot* at the time of the grounding was also charged with contravening s 38MC(1) of the *Great Barrier Reef Marine Park Act 1975* (Cth).⁹⁸ The pilot also had his license cancelled by the Australian Maritime Safety Authority (AMSA). The cancellation of the marine pilots license was then subject to an appeal to the Administrative Appeals Tribunal. The appeal was subsequently dismissed by consent and the pilot was reissued a license in about September 2003.

At the time of writing the charges against the second officer, chief officer and pilot under s 38MC(1) are still pending.⁹⁹ It is important to note the *Doric Chariot* is the first vessel to test the new provisions of the *Great Barrier Reef Marine Park Act 1975* (Cth) as amended by the *Great Barrier Reef Marine Park Amendment Act 2000* (Cth) following the grounding of the *Bunga Teratai Satu*. In particular, the focus is on s 38MC: Vessels causing damage in the Marine Park, which was drafted with the provisions of the Commonwealth Criminal Code¹⁰⁰ in mind, and in particular Chapter 2, dealing with criminal responsibility which is admissible under s 4A of the *Great Barrier Reef Marine Park Act 1975* (Cth). Whilst it is beyond the scope of this paper to entertain a full discussion on the elements of criminal responsibility in relation to s 38MC of the *Great Barrier Reef Marine Park Act 1975* (Cth), a number of the legal issues in relation to the legislative shortcomings of s 38MC(1) include:

1. The meaning of the word 'operates'.
2. Argument pertaining to s 38MC(1)(b) 'the vessel is in the Marine Park and the person is negligent as to that fact'. Specifically, the *Doric Chariot* was lawfully in the Marine Park as part of an international voyage. The question then becomes, does the presence of the *Doric Chariot* in the Marine Park 'satisfy the specified fault element of negligence?'¹⁰¹
3. The requirement to connect the three elements of 'operation', 'damage' and 'negligence' under s 38MC(1)(c). This section requires there be a 'causal connection

⁹⁸ Priestly, above n 77, 40.

⁹⁹ This article is restricted to discussions on Australian law. It is not the purpose of the article to discuss the effect of any civil penalty provisions under foreign legislation in relation to criminal offences committed within Australia.

¹⁰⁰ *Criminal Code Act 1995* (Cth).

¹⁰¹ Priestly, above n 77, 42.

between the operation of the vessel and the damage to the reef', coupled to the fault element of negligence.¹⁰² In this respect, questions pertaining to the 'fault' element as identified in point two apply equally to point three.

In light of the above points, it is submitted minor amendments are necessary to remove the present elements of ambiguity inherent in s 38MC(1) of the *Great Barrier Reef Marine Park Act 1975* (Cth) in order to furnish effect to the intent of parliament and a level of legislative protection arguably missing from the law today.

5. Conclusion

The Great Barrier Reef arguably represents a very unique and important natural asset that is worthy of protection for both its natural beauty and commercial importance. Protection is, as history has often demonstrated, often only considered following incidents which motivate the public to demand change to address perceived shortcomings. The change in public perception and the legislative reaction to marine pollution by commercial shipping in the Great Barrier Reef can be measured by reference to the three groundings identified. In contrast to the legislative framework and decision not to prosecute following the grounding of the *Peacock* in 1996, the *Bunga Teratai Satu* incident witnessed a more proactive approach to both prosecution and legislative change. The ability of the relevant State and Commonwealth authorities to prosecute those who pollute in the waters surrounding the reef following the legislative changes brought about by the *Bunga Teratai Satu* grounding is now being tested with the present legal argument generated by the grounding of the *Doric Chariot* in 2002. It remains to be seen, however, as to how effective the new legislative changes are in addressing prosecution of individuals responsible for causing damage within the boundaries of Australia's jewel in the World Heritage List: the Great Barrier Reef.

¹⁰² Priestly, above n 77, 43.