

## The value of coastal recreational resources: a case study approach to examine the value of recreational surfing to specific locales

**N. Lazarow**

Centre for Resource and Environmental Studies  
The Australian National University & Griffith Centre for Coastal Management  
Gold Coast Campus, Griffith University  
PMB 50 Gold Coast Mail Centre, Queensland  
9726 Australia  
neil.lazarow@anu.edu.au



### ABSTRACT

LAZAROW, N., 2007. The value of coastal recreational resources: a case study approach to examine the value of recreational surfing to specific locales. *Journal of Coastal Research*, SI 50 (Proceedings of the 9th International Coastal Symposium), 12 – 20. Gold Coast, Australia, ISSN 0749.0208

Surfing is a major recreational and economic activity involving intimate human interaction with diverse coastal environments and is expanding both in intensity in traditional locations, as well as in reach into new environments often in the developing world. The value of surfing to both Australia's and the global economy has grown significantly over the past three decades. This combined with the significant growth in participation and rising popularity of surfing and surfing culture in many countries, means that the importance of the economic and social value of surfing to various regions cannot be understated.

While there is a growing literature on the value of surfing tourism, especially in the South-East Asian region and of proposed artificial surfing reefs, there is little documented evidence of the value of recreational surfing in more traditional locations such as Australia and the USA, where it has been estimated that over two-million Australians and two-and-a-half million Americans surf on a regular basis.

This paper presents findings from a three-year study using proven economic methodologies as well as those from the other social sciences to collect data on the market and non-market value of surfing at two locations in Australia. The findings demonstrate the significant economic, social and cultural importance of surfing amenity to specific locales, including the need to consider any negative impacts on surf breaks and the environment that may occur as a result of development, coastal planning and protection works.

**ADDITIONAL INDEX WORDS:** *Coastal Management, Social Science, Economics, Surfing.*

### INTRODUCTION

Everybody wants access to the coast. The coast is where people want to live, do business, create development and where people want to recreate (HOLLIDAY, 1998).

Coastal areas contain some of the world's most diverse and productive resources (UNDERWOOD and CHAPMAN 1995). People all over the world have concentrated on the coastal margins of continents for a variety of reasons, some of which have changed over time:

- The seas provide a source of food;
- Rainfall is generally greater and more reliable on the coast than inland;
- Coastal lands are usually suitable for a wide range of uses;
- The coastal climate is milder than the extremes found in the interior of continents;
- Transport was initially easier by water than across land or in the skies;
- The demand for coastal real estate and ocean views has grown significantly in recent years; and

- Increased leisure time, resulting from greater affluence has changed working conditions and holidays by sea have become attainable (NSW GOVERNMENT 1989, OECD 1991).

This paper introduces the topic of surfing to coastal natural resource management by briefly describing the evolution of the coastal lifestyle and surfing in Australia as well as the little we know about the total economic value of surfing to society. Following this, the Case Study section of the paper describes two locations in Australia, South Stradbroke Island on the Gold Coast and Bastion Point in Mallacoota; the surfing conditions at these two locations; and the threats to the recreational amenity that the surf at these locations provides. Table 1 provides a useful overview of the key issues at each of these locations. The Study Design section of the paper describes how three Social Science disciplines (economics, anthropology and political science) have been used to examine the 'threat' to this resource. The Results section of the paper describes the market and non-market findings from the study and in the Discussion section of the paper, the author remarks on the value of surfing as a coastal recreational resource. The paper concludes with a number of comments on the place of recreation in coastal natural resource planning and management.

## The Beach and Surfing

In Australia, the modification of our coastal resources can only be understood within the context of coastal settlement and population growth in the coastal zone. This is the dominant paradigm for coastal planning and management today. Currently, 86% of our population (AUSTRALIAN BUREAU OF STATISTICS 1998) lives within 30 minutes drive of the beach and we can expect many of the 11-15 million extra Australians predicted by the middle of the century to want to live near the coast (BATELY and COCKS 1992, DAVIS and WELLER 1993).

A lifestyle by the coast represents something more than the prospect of food, clothing and shelter – it has become synonymous with the great Australian dream - and ‘the beach’ must surely rival ‘the bush’ as being the current manifestation of this dream. DUTTON (1985) writes, “the tradition of Australians at the beach, in its many ways, is of profound importance to the national character.”

Surfing has its origins deep in the roots of a number of Pacific cultures including Hawaii, Polynesia and Peru and recorded surfing events date back many hundreds of years. The history of modern surfing, however, can be traced to Hawaii at the start of the 1900’s where after being almost wiped out due to the strict rules of the Protestant missionaries, surfing found a renaissance thanks mainly due to it capturing the enthusiasm of a number of Haole (white people or foreigners). Surfing was first introduced to Australia in 1915 by Duke Kahanamoku, the legendary Hawaiian surfer, waterman and Olympic swimming champion, who conducted an exhibition of surfing at Freshwater Beach in Sydney and “new enthusiasts took up the sport wherever Duke showed audiences how to walk on water... [and] our water-locked continent was on its way to becoming one of the most surf-stoked societies on earth...” (KAMPION 1997, pp.40).

The period after World-War-Two and through to the early 1960s saw an evolution in surfing. The development of lighter materials for board design, including the use of hollow boards, foam and fibreglass in the construction process as well as the refinement and affordability of both boards and wetsuits made surfing more accessible to people. At the same time, roads were being improved, freeways built and cars became cheaper, making travel to surf destinations both more affordable and easier. From the early 1960s onwards, surfing was popularised through Hollywood movies such as *Gidget* and the music of Dick Dale and others. The fad of surfing had now hit the mainstream and more than ever crowds flocked to the beach to watch and take part in surfing.

Today, it is estimated that the global surfing population is over 20 million, with over two million surfers in Australia and close to two-and-a-half million surfers in the USA (KAMPION 2003). Surfing takes place in diverse coastal locations around the world (including Antarctica) and is expanding both in intensity in traditional locations as well as in reach into new environments often in the developing world (CARROLL 2004, E VALIDEREZ personal communication, 3<sup>rd</sup> August, 2006).

DOLNICAR and FLUKER (2003) and CARROLL (2004) write that surfing is now worth an estimated \$US8 billion dollars per annum and reaches into most countries on the planet. Initial investigations by this author and current work by NELSON (2006) indicate that while this number includes the clothing and retail arms of the major surf apparel companies, it is likely to significantly under account for the total economic value of recreational surfing.

There can be no doubt that the value of surfing to society and the imprint of surfing on our lives and lifestyles has grown significantly over the past three decades. This combined with the

significant growth in participation and rising popularity of surfing in many countries means that the importance of the economic value of surfing to various regions cannot be understated. Surfing today represents a very profitable market, an increasing growth industry (LANAGAN 2002) and plays a major part in the tourism strategies for many coastal locations in Australia and overseas.

More than this, surfing brings something else to communities and people. It links generations, it brings people together, it provides an avenue for outdoors based physical activity and it has helped build towns and communities. Little has actually been written or documented about the ‘community good’ or value to ‘civil society’ that surfers and surfing can bring to communities and locales. This ‘social good’ question forms part of this examination and the Economics section of this paper provides a useful discussion on this issue.

There are a number of studies that describe the importance of surf tourism and sustainable development in the Indo-Pacific region (BUCKLEY 2002, DOLNICAR and FLUKER 2003) but to date there has been very little investigation into the value of surfing at major surf destinations (by weight of numbers of surfers) around the world, possibly because they are viewed as the places we live and not the places we visit and have traditionally not been picked up in tourism related studies. Nevertheless, the socio-economic value of surfing to these communities is believed to be significant and any negative impact to the surfing amenity in these locations may have serious consequences for the resident surfing population, visitors to the area and the local surf industry. The broader investigation of which this paper is a part makes a distinction between surfers as tourists (surf tourism) and surfers as locals. For example, BELL and LEEWORTHY (1990) tested the theory that the tourist beach visit decision is different to those travelling short distances (day visitors and residents). They argue that travel costs for an entire trip are viewed as an investment while on-site costs per day were considered as costs. MILLER (personal communication 26<sup>th</sup> September, 2006) best describes this using the BLT (brokers-locals-tourists) model. Brokers, tourists and locals can all surf.

## CASE STUDY OVERVIEWS

### South Stradbroke Island (Queensland, Australia)

South Stradbroke Island is located at the northern end of the Gold Coast, a city of 450,000 people, approximately 75kms south of Brisbane in Queensland’s south east (see Figure 1). On average, the Gold Coast tourism region hosts over 75,000 visitors every day. This figure includes international, domestic overnight and daytrip visitors and represents approximately 16% of all people in the Gold Coast region on any given day. For the year ending June, 2004 the Gold Coast received a total of 4,285,000 tourists with 65% declaring the purpose of the visit was for holiday/leisure. Further research into nature-based tourism on the Gold Coast (GOLD COAST CITY COUNCIL 2003) has shown that 56% of all overnight visitors and 30% of all day-trippers go to the beach during their stay on the Gold Coast. As well as high levels of tourist visitation to beaches, the Gold Coast is said to boast the second largest resident surfing population in Australia. The Gold Coast is home to some of the best-known surf breaks in the world, including Snapper Rocks, Kirra, Currumbin Alley, Burleigh Heads and South Stradbroke Island and has been a popular surfing destination for over 40 years.



Figure 1. Map of Australia identifying case study locations. Adapted from GEOSCIENCE AUSTRALIA (1996)

The surf break at South Stradbroke Island is often rated as being in the top ten surf breaks in Australia. It is the northern Gold Coast's most prolific wave and attracts local, intrastate, interstate and international visitors. While there has been a surfable wave at this location for many years, the wave that is surfed today was for the most part created in 1986 when the Seaway that allows the Coomera and Nerang rivers to exit the Broadwater was shifted to the north and the channel enforced with rocks. At the same time a bypass system was constructed to assist with the movement of the northerly littoral sand drift. WHITLOW (2005) provides a useful description of the evolution of the Broadwater and the Spit to what it is today and POUND (2002) describes the construction and operation of the bypass system (see Figure 2). Pound comments that in the period from 1986-2002 the Seaway Sand Bypassing System produced a relatively low cost sand bypass system with minimal side effects (no erosion north or south of the entrance and the channel was maintained without dredging. Combined with a dominant South-east swell, the shelter provided by the northern breakwall of the Seaway (see Figure 2) and the consistent sand supply delivered by the bypass system (all byproducts of the Seaway channel project), South Stradbroke Island became and consistently remains one of the best surf breaks in Australia.

### South Stradbroke Island wave under threat

Over an 18-month period until mid 2003, the Gold Coast City Council (GCCC) worked with the local community to develop 'Harbour Vision 2020' a detailed community vision for the Broadwater, the waterbody on the western side of the Spit and South Stradbroke Island and surrounding land area of the Gold Coast. Explicit in the document adopted by GCCC was the assertion that there would be no development north of Seaworld Nara on the Spit. In 2004, the State Government rezoned the area, taking the locus of control from GCCC and declared their intentions to proceed with an investigation and Environmental Impact Statement (EIS) for the development of a cruise ship terminal, super-yacht marina and associated commercial facilities in this area. Chief amongst the arguments for the development of this facility was the economic windfall that would benefit the Gold Coast business community. Initial estimates by the Queensland government (QLD GOVERNMENT 2004a, QLD GOVERNMENT 2004b) were for a return on investment of between \$AUS 7-8million per year. The procedure established by the government for this process was for the undertaking of an EIS based on a notional

development. Independent advice sought by Surfrider Foundation Australia (SURFRIDER FOUNDATION 2005) as well as that confirmed by the P. Helman (personal communication, 26<sup>th</sup> November, 2005) was that if the development proceeded with a deepening of the Seaway channel and an extension of the southern breakwall, there would be a significant deterioration in surf quality at South Stradbroke Island. Surfrider Foundation as well as many in the surfing community (SAVE THE WAVES 2005, SAVE OUR SPIT 2005) believed that the government was not adequately considering the consequences of the proposal on the quality of surfing amenity at South Stradbroke Island. In part this may have been because many of the benefits expected to be lost were of a public or social good nature, not traded in markets and therefore not immediately obvious nor easily quantifiable and may also be indicative of the problems of current EIS processes to capture these important issues. Table 1 provides a summary of the issues at South Stradbroke Island.

### Bastion Point, Mallacoota (Victoria, Australia)

Mallacoota is a town of 1200 people located in the far east of Victoria, near the border with New South Wales (NSW) (see Figure 1). The East Gippsland Shire Council (EGSC) is currently in the process of preparing an Environmental Effects Statement (EES) to be submitted to the Victorian State Government for approval. The proposal outlines the preferred option for developing an all weather ocean access site for boating at Bastion Point. At the time of writing, the final proposal had not yet been made public but is expected to be similar to that of Option 3 in the Draft EES. This option calls for a 150m long X 2.8m high X 5m wide groyne to be constructed at Bastion Point (see Figure 3). The groyne is part of a larger upgrade to the area including improving road access, parking and fish cleaning facilities. Figure 3 describes the current surf breaks, existing infrastructure at Bastion Point as well as the proposed breakwall. As well as the potential economic benefits of the proposal, Jane Rowe, Mayor of EGSC, stated that



Figure 2. Photo of the Gold Coast Seaway and South Stradbroke Island. Source: Adapted from POUND (2002) for this paper.



Figure 3. Bastion Point, Mallacoota. Source LAZAROW (2006)

the Shire had been advised of a potential risk and liability issue should they fail to do something about the current access facilities, which most people believe to be unacceptable (personal communication, 11<sup>th</sup> August, 2006).

Bastion Point consists of three separate surf breaks that can link up to form one long surf break when swell conditions and sandbar formations line up. Bastion Point focuses wave energy from the southwest and west. It's the only surf break within 100km of Mallacoota that can hold surf when the wind and swell comes from the southwest, the dominant wind and swell direction, as the breaks are protected from direct southerly winds. As described in Figure 3, at the outer point is the wave break known as Broken Boards, the inside section is known as 'Bastion Point' and a section close to the beach is referred to as 'Big Rock'. Option 3, the preferred option will result in the groyne and new boat ramp being constructed between 'Bastion Point' and 'Broken Boards'. Table 1 provides a summary of the issues at Bastion Point.

### Bastion Point wave under threat

The EGSC conducted a Coastal Processes Study as part of the Draft EES (COASTAL ENGINEERING SOLUTIONS 2005). Two independently sourced reviews of this Study were highly critical of the methods used (STEPHENSON 2005, SHORT 2005) and Short in particular stated that Option 3 "will place the groyne across the end of the outer break, imposing an additional hazard to surfers as well as destroying part of the break." In the Recreational Amenity and Visual Values Study for the Draft EES, PRYOR (2005) however, suggests that there are 'opposing views about the impact that the breakwater walls will have on surf further out [which includes Option 3]. He goes on to state that the 'region then becomes a more attractive place for the type of visitor who is family orientated and with young children or teenagers who are interested in taking up surfing as a sport.' In other words, says TIM FRAZER (personal communication, 13th August, 2006), President of the Mallacoota Surfriders Association, 'the proposal will significantly modify local surfing conditions and is likely to have a significant impact upon the better surfing waves and a much smaller impact on the beach break and smaller waves.'

Table 1: Overview of issues

	South Stradbroke Island, Qld	Mallacoota, Vic
Wave Name	South Straddie, TOS (The Other Side)	Bastion Point, Big Rock, Broken Boards
Issue	Extension of Seaway / riverwall by up to 400m and dredging of channel by up to 6m to facilitate construction of cruise ship terminal and docking of cruise ships.	Construction of 150m groyne through surf break
Potential consequence/s	Wave quality Wave frequency Surfer safety	Wave quality Wave frequency Surfer safety

### STUDY DESIGN

The purpose of this investigation was to use a range of disciplines and techniques to collect site specific data on the socio-economic value of surfing to specific locales – in the case of this study: South Stradbroke Island in Queensland and Bastion Point in Victoria in the hope that the results would be able to add some value to discussions and decision-making processes surrounding the reduction in wave quality and potential loss of two surf breaks. The range of information being sought was not available through any particular technique so the approach to this investigation was to use techniques from the social sciences using the disciplines of economics, anthropology and political science. Table 2 below describes the disciplines and specific techniques used in this investigation.

Table 2: Summary of social science disciplines and techniques

Economics	Anthropology	Political Science
Gross market expenditure	Participant observation	Key stakeholder interviews
Interviews	Interviews	Literature review
Literature review	Literature review	Web-based survey
Web-base survey	Web-based survey	

## ECONOMICS

The existing information base on the economic value of recreational surfing, as opposed to the value of surfing at 'exotic' surfing destinations, is limited. Since KELLY (1973) there has been little in the way of academic investigation into the value of recreational surfing to specific areas. Save the Waves Coalition is currently working with Oregon State University to investigate the "growth in the global surf market, with the intention of finding data to support the concept that surf spots have a high economic value" (SAVE THE WAVES 2005). The other studies currently being undertaken are by Nelsen from UCLA and this author. Outside of this, the growth in the artificial surfing reef industry (primarily through two companies - ASR Ltd and International Coastal Management) has seen the development of a range of social and environmental impact studies for various locations, some of which include limited economic and social studies (eg TOURISM RESEARCH CONSULTANTS 2002, WEIGHT 2003, CHALLINOR 2003 and NEW ZEALAND TOURISM RESEARCH INSTITUTE 2004). In the 33 years since the report by Kelly, there have been no reports that attempt to provide a framework for the investigation of the market value of recreational surfing to particular locations, with the specific intention of using this data to argue for the protection of surf breaks. A number of studies into the economic value of recreational fishing have been undertaken in recent years (HENRY AND LYLE 2003, PENDLETON AND ROOKE 2006). From the study by Pendleton and Rooke, we can identify a number of important similarities in the behaviour and spending patterns (although not on the same items) of recreational fishers and surfers and an analysis of the techniques used to value recreational fishing provides a useful point of reference for undertaking a similar exercise for surfing. They write that (in the following quotes by Pendleton and Rooke the author has substituted 'recreational fishing' for 'recreational surfing') "the quantification of economic impacts associated with recreational surfing is complicated by the fact that these activities generate both market and non-market impacts. The market impact of surfing usually is assessed by examining how much money surfers contribute to the local economy through spending related to access, equipment and goods and services.... Commonly, the focus of market based studies is on gross expenditures."

The non-market value of activities like surfing is much harder to quantify and PENDLETON AND ROOKE (2006) argue that 'non-market values ... have been shown to generate substantial economic value beyond the expenditures generated by these resources'.

For example, BLACKWELL (2006) suggests that 'welfare measures such as consumer and producer surplus are traditionally used to measure social economic welfare or social good. Consumer surplus is the benefit that consumers receive from the use of a good above the price they pay for the good. Producer surplus accounts for the difference between what suppliers receive for a good and what it costs them to produce (or manage) the good. Profits as such do not provide the full value of benefits to society from surfing because profits only cover goods and services traded in markets and in an accounting sense only cover explicit costs and not implicit costs (e.g. opportunity cost of business owner's time and cost of capital). Much of the value involved in surfing and its interconnections with communities is not a good traded in markets and has what economists call public good characteristics. Non-market valuation methods are generally used by economists to attempt to account for these additional values.

The information collected during the surveys and interviews has been used to calculate the gross market expenditure of surfers in particular locales and draws on the technique that was used by the

Commonwealth of Australia for the National Recreational and Indigenous Fishing Survey (COMMONWEALTH OF AUSTRALIA 2003) as well as on the method used by ERNST AND YOUNG (2003) used to calculate the 'direct impact' of spending in the Surf Coast Shire and Victoria as a result of the Rip Curl Pro event.

## Anthropology and Political Science

Participant observation is a method of collecting information about the operation of, and attitudes existing in, a community through a researcher living in or visiting the area for an extended period (SARKISSIAN et al 1986). The participant observer becomes known within the community and gets to know the community in a more intimate and detailed way than someone who simply comes to do a survey and then departs. The participant observer consequently is given much more detailed information and may identify specific issues and assist groups to address these by developing mutually agreed principles and practice (URP TOOLBOX 2006) to collect and report on data.

Participant observation was chosen because it enabled the researcher to build an understanding of how surfing was embedded in participant's lives and lifestyles and to also get a much better understanding of the social politics within communities.

The web is an emerging consultation tool and both its application and number of users continue to expand. Surveys are a method used to collect information from a specific population and can provide a 'snapshot' of attitudes and ideas at a particular time. They can be used to determine community attitudes or target a particular group. Surveys can be used to collect broad general information from or about a large audience or specific information from targeted groups (URP TOOLBOX 2006). Both surveys and web-based surveys were chosen as an appropriate instrument because it enabled the researcher to compare answers from participants as well as collect data over an extended period of time in multiple locations in a cost effective manner.

Interviews with key stakeholders were chosen as a technique for data collection because with suitable levels of competency on the part of the interviewer, interviews enable both the collection of specific datasets as well as the ability to explore related or tangential topics of interest.

## Survey and web-based survey

An initial survey was developed and piloted on the Gold Coast in October, 2005. Following this, onsite surveys were run at Bastion Point from 11-13th November, 2005. Onsite surveys were run at The Spit (the parking or paddling location to get to South Stradbroke Island) on 5th February, 2006. Following both of these data collection efforts, the surveys were put online on a website ([WWW.GOODFORTHEPLANET.COM](http://WWW.GOODFORTHEPLANET.COM)) in March and further information was collected. Table 3 below provides details of the surveys. The surveys comprised 3 sections: personal information; socio-economic information about surfing; and questions on coastal planning and management. The surveys had been submitted to and run with approval from the Australian National University Ethics Committee. The survey for Bastion Point contained 43 questions and the survey for South Stradbroke Island contained 50 questions. Time taken for participants to complete each survey ranged from 10 to 50 minutes with an average time of approximately 30 minutes.

The dates allocated to conduct the onsite surveys were specifically chosen because they coincided with events at each location. At Bastion Point, the Surf to Save Bastion Point competition was being run and there was a Save Our Spit public demonstration on the Gold Coast.

Table 3: Survey data collection for South Stradbroke Island and Bastion Point

Date	Survey site	On site surveys	Online surveys	Total
November 11-13, 2005	Bastion Point	27		
February 5, 2006	South Stradbroke Island	73		
March 2006	Bastion Point		5	
March 2006	South Stradbroke Island		5	
				111

### Interviews and meetings with key stakeholders

Interviews were conducted with a range of key stakeholders from community, industry and government for the Bastion Point study. No interviews were conducted for the South Stradbroke Island study. A total of 14 individual interviews, 1 focus group and 4 meetings with the Save Bastion Point campaign group in Mallacoota and Melbourne were conducted over two visits to Mallacoota and two visits to Melbourne between November, 2005 and August, 2006. All interviews and focus groups were recorded totalling 974 minutes of data. Email records for this period have also been used. Other techniques used to capture and analyse data during this study are websites ([WWW.SAVEBASTIONPOINT.ORG](http://WWW.SAVEBASTIONPOINT.ORG), [WWW.SURFRIDER.ORG.AU](http://WWW.SURFRIDER.ORG.AU), [WWW.SAVETHEWAVES.ORG](http://WWW.SAVETHEWAVES.ORG)) and phone conversations.

Data analysis has been conducted with the use of Microsoft Excel (for the survey data and triangulation) and Express Scribe, a freely downloadable program that assists with data transcription.

## RESULTS

### Economic Information

Table 4 provides a summary of economic information collected from the surveys. Participants in the survey were asked to estimate the number of surfers they saw each time they surfed the area and also, based on their experience, the number of surfers they thought surfed at South Stradbroke Island each day on average. For South Stradbroke Island, the number of surfer visits per year was calculated by determining an average number of surfers per day and multiplying this by 365 to get an annual average. On any given day and subject to surf conditions, the number may be higher or lower. It is not uncommon for there to be over 300 surfers per day at South Stradbroke Island on days when the surf conditions are favourable. A more accurate figure could be arrived at by stationing a field assistant on the beach at South Stradbroke Island over a 12-month period, however, seasonal swell conditions might indicate a 'low swell' year thereby casting doubt on the validity of the information. The figure for the number of surfers per year was determined by calculating the frequency of surfing effort by those who answered the survey question (eg daily, weekly, monthly) against the number of surf visits per year answered in the same category. The value for the 'average amount spent per surfer on surfing each year' was determined by asking a series of questions related to market expenditure on surfing in this region and the value for the 'average amount spent per surfer at specific beach break each year' was determined by dividing the

mean value for percentage surfing effort at the particular surf break by the total amount spent on surfing each year.

Table 4: Summary of economic information

Question	South Stradbroke Island	Bastion Point
Number of surfers per year	11,500 approx	75 (number of resident who are surfers)
Number of surf visits per year	64,000 approx	Not yet estimated
Average amount spent per surfer on surfing each year	\$AUD4365	\$AUD4397
Average amount spent per surfer at specific beach break each year	\$AUS1775	\$AUD3078
Total amount spent by surfers on surfing at specific surf break each year	\$AUS20,000,000 approx	\$AUD230,850 approx

At Bastion Point, because of the isolated location of the town and the small number of residents, interviewees were specifically asked to estimate the number of surfers who lived in the town. Two answers were discounted because they were significantly higher than the average. The number of surf visits per year could not be accurately calculated because only data for resident surfers was collected. The financial values were calculated in the same manner as those for South Stradbroke Island.

### Non-economic information

For South Stradbroke Island, in response to the question on whether participants believed the 'cruise ship terminal and super-yacht marina' would have any impact on surfers, 97% of respondents surveyed thought that the project would destroy the surf at South Stradbroke. While convincing, this answer may have been artificially higher because survey data was collected at a public event to protest against the proposed development. Common concerns raised by those interviewed included: reduction in access, reduction in amenity, increase in water quality problems and pollution risks to people and marine life, decrease in trust in government, increased negative social impacts on other already crowded surf breaks, increase in criminal behaviour with bored youths, increase in risk to surfers from significant changes to tidal flow in the Seaway and the project would result in people turning away from surfing and aspects of a healthy lifestyle which would mean increased health costs for the community.

At Bastion Point, those against the proposed development raised a number of issues in support of their case. The most common issues raised include:

- The proposed development increases rather than decreases the risk to surfers of being hit by a boat;
- Bastion Point is the only surf break that those without vehicles (eg school children) can access relatively safely and quickly;
- The surfers range in age across three generations and the interaction between surfers provides a significant mentoring and intergenerational co-learning experience;
- The development will be a blight on the otherwise 'pristine' environment (i.e. it's aesthetically displeasing);
- The loss of local sovereignty;

- The proposal did not have the support of the majority of residents; and
- The proposal contains significant deficiencies and errors in the economic, biophysical and social values reports.

## DISCUSSION

This study remarks on surfing as an important coastal recreational pursuit. It is not the goal of this investigation to cast judgement on one or other of the proposals but rather to identify the significant socio-economic value of surfing to both of these regions and to suggest that because of this value, closer attention should be given to surfing interests.

Donald Horne, in *The Lucky Country* writes: "when the waves are running right and the weather is fine, the crowds on the beaches are doing more than enjoying themselves: they are worshipping the body and feeling identity with sand and sea and sky. Breaking through the disciplines of organised sport, people amuse themselves as they wish in outdoor games or relaxations that express a belief in the goodness of activity and nature" (HORNE D 1964, in DUTTON G 1985).

To date, there has been little formal research on the 'significant' economic and social benefits that surfing provides to specific locales, and, unlike other sports such as recreational fishing, surfing has not been able to use the weight of economic or social welfare evidence to argue for the maintenance of or improvement to surfing amenity. For example, an examination of government budgets in Hawaii by KELLY (1973) revealed that Oahu's 60,000 surfers contributed over \$10,500,000 to the economy but "the only state funds known to have been spent on surfing at any time are... \$123,500" for two studies, compared to \$95,000,000 for construction and improvements of existing and planned harbours and facilities to improve recreational fishing amenity. Kelly argues that the imbalance in priorities for recreational needs is obvious. For example, in relation to Bastion Point, PRYOR (2005) in the *Recreational Amenity and Visual Values Report* for the Draft EES, writes that 'surfing numbers appear to be growing in Mallacoota according to local surfers and surf equipment shops are opening up. There are concerns about the impacts of potentially less access to the bigger surf further out resulting from ramp options 2 and 3 (Broken Boards). However, this is unlikely to affect more than a small number of older, more experienced surfers. Negative social and economic impacts from options 2 and 3 are unlikely to be significant in Mallacoota in this aspect of the study but they will be more significant from a disruption to opportunities for families because of option 1.' It is clear from this statement that recreational boating and its socio-economic benefits have been given a higher priority than surfing, however, there is little in the way of quantified evidence to suggest that this will actually be the case. Similarly, the value of recreational surfing at South Stradbroke Island was measured to be almost two-and-a-half times greater than the projected revenue from a development that would have seen at best a significant reduction on wave quality at the break and at worst, the complete loss of surfing recreational amenity.

There is no doubt that surfing interests have seldom been considered in the scheme of recreational activities in a manner similar to organised sporting activities such as football, pool swimming or basketball and the surfing community, while organising itself as an effective lobby group against environmental issues over the past two decades, has not made the same progress on issues such as wave quality, wave frequency and other aspects of surfer safety. Similarly, the surfing industry has been largely ineffective and possibly disinterested in such issues to date. There is, however, a wave of change on the horizon and there has been

considerable activity on these issues over the past few years, albeit without significant scientific investigation.

These two case studies demonstrate surfing has both significant economic and social benefits to communities, albeit in different ways. In attempting to estimate the value of recreational surfing, we also need to consider what economists call non-use values such as existence, bequest and option values. Non-use values are the monetary values that people hold for not destroying or degrading a public good such as a surf break even if they never intend to use it themselves (existence – value in knowing the break exists; bequest – value of leaving the break for future generations; option value – value in having the choice of using or not using the surf break in the future). At Mallacoota, apart from a telegraph tower, the view from the water back to the land when one is surfing is much the same as when Captain Cook sailed past the area over 200 years ago and many in the community think the construction of a 150m concrete groyne will significantly alter the aesthetic values of the location. At South Stradbroke Island, a short paddle across the Seaway allows a surfer to escape a city of close to 500,000 people and surf in a largely undeveloped area. This aesthetic is part of what makes the surfing experience so special at both locations.

In the case of South Stradbroke Island, this research demonstrates the significant economic value of the surf break to the Gold Coast, a factor that was largely ignored in discussions about the efficacy of the proposed cruise ship terminal. At Bastion Point on the other hand, it is not clear whether the economic value of the surfing resource is greater than that anticipated by the proposed boat ramp development, however, the surfbreak also plays an important role in the social fabric of the community and may be more readily linked to an 'eco' or 'wilderness' type economic future for the town. At a time when governments are increasingly concerned about community health, mentoring, civil society, social health and obesity amongst children, does it make sense to destroy the places we as a community hold dear. For example, the gross market expenditure by residential surfers at Bastion Point is approximately \$230,000 per year; however, the 'social good' value that the surf break as a resource provides for the town is significant. This social value combined with the not-insubstantial economic market value of the surf break should be taken into account in the decision-making process. The public trust doctrine certainly supports this argument.

At the heart of these issues lie some fairly serious coastal planning and management questions. On the Gold Coast, after a lengthy local government-community engagement process on future land use for an area, the State government rezoned the land in question and initiated a proposal that contradicted community will. In Mallacoota, the Bastion Point boat ramp has been an issue of contention for over twenty years, this being the third attempt to get to a resolution on the issue. The town remains divided and personal relations are strained. There is a grave danger that a cynical public will lose interest in the management and protection of this precious resource. Peer reviews of the coastal processes study at Bastion Point are highly critical of the methodology used and pose serious questions about the in-house ability of local councils to adequately peer review consultants' reports. At South Stradbroke Island, no information had been provided on the exact nature of the dredging program and possible extension to the seaway walls needed to accommodate cruise liners and the community was forced into 'shadow boxing' and second guessing a notional proposal. In both of these case studies, the complexities surrounding coastal processes and decision-making for coastal planning and management were not well understood and with a little more insight, could have been managed far better.

## CONCLUSION

“The tearaway freedom of the Man from Snowy River hurtling down the mountain ranges on his horse is akin to the abandon and skill of the surfboard rider, cutting white across the blue face of the breaking wave and then holding his course down through the flying foam” (DUTTON 1985).

This paper makes a departure from traditional approaches to coastal management, which seek to mitigate our impacts on the coast using legislative tools such as regulations about how ‘many’, or ‘how big’ or ‘how often’ or ‘when’ we might visit a place, live, work or the manner in which we should enjoy a place. In this sense, there is a very real belief that “the tradition of the beach is not yet understood or accepted in intellectual terms, although it is instinctively endorsed by the vast majority of Australians” (DUTTON 1985). The underlying theme behind this approach is that after a lifetime of living on, working and researching coastal management issues, the author is convinced that the policies of stewardship and custodianship that the government believes will lessen our coastal footprint and lead to a more sustainable use of coastal resources are more likely to be successful if we celebrate the coast and all it has to offer.

There can be no doubt that the beach has replaced the bush as our national icon and the surfer must then be our national symbol. Yet we know little about the full value of surfing to individuals and to communities in any formal sense. This paper is part of a larger study that attempts to remedy this. By using a range of techniques from the social sciences, this study attempts to work towards the development of a framework for this type of investigation that will hopefully lend itself to the development of an accepted standard for further studies and work.

## ACKNOWLEDGEMENTS

Special thanks to Lars Michaelsen, Prof Rodger Tomlinson, Greg Stuart, Rocio Noriega and Liz Caddick for their respective roles in the Gold Coast Case study; and to Gary Proctor, Leo op den Brouw, Tim Frazer and Andrew Nixon for their assistance with the Mallacoota case study. Also, thanks to Prof Stephen Dovers and Dr Boyd Blackwell for their comments during the review process.

## LITERATURE CITED

- Australian Bureau of Statistics, 1998. Pocket Yearbook Australia. *Commonwealth of Australia*, Canberra.
- BATLEY, G.E. and COCKS, K.D., 1992. Defining and Quantifying National Coastal Resources Environment Australia accessed [http://www.environment.gov.au/marine/natmis/subject\\_info/coastal\\_subjects/management/coast\\_resources.htm](http://www.environment.gov.au/marine/natmis/subject_info/coastal_subjects/management/coast_resources.htm), 15 April 1999.
- BELL, F.W. and LEEWORTH V.R., 1990. Recreational demand by tourists for saltwater beach days, *Journal of Environmental Economics and Management*, 18(3), 189-205.
- BLACKWELL, B., 2006 (Boyd.Blackwell@chisholm.vic.edu.au) (30 October 2006) Re: coastal economics Personal email to N. Lazarow (n.lazarow@griffith.edu.au)
- BLOMBERG, G.D., 1982. Coastal Amenities and Values: Some Pervasive Perceptions Expressed in Literature *Coastal Zone Management Journal*, 10(1-2), 53-78.
- BUCKLEY, R., 2002. Surf Tourism and the Sustainable Development in Indo-Pacific Islands. *The Industry and the Islands Journal of Sustainable Tourism*. 10(5). 405-24.
- CARROLL, N., 2004. Course notes for Bachelor of Surf Science and Technology Degree, *Edith Cowan University*, Bunbury.
- Coastal Engineering Solutions, 2005. Ocean Access Boat Ramp Bastion Point, Mallacoota EES – Coastal Processes Study. *Final Report prepared for East Gippsland Shire Council*, February, 2005.
- CHALLINOR, S., 2003. Environmental Impact Assessment for Artificial Surfing Reefs: A United Kingdom Perspective. *Proceedings of the 3<sup>rd</sup> International Surfing Reef Symposium*, Raglan, New Zealand, June 22-25, pp. 351-359.
- HENRY, G.W. and LYLE, J.M., (eds) 2003 *The National Recreational and Indigenous Fishing Survey*, Canberra. Australian Government Department of Agriculture, Fisheries and Forestry,.
- DAVIS, G. and WELLER, P., 1993. *Strategic Management in the Public Sector: Managing the Coastal Zone*, Resource Assessment Commission, Canberra.
- DOLNICAR, S. and FLUKER, M., 2003. Who's Riding the Wave? An Investigation Into Demographic and Psychographic Characteristics of Surf Tourists, *CAUTHE Conference, Coffs Harbour, Australia*.
- DUTTON, G., 1985. *Sun, sea, surf and sand - the myth of the beach* Melbourne, Oxford University Press.
- Ernst and Young, 2003. Economic Impact Assessment of the Rip Curl Pro 2003. Melbourne, Victoria, *Surfing Victoria*.
- FLUKER, M., 2003. Riding the Wave: Defining Surf Tourism. *CAUTHE Conference*, Coffs Harbour, Australia.
- Geoscience Australia. 1996. Maps of Australia. Commonwealth of Australia. Available from <http://www.ga.gov.au/map/images.jsp>.
- Gold Coast City Council, 2003. *Nature-Based Tourism* [http://www.goldcoastcity.com.au/t\\_standard2.aspx?pid=5069](http://www.goldcoastcity.com.au/t_standard2.aspx?pid=5069), Accessed 5th September, 2006.
- HOLLIDAY, S., 1998. A Partnership for Sustainability: The Key to Managing Our Precious Coast. *8<sup>th</sup> Annual NSW Coastal Conference*. Bateman's Bay, NSW.
- KAMPION, D., 1997. *Stoked! A history of surf culture*. Santa Monica, General Publishing Group.
- KAMPION, D., 2003. *Stoked! A history of surf culture*. Utah, Gibbs Smith.
- KELLY, J., 1973. *Surf Parameters Final Report Part II Social and historical dimensions*, University of Hawaii James K.K. Look Laboratory of Oceanographic Engineering.
- LANAGAN, D., 2002. Surfing in the Third Millennium: Commodifying the Visual Argot. *The Australian Journal of Anthropology*, 13(3), 283-91.
- NAZER, D., 2004. The Tragicomedy of the surfers' commons. *Deakin Law Review* 9, 655-714.
- NELSON, C. and PENDLETON, L., 2006. Economic value of surfing at Trestles in San Clemente, CA. *30<sup>th</sup> International Conference on Ocean Engineering*, San Diego, September 3-8 2006.
- New Zealand Tourism Research Institute, 2004. Orewa Artificial Reef: Impacts, Perception and Development Issues: New Zealand Tourism Research Institute [http://www.asrltd.co.nz/downloads\\_reef.htm](http://www.asrltd.co.nz/downloads_reef.htm), accessed 3 May 2006.
- NSW Government, 1989. Legislative Council Standing Committee on State Development: Coastal Development

- in NSW – Public Concerns and Government Processes Discussion Paper No.2 *Parliament of NSW*, Sydney NSW.
- OECD, 1991. Environment Committee Natural Resource Management Group: Draft Final Report: Policies for integrated coastal resources management. *OECD*, Paris.
- PENDELTON, L. and ROOKE, J., 2006. Understanding the potential economic impact of marine recreational fishing: California, University of California (unpublished paper) <http://linwoodp.bol.ucla.edu/#Recent%20Papers> accessed 7 September 2006.
- POUND, M. and MCILWAIN, G., 2002. The use of fixed sand bypassing systems at tidal entrances. *Coast to Coast 2002*, Tweed Heads, NSW.
- Pryor Knowledge 2005 Stage 2 Ocean Access Boat Ramp, Bastion Point, Mallacoota Contract No. 641/045 Report A Recreational Amenity and Visual Values. [www.egsc.gov.au](http://www.egsc.gov.au), sourced 5 October 2005.
- Queensland Government 2004a Initial Advice Statement Gold Coast Marine Precinct Development. *Coordinator General's Office*, Queensland.
- Queensland Government 2004b Terms of Reference Gold Coast Marine Precinct Development *Coordinator General's Office*, Queensland.
- RIDER, R., 1998. Hangin' ten: the common-pool resource problem of surfing *Public Choice* 97, 49-64.
- SARKISSIAN, W., PERLGUT, D., and BALLARD, E., 1986. Community Participation in Practice. In: Sarkissian W, Perlgut D, Ballard E (eds) *Community Participation in Practice* Impacts Press, Roseville, NSW.
- Save Our Spit. 2005 No terminal at Straddie. Save Our Spit Alliance Incorporated. Available from [www.saveourspit.com](http://www.saveourspit.com), accessed 25 November, 2005.
- Save the Waves. 2005. Save the Waves Coalition 2005 Annual Report. Available at [www.savethewaves.org](http://www.savethewaves.org), accessed 21 October 2006.
- SHORT, A., (a.short@geosci.usyd.edu.au) (16 September 2005) Re: Bastion Point. Personal email to N. Lazarow (neil.lazarow@anu.edu.au)
- STEPHENSON, W., 2005. RE: Environmental Effects Statement for the Bastion Point Ocean Access Boat Ramp Mallacoota. *Letter to Friends of Mallacoota 19 July 2005*.
- Surfrider Foundation, 2005. Gold Coast Marine Project – Submission on the draft terms of reference for an Environmental Impact Statement. [www.surfrider.org.au](http://www.surfrider.org.au), accessed 3 October 2006.
- Tourism Research Consultants, 2002. Proposed Artificial Surf Reef Opunake, South Taranaki: Economic and Social Impact Report. [http://www.asrltd.co.nz/downloads\\_reef.htm](http://www.asrltd.co.nz/downloads_reef.htm), accessed 3 May 2006.
- UNDERWOOD, A.J. and CHAPMAN, M.G., (eds.) 1995. *Coastal Marine Ecology of Temperate Australia*. University of NSW Press Ltd, Sydney.
- Urban Research Program Toolbox, 2006. Welcome to the URP Toolbox. Griffith University. Available at <https://www3.secure.griffith.edu.au/03/toolbox/>, accessed 3rd September, 2006.
- WEIGHT, D., 2003. *Economics of surf reefs. 3<sup>rd</sup> International Surfing Reef Symposium*, Raglan New Zealand June 22-25 Pp. 351-359.
- WHITLOW, R., 2005. *A geomorphological outline of the Spit and the southern Broadwater, Gold Coast, Queensland: their environmental history & modifications* prepared for the Gold Coast Combined Chambers of Commerce.