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# Use of Wetlands for Sustainable Tourism Management

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**Abstract:** The Boondall Wetlands Reserve, which is located fifteen kilometres north-east of Brisbane, Queensland, are one of Australia's largest remaining habitats for conservation and environmental education. They are internationally recognized as an important feeding and resting habitat for migratory wading birds from Alaska, China, Japan, Mongolia and Siberia. In 1996, the Boondall Wetlands Visitor Centre was opened in order to: (i) promote environmental awareness within the local and regional communities; (ii) provide community education and information about wetlands systems within the local, regional and global context; (iii) offer nature-based recreation, tourism and eco-tourism services; and (iv) demonstrate how wetlands can be used to diversify the tourism industry. This paper analyses the patterns of visitor flows to the Boondall Wetlands, and provides a qualitative assessment of the management, marketing and monitoring of the Centre's activities.

**Keywords:** Boondall Wetlands; Environmental management; Sustainable tourism; Community partnership

## 1. INTRODUCTION

The 730 hectares of the Boondall Wetlands Reserve is located fifteen kilometres north-east of Brisbane, Queensland and lies on the western side of Moreton Bay (see Figure 1). The Wetlands form part of the coastal wetlands on Moreton Bay, with coastal habitats encompassing tidal flats, mangrove swamps, salt marshes, freshwater wetlands, melaleuca swamps, forest and woodland systems, and freshwater and intertidal wetlands. In addition, Boondall Wetlands are an internationally important migratory wading bird habitat and is part of the East Asian-Australasian Shorebird Reserve Network.

As part of the wetland and bushland protection initiatives, the Boondall Wetlands were one of the six major natural reserves purchased by the local government, namely the Brisbane City Council in 1990, and it was declared as a Conservation Area.

Before the arrival of Europeans, the Wetlands were occupied by the Turrbul indigenous people. The Boondall Wetlands were not inhabited by European settlers because of its reputation as a mosquito infested swamp. Instead, the Wetlands have been used mainly as a rifle range, dumping ground, grazing land, a source of timber for fences, building materials and firewood, and a popular fishing ground for the local population.

Leask and Yeoman (1999) classified heritage visitor attractions in terms of 'Built', 'Natural' and 'Living' heritage (see Table 1). According to the simple classification, nature reserves like the Boondall Wetlands Reserve are considered a 'Natural' heritage. Silberberg (1995) observed that the importance of heritage attractions can be assessed against a checklist which includes the following elements:

- Perceived quality of the product
- Awareness

- Customer service attitude
- Sustainability
- Extent to which the product is perceived to be unique or special
- Convenience

- Community support and involvement
- Management commitment and capability

Some of these factors will be discussed below.

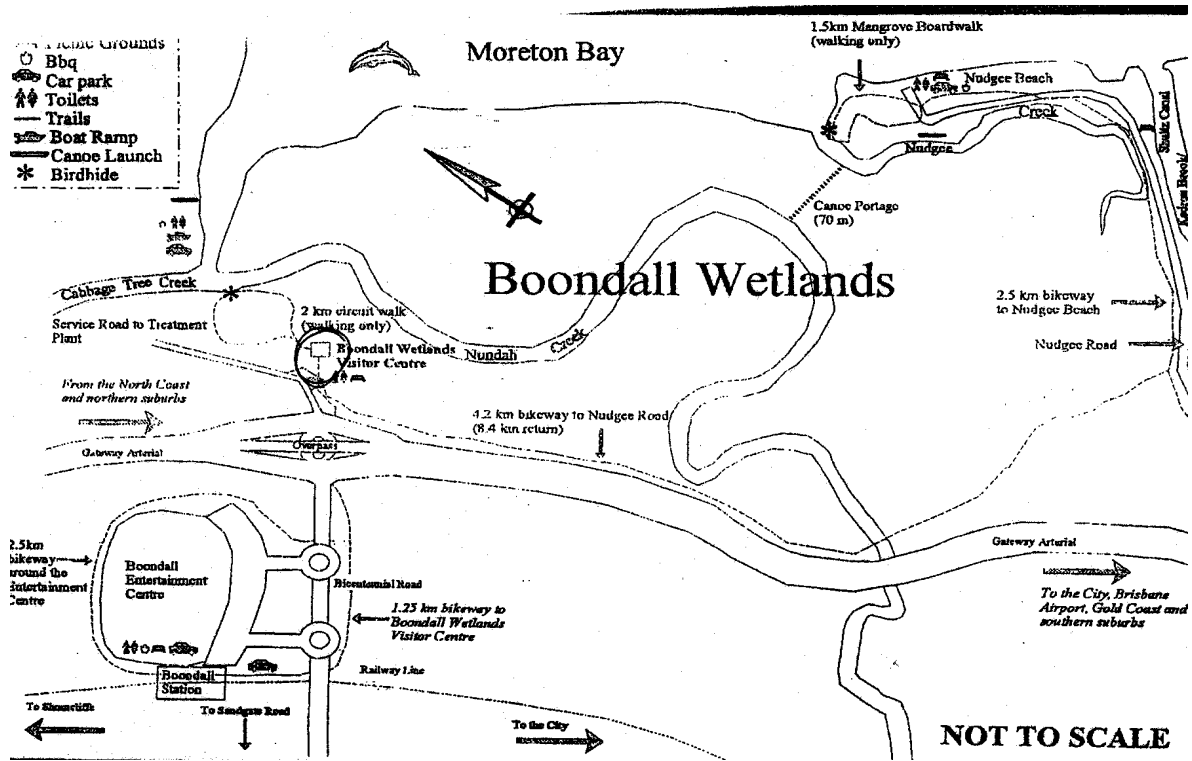


Figure 1. Boondall Wetlands, Queensland, Australia.

	Built heritage	'Natural' heritage	'Living' heritage
Nation/ Region	Cities	Landscape/ sea	People
Area	Historic towns	National Parks	Traditional
	Seaside resorts	Heritage coastline	Festivals
	Conservation areas		Markets
Sites	Museums	Town parks	Public Houses
	Art galleries	Botanic gardens	Craft centres
	Historic Buildings	Historic gardens	Farms
	Historic sites/ monuments	Nature reserves	
	Heritage centres	Countryside centres	
	Heritage Theme Parks	Country parks	
	Transport	Forest	

Source: Leask and Yeoman (1999).

**Table 1.** Generic Classification of Heritage Visitor Attractions

## 2. UNIQUE HERITAGE ATTRACTION

The Boondall Wetlands are drained by three estuarine creeks, namely Nudgee Creek, Nundah Creek and Cabbage Tree Creek. Being an important fish habitat and nursery site, the glass perch, golden eye mullet, Toadfish and herring are the most common fish species caught in the Wetlands. A diverse range of invertebrates is also found in abundance, which include prawns and crustaceans. Changing water quality due to changes in the amount of nutrients caused by urbanization has led to changes in the fish populations.

The Boondall Wetlands Reserve is home to a diverse range of plants and animal communities such as mangroves, salt marshes, melaleuca woodlands, casuarinas and eucalypt forests. During the summer months in the Southern Hemisphere, the migratory wading birds fly to the Boondall Wetlands from Japan,

Alaska, Mongolia and Siberia, to feed and rest there before returning to their breeding grounds in the Northern Hemisphere.

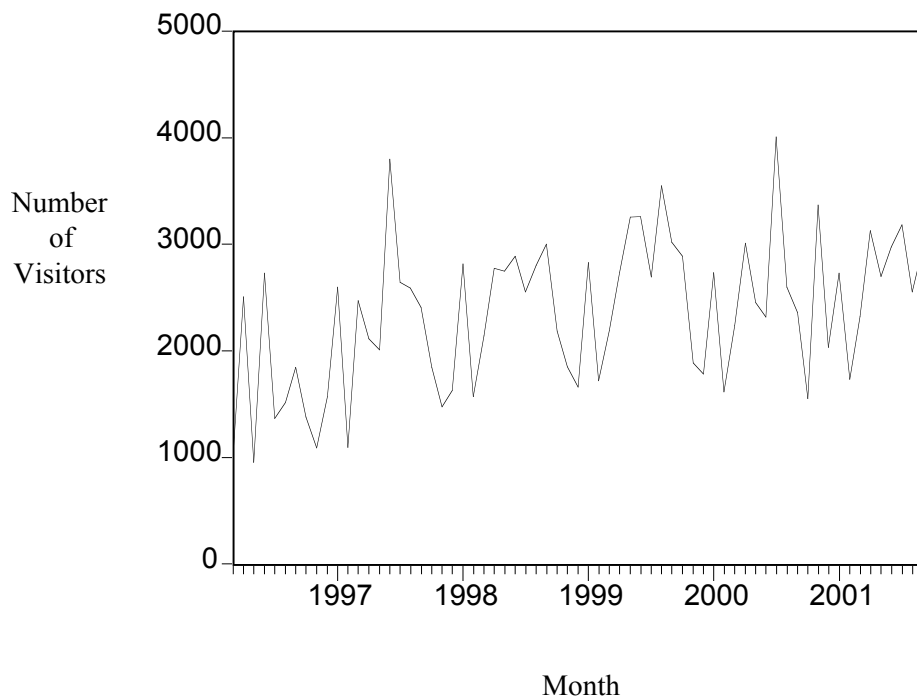
The Ramsar Convention on Wetlands of International Importance aims to stop the worldwide loss of wetlands and to conserve those that remain through wise use and management. According to Ramsar criteria based on numbers of rare, vulnerable or endangered species, ecological diversity, special habitat for species at critical life stages, or presence of endemic species, the Boondall Wetlands Reserve has been selected as a significant component of the Moreton Bay Ramsar site. Many of the shorebird species which visit the mudflats of Boondall and Moreton Bay are migratory species which are protected by the Japan Australia Migratory Bird Agreement (JAMBA) and the China Australia Migratory Bird Agreement (CAMBA).

### 3. COMMUNITY INVOLVEMENT

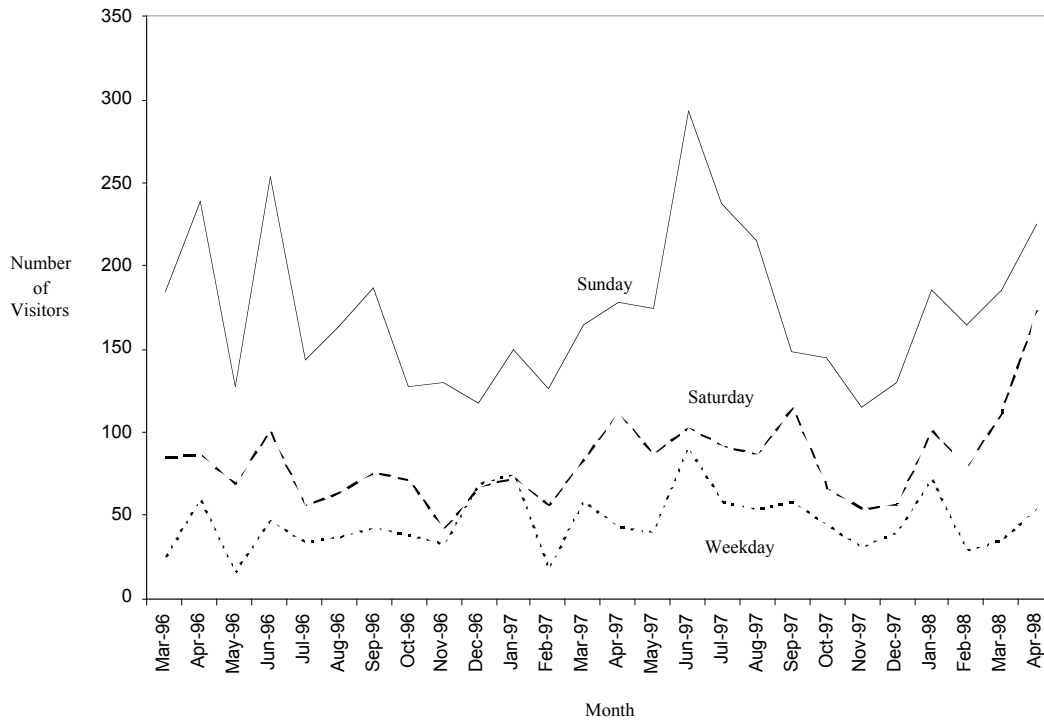
In 1992, the Boondall Wetlands Management Committee was formed to advise the local government on the planning and management of the reserve. The committee comprises local residents, Australian Marine Conservation Society, Queensland Wader Study Group, Nudgee Beach Environmental Education Centre, Queensland Conservation Council, and Greening Australia. The local government has in place Environmental Management Plans, Fire Management and Vegetation Protection Orders to decrease the rate of bushland clearance.

The Boondall Wetlands Visitors Centre, located at the western entrance to the reserve, was opened in 1996.

It provides a unique tourism service to the community and visitors to the Reserve. The monthly visitor arrivals to the Wetlands increased from 1996 to 2001 at an average growth rate of 10.4% (see Figure 2), reaching a maximum of 4005 visitors in July 2000. As shown in Figure 3, most visitors to the Wetlands arrive on weekends. Using the ratio-to-moving average method to calculate monthly seasonal indices for visitor arrivals in levels (see Table 2), the most and least popular months are June and February, respectively. High seasons also include January, April, and July to September. These months are popular because of school holidays, the New Year vacation and the Australia Day public holiday in January, and the start of spring in September.



**Figure 2.** Monthly Visitor Arrivals to Boondall Wetlands Reserve, 1996-2001.



**Figure 3.** Weekly and Weekend Average Attendance Figures.

Month	Seasonal Indices
January	1.18
February	0.65
March	0.96
April	1.13
May	1.09
June	1.29
July	1.23
August	1.19
September	1.11
October	0.85
November	0.82
December	0.75

**Table 2.** Seasonal Indices for Visitor Arrivals at the Boondall Wetlands Reserve, Using Ratio-to-Moving Averages, 1996-2001

Sustainable tourism also involves managed development, conservation and visitor use. The interpretation of both the natural and cultural heritage enhances understanding, which in turn encourages visitors to be more sensitive towards local people, local lifestyles, natural features and habitats. In addition to minimizing negative impacts on the environment, visitors to wetlands are encouraged to make an ‘active’ contribution to the sustainability of attractions. Being recognised as one of the country’s leading Wetlands interpretive centres, the Boondall Wetlands Visitor Centre is dedicated to environmental awareness and community education on the Wetlands ecosystems within the local and global context. A take-home information sheet, display and meeting rooms, and interpretive materials to introduce visitors to the reserve are available at the Centre.

#### 4. MANAGEMENT COMMITMENTS

In addition, the Centre coordinates a range of interpretive, educational, nature-based recreational, cultural, and ecotourism activities within the Reserve. Recreational activities such as hiking, fishing,

canoeing and boating are all based on natural environmental features, so that these activities fall under the category of ecotourism. A range of special interest group activities are also provided in the Boondall Wetlands, including bird watching, canoeing, bushwalking and cycling. Numerous family and children's programs are available during the school holidays and for significant events such as the World Environment Day. All activities are well monitored by the Visitor Centre to ensure a balance between sustainability of, and accessibility to, the wetlands ecosystems.

The Boondall Wetlands Visitor Centre also invites community participation as interpretive volunteers to work during weekends, as well as in regeneration activities within the Reserve. Training is provided for volunteers. The growing emphasis on, and challenge for, wetlands management is to move from being service providers to being experience managers, particularly those who are involved in interpretation of a destination's natural and cultural heritage. As part of its vision for 2002, the Centre has developed initiatives in support of the partnership agreement with the sister-wetlands centre, namely the Yatsu Tideland Environmental Centre in the City of Narashimo on Tokyo Bay, Japan.

By forming close ties with selected tour operators, the Boondall Wetlands has become a destination for interstate and international ecotourists. Through this partnership, the role of the Boondall Wetlands Visitor Centre as an educational centre for ecotourism in the community has been expanded. Being funded on a limited and declining budget by the local government, the Centre conducts its marketing activities in partnership with other environmental centres at the Nudgee Beach Environmental Education Centre, the Downfall Creek Bushland Centre, Bunyaville and Osprey House, to promote their educational package activities. The Nudgee Beach Environmental Centre at the eastern end of the reserve houses the State (Queensland) Education Department facility centre, which provides activity-based educational programs for school groups.

## 5. CONCLUSION

Wetlands contribute to tourism and recreation directly through visitor use and indirectly through interactions with other coastal ecosystems enjoyed by visitors.

According to Bacon (1987), recreational use of wetlands need not conflict with their conservation objectives. However, decisions concerning the protection of wetlands should precede recreational planning.

Orams (1995) argued that ecotourism management strategies should attempt to move ecotourism experiences beyond mere enjoyment to a more active role which incorporates learning, attitude and behavioural change. Through these desired objectives, the activities of visitors would actually contribute to the health and viability of the natural environment. The Boondall Wetlands Reserve has adopted such management strategies through the facilitation of education at the Visitor Centre. By providing financial support and/or labour through community involvement, visitors are assisting directly in the maintenance and protection of the natural environment. The behavioural objective is more complex and difficult to measure, and is recognized as being a somewhat idealistic objective.

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