

## THE VALUE OF RECREATIONAL SURFING TO SOCIETY

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This article comments briefly on the origins of surfing and its growth through the 20th century, discusses the growth of participation in surfing, and then uses a range of social science techniques including observed market expenditure and nonmarket valuation to describe the socioeconomic value of surfing at various locations. The findings demonstrate the significant economic, social, and cultural importance of surfing amenity, the need to clearly articulate and measure changes in recreational amenity, and the need to consider any negative impacts on surf breaks and the natural environment that may occur as a result of development, coastal planning, and protection works.

Key words: Surfing; Surf quality; Coastal planning and management; Economics;  
Recreation and tourism; Serious leisure

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### 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, p. 1)

Coastal areas contain some of the world's most diverse and productive resources (Underwood & 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. These reasons include: 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 and later improved road transport has allowed easier access to the coast; 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 the sea have become more attainable (Government of New South Wales, 1989; Lazarow, 2007; Organization for Economic Co-operation and Development [OECD], 1991).

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This article briefly describes the evolution of surfing and then introduces the topic of surfing to coastal recreation and tourism management by providing an overview of the evolution of the coastal lifestyle. The article also describes the little that is known about the total economic value of surfing to society and briefly explores the role that the tourism industry could have in assisting with the management of surf breaks.

### The Study

Surfing is a major recreational and economic activity involving intimate human interaction with diverse coastal environments and peoples and is expanding in intensity in traditional locations, as well as reaching 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 in many countries, means that the importance of the economic and social value of surfing to various regions should not be underestimated.

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 (Kampion, 1997). The history of modern surfing, however, can be traced to Hawaii at the start of the 1900s where, after being almost wiped out due to the strict rules of the Protestant missionaries, surfing found a renaissance thanks mainly to it capturing the enthusiasm of a number of *Haole* (white people or foreigners). The period after World War II 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 fiberglass 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 relatively cheaper, making travel to surf destinations both more affordable and easier. From the early 1960s onwards, surfing was popularized through Hollywood movies such as *Gidget* and through the music of Dick Dale, the Beach Boys,

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.

### The Beach and Surfing

Over the past decade, a number of attempts have been made to estimate the total number of surfers globally. Estimates range from around 10 million (Buckley, 2002a) to 17 million (Atkins, 1997). Buckley indicates that participation is likely to be increasing at 12–16% per annum, which suggests that the global surfing population in 2007 was somewhere between 18 and 50 million people. More specific information is available on participation rates in Australia and the US. In the US it is estimated that over 3.5 million people participate in surfing each year (Leeworthy, Bowker, Hospital, & Stone, 2005). The Australian Bureau of Statistics (ABS) estimated the total number of Australians who participated in surf sports for the 2005–2006 year to be 269,700 (Commonwealth of Australia, 2007a). Surf sports included surfing and windsurfing but not surf-life-saving, which is accounted for separately; however, the Sweeney Report (Surfing Australia, 2006), an independent market research study that specializes in data collection on participation in adventure sports in Australia, found that national levels of participation in surfing (as opposed to surf sports) have ranged from 9% to 14% since 1988, when the organization first started collecting data. In 2005–2006, participation was estimated to be 12%, down from 14% the previous year (Surfing Australia, 2006). Based on the population census in June 2006 (Commonwealth of Australia, 2007b), this would equate to approximately 2.5 million surfers in Australia. These anomalies are described in more detail in Lazarow, Miller, and Blackwell (2007).

Surfing, however, takes place in many more locations than just Australia and the US and is expanding both in intensity in traditional locations as well as reaching into new environments, often in the developing world. Atkins (1997) stated that surfing was practiced in over 70 countries with over 2 million surfers in Japan, more than 1 million in Europe, and almost 2 million in South America; however, these figures have not been verified.

There can be no doubt that the value of surfing to society and the imprint of surfing on lives and lifestyles has grown significantly over the past three to four 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, and plays a major part in the tourism strategies for many coastal locations in Australia and overseas. Many of these tourists who are encouraged to trial surfing as part of a coastal holiday may be more likely to embrace the sport in the future. With growing affluence, tourists who are occasional surfers may become motivated to use some of their wealth to preserve surf breaks.

It is clear that surfing's influence extends beyond recreation and tourism and it can bring a "social fabric" that helps define communities and people. Surfing as an activity and as a culture can link generations, bring people together, provide an avenue for outdoor-based physical activity, be good for business, and can help build towns and communities.

### What Motivates Surfers?

A number of studies have been undertaken into aspects of leisure and motivation as they relate to surfing, both for residents of and visitors to an area. To have surfing variously described as a sport, a pastime, a profession, a religion, a spiritual communion with nature, and a way of life provides fertile ground for further sociological and anthropological investigation and suggests that, for many, their relationship with surfing is in fact quite complex (Kampion, 1997; Pearson, 1979; Preston-Whyte, 2002a).

Miller, Auyong, and Hadley (1999) suggest that in acknowledging the ritual aspects of surfing, it is important to understand the motivation and passionate commitment that both locals and tourists exude in the pursuit of their favored coastal activity. In studies of amateurs, volunteers, and hobbyists in sports, science, and the arts, Stebbins (1992) noted intense levels of personal involvement and high levels of technical competence, and

coined the term "serious leisure" to describe a commitment that was tantamount to professionalism:

Serious leisure can be defined as the systematic pursuit of an amateur, hobbyist, or volunteer activity that is sufficiently substantial and interesting for the participant to find a career there in the acquisition and expression of its special skills and knowledge. (p. 3)

Surfers, then, express their individual personalities and being through their surfing and beach-related behavior and language. In becoming involved in "collective expression or 'action,'" surfers create what Irwin (1977) has termed "scenes." Understanding the values and motivations that drive these enthusiasts is vital to successfully managing the key issues for these groups. This cultural evolution of modern surfing has been well documented in both Australia (Booth, 2001) and parts of the US (e.g., Boulton, 2001). Johnson and Orbach (1986) in particular present an interesting examination of the differences between surfers and fishers on the east and west coasts of the US.

A further concept worth discussing is that of "spaces." Preston-Whyte (2002a) argues that for all surfers, surfing space is constructed around the idea of a surf break and the natural environment must be included in an understanding of surfing. This is a critical point and the one on which the nature–society constructs around the visions for "sustainability" must surely rest. There is no doubt that at the beginning of the 21st century, the coastal zone has become a highly contested space with many groups and individuals competing for access and preferential use rights to the sand and the nearshore zone and, as Table 1 describes, surfing quality or the surfing resource can be impacted in a number of ways, both environmentally (Challinor, 2003; Kelly, 1973) and culturally (Booth, 1995, 2001; Nazer, 2004; Preston-Whyte, 2002a). These impacts in turn also significantly affect the socioeconomic well-being of communities that have a strong relationship with the beach (Lazarow, 2007).

The concept of "Surfing Capital" was first introduced into the literature by Lanagan (2002), who suggests that it refers to the symbolic owner-

Table 1  
Typology of Surfing Capital

| Item           | Description   | Natural or Human Impact   |
|----------------|---|---|
| Wave quality   | Dominant local view of how the wave breaks.<br>Both beauty and physical form become assessable. | Construction of coastal protection/amenity structures (e.g., groynes, seawalls, piers, seawalls, river walls, breakwaters, artificial reefs)  |
| Wave frequency | “Surfable” waves measured against an accepted standard.   | Sand management (e.g., beach fill, dredging, sandbar grooming)  |
| Environmental  | Environmental or biophysical conditions that may mitigate against a surfers’ physical health.   | Biological impacts (e.g., water quality or nutrient loading)<br>Climate change/variability (e.g., temperature change, sea level rise, less or more storms less or more often)<br>Amenity of the surrounding built and natural environment<br>Marine predators (e.g., sharks)  |
| Experiential   | Societal conditions surrounding the surfing experience.   | Legislation/regulation that might grant, restrict, or control access (e.g., community title, private property, payment strategies, craft registration, proficiency requirement, policing)<br>Code of ethics (i.e., road rules for the surf)<br>Signage & education strategies<br>Surf rage, aggression, intimidation<br>Self-regulation/localism/lore<br>Mentoring, sharing, physical activity, challenge, joy and laughter, well-being, community spirit self-fulfillment<br>Local aesthetic |

ship of the sport, which has been captured from local surfers and beaches through the commodifying business practices of the global surfwear industry. Surfing Capital, however, can be described more broadly to include a range of issues that may affect surfing and the surfing experience, such as: wave quality and frequency (e.g., Challinor, 2003; Corne, 2007; Nelsen, 1996; Scarfe, 2008); environmental issues including water quality (e.g., Booth, 2001; Chapman & Hanemann, 2001; Nelsen, Pendleton, & Vaughn, 2007; Surfrider Foundation, 2007); resource management issues such as recreation demand management (e.g., Manning, 1999, 2004) and serious leisure (e.g., Stebbins, 1992); and sociocultural issues such as local identity and attachment to place (e.g., Irwin, 1977; Kelly, 1973; Nazer, 2004; Preston-Whyte, 2002a, 2002b). A more comprehensive typology of Surfing Capital is presented in Table 1, which identifies the range of issues and values that should be considered when discussing factors that may impact surfing.

Surfers’ sensory construction of the (surfing)

world is gained through direct contact with the ocean and the beach and the elements such as waves, wind, tides, currents, and weather. One of the questions that is central to this study asks whether surfers and the industry that depends on them will survive if the “leisure space” is reinvented. What threats are there to surf quality and what are surfers and the surf and tourist/recreation industry doing about it? In the face of an ever-increasing litany of threats, many of them human induced, such as pollution and inappropriate development, natural climate variability, and the potential and realized impacts of human-induced climate change, is it possible to reinvent coastal space with a deteriorated amenity and how will this affect the tourist experience, the local community, and the industries that rely on it?

#### Placing a Value on the Environment, the Beach, and Surfing

Only in recent years have scholars and governments turned their attention to understanding the

full market and nonmarket value of coastal and marine resources. Costanza et al. (1997) estimated the total economic value of the world's marine and terrestrial ecosystems (e.g., existence value and bequeathment value of resources) and were seminal in this field. They state that environmental goods and services have both market and nonmarket values. Some uses are viewed in market terms, even though a market for their goods and services does not really exist. Some goods and services do not have a market value or have a value to society that cannot be adequately expressed in market terms. Some of these are crucial to the maintenance of a healthy society and its economy. Surfing is one of these. Even where an individual does not surf, they may see the benefits to others and to future generations and society from doing so. These values may be termed nonuse values and include option, bequest, existence, and vicarious values. As can be seen in Figure 1, much of the value of surfing is not and may not be translated through use values or market values. For example, while scholars in the US have made significant progress on the development of the National Ocean Economic Project, which includes a number of nonmarket studies, knowledge of the non-use values of beaches is generally poorly understood and considerably lacking in Australia and is seldom used in the decision-making process.

### The Value of Surfing

There are a number of studies that describe the impacts and importance of surf tourism and the need for sustainable development in the Indo-Pacific and Central American regions (Buckley, 2002a, 2002b; Dolnicar & Fluker, 2003; Instituto Costarricense De Turismo, 2006; Ponting, McDonald, & Wearing, 2005) but to date there has been very little investigation into the value of surfing at major surfing destinations around the world, possibly because they are viewed as the places people live and not the places people visit and have traditionally not been picked up in tourism-related studies.

As well as the established markets in the US, Europe, and Australia, there is strong anecdotal evidence to suggest that surfing is making headway into emerging or growing markets in Asia and

also South America through the growth of surfwear and equipment sales. While there is no global dataset that provides an indication of the value of the surf industry, a number of approximations can be made from what data are publicly available. The Surf Industry Manufacturers Association (SIMA), the trade association of competing surf industry product suppliers in the US, reports that the (US) surf industry had grown from US\$6.52 billion in 2004 to US\$7.48 billion in 2006 (an increase of 14.5%) (Surf Industry Manufacturers Association, 2007). Of the surfwear companies, it is commonly assumed that Quiksilver, Billabong, Rip Curl, and O'Neill hold the majority of the market share. Both Quiksilver and Billabong are now publicly listed companies, Quiksilver in the US and Billabong in Australia. Billabong's 2006–2007 Financial Report states that revenue from continuing operations was US\$1 billion and total consolidated assets were valued at US\$1.25 billion (O'Neill, 2007). For the 2005–2006 period, Quiksilver's net revenue was approximately US\$1.8 billion and their total assets were valued at approximately US\$2.1 billion (McKnight Jr., 2006).

In 2005–2006, Quiksilver Inc.'s sales distribution was reported as being 46% in the Americas, 43% in Europe, and 11% in the Asia-Pacific region (McKnight Jr., 2006). In 2006–2007, Billabong's sales distribution was 49%, 21.5%, and 29% for the same regions, respectively (O'Neill, 2007). Based on these figures, it is conceivable that the market outside of the US is at least equal to if not larger than the US market, which would place a conservative estimate of this component of the surf industry alone at close US\$15 billion.

While these figures include the clothing and retail arms of the major surf apparel companies, it is likely that they significantly underaccount for the total economic value that could be attributed to recreational surfing (as described in Fig. 1). The socioeconomic value of surfing to many communities is believed to be significant and any negative impact to the surfing amenity (see Table 1) in these locations may have serious consequences for the resident surfing population, visitors to the area, the local surf industry, and the local community. Nielsen (2007) makes similar remarks about the value of family sailing in the Archipelago Sea, between Finland and Sweden. Fitzsimmons (2007)

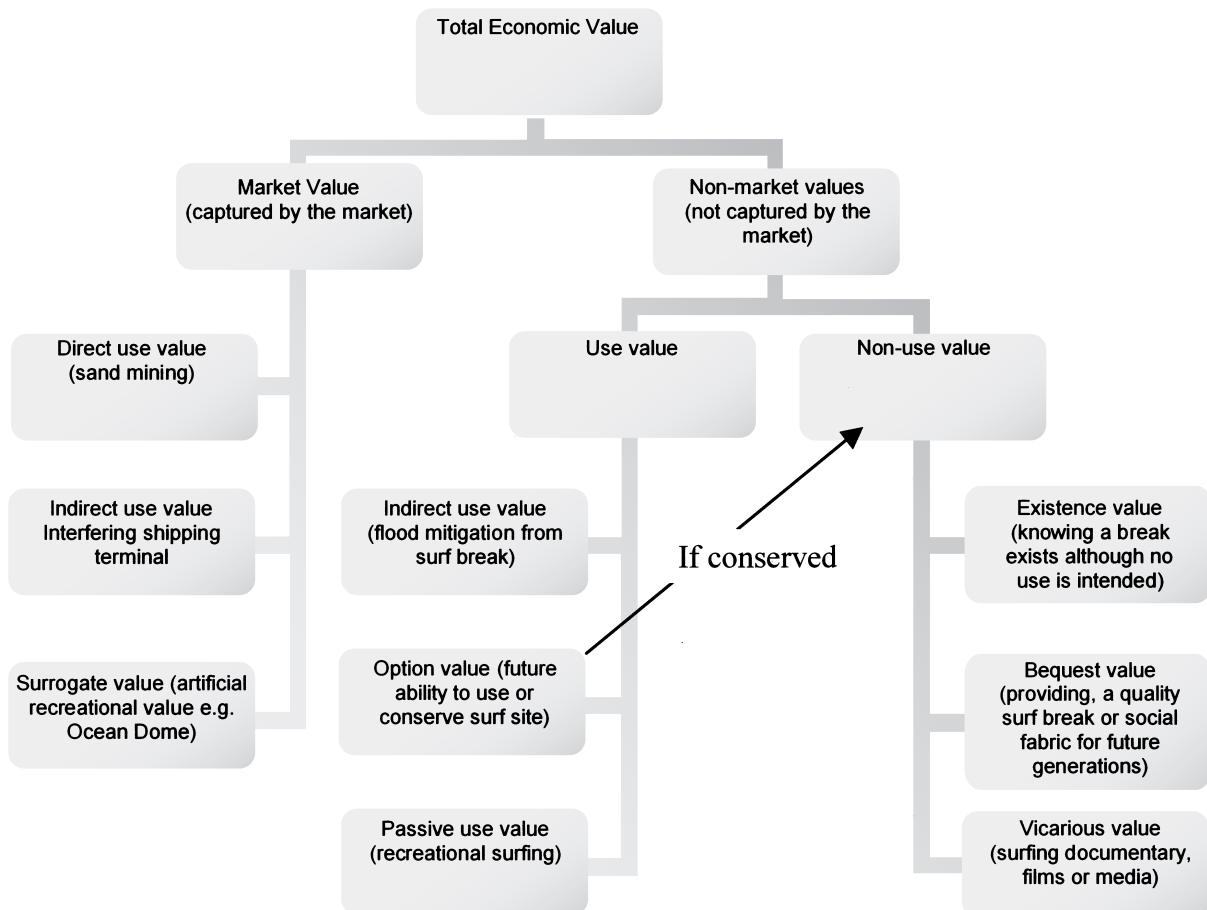


Figure 1. Total economic value.

also suggests that the value of recreational diver enjoyment in Fiji was impacted upon through a range of factors including management of the area, social issues, as well as ecological and environmental factors.

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) estimated that Hawaii’s 75,000 surfers spent approximately US\$13 million (approximately US\$61 million adjusted for 2007)

over a 12-month period on surfboards and surfing equipment within the Hawaiian economy. The direct income for the government over a 10-year period from taxes levied on surfing activities was estimated to be approximately US\$5.1 million (US\$24 million adjusted for 2007). The only state funds known to have been spent on surfing at any time were US\$123,500 (US\$580,000 approximately adjusted for 2007). Kelly compared this to the US\$95 million (US\$445 million adjusted for 2007) spent or planned for construction and improvements of harbors and facilities to improve recreational boating amenity for the State’s 11,000 boat owners. While boat owners spend significantly more than surfers, Kelly (1973) reported that most of the initial money (i.e., boat purchase)

was spent out of state and that the imbalance in priorities for recreational needs was obvious. With few exceptions this situation remains today.

A number of studies into the economic value of recreational fishing have been undertaken in recent years (Henry & Lyle, 2003; Pendleton, Atiyah, & Moorthy, 2007; Pendleton & Rooke, 2006). From the study by Pendleton and Rooke (2006), a number of important similarities in the behavior and spending patterns (although not on the same items) of recreational fishers and surfers can be identified 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 authors have substituted “surfing” for “fishing”):

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. (Pendleton & Rooke, 2006, p. 2)

Nonmarket valuations are generally collected in two ways. The first is through what are referred to as “revealed preference” models and the second method is referred to as “stated preference” models. Revealed preference models rely on behavior or activities that have already taken place (i.e., what people spent while undertaking a particular activity). Stated preference (or contingent valuation) models are opinion based (i.e., they rely on a stated rather than a revealed preference). This means that contingent valuation studies are able to capture both use and nonuse values such as the existence value of a particular mountain or surf break; however, they have also been criticized for this.

Since Kelly’s (1973) work in Hawaii, there has been little in the way of academic investigation into the value of recreational surfing and the impact of both residential and tourist surfing populations on specific areas. Table 2 presents a summary of the range of studies that have been

undertaken prior to 2008 to attempt to calculate the value of surfing to particular countries, regions, or specific surf breaks. The wide range of data collection techniques and reporting methods makes it difficult to attempt to compare many of the findings on the value of surfing. As well as this, there are a number of social and cultural benefits that a surf break can provide to a region or community (see Table 1). Table 3 describes some of the consequences that a loss of or degradation in surfing amenity can have for a community. These issues are illustrated in the following examples.

### *Costa Rica*

Figures released at the end of 2006 by the Costa Rican government (Madrigal Calvo, 2006) and supported by the Costa Rican Surfing Federation (Federacion De Surf De Costa Rica, 2007) suggest that in the first half of 2006, over 100,000 visitors came to Costa Rica with the intention of surfing. Each visitor stayed an average of 17 days and spent an average of US\$2,074, generating a total of US\$207 million in that period. The information was collected through surveys of passengers in the first half of 2006 at Juan Santamaria and Daniel Oduber airports. However, Murphy (2007) notes that the information was collected as part of a broader inbound visitor study and that there may be significant errors in the data collection and reporting process. Data on the total value of the tourism industry to Costa Rica for 2006 are currently unavailable; however, the total value for the 2005 year is estimated to be US\$1.569 billion. Despite questions regarding the accuracy of the data, the Costa Rican market study suggests that surfing-related activities directly or indirectly account for approximately 25% of Costa Rica’s tourist economy. As an individual industry, this makes surfing more valuable than coffee (US\$232 million) and second only to the banana industry (US\$481 million) in terms of its importance to Costa Rica (Camara Nacional De Turismo, 2007).

Water pollution originating from land or marine-based sources, a ban on airlines carrying surfboards similar to that recently invoked by British Airways, or a host of social issues such as an increase in crime or hostility towards visitors may all result in a downturn of surf-related tourism to

Table 2

Estimates of the Value of Surfing at Specific Locales

| Year/Location   | Type of Study                  | Value <sup>a</sup>                                       | Context   |
|---|--------------------------------|--|---|
| 1973, Oahu, Hawaii, USA                                   | Market                         | US\$13 million   | Estimated expenditure on surfing equipment (includes medical expenses but excludes transportation)  |
| 1984–1998, El Segundo Reef, California, USA               | Market                         | US\$300,000  | Mitigation settlement for loss of nearby surf break (funds used to construct world's first artificial surfing reef)   |
| 1990–1999, Los Angeles & Orange Counties, California, USA | Nonmarket (travel cost)        | US\$16 million (value of all recreational across region) | Final settlement for loss of all recreation opportunities for a period of up to 34 days due to "American Trader" oil spill from Alamitos Bay in Los Angeles County to Crystal Cove State Beach in Orange County |
| 1999, Mount Maunganui, New Zealand                        | Nonmarket (willingness to pay) | NZ\$500,000 p/a  | An estimated 50 surfers per surfable day was expected as a result of the construction of an artificial reef   |
| 2001, Pleasure Point, California, USA                     | Nonmarket (travel cost)        | US\$6.2 million consumer surplus (US\$8.3 million total) | Travel cost study conducted at Pleasure Point as part of university course  |
| 2001, Cornwall, UK  | Market                         | £21 million p/a  | User survey to estimate value of surfing to Cornwall region   |
| 2004, Geraldton, Western Australia, Australia             | Market                         | AUD\$1.3 million p/a                                     | Estimated value of proposed artificial surf break to town   |
| 2006, Costa Rica  | Market                         | US\$400 million p/a                                      | Survey of total expenditure of surf related visitors  |
| 2006–2007, South Stradbroke Island, Queensland, Australia | Market                         | AUD\$20 million p/a                                      | Estimated annual expenditure by surfers at South Stradbroke Island (includes equipment)   |
| 2006–2007, Trestles, California, USA                      | Market                         | US\$8–13 million   | Estimated annual economic benefit to City of San Clemente from surfers visiting Trestles  |
| 2008, RonJon Surfspark, Florida, USA                      | Construction cost              | US\$12 million + land + permits                          | Construction cost for the RonJon Surfspark  |

Sources: Chapman and Hanemann (2001); Gough (1999); Kelly (1973); Lazarow (2007); Madrigal Calvo (2006); Nelsen (1996); Nelsen et al. (2007); Ove Arup and Partners International Ltd (2001); Rafanelli (2004); Ron Jon Surfspots (2007); Surfrider Foundation (2002).

<sup>a</sup>At the time the individual study was undertaken.

Costa Rica. This could have significant social and economic implications for the nation, in particular those communities that rely on this type of tourism.

#### *South Stradbroke Island, Australia*

South Stradbroke Island is located at the northern end of the Gold Coast, a city of a little over

500,000 people, approximately 75 km south of Brisbane in Queensland's southeast. The surf break at South Stradbroke Island is often rated as being in the top 10 surf breaks in Australia. It is the northern Gold Coast's most prolific wave-producing venue and it attracts local surfers and intra-state, interstate, and international surfing visitors. Interestingly, as Figure 2 describes, the surf break as it is known today is for the most part a wave

Table 3

Sociocultural Consequences Resulting From the Loss of a Surf Break

|  |
|--|
| Decrease in trust in government and loss of local sovereignty.   |
| Increased negative social impacts on other already crowded surf breaks.  |
| Increase in criminal behavior with bored youths.   |
| People may turn away from surfing and aspects of a healthy lifestyle, which would mean increased longer term health costs for the community. |
| Surfing provides a significant mentoring and intergenerational co-learning experience.   |
| Loss of self-worth and potential opportunities.  |
| Negative impact on local and visitor perceptions.  |
| A local surf break may be the only recreational amenity facility that youth can access quickly and safely.                                   |
| Beaches and surf breaks often present the only access to "public space" in highly urbanized areas.   |

enhanced by human actions. The nearshore sandbars that help produce rideable waves were created as a consequence of the 1986 construction of breakwaters and a channel ("Seaway") for recreational vessels that is, in part, maintained by a continuous sand bypassing (dredging and dumping) system.

In 2004, the State Government rezoned the area, wresting control from the local municipality and declaring its intention 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 among 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 (Government of Queensland, 2004a, 2004b) were for a return on investment of between AUD\$7–8 million per year. Independent advice sought by Surfrider Foundation Australia (2005) (confirmed by P. Helman, personal communication, 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. The Surfrider Foundation as well as many in the local surfing community (Save Our Spit, 2005; Save the Waves, 2005) believed that the government was not adequately considering the consequences of

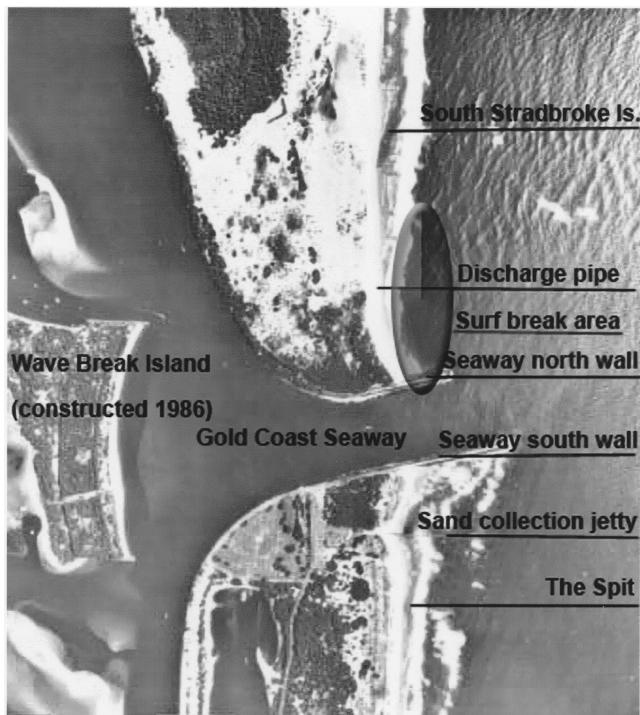
the proposal on the quality of surfing amenity at South Stradbroke Island. In part, this may have been because many of the benefits expected to be lost were of a public or social good nature, not traded in markets and therefore not immediately obvious nor easily quantifiable and may also be indicative of the problems of current EIS processes to capture these important issues.

Using observed market expenditure estimates, a 2005–2006 study estimated that 11,500 surfers visited South Stradbroke Island a total of 64,000 times per year for the primary purpose of surfing. The observed annual expenditure related to surfing at South Stradbroke Island was estimated to be AUD\$20 million, more than double the expected revenue from the cruise ship proposal (Lazarow, 2007). In addition to this are the nonmarket and nonuse values of surf breaks, which are expected to be substantial (see Table 1 and Table 3) and, as discussed previously, are yet to be measured.

## Discussion

The surfing experience entails engagement by the surfer with other people and also her or his engagement with nature. In the first place, surf quality concerns the quality of social and cultural interaction. This cultural aspect of surf quality has much to do with evaluations of sense of place and is shaped by the interplay of political, social, and ethical factors. Surf quality also concerns the quality of the environment. At its most basic level, this environmental aspect of surf quality refers specifically to a prioritized set of values ascribed to waves that are ridden by surfers (a surfer is classified as a person who uses their body or a nonmotorized craft to ride the breaking face of a wave). Table 1 describes a typology of surfing capital and lists four subcategories: wave quality; wave frequency; environmental factors; and experiential factors. It is worth drawing out some of these issues for the purposes of this discussion.

With respect to wave quality, the concept of beauty and form, rather than being subjective, becomes entirely objective and assessable. Wave quality may be positively or negatively impacted upon by both natural events and human interventions. Of significance, however, is the attribute of "surfing" to the concept of wave frequency. Wave



*Figure 2.* Gold Coast Seaway and South Stradbroke Island. Adapted from Pound (2002).

frequency then refers to the number of surfable waves at a particular location and the impact that both natural events and human intervention may have in these locales. This becomes an important distinction when assessing the possible changes that might affect a surf break as a result of an engineering intervention. For example, in the Recreational Amenity and Visual Values Study for the Draft Environmental Effects Statement (EES) for the development of a concrete jetty at Bastion Point in Victoria, Australia, the consultant suggested that there are “opposing views about the impact that the breakwater walls will have on surf further out towards the point (of the headland)” (Pryor Knowledge, 2005, p. 32). The report then 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” (Pryor Knowledge, 2005, p. 32). In other words, it was acceptable to the consultant and also to the local municipality who approved

the EES (the project, however, must be approved by the State Government) that the wave, which previously was suitable for experienced surfers only, would be physically degraded to be suitable for beginner or intermediate-level surfers.

Environmental and experiential factors can be positively or negatively changed in a number of ways by natural forces and also by humankind. Because the coast is a contested space, the direct actions of government and industry (and also those taken by NGOs, special interest groups, and concerned individuals) that influence wave quality, wave frequency, and environmental and experiential factors depend on value judgments and are, accordingly, bound to be controversial. When surf quality is threatened, the question of “who speaks for the surfers?” is raised. Sadly, the answer too often has been “no one.” Rarely have surfers themselves rallied effectively to prevail in the political arena. And, as Lanagan (2002) has argued, influential surfwear companies have focused on fashion dynamics and profit, and have

been largely content to assume that surf quality will remain constant despite a changing world.

In recent years, however, there has been a rise in “activism” on the part of surfers through organized groups (e.g., Surfrider Foundation, Surfers Against Sewage, Save the Waves Coalition, Surf-break Protection Society, Corporacion Proplaya) and in informal coalitions. It is through these groups that global surfwear companies, conscious of sharemarket volatility and public opinion, may choose to exercise their influence in a less obvious manner. Further to this, a number of “surfer” candidates have nominated and been successful in achieving political office at the municipal level in Australia and the US, with many campaigns based around the issue of surf quality. While not yet the tangible trend demonstrated by the political success of recreational fishing and boating groups, this may perhaps signal the start of a new wave of competing organizational interests around marine and coastal issues.

Culture as part of the typology of surfing capital can also be shaped in a variety of ways. Preston-Whyte (2002b) argues that “conceptions of how leisure spaces are represented, contested and controlled assist visitors in choosing between seaside resorts” (p. 235) or activities. King and Symes (2004) suggest that in California, if beaches (and possibly surf breaks) become unavailable or are significantly modified, visitors would be less willing to spend their money on tourism and recreation and in fact might take their money out of the economy completely. Further, residents or day-trippers would presumably be less willing to pay to live near or visit the coast, and might substitute travel for some (or all) of their current housing premium. The concept of substitution in this form, however, has been challenged by Buckley (personal communication, 2007), who suggests that over time a different type of recreational user is likely to replace the “lost” beach user, resulting in much lower levels of substitution. On the Gold Coast, a loss in beach amenity, in this case surf quality at South Stradbroke Island, may have led to economic impacts of the type described in the Californian study if surfers decided to travel to other localities. Certainly, the benefits of standardized datasets for the collection of market and nonmarket information on the so-

cioeconomic value of surfing (Lazarow, 2007; Lazarow et al., 2007; Nelsen et al., 2007) will enable surfing and surfers to be considered alongside other coastal uses and users in the decision-making process for how the coastal economy and the natural environment is managed.

Because much of the value involved in surfing and its interconnections with communities is not an economic good traded in commercial markets and has public good characteristics, intervention by government may be warranted to ensure that key surfing sites in coastal communities are protected from adverse coastal development impacts. Results from an earlier study by Lazarow (2007) suggest that if recreation choices become more complex then people may actually turn away from recreation altogether, becoming less healthy and more of a long-term cost to society. An important caveat on this point is that this finding stems from interviews with those involved in “serious leisure.” Going to the beach on the odd occasion with the intention of sunbathing and eating hot-dogs and ice creams is not really the embracement of a healthy and active lifestyle.

## Conclusions

Surfing interests have seldom been considered in the scheme of tourism and recreational activities in a manner similar to more organized sporting activities such as football, pool swimming, or basketball. Much of this can be put down to the fact that many people believe environmental surf quality to be unchanging. But this is not the case. Increasingly, environmental issues and infrastructure development (often for coastal protection) have destroyed and continue to threaten many surf breaks and their associated economic, social, and ecological values. A logic that justifies a modification of the leisure experience brought about by a reduction in surf quality and a flawed understanding of the “serious leisure” experience that drives so many surfers is bound to be unsuccessful.

In light of this discussion, the comments of Miller and Hadley (2005) that positive coastal tourism outcomes hinge on the successful collaboration of tourism brokers of several types is apt. If those who surf are unlikely to find allies in the fashion-oriented companies that produce surfwear,

perhaps it will be businesses that offer diverse tourism services (e.g., hotels, resort enclaves, coastal restaurants, scuba and sailing schools) and producers of tourism and recreational equipment (e.g., locally based surfboard and boat manufacturers) that will align with surfers to preserve and enhance surf quality.

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### References

- Atkins, A. (1997). *Billion dollar breakers: The professional surfing world* (radio interview transcript). ABC Radio National, Australia. Retrieved August 28, 2008, from <http://www.abc.net.au/rn/talks/bbing/stories/s10600.htm>
- Booth, D. (1995). Ambiguities in pleasure and discipline: The development of competitive surfing. *Journal of Sport History*, 22(3), 189–206.
- Booth, D. (2001). *Australian beach cultures: The history of sun, sand and surf*. London: Frank Cass.
- Boullon, L. A. (2001). *Surf narratives: California dreamin' on a new frontier*. Unpublished master of arts, California State University, Fullerton.
- Buckley, R. (2002a). Surf tourism and sustainable development in Indo-Pacific islands. 1. The industry and the islands. *Journal of Sustainable Tourism*, 10(5), 405–424.
- Buckley, R. (2002b). Surf tourism and sustainable development in Indo-Pacific islands. 2. Recreational capacity management and case study. *Journal of Sustainable Tourism*, 10(5), 425–442.
- Camara Nacional de Turismo. (2007). *Ingresos por turismo versus otras fuentes de ingreso de divisas para Costa Rica 2001–2005*. Retrieved May 24, 2007, from [http://www.canatur.org/est\\_24.htm](http://www.canatur.org/est_24.htm)
- Challinor, S. (2003). Environmental impact assessment for artificial surfing reefs: A United Kingdom perspective. *Proceedings of the 3rd International Surfing Reef Symposium*, Raglan, New Zealand, June 22–25.
- Chapman, D. J., & Hanemann, W. M. (2001). Environmental damages in court. In A. Heyes (Ed.), *The law and economics of the environment* (pp. 319–367). Northampton: Edward Elgar.
- Commonwealth of Australia. (2007a). *Participation in sports and physical recreation, Australia 2005–06* (Cat. No. 4177.0). Retrieved September 30, 2007, from <http://www.abs.gov.au>
- Commonwealth of Australia. (2007b). *Population by age and sex, Australia* (Cat No. 3235.0). Retrieved October 17, 2007, from <http://www.abs.gov.au>
- Corne, N. (2007). *The implications of coastal protection and development of surfing*. Londonderry: University of Ulster.
- Costanza, R., D'Arge, R., De Groot, R., Farber, S., Grasso, M., Hannon, B., Limburg, K., Naeem, S., O'Neill, R. V., Paruelo, J., Raskin, R. G., Sutton, P., & Van Den Belt, M. (1997). The value of the world's ecosystem services and natural capital. *Nature*, 387, 253–260.
- Dolnicar, S., & Fluker, S. (2003). Who's riding the wave? An investigation into demographic and psychographic characteristics of surf tourists. *CD Proceedings of the 13th International Research Conference for the Council of Australian University and Hospitality Educators (CAUHE)*, Coffs Harbour, February 5–8.
- Federacion de Surf de Costa Rica. (2007, February 7). *Mas de 100 mil surfistas visitaron Costa Rica* (media release).
- Fitzsimmons, C. (2007). Why dive? And why here? A study of recreational diver enjoyment at a Fijian eco-

- tourist resort. In M. L. Miller, J. Auyong, M. Orams, M. Lück, & A. Graupl (Eds.), *Proceedings of the 5th International Coastal and Marine Tourism Congress* (pp. 322–341), September 11–15, Auckland University of Technology.
- Gough, V. (1999). *Assessing the economic effects of recreation facility development—proposed artificial surfing reef, Mount Maunganui, New Zealand*. Waikato: University of Waikato.
- Government of New South Wales. (1989). *Legislative Council standing committee on state development: Coastal development in NSW—public concerns and government processes*. Sydney: Parliament of NSW.
- Government of Queensland. (2004a). *Gold Coast marine development project: Initial advice statement*. Brisbane: Office of the Coordinator-General.
- Government of Queensland. (2004b). *Gold Coast marine development: Draft terms of reference for an environmental impact statement*. Brisbane: Office of the Coordinator General.
- Henry, G. W., & Lyle, W. M. (Eds.). (2003). *The national recreational and indigenous fishing survey*. Canberra: Australian Government.
- Holliday, S. (1998). A partnership for sustainability: The key to managing our precious coast (keynote address). In Eurobodalla Shire Council (Eds.), *Proceedings of the 8th Annual NSW Coastal Conference*, Batemans Bay, NSW, November 10–13.
- Instituto Costarricense de Turismo. (2006). In Carlos Enrique Brenes, *Revista surfos* (Letter describing estimated tourist visitation in Costa Rica). San Jose, Costa Rica: Author.
- Irwin, J. (1977). *Scenes*. Beverley Hills: Sage Publications.
- Johnson, J. C., & Orbach, M. K. (1986). The role of cultural context in the development of low-capital ocean leisure activities. *Leisure Sciences*, 8(3), 319–339.
- Kampion, D. (1997). *Stoked! A history of surf culture*. Santa Monica: General Publishing Group.
- Kelly, J. (1973). *Surf parameters: Final report part II: Social and historical dimensions*. Honolulu: University of Hawaii James K.K. Look Laboratory of Oceanographic Engineering.
- King, P., & Symes, D. (2004). Potential loss of GNP and GSP from a failure to maintain California's beaches. *Shore and Beach*, 72(1), 3–8.
- Lanagan, D. (2002). Surfing in the third millennium: Commodifying the visual argot. *Australian Journal of Anthropology*, 13(3), 283–291.
- 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*, Special Issue 50, Proceedings of the 9th International Coastal Symposium, 12–20.
- Lazarow, N., Miller, M. L., & Blackwell, B. (2007). Dropping in: A case study approach to understanding the socio-economic impacts of recreational surfing and its value to the coastal economy. *Shore and Beach*, 75(4), 21–31.
- Leeworthy, V. R., Bowker, J. M., Hospital, J. D., & Stone, E. A. (2005). *Projected participation in marine recreation: 2005 & 2010*. Silver Springs: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National ocean service special projects.
- Madrigal Calvo, L. (2006). In Carlos Enrique Brenes (Letter describing surf tourist demographic and spending information). San Jose, Costa Rica: Instituto Costarricense de Turismo, Departamento de Planeamiento Turistico.
- Manning, R. E. (1999). *Studies in outdoor recreation: Search and research for satisfaction* (2nd ed.). Corvallis: Oregon State University Press.
- Manning, R. E. (2004). Managing impacts of ecotourism through use rationing and allocation. In R. Buckley (Ed.), *Environmental impacts of ecotourism* (pp. 273–286). UK: CAB International.
- McKnight, Jr., R. B. (2006). *Quiksilver Rossignol two thousand five annual report*. Huntington Beach: Quiksilver Inc.
- Miller, M. L., Auyong, J., & Hadley, N. (1999). *Proceedings of the 1999 International Symposium on Coastal and Marine Tourism: Balancing Tourism and Conservation*. Seattle, WA: Washington Sea Grant Program and School of Marine Affairs, University of Washington; Oregon Sea Grant College Program, Oregon State University; and Oceans Blue Foundation, Vancouver, British Columbia.
- Miller, M. L., & Hadley, N. (2005). Tourism and coastal development. In M. L. Schwartz (Ed.), *Encyclopedia of coastal science* (pp. 1002–1009). Dordrecht.
- Murphy, M. (2007). *The economics of surf tourism: A look at the potential economic impacts of surfing in Mundaka, Spain & Costa Rica*. Corvallis: Oregon State University and Save the Waves Coalition.
- Nazer, D. (2004). The tragicomedy of the surfers' commons. *Deakin Law Review*, 9, 655–714.
- Nelsen, C. (1996). *A coastal management case study in El Segundo, California*. Durham: Duke University.
- Nelsen, C., Pendleton, L., & Vaughn, R. (2007). A socio-economic study of surfers at Trestles Beach. *Shore and Beach*, 75(4), 32–38.
- Nielsen, O. (2007). Family sailing in the Archipelago Sea, between Finland and Sweden. In M. L. Miller, J. Auyong, M. Orams, M. Lück, & A. Graupl (Eds.), *Proceedings of the 5th International Coastal and Marine Tourism Congress* (pp. 462–466) Auckland University of Technology, September 11–15.
- O'Neill, D. (2007). *Billabong 06/07 full financial report*. Gold Coast: Billabong International.
- Organisation for Economic Co-operation and Development. (1991). *Environment committee natural resource management group: Draft final report: Policies for integrated coastal resources management*. Paris: Author.
- Ove Arup and Partners International Ltd. (2001). *Assessment of the potential contribution of marinas & water-sports to increasing prosperity in Cornwall. Final report*. Bristol: Cornwall Enterprise.
- Pearson, K. (1979). *Surfing subcultures of Australia and New Zealand*. Brisbane: University of Queensland Press.
- Pendleton, L., Atiyah, P., & Moorthy, A. (2007). Is the non-market literature adequate to support coastal and

- marine management? *Ocean and Coastal Management*, 50(5–6), 363–378.
- Pendleton, L., & Rooke, J. (2006). *Understanding the potential economic impact of marine recreational fishing: California*. Retrieved September 7, 2006, from <http://www.dfg.ca.gov/MLPA/pdfs/binder3di.pdf>
- Ponting, J., McDonald, M., & Wearing, S. (2005). Deconstructing wonderland: surfing tourism in the Mentawai islands, Indonesia. *Society and Leisure*, 28(1), 141–162.
- Pound, M. (2002). The use of fixed sand bypassing systems at tidal entrances. *Proceedings of the Australian National Coastal Conference*, Tweed Heads, November 4–8.
- Preston-Whyte, R. (2002a). Constructions of surfing space at Durban, South Africa. *Tourism Geographies*, 4(3), 307–328.
- Preston-Whyte, R. (2002b). Contested and regulated sea-side space at Durban. In M. L. Miller, J. Auyong, & N. Hadley (Eds.), *Proceedings of the 1999 International Symposium on Coastal and Marine Tourism: Balancing Tourism and Conservation* (pp. 229–236). Seattle, WA: Washington Sea Grant Program and School of Marine Affairs, University of Washington; Oregon Sea Grant College Program, Oregon State University; and Oceans Blue Foundation, Vancouver, British Columbia.
- Pryor Knowledge. (2005). *Stage 2 ocean access boat ramp, Bastion Point, Mallacoota Contract No. 641/045 Report A: recreational amenity and visual values*. Retrieved October 5, 2005, from <http://www.egipps.vic.gov.au/files/ees/Attachment15a.pdf>
- Rafanelli, C. (2004). *Back beach improvement. Socio economic impact study: artificial surfing reef*. Retrieved 18 November, 2006, from <http://www.asrltd.co.nz/downloads/Reefs/reef%20economics/Back%20Beach.pdf>
- Ron Jon Surfspots. (2007). *Ron Jon Surfpark Orlando*. Retrieved September 29, 207, from <http://www.ronjon-surfpark.com/>
- Save Our Spit. (2005). *No terminal at Straddie*. Save Our Spit Alliance Incorporated. Retrieved November 25, 2005, from [www.saveourspit.com](http://www.saveourspit.com)
- Save The Waves. (2005). *Save the Waves Coalition 2005 annual report*. Retrieved October 21, 2006, from [http://www.savethewaves.org/docs/STW\\_05\\_annual\\_report\\_2.pdf](http://www.savethewaves.org/docs/STW_05_annual_report_2.pdf)
- Scarfe, B. (2008). *Oceanographic considerations for the management and protection of surfing breaks*. Unpublished Ph.D. thesis, University of Waikato, Hamilton.
- Stebbins, R.A. (1992). *Amateurs, professionals, and serious leisure*. London: McGill-Queen's University Press.
- Surf Industry Manufacturers Association. (2007). *No slowing down for surf industry*. Retrieved September 27, 2007, from <http://66.235.111.211/Default.aspx?tabid=88&id=25>
- Surfing Australia. (2006). *Surfing in Australia—the latest from the Sweeney Report* (media release). Retrieved from <http://www.surfingaustralia.com/stats/2005stats.pdf>
- Surfrider Foundation. (2002). *Artificial reefs*. Retrieved October 3, 2007, from [http://www.surfrider.org/artificial-reef/artificial\\_reefs.htm](http://www.surfrider.org/artificial-reef/artificial_reefs.htm)
- Surfrider Foundation. (2005). *Gold Coast marine project: Submission on the draft terms of reference for an environmental impact statement*. Retrieved October 3, 2006, from [www.surfrider.org.au](http://www.surfrider.org.au)
- Surfrider Foundation. (2007). *State of the beach report*. Retrieved July 12, 2007, from <http://www.surfrider.org/stateofthebeach/home.asp>
- Underwood, A. J., & Chapman, M.G. (Eds.). (1995). *Coastal marine ecology of temperate Australia*. Sydney: University of New South Wales Press Ltd.