

Understanding the values associated with New Zealand surf breaks and implications for management

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Abstract

Recent developments in New Zealand coastal policy include increased recognition for surf breaks as unique environments characterised by breaking waves. The New Zealand Coastal Policy Statement (NZCPS) 2010 includes policies that directly apply or relate to surf breaks and these provide considerable guidance for the protection of these areas. This includes a definition of "surf break" and guidance on other spatial aspects for planning. Local authorities now require a robust framework to implement these policies alongside other NZCPS policies within an integrated management approach. An extensive body of local and indigenous knowledge of these environments exists within coastal communities. In this study participatory methods were utilised to investigate the perspectives of coastal communities on surf breaks in two different regions in New Zealand. Information was sought on the values and attributes of surf break environments that are important for their effective management. The findings demonstrate that a wide range of values are associated with surf breaks and a complex combination of bio-physical attributes is typically responsible for the values reported. These attributes often include unique characteristics of individual sites, indicating that a site specific focus for management is essential. The findings also highlighted considerable variance in the perceived importance of different surf breaks for different people. Consequently, effective management of the resource is likely to require a thorough understanding and integration of both biophysical and socio-economic information at a range of scales including the level of individual sites and communities.

Keywords: coastal policy and planning, surf breaks, integrated coastal management, participatory approaches, case studies, New Zealand.

1. INTRODUCTION

Surf breaks are unique and valuable components of the coastal environment. They are becoming increasingly recognised in New Zealand coastal policy which is consistent with developments occurring internationally. An increased focus on mechanisms to protect surf breaks has resulted from numerous cases of degradation worldwide and a greater awareness of existing values. The argument for protection of surf breaks recognises that a range of benefits are associated with these unique places. These values depend on the integrity of natural processes which influence

surf break environments, and on a variety of aspects important to surf break users including accessibility and environmental health.

2. POLICY CONTEXT

The New Zealand Coastal Policy Statement (NZCPS) is required under section 57 of the Resource Management Act 1991 (RMA) and provides guidance to local government for the day-to-day management of the coastal environment (Rosier, 2004). The scheduled 10-yearly revision of the NZCPS 1994 included a comprehensive review process and input from stakeholder groups (Young, 2003; Rosier, 2004, 2005). The process attracted considerable input from surfers and surfing

organisations and resulted in a policy on surf breaks of national significance in the Proposed NZCPS 2008 (Department of Conservation, 2008). Subsequently, a Board of Inquiry (BOI) process considered and reported on the Proposed NZCPS and also recommended a policy to "recognise and protect surf breaks of national significance". In addition, a definition for "surf break" and provisions for surf break other protection in policies recommended (BOI, 2009a). These provisions were later adopted in the final NZCPS 2010 (Department of Conservation, 2010).

Local authorities are now responsible for implementing NZCPS policies and an essential first step is to understand the features of the surf breaks in their area. However, in New Zealand the characterisation of surf breaks for management purposes has not yet been extensively researched (Peryman, 2011). There is an urgent need for a better understanding of the resource in relation to the values derived by the community (Skellern et al., 2009), and consideration of the mechanisms by which degradation can occur.

3. OBJECTIVES

The objective of this study was to investigate the perspectives of coastal communities on surf breaks in two different regions in New Zealand in order to identify values for their effective management. In particular, the study sought information on the attributes of surf

breaks that contribute to these values to identify potential implications for the management of these environments in the New Zealand policy context.

4. METHODS

Case studies were conducted over the summer of 2010-11 in two different regions of New Zealand. These were the Gisborne and Bay of Plenty regions in the north-east of the North Island. Both regions contain a number of known surf breaks including surf breaks of national significance, and range of surf break environments.

For both case studies a range of qualitative and quantitative methods were used to address research questions related to the views of local communities on surf breaks and their protection. The selection of methods used for data collection and sourcing of participants was similar though not identical between regions, reflecting the different local contexts and stakeholder groups involved (Table 1).

Information collection for the Gisborne case study included interviews with community members using a semi-structured interview technique (Yin, 2003). Participants with significant knowledge of surf break locations, surf-riding and local surf culture were identified and invited to contribute to the study using a snow-balling sampling technique. Interview techniques included the

Region	Gisborne	Bay of Plenty	
Methods	Semi-structured interviews Surveys Group meetings	Semi-structured interviews Surveys Public workshops	
Research questions	Identification of values, features and characteristics associated with Gisborne surf breaks and their use Factors important to the protection of surf breaks in Gisborne.	Identification of values, features and characteristics associated with Bay of Plenty surf breaks and their use Factors important to the protection of surf break in the Bay of Plenty Identification of surf breaks of 'regional significance' in the Bay of	

Table 1: Research methods used in case studies

use of visual aids, prompts and questions on important values, features characteristics associated with surf breaks and their use in the region, including the six surf breaks in the region designated as "nationally significant" in the NZCPS 2010. Interviews also included questions about what makes surf breaks in the region significant, and factors important to preserving surf breaks and surfriding culture. Surveys were also distributed to members of two local board-riding organisations. The focus of survey questions was on identifying attributes contributing to the value of surf breaks in the region. To attract survey participants meetings were held with the two local board-riding organisations to inform them of the study and distribute survey forms. A total of 30 people attended these meetings resulting in a total of 8 surveys completed. Notes from the meetings were also recorded.

Sources of data for the Bay of Plenty case study also included semi-structured interviews and the use of surveys. Semi-structured interviews were conducted with six individuals identified as having extensive experience of surf breaks and surf-riding culture in the region. As with the Gisborne case study, interview techniques included the use of visual aids such as aerial photographs and maps. Participants for surveys were sourced from attendees at two public workshops held in the two main town centres of the region. The target audience was community members with an interest in the management of surf breaks. A total of 23 people attended these workshops and eight surveys were completed. At each workshop a range of topics were discussed including the identification, management and protection of surf breaks, and factors that might be used for the identification of significant surf breaks in the region. Notes and comments from workshop proceedings were also recorded.

For both case studies a thematic analysis of all data collected was conducted to identify the attributes of surf breaks considered valuable by study participants.

5. RESULTS

5.1. Perceptions of coastal communities

The two case studies utilised similar methodologies and attracted similar numbers of participants, although a greater number of interviews were conducted in Gisborne (Table 2).

In both case studies, recreational surfers identified values connected with personal, family and community health and wellbeing. When talking

about the Gisborne community, one respondent noted that "surfers are here because of the lifestyle, surf, they need employment, but can surf a lot more because of the options and consistency". Values associated with a sense of connectedness to the environment were also reported, and for many respondents this was an aspect of favourable surfing experiences. In referring to being at one particular location in the east of Bay of Plenty, one respondent stated, "you can always crack a smile at Westend". The value of sharing in the experience of surfing another aspect noted by many respondents. Surf breaks are "a place to catch up regularly, if [the surf] is good then there is less chat, over a long time... there is a tribe of surfers".

In both case study regions, the experience of visiting or observing these parts of the coastal environment was also identified as a source of benefits. This is in addition to recreational activities such as riding waves, as one respondent stated, surfing is "...culturally, more than recreation". Another added there is "a connection to sealife and an affinity with those that surfers share the ocean with. It is not just about surfing the sea, surfers can make that connection... and are in harmony with the wairua (spirit), the buzz that Maori feel in a different way, but hearing the same tune".

Case study methods	Hui or workshop	Interviews	Surveys
Gisborne	30	19	8
Bay of Plenty	23	6	8

Table 2: Participation in case studies and methods used

Environmental aspects featured strongly in results from both case studies and all respondents acknowledged specific characteristics or features of their familiar and regularly frequented surfing locations. Many respondents provided extensive detail of these features which typically included all of the factors noted in the NZCPS definition of a surf break, and additional social, cultural and environmental elements that contribute to the overall surfing experience that is unique to each location. A range of environmental attributes indicative of a healthy environment were identified as being important to the value of these environments. These included physical aspects such as water quality; biological aspects such as the presence of characteristic wildlife; and spiritual and mythological aspects such as taniwha that manifest in local stories and whose presence is essential to local coastal patterns.

The health of both the marine area and the adjacent terrestrial environment was found to contribute to the perceived values of surf breaks.

In both case study regions, expressions related to the 'naturalness' of the environment were reported to be important as part of "the element of adventure in getting to a wave" in addition to the "sheer beauty" of particular surf breaks. One respondent highlighted this as the significant aspect of why Makarori, near Gisborne, is a special place for many, given it is "so close to the city, but feels removed from habitation... it's good not seeing houses and this appeals to surfers".

A strong trend within the results was evidence of commercial activities and other activities of economic value that involve surf breaks. In both case study regions the surfing industry and its competitive offshoots such as sponsored events are а prominent commercial sector. For example, in 2011, Gisborne hosted a high-rated Association of Surfing Professionals World Qualifying Series event, attracting international media, high quality surfers and tourism spending¹. In both cases, board-riding organisations such as clubs were identified as contributing to economic value through activities such as competitive events in addition to providing other social benefits. One respondent compared these benefits to the togetherness of being involved in sporting clubs in Denmark as the best way to meet people, "clubs bring people together, it's a societal thing, you're having fun".

Significant economic activity derived from tourism was also identified in both case study regions. One respondent noted that "Tourism alone... the economic potential is huge... Council or those running tourism don't quite realise how strong surfing is, but the flip side is damaging the seclusion of the place". Although little information was gained on the combined economic value of these activities, the responses indicated that surfing and surf break environments were an important aspect of both economic and social prosperity in the case study regions. For example, one respondent pointed to a website for marketing Gisborne as a place to work which specifically acknowledges the place as "a genuine, laid-back surf town"².

A summary of some of the key values identified across both case studies is presented in Table 3.

http://www.surf2surf.com/articles/adam-melling-wins-oneill-cold-water-classic-gisborne

¹ For a local news report, see the following retrieved December 6 2012 from:

² Retrieved 6 December 2012, from http://www.gisbornejobs.co.nz/surfing.asp

Source of value	Aspects	Theme	Gisborne results	Bay of Plenty results
Physical and mental health benefits for many user groups	 Host to many user groups who participate in many different forms of recreation with positive qualities for physical and mental health for people of all ages and walks of life 	Social	1	✓
Educational value	 Focus for skills learning, including encouragement of young / learner surfers to participate, hold contests, and socialise in a supportive environment 	Social	✓	√
Enabling interactions between community members	 Enable a diverse range of interactions contributing to a social fabric that extends into wider communities 	Social	✓	✓
Lifestyle value	 Associated with a healthy, family-orientated and community-based lifestyle 	Social	√	✓
Spiritual value	 Source of spiritual energy and a place to exercise spirituality important to individual health and community well-being 	Social	✓	✓
Amenity and existential values	 Scenic and naturalness values significant to users, onlookers, coastal inhabitants and visitors Contribute to visual and oral expressions of place – interconnected to wider landscape and seascape values Transient and memorable nature of experiences Raw and undeveloped natural landscapes and seascapes contribute to a wilderness experience which is valued Built access and facilities not always desirable 	Social	✓	<i>y</i>
Cultural use and enjoyment	 Access to, use and enjoyment of surf breaks are important aspects of the link between coastal culture and surf break environments 	Cultural	V	✓
Places of cultural significance	Surf breaks are considered sacred treasures and/or sacred areas important to cultural heritage	Cultural	✓	1
Commercially-focused activities directly associated with surf break environments	Surfing associated with health promotion and leadership subjects with strong translation to lucrative action sports markets Social constructs of 'cool' imagery with intergenerational, cross-gender and high marketing value Surf-related tourism and surfing industry activities important to local, regional and national economy	Economic	/	✓
Natural features and life- supporting systems	 Finite natural resource with unique characteristics influenced by both terrestrial and aquatic environment Ecological health of adjacent areas and catchments important to use and enjoyment Environmental educational value as sites for experiencing a range of interconnected factors unique to the coastal environment 	Environmental	/	/

Table 3: Values associated with surf break environments identified by case study participants in Gisborne and the Bay of Plenty

5.2. Surf break attributes as sources of value

Attributes of waves important to surfing experiences were identified as a key source of value in both case study regions. These attributes varied for different people. For example one respondent suggested that the aspects that equate to an enjoyable experience depend on what it takes to get a sufficient level of enjoyment, particularly over time as experience is gained; "valuable qualities change over the years as one ages, fitness levels change, the ideal wave is about enjoyment".

This was confirmed in other information including the idea that "surfers consider the quality of the wave only, based on the thrill of the ride" and that this depends very much on their experience and skill level; an example being that for some "the barrel is the essence of surfing, it's what some people live for".

Water quality was also a particular focus for many respondents. Comments included that "the rivers are the biggest polluters to water quality", and that "the colour of the sand [in the water] is an indicator". There were several references to adverse effects associated with periods of high stormwater discharge. One respondent identified that levels of contaminants in urban stormwater runoff was a particular issue for surf break management, and many other respondents also noted the importance of avoiding coastal pollution.

The presence of wildlife was also the subject of several comments, including one respondent who looked forward every year to migrating Killer Whales in the area where his family lives and frequently surfs, noting that "the natural state is just magnificent". The importance of the 'natural state' was noted by many respondents including that the natural state can what people come for, "from all around the place, because this is what California was like 30 years ago, but advancement isn't what locals want".

Many respondents identified that the absence of adverse human influences was important to

management of surf breaks and a range of land-use activities were identified as being detrimental to surf break values if not managed adequately. The presence of only minimal or basic amenities was one aspect identified by some respondents as a management issue. For example it is "best to avoid hard infrastructure, but you need also to consider the environmental impact of surfers".

The naming of locations was highlighted in two comments on surf breaks that are known by names that reflect experiences or landmarks specific to the space (e.g. 'Pines' at Wainui Beach). One respondent noted that "recognising a place is a form of protecting its cultural value... the naming of places is important, particularly for the mana of places". Particular reference was also made to the awareness surfers have of climatic conditions and dynamic processes in the local environment that lead to good or bad surfing conditions. For example "surfers know how fickle Mother Nature is, there is a narrow window of opportunity which we wait for".

Table 4 provides a summary of all attributes identified across all responses. These results demonstrate that a wide range of biogeophysical attributes can contribute to the value of surf breaks for people (Table 4).

Surf break attributes of value

water quality seabed morphology hydrodynamic character –swell patterns hydrodynamic character - presence and consistency of breaking waves hydrodynamic character -wave size hydrodynamic character - wave quality for surfing wind patterns experiential attributes (e.g. sound, smell) surf break naturalness surf break context and setting cultural and spiritual qualities for surf break users vegetation assemblage and presence presence of wildlife historical and heritage associations scenic qualities tourism attraction qualities

Table 4: Summary of surf break attributes identified as valuable across all case study participants and stakeholder groups

5.3. Spatial variance

Although there was much similarity amongst the set of values supported by surf breaks in both regions, there was considerable evidence that the attributes responsible for those values were spatially variable across each region. There is strong evidence that the nature of, and location of values associated with surf breaks is highly dependent on the unique biogeophysical features of individual locations. One respondent pointed out that this can be as subtle as a stream trickling into the ocean at a particular point. In the specific case this respondent was referring to, a watercourse was realigned during a minor change in the channelling of a road, displacing a stream that was needed for "grooming the sand bank" at a location that has since not generated the surfable wave quality it is known for. In both case studies, sand was identified by movement several respondents as a vital consideration for management, and particularly the need to allow natural processes to occur. Modification of these processes was identified as a potential management issue in some locations such as where engineering works have been proposed for the protection of private property³.

Results from both case studies also demonstrated that surf breaks are perceived in variable ways depending on the views of individual users who value different environmental characteristics that vary from site to site and also through time. example "Different surfers interpret different experiences from the same location, the 'feel' of a place has many elements". Accessibility, perceived quality, and other aspects of surf break environments were important to many different stakeholder groups, though often for different reasons. For example "valuable qualities change over the years as one ages,

fitness levels change, the ideal wave is about enjoyment", yet at the same "surfing is a sport where 9 year olds and 72 year olds get the same stoke... but at my age, 50% of surfing is talking, solving the world's problems".

Different surf breaks may be valued for their appeal to families and younger generations, less intense wave attributes that are safe for learning and developing surfing skills, or ease of access including proximity to urban areas. The same surf break can be highly valued by some stakeholder groups and not by others. In addition a Bay of Plenty respondent noted that "two separate breaks may have different values that are equally important in defining significance".

Many respondents in the Gisborne study confirmed that all of the surf breaks identified as nationally significant in the NZCPS are especially valuable resources for the surfing community of Gisborne. These breaks represent high performance locations in terms of wave quality. However when considering the local context, nearby breaks that are not nationally significant make up part of the surfing resource and may be more important to some surfer, such as those locations more suited to learners. A unique feature of the Gisborne town 'set-up' in terms of the value of the surf break resource is the presence of many types of surf breaks in close proximity, many of which are of high quality for different reasons and in respect of different user groups.

These results indicate that important attributes of the surf break resource need to be determined in conjunction with the community since "...each break is different, it is hard to define a universal set of values... there needs to be specific inquiry to each break". In engaging the community attention to different scales and also different interests were identified as important factors. As one respondent noted, "it's a common courtesy to talk to the locals, but you can know too much and desecrate the spirit".

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³ See Falkner v Gisborne District Council [1995] 3 NZLR 622 (Barker J, High Court Gisborne). In that case it was held that a common law right to protect ones property from the sea must be subject to the procedures under the RMA". Retrieved 6 December 2012 from: http://www.mfe.govt.nz/publications/climate/coastal-hazards-may04/html/page11.html

6. DISCUSSION

6.1. Understanding protection needs

Results from the two case study regions demonstrate that surf break environments are a source of many different values for people. A wide range of attributes underpin those values and provide a useful focus for management. Our results indicate that site specific aspects of the surf break resource are important and include variability in the values associated with different surf break types and locations. To better understand management needs, a robust understanding of these aspects is required.

These findings are important to NZCPS 2010 policy provisions for surf breaks which provide a clear direction to identify and protect the unique aspects of these environments within an integrated approach to coastal management. This requires interpretation of the biophysical and spatial features important to the surf break resource.

"[Councils] are the administrators of the highest standard of ethics... an identity based on the concept of being a New Zealander and the RMA framework is for protecting the things they enjoy and value; free access, participation in decision-making"

The NZCPS provides direction for this to occur by including a working definition for "surf break". The NZCPS definition enables local authorities to proceed with the identification of surf breaks and develop localised management responses that are consistent with the effects-based approach of the RMA. In addition, the specific locations of "surf breaks of national significance" are identified within the NZCPS for the purposes of Policy 16.

Understanding the values present in these areas is both a practical and necessary step towards the implementation of effective protection methods. Management approaches should focus on recognising existing and potential threats to values and

the role of priority areas for protection such as the application of "significance" concepts to surf breaks is one possible direction that policy development could take. Considerable guidance on this topic was provided by the NZCPS Board of Inquiry in connection with surf breaks of national significance (BOI, 2009a). The need for further development of this topic including its limitations was also recognised (BOI, 2009b). In particular, concerns have been expressed about whether assigning degrees of national, regional and local significance to surf breaks is appropriate given the difficulty distinguishing between national and more local priorities (Department of Conservation, 2009b; M. Langman, pers. comm., September 28, 2010).

Results from this study indicate that both scale issues and differing value judgements are potential difficulties to overcome in applying significance-based concepts. On the other hand, if this direction is pursued as a tool in the policy mix, community-based approaches to the identification of priority areas for protection will be useful to ensure that the selection of such areas is well informed and considers multiple perspectives. In addition, methods used in case by case decision making will also need to be inclusive of multiple values and perspectives. For example, robust impact assessment methods will be important to the effectiveness of resource consent processes as a reliable mechanism for the management of surf break values.

6.2. Applying a participatory approach to surf break management

The results of this study suggest that the important attributes of the resource which are responsible for these values can only be consistently identified through an inclusive approach which takes into account the multiple perspectives on values that exist within the community. Human aspects such as accessibility, perceived quality, cultural associations, and health and safety attributes for different stakeholder groups must be considered to adequately understand the value of the resource. Although the scope of

case studies did not permit the sampling of a wider cross section of community interests, there are likely to be other groups and individuals with interests in surf break environments not considered here, for example in relation to recreational fishing, surf lifesaving, or sites of significance for heritage or cultural reasons. The attributes of surf breaks important to all these groups should be considered.

The value of drawing upon a wide range of existing knowledge including detailed local knowledge was highlighted in this study, particularly in characterising the spatial and temporal aspects of the resource. Community participation can also contribute to successful coastal management by assisting authorities and stakeholders to identify and understand management issues and through generating improved buy-in for management decisions (Christie et al., 2005; Johannes, 1998a; McGinnis, 2012; Mahanty & Stacey, 2004; Pollnac & Pomeroy, 2005; White et al., 1994). Involving the community in identifying protection needs is a useful and practical approach for ensuring that the current values of these environments are recognised and provided for.

7. CONCLUSIONS

Surf breaks are a finite natural resource contributing to the health and well-being of individuals and communities. The results from case studies conducted in two regions in New Zealand illustrate that a wide range of attributes contribute to the values of surf breaks. These are typically site specific features that are often unique to the individual location. The results also illustrated considerable differences between the values attached to various attributes by different groups in the community and an added complexity is that these need to be considered at different scales.

Local knowledge is currently the most authoritative source of information on these areas, and as the next generation of regional and local level policy is developed more indepth case studies are required to identify locations, values and specific management needs associated with surf break environments. It would also be useful to understand the wider value of surf break resources to society, including their value to economic activity at different scales. Our results suggest a need to engage communities in the design of methods for surf break protection. This includes for identifying the attributes requiring protection, the possible application of 'significance' concepts to individual locations, and in connection to impact assessments and associated decision making for proposed activities in coastal areas that may affect surf breaks. An on-going dialogue amongst planning professionals, surf their break users, and surrounding communities is central to progressing this new topic for coastal policy in New Zealand.

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