# COASTAL STATE REGULATION OF NAVIGATION IN ADJACENT WATERS – THE EXAMPLE OF THE TORRES STRAIT AND GREAT BARRIER REEF

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#### **Abstract**

Australia has established a compulsory pilotage regime for the Torres Strait and Inner Route of the Great Barrier Reef. The introduction of the regime for the Torres Strait was controversial. It was opposed by other countries on the grounds that compulsory pilotage in the strait was contrary to the UNCLOS regime of transit passage through straits used for international navigation. Australia has now submitted a proposal to the International Maritime Organization (IMO) to extend its mandatory ship reporting system for the Great Barrier Reef to include the southernmost part of the Great Barrier Reef Particularly Sensitive Sea Area (PSSA). These developments are illustrative of the trend towards greater coastal State regulation of navigation in adjacent waters, including through the designation of PSSAs.

#### Introduction

Increased coastal State regulation of navigation in adjacent waters is becoming more common as concern grows both for the protection and preservation of the marine environment and for the growing number of marine accidents leading to serious pollution of that environment. The most notorious incident indicating these trends was the *Exxon Valdez* grounding in Alaskan waters in 1989. This led to the introduction by the United States of the *Oil Pollution Act* 1990 (OPA90), which established a comprehensive regime for dealing with ship-sourced marine pollution in the adjacent waters of the United States.

The *Exxon Valdez* incident was followed by several serious pollution incidents in European waters, including the tanker *Braer* wrecked off the southwest coast of Shetland in 1993, and the foundering of the tanker *Erika* off France in 1999 and of the tanker *Prestige* off Spain in 2002. These incidents have all served to increase the sensitivity of coastal States to the risks of shipsourced marine pollution in their adjacent waters, and have led to moves towards greater regulation of shipping in these waters. Human error was a key factor in all of these incidents, particularly those involving the grounding of a ship.

## **Environmental Norms**

The 1982 UN Convention on the Law of the Sea (UNCLOS)<sup>1</sup> provides the framework for coastal State regulation of activities in adjacent waters. However, UNCLOS was formulated in a period

<sup>&</sup>lt;sup>1</sup> United Nation Convention on the Law of the Sea, Montego Bay, 10 December 1982, UN/Doc.A/CONF.62/122, 7 October 1982.

when there was less concern for the health of the marine environment than there is at present and modern international environmental law was underdeveloped. Norms and principles for the preservation and protection of the marine environment have multiplied exponentially over the last two decades.

All State parties to UNCLOS have a general obligation to protect and preserve the marine environment,<sup>2</sup> and UNCLOS Part XII sets out comprehensive rights and obligations for the preservation and protection of the marine environment. However, the navigational regimes in UNCLOS provide an example of the relatively lower level of concern for the marine environment that was current in the 1970s when UNCLOS was being negotiated. The regimes of straits' transit passage and archipelagic sea lanes (ASL) passage apply to "all ships and aircraft",<sup>3</sup> and there is no clear right of the coastal or archipelagic State to prevent the passage of a vessel that might be perceived to be a serious threat to the marine environment.

Aldo Chircop had addressed the issue in the context of a ship in distress seeking a place of refuge in a strait used for international navigation concluding that:

While respecting the intention of the UNCLOS III negotiators to protect freedom of navigation through straits, one should be wary of applying too restrictive an interpretation that might not permit the coastal state to intervene to prevent a casualty from harming vital interests. It is possible to argue that international straits are not exempted from the right of protection of the coastal state under general international law and the precautionary principle under international law apply.<sup>4</sup>

Many international conventions, as well as the desire of coastal States around the world to increase their controls over navigation in their adjacent waters, reflect the precautionary approach to preserving and protecting the marine environment. The second generation of environment conventions followed after UNCLOS. These reflect increased awareness of threats to the marine environment and incorporate concepts developed after UNCLOS, such as sustainable development and the conservation of biological diversity, as well as the precautionary principle.<sup>5</sup>

The precautionary principle has its origins in the Rio Declaration,<sup>6</sup> one of the outcomes of the 1992 UN Conference on Environment and Development (UNCED) held in 1992 and now constituting a customary norm of international law.<sup>7</sup> The precautionary approach reflects the notion that it is not necessary to await conclusive, scientific or technical evidence of the risks of

onclos, Afficie 192.

<sup>&</sup>lt;sup>2</sup> UNCLOS, Article 192.

 $<sup>^{3}\ \</sup>text{In}$  accordance with UNCLOS Articles 38(1) and 53(2) respectively.

<sup>&</sup>lt;sup>4</sup> A. Chircop, "Law of the Sea and International Environmental Law Considerations for Places of Refuge for Ships in Need of Assistance," in A. Chircop and O. Linden, eds., *Places of Refuge for Ships – Emerging Environmental Concerns of a Maritime Custom*, Leiden: Martinus Nijhoff Publishers, 2006, p. 246.

<sup>&</sup>lt;sup>5</sup> R.R.Churchill and A.V. Lowe, *The law of the sea*, 3rd edition, Manchester: Manchester University Press, 1999, p. 336 (1992) 31 *International Legal Materials* 818.

<sup>&</sup>lt;sup>7</sup> R. Rayfuse, "International Environmental Law", Chapter 14 in S. Blay, R. Piotrowicz and M. Tsamenyi, eds, *Public International Law- An Australian Perspective*, Oxford: Oxford University Press, 1997, pp. 360 – 1.

damage to the marine environment before taking preventive action. <sup>8</sup> The precautionary approach post-dates UNCLOS by over a decade and its acceptance is a clear demonstration that the world has changed with regard to the balance between freedoms of navigation and marine environmental protection.

There are many examples of how increased concern for protecting the marine environment has impacted on the law of the sea, including the freedoms of navigation. OPA90 introduced in the United States following the *Exxon Valdez* disaster introduces several restrictions on the freedoms of navigation in the exclusive economic zone (EEZ), including the requirement for double hulls for all new tankers and ocean-going barges. Both Indonesia and Singapore backed Malaysia's insistence that Japanese plutonium shipments should not be routed through the Malacca Strait for fear of the environmental risks involved. 10

The concern is also evident in the Revised Guidelines for the Identification and Designation of PSSAs adopted by the International Maritime Organisation (IMO) in 2005.<sup>11</sup> These guidelines acknowledge that with the increase in global trade, shipping activities are also increasing with greater potential for adverse effects and damage to the marine environment. The guidelines are far more detailed and "liberal" in their approach than UNCLOS Article 211(6) reflecting the more sophisticated and comprehensive scientific understanding of the dangers posed by ships to the marine environment than was the case when UNCLOS was negotiated.<sup>12</sup>

Particularly Sensitive Sea Areas (PSSAs) are important measures that may be adopted by a coastal State as a means of regulating navigation in adjacent waters. PSSAs are designated by the IMO, which must be satisfied that the areas concerned require special protection because of their significance for recognised ecological, socio-economic and technical reasons and vulnerable to international maritime activities. The kinds of measure that might be taken by the coastal State include the designation of areas to be avoided, the adoption of vessel traffic systems, speed restrictions and compulsory pilotage. Following the *Braer*, *Prestige* and *Erika* incidents, a proposal was tabled by several European States to have an extensive area of the north-eastern Atlantic declared a PSSA.<sup>13</sup> The initial proposal was significantly watered down but restrictions on single-hull tankers and a mandatory ship reporting system have been implemented. However, differences still remain on the extent and effectiveness of PSSAs and the "PSSA discourse in the IMO is likely to remain contentious".<sup>14</sup>

<sup>10</sup> J. M. Van Dyke, "Sea Shipment of Japanese Plutonium under International Law," *Ocean Development and International Law* 24 (1993), pp. 399–403.

<sup>&</sup>lt;sup>8</sup> E. Gold, *Gard Handbook on Protection of the Marine Environment*, 3<sup>rd</sup> ed., Arendal: Gard AS, 2006, p. 62.

<sup>&</sup>lt;sup>9</sup> Gold, *Gard Handbook*, p. 357.

<sup>&</sup>lt;sup>11</sup> Revised Guidelines for the Identification and Designation of Particularly Sensitive Sea Areas, adopted by IMO Assembly Resolution A.982(24), 1 December 2005 [hereinafter Revised Guidelines].

<sup>&</sup>lt;sup>12</sup> West European Particularly Sensitive Sea Area (PSSA) – Comments made by the Division for Ocean Affairs and the Law of the Sea of the United Nations (DOALAS) in connection with issues raised in document LEG 87/16/1, IMO Doc. LEG 87/16/1, Annex 7 (23 October 2003).

 $<sup>^{13}</sup>$  J. Roberts, M. Tsamenyi, T. Workman and L. Johnson, "The Western European proposal: a "political sensitive sea area", *Marine Policy*, Vol., 29, 2005, pp. 431-440.

<sup>&</sup>lt;sup>14</sup> A. Chircop, "The Designation of Particularly Sensitive Sea Areas; A New Layer in the Regime for Marine Environmental Protection from International Shipping" in A. Chircop and T. McDorman, eds, *The Future of Ocean* 

## **Increased Regulation in Australia**

While customarily a strong supporter of the freedoms of navigation, Australia has been prominent among the coastal States seeking to increase the regulation of navigation in adjacent waters, particularly with compulsory pilotage and ship reporting requirements through Torres Strait and the Inner Route of the Great Barrier Reef. Many of the materials listed in the International Maritime Dangerous Goods (IMDG) Code are carried through these waters, either in containers or as bulk cargoes. They include crude oil, petroleum products, bulk fertilizer and mineral concentrates. Most of these substances, as well as bunker fuel oil, would have significant impact on the marine environment if they were released as a consequence of a marine accident.

The Torres Strait and Great Barrier Reef are extremely sensitive marine habitats that could easily be severely damaged as a result of a marine accident. Both have been designated as PSSAs by the IMO. The Great Barrier Reef PSSA was approved by the IMO in 1990 along with a recommendation that IMO Member States should inform ships flying their flags to comply with the system of pilotage introduced by Australia. That system became a compulsory one for the Inner Route of the Great Barrier Reef from Cape York to 16° 40' South (just north of Cairns), and this was accepted without challenge by other countries.

With regard to the Torres Strait, the IMO adopted a resolution in 1987 promoting voluntary pilotage in the Strait. <sup>16</sup> This was extended further with a 1991 resolution, superseding the earlier one, recommending that certain classes of vessel use a pilot when passing through the Torres Strait and Great North East Channel. <sup>17</sup> While these recommendatory regimes were initially reasonably successful, non-compliance increased significantly. Data from 1995 and 2001 shows that while 70% of vessels on eastbound voyages were taking a pilot in 1995; this figure had fallen to 32% by 2001. <sup>18</sup> Similar figures for westbound voyages were 55% and 38.5%. These figures equate to about 500 un-piloted transits each year. <sup>19</sup> As a consequence, Australia and Papua New Guinea (PNG) agreed that the risks of a major shipping incident in the Strait leading to serious pollution of the area were unacceptably high, and jointly proposed an extension to the existing Great Barrier Reef PSSA to include the waters of the Torres Strait (see Figure 1). This was approved in July 2005 through a resolution regarding governments informing ships flying their flags to comply with the system of pilotage introduced by Australia. <sup>20</sup>

Regime Building: Essays in Tribute to Douglas M. Johnston, Leiden: Brill/Martinus Nijhoff Publishers, 2009, p. 607.

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<sup>&</sup>lt;sup>15</sup> Protection of the Great Barrier Reef Region, IMO Resolution MEPC.45(30), adopted 16 November 1990.

<sup>&</sup>lt;sup>16</sup> Use of Pilotage Services in the Torres Strait and Great Barrier Reef Area, IMO Resolution A.619(15), adopted 16 November 1987.

<sup>&</sup>lt;sup>17</sup> Use of Pilotage Services in the Torres Strait and the Great North East Channel, IMO Resolution A.710(17), adopted November 1991.

<sup>&</sup>lt;sup>18</sup> Torres Strait PSSA Associated Protective Measures – Compulsory Pilotage, submitted by Australia and Papua New Guinea, IMO document LEG 89/15 (24 August 2004), para. 6.

<sup>&</sup>lt;sup>19</sup> J. Roberts, *Marine Environment Protection and Biodiversity Conservation – The Application and Future Development of the IMO's Particularly Sensitive Sea Area Concept*, Berlin: Springer, 2007, p. 156.

<sup>&</sup>lt;sup>20</sup> IMO Resolution MEPC.133(53), *supra* note 3.

On the basis of the July 2005 resolution, Australia amended domestic legislation in 2006 to specify a new compulsory pilotage area for the Torres Strait and Great North East Channel.<sup>21</sup> This issue was hotly debated at the IMO, and the extended pilotage regime was formally protested by the United States and Singapore.<sup>22</sup> However, Australia and PNG, as the two littoral states, believe that compulsory pilotage is necessary to protect sensitive marine habitats in the Torres Strait and is in accordance with international law.<sup>23</sup> They consider it an appropriate and necessary associated protective measure (APM) for the PSSA to help ensure navigational safety in the area, and thereby reduce the risks of maritime accidents leading to marine pollution.

## See Figure 1 \_ PSSA and Shipping Routes in the Torres Strait

The shipping route through this area constitutes a strait used for international navigation to which the transit passage regime in Part III of UNCLOS applies. The route passes through the PSSA designated and approved by the IMO in 2005.<sup>24</sup> Thus the area is one that needs special protection through action by the IMO because of its significance for recognized ecological or socioeconomic or scientific reasons, and which may be vulnerable to damage by international maritime activities.<sup>25</sup>

Australia's domestic legislation recognises the principle of sovereign immunity for warships and government vessels not employed on commercial service. The legislation also includes a system of pilotage exemption for masters of ships that use the Torres Strait on a regular basis. Other countries and international shipping organizations, including INTERTANKO and the International Chamber of Shipping, protested these regulations at the 55th Session of IMO's Marine Environment Protection Committee held in August 2006.<sup>26</sup>

Australia has instituted measures to ensure that ships approaching the Torres Strait are notified well in advance of their approach of the need to take on a pilot when transiting the Torres Strait. Initially this is done using the Australian Ship Reporting System (AUSREP),<sup>27</sup> which covers Australia's very large Search and Rescue Region. Their movements are then monitored within the Torres Strait and Great Barrier Reef through the Great Barrier Reef and Torres Strait Ship Reporting System (REEFREP), and the Great Barrier Reef and Torres Strait Vessel Traffic

<sup>&</sup>lt;sup>21</sup> Australian Marine Notice 8/2006 and associated Marine Orders Part 54.

<sup>&</sup>lt;sup>22</sup> R. C. Beckman, "PSSAs and Transit Passage – Australia's Pilotage System in the Torres Strait Challenges the IMO and UNCLOS," *Ocean Development and International Law* 38(4) (2007), p. 337.

<sup>&</sup>lt;sup>23</sup> A comprehensive discussion of the arguments for and against compulsory pilotage in the Torres Strait may be found in Bateman and M. White "Compulsory Pilotage in the Torres Strait – Overcoming Unacceptable Risks to a Sensitive Marine Environment", *Ocean Development and International Law*, Vol. 40, N, pp. 184-203

<sup>&</sup>lt;sup>24</sup> Designation of the Torres Strait as an Extension of the Great Barrier Reef Particularly Sensitive Sea Area, adopted by IMO Resolution MEPC.133(53), 22 July 2005, available in Report of the Marine Environment Protection Committee on its Fifty-Third Session, Annex 21, MEPC 53/24/Add.2 (1 August 2005).

<sup>&</sup>lt;sup>25</sup> For the IMO definition of a PSSA, see Revised Guidelines.

<sup>&</sup>lt;sup>26</sup> Report of the Marine Environment Protection Committee on its Fifty-fifth Session, IMO Doc. 55/23 (16 October 2006), especially at pp. 52–54.

<sup>&</sup>lt;sup>27</sup> A full description of AUSREP may be found in Commonwealth of Australia, *Australian Seafarers Handbook* (Wollongong, Australian Hydrographic Services, 2007), pp. 153 -157.

Service (REEFVTS), the vessel traffic and information system for these shipping routes.<sup>28</sup> Ships planning to enter Australia's EEZ are also required to report their intentions and are tracked using the Australian Maritime Information System (AMIS) managed by the Border Protection Command.

As a vessel approaches the Torres Strait, its Automatic Identification System (AIS) transmissions are detected by AIS shore stations and later used to enhance tracking along with shore-based radar. Within the vicinity of the Prince of Wales Channel, it will also be identified by a remotely operated video camera on Hammond Rock at the narrowest part of the channel. Should a vessel not take a pilot and fail to identify itself, it will be positively identified by surveillance aircraft and subject to legal proceedings when it next enters an Australian port. No attempt will be made to physically enforce the compulsory pilotage regime by denying passage.

#### **Torres Strait**

The Torres Strait is one of the most hazardous and navigationally difficult stretches of water in the world routinely used by international shipping. Geographically, the Torres Strait comprises the waters lying between Cape York Peninsula in the extreme north of Australia and Papua New Guinea. These waters are shallow, usually no deeper than about 13 metres, and strewn with numerous islands, small islets, reefs and shoals. The northern half of the Strait is only navigable by vessels with a very shallow draught, and deep draught vessels are restricted to using narrow channels in the southern part of the Strait between the various islands off Cape York, principally the Prince of Wales Channel immediately north of Hammond Island.

Navigation in the Torres Strait is extremely hazardous. Apart from the complex topography of the area and relatively shallow waters, the tidal regime in the Strait is highly complex and variable.<sup>29</sup> Tidal streams can exceed seven knots. This is an area of confluence between two major ocean systems. Tides in the Coral Sea and Pacific Ocean are semidiurnal while tides in the Indian Ocean are diurnal, causing tides in the Strait to fall into no coherent pattern.<sup>30</sup> The *Australian Seafarers Handbook* warns vessels planning a passage through the Torres Strait that '[A]ccurate calculations and local knowledge are necessary to establish a tidal window for any particular day and draught'.<sup>31</sup> Currents are also very strong, and visibility can be impaired by flash squalls and storms. Radar propagation is frequently degraded throughout the year due to either heavy precipitation during the "wet" season, or sea mist caused by the strong, gusty southeast trade winds in the "dry" season.<sup>32</sup> All in all, it is one of the most dangerous stretches of water in the world routinely used by large vessels.

<sup>&</sup>lt;sup>28</sup> REEFREP is a mandatory ship reporting system adopted by the IMO in 1996. In December 2004, REEFREP was enhanced with the introduction of a vessel traffic service and became the Great Barrier Reef and Torres Strait Vessel Traffic Service (REEFVTS). Commonwealth of Australia, *Australian Seafarers Handbook* (Wollongong, Australian Hydrographic Services, 2007), p. 157.

<sup>&</sup>lt;sup>29</sup> R. Babbage, "The Strategic Significance of Torres Strait," *Canberra Papers on Strategy and Defence* No. 61, Canberra: Strategic and Defence Studies Centre, Australian National University, 1990, p. 3.

<sup>&</sup>lt;sup>30</sup> S. B. Kaye, *The Torres Strait*, The Hague, Martinus Nijhoff Publishers, 1997), p. 4.

<sup>31</sup> Commonwealth of Australia, Australian Seafarers Handbook, p. 111.

<sup>&</sup>lt;sup>32</sup> RAN Hydrographer, "The Meteorological Effects on Maritime Operations conducted in the Torres Strait Region," in Babbage, "The Strategic Significance of Torres Strait", pp. 217–218.

International shipping passing through the Torres Strait uses the Prince of Wales Channel. This passage is narrow, being only 800 metres wide at its narrowest point,<sup>33</sup> and subject to very strong tidal streams. Most ships are bound to or from Australian ports and use the Inner Route of the Great Barrier Reef. However, ships bound to and from South Pacific ports use the Great North East Channel. As shown in Figure 1, ships using the Inner Route pass south-eastwards off Cape York while the vessels using the latter channel proceed north-eastwards towards Bramble Cay to enter the Coral Sea through Bligh Entrance. It is these latter vessels to which the straits' transit passage regime in UNCLOS applies. Ships using the Inner Route pass through Australia's internal waters. This means there are no law of the sea implications, and the passage of these ships does not constitute transit passage within the meaning of UNCLOS Article 38(2).<sup>34</sup>

Information from the Australian Maritime Safety Authority shows that there were 3,187 piloted transits of the Great Barrier Reef Inner Route and Great North East Channel during the year ending 30 September 2007. One third (2,183 transits) used the Inner Route. Thus nearly nine ships per day passed through the Prince of Wales Channel while there were roughly three transits per day of the Great North East Channel and six piloted transits of the Inner Route. In the same period, there were 1,332 piloted transits of Hydrographers Passage, which is used in particular by bulk carriers carrying coal from ay Point and is subject to compulsory pilotage requirements. Mineral exports from Queensland ports are growing rapidly and these figures for piloted transits will have increased since 2007.

#### **Great Barrier Reef**

The Great Barrier Reef (GBR) is a vast system of coral reefs and related structures along the continental shelf of north-eastern Australia extending for 2,300 kilometres from Torres Strait to Lady Elliott Island off Bundaberg in Southeast Queensland. The World Heritage status of the Great Barrier Reef Marine Park (GBRMP) was confirmed in 1981 and it remains the largest World Heritage site in the world.

There is now a comprehensive management regime in place for the GBR administered by the Great Barrier Reef Marine Park Authority, which is a joint agency of the Australian and Queensland Governments.<sup>35</sup> It includes a zoning system, regulations for different activities, assessment processes, contingency plans for responding to oil spills, and so on. A major oil spill in the reef would cause catastrophic environmental damage. The impact of crude oil on mangroves in the Torres Strait was still evident some 27 years after a major spill in the Strait as a result of the grounding of the tanker *Oceanic Grandeur*. Following application by Australia, the GBRMP became the first area to be designated by the IMO as a PSSA.<sup>36</sup>

<sup>&</sup>lt;sup>33</sup> Routeing of Ships, Ship Reporting and Related Matters – Torres Strait PSSA Associated Protective Measure – Compulsory Pilotage, submitted by Australia and Papua New Guinea, 22 March 2004, IMO Doc. NAV 50/3, para. 2.2.5. <sup>34</sup> Kave, The Torres Strait, p. 125.

<sup>&</sup>lt;sup>35</sup> The evolution of the management arrangements for the GBR is described in David Lawrence, Richard Kenchington, and Simon Woodley, *The Great Barrier Reef: Finding the Right Balance*, Melbourne: Melbourne University Press, 2002.

<sup>&</sup>lt;sup>36</sup> Churchill and Lowe, *The law of the sea*, p. 394.

Two routes are available for shipping passing along the Queensland coast: the Inner Route of the GBR and the Outer Route (see Figure 1). The Inner Route, as its name suggest, passes down and through parts of the GBR. North of Cairns, where the reef closes in close to the coast is navigationally intricate and subject to a compulsory pilotage regime that applies north from latitude 16°40' South off Cairns. South of Cairns, the reef diverges way from the coast, and although there are still numerous islands and reefs, navigation is relatively straightforward. The Inner Route is well charted and relatively heavily used by shipping. Various access routes, such as Hydrographers Passage, exist from the Pacific Ocean into the major Queensland ports of Cairns, Townsville, Gladstone and Mackay, and the coal ports of Abbott Point and Hay Point.

The Outer Route is less well-used. Environmental groups over the years have proposed that shipping be banned from the Inner Route other than those vessels proceeding to a Queensland port. These proposals have been rejected on the grounds that an oil spill along that route would be much more difficult to control than one on the Inner Route and could lead to serious environmental damage to the outer edges of the GBR.

The mandatory ship reporting system for the GBR is provided through REEFREP and the vessel traffic functions through REEFVTS. Under these arrangements, all ships over 50 metres in length; all oil tankers, liquefied gas carriers and chemical tankers; and ships engaged in towing with a tow over a certain size are required to participate in these systems. The compulsory pilotage and ship reporting regimes for the GBR have been possible because the Inner Route where these regimes apply, pass through the internal waters or territorial sea of Australia. The system extended South to where the Inner Route passed into the EEZ, but Australia is now proposing to extend the system further southwards into the EEZ.

#### **Recent Developments**

On 3 April 2010, the Chinese bulk carrier *Shen Neng 1*, carrying about 72,000 tonnes of coal, grounded at Douglas Shoal, About 50 miles north of Gladstone.<sup>37</sup> This was outside the coverage of the mandatory ship reporting system for the GBR, which ends at latitude 22° South about 120 miles north of Gladstone. While only a small amount of bunker fuel spilt into the ocean, serious damage was caused to the reef with a scar 1.9 miles long and up to 820 feet wide. The ship's anti-fouling paint was also likely to cause coral poisoning. The ship's hull was seriously damaged with a number of ballast tanks and at least one fuel tank being breached. Fortunately the weather remained calm and the ship was refloated on 12 April after the bunker fuel had been transferred into a fuel lighter.

See Figure 2 - Planned Route and Actual Track of Shen Neng 1

The preliminary investigation showed that the accident occurred when the ship failed to turn at a way point that would have led the ship safely out through the Capricorn Group of islands and reefs. Human factors, including fatigue, distractions and lack of situational awareness were

<sup>37</sup> The preliminary investigation into this incident is available at Australian Transport Safety Bureau, "Grounding of the bulk carrier *Shen Neng 1* at Douglas Shoal, Queensland", *Marine Occurrence Investigation No. 274*, MO-2010-003 Preliminary, April 2010, www.atsb.gov.au

suspected causes of the grounding.<sup>38</sup> The ship's master and chief officer, who was on watch at the time, were later arrested and charged with being liable for a vessel causing damage in a marine park.<sup>39</sup>

The *Shen Neng 1* incident highlighted the need for a reassessment of current measures to mitigate the risks associated with shipping activity in the GBR. As the coastal waters off Gladstone and around the Capricorn and Bunker group of islands are relatively open and not navigationally complex, it was decided that a compulsory pilotage scheme for the area was not warranted. Rather action is being taken to extend the current coverage of REEFREP to the southern boundary of the GBRMP as soon as the requisite traffic equipment could be put in place. As this would extend the REEFREP Ship Reporting System (SRS) area beyond territorial waters into the EEZ where the high seas freedoms of navigation apply under UNCLOS, it was appropriate to submit the proposal to the IMO for approval. The relevant submission was lodged with the IMO on 23 April 2010. Under the IMO safety of Navigation in July 2010 and will be considered for adoption by the Maritime Safety Committee in late November 2010.

# See Figure 3 – Extension of REEFREP Mandatory Ship Reporting

Under the International Safety of Life at Sea (SOLAS) Convention, coastal States may only implement mandatory ship reporting systems in their territorial sea and inland waters. Canada has recently been accused of ignoring this principle with its implementation of a mandatory reporting requirement for foreign and domestic shipping passing through Canada's Arctic waters. While this unilateral action by Canada has been disputed, there are no indications so far that Australia's proposal to the IMO to extend mandatory ship reporting in the GBR will be challenged.

#### Conclusion

Australia has been very active over the years in promoting measures to preserve and protect the marine environment, particularly from ship-source marine pollution. The reasons for the strong Australian position on the marine environment include: first, the "beach culture" of Australians and strong public interest in a pristine marine environment leading to zero tolerance by Australian governments of threats to that environment; secondly, Australia's stewardship of a

<sup>&</sup>lt;sup>38</sup> Keith Wallis, "Fatigue led to Shen Neng 1 grounding", *Lloyd's List*, 15 April 2010, www.lloydslist.com/ll/sector/regulation/article6954.ece

<sup>&</sup>lt;sup>39</sup> Tom Arup, "Crew arrested over reef crash", *The Age* (Melbourne), 15 April 2010, www.theage.com.au/.../crew-arrested-over-reef-crash-20100414-se6l.html

<sup>&</sup>lt;sup>40</sup> Australian Government, *Improving Safe Navigation in the Great Barrier Reef*, Canberra: Australian Maritime Safety Authority, April 2010, p. 10

<sup>&</sup>lt;sup>41</sup> IMO Sub-Committee on Safety of Navigation, "Amendments to the existing mandatory Ship Reporting System in the Torres Strait and the Inner Route of the Great Barrier Reef:

<sup>&</sup>quot;, IMO document NAV 56/3/6, 23 April 2010.

<sup>&</sup>lt;sup>42</sup> Advice from the Australian Maritime Safety Authority 8 September 2010.

<sup>&</sup>lt;sup>43</sup> Leo Ryan, "Canada slammed over mandatory ship reporting rules", *Lloyd's List*, 6 July 2010, www.lloydslist.com/ll/sector/regulation/article172975.ece

large EEZ and environmentally sensitive marine areas, such as the Great Barrier Reef and Torres Strait; and thirdly, a high demand for the services of bulk carriers to carry Australia's mining and agricultural exports so important to the national economy. As is well demonstrated by concerns expressed at the IMO and elsewhere over the years, bulk carriers are generally regarded as the type of ship posing relatively higher risks to the marine environment than other types of vessel.

The precautionary principle is widely accepted in Australian legislation, including in the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), the major piece of national environmental legislation, and the *Great Barrier Reef Marine Park Act 1997*.<sup>44</sup> Both the Australian Government and the governments of the states and territories would be open to strong public criticism if they were not both proactive and precautionary in their actions to protect and preserve the marine environment.

Australia's position on PSSAs and associated measures, as well as on marine environmental protection more generally, reflect the markedly increased international concern for the protection and preservation of the marine environment that has become apparent over the past twenty years or so. This concern was very clear in the 1998 Report by the Independent World Commission on the Oceans, entitled *The Ocean – Our Future*, 45 and continues to be evident in forums such as the World Summit on Sustainable Development in 2002 and the on-going United Nations Openended Informal Consultative Process on Oceans and the Law of the Sea.

Greater concern for the marine environment is the most significant development in oceans management and policy that has occurred over the last two decades. As a consequence of this concern, the freedoms of navigation are no longer the same, or as unrestricted, as those that prevailed in the more laissez-faire environment of the 1970s when UNCLOS was being negotiated. We see this in measures restricting freedom of navigation in various parts of the world, including in Europe and North America. At the heart of the matter are issues related to what the eminent Canadian international lawyer, the late Douglas Johnston, described as the "greening" of the law of the sea. <sup>46</sup> But this remains a contentious issue because others can see increased coastal State regulation of navigation in adjacent waters as a form of "creeping jurisdiction". <sup>47</sup>

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<sup>&</sup>lt;sup>44</sup> Lorne K. Kriwoken, Liza D. Fallon and Donald R. Rothwell, "Australia and the precautionary principle; Moving from international principles to domestic and local implementation" in Donald R. Rothwell and David L. Vanderzwaag, *Towards Principled Oceans Governance – Australian and Canadian approaches and challenges*, London: Routledge, 2006, p. 183.

<sup>&</sup>lt;sup>45</sup> Independent World Commission on the Oceans, *The Ocean – Our Future* (Cambridge, Cambridge University Press, 1998).

<sup>&</sup>lt;sup>46</sup> D. M. Johnston, "The challenge of international ocean governance – Institutional, ethical and conceptual dilemmas," in D. R. Rothwell and D. L. VanderZwaag, eds., *Towards Principled Oceans Governance – Australian and Canadian Approaches and Challenges* (London and New York, Routledge, 2006), p. 379.

<sup>&</sup>lt;sup>47</sup> Beckman, "PSSAs and Transit Passage", p. 349.

# **Biography**

Dr Sam Bateman retired from the RAN as a Commodore and is now a Professorial Research Fellow at the Australian National Centre for Ocean Resources and Security (ANCORS) at the University of Wollongong in Australia, and a Senior Fellow in the Maritime Security Programme at the S. Rajaratnam School of International Studies (RSIS) at the Nanyang Technological University in Singapore. His naval service included four ship commands ranging from a patrol boat to guided-missile destroyer. He was awarded his PhD from the University of NSW in 2001 for a dissertation on "The Strategic and Political Aspects of the Law of the Sea in East Asian Seas". He has co-authored several reports for the Australian Strategic Policy Institute (ASPI), including Sea Change: Advancing Australia's ocean interests (2009) and Our Western Front: Australia and the Indian Ocean (2010), as well as the Policy Paper Good Order at Sea in Southeast Asia — Policy Recommendations for RSIS (in 2009). Recent co-edited publications include Southeast Asia and the Rise of Chinese and Indian Naval Power: Between rising naval powers (Routledge, 2010); and Lloyd's MIU Handbook of Maritime Security (Auerbach Publications, 2009). He is a one-time recipient of the Shadwell Testimonial Prize awarded by the RN for high quality hydrographic survey work undertaken by a non-qualified surveyor.

Figure 1 – PSSA and Shipping Routes through Torres Strait

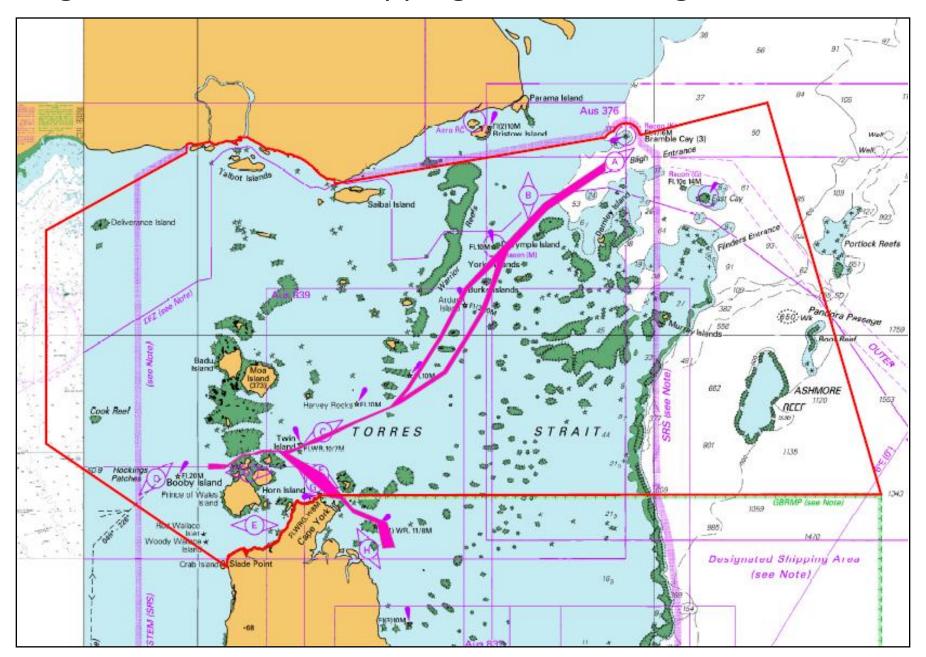


Figure 2 - Planned Route and Actual Track of Shen Neng 1

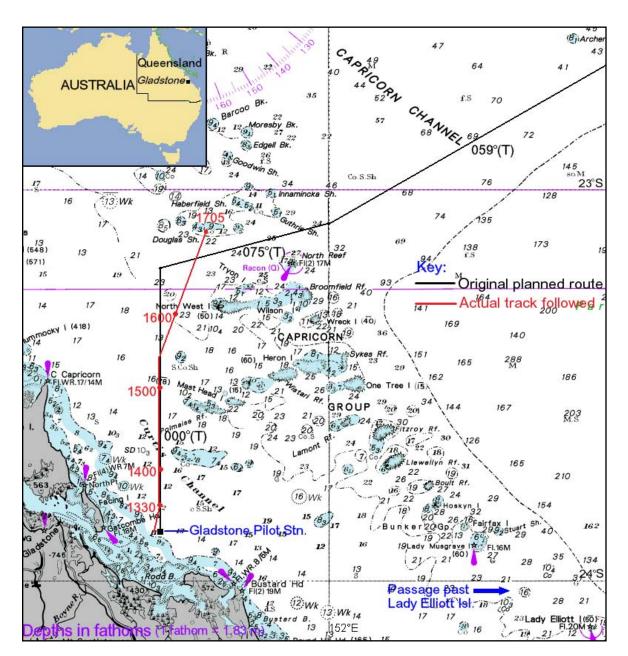


Figure 3 – Extension of REEFREP Mandatory Ship Reporting

