Making Waves: Artificial Reefs and Urban Open Space Management in New Zealand

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Abstract

Urban waterfronts are often the sites of intense battles over land-use planning. This contested terrain has attracted the attention of a growing number of social scientists, many of whom focus on the negative and/or positive impacts of ‘regenerated’ downtown waterfronts. Far less attention has been paid to the suburban neighbourhood that, in many ‘water-focused’ cities such as Auckland, is the site where residents experience the intimate connection between ‘home’, beach and associated open spaces. This paper examines resident perceptions of one such suburban, beach-focused development – a proposed artificial reef in the Auckland suburb of Orewa. The research reveals a range of perceptions on the positive and negative externalities associated with the proposed reef. The issues addressed are complex in nature and are shown to not always be dependent on the ‘local’/‘outsider’ status of respondents.

Keywords: Beach; artificial reef; stakeholders; open space; conflict

1. Introduction

Coastlines and beaches are part of New Zealanders’ collective identity and sense of place, and play a significant economic, ecological and social role in the nation. The country’s coastal areas are under increasing threat from urban expansion and poorly controlled residential development, and are increasingly the scene of conflicts over multiple resource use. A range of issues is currently being debated, from customary land rights and beach access through to the development of on and offshore economic activities.

This paper examines the proposed creation of an artificial reef at Orewa beach in Auckland’s northern suburbs. Our focus is on the perceptions of the reef held by current beach-users (both resident and tourist). The paper begins with a brief review of the development of artificial reefs and provides some background on their basic characteristics and economic/environmental impacts. We then review and examine the proposal to create a new reef at Orewa and examine beach-user perceptions of the development. We conclude by outlining some tentative thoughts about how the future development of the reef may be managed.

2. Beaches and Artificial Reefs

Beaches are a key element of travel and tourism and make a substantial contribution to national, regional and local economies around the world (Houston, 2002; Wiegel, 2002). In New Zealand a ‘visit to the beach’ rates highly among activities undertaken by domestic and international tourists. For the year ended September 2002, beaches (367,000 visitors) were second only to geothermal attractions (424,000 visitors) as places visited by international tourists (Tourism New Zealand 2004). Beach walks and swimming are also in the top ten activities undertaken by domestic visitors (Tourism New Zealand, 2004).

Coastal resorts offering just ‘sun and sand’ are not always enough for today’s traveller and this has led seaside resorts to incorporate new sports activities and products (Augustin, 1998).
One water sport that is growing in popularity is surfing. The emergence of surfing and surf-related sports has brought changes in consumer/traveller attitudes and destination choices (Young, 1994; Augustin, 1998). Surfers are no longer simply viewed as ‘longhaired and jobless youth’ but serious upmarket sports people who are fit and active, and who are willing to spend considerable money to undertake their sport (Young, 1994, Lanagan, 2002). Beaches that can provide comforts ‘plus’ excellent surfing facilities can attract domestic and international travellers, which in turn will positively impact on the local economy (Lanagan, 2002).

The growing popularity of beach-based activities has, in turn, created a demand for protection of the shoreline from erosion, and measures to ensure beach safety by constructing seawalls, sea-cliffs or beach-rocks (Cordes et al, 2001; Wiegel, 2002), or by building environmentally-friendly artificial reefs (Lee County, 2003). Artificial reefs are structures placed in the aquatic environment with the intention of creating or improving habitat for aquatic plants and animals; to replace habitat lost due to commercial developments such as marinas; and to protect the shoreline from erosion (Hickman, 2001; Bentley, 2000). Constructing artificial reefs can be beneficial to the shoreline and act as a support system for marine life (Orams, 1997).

Shoreline artificial reefs can also be engineered to enable set after set of perfectly curved walls of water (Robinson, 1998). Artificial reefs can also improve surfing conditions, which can eventually increase inbound tourism as in the case of Australia’s Gold Coast beach (Hornsey, 2003; Robinson, 1998).

3. Orewa Beach

The picturesque landscape and natural long sandy beach at Orewa are a major attraction to beach users. The beach is a popular picnic spot and also appeals to families as a safe place for children to swim. Orewa is a serene beach suburb with a substantial population of retired people with moderate income, enjoying a peaceful lifestyle. Orewa has 5,259 residents and Rodney District, within which it lies, has a population of 76,185. Almost 40 per cent of the Orewa populace are aged 65 years and over, compared with 15 per cent for Rodney District and 12 per cent for all of New Zealand. Almost 93 per cent of people in Orewa belong to the European ethnic group, compared with 94 per cent for Rodney District and 80 per cent for all of New Zealand (Statistics New Zealand, 2003).

In recent years, Orewa beach and its hinterland has been the subject of significant concerns and debate. Proposals for high-rise residential and tourist facilities have been attacked by a number of local residents who worry that the character of their community is changing. The beach is also subject to considerable erosion and concerns are held for its future as a summer swimming spot (Rodney District Council, 2004).

In response to pressures of erosion and the belief that innovative new product dimensions could benefit the local economy, the Orewa Beach Reef Charitable Trust (ORT) has proposed the development of an artificial reef. The reef will protect the beach from erosion and will also act as an attraction to both existing and new visitor groups, particularly those interested in surfing and body boarding. At the same time, the offshore reef will not affect the safe in-shore swimming that is so popular with families.
4. Perceptions of the Reef

In order to get a better understanding of perceptions of the proposed reef, the New Zealand Tourism Research Institute was commissioned by ORT to survey current beach users (both locals and visitors). The survey of 464 Orewa beach users conducted during February and March 2004 provides a statistically reliable picture of who comes to Orewa beach in mid to late summer – and why (NZTRI, 2004).

The largest single age group surveyed was 40-49 years (21 per cent) followed by 30-39 years (20 per cent). Most visitors to the beach come from Rodney District (46 per cent). Nearly 90 per cent of all the Rodney District residents surveyed at the beach live in Orewa. The next largest group of visitors comes from the greater Auckland Region (36 per cent). Only 5 per cent of visitors came from other parts of New Zealand with a further 13 per cent of those surveyed coming from overseas. Most respondents visit Orewa beach to relax (75 per cent), to swim (44 per cent) and to exercise (23 per cent). A clear majority of the people surveyed (87 per cent) indicated they never surf.

Beach users were asked, “Are you aware of a proposal to develop an artificial reef at Orewa beach?” Just over half (51 per cent) were aware of the proposed reef, 49 per cent were not. Those living in relatively close proximity to the beach (Orewa village/Rodney District) were the most aware. Local newspapers were the primary source of information (37 per cent), followed by word of mouth (18 per cent). Awareness from television and radio seems to be limited at only 3 per cent, while 4 per cent mentioned other sources like leaflets, brochures, the internet and community notice boards. Concerns were expressed about the general lack of information regarding the proposed artificial reef, how the reef is to be constructed, where it will be located, and how far from the shoreline it will be.

A further question posed was, “How would you feel about an artificial reef at Orewa beach?” Twenty-four per cent felt very positive about an artificial reef, 16 per cent were somewhat positive and 29 per cent were neutral. Twenty-four per cent were very negative about having an artificial reef at Orewa beach and a further 6 per cent mentioned that they had a somewhat negative attitude toward the proposal.

Positive reactions were most likely to come from those beach users living in Rodney District (90 per cent of whom are from Orewa). For all other place of residence categories, very negative responses outweighed very positive ones. Overseas visitors showed an equal split between negative and neutral responses, and slightly more positive responses, although this did vary by country of origin. Those from Rodney District have the lowest proportion of ‘neutral’ responses – an indication that they are more aware of the proposal and have had more information on which to form an opinion.

The attitudes towards the reef generated a number of interesting quotations that indicated a clear division of opinion amongst beach users:
- “An artificial reef would definitely increase the amount of people coming here. When surfers, divers and school kids come, this boring lot on the beach will wake up. All I can say is that it will be great for the whole community.” (Female, local, age 40-49.)
- “I don’t like anything artificial.” (Female, overseas tourist, age 30-39.)
- “What is this reef, how does it look, will it be really helpful to stop erosion?” (Male, Auckland region, age 50-59.)
Beach users were asked to provide the reasons for their attitudes towards the reef proposal. As Figure 1 shows, the responses are diverse in nature. The most common comments (23 per cent) related to a desire to leave the beach “as it is”. These people did not like the idea of an artificial reef. Common comments were: “don’t do it”, “not necessary” and “I hate it”. Others suggested “there are too many surf beaches already”, “there are not enough family beaches” and “we don’t need artificial anything”.

The second most common reason (21 per cent) related to the environment, where reactions were expressed from positive through to negative. Some people thought that an artificial reef would create positive environmental effects, protecting the beach, minimising erosion and improving marine life. Others believed that the reef could generate negative environmental effects including causing harm to the beach and increasing erosion.

Respondents who said they needed more information about the reef project to form an opinion are represented in the ‘information’ category (19 per cent). Many people stated that they wanted more information on the environmental impacts of the development, and the range of positive and negative comments regarding environmental impacts supports this. The majority of those giving neutral responses to the “How would you feel about an artificial reef at Orewa beach?” question can be said to fit into this category.

Seventeen per cent of respondents commented that the artificial reef will attract more people and tourists to the beach. It was also felt that such a development would provide travellers with more recreational opportunities when they visit Orewa beach. An equal number of respondents (17 per cent) felt the reef would create bigger waves and therefore be ideal to surf or body board. Others thought it would attract more surfers to the beach, and some commented that surfers would give the beach a livelier atmosphere.

Some respondents were optimistic that the reef will be a positive move for the village and its businesses (good for Orewa – 6 per cent), and that the reduction of erosion will help the village economically, bringing more money to the area. Estimates of the economic benefit of the beach to Orewa village were gathered during the research.
Five per cent of respondents commented on safety and thought the beach would become unsafe because the reef could create bigger waves and therefore make it more dangerous, especially for families with children. Some respondents who swim at the beach stated that bigger waves and more surfers would make it more difficult, unpleasant or unsafe to swim.

When asked if the proposed reef would make it more appealing to visit Orewa beach, 41 per cent provided a negative response, just over one-third (34 per cent) thought that the reef would make Orewa beach more appealing to visitors, and 26 per cent did not comment – usually because they did not feel they knew enough about the reef and associated outcomes.

**Key Concluding Points**

- Information dissemination about the project must be comprehensively undertaken to eliminate misunderstanding as to the effects of an artificial reef. This can be done by providing accurate information regarding the benefits of artificial reefs and also some of the potential costs.
- When discussing the benefits associated with surfing, developers should emphasize the family and ‘middle-aged’ type of surfer that may find benefits from the reef. They also need to emphasise the fact that that the family-friendly and safe nature of the beach will remain – and will in effect be protected from erosion (Augustin, 1998).
- Any emphasis on the new money brought in by the reef through surfing etc must be tempered by the fact that many current beach users did not indicate a great deal of support for the reef. This may be due to fears that if the beach gradually turns into a surfing resort the present character will give way to urban infrastructure with promenades, observation posts, and blocks of seaside apartments (Augustin, 1998). Development plans for the village must be viewed holistically, not in isolation, and consultation with stakeholders is imperative.
- Any future emphasis on the economic value of the reef should be placed on its role in protecting the beach from erosion and reducing potential loss to the economy.
- There is a clear need for more research to be undertaken on the economic linkages and job creation (both local and regional) associated with the beach and the proposed reef development. Such research could easily be incorporated as part of broader-based research into local responses to proposed developments in Orewa.
- The internet is a cost-effective and wide-reaching tool which is currently under-utilised to promote the reef project and encourage multiple stakeholder consultation.

**References**


