Shipping Hazards and Protection of the Marine Environment: *A Second Chance to Properly Value the World Heritage Listed Great Barrier Reef*

By ***Dr Ted Christie, Environmental Lawyer & Mediator, 08 June 2015***
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Summary

i. ***Australia's Great Barrier Reef is a unique World Heritage Listed Area. It is also an International Maritime Organization designated Particularly Sensitive Sea Area. The Great Barrier Reef requires special protection to reduce its vulnerability to damage from international maritime activities.***

ii. ***Where action is required to repair or mitigate harm arising from damages caused by shipping hazards e.g. the 'Shen Neng 1' grounding disaster in 2010, the Commonwealth's Great Barrier Reef Marine Park Act provides for a Remediation Order.***

iii. ***Many Australians may not have visited the Great Barrier Reef, but still may derive value from knowing that a unique World Heritage property of such global significance was being protected. Also, the expectation that future generations will not be prevented from inheriting the "outstanding universal values" that led to its World Heritage Listing.***

iv. ***"To properly care for one of our greatest assets" for all Australians, the protection of the Great Barrier Reef requires its economic valuation to be extended to incorporate non-market resources e.g. environmental preservation - and so include use and non-use values.***

v. ***Use and non-use values are prescribed as a legal obligation under Queensland's Marine Parks Act 2004– but not the Commonwealth legislation.***

vi. ***To give the Great Barrier Reef the protection it deserves, Australia now has a second chance: By amending the "Offences" provisions of the Commonwealth's Great Barrier Reef Marine Park Act 1975 to not only conserve and protect the marine environment – but also the marine park's use and non-use values***

vii. ***Extending the legislative protection and conservation of the Great Barrier Reef's marine environment to include its use and non-use values is a more effective reflection of the economic value of a unique natural resource: the Great Barrier Reef World Heritage Area. The limitations of remediation for valuing a site of such significant natural heritage and conservation value- especially if damage from a shipping hazard proved to be irreversible – would be offset.***

viii. ***By taking this legislative action Australia would be able to demonstrate the protection of the Great Barrier Reef World Heritage Area as a high priority. A greater awareness and standard for due diligence by shipping traffic would follow.***

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TAGS: UNESCO; World Heritage Centre; Great Barrier Reef; World Heritage 'In Danger' List; environmental damage; compensation; Particularly Sensitive Sea Areas; remediation; existence value; use and non-use values; International Maritime Organization; 'Shen Neng 1'; contingent valuation methodology.

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"It's one of the seven natural wonders of the world and avoiding the UNESCO 'in danger' listing of our spectacular Reef gives us a second chance to properly care for one of our greatest assets."

Brian Williams, Brisbane "Courier Mail" 20 May 201

On 29 May 2015, the draft decision of UNESCO's World Heritage Centre, recommended Australia's Great Barrier Reef not be placed on the World Heritage "in danger" list. A final decision on this issue will be made by the 21 Member Nations of UNESCO's World Heritage Committee at the 39th Session of the World Heritage Committee at Bonn, Germany (*28 June - 8 July 2015*).

In a joint media release, the Australian and Queensland governments stated that:

"The draft decision is a reflection of our strong and decisive actions to protect the iconic Great Barrier Reef and our significant work to address all of the Committee's concerns".

Nevertheless, in acknowledging the work and actions by the Australian Government to address UNESCO concerns for maintaining the World Heritage status of the Great Barrier Reef, the draft decision of UNESCO's World Heritage Centre made this cautionary observation:

"It is essential that [Australia's] *'2050 Long Term Sustainability Plan' delivers its anticipated results in order to confirm that the*

property does not face ascertained or potential danger to its Outstanding Universal Values".

To address this need, government should look beyond managing **existing risks** to the Reef's Outstanding Universal Values - and extend its actions to assess **potential environmental hazards** to its World Heritage status that could become a risk - and the probability of such a risk occurring.

One such potential hazard arises from the 300% increase in worldwide shipping traffic since 1992. The UN Agency, the International Maritime Organization ("IMO"), recognizes that *"this growing industry does not leave World Heritage marine sites immune to its impact"* ***(1)***.

Concerns over potential shipping hazards for the future use of the Great Barrier Reef World Heritage Area ***(2)*** *e.g. groundings, spills or collisions,* exist because it is a vital link in the production chain for many coal and LNG export-based industries in Queensland. The environmental damage caused by the '*Shen Neng 1'* disaster in 2010 is a stark reminder that these concerns are real and not hypothetical.

The Australian Greens Senator, Larissa Waters, and Felicity Wishart, the Great Barrier Reef campaign director for The Australian Marine Conservation Society, have both flagged concern over plans to dramatically increase shipping in the Great Barrier Reef World Heritage Area. One potential shipping hazard is coal port expansion for the Galilee Basin coal mines and the proposal for constructing the world's largest coal port at Abbot Point ***(3)***.

The IMO, through its World Heritage Marine Programme, provides special protection for particularly vulnerable areas, like the Great Barrier Reef.

Places that are recognized for their globally significant marine ecology can be designated by the IMO as "*Particularly Sensitive Sea Areas*" to reduce their vulnerability to damage from international maritime activities ***(4)***.

Australia's Great Barrier Reef was the first IMO-declared *Particularly Sensitive Sea Area* in 1990; it is one of six World Heritage Sites of the fourteen *Areas* designated by the IMO, worldwide.

At the May 2015 IMO meeting at London, the Australian government applied to extend its *Particularly Sensitive Sea Area* in the Great Barrier Reef

to cover key parts of the Coral Sea.

Australian interests at IMO are reflected in the following statement:

> *"Australian ports are expected to expand further in coming decades and international shipping safety, efficiency and* ***protection of the marine environment*** *will continue to be high priorities for Australia within the IMO context" (Emphasis added)* ***(5)***.

However, for a situation to arise where a ship runs aground in the Great Barrier Reef in 2010, causing widespread damage, and for the damage to remain un-remediated five years later, seems inconsistent with Australian interests at IMO. Such a situation creates some uncertainty at the effectiveness of measures taken by Australia to protect the Great Barrier Reef?

On 27 May 2015, the Great Barrier Reef Marine Park Authority Chairman, Dr. Russell Reichelt released a Statement on the grounding of the 'Shen Neng 1' ***(6)***; the damage it caused is the largest known direct impact on a coral reef caused by the grounding of a ship.

On 3 April 2010, the Chinese-registered bulk carrier 'Shen Neng 1' ran aground at Douglas Shoal, north-east of Gladstone. It damaged an area covering 0.4km^2. An estimated 115,000m^2 of the shoal was severely damaged or destroyed. Toxic anti-fouling paint was left on the reef; this would prevent some natural recovery processes commencing. Substantial areas of loose coral rubble were also created by the grounding.

The Great Barrier Reef Marine Park Authority remains concerned about the long-term health of the shoal because of the time that has passed and the absence of any remediation.

Dr Reichelt stated that, from the outset, the Commonwealth was committed to make every attempt to obtain a negotiated outcome with the ship's owner for clean-up and remediation costs. But this pathway to secure funds from the ship owner, or its insurer, to clean-up and remediate the site has, so far, been unsuccessful.

Projected remediation costs to clean-up and remediate the site are huge: in excess of $50 million. Dr Reichelt informed a Senate Estimates hearing in

May 2015 that the Authority could not afford to repair the damage as this was "*a substantial cost beyond the capacity of our budget*".

Dr Reichelt pointed out that as on-going negotiations had not led to compensation being received from the ship's owners, the Authority now has no option other than to pursue legal action under the 1975 Commonwealth *Great Barrier Reef Marine Park Act* in the Federal Court, to commence in April 2016. The Authority will seek damages from the ship's owner for the cost of remediation - or orders requiring remediation by the ship's owner.

The '*Shen Neng 1'* disaster highlights a key issue that arises when a natural resource having significant conservation or heritage value - such as the Great Barrier Reef World Heritage Area - is damaged over a widespread area.

That is, whether remediation of the marine environment will effectively address all economic values of this unique natural resource?

The traditional approach, at common law, for assessing the economic value of a natural resource site that had been damaged was based on **market value,** or **lost profits**; where this was inappropriate, or unavailable, the **costs for remediation** or **replacement** was the alternative.

The approach taken by the Great Barrier Reef Marine Park Authority following the '*Shen Neng 1'* disaster has been to seek remediation costs under the Commonwealth's *Great Barrier Reef Marine Park Act 1975* (s. 61AHA).

The legislation provides for a Federal Court Order to be sought (a *Remediation Order*) requiring the person to take action to repair or mitigate harm to the environment in the Great Barrier Reef Marine Park that has been caused by their conduct e.g. the grounding of a ship.

One standard used by US courts for remediating damage to marine ecosystems is to restore or rehabilitate the environment in the impacted area to its pre-existing condition - or as close to as is feasible. As a guide, matters to be taken into account include: "*technical feasibility, harmful side effects, compatibility with or duplication of such regeneration as is to be expected naturally, and the extent to which efforts beyond a certain point would become either redundant or disproportionately expensive.*"

But relying on *market value* or *remediation* of the damage may have limitations for valuing some natural resources, especially if the damage was irreversible. Specifically, to preserve as well as to reflect the economic values of "*unique*" natural resources - particularly sites having high conservation value or significant natural or cultural heritage values.

Environmental economists recognize that natural resources have two types of economic value: **"use values"** and **"non-use values"** ***(7)***. In essence, the total value of environmental goods, such as a natural heritage site of high conservation and natural heritage significance, like the Great Barrier Reef, incorporates both *use* and *non-use values*.

The contingent valuation method ("CVM"), a survey-based economic technique, is widely-used to value both *use* and *non-use values*.

An early United States example of applying CVM in litigation to value *use* and *non-use values* arose in 1989; damage to the marine environment from an oil spill from the supertanker '*Exxon-Valdez'* spread out over 1600 km of ecologically significant coastal waters in Alaska's Prince William Sound.

The term **"use value"** aims to capture values for things that are not traded in the market place; it simply represents the worth of natural resources to people who use them. A distinction is made between a "*consumptive use*" (e.g. a lost resource use for recreational fishing) and a *"non-consumptive use"* (e.g. scuba diving, bird watching, snorkelling, sailing, photography).

*"***Non-use values**" of natural resources (also referred to as **'passive use'** values) are values that do not directly involve actual human use. *"Non-use values"* describe the values assigned to the simple knowledge that something exists ("*existence value*"), the potential for its use ("*option value*"), or the expectation that it will be of value to future generations ("*bequest or inter-temporal value*") **(8).**

However, *use* and *non-use values* are not commonly prescribed as a legal obligation in environmental conservation and protection legislation.

It is important to be aware that the Commonwealth*'s Great Barrier Reef Marine Park Act* prescribes a collaborative approach of shared responsibility

for the management of the Great Barrier Reef World Heritage Area between the Commonwealth and the Queensland Governments [Section 2A(3f)].

The State of Queensland is responsible for managing the Great Barrier Reef and a State Marine Park established under Queensland's *Marine Parks Act 2004*: The "*Great Barrier Reef Coast Marine Park*". This Marine Park runs the full length of the Commonwealth's *Great Barrier Reef Marine Park*.

While the activities that can be carried out within both Marine Parks are generally the same, there are some legislative differences.

One significant difference is the *"Offences"* provisions in Queensland's *Marine Parks Act*: Specifically, its inclusion of *use* and *non-use values* as elements of an environmental offence. This is a first for Australian legislation.

Queensland's *Marine Parks Act* defines "*Serious environmental harm*" as:

> *"...for a marine park that is a highly protected area, an area of high conservation value or special significance—**actual or potential harm** to the area's environment or **use and non-use values**"* [at section 50(4)(b)] (Emphasis added).

Next, Queensland's *Marine Parks Act* (Schedule, Dictionary) defines ***"use and non-use values"*** of a marine park to include value derived from:-

"(a) Taking, using, visiting or viewing the park's natural or cultural resources;
(b) The ecological functions and processes of the park's environment;
(c) The park's potential future use or benefit, including, for example, its use for biodiscovery;
(d) The mere existence of the park's natural and cultural resources;
(e) The use or non-use of the park's natural and cultural resources by future generations".

Queensland's *Marine Parks Act* prescribes legal obligations that enable actions to be taken to prevent or minimise harm to the marine environment or the marine park's *use* and *non-use values*; as well as to rehabilitate, restore or conserve the marine environment or a marine park's *use* and *non-use values*. The Act also provides compensation for the State when taking any of these actions ***(9)***.

The Commonwealth's *Great Barrier Reef Marine Park Act* does not prescribe *use* or *non-use values* in its *"Offences"* provisions. Amendments, in this regard, would demonstrate Australia's high priority for Reef protection.

Hyperlinks and End Notes

1. The London-based International Maritime Organization ("IMO") is the United Nation's specialized agency with responsibility for the safety and security of shipping and the prevention of marine pollution by ships. It provides special protections for particularly vulnerable areas.
http://www.imo.org/ourwork/environment/pssas/pages/default.aspx

2. The Great Barrier Reef Marine Park occupies about 99% of the Great Barrier Reef World Heritage Area.

3. http://greens.org.au/node/11168
https://fightforthereef.org.au/federal-government-funding-cuts-mean-australia-isnt-prepared-to-deal-with-next-shen-neng-reef-shipping-disaster/

4. http://www.imo.org/OurWork/Environment/PSSAs/Pages/Default.aspx

5. http://www.amsa.gov.au/community/international/imo/

6. http://www.gbrmpa.gov.au/media-room/latest-news/corporate/2015/shen-neng-1-grounding

7. *Existence value* is the worth to the community to know that a given natural resource was being protected;
Option value is the value of a natural resource for the option for its future human use to be preserved or maintained. People have the option to enjoy something in the future: the source of benefit is the future rather than its actual present use value; and
Bequest (or Inter-Temporal) value is a value that people place on a natural resource as a bequest to future generations. Its value comes from knowing that a natural resource will be inherited by future generations giving them the option to enjoy.

8. Jason J. Czarnezki and Adrianne K. Zahner, *The Utility of Non-Use Values in Natural Resource Damage Assessments*, 32 B.C. Envtl. Aff. L. Rev. 509 (2005),
http://lawdigitalcommons.bc.edu/ealr/vol32/iss3/3

9. Queensland's Marine Park Act, at section 139(1)a) enables "*action to be taken to prevent or minimise harm to the marine environment or a marine park's use and non-use value…; and to rehabilitate, restore or otherwise conserve the marine environment or a marine park's use and non-use values …"*
Section 139(1)c)] provides for compensation to the State *"in taking future action to be taken to prevent or minimise harm to the marine environment or a marine park's use and non-use values…; and to rehabilitate, restore or otherwise conserve the marine environment or a marine park's use and non-use values …"*

About Dr Ted Christie

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