*‘It’s part of me’; understanding the values, images and principles of coastal users and their influence on the social acceptability of MPAs*

# Abstract

Improving the social acceptability or ‘social licence’ of Marine Protected Areas (MPAs) is a key challenge facing countries all around the world. As the world moves slowly towards the establishment of a global network of MPAs, it is increasingly apparent that a greater understanding of social responses to MPAs is required, given they are often met with resistance from local communities. A series of in-depth, semi structured interviews were conducted across coastal users in New South Wales, Australia, including surfers, recreational fishers, professional fishers, spearfishers, walkers, divers, snorkelers, kayakers and other community members. The research identified the values, images and principles at work amongst coastal users to determine the dominant ‘cultural models’ within the community and how these models influenced attitudes towards MPAs. This research indicates that traditional consultation models may not be sufficient to address the full spectrum of community needs, and in fact suggests the need to re-conceive the make –up of ‘the community’ itself. In the context of MPA planning ‘the community’ is not an amalgamation of a range of homogenous stakeholder groups but instead a diverse and complex mix of identities and value systems which are not confined to particular interest groups. Incorporating consideration of the diverse range of values, images and principles found within and across stakeholder groups will require new and innovative approaches to participation and management.

**Keywords**

Social values, marine protected areas, principles, recreational fishing, interactive governance theory, cultural models, coastal zone management

# Introduction

There have been intensive worldwide efforts over the past two decades to build a network of Marine Protected Areas (MPAs) designed to arrest alarming losses of global marine biodiversity and safeguard marine ecological processes (Convention on Biological Diversity 2006). While initial efforts focused on ensuring the biological integrity of these MPAs, in more recent times it has been recognised that this was often at the expense of an adequate understanding of the social and economic consequences of MPA implementation (Agardy et al. 2003, Christie 2004, Agardy et al. 2011, Voyer et al. 2012). ‘Interactive governance’ is an emerging theory gaining traction in the field of fisheries social science but is largely unexplored in the field of Marine Protected Area (MPA) planning and management (Jentoft 2000, Kooiman et al. 2005, Degnbol et al. 2006, Jentoft 2006, 2007, Jentoft and Chuenpagdee 2009). It provides a new methodological approach to exploring the social dimensions of conservation and natural resource management which is explored in this paper.

Interactive governance theory recognises governance as a relationship between two systems – the ‘governing system’ and the ‘system to be governed’ (Jentoft 2007, Jentoft and Chuenpagdee 2009). The ‘governing system’ is man-made and includes the institutions, management mechanisms and instruments that guide planning and management processes. The ‘system-to-be governed’ is partly natural and partly social and includes the ecosystem and resources as well as users and stakeholders. The ‘governing system’ attempts to influence the way in which the social and natural sub-systems of the ‘system-to-be governed’ interact through the ‘governing interaction’.

Interactive governance theory argues that attention needs to be given to both sub-systems in order for governance to be effective (Jentoft 2007, Jentoft and Chuenpagdee 2009, Jentoft et al. 2012). This necessitates an approach to governance that considers social and ecological systems and the relationship between them in an inclusive and integrated way. While there have been considerable efforts to improve understanding of the natural ‘system to be governed’ in the field of MPAs (eg see Edgar and Barrett 2012, Roberts 2012, Edgar et al. 2014), there is increasing recognition that the role of the social ‘system to be governed’ has been a neglected area of inquiry and research (Mascia 2003, Blount and Pitchon 2007, Symes and Hoefnagel 2010, Voyer et al. 2012). This is despite recognition of the importance of social factors in determining the success or failure of an MPA (Kelleher and Recchia 1998, Mascia 2003, Blaustien 2007, Blount and Pitchon 2007, Ingram 2008, Northcote and Macbeth 2008, Suuronen et al. 2010, Voyer et al. 2012). This is likely to have resulted in ‘governing systems’ that only partially address the complexities of the ‘system to be governed’ by focusing primarily on the non-human ecosystem components of the system.

Interactive governance theory places *values, images and principles* at the heart of the social ‘system to be governed’. *Values* can be defined as ‘what is desirable’ and are usually attached to objects, places, relationships and practices. While an abstract notion, values help form a sense of identity and place and are key drivers of decision making and governance approaches (Song et al. 2013, Poe et al. 2014). For marine park users the value they place on a marine environment, or their use of that environment, is likely to have a major influence on how they respond to management efforts, and in particular, to restrictions on their use (Poe et al. 2014).

*Images* are defined as a ‘way of seeing’ or ‘worldview’ which influence the way we understand and interpret the world. Images are theorised as a ‘representation of what people believe, what they perceive could happen and what they think should be’ (Jentoft et al. 2012). A review of a number of MPAs in Spain using interactive governance theory found that the images people held about the marine environment, such as health or level of vulnerability, were influential in determining their responses to the MPAs (Jentoft et al. 2012). Despite their powerful influence on peoples’ responses to management interventions such as MPAs, however, images are usually implicit, and are rarely examined or challenged (Song et al. 2013).

Finally, *principles* are informal ‘codes of conduct’ or operating guidelines that people refer to internally to define how they think an MPA should be implemented and managed and whether they believe particular actions are ‘right’ or ‘wrong’. Similar to what are sometimes referred to as ‘norms’, principles are the most tangible of the three concepts as they refer to practical responses and techniques that are readily understood by the community (Epstein 2006, Song et al. 2013).

Understanding community values, images and principles has the capacity to provide significant insight into areas of contestation. Song et al (2013) theorised that ‘*what is most meaningful may not be the separate accounts of the values, images and principles that people hold but how they work as a whole to influence governance processes and outcomes*’ (p172). This paper attempts to explore this notion further and makes use of the theoretical framework of interactive governance theory in conjunction with the concept of ‘cultural models’. Analysing the way values, images and principles intersect gives insight into these models (or ‘worldviews’), that individuals use to interpret the world and determine their conception of the ‘correct order’(Thompson 2007, Stocker and Kennedy 2009). Cultural models are analogous with what is known as ‘common sense’ – a widely shared view of the world which influences people’s perception of what is and is not appropriate behaviour. They also influence peoples understanding of the biophysical and social world (Thompson 2007, Stocker and Kennedy 2009). Just as people differ in their perception of what constitutes ‘common sense’, the dominant cultural models in society tend to differ, and in many cases clash, causing conflict within the community about acceptable actions, ideas and behaviours (Thompson 2007, Stocker and Kennedy 2009). Understanding the values, images and principles that underpin these cultural models may also facilitate a greater understanding of the areas of conflict between different cultural models (Thompson 2007, Stocker and Kennedy 2009, Song et al. 2013). Thompson (2007) identified seven cultural models relevant to coastal property (Table 1).

*{Insert Table 1 here}*

In this paper the interaction between values, images and principles is examined in order to inform our understanding of the cultural models that influence community attitudes towards two mainland marine parks in NSW, Australia. Conflict over marine park management, and particularly the location and size of ‘no-take’ components of the parks, has been common in these parks and many other MPAs around the world. Yet, to date, efforts to ameliorate this conflict have been hampered by a limited understanding of its social and cultural drivers (Agardy et al. 2003, Voyer et al. 2012, 2013). This study focused exclusively on coastal users, particularly users of open coast beaches and headlands in the marine parks, and identified the key values, principles and images held by these users as well as their support for no-take zones in coastal areas. The focus on coastal users was in response to a Government decision to temporarily allow recreational shore-based line fishing in open coast beaches and headlands no-take (sanctuary) zones throughout mainland marine parks while additional ecological, social and economic assessments were undertaken.

The study was part of that assessment and identified the predominant cultural models that were operating amongst the research participants and the areas of conflict that need to be addressed or acknowledged when making management decisions in relation to management of shore-based extractive activities in the marine parks. It also provides insight into areas of agreement, which can be used as the basis for negotiation and consensus building between conflicting cultural models.

# Materials and Methods

## Research methods

Qualitative research techniques were used to evaluate the social values, images and principles associated with ocean beaches and headlands (hereafter referred to as ‘the coast’) amongst a range of coastal users. There are five mainland marine parks along the NSW coast: Cape Byron, Solitary Islands, Port Stephens-Great Lakes, Jervis Bay and Batemans marine parks. The Solitary Islands Marine Park (SIMP) and Batemans Marine Park (BMP) were selected to provide geographical diversity by representing, respectively, the north and south coasts of NSW. Both have a heavy reliance on coastal areas within their local economies and strong maritime histories (Marine Parks Authority 2006a, 2008, Hoskins 2013). The SIMP was declared in 1998, and the BMP was declared in 2006 (Marine Parks Authority 2012).

A preliminary literature review revealed a diversity of uses of the parks, which can be loosely classified as active, passive, commercial and community uses (Table 2). This classification was used to guide purposive sampling in the case study areas, allowing for a broad spectrum of uses and users to be incorporated into a series of targeted, semi-structured interviews (Miles and Huberman 1994). Table 2 provided a useful tool to guide participant selection, but, in practice many of the participants interviewed fell into many different categories of use. For example, a recreational fisher might also be a surfer, a conservationist or a member of a community group. Given this fluidity of use types, with many interview participants falling into two or more use categories, analysis was explored across the full breadth of uses and not divided along the lines of user groups.

*{Insert Table 2 here}*

Interview participants were selected using a variety of means, including recommendations from relevant NSW Government agencies, previous Marine Park Advisory Committee members, existing contacts within the community, as well as local Aboriginal Land Councils, fishing clubs, community groups, surf lifesaving clubs, the business community and sporting clubs (such as surfers’ associations). Interviews were conducted over a period of two weeks in August 2013 - one week per study area, and on average lasted approximately 40 minutes. Prior to commencing the interview ethical requirements were explained and discussed, including the anonymity of the participants. Audio recording commenced after a consent form was signed. Questions aimed to elicit emotional attachments, non-use values and use values relating to the coast, and specifically to beaches and headlands. Questions were open-ended in order to guide but not direct discussion. Participants were encouraged to bring photos or artefacts to stimulate discussion or to reflect on one of their favourite sections of the coast (e.g. a favourite beach). In total 34 interviews, with 42 individuals, were analysed across the two parks (Table 3).

*{Insert Table 3 here}*

The interview data was analysed in light of existing literature, particularly in relation to Aboriginal cultural use of the coast (eg see English 2002, Dale Donaldson 2006, Dale Donaldson 2008, Kijas 2009, NSW Office of Environment and Heritage 2012). This literature was used to supplement and triangulate the interview data (Creswell 1998).

Following completion of the interviews the audio recordings were transcribed verbatim (Miles and Huberman 1994). Analysis of the interviews was conducted using a thematic analysis approach, involving repeated coding, sorting and categorising using Nvivo 9 qualitative analysis software (Miles and Huberman, 1994). This coding was guided by the categories of values, images and principles established in research conducted by Song et al (2013) . Song’s four ‘orientations’: ‘ideal world’, ‘good life’, ‘personal wellbeing’ and ‘outward aspiration’ were adopted for this project (Section 3.1) (Song et al. 2013). Dominant images and governance principles were also categorised according to key themes that emerged from the interviews about how interview participants viewed their local section of coast and what ideas they expressed about how it should be managed (Section 3.2) (Maxwell 2005, Creswell 2009).

# Results

## Coastal values

The range of ways research participants value the coast are explored in Table 4 and explained in greater detail in the sections below.

*{Insert Table 4 here}*

### The creation of a better world

These values are related to a person’s sense of how they think the world should be, or what they desire for a better world or society. They involve values that an individual believes are for the common good (Song et al. 2013). Common values in this category included peacefulness or naturalness, appreciation of beauty (50%) and knowledge (68%). Conservation of ecosystem values (41%) was also commonly raised as an important aspiration, with sanctuary zones often seen as playing a key role. Freedom to use and access the coast, however, was also highlighted by some participants as being a prized feature of the coast (41%).

### The ‘good life’

The values within this category are oriented towards an individual’s satisfaction with life – values that improve the enjoyment and appreciation of life, including economic stability, spiritual wellbeing and joy or fun (Song et al. 2013).

For some the coast provides the most fundamental of values – that of secure livelihoods (74% interviews). The coast provides income and employment opportunities to professional fishers, business owners, recreational fishing industries, and tourism operations. Yet even amongst non-professional participants the value of the coast in supplementing meals and ‘providing’ food for friends and family, was highly valued.

So I might go out and catch two crayfish, bring back two or three fish, and that will feed the family for two or three days. It sort of subsidises the way I think people should consume. I’m not a big fan of red meat and terrestrial agricultural practices, so ethically I lean toward traditional gathering. (BMP\_20)

Some of the most frequently mentioned values were hedonistic values of enjoyment, fun and recreation (76% of interviews), as well as the coast being a place where users can test or challenge themselves in the quest to achieve personal milestones, such as surfing a bigger wave, catching a bigger fish or building personal strength and fitness (65% of interviews - listed as ‘achievement’ in Table 4).

The coast also provided spiritual renewal to many users (59% of interviews). For Aboriginal people time spent fishing and collecting on the coast is a deeply spiritual practice. It provides a chance for people to connect with their ancestors, to teach and to learn about Country[[1]](#footnote-1) and be a part of Country.

You just blend in, it’s your Country, you just feel relaxed and comfortable. I can’t imagine doing anything else. I will die a fisherman. (BMP\_17)

A number of non-Aboriginal interview participants indicated the affinity they felt with Aboriginal people in their love of the coast and the ocean - variously expressed as a feeling of solidarity with local Koori people or a sense of frustration over what they perceived as greater recognition of Aboriginal spiritual and cultural ties to Country. Other interviewees described the depth of their feelings of connection to the coast or to their chosen use of the coasts (e.g. surfing, fishing) by equating it with a religion or religious experience.

It’s a special place… which is part of my soul, and I often explain my feeling about the connection that I feel between myself and the landscape as something akin to what Aboriginal people would talk about… I just feel at home. It’s part of me. (SIMP\_3)

### Personal wellbeing

Values in the ‘personal wellbeing’ category added to a healthy sense of self, and identity, by contributing to how an individual feels about themselves and how they wish to be seen by the world (Song et al. 2013). Most of the interviewees reported that their local beaches and headlands were places where friendships and family bonds were forged through shared experiences (88% of interviews). Surfing and fishing in particular were identified as sports in which the whole family could participate, across multiple generations. These sports also have a distinct element of male mateship, providing an opportunity for men to discuss issues of concern in an environment in which they feel comfortable and calm.

You might go surfing, or take a long walk on the beach and talk about life, and from my experience, I can assure you... there’s a lot of mental health discussion, men’s health issues that range from relationships to spirituality. (SIMP\_5)

The research also highlighted the importance of the coast as a place of learning - somewhere to grow and develop ‘wisdom’ (88% of interviews). This is particularly important amongst those Aboriginal people for whom the coast provided the context for passing on knowledge about culture, tradition and learning (NSW Office of Environment and Heritage 2012). The coast as a place of learning was also highlighted by many other users, including the role of exploration of the natural world as a way of learning about the ocean, and the life within it.

When our grandchildren were little… they would build these forts.. and try to defy the ocean coming in. They thought they could stop it!... We’d spend hours sort of investigating things they’d found on the beach, and maybe have a little walk into a rock pool and investigate things down there. (BMP\_13)

A number of fishers indicated an ‘apprenticeship’, which began with shore-based fishing, through which fishers learnt to hone their skills and build their knowledge of fish, fishing and the marine environment. Similar stages of learning were discussed by spearfishers and surfers, beginning in calm and safe locations and ‘graduating’ to more challenging environments where both the risks and rewards were considered greater.

For me, it was my apprenticeship. We used to fish all sorts of rocky headlands in Sydney from headlands within the Harbour… I fondly remember my fishing exploits there… And they teach you a lot. (SIMP\_14)

Several research participants (82% of interviews) discussed the ways in which the coast assisted in their mental wellbeing, or their general physical and mental health. The coast was often represented as a clean and healthy place. For Aboriginal people the health benefits of coastal access were closely tied with the harvest and consumption of seafood. Time spent fishing, swimming and collecting shellfish and crustaceans was time to forge cultural bonds with kin and Country, maintain fitness and importantly gain access to a low cost and readily available food source. Non-Aboriginal users also highlighted the health benefits of fresh, locally harvested seafood.

Many interview participants discussed the fitness benefits or restorative power of surfing, walking, running, snorkelling and spearfishing. The participants also frequently mentioned the benefits of the coast on mental health and wellbeing. The ocean environment was cited as a mood enhancer, and as a place of relaxation or reflection.

Without trying to sound like too much of a hippy, I have this thing about the salt water, and (my husband) knows that every time I’m in a bad mood I’ll go for a swim or a surf, and as soon as I put my hair under the water, I’m calm again. (BMP\_11)

Finally, the results of the research interviews indicated the importance of the coast as a site of volunteer work (41% of interviews), where compassion and benevolence were shown for the non-human world (through vegetation and weed management, rubbish removal, dunecare works and wildlife management) as well as the human world (through surf lifesaving and marine rescue organisations). Many of these volunteers dedicated significant amounts of time and energy to their chosen activities, indicating the value of an empowered and impassioned community.

So as soon as something comes up...which people don’t like, whether it’s good or bad, you normally get a group forming. I think Australians are very environmentally aware and very defensive of their local environment, which is good. (BMP\_3)

While there were many examples of formal involvement in volunteer organisations, in 44% of the interviews the participants indicated they regularly monitored their local coast in more informal ways, looking for changes of concern, such as erosion, weeds, introduced pests or changes in species diversity or abundance. In 65% of the interviews participants reported they undertook other informal acts of stewardship of their section of coast. These included confronting or reporting illegal users such as poachers, picking up rubbish or lobbying government over proposed developments. Some fishers highlighted the value of having a presence in more remote locations in order to maintain a watch over illegal activity and encourage voluntary compliance.

### Outward aspirations

Values relating to ‘outward aspirations’ are oriented towards a desired relationship with the ‘outside’ world, both human and non-human. They are values that contribute to a sense of connection with nature or community and guide the way people behave in particular settings (Song et al. 2013). Tradition emerged as a particularly strong value to both Aboriginal and non-Aboriginal users (94% of interviews).

Tradition is central to the values that Aboriginal people place on the coast. Aboriginal residents of both study area have memories of a long history of use of the coastal strip for subsistence, family gatherings, and encampments for leisure or work. These encampments included formally recognised reserves or less formal areas of significance such as temporary camps, pastoral camps, and beach camps used while travelling, fishing or holidaying (such as Christmas camps) (NSW Office of Environment and Heritage 2012).

I think our family is attached to fishing all up and down the coast so no matter where they put these sanctuary zones it really affects us. I can’t think of one area up and down the coast from here to Eden where we haven’t camped and fished and lived. (BMP\_19)

Non-Aboriginal interview participants also indicated a strong sense of connection to the coast. Often this sense of heritage and connection is linked to memories of a childhood in which the ocean played a dominant role. The ‘rite of passage’ from childhood to adulthood is a period in which the coast played an important role in the lives of many of the research participants, with key events marked out by time on the beach – playing in the sand as kids, teenage exploits, forming romantic attachments, and as time goes on introducing children and grandchildren to treasured coastal experiences.

I had a brother, four cousins about my age, and we would just spend days up in the sand dunes… and then a bit older up there, having a fag (cigarette) or two! All of that growing up stuff – getting interested in girls, when people came in to camp at Chrissie – all of that are just fantastic memories. (SIMP\_3)

Many of the men interviewed discussed how, as young boys, they explored their limits and developed their sense of masculinity on the coast as they grew into adults. Modern day ‘initiation’ ceremonies involved jumping from high rocks or bridges, clambering down rocks to fish dangerous rock platforms, surfing bigger and bigger waves and spearing or catching bigger fish, usually in the company of mates or older males and without the direct supervision of parents or other adults.

The beaches and headlands of the two study areas are also clearly a place of social interaction and community development (91% of interviews). Dog owners interact through their dogs, walkers stop to discuss the fishing with shore-based fishers, surfers discuss the weather with passing strangers. Professional fishers valued the opportunity to educate interested beach-goers about their methods and their history of use and impart their knowledge about the marine environment. Similarly, community groups engaged in beach care and birdwatching activities gained direct access to people through their work on the beaches that allowed them to educate and inform a range of people who may otherwise not have had exposure to these messages.

What we’ve found works really well when we are down monitoring the birds is to have a telescope down there, and to say to people, “Would you like to have a look?” and that’s been very successful, particularly with kids. They have a look through… And once you get people’s interest focused in on that, you then seem to start to interact more naturally with them, just talking about the birds. (BMP\_8)

A strong attachment to place was common amongst a range of users (79% of interviews). The interviews revealed complex and unwritten rules of acceptable behaviour around use of these areas to which users are expected to conform (79% of interviews). These rules govern the way users interact, including the way in which preference is given to some users over others. For fishers, what is deemed ‘acceptable behaviour’ has increasingly moved towards a sustainability focus (Frawley 2013). As indicated by many of the interview participants, the way people fish has changed significantly over time, with increasing emphasis on ‘responsible’ or ‘sustainable’ fishing methods. Keeping large numbers of fish, or undersized fish, is now frowned upon by many fishers, including those within the two study areas.

Finally, the coast also provides users with a relatively unrestricted and unrestrained opportunity to connect directly with nature (71% of interviews). Many interview participants recounted direct experiences with marine wildlife, including whales, dolphins, sharks, stingrays, and large fish as amongst their favourite memories of the coast, indicating that ‘wild’ encounters of this kind are valued highly.

It’s better than an aquarium, sitting there sometimes, because you’ve got the classic South Coast sting-rays – big, smooth-spotted sting-rays, up to two metres wide… and the cormorants and the pelicans all fighting for the scraps… You make a decision to live here because of those kinds of experiences. (BMP\_7)

## Images

Analysis of the interview data revealed a number of themes in the way participants ‘saw’ the coast, particularly in relation to the perceived threats to the coast (Table 5).

*{Insert table 5 here}*

Most (94%) of the interview participants had some concerns about local threats, usually relating to highly visible threats such as overdevelopment, illegal fishing, local over-fishing, and pollution. About half these people (56% of interviews), however, considered these concerns minor and they largely felt that their local area was in good condition, often expressed as ‘pristine’, with minimal concern over threats. More than half the participants (59%) were concerned with global threats such as global overfishing, increasing population or climate change.

Concerns over conflict between users featured in 59% of the interviews. For example, jetski riders were seen as impacting the ability of other users to enjoy a ‘natural’ experience. This is a clear example of how different ways of valuing the coast can clash if one type of value directly impedes or impacts upon the other.

I hate the noise! I hate the smell! And I hate the behaviour of most people who do it. Yobbos. And it’s selfish, because you go out there on a board – OK, you have to share waves with other people, but your impact as a recreational user is relatively small. Your footprint’s small. But those bloody jet skis – the noise – and it’s one of those irritating noises. Like a buzzing bee, a mosquito. You hear them go around – and they smell. You get the smell of the fumes. I hate them. (BMP\_6)

## Principles

A range of principles were identified within the interviews (Table 6). The most widely supported governance principle was a decision-making approach based on addressing specific threats (68%), followed by environmental stewardship (62%).

*{Insert Table 6 here}*

Further analysis was conducted into the relationship between different principles and how often they occurred together within a single interview (Table 7). Of particular interest were two seemingly competing principles: ‘conservation ideals’, which indicates strong support for the principle of closing areas through no-take zones (coded in 14 interviews), and ‘community and traditional use’ (coded in 16 interviews) which involved interviewees expressing concerns or outright opposition towards no-take areas, often using terms relating to the ‘rights’ of the local community to continue to access and use the coast. Table 7 indicates that those that subscribed to governance principles of ‘conservation ideals’ also frequently mentioned the need for expert-based planning, the maintenance of ecosystem integrity and function and the need for greater education to inform people of the worth of no-take areas. Those who subscribed to governance principle of ‘cultural and traditional use’ tended to also mention the need for the community to have a greater role in planning, felt that communities were able to conserve local environments without needing to be excluded from using those environments and also advocated equal treatment of all users. These participants often expressed mistrust of expert-led processes, preferring their own or other alternative knowledge systems which they drew on to make their judgements (categorised as alternative knowledge).

I find it offensive that people sit in offices that have done a few ecological studies or... and have read a lot of books and have learnt a lot at universities, telling us how we should manage these ecosystems, and they don’t know them intimately. They might know some technical aspects more intimately, but practically, they just don’t understand. They just don’t get it. (SIMP\_14)

## {Insert Table 7 here}

## Interaction of values, images and principles

Of the 34 interviews there was largely a complete division between people who subscribed to ‘conservation ideal’ and ‘cultural and traditional use’ principles. Occurrence of both principles within one interview occurred on only three occasions. In order to further examine the difference between these two groups these three interviews were classified as either ‘conservation ideal’ or ‘cultural and traditional use’ according to the principle they predominately discussed (ie which principle they mentioned most in the interview). This resulted in 13 interviews being placed in the category of ‘conservation ideals’ and 14 in the category of ‘cultural and traditional rights’. Table 8 compares the values and images that were most significant in each of these two groups of interviews and highlights areas of divergence between them, based on differences in the number of coding references in interviews. Given the small sample size the differences highlighted in Table 8 cannot be tested for significance but it does identify some key trends that would be worthy of further investigation using a larger sample size.

*{Insert Table 8 here}*

The participants who subscribed to the ‘conservation ideal’ governance principle also generally indicated values relating to natural interactions, appreciation of beauty and the protection of nature. There appeared to be a slightly greater level of concern about global threats amongst this group, including climate change, increasing population and global overfishing. This group also tended to be more directly involved in conservation projects such as volunteer dune care, wildlife management or research groups, indicating the high priority they give to ecologically focused activities.

The participants who subscribed to the ‘cultural and traditional use’ governance principle generally indicated values relating to social interactions, relationships, personal growth, health and wellbeing, learning and fun. This group appeared to put emphasis on social norms of the day as determinants of appropriate behaviour (as an alternative to regulation). They pointed out that these social norms have increasingly shifted towards a sustainability focus.

So, we’ve got a whole change in people’s perception of what they need to do to look after the environment, and how they use and interact with it, yet we’ve been so overly, overly regulated that it’s removing our ability to maintain our cultural rights to go and participate and use what we’ve got. It’s eroding, you know, the traditional Australian way of life, essentially. (SIMP\_11)

# Discussion

The analysis of interviews with coastal users in these case studies indicate that social values, images and principles interact in important ways to influence attitudes towards planning instruments such as marine parks. In particular two dominant, and in key ways conflicting, ‘worldviews’ emerged from the interview data. For one group of interviews, support for no-take zones was coupled with a belief that it is an ideal form of protection – that is the best means of protecting the natural world is to remove human influence from it. The suite of values, images and principles within this group were consistent with an ‘ecological’ cultural model which gives primacy to ecological function and connectivity, prioritising these objectives over other social and economic objectives (Thompson 2007, Stocker and Kennedy 2009).

The suite of values, images and principles found in the second group of interviews appears to be consistent with a ‘community’ cultural model, which prioritises the coast as a place of social interaction and community use and emphasises the importance of traditional and cultural use of marine resources to local communities, both Aboriginal and non-Aboriginal (Thompson 2007, Stocker and Kennedy 2009).

This research provides a first step in examining the usefulness of interactive governance theory in an MPA setting. In particular it demonstrates that the approach suggested by key authors in this field of considering values, images and principles, and the relationship between them, can provide insight into the way people respond to management interventions such as MPAs (Jentoft et al. 2012, Song et al. 2013). The value of this approach is in looking beyond a traditional stakeholder driven process, which can polarise the community according to use types and exacerbate division between users. This research revealed that the main sources of conflict around coastal no-take zones are not related to *different* values, images or principles, since many of these are shared across a range of users and across both cultural models. Rather it appears to be influenced by differences in the way these values, images and principles are prioritised and interact. This creates significant capacity to re-conceive the community not as a series of distinct stakeholder groups but as a diversity of values, images and principles, many of which are shared cross the entire community. The following sections will focus on the key points of division between the two dominant cultural models identified in this research before focusing attention on areas of consensus and opportunity.

## Areas of conflict between cultural models

### ‘Use’ versus ‘protection’

This research indicates that many participants who subscribed to the ‘community’ cultural model placed a high value on extractive uses, and gain comfort, pleasure and health benefits from their recreational and professional activities. Yet it also highlights that a section of the community, those who adhere to an ‘ecological’ cultural model, place an equally high value on knowing there are areas which are free from extractive use or ‘protected’.

The link between the ‘ecological’ cultural model and the value of ‘benevolence’ highlights the important work done by this section of the community in caring for the coast in practical and tangible ways. These individuals and groups gain encouragement from seeing the results of their work and from a feeling of satisfaction that they are ‘making a difference’. Supporting their efforts involves ensuring the aspects of the coast they value the most are maintained and protected, with appropriate consideration given to how they define ‘protection’.

Those users who employ a ‘community’ cultural model are motivated by a desire to maintain the utility of the coast for cultural or heritage use. They emphasise the importance of fishing, spearfishing, diving, surfing and other marine-based activities in their own lives and the lives of their friends, family and the wider community. Maintaining access and use of the coast is also critical to maintaining a unique beach culture which encourages learning about the marine environment through direct experience, supports mental and physical wellbeing of citizens and develops and grows community bonds.

Selecting appropriate locations for no-take zones on the coast and managing their use therefore requires a complex social and ecological balancing act between these competing objectives (Fox et al. 2013, Perez de Oliveira 2013, Poe et al. 2014). While these differences may appear intractable they do highlight the importance of pragmatism and compromise in planning processes. Planning processes need to expose adherents to each cultural model to the values and beliefs of other cultural models to build respect and understanding of alternative ways of knowing and seeing the world.

### Heritage values and the ‘rights’ debate

The level to which restrictions on the use of the coast were viewed as acceptable varied amongst participants, but the most passionate resistance to no-take zones came from those who tied the continuation of fishing to their right to use the coast and continue family traditions associated with this use. The ‘right’ to access the coast freely is vigorously defended within Australiaand has a history going back to at least the 1860s in Sydney when coastal communities exerted significant pressure on Governments to ensure Sydney beaches had free and open access to all (Ford 2009, Stocker and Kennedy 2009, Ford 2010). The legacy of this is Australia’s largely unmodified and ‘natural’ coastal environment, with a preference for development set back from publically owned beaches (Stocker and Kennedy 2009, Ford 2010).

The shared belief in this right of free access has traditionally extended to a shared understanding of what are appropriate ways to use the coast and beaches. Older activities such as fishing, surfing, swimming and snorkelling are generally agreed to be appropriate as long as they are conducted within the accepted models of behaviour. Newer activities, such as jetskis, are more challenging. All of these ideas are embedded in a long history of coastal use and access in NSW (Ford 2009). Segregation of fishing from other permitted activities through marine park zoning schemes has, however, introduced a changed understanding of the appropriate use of the coast. This changed understanding has inevitably given rise to conflict between users and use types that may not have previously existed.

Resistance to restrictions on uses are not unique to fishing, however. In Sydney, a previously amicable relationship between surfers and surf lifesaving clubs began to deteriorate in the 1960s in response to attempts by local councils to regulate surfing through a registration system whereby surfers were required to purchase an annual license and beaches were demarcated into swimming and surfboard-riding areas (Booth 1994). Today regulations which segregate surfing and defined swimming areas are largely accepted by the Australian community indicating that community attitudes are able to evolve when the situation demands.

## Areas of opportunity

While the divisions and areas of conflict outlined above may appear intractable, this research points to some areas of consensus that may provide opportunity for negotiation and compromise. For example, one area that appeared to have considerable support in relation to the management of shore-based areas was decision-making based on threats. People who subscribed to a predominately ecological model of the coast appeared to have faith in the collective wisdom of science and policy experts and were willing to advocate for consideration of threats that went beyond local threats to include global threats such as climate change.

People who subscribed to a community model were also concerned that management practices be established to manage threats. Their lack of trust in ‘experts’, such as the scientific community, however, and their desire for greater integration of alternative forms of knowledge, indicates that different approaches are required to engage these stakeholders in planning processes and in the acceptance of management activities that restrict their activities. This research suggests that communication with this group is most likely to be most effective when it taps into accepted ideas of appropriate behaviour from within their own model rather than from external regulators. (Chuenpagdee et al. 2013, Perez de Oliveira 2013, Voyer et al. 2013).

Previously planning processes have tended to cater well to only one cultural model – the ecological model - who value ‘expert’ led, rigorously scrutinised and scientific evaluation of the ecological threats and values of the coast. While it is essential to continue these practices and keep that section of the community engaged, it is also necessary to develop alternative methods of governance and engagement which cater to the full suite of cultural models that exist within the community. This means that ‘governing interactions’ need to involve local communities, including Indigenous communities, in discussion about their perceptions of threats and their ideas about appropriate responses to them. The integration of these two approaches to planning is a challenge that will require a transparent and inclusive methodological approach that does not elevate or prioritise one form of knowledge or one cultural model over another (Gill 2003, Ban et al. 2009, Coffey and O'Toole 2012, Bundy and Davis 2013).

Acknowledging the rights of people to make use of natural places such as beaches and headlands does not imply that this access should not be subject to reasonable restrictions. Instead it confers considerable responsibility on those users to ensure their use does not impede the rights of other users, including future generations. The shift in environmental consciousness amongst recreational and professional fishers in the past few decades has, at least in part, been generated from within the fishing community, demonstrating a willingness and ability to rise to this challenge (Frawley 2013). Stocker & Kennedy (2009) suggest that coastal policies need to integrate community and ecological cultural models with economic considerations in order to create a new ‘sustainability’ model of the coast – one that recognises the importance of protecting and maintaining biological values without excluding people and their cultures, traditions and economies. The degree to which the research participants in this study shared key values indicates there is significant scope for this in a multiple use marine park system with the capacity to cater for the preferences of both the community and ecological cultural models.

# Conclusion

Interactive governance theory provides useful insights into the ways in which governance of marine resources can be managed. In particular, understanding of the social ‘system to be governed’ is greatly enhanced by examining the intersection of values, images and principles. Future research into this area is needed to test the theorised links between values, images and principles put forward in this paper and how these influence the cultural models within the community. The insights provided through such an approach provide significant scope for identifying the communication and management strategies that are most effective in targeting each of the dominant cultural models. In particular it highlights the need to look beyond conceptualising stakeholders as distinct and homogenous user groups. A new approach to planning might seek to use the insights gained through this research to identify and nurture areas of common ground within contested planning processes whilst building respect for alternative values and points of view in areas of conflict.

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1. “For coastal Aboriginal people, there is no distinction between land and sea: ‘Country’ extends offshore to include the sea and its resources. This holistic view ‘of continuous land and sea Country “as far as the eye can see”’ means that Aboriginal people conceptualise the coast very differently to non-Indigenous Australians, and to the worldview which underpins the Australian legal system…‘Sea Country’ (is) a term which includes the land and waters in the coastal zone of NSW, including the ocean, bays, shores, dunal environment and coastal estuaries and their shores.” (NSW Office of Environment and Heritage 2012 p.2) [↑](#footnote-ref-1)