The watery realm: An extremely important environment

Postcards From the Edge

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Abstract

Spanning two major ecosystems, the GBR and its catchments, this paper explores fragments of culture-postcards-as they circulate between river and sea. It examines some of the more pragmatic assessments of cultural values surrounding 'fresh' water and contrasts those values against the more ideological positions that are espoused for the GBR. Highlighting the irony that-although they are undeniably connected-fresh and salt water are posited as somehow opposite, this presentation examines some of the ideological ways that salt and fresh ecologies and heritages are viewed as phenomenologically distant and circularly defined against each other in the GBR province.

The Australian government has identified potential water quality problems arising from land uses in the GBR catchments and is currently working with state government and regional groups on plan to improve water quality. The 'Coastal Catchments Initiative' requires development of water quality improvement plans which identify issues of concern for water quality and strategies to improve it. This process has involved formulation of practical ways to identify cultural values surrounding water that can be used to set aspirational targets and quantified as water quality objectives. Determining values in this context is not yet a highly contested space and is instead a pragmatic and highly variable process.

This Great Barrier Reef ecosystem has consistently faced 'water quality' issues. In the 1960's experimental large-scale oil spills, gas and oil exploration, nuclear demolition of shipping channels, and clear-cut coral mining were all discussed-in Australian federal parliament-as potential activities to best utilise the resources of Great Barrier Reef. In 1981 the GBR became a World Heritage listed site, and by 2003, 94% of the polled population wanted even more protection put in place for the Great Barrier Reef. One of the significant

values that has been placed on the reef, is not a use-value per se, but a cultural value of beauty and aesthetic worth.

The Great Barrier Reef (GBR) is a national icon, a marine park, and a World Heritage area. The protection of the many GBR values from threats is therefore high priority for the Australian and Queensland governments and of interest to UNESCO. The management challenges are extensive and increasing, particularly deciding between alternative uses of the Marine Park and reducing pressures on it. These responsibilities are undertaken by the Great Barrier Reef Marine Park Authority (GBRMPA) on behalf of State and Commonwealth governments.

Pressures on the marine park have been identified as; water quality; climate change; coastal development; tourism; fishing; and shipping (Commonwealth of Australia, 2006). As many of these threats are generated outside the Marine Park jurisdiction, the GBRMPA is responsible for managing not only the area within its jurisdiction but also influencing decision making in, for example, its surrounding local government areas (development planning) or catchments (water quality). It is at these 'edges' of management responsibility that some of the more interesting questions of value can be addressed.

One such 'edge' is where river meets the sea, protecting the GBR values from water quality pressures from contributing river catchments. The GBR catchments (26 in all) include many major river systems, wetlands, and estuaries. The water quality output has been shown to adversely affect near shore marine water quality (Great Barrier Reef Marine Park Authority, 2001), inshore reefs (Jupiter, 2006) and also the GBR as investigated by Guy Marion using satellite imaging techniques (Saxby, 2004, Marion, 2007). Of greatest concern however, is that water quality is continually declining, we have the potential to go over

the 'edge' or threshold which maintains the GBR ecological systems as the diverse systems they are. Attention on managing water quality in GBR catchments has recently increased. The Reef Water Quality Protection Plan (The State of Queensland and Commonwealth of Australia, 2003) identifies its goal as halting and reversing the decline in water quality entering the reef in ten years. The two key objectives of this plan are to reduce the load of pollutants from diffuse sources in the water entering the reef and to rehabilitate and conserve areas of the reef catchment that have a role in removing water borne pollutants.

Management approaches for GBR protection and water quality improvement are driven by different values. Water quality management is still a relatively new phenomenon in Australia since the development of the National Water Quality Management Strategy (Environment Australia, 1992) and most recently through the Coastal Catchments Initiative (Environment Australia, 2002). GBR catchments have been identified as part of the Coastal catchment initiative and groups are currently preparing Water Quality Improvement Plans for their catchments. There is potential for significant tension between GBR water quality requirements and current water quality improvement planning processes.

The WQIP process posits values of the GBR against values of the freshwater in catchments (Broderick, 2007). The process of developing a water quality improvement plan comprises three stages: ascertaining values and setting targets for water quality protection; defining water quality objectives; and developing management actions for improving water quality in the catchments. Values underlie each stage of the process but are particularly evident in the defining of water quality values and in applying these in the process of developing a Water Quality Improvement Plan (WQIP).

The non-use values of the GBR are under pressure from declining water quality and are identified in National Park and World Heritage listings. These values are still open to some interpretation but are generally not in question. The values of freshwater systems in North Queensland, as in other places in Australia, have been historically associated with agricultural productivity. Water has been perceived by many as having only 'use' values, indeed any water that flows to the sea is considered 'wasted' by locals (Peters, 2007) .

Water quality values are 'calculated' for the purposes of WQIP's using a total economic value approach (Environment Australia, 2002, Peters, 2007, Greiner and Hall, 2006). Though there is some variation in requirements for deriving water quality values, in the various states and territories, they all require some determination of environmental values. Examples of the determination of cultural values for water quality are also described in terms of 'critical assets' in NRM plans (Bennett et al., 2005). The procedures for gathering this information are still new but generally involve determining water quality requirements for ecosystems use, human use, and human non-use values. Human values, and in particular those referred to as 'non-use' or 'social values' in water planning are of particular interest as these are often referred to as the cultural values (McIntyre-Tamwoy, 2004).

In the GBR catchments, water quality values have been calculated for the Tully-Murray Rivers, Lower Burdekin, and Douglas Shire (Smith et al., 2005, Bohnet et al., 2007, Lankester and Dight, 2006). Though these studies use varied methodology, they are based on a framework developed by the Queensland EPA (Bennett et al., 2005). The studies involve community members articulating their values for their river systems. Environmental values for water may include: aquatic ecosystems; primary industries; recreation and aesthetics; drinking water; industrial water; and cultural and spiritual values (Commonwealth of

Australia, 2002). Of these, the values studies involving eliciting community input are focussed on recreation and aesthetics, or cultural and spiritual values. The process involves stakeholders, usually in a focus group or interview setting, in identifying important values associated with place.

Studies of values in relation to water tend to capture cultural values as static and place related (Jackson, 2006). Determining social values is the subject of growing contention (Jackson, 2006, Gibbs, 2006). There are three important implications of this data collection and interpretation that are largely ignored in planning processes where a 'pragmatic' approach to research is adopted. Firstly, deciding who is to be involved and whose values are identified is important and perhaps not enough attention is paid to a situated analysis of people in place (Scoones, 1999). Secondly when people are asked what they value about their rivers, they are not necessarily aware of what aspects of rivers are important to maintain their values. It is then left to scientists to determine what conditions a particular value requires. In this translation of value into water quality objective there is potential to lose much of the nuance of the value. Adopting a constructivist view of knowledge of river water quality may alleviate this problem (Gill, 2006). Finally, when data collection is able to identify people's most strongly held beliefs how these are traded off with other planning pressures is unclear. The planning process at this stage becomes a 'black box' that is open to misinterpretation and manipulation depending on a range of procedural and political factors.

The development of WQIP's is a value-laden process. The collection of environmental values data is not a discrete activity but generally part of a planning process that will affect water allocations or land management practices in the catchment. The people involved often have many relationships with the river and its catchment and may therefore be considering other implications of

their involvement. It is anticipated that a rational approach to determining values, developing water quality objectives and management actions to improve water quality will deliver improved water quality to the reef. However reason doesn't always prevail and the collection of values data and participatory activities associated with plan development are sites for the enacting of power relations between community members and between local and regional governments (Gray, 2005). Though there is recognition of uncertainty and complexity in this process through the identified need for an adaptive management approach to water quality improvement, there is little recognition of the values that underpin the process of plan development (Hillman, 2003).

This is not to pour too much water over current management approaches. Adopting an adaptive approach means there is opportunity to learn to understand culture in relation to water quality and adopt processes that explicitly address differences in values (Dowling, 2000, Gray, 1992, Martin, 1997). River water quality management is a relatively new phenomenon in Australia and these processes are in their infancy. We must turn attention to culture and social processes as important considerations in water quality improvement. The edge of values and management process should prove productive ground for improving water quality.

As Tim Bonyhady has pointed out, since the early days of colonisation by the British, the ideals of Australian environmental preservation have been driven by both pragmatic and aesthetic interests (Bonyhady, 2002). Historically, these interests have been posited as an oppositional binary, with the prosaic progress of industry and the well-being of the working classes ostensibly poised against the more idealistic concerns of the middle classes. The utilitarian versus the aesthetic. Practical water quality was one of the earliest environmental concerns, and consequently became one of the earliest conservation regulations

of the nation when John Hunter, Governor of New South Wales, forbade the pollution of Tank Stream (Flannery, 1994: 176-8, 189-93). However, aesthetic interest in the landscape was a parallel environmental investment in the Australian landscape strongly evidenced as far back as the Endeavour journals of Joseph Banks and James Cook. In Queensland, along the shorelines of the Great Barrier Reef province, this historically-grounded divergence of colonial Australian environmental values is still being played out. However, in a marine park and a World Heritage Area directed by the ideals and practicalities of multi-usage, the 'realistic' must work with the 'romantic', the 'economic' with the 'idealistic', and the 'pragmatic' with the 'aesthetic'.

Standing on the western edge of the Great Barrier Reef World Heritage area-where fresh water meets salt water-most of us would be hard pressed to see much evidence of the visually appealing coral reefs that comprise the Great Barrier Reef. The reefs, which actually make up a very small percentage of the Great Barrier Reef region, are built upon the Continental Shelf, and are positioned between 16 and 160 kilometres from the shore. Additionally, even if one does leave the shore and sets out to see the reefs at closer quarters, eighty-five per cent of reef tourism takes place on less than ten per cent of the Marine Park area (GBRMPA); leaving roughly 315,000 square kilometres of the Reef's underwater realm largely unexplored and unseen firsthand by Reef visitors. Of course the untouristed coral reefs are not left entirely in spectacular seclusion, and the work of photographers and film-makers has made even the most remote and isolated regions of the Reef visually 'accessible' to most of the world. Thus, the scenically spectacular 'edges' of the Great Barrier Reef-the ones that are teeming with bright flashes of marine life and which have become iconically representative of the Great Barrier Reef as one of the seven natural wonders of the world (CNN, 1997)-are a pastiche of the perimeters of individual

reefs, rather than the boundaries, or even the beaches bordering the Great Barrier Reef Province.

The visual appeal of the Reef-the undeniable aesthetic charisma of its edges-has emerged as a significant constituent of our understanding and appreciation of the Reef. It was, as Judith Wright explains, the desire to save "that thousand mile stretch of incomparable beauty" that inspired early conservation efforts in the mid-1960's (xiv), and when the Reef was listed as a World Heritage Area in 1981, one of the listing-criteria that it met incontestably was that it contains "areas of exceptional natural beauty" (quoted by DOEWR, criterion iii). Celmara Pocock has noticed that contemporary management discourses surrounding the aesthetic valuations of the Great Barrier Reef are consistently dominated by discussions of the visual (Pocock, 2002b). Indeed, as Rosaleen Love has pointed out people-travellers, scientists, scholars, managers, tree-changers and sea-changers-have, for years, come to the Reef, at least in part, simply because "It's beautiful" (10).

Since it is, at least to me, blatantly obvious that the Reef is beautiful and that beauty warrants as much protection as we can offer, enthusing about the visual splendour of the Reef's underwater world, although it is tempting, would serve little productive intellectual purpose. Instead, what I propose, in keeping with the theme of this conference, is to push the ideality of the aesthetic appeal of the Reef to its extremes, and question if the beauty of the Reef may have, in some important ways, become over-determined. The photographer Diane Arbus has famously spoken of "the endlessly seductive puzzle of sight" (Clarke, 1997: 28). What I want to do here is to mull over the stakes of the aesthetic puzzle of the Great Barrier Reef, and question what, exactly, might be won or lost in that visual seduction. In short, I am going to look at fragments

of the dangerous beauty and one of the beautiful lies of the Great Barrier Reef- the pretty postcards that can deceive.

This sort of reflexive critical inquiry, or extreme re-evaluation of normative values, is beneficial, indeed imperative, to the evolution of adaptive management strategies. Because some ways of knowing, representing, seeing, or valuing the Great Barrier Reef (in this instance as visually beautiful) seem so uncomplicatedly obvious, it is easy to assume their ineluctable 'naturalness' or incontrovertible status as 'common sense'. The failure to recognise any possibility of a different way of interpreting the same clusters of information beyond normative limits renders these constellations of value-laden information effectively invisible. Thus, these assemblages of implicit aesthetic valuations and visual preferences become, at a fundamental level, potentially ambiguous or deceptively seductive constituents in defining acceptable environmental quality. These always-already presuppositions that predicate our understandings of the Reef are not unproblematic recognitions of an external reality, but a series of constructions that provide a lens through which we make sense of the world. An important step in the development of any realistic and rational strategy, theory, agenda, or agreement is the examination of basic assumptions. When these a priori assumptions are not made as explicit as possible, they cannot be addressed, and thus cannot inform effective management strategies in any meaningful way. If these assumptions are not understood, there is no way to gauge their impact on the physical environment. This becomes particularly important when it is recognised that technological changes can quite quickly change or shift implicit assumptions that we bring to our interpretations of the Great Barrier Reef. (Pocock, 2002a: 289), and thus have the capacity to change the way we think about and value the Great Barrier Reef.

Important public decisions about the Great Barrier Reef emerge from a complex and ongoing process that Robertson and Hull, in their discussions of public ecology, have aptly named a "tournament of value" (2000 106, 2001 973). Conservation choices are negotiated by processes that require multiple stakeholders to balance conflicting agendas and negotiate difficult tradeoffs. Consequently, it is imperative that these decisions-practical decisions that will determine acceptable, possible, and future conditions of ecological well-being of the Reef-be choices informed, as far as possible, about the 'hidden agendas' implicit in our valuations of the non-tangible heritage of the Great Barrier Reef.

The Great Barrier Reef is beautiful. It is not pristine. Pristine is an absoloute term-an extreme term-it is not a relative term. There is no such thing as more pristine, less pristine, or most and least pristine. No matter how delightfully the encomium of 'pristine beauty' rolls off the tongue, the Great Barrier Reef has never, in the roughly 10,000 year history of its present form, been entirely untouched or unaffected by humans (Morwood, 1993: 175-6), and is currently experiencing "system-wide decline" due to anthropogenic influences (Bellwood et al., 2004: 827). Indeed, as Jeremy Jackson points out "oceans are not wilderness" and there is absoloutely no such thing as a pristine coastal ocean anywhere in the world today (Jackson, 2001: 5416). Additionally, and this is particularly important in a protected area guided by 'science-driven' management, "our basic concepts about the ecology of pristine marine ecosystems have hardly been questioned" (Jackson and Sala, 2001: 273). Although the Great Barrier Reef does boast the important distinction of being one of the least-degraded and best-managed coral reef systems in the world (Pandolfi et al., 2003), to posit its condition as pristine is dangerous. This is not just a prissy argument of pedantic semantics. If we value the beauty of the Great Barrier Reef, at least in part, because it appeals to absoloutist

notions of untouched wilderness and untrammelled purity, we are celebrating something that does not exist, or, at best, something which exists only in the imagination.i As such, any notion of the pristine beauty of the Great Barrier Reef is a spurious ideality that can too easily facilitate head-in-the-sand responses of denial and despair.ii

To posit the Reef as pristinely beautiful suggests that, despite increasingly potent anthropogenic and environmental pressures being placed on the Reef, there has been absoloutely no detrimental impacts on the ecosystem is, to put it bluntly, ridiculous. I will use just one representative instance from the many available examples of where this sort of plausible deniability leads. No underwater documentary extolling the aesthetic splendour of the Great Barrier Reef is complete without at least a few frames capturing the primordial beauty of a sleekly cruising reef shark. The experience of seeing sharks is also a pleasure that SCUBA divers list as an important contributory factor in a positive firsthand Reef experience (Miller, 2005). Sharks are iconically connected to Great Barrier Reef. However, recent population models of the Great Barrier Reef have revealed that the two most abundant reef shark species are facing a decidedly precarious, if not entirely grim, future. Whitetip reef sharks are decreasing by seven per cent every year. Gray reef sharks are faring even worse, and declining by seventeen per cent every year. It is not too difficult to see that these shark species are in trouble, and, if current commercial and recreational fishing regulations and trends prevail, these aesthetically appealing species are doomed to ecological extinction on Great Barrier Reef (Robbins et al., 2006). The ongoing population collapse of these apex predators is almost certainly guaranteed to have a negative effect on the ecological health of the Reef as a whole (Myers, 2007). How can we even consider positing such a reef as pristine-a reef where the sharks on the

postcards are on the edge of ecological extinction? How much do we have to ignore to maintain a seductive fantasy of pristine beauty-and at what cost?

The myth of pristine beauty is a double-edged sword. On one side is the dangerous tendency to shift baselines, and thus accept each step down the staircase of environmental decline as a 'new' benchmark of 'pristine' nature-denial. A second dangerous edge is that as the Reef continues to undergo changes due to a wide range of pressures, less and less of it will meet demands to provide the elusive aesthetic pleasures of an ostensibly 'pristine' reef, and we will give up on preserving the Reef-despair. Indeed, the grail quest for what is imagined as 'pristine beauty' may well follow the path of terrestrial eco-tourism and result in serial exploitation and degradation (Burton, 1998). What happens when we run out of reefs that meet the visual standards or 'pristine-enough' to be aesthetically attractive? For example, this past May, Townsville's SunSea announced that they would no longer be taking SCUBA and snorkel cruises to John Brewer Reef, but would instead be going further offshore to what they announced as 'Pristine' Kelso Reef. We have accepted that the Great Barrier Reef is 'valuable', at least in part, because it is beautiful. If it is the postcard standard of colourful fishes, vibrant coral, and thirty-metre visibility that defines a 'beautiful enough' reef is there a danger of de-valuing reefs just because do not meet our established aesthetic standards?

Richard Fitzpatrick has acknowledged that much of the underwater filming that he has done for major documentary producers has been filmed outside of the Great Barrier Reef Marine Park because the inner reefs no longer meet the aesthetic standards demanded by major networks (Williams, 2003). If the reefs of the Great Barrier Reef looked 'unattractive' by the aesthetic standards we have set for them, would we, the interested public or, in governmental terms, the end-users, care as much? Or, would we, like the BBC simply abandon the 'degraded'

or 'visually unappealing' Reef and move on to celebrate the 'pristine' beauty of something somewhere else? The Representative Areas Programme that is currently in place in the Great Barrier Reef Marine Park, which makes up slightly more than ninety-nine per cent of the World Heritage Area, is a network comprised of seventy interconnected bioregions, of which thirty are coral reef bioregions. Indeed, some of the vitally important regions of the Reef are not classically beautiful at all, unless you are particularly fond of mud flats and sea grass, but are, however, absoloutely imperative to the ongoing well-being of the Great Barrier Reef ecosystem.

The ideality of a beautifully pristine Great Barrier Reef denies the history and heritage of the Reef and despairs of its future. The notion that freshwater is 'wasted' if it is not 'utilised' before it reaches the sea ignores environmental values that do not serve immediate pragmatic needs. These ways of thinking are well-worn artefacts of a colonial history that perpetuates an unproductive, too often destructive, opposition of environmental aesthetics and environmental practicalities. Adopting the concepts of an 'Extreme Heritage', however, allows for the inclusion of ways of thinking that challenge normative assumptions about how we value and preserve the Australian environment-both practically and ideologically, and are imperative questions in the evolution of adaptive management processes and programmes. Pushing our conservation values 'to the edges'-testing those limits and blurring those boundaries (in this instance between practical water quality management and idealistic marine aesthetics) insists that the Australian landscape is not, despite how we have modelled it intellectually, a disjointed and fragmented space. Rather, it is a complex web of real and imagined elements that need to be considered-both critically and compassionately.

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i The notion of pristine wildernesses in terrestrial systems has been, for the most part, debunked. See, for example, Adams, Cronon, Denevan, Kalamandeen, Sluyter, and Wills.

ii These paired terms have come notably into the public lexicon since the release of An Inconvenient Truth. GUGGENHEIM, D. (2006) An Inconvenient Truth.