GOOD PRACTICE USER-PAYS SYSTEMS
FOR PROTECTED AREAS

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SUMMARY

Virtually every protected area agency in Australia has adopted some form of user-pays system, but there is still limited understanding of the costs and benefits of these systems. This project involved key Protected Area [PAs] Land Management agencies in all Australian states that impose fees, in order to develop an understanding of the user-pays systems. In developing this knowledge, the guidelines, techniques and templates for assessing user-pays systems for PAs are more likely to be understood and if adopted, applied effectively.

It has been recognised that methods of ‘good practice’ must be identified and maintained in user-pays systems to ensure the objectives of park agencies can be met on a long-term basis. Good practice is used in this context as opposed to ‘best’ practice, as it is a more modest term and does not generate the expectations and subjectivity that best practice may imply. For example, what is ‘best’ for some organisations may not be the case for others, and the idea of ‘best’ practice can change over time (Bergin-Seers, Breen, Jago, & Carlsen, 2005).

Researchers at Curtin and Murdoch Universities in Western Australia, University of South Australia and University of Tasmania undertook a detailed review of international knowledge regarding user-pays systems to identify the key issues and practices. Based on this understanding, user-pays systems practices in Australian PAs were catalogued and compared with those in the literature. This project seeks to address the lack of knowledge and develop guidelines for assessing the viability of new and existing user-pays systems for PAs in Australia.

Objectives of Study

This project set out to:

- identify the costs and benefits of user-pays systems to ensure the maximum level of public and political support
- devise guidelines for designing good practice in user-pays systems for protected areas
- develop a template for assessing the financial viability of user-pays systems based on the existing cost and revenue structures of PAs and the financial objectives of PA Managers

Integral in these guidelines will be an understanding of the potential for user-pays systems to deliver the desired outcomes, especially financial objectives.

Method

A three stage method was applied to this project as follows:

1. Comprehensive review of information available on user-pays systems nationally and internationally.
2. Interviews with PA managers to catalogue user-pays systems across Australia and identify effective and ineffective practice.
3. Cost-benefit case study analysis of PA agencies’ current user-pays systems associated with specific protected areas.

Comprehensive review

A review of the literature on user-pays systems was carried out to identify the key components of existing and ideal systems. The critical analysis of the literature was based on the model for investigating Best Practice in User-pays identified by ANZECC (2000) in the report on benchmarking user-pays systems. The model included three dimensions:

- cost effectiveness,
- positive public attitude to agency conservation, and
- improved park management and better client services and facilities.

Protected area manager interviews

Interviews with park managers provided information on how comprehensive and efficient user-pays systems are in respective PA agencies in relation to application and visitor compliance. Interviews also provided information relating to the existence of links between fee revenue, improved park management, services and facilities and public support for these systems. Parks agency representatives in each Australian state were interviewed. Agencies are referred to using an allocated code name from A1 through to A8 where quotes from interviews or specific points are being made.
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Case study
In addition, a review of fee related documentation of Yanchep National Park in Western Australia was conducted, including policy documentation and park specific documentation. These data will inform a cost-and revenue analysis of user-pays systems and address the cost effectiveness objective. Based on the gathered information, recommendations are made for effective user-pays systems.

Key Findings
The literature identified several key factors in effective user-pays systems.

Interviews with PA managers revealed a broad diversity of systems working at various levels of effectiveness and efficiency. Some PA agencies had little available information on the cost of operating their user-pays system or the level of visitor compliance. Others had relatively detailed knowledge. Based on manager interviews, the success of user-pays systems appeared to rely on a number of factors including:

• public and operator attitude toward the parks management state agency
• effectiveness of parks agency public relations campaigns and level of public support for park user-pays
• geographical area and dispersion of parks within particular states
• balance between revenue from compliance and cost of enforcement
• proportion of international and interstate visitors compared to local visitors
• efficiency of user-pays system, including adoption of new technology and complexity of fees structure
• financial management skill level and motivation of parks staff
• staff culture in relation to support for user-pays and willingness to apply such systems in their parks.

Recommendations
It is apparent from this project that a ‘one size fits all’ approach to user-pays systems is not a viable option given the strong influence of historical, geographical, social and political context on each state and territory system. However, the following guidelines are relevant when establishing and/or reviewing user-pays systems in parks and protected areas:

• Ensure staff members are competent in financial management and motivated to actively management the system; this may require training or hiring of appropriately skilled staff.
• Retain revenue for parks or districts where fees are collected.
• Adopt a simple user fees structure and easy access to related passes and payment of fees.
• Employ a business management approach to user-pays systems.
• Use a discretionary approach to enforcement of compliance with acceptance of a certain level of non-compliance.
• Conduct pre-emptive positive public relations exercises prior to fees introduction or increases.
• Ensure timely notification to operators regarding irregular or large fee variations.
• Use technology where possible to improve efficiency of user-pays systems, including online reporting by regional staff, EFTPOS and credit card payment systems and online fully automated payment systems.

A good practice template or model will not work across all states in Australia and park agencies should continue to refine their own systems in line with these guidelines in order to achieve a level of cost efficiency and effectiveness in their user-pays systems.
Chapter 1

INTRODUCTION

Protected area user-pays systems are based on the notion of charging a fee for access and use of parks and other nature conservation areas. Most countries have areas that are primarily set aside for conservation of natural resources (Alpizar, 2005). Protected areas are particularly important in that their specific purpose is to preserve biodiversity which may be under threat (Turpie, 2003). Currently there are approximately 44,000 protected area sites in the world today, covering 13.2 million square kilometres (Athanas et al., 2001). In Australia there are nine protected area systems, one in each state and territory and one Commonwealth system. Collectively they are known as the National Reserve System (Natural Resource Management Ministerial Council, 2004).

Protected areas need a constant source of funding to maintain their daily management operations. Funding is required in order to provide quality visitor experiences and maintain or achieve conservation objectives. Generally, there are three main sources of revenue for protected areas: government funding, charging entrance fees from visitors and charging businesses that operate within the protected area (Font et al., 2004). Entrance fees and charges for businesses operating in protected areas are collectively referred to as user-pays.

It has been recognised that methods of ‘good practice’ must be identified and maintained in user-pays systems to ensure the objectives of park agencies can be met on a long-term basis. Good practice is used in this context as opposed to ‘best’ practice, as it is a more modest term and does not generate the expectations and subjectivity that best practice may imply. For example, what is ‘best’ for some organisations may not be the case for others, and the idea of ‘best’ practice can change over time (Bergin-Seers, Breen, Jago, & Carlsen, 2005).

This report reviews the published literature with regards to international good practice user-pays systems to gain insight into what the ideal system might entail. A series of interviews with protected area management agencies around Australia provided an overview of the current national situation regarding user-pays systems. A detailed cost-benefit analysis of one specific park provides a detailed case study insight into management of user-pays systems at the individual park level. From this, guidelines for ‘good practice’ in user-pays systems within protected areas are presented.
Chapter 2

METHOD

In order to establish parameters for good practice in protected area user-pays systems, a three stage method was applied to this project as follows:

1. Comprehensive review of information available on user-pays systems nationally and internationally
2. Interviews with PA managers to catalogue user-pays systems across Australia and identify good and bad practice.
3. Cost-benefit case study analysis of PA agencies current user-pays systems associated with specific parks.

Comprehensive Literature Review

A review of the literature on user-pays systems was carried out to identify the key components of existing and ideal systems. The critical analysis of the literature was based on the model for investigating Best Practice in User-pays identified by ANZECC (2000) in the report on benchmarking user-pays systems. The model included three dimensions:

- cost effectiveness,
- positive public attitude to agency conservation, and
- improved park management and better client services and facilities.

Protected Area Manager Interviews

During 2006, semi-structured interviews with park agency and other relevant government agency representatives were carried out across all six Australian states. These included:

- Great Barrier Reef Marine Park Authority (Qld)
- New South Wales Parks and Wildlife Service
- Parks Victoria
- Queensland Parks and Wildlife Service
- South Australian Department of Environment and Heritage
- Tasmanian Parks and Wildlife Service
- Tourism Queensland
- Western Australian Department of Environment and Conservation

In presenting the findings based on these interviews, agencies are referred to by code names to maintain anonymity and confidentiality. The list of agencies interviewed above is in no particular order while in the text, agencies are referred to as A1 through to A8 respectively. The inclusion of three agencies from Queensland was necessary based on the presence of two separate protected area jurisdictions (terrestrial parks and the Great Barrier Reef). Additionally, Tourism Queensland has been involved in debate on the issue of introducing user-pays systems to the state and its influence on tourism, independent travelers and commercial operators. User-pays management in the remaining states is primarily handled by the relevant protected area management state agency.

The interviews were informed by the review of user-pays literature in terms of identifying key topics for discussion and important questions. The interviewer recorded information by taking notes during the interview. Park managers also provided documentation or additional information forwarded by email. The interviews provided information on the structure and efficiency of specific user-pays systems in an applied context. Interviews also provided information relating to the existence of links between fee revenue, improved park management, services and facilities and public support for these systems. Appendix 1 provides an example of the interview framework applied in each state.
Information provided included documented data relating to the user-pays system, knowledge gained through experience with the system and opinions on aspects of the system such as its efficiency and potential areas for improvement. The interviews provided insight into aspects of specific parks user-pays systems that appeared to function well and those that were less effective. Data from interviews in each parks system were collated such that similarities and differences in information provided could be directly compared. This enabled the identification of successful attributes of the respective user-pays systems across Australia.

Cost-Benefit Case Study Analysis
An analysis of cost-benefit for specific parks in WA was conducted to obtain a micro-view of user-pays systems in parks. Documentation and records relating to the revenue raised and other benefits against the costs of applying a user-pays system to Yanchep National Park provided a detailed view of applied user-pays systems.
Chapter 3

LITERATURE REVIEW

Protected natural areas are a significant point of focus for tourism activity due to characteristics such as unique biodiversity and natural beauty (Laarman & Gregersen, 1996; Eagles, 2002; Kuo, 2002; Nyaupane, Morais & Graefe, 2004). Protected areas also provide the opportunity for people to escape the stress of modern built environments (Heimstra & McFarling, 1974). In this context, natural areas may be used for a range of recreational activities from sightseeing through to adventure and high risk activities such as rock climbing and abseiling (Pigram & Jenkins, 1999). Visitors thus have certain motivations and expectations when they visit a natural area for recreational purposes. For example, they expect to be able to use the facilities and services provided at the area and to generally be satisfied with their overall experience. Athanas et al. (2001, p.7) suggested that protected areas can be seen as a business operation—‘perhaps not unlike a shopping mall’ in that they provide goods (natural resources) and services (visitor enablers, facilitators of need or benefit attainment). It follows that increased consumption of these ‘goods’ and ‘services’ requires the implementation of effective management strategies (Leal & Fretwell, 1997; Newsome et al., 2002; Pigram & Jenkins, 1999).

Increasing pressure on protected areas has raised concerns about the current and future impacts of tourism and recreation on natural resources (Font, Cochrane, & Tapper, 2004). Common impacts from tourist activity include overcrowding, development, unregulated recreation, pollution, damage from vehicles and wildlife disturbances (Newsome et al., 2002). Therefore, one of the major challenges that protected area managers face today is balancing the provision of quality visitor services with conservation objectives (Buckley, 2003; Pigram & Jenkins, 1999). Font et al. (2004, p. 9) claim that the survival of any protected area is dependent on:

... the quality of its natural features, support from local communities and key stakeholders, political support through government policies and practices, and allocation of sufficient financial and human resources for effective conservation management, backed by clear plans and management systems for the site.

Furthermore, if a protected area can illustrate to the public and the government that its natural features can generate economic value through tourism, it is likely to attract support from these groups (Font et al., 2004). Font et al. (2004) suggest there are ‘six survival essentials’ that should be considered and attained in protected area management (Table 1). These six areas are the key factors in ensuring the survival of a protected area for the long term and are not mutually exclusive; rather, one cannot exist alone and to some extent they are interlinked.

Table 1: Six survival essentials for a protected area

<table>
<thead>
<tr>
<th>1. Natural features</th>
<th>High quality biodiversity, landscapes, and/or geology</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Social support</td>
<td>Links with local communities and key stakeholders and their support for conservation</td>
</tr>
<tr>
<td>3. Goals and strategies</td>
<td>Clear plans for conservation with management systems to implement and monitor them</td>
</tr>
<tr>
<td>4. Political support</td>
<td>Policies and practices of national and local governments to support conservation</td>
</tr>
<tr>
<td>5. Human resources</td>
<td>Sufficient trained staff for effective conservation management</td>
</tr>
<tr>
<td>6. Financial resources</td>
<td>Sufficient funds for effective conservation management</td>
</tr>
</tbody>
</table>

(Source: Font et al. 2004)

The main focus of this review is on processes surrounding revenue from user fees including entrance fees from visitors and tour operator licenses, also known as a ‘user-pays’ system. According to Buckley (2003, p. 58) visitor fees can be described as:

... charges imposed by landowners and land management agencies on either independent visitors or commercial tour operators and their clients, for entry, admission, overnight stays, recreational activities and tours, educational walks and talks or use of recreational and/or educational facilities.
The concept of charging visitors for entry to protected areas and use of recreation resources is not new. The first visitor fees emerged when Mount Rainier National Park in the US began to admit automobiles in 1908. Visitors were issued with an ‘auto permit’, and the fees were justified as funding the cost of road building (Mackintosh, 1983). In this sense, visitor fees have become increasingly important as demand for recreation in parks often exceeds the supply of government funding (Alpizar, 2005; Buckley, 2003). This is particularly so in protected areas within developing countries where government funding is directed to social concerns rather than environmental issues (Alpizar, 2005; Athanas et al., 2001; Font et al., 2004; Krug, Suich, & Haimbodi, 2002).

In addition to supplementing limited government budgets for protected areas, charging and regulating visitor fees can be seen as a means for influencing visitor behaviour by reducing visitation levels in delicate areas, hence minimising associated environmental impacts (Alpizar, 2005; Buckley, 2003; Font et al., 2004; Fretwell & Podolsky, 2003; Krug et al., 2002; Richer & Christensen, 1999). In addition, reduced visitation levels can also have a positive impact on visitor satisfaction in remote areas by reducing crowding. This method of visitor management rarely applies in Australian settings for reasons of social equity, and park fees are generally too low to influence behaviour to the point where it will have an impact on visitor use levels (Buckley, 2003; Buckley, Witting & Guest, 2003; Lee & Pearce, 2002).

Requirements for an Effective ‘Good Practice’ User-pays System

While user fees are considered important in raising revenue for protected areas, there are a number of factors that need to be considered. In the past there has been a great deal of opposition towards user fees from the public and local community in countries such as Australia, the United Kingdom, the USA and Scandinavian countries (Buckley, 2003). Moreover, there are concerns in relation to how revenue generated from user fees is allocated. With regard to an effective user-pays system, ANZECC (2000) suggested several key requirements:

- cost effectiveness
- positive public attitudes
- improved park management and visitor services

The relationship between these three factors is illustrated in Figure 1.

Cost effectiveness

In order for a user-pays system to function efficiently on a long-term basis, revenue generated must equal or be greater than the costs incurred (Font et al., 2004). Some of the costs faced by park agencies include:

- Compliance costs:
  - installation and maintenance of secure collection equipment
  - employing staff at fee collection points
- Concessions/exemptions:
  - reduced fees for locals and concession card holders reduce the total amount of fee revenue
  - boundary security: ranger patrols of park boundaries and vehicle checks to ensure visitors are displaying correct permits

Many of these costs are incurred at the initial set up of the user-pays system, and recovery of these costs often depends on the long-term viability of the system (Athanas et al., 2001).
In terms of fee level, Richer and Christensen (1999) suggest there are two associated costs. Setting the fee too low incurs revenue loss; however, setting the fee too high attracts social costs in that visitor numbers may decline. Although this may be an environmental benefit, economically this will reduce revenue from visitor fees. An optimal management solution is to create a balance between the two. In Costa Rica, park agencies have developed a system to calculate ‘optimal’ prices. Here, entrance fees are constantly modified using actual visitation data to estimate demand. Assuming the park agency has control over setting fees, the fee is set equal to the marginal cost whilst allowing for external factors (i.e. unexpected costs). Hence, the fee is always equal to the average cost (Alpizar, 2005).

Font et al. (2004, p. 15) illustrate the importance of maintaining a cost effective user-pays system:

*It is important to remember that for tourism to provide net financial benefit for the management of a protected area, the inflows of funds from tourism will need to exceed the costs that are incurred by protected areas in providing necessary infrastructure and managing tourism.*

Font et al. (2004) refer to a model of revenue flow for protected areas (see Figure 2). The model shows how revenue from user fees is leaked out through employment and wages, and in returns to local and national government.
Inamdar and de Merode (1999) noted that it is important to monitor the relationship between income and expenditure in relation to protected area management. They identified two main types of costs:

- **Fixed costs**—these are set costs that the agency experiences on a regular basis (i.e. monthly or annually), for example salaries and administrative and operational costs.

- **Variable costs**—these are costs incurred as a result of running a particular activity, for example seasonal dive and snorkel tours or a specific marketing campaign, and collecting visitor fees.

It has been suggested that protected area managers should attempt to minimise the amount and level of fixed management costs as much as possible to allow for any sudden increases in variable costs. According to Inamdar and de Merode (1999) an effective way to do this is to contract out to other agencies (such as non-government organisations or the private sector) rather than invest ‘in house’ which will incur greater fixed costs. By doing this, income is more likely to increase.

**Accountability**

In order to manage current revenue flow and plan for the future, a good practice user-pays system should keep detailed records and trends of income and expenditure. According to ANZECC (2000) most park agencies in Australia are unaware of the true costs they incur as a result of fee collection due to the fact that no accounting system exists. However, the Department of Industry and Tourism Resources is producing a report detailing guidelines for pricing in relation to user fee systems, and for calculating associated costs to park agencies. Inamdar and de Merode (1999) summarise the requirements of a basic accounting system for protected area management (see Table 2).

<table>
<thead>
<tr>
<th>Table 2: Book-keeping for financial sustainability</th>
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<tbody>
<tr>
<td><strong>The budget</strong></td>
</tr>
<tr>
<td><strong>The receipts and payments account, and the income and expenditure account</strong></td>
</tr>
<tr>
<td><strong>The balance sheet</strong></td>
</tr>
<tr>
<td><strong>Cash flow forecast</strong></td>
</tr>
</tbody>
</table>

Source: (Inamdar & de Merode, 1999)
The value of an accounting system is illustrated by the United States Forest Service through their implementation of the Recreation Fee Demonstration Program (RFDP). The RFDP is a significant user-pays system which is currently operating in protected areas in the US. The program has been running since 1996 and although it was originally given a three-year trial period, a permanent fee program for protected areas has recently been approved (USDA Forest Service, 2005).

The US General Accounting Office (GAO) conducts regular assessments of the RFDP and reports the findings to the government (United States General Accounting Office, 1998). One of the most recent findings by the GAO of the RFDP in the US was that many park agencies had a large amount of maintenance backlog that they needed to address. On the other hand, the GAO deduced that other areas of management were running efficiently and overall the RFDP had been successful (United States General Accounting Office, 2004).

Positive public attitudes
Positive public attitudes are an important component of a cost-effective user-pays system. Public support for user fee structures is directly related to the level of compliance (ANZECC, 2000). However, the concept of charging visitor fees has remained a controversial issue in Australia and some European countries due to the societal idea that public lands don’t ‘belong’ to anyone as such and should be free to access by everyone (Lee & Pearce, 2002). There are also many arguments that support user fees, and both sides of this debate need to be explored in order to set a standard for good practice.

Protected areas as common property
There has been debate in developed nations over the right to a clean, healthy environment and access to common property resources (Lee, 2000; Lee & Pearce, 2002). The concept of the right to access publicly managed land can lead to resistance by the public to accepting they have to pay a fee to enter natural areas. Wilderness areas are particularly problematic in that fees have only been introduced fairly recently and the idea of putting a price on an area of unique biological significance can be a difficult concept to accept (Williams, Vogt, & Vitterso, 1999). In addition to rights of access, the issue of perceived double-taxation can rouse public resistance and negative attitudes toward user-pays systems. Users may feel that they are already paying for protected area management through their government taxes then being asked to pay again when visiting the parks (Richer & Christensen, 1999). In order to implement effective user-pays systems, it is vital to recognise these attitudes and perceptions and work with the public in order to encourage acceptance of user-pays (ANZECC, 2000; Athanas et al., 2001; Fretwell & Podolsky, 2003).

A local perspective
Local resident users of protected areas seem to be the most resistant to user fees, particularly when new fees are introduced, as they are often the most frequent visitors to these areas (Athanas et al., 2001; Barnard, 2003). The opinions of the local community are extremely important in protected area management, as outlined by Athanas et al (2001):

... one of the clearest lessons protected area agencies have learned is that parks must be supported by their local populations in order to survive the 21st century ... it is worrying that a user fee strategy may alienate them ... The research suggests that what is needed is a meaningful debate with local constituents who may be affected by a user fee before the fees are put in place.

Users living local to parks may perceive a sense of ownership and the right to access discussed previously. This sense of ownership of protected areas relates to the character of the site in terms of the experience and visitor mix. A study conducted by Lee and Pearce (2002) of community attitudes to user fees in two northern Australian cities explored this concept. They found the local community thought that charging user fees in areas that could be regarded as tourism settings such as the Great Barrier Reef, ski fields and World Heritage sites, was more acceptable than charging fees for areas regarded as recreational settings such as local parks and beaches. From this it would seem that gaining support for user fees in protected areas used primarily by local residents for recreational purposes would be more challenging than for areas considered as primarily tourist attractions. Interestingly, this study also found that locals and visitors were accepting of differential pricing where equity considerations are provided through concession rates for locals and seniors (amongst others).

The issue of equity
Arguments against the ‘user-pays’ principle maintain that user fees pose a minor barrier for the wealthy and may exclude low-income earners, making the system unfair and inequitable (More, 1999).
It has also been argued that resources in the public sector should fulfil a public need. ‘[If] … parks are reserved for the comfortably well-off, will they continue to be publicly necessary?’ (More & Stevens, 2000; Veal 2007; Crilley, in press). An alternate view to this argument rests on the relative cost of user fees in protected areas. In most cases an entrance fee is only a small proportion of the total travel cost (Fretwell & Podolsky, 2003; Williams et al., 1999). For example, if a family decides to travel 400 kilometres for a holiday, the costs of travel, accommodation and food will far outweigh the cost of a national park fee, and is therefore unlikely to alter their decision. In other words, low income people are already ‘priced out’ by basic travel expenses (More & Stevens, 2000). A common ground between these arguments appears to be in lower pricing for the local community to ensure a wide range of user groups can visit protected areas, whilst park agencies collect maximum revenues from user fees.

**Pricing for different user groups**

Differential pricing may provide one avenue to greater public acceptance of user fees. Differential pricing sets fees in a manner that is sensitive to the needs of different user groups. There is currently a wide variety of services throughout Australia that charge subsidised prices for those who hold student or senior concession cards, and social welfare cards. This system may also be applied to user fees for national parks and is currently in operation in many areas.

In Kosciuszko National Park, locals in certain areas can purchase an ‘Annual Pass’ for $85 (the usual price is $145, due to be increased to $190 in 2007), and senior and pensioner concession card holders are also subsidised (Department of Environment and Conservation New South Wales, 2005). In Tasmania a new fee system was introduced in 2004 that allows local residents to purchase a two-year pass, which can be renewed at a concession rate. The passes are per vehicle with a maximum of eight seats, and apply to three vehicles and one boat per household (Tasmanian Conservation Trust, 2004). In Western Australia, DEC has implemented a ‘fee waiver’ system where certain groups such as school children and the very elderly are not required to pay fees where they are travelling in groups on buses. Discounted concession passes are also available for senior, certain categories of disabled pensioners and Department of Veterans’ Affairs cardholders (Shea 2005, pers. comm.). National Parks within the US provide a variety of park passes, including a ‘Golden Age Passport’ which costs US$10 for citizens or permanent residents of the US who are aged 62 or older, and a ‘Golden Access Passport’ which is free for those who are legally blind or permanently disabled (Recreation.gov, 2004).

Such pricing may assist lower income earners in terms of ability to pay for access as well as encouraging wider public support through the perception of more equitable access. Obviously, discounted user fees result in lower income for protected area managers from parks users unless this practice is matched by equally effective income generation such as efficient yield management (List, 2006). This may subsequently influence cost effectiveness of the system.

**Perception of management agency’s goals**

The general perception of the protected area management agency and their objectives are an important influence in terms of acceptance of management regimes, including user-pays systems (Anderson, 2000). Borrie, Christensen, Watson, Miller and McCollum (2002) suggest ‘relational marketing’ as a method of assessing and improving the relationship between the public and park agencies. In addition, it builds ‘confidence in the agency’s ability to guard the short and long term interests of the public’ (p. 49). Relational marketing involves three key areas (Borrie, et al. 2002):

- Social trust—the degree to which the public believe the agency to share their views, goals and values
- Commitment—the investment, attachment and longevity of the relationship to the agency; and
- Social responsibility—the public’s attitudes towards the goals or purposes of the agency

It is important that an agency maintains its stated objectives when interacting with the public. For example, when releasing information of a fee increase, a protected area agency should reinforce its conservation objectives (Anderson, 2000; Athanas et al., 2001; Borrie, Christensen, Watson, Miller, & McCollum, 2002; Buckley, 2003; Font et al., 2004; Leal & Fretwell, 1997). Building support for user fees through relational marketing prior to any actual introduction has been shown to be more effective than reacting to negative public response after fees introductions or increases.

**Justification of fees and charges**

The perception that the revenue from user fees is being used to improve management of protected areas is another factor that can contribute to public support for user-pays systems. Revenue by the park where it is collected for maintenance of visitor services and protection of natural resources will build the most support for
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user-pays from the public. Bengston and Fan (2002) carried out a study of public attitudes to the Recreational Fee Demonstration Program in the US. The findings indicated that many visitors thought user fees were fair ‘because those who benefit should help pay the costs of providing recreation services’ (p. 7).

These are some of the key areas where visitors thought the revenue generated from visitor fees should be spent:

- on-ground improvements such as new or cleaner toilets, more rubbish collection facilities, improved boat ramps, better trail maintenance, remodelled visitor centres, access for the disabled and more interpretive programs
- increased security—rangers to patrol to decrease illegal activities
- to generate ecological benefits.

A study conducted by Bowker, Cordell and Johnson (1999) also investigated this issue in the US on a national scale. Their findings revealed that over 80 percent of respondents thought fees should be charged to cover at least part of the cost of boat ramps, camp grounds and special exhibits. On the other hand, visitors were opposed to user fees for picnic areas, historic sites and restrooms.

Willingness to pay fees appears to be more common in protected areas within developing where government funds for protected area management are relatively lower. For example, visitors to Thailand protected areas have indicated that they would be willing to pay more in visitor fees if they knew the funds were put towards park management and wildlife preservation. Protected areas in Thailand have been impacted heavily by growth in tourism numbers and poor management. The quality of marine water has dropped below an acceptable standard, and only 10 percent of the coral reef near Lan Island remains (International Centre for Environmental Management (ICEM), 2003). While the revenue from user fees may not reverse these impacts, the perception of contributing to management of the protected areas is a key to the support for user-pays systems in this region.

While introduction of user-pays to parks can be a challenge in terms of gaining public support, increases in existing fees may also meet resistance from users. Justification of new or increased fees can include providing detailed information on the park agency’s website (as seen on a number of Australian park agency web sites such as New South Wales and Western Australia (DEC, 2005; NSW Parks and Wildlife Service, 2005)) or providing interpretive signage on-site:

... managers can place a sign at the trailhead of a new or improved trail to notify the users that their hard-earned money is being well spent in the areas they enjoy visiting. (Athanas et al., 2001)

Fee revenue from visitation to Australian national parks generally represents only a small proportion of the total maintenance budget (Drinl & Common, 1995). Due to the increased reliance on visitor fees for funding of conservation objectives and visitor management, many park agencies are considering or have already increased fees at various national parks.

Where an increase in fees is required inline with inflation or lack of government funding, it is reasonable to do so in accordance with the Consumer Price Index (Lee, 2000). Justification of an increase must be demonstrated explicitly to the public, and to increase the chance of acceptance; phase system can be introduced where the fees are increased in stages over a period of a few years. For example, Parks Canada conducted a survey to gauge the response of visitors to increased fees, and then implemented a program to increase fees in stages over a period of three to four years (Parks Canada, 2005). Whenever a new fee is introduced or increased, it must be clearly justified to the public that the reason is for conservation purposes or to improve core visitor facilities and services (Athanas et al., 2001; Nicholls & Crilley, 2002)

Revenue retention by park agencies
One of the key requirements for an effective ‘good practice’ user-pays system is retention of fee revenue by park agencies for use in maintaining visitor facilities and enforcing conservation objectives (Fretwell & Podolsky, 2003; Rivera-Planter & Munoz-Pina, 2005). It is useful to compare Australia to other countries such as the US. as they have similar historical, political and geographical factors (Buckley, 2003). The only major difference between the two in terms of protected areas is the amount of visitors they receive: US national parks receive an average of 290 million visits each year, whereas in Australia these figures are much lower at around 7 million visits per year (Fretwell & Podolsky, 2003; Tourism Queensland, 2005; Eagles, 2002). The first national park established in 1872 in the US was set up to be self-sufficient in the sense that it did not require additional government funding.
Problems arose, however, when park revenues could not sustain boundary security measures, and subsequently parks became congressionally funded. Unfortunately this meant that revenues collected at the parks were reverted to federal treasury and were no longer retained for park use. Under the current Recreation Fee Demonstration Program, U.S. National Parks are permitted to keep at least 80 percent of fee revenue, which is retained by the park that collected the fees (United States General Accounting Office, 2003). The current struggle faced by many protected area agencies is retaining this revenue and putting it towards the betterment of the area (Fretwell & Podolsky, 2003).

A major concern however is that the funds generated by visitor fees are not being spent on areas in the greatest need. This is often the case in some US national parks, as pointed out by Fretwell and Podolsky (2003). Their study of Delaware Water Gap National Recreation Area provides an example of inappropriate spending, where new deluxe housing was provided for less than 60 of the park’s 5000 employees, while the majority of employees were still living in tents without running water. This illustrates the importance of protected area agencies adhering to management objectives, and applying a reliable accounting system to keep track of costs. A recent assessment of the Recreational Fee Demonstration Program (RFDP) revealed that park agencies had accrued a large amount of ‘maintenance backlog’ that needed attention, and this was more common in parks that generated less revenue from visitor fees. In response to this, the General Accounting Office suggested that the government consider modifying the 80 percent fee retention policy (for example, distributing revenue more evenly between parks) to allow parks more flexibility in dealing with maintenance issues (United States General Accounting Office, 2004).

Inappropriate spending is more often caused by the fact that the government makes most of the spending decisions on a ‘political’ basis rather than the park managers, and hence ‘those who do not control the resources lack the incentives and the authority to invest wisely’ (Fretwell & Podolsky, 2003). Fretwell and Podolsky (2003) also note that ‘politicians find it more appealing to cut the ribbon of a newly constructed facility than to repair an existing sewer system’.

Efficient methods of fee collection
One of the most important factors of a cost effective user-pays system is ensuring an efficient method of fee collection. This requires minimising the costs of running the actual revenue collection and ensuring maximum compliance from fee-paying visitors in order to gain maximum revenue. The literature identifies three general interrelated considerations for an efficient ‘good practice’ system of fee collection:

- cost efficiency
- convenience for visitors
- compliance

When implementing fee collection systems, it is preferable to begin with methods that are easy to operate and relatively inexpensive, then move to more capital-intensive programs as revenue increases (Athanas et al., 2001).

Cost effectiveness, convenience and compliance
It is important that costs involved in fee collection are minimised as much as possible to allow for greater revenue retention for park management. In terms of cost effectiveness, Inamdar and de Merode (1999) suggest the following guidelines for efficient fee collection in protected areas:

- improve visitor monitoring by stationing rangers at all access points
- random spot checks to ensure correct compliance of protected area users with current fees
- increased daily patrols within the protected area, possibly including nightly patrols
- provision of information in the form of visitor leaflets to hotels and tour operators on the facilities available and applicable charges

Watamu Marine Reserve in Kenya demonstrates the advantages of efficient methods of fee collection. Watamu Marine Reserve receives around 2000 to 3000 visitors annually. In 1999, visitor monitoring and surveillance by staff was increased in the area. In two months records indicated this had resulted in a doubling of visitor numbers and a 52 percent increase in revenues due to improved compliance. To ensure continued improvement, the following priorities were highlighted:

- increased investment in monitoring and patrols
- staff development and training—especially in financial management, human resources and motivation
- development of marketing and promotional initiatives (Inamdar & de Merode, 1999).

Research undertaken in 2004 at Innes National Park, South Australia showed that compliance could be increased by redirecting traffic from all entrance roads past the existing self registration station and by adding
information to interpretation signs on the benefits of user-pays for both the visitor and park management (Winter 2004). In light of this however, caution must be taken to ensure visitor numbers do not increase to levels that conflict with environmental sustainability.

Visitor compliance is extremely important if protected area agencies are relying on regular income from user fees. The key to ensuring compliance is to provide a convenient method of fee payment for visitors, such as provision of passes through outlets such as newsagents, which are relatively easy for the visitor to access. This enables visitors to purchase their pass in advance, and it also reduces the cost of providing pay stations at the actual sites. One downfall of this method however is that the vendor selling the passes often retains a percentage of the revenue generated, and the total revenue eventually received by the parks is reduced (United States General Accounting Office, 2003).

**Emerging technologies**

New technologies can assist in making user-pays systems more convenient for visitors and staff, thereby increasing compliance. Many protected area agencies in Australia and the US now have an online system where visitors can purchase a variety of park passes, ranging from day passes to annual permits using a secure credit card facility. For example, DEC, Western Australia, currently offer five different park passes over the internet, ranging from a $9 day pass per vehicle to annual, local and holiday passes (DEC, 2007). Queensland Parks and Wildlife Service (QPWS) only charge camping fees, and application forms are available online. While these online systems are convenient for both visitors and park agency staff, regular compliance checks by ranger staff are necessary to ensure visitors are cooperating with the system.

The Kenya Wildlife Service has introduced a system called the ‘Smartcard’ which applies to entry at six national parks in Africa. Visitors purchase a card at one of the specified ‘points of issue’ and have their details loaded onto the card. They can then pay money to be loaded onto the card at any specified ‘point of sale’. The cards are swiped upon entry to the park and no exchange of money or compliance check is required. Some more specific features of this system are as follows:

- All payments for park fees is done at the ‘point of sale’.
- All visitors to the park need a card corresponding to their residency status.
- Resident and citizen visitors are issued with personalised cards.
- Non-residents are issued with a generic card which they must surrender on exit.
- Schools are issued with special school cards.
- Tour operators are issued with a Smartcard that allows them to pay for large groups (Source: Kenya Wildlife Service, 2005).

This appears to be an effective method that encourages compliance; however, it relies on the presence of an entrance gate at each park. Many Australian national parks have several entry points, and it may not be financially feasible to provide a swipe-card facility and boom gate at each one. Costs involved in installing the system and maintaining it also need to be considered. The remoteness of many of the parks in Australia may also decrease the viability of this approach. Boom gates and fences can reduce the quality of the visitor experience where remoteness and isolation are key attributes of the experience. Boom gates may also be less favoured due to the perceived ‘police’ type authoritarian character of such an approach that some park agencies in Australia wish to avoid (Shea, pers. comm., 2005).

**Literature Review Summary**

This review has presented key issues for good practice regarding user-fee applications in protected areas. It provides perhaps an idealistic view of how a user-pays system should function. However, the issues raised provide an important platform from which to build a framework for an effective system. In summary the issues include:

- Cost effectiveness
  - Costs must be no more than revenue generated.
  - An effective accounting system should be implemented.
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- Positive public attitudes
  - Local perspective should be considered.
  - Introduce pricing for different user groups.
  - Ensure decisions made are equitable.
  - Consider the public’s perception of management agencies’ goals.
  - Fees and charges must be justified.

- Improved park management and services
  - Revenue must be retained by park agencies and used appropriately.
  - Conservation objectives must be maintained.

This review has also highlighted the political nature of user fee applications for protected areas. The political environment plays an important role in implementing a good practice system in terms of addressing the attitudes and perceptions of public and commercial users for whom the parks are managed.
Chapter 4

FINDINGS

Reasons and Objectives for User-Pays Systems

Discussions with protected area agency managers highlighted several reasons for having a user-pays system in place. These included much of what is described in the literature. Table 3 summarises the response from the eight agencies included in the interviews. Agencies often indicated more than one reason for their user-pays systems. It is apparent that the primary reason for implementing user-pays systems is due to legislative requirements. Most state governments in Australia have passed Acts that require protected area user fees be charged. Cost recovery for provision of services was the next most common reason. This often related as much to the operation of the user-pays system as the provision of visitor services and infrastructure in parks. This is emphasised by the measurable objectives relating to ensuring the cost of implementing user-pays systems is less than the revenue raised from that system (Table 4).

Table 3: Reasons provided for implementing user-pays systems in protected areas

<table>
<thead>
<tr>
<th>Reason for implementing user-pays system</th>
<th>Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A1</td>
</tr>
<tr>
<td>Statutory requirement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A2</td>
</tr>
<tr>
<td></td>
<td>A3</td>
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<td></td>
<td>A4</td>
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<tr>
<td></td>
<td>A5</td>
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<tr>
<td></td>
<td>A6</td>
</tr>
<tr>
<td></td>
<td>A7</td>
</tr>
<tr>
<td></td>
<td>A8</td>
</tr>
<tr>
<td>Service provision cost recovery</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplement operating budget</td>
<td></td>
</tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>Means for furthering conservation effort</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Control of visitor numbers and access</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Means for achieving competitive neutrality</td>
<td></td>
</tr>
</tbody>
</table>

The literature emphasises the need for user fees as a means of supplementing inadequate government funding (Alpizar, 2005; Athanas et al., 2001; Buckley, 2003; Font et al., 2004; Krug, Suich & Haimbodi, 2002). However, the more common reasons provided in this study appear to relate more to a requirement by law based mainly on a service cost recovery government policy. User fees as a means for supplementation of the operational budget was a reason cited by three agencies. Two agencies have a policy of retaining all or part of fee revenue within parks or districts for discretionary use by the district or park manager. One agency experiences government budget cuts in proportion to user fees revenue raised and so is reliant on this revenue as an operational budget supplement. The generally small fraction of the total operational budget user fees represent is perhaps linked to the lesser focus on such revenue as a supplement for operations. It would seem that retaining fees in the district or parks where they are collected results in such revenue having a relatively greater proportional contribution to the cost of management relative to fees as a proportion of the total operational budget of the agency.

User fees as a means for control of visitor numbers and access was cited by two agencies. The relevant agencies were referring to specific places with a controlled access point to a sensitive environment. Buckley (2003) observed that user fees for control of visitor access and numbers is not common practice in Australia owing to the relatively low charges for access. User fees as a means for furthering the conservation effort was probably less frequently cited as this may have been included in other reasons (such as service cost recovery and budget supplementation) given the agency’s core function is conservation of natural areas. Similarly, with competitive neutrality, the concept is commonly included in the legislation by which the agencies operate but perhaps was top of mind for the three agencies citing this as a reason for fees.
Table 4: Agency identified measurable objectives associated with reasons for user-pays system

<table>
<thead>
<tr>
<th>Reason for implementing user-pays system</th>
<th>Measurable objectives indicated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statutory requirement</td>
<td>none</td>
</tr>
<tr>
<td>Service provision cost recovery</td>
<td>revenue raised, revenue greater than costs of user-pays system</td>
</tr>
<tr>
<td>Means to subsidise operating budget</td>
<td>revenue raised, revenue greater than costs of user-pays system</td>
</tr>
<tr>
<td>Means for furthering conservation effort</td>
<td>none</td>
</tr>
<tr>
<td>Control of visitor numbers and access</td>
<td>park visits</td>
</tr>
<tr>
<td>Means for promoting competitive neutrality</td>
<td>none</td>
</tr>
</tbody>
</table>

Two agencies mentioned internally referent objectives that related to the user-pays system itself rather than the management of protected areas from which fees are raised. These included ‘keeping costs below revenue raised’ and ‘the level of revenue raised’. One agency cited they had submitted an ‘aspirational’ revenue target to the state minister for the environment. Two agencies indicated more externally referent objectives that related to a requirement to remain competitively neutral with equivalent commercial operations.

For a system to be monitored and evaluated, it is important for measurable objectives to be in place (Font et al., 2004). It is apparent that no agency interviewed has a substantial evaluation procedure in place to monitor effectiveness of their user-pays systems. This may well be a function of user-pays systems primarily being implemented as a statutory requirement and as a government policy rather than for financial or operational purposes. This situation is highlighted in responses to questions regarding cost effectiveness of the system. Some agencies did not have reliable information relating to how much their user-pays systems actually cost to operate and manage.

Agency A2 noted that the decision to implement user fees in specific parks in their state was an ‘ad-hoc’ and ‘political decision’ with no real basis from a commercially justified perspective. From the representative’s point of view, this had resulted in fees being applied to particular parks irrespective of the services and facilities provided such that the requirement for paying fees at given parks was apparently ‘random’. This was not typical to other agency perspectives expressed during interviews but provides a clear example of the unique character of user-pays systems between states in Australia and how they may be influenced by political and social pressures.

Fee Revenue

The issue of fee revenue included setting fees, fee structures, revenue retained by the agency, and disbursal of revenue. The literature suggests that a user-pays system is primarily a means of supplementing limited government funding for conservation and human use management of protected areas (Alpizar, 2005; Athanas et al., 2001; Font et al., 2004; Krug, Stuch, & Haimbodi, 2002). It could thus be assumed that an effective user-pays system generates more revenue than it costs to implement. While cost recovery, as a component of legislation, was commonly cited as a reason for implementing user-pays systems, the setting of fees was seen to be tempered by perceived ethics and equity considerations. All agencies recognised they manage protected areas for the public good. From this stance, it was considered that fees for using protected areas should not be exclusive. That is, fees and the fee structure were set by agencies such that they were considered to minimise the probability of visitor exclusion based on socio-economic status. As one agency representative mentioned, ‘…we are in the business of conservation, not the conservation business’ (Interview A7).

In other words, the underlying conservation and ‘social good’ philosophies on which protected area agencies and staff primarily operate coupled with the legislatively driven mandate for user-pays systems determine that such systems are generally not implemented from a commercial, profit based intent. This means fees were not always applied to all parks and were commonly set at a level that was a fraction of the total budget for managing protected areas, and often below the cost of running the user-pays system itself. This is discussed further in the section on cost effectiveness.
Setting Fees and Fee Structure

Setting fees and fee structures varied widely between each agency. Most states selectively charged entry fees to parks but required commercial operators accessing any park to pay license fees. Entry fees were generally charged for parks where compliance was likely and enforcement viable. Charging of user fees was also based on the level of services and amenities present in respective parks. Parks with significant amenities and facilities where also more likely to have associated user fees. Fees charged varied between states and sometimes within states’ park systems.

While some agencies had a centralised system with a structure based on a single flat park entry fee, other agencies had very convoluted decentralised systems based on factors such as seasonality, facilities and services, complex concession structures, political will or the willingness of particular park staffs to collect fees. What was most evident was that each state had a different users pays system with varying histories of development and a diversity of management structures. In addition, the political and social climate in each state appeared closely linked to the style of implementation and management of respective user-pays systems, particularly setting fees. The level and structure of fees was related directly to perceived user acceptance and hence, likelihood of compliance. This is discussed further in the section on cost effectiveness.

Fees were attached to a range of services and activities including the following:
- park entry
- commercial operator permits/licenses
- camping/accommodation
- educational and guided activity related services
- berthing./mooring

Charging fees was viewed in various contexts by management agencies as described in the previous section.

There were also a variety of park entry and service fee structures that included a standard user fee and one or more levels of concession. Some agencies recognised the advantage of a relatively simple fee structure in terms of administration and user compliance. The level of fees charged and the range of concessions were associated with the perceived need for equity of public access. This was seen to be a counter balance to the need for adequate revenue to subsidise management of parks. The complexity of the user-pays system fee structure also influenced cost effectiveness of the system where more complicated fee structures were more costly to implement and were more likely to encourage non-compliance. This related to the ease of paying user fees in terms of understanding what charges are relevant.

Setting or introduction of fees was also viewed as being strongly influenced by social and political issues. In some states, the introduction or lack of introduction of fees for park use was seen to be a function of political sensitivities. Where governments considered park user fees to be unpopular, introduction or increases in fees was less likely. The user acceptance of fees was also viewed as a function of the ratio of locally resident users to interstate and international users of particular parks. User fees at parks visited primarily by international and interstate users were more likely to be supported than at parks primarily used by local (intrastate) visitors. Resistance to user-pays leads to a greater likelihood of non-compliance and reduces cost effectiveness of the system through reduced revenue and the need for more active enforcement.

The importance of pre-emptively positively promoting the need for user fees prior to their introduction was noted by some agencies. Pre-empting fees introduction or increases with positive public relations messages resulted in less resistance and a greater likelihood of compliance. This approach was seen to be more effective than reactively defending decisions after introduction of fees. While positive marketing will not prevent resistance all together, one agency noted that it did significantly reduce the negative reaction from the public. A second agency introduced park passes at a low cost to encourage public acceptance and use with plans to increase the fee once the presence of park passes was accepted.
**Disbursement of Revenue**

In addition to varying complexities of fee structure and application, there were several different systems of user-pays revenue disbursement evident across the agencies. Font et al. (2004) provided a general model of the economic contribution of tourism to protected areas that included the following relationship in reference to fees collected at parks:

![Disbursement Diagram](https://via.placeholder.com/150)

This simplified model suggests a direct relationship between user-pays revenue and revenue fed into management of protected areas. Interviews with park managers across six states indicates that the relationship between fees collected from tourists at parks and the flow of fee revenue into protected area management is more complex than shown by Font et al. (2004). Figure 3 provides a summary overview of the various paths park user fees may take from tourists and visitors using parks through to revenue for protected area management. The diagram includes fees collected for entry to parks and use of parks services and facilities. It does not include license and permit fees.

Revenue raised by user-pays systems was managed by respective state governments according to one of two general systems:
- revenue was retained by the park agency collecting the fees or
- revenue was not retained by the park agency.

There were three parks management agencies where user fee revenue was not retained and three agencies that retained user fees revenue. Of those that retained revenue, one agency retained revenue within the park region where it was raised for use by the regional manager. The regional manager may choose to subsidise the regional park management costs or fund projects in the region that central administration considered to be low priority. One agency took all user-pays revenue into the park management agency central revenue and disbursed to parks according to certain criteria. The third agency retained revenue through retail and other agency run enterprise activity within the specific park where it was raised. Other revenue from entry fees and so on was retained by the agency central revenue and disbursed back to parks based on particular criteria.

The three agencies that did not retain revenue had three respective systems in place. One agency effectively transferred its user-pays revenue completely. The respective state government reduced the budget allocation to the park agency by the same value as the amount of revenue raised through user fees. A second agency transferred user fees to a second government entity that then reallocated equivalent funds back to the park management agency for distribution to park management. The third parks agency transferred user fees revenue to a second government entity that then distributed the funds directly to particular parks as it saw fit, based on given criteria.

In all cases of centralised disbursement of revenue to parks, a set of defined criteria was applied that may include the relative costs of running particular parks, where more costly parks receive a larger share of revenue irrespective of the revenue raised by that park. Costs may include staff salaries, provision of services and/or upkeep of facilities and infrastructure. Other criteria include parks with needs that fall into high priority corporate objectives either in terms of conservation management, development of services or capital works.

The literature reviewed reported that the most effective user-pays systems include the investment of fees back into park management to improve conservation management, services and infrastructure. This is likely to increase public and agency staff support for user-pays and hence, increase compliance and cost effectiveness (Fretwell & Podolsky, 2003; Rivera-Planter & Munoz-Pina, 2005). The cases where user fee revenue is not clearly retained for reinvestment in park management are not an ideal situation from the staff point of view as it provides no motivation for implementation and enforcement of the user-pays system. It also risks having minimal public support as park user fees are not seen by locals or return visitors to be obviously benefiting park management and conservation, thereby reducing compliance as discussed by Fretwell & Podolsky (2003) and Rivera-Planter & Munoz-Pina (2005).
**Figure 3:** A summary of the various distribution pathways for user-pays revenue according to project interview data collected from Australian parks agencies (developed as part of this study)

**Fees and Park Visits**

Most agencies interviewed were of the view that the introduction of fees or increases in fees had little effect on park visitation if the fees are appropriate to the market. Agency A8 noted that ‘[the] fee is usually a small component of the cost to visit… [the park]’ and so had little effect on the level of visitation. This reflects comments by Fretwell & Podolsky (2003) and Williams et al. (1999) who noted an inverse relationship between willingness to pay fees and the proportion of the holiday or travel budget the fees represented. Agency A7 noted that visitation to its parks by international and interstate visitors was not affected by fee introduction or increases. This was seen as more than just the budgetary ratio between the travel cost and park access fees but also related to visitor expectations. Lee and Pearce (2002) found that local resident resistance was common but depending on the type of protected area. For example, protected areas considered to be ‘tourist attractions’ experienced less resistance to fees relative to parks regarded as recreational resources primarily used by local residents. This phenomenon was noted by agencies A7, A3 and A8 in particular. Acceptance of fees was also related to the level of services and facilities at given
parks where fees are introduced or increased. Fees for parks viewed as having good facilities and services were seen as having little effect on visitation numbers while numbers tended to decline for parks with limited facilities and services.

In this vein, most agencies also noted that fees could influence park visitation under certain conditions (Table 5). A common view was that the length of stay often determined how fees influenced visitation numbers. Fee introductions or increases tended to reduce the number of short term (one day or less) visitors while longer term (weekend or more) visitation was not affected. As indicated, visitor origin may also influence the effect of fees on visitation. Numbers of visits by interstate and international visitors tended not to be affected while numbers of locally resident visitors tended to undergo a short to medium term decline. This may relate to the fee as a proportion of the cost of access to the park. That is, fees may only be a small fraction of the cost of accessing the destination for interstate and international visitors while it would be proportionally higher for locally resident visitors. One agency noted that the magnitude of change in fees may be a significant factor influencing visitation. They observed that when user fees were doubled in their state, the number of local origin visits declined by 30% but recovered after five years (international and interstate visits were not affected). When fees were increased by a small fraction (10%) there was no significant influence on visitation numbers. In most cases, decline in visitation in connection to fee introduction or increases was seen to recover after a period of several years. Table 5 summarises the factors raised by the park agencies that were considered to influence how introduction or increase in user fees may affect park visitation numbers.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Park Visitation numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Place of visitor origin</td>
<td></td>
</tr>
<tr>
<td>Interstate/international</td>
<td>Little or no effect</td>
</tr>
<tr>
<td>Local/intrastate</td>
<td>Temporary decline</td>
</tr>
<tr>
<td>Length of park visit</td>
<td></td>
</tr>
<tr>
<td>Multiple days</td>
<td>Little or no effect</td>
</tr>
<tr>
<td>One day or less</td>
<td>Temporary or longer term decline</td>
</tr>
<tr>
<td>Park facilities and services</td>
<td></td>
</tr>
<tr>
<td>High level</td>
<td>Little or no effect</td>
</tr>
<tr>
<td>Low level or none</td>
<td>Temporary decline</td>
</tr>
<tr>
<td>Proportion of total trip spend</td>
<td></td>
</tr>
<tr>
<td>Fees a small proportion</td>
<td>Little or no effect</td>
</tr>
<tr>
<td>Fees a large proportion</td>
<td>Temporary or longer term decline</td>
</tr>
<tr>
<td>Magnitude of change in fee</td>
<td></td>
</tr>
<tr>
<td>Small</td>
<td>No effect</td>
</tr>
<tr>
<td>Large</td>
<td>Temporary decline</td>
</tr>
</tbody>
</table>

Of course the variables described in Table 5 will not operate in isolation but there is no apparent information available on how they may interact. For example, the effect on visitation of a large increase in fees that represents a small proportion of the total trip cost for an interstate visitor to a park with few facilities. These variables or factors may also relate to the level of compliance. That is, rather than a decline in visitation, respective factors may result in an increase in non-compliance. This may be particularly so for parks where locally resident visitors feel a sense of ownership or have a tradition of use.

**Social equity**

Social equity was a common theme raised by all park management agencies in terms of fees and access to parks. The right for community access to common property resources is globally recognised as a significant issue in relation to user-pays systems for protected natural areas (Lee, 2000; Lee & Pearce, 2002). This is particularly so where protected areas are managed by government agencies, as is the case in Australia. Some community members may feel user fees are doubling up on existing tax revenue used for operations of the parks management agency (Richer & Christensen, 1999). User fees may also be perceived as excluding less wealthy or disadvantaged community members unable to afford the cost of visiting protected areas supposedly managed for the public good (More, 1999).
Agencies generally expressed views on equity relating to balancing public accessibility with adequate user fee revenue; and use of concession systems to improve accessibility for disadvantaged groups. Social equity is effectively built into the legislative mandates of all parks management agencies as they are required to manage the parks systems for the greater public good and on behalf of the public. Ensuring financial equity of public access was generally approached through use of concession systems with a stratified fees structure. While this can become complicated, creating a complex user-pays system (and hence reducing cost effectiveness and compliance), it ensures access to parks is not wholly determined by socio-economic status. Public support for a user-pays system is seen as an important component of its success (ANZECC, 2000). This has strong links to perceived equity of access and subsequent issues such as compliance.

Equity was also an issue in terms of commercial operator use of parks versus independent visitor use. Commercial operators (such as tour guides) are required to pay license fees to access protected areas for commercial purposes. While this is require for commercial access to any protected area within a state, not all protected areas have public access entry fees associated with them. This creates an equity issue in the eyes of commercial operators where they are required to pay for access to areas the public can access for free. This is managed in some states by segregating areas for use by commercial operators from those accessed by the public.

Cost Effectiveness

Most of the agencies have implemented user-pays systems as part of a statutory requirement for cost recovery in management of parks. This assumes that parks management agencies are able to make a net gain from user-pays systems where revenue raised is greater than the cost of the system itself or at least be cost neutral. Cost effectiveness of a user-pays system versus the relative cost of that system may include a number of factors such as the rate of compliance, cost of administration and enforcement, cost of collecting fees and the use of cost minimisation technologies. Interestingly, the cost recovery statute is counter balanced by the legislated mandates to manage protected areas for their conservation values on behalf of the public, and for the public good. Thus the ecological and social imperative may over ride the economic.

Cost of system

Effective measuring and monitoring of costs is considered an important to the long term viability of user-pays systems (Athanas, et al, 2001). A cost effective user-pays systems has the basic requirement that the cost of implementing the system be less than the revenue raised by the system, or at least be cost neutral. Based on interview data, this is apparently not the case in most state agencies in Australia. One agency reported that they aim to keep the cost of their user-pays systems below 30% of the revenue raised. Another agency selectively applies user fees to its protected areas and reported that the cost of implementation was a fraction of the revenue raised, partly because the cost of collection had been outsourced to commercial operators. Of the remaining agencies, three reported that the revenue raised by the user-pays system was a fraction of the cost of implementing. Two agencies indicated they had no information pertaining to the actual cost of their user-pays systems and so could not speculate as to the relationship with revenue raised. This is in line with ANZECC (2000) that reported Australian conservation agencies often have inadequate user-pays cost accounting systems in place.

It would seem that for some park agencies, the cost of the system was considered higher than the revenue raised. This may be a function of how the cost of the system is estimated. Where the majority of parks agency staff were required to spend time collecting fees and enforcing compliance, the salary and wages costs allocated to the time required for these activities could be seen to result in the collection and enforcement costs being higher than revenue raised. However, as one parks agency representative stated:

*It should be borne in mind that rangers or other staff who collect fees generally perform other duties in the course of collection of those fees, so there are benefits from that fee collection ... it provides a staff/public interface opportunity; they distribute information and answer questions about the parks at the time they collect fees ... The fees are often collected by staff as part of their normal 'rounds', so it has been difficult in some cases to separate the costs of actual collection of the fees from the other duties that are performed at the same time. (Agency A3).*

Costs were also seen to be reduced where revenue collection was outsourced to commercial operators or where fees were selectively applied to parks where it was cost effective to do so. Commercial outsourcing took the form of centrally administered park passes being sold through newsagents and similar outlets, or through tour guides and transport operators collecting fees on behalf of the agency. Parks where collection was cost effective included features such as a restricted number of access points and existing on-site staff.
User-pays revenue represented between 20% and 30% of the total park operational maintenance budget in states where fees were generally (not selectively) applied. This represents a substantial subsidy for management of protected areas in these states. Two agencies reported that user-pays revenue was between 4% and 8% of the total budget either because of selective application of the user-pays system or due to a large operating budget and relatively low user fees. It is apparent that the operation of user-pays systems in Australia is generally not cost effective but provides a substantial input into the park maintenance budget. This reflects an underlying operational philosophy based on conservation and the public good rather than economic imperatives.

Summary of variables or factors influencing costs of system

- staff time for revenue collection and enforcement
- complexity of fee structure, flat fee (standard and concession) or tiered system
- pay per use versus annual passes
- outsourcing of revenue collection
- use of technology versus manual systems

Technology Use

Application of technology in user-pays systems may be a cost effective means of management and a method for improving user compliance. Technology may be used in terms of revenue collection or in terms of administering the user-pays system itself. Technology can be used to enhance convenience for users, such as installation of EFTPOS and credit card payment systems. Agency A3 noted that compliance with park entry fees was often related to the proximity of Automatic Teller Machines in towns or urban areas close to the park entrance. This was most relevant in relation to parks where cash payment of fees were required. A common point raised by agencies was the risk associated with having large quantities of cash on site. Technology can also reduce risk by minimising cash handling onsite at parks. This was in terms of the risk of theft but also in terms of ensuring accurate accounting of cash based systems. As a manual task, this requires considerable time spent by staff in ensuring records are kept up to date and cash in transferred appropriately. EFTPOS and credit card systems removed the need for cash handling. However, as observed by Agency A2, for states with very remote areas and communication technology very constrained, this may not be a viable option.

Table 6: Summary of Technologies Currently Employed by Agencies

<table>
<thead>
<tr>
<th>Fee Payment Systems</th>
<th>Fee Administration Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ticket vending machines</td>
<td>Online reporting</td>
</tr>
<tr>
<td>Onsite EFTPOS and credit card payment</td>
<td></td>
</tr>
<tr>
<td>systems</td>
<td></td>
</tr>
<tr>
<td>Online booking systems</td>
<td></td>
</tr>
<tr>
<td>Partial or fully online payment systems</td>
<td></td>
</tr>
<tr>
<td>Parking meters</td>
<td></td>
</tr>
</tbody>
</table>

Ticket vending machines were often mentioned by the parks management agencies primarily in terms of the cost of repairs as a result of vandalism and theft. Agency A7 commented that where vending machines were in place, they were installed separately to any buildings or other structures. When machines were integrated into the walls of buildings for apparently improved security, vandals tended to damage the building as well as the machine in order to access any cash. Ticket vending machines installed as separate units only required the cost of repair or replacement of the machine itself. As machines were cleared of cash frequently, the major expense related to repair and replacement rather than stolen revenue.

Some agencies used online systems for payments and user bookings certain systems enabled users to download payment forms from the website for licensing, permits and other user fees. The forms were then posted to the agency for processing. It was considered that the staff time required for processing of posted forms cancelled the technology advantage in this partially online process fully online, pre-visit campsite booking systems are considered to work well by agencies using them. The system requires no staff time to process bookings although on the ground staff are required to ensure users adhere to the booking system.
GOOD PRACTICE USER-PAYS SYSTEMS FOR PROTECTED AREAS

One agency has enhanced their communications technology and installed online reporting systems for parks staff. Accurate book keeping and reporting in relation to the revenue from user-pays was cited by several agencies as an issue. This appeared to be related not just to book keeping and accounting skills but the time required to complete paper work and report back to central administration. Conversion from a paper based system to an online system reduced time required for revenue management and improved the quality of reporting. Online systems can effective guide park staff through the process, ensuring adequate information in entered correctly and communicated to central administration. Such a system also enables a more current view of user-pays revenue status for parks and was seen to improve revenue management skills and work practices of park staff. As with EFTPOS and credit card systems, online reporting relies on good communication links between central administration and individual parks districts or regions. This may not be currently viable for remote area parks.

An integrated smart card system, similar to that used in Kenya, was mentioned by another park agency, although only hypothetical in nature. Such a system might involve users purchasing a card that holds personal information and a certain level of credit. Entry to parks could be paid for by having the card scanned on entry with a communications link from the park to a central administrative processing location. Such a card could be integrated with accommodation and activities where users can pay for tours, and accommodation using the same smart card and process. As with other online systems, this relies on consistent and good quality communication links between parks, volume of transactions and a central administration system. Such a system could improve compliance through ease and convenience, and reduce system costs through automation or payment processes.

Compliance

The cost of operation of a user-pays system is counter balanced by the amount of revenue raised by that system. This includes the level of compliance by users within that system where compliance relates to the proportion of users who actually pay the required fees. Compliance is closely linked to:

- public perceptions of equity of access to parks (Anderson, 2000),
- positive perceptions of the management agency and its performance (Bengston & Fan, 2002), and
- enforcement capability (Inamdar & de Merode, 1999).

Compliance in relation to commercial operator permits and licenses was viewed as being more readily enforced and therefore had a relatively high compliance rate. This was based on the ability to issue late fees and infringement notices or cancel permits and licenses on and individual basis, facilitated by a registry of license and permit holders. Compliance in relation to general public access to protected areas and behaviour modification is more of a challenge. Compliance relies on several factors including: public support for user-pays, an easily accessible system, public education or communication strategies, and effective methods of enforcement. Ideally high levels of compliance require regular patrols, staffing of access points, provision of pre-visit information and so on (Inamdar & de Merode, 1999). However, the staff time required for implementing such strategies could result in a potentially costly system. With cost effectiveness in mind in most cases, compliance was encouraged in various ways across agencies.

Examples of cost effective actions that improved compliance provided by the agencies interviewed included:

- uncomplicated fee structures (e.g. a flat fee for all parks)
- pre-emptive positive promotion of user-pays implementation
- convenient payment systems
  - ability to purchase park passes from vendors prior to trip/visit
  - online payments
  - credit card/EFTPOS payments
  - postal reminders for renewal of passes/permits
  - pay and display systems with associated social pressure to conform
  - encouraging use of annual park passes rather than pay per entry
  - only charging fees where justified by infrastructure/services
  - only charging fees in locations where enforcement is feasible.

As any legal process is costly, issuing infringement notices and pursuing non-compliers though the legal system was generally avoided where possible. This was primarily owing to the costs of recovering user fees by this method vastly outstripping the value of the fee itself. One agency (A2) system requires the issue of infringement notices for failing to visibly display park passes on the car dash board. This results in a costly legal process where non-compliers are pursued for not displaying a pass worth about $7. On top of the legal costs,
staff time is required to gather evidence in the form of digital photos proving the pass had not been displayed while in the park. Some agencies tended toward issuing warnings to non-compliers rather than infringements (for example A3 and A7). This was seen to have the desired effect without the legal costs involved.

Agency A7 indicated they were willing to accept that a given proportion of park users will actively avoid paying fees (estimated at 20% of visitors). The agency factors this into their budget and does not actively pursue non-compliers. It is considered by this agency that of the remaining 80% of visitors, a certain proportion will go out of their way to pay the required fee and the remainder will pay if the user-pays system is designed such that it is convenient to do so.

Most agencies did not charge fees for all parks partly owing to the impracticality and/or cost of enforcement. This was particularly so with remote area parks, parks with multiple access points or parks with a minimal staff presence. Limited staff time and large travelling distances often meant remote parks did not have a constant staff presence for enforcement of compliance. It was however noted that parks with a regular staff presence for enforcement of compliance and/or a single access point had a higher rate of compliance. For example, Agency A5 noted that compliance at a park increased from about 40% to 90% with the installation of a staffed entry point and regular presence of rangers. Agency A3 noted that where parks had a single staffed entry point, compliance was 100%. In most cases, this action was taken to reduce anti-social behaviour problems in the park rather than increase compliance and revenue. Some agencies preferred not to install large numbers of staffed and/or gated park entry points as this was perceived to create too much of a police style authoritarian image. This was seen to run counter to the role of park agencies managing parks as part of the public estate for public use.

Economic modelling and user-pays systems
The use of an economic modelling approach to user-pays systems was seen by parks agencies as problematic for a number of reasons. These included:

- difficulties in identifying the true cost of parks management;
- the high cost of infrastructure and service provision;
- wide variation in costs, infrastructure and services between parks within a state;
- social and political pressures in fees setting considerations; and
- acceptance of the need for perceived equity of access.

All agencies identified at least one or more of these issues as being pertinent. The difficulties associated with accurately measuring the true cost of managing a protected area and the strong social and political pressures associated with fee setting were most commonly cited. Difficulties in accurately quantifying costs comes from the complex nature of protected area management where various functions and actions may be wholly or partly linked to protected area users. In addition, costs relating to social and environmental impacts cannot be easily quantified. Finally, parks within the jurisdiction of any one agency may have varying conditions of use, infrastructure, services and impacts associated with them making comparative assessments difficult and a reliable general approach to valuation impossible.

Use of parks and the fees charged were also seen as being strongly influenced by social and political pressures more than economic rationale. One agency observed that,

... visitor discontent about price changes are voiced through political channels and the media ... This may happen because the Government is a monopoly provider of National Park services. From the public’s point of view complaints via the media and political channels may be perceived to be the only avenue to effect prices. (Interview A6)

Agency A2 noted that park use and revenue is subject to highly variable factors and strong seasonal variation and may not have year round fees collection systems. From a purely economic perspective, they would not be viable or fees would have to be increased beyond what would be accepted by public, and hence, political opinion. Agency A4 noted that staff culture would not accommodate an economic modelling approach to user fees owing to low staff turn over and resistance to change.

An underlying theme across all agencies responses was that provision of parks is primarily a social service with access determined from the basis of equity not economics. Application of an economic model to determine pricing was seen as not taking the social and political ‘overlay’ into account. Most agencies acknowledged that their user-pays systems would not recover costs based on their approach. If user-pays systems were run based on economic modelling it was considered that the level of fees required to cover costs would be extremely high to achieve economic viability. This was mainly based on the large investment apparent in infrastructure and
GOOD PRACTICE USER-PAYS SYSTEMS FOR PROTECTED AREAS

services in parks and the large, complex administrative system required to manage it. However, agencies considered the provision of a social and environmental service over rode the need for an economically viable operation.

Staff Issues

While much attention has been paid to the user-pays systems from the users’ side, in terms of compliance, fees and equity of access, all agencies raised the issue of staff compliance with current and potential systems. This was seen in terms of the ability of staff to administer the system as well as the motivation of staff to implement user-pays systems at the regional and park level.

Most of the park agencies noted that there was an ‘old guard’ of on the ground staff whose priorities revolved around traditional concepts of conservation and related park management activities. The ‘old guard’ was seen to include staff who had worked in the organisation as park rangers and managers for a considerable period of time and had backgrounds in either a trade or in environmental conservation related areas. For example:

[There is an] … ‘Old school’ culture [that] still exists amongst some park rangers [they] don’t see themselves as fee collectors and don’t agree with charging fees. (Interview A3)

These staff were referred to as either philosophically apposed to park user fees or had little time to implement the system owing to its perceived lower priority combined with a large workload. In many cases, it was considered by agencies that rangers were often simply too busy to collect fees and conduct enforcement activities. As one agency representative commented:

... as a park management organisation, naturally a majority of staff have an interest in the natural or cultural values aspects of the day to day operations. In roles where the collection and administration of taking and receipting payments is one of many tasks a staff member does, it can be a difficult challenge for staff to strike the appropriate balance of undertaking fee collection (such as camping fees) versus other park management activities. (Interview A6)

While many agencies have a ‘new generation’ of staff moving through, they tend to have qualifications in conservation, biology and related areas but lack financial management and business related skills. This means that if these staff are motivated to implement the user-pays system, they do not have the skills to do so adequately. Several agencies noted that reporting of revenue could be inaccurate owing to a lack of appropriate skills in parks staff. Part of the solution was considered to be implementation of an audit system to ensure appropriate financial practices and reporting amongst staff and staff training in business skills. One agency noted that they would prefer recruitment of business qualified staff as

... you can’t easily teach all conservation trained staff business skills. [It is] easier to teach business trained staff conservation skills. (Interview A7)

The issue of the motivation and ability of staff to apply user-pays systems in parks was seen as requiring a cultural shift in the organisation. As indicated, this could be achieved through a combination of hiring staff trained in business skills and staff education.

Another aspect of staff management of user-pays systems raised related to concerns over balancing enforcement with a good relationship with public users of parks. In some instances, infringements for non-compliance may not be issued owing to a concern for maintaining a good relationship with the public. This was particularly a concern for rangers and parks staff living in small towns where the ‘rangers are known to the community’ (Interview A2).

As with user compliance, the perceived extent of benefit from user-pays revenue was considered to be directly related to staff motivation to collect revenue from user-pays. Where parks retained revenue collected from user-pays systems, and that revenue was made available for supplementation of the existing budget, staff compliance with the system was very high. In agencies were parks did not retain revenue for supplementation of budgets, staff motivation to implement user-pays was seen to be very low.
Case Study: Yanchep National Park

Yanchep National Park is one of the oldest and most significant natural and cultural tourism and recreation attractions in Western Australia. Yanchep National Park is rich in Aboriginal and European history as well as having unique natural attractions. Being located just 50 kilometres from the centre of Perth, the 3000 hectare Park is a popular destination for intrastate, interstate and international visitors. Yanchep National Park has approximately 240,000 annual visits with an expectation that, with the rapid growth of the northern residential corridor, visitation will increase significantly over the next 30 years. The Park can be essentially divided into two connected parts. Firstly, the central recreation area known as the McNess Recreation Area and which is highly modified containing most of the park’s visitor attractions such as the koala exhibit, picnic areas, BBQs, Aboriginal interpretive areas, retail outlet, information centre, offices, wildflower gardens, caves, Yanchep Inn and Chawn Mia Tearooms. The vast majority of visitors only experience this part of the Park. Secondly, there are the wilderness areas of the park containing seven different habitat types including Tuart forest, Banksia woodlands and pristine wetlands. All of which can be accessed by walking trails connected centrally from the McNess Recreation Area. Over the past 10 years, the Department of Environment and Conservation has invested in the rejuvenation of the park’s recreational infrastructure as well as the development of tourism and recreational activities within the park.

This case study presents an overview of the costs and revenue of the parks user-pays system in relation to the entry fees. All financial data in this case study was drawn from Yanchep National Park 2006–07 marketing and Visitor Services Review prepared by Phil Smeeton.

Entry Fees

Visitor entry to Yanchep is through a single entry station, staffed by park rangers daily from 7.45 am to 3.45 pm. Entry fees are:
- $10 per vehicle (up to eight legally seated people).
- $5 per motor cycle and concession cardholders.
- $4.00 per coach passenger ($1.50 per senior coach)

The Department of Environment and Conservation also have a system of Parks Passes available to frequent users of the Park. These passes and associated costs are as follows:
- $75 for an Annual All Parks Pass
- $50 for an Annual All Parks Pass (Concession)
- $20.00 for an Annual Local Pass for any 12 month period
- $35 for a Holiday Pass (unlimited entry to all parks for up to 4 weeks)

All Park Pass entry fees include 10% GST. Passes are available for purchase online (see http://www.naturebase.net/content/view/214/549/) or from the DEC main office in Kensington.

Revenue

Table 7 provides monthly visitor entries and associated revenue for Yanchep National Park.

Table 7: Yanchep National Park visitor entry counts and revenue report 1 July 2006 to 30 June 2007

<table>
<thead>
<tr>
<th>Date</th>
<th>Visitor numbers</th>
<th>Entry Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jul-06</td>
<td>9,030</td>
<td>$20,432</td>
</tr>
<tr>
<td>Aug-06</td>
<td>7,126</td>
<td>$17,001</td>
</tr>
<tr>
<td>Sep-06</td>
<td>9,832</td>
<td>$23,116</td>
</tr>
<tr>
<td>Oct-06</td>
<td>13,324</td>
<td>$35,644</td>
</tr>
<tr>
<td>Nov-06</td>
<td>10,178</td>
<td>$26,508</td>
</tr>
<tr>
<td>Dec-06</td>
<td>12,670</td>
<td>$32,205</td>
</tr>
<tr>
<td>Jan-07</td>
<td>13,407</td>
<td>$33,501</td>
</tr>
<tr>
<td>Feb-07</td>
<td>8,084</td>
<td>$21,881</td>
</tr>
<tr>
<td>Mar-07</td>
<td>10,086</td>
<td>$25,486</td>
</tr>
<tr>
<td>Apr-07</td>
<td>13,621</td>
<td>$33,368</td>
</tr>
<tr>
<td>May-07</td>
<td>7,805</td>
<td>$19,727</td>
</tr>
<tr>
<td>Jun-07</td>
<td>8,410</td>
<td>$23,244</td>
</tr>
<tr>
<td>Total</td>
<td>123,473</td>
<td>$312,112</td>
</tr>
</tbody>
</table>
In 2006–07 total entry pass revenue (including some carry-over from 2005/06) was $329,626, consisting of:
- One Day Entry Fees: $307,765
- Annual Local Pass: $20,013
- Holiday Pass: $503
- Annual All Park Pass: $1345

The one day entry fee revenue represents the bulk of entry fee income and is a per visit payment collected at the staffed entry station and retained by the park. During the period 1 July 2006 to 30 June 2007, 10,788 season pass holders visited the park. The revenue collected from these visitors is significantly less than park entry tickets as the park only receives a small percentage of the entry pass revenue from DEC central administration in Perth.

**Costs of Entry Fee Collection**

Estimated costs of entry fee collection are based on the combined costs of salaries of administrative staff and the wages (including overtime) of the staff at the entry station. In 2006–07, the cost of entry fee collection was $49,863, itemised in Table 8.

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries</td>
<td>$6,117</td>
</tr>
<tr>
<td>Wages</td>
<td>$22,635</td>
</tr>
<tr>
<td>Wages overtime</td>
<td>$21,111</td>
</tr>
<tr>
<td><strong>Total Cost</strong></td>
<td><strong>$49,863</strong></td>
</tr>
</tbody>
</table>

Note that entry fee costs of collection do not include security patrol, computer hardware and software or marketing costs. Thus the annual net profit of $262,249 indicated for the 2006–07 period may be an optimistic estimate.

**Summary**

Based on the annual revenue and cost of collection of entry fees, Yanchep National Park reports a net revenue of $262,249. This indicates that cost of collection at about 16% of revenue raised is cost effective for the park. In terms of the total recurrent budget for Yanchep National Park of $1,009,670, entry fees contribute approximately 30%, which is also in line with the measures of cost effectiveness.
Chapter 5

CONCLUSION

Based on interviews with parks agency representative across Australia, it is apparent that a ‘one size fits all’ approach to user-pays systems is not a viable option. This is primarily owing to the variation in legislative frameworks, social and political contexts and management structures between state agencies. Any move to a single model for user-pays systems would require significant restructuring of management and may not suit the particular circumstances within specific states in any case. However, there are general good practice principles that may be used when establishing and/or reviewing user-pays systems in parks and protected areas:

• ensure staff are competent in financial management and motivated to actively management the system, this may require training or hiring of appropriately skilled staff
• retain revenue for parks or districts where fees are collected
• adopt a simple user fees structure and easy access to related passes and payment of fees
• employ a business management approach to user-pays systems
• use a discretionary approach to enforcement of compliance with acceptance of a certain level of non-compliance
• conduct pre-emptive positive public relations exercises prior to fees introduction or increases
• ensure timely notification to operators regarding irregular or large fee variations
• use technology where possible to improve efficiency of user-pays systems, including online reporting by regional staff, EFTPOS and credit card payment systems and online fully automated payment systems.

While adoption of some or all of these recommendations can function to improve a user-pays system, the key factor relates to staff skills, knowledge and motivation in operating the system at the park and district level. This requires either hiring staff with financial management skills or training existing staff to adopt a business oriented culture toward user-pays systems for park users. Staff also require motivation to collect fees; this primarily lies in the retention of fees for use in the park or district over and above the allocated budget. When staff perceived a benefit to their park or parks through supplementary funds from fees, there will be a greater motivation to collect those fees. Staff training or hiring of skilled staff can be augmented through adoption of online reporting systems between regions and central administration. In combination with skilled and motivated staff, online reporting can improve the timeliness of revenue reporting and may also function to improve accuracy and reliability of reported user fees revenue for respective parks, districts and regions.
APPENDIX A

Park Management Agency Interview Proforma

User-pays Systems in Protected Areas

Questions for Park Agencies

Park Agency objectives

1. What are the main reasons for collecting fees?
2. Has your agency set any measurable objectives in terms of the expected outcomes of a user-fee system?
3. In terms of setting fees, have you noticed a relationship between the fee level and the level of visitation? i.e. does an increased fee deter visitation?

Fee Revenue

4. What is the approximate figure for annual fee revenue?
5. How much of the total maintenance budget does fee revenue represent?
6. How much revenue from user fees is retained by the parks?
7. When distributing funding to each park, how does your agency determine the areas in greatest need?
8. What are the issues that you regard as being problematic in applying rational economic models to ‘user-pays’ fee applications?

Cost effectiveness

9. What is the relative cost of fee collection compared with revenue received and retained by parks?
10. Are you applying new technologies in fee collection?
11. What are your main methods for enforcing compliance?

Other issues?

12. What staffing issues arise in the administration, collection, handling and recording of park revenue from fees?
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COMMERCIALISE

RESEARCH AND DEVELOPMENT

COMMUNICATION

COLLABORATION

EDUCATION AND TRAINING

UTILISE

• Travel and tourism industry
• Academic researchers
• Government policy makers

• New products, services and technologies
• Uptake of research finding by business, government and academe
• Improved business productivity
• Industry-ready post-graduate students
• Public good benefits for tourism destinations

EC3, a wholly-owned commercialisation company, takes the outcomes from the relevant STCRC research; develops them for market; and delivers them to industry as products and services. EC3 delivers significant benefits to the STCRC through the provision of a wide range of business services both nationally and internationally.

INDUSTRY PARTNERS

UNIVERSITY PARTNERS

COMMERCIALISATION

KEY EC3 PRODUCTS

Chairman: Stephen Gregg
Chief Executive: Ian Kean
Director of Research: Prof. David Simmons

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The Sustainable Tourism Cooperative Research Centre (STCRC) is established under the Australian Government’s Cooperative Research Centres Program. STCRC is the world’s leading scientific institution delivering research to support the sustainability of travel and tourism – one of the world’s largest and fastest growing industries.

Introduction
The STCRC has grown to be the largest, dedicated tourism research organisation in the world, with $187 million invested in tourism research programs, commercialisation and education since 1997.

The STCRC was established in July 2003 under the Commonwealth Government’s CRC program and is an extension of the previous Tourism CRC, which operated from 1997 to 2003.

Role and responsibilities
The Commonwealth CRC program aims to turn research outcomes into successful new products, services and technologies. This enables Australian industries to be more efficient, productive and competitive.

The program emphasises collaboration between businesses and researchers to maximise the benefits of research through utilisation, commercialisation and technology transfer.

An education component focuses on producing graduates with skills relevant to industry needs.

STCRC’s objectives are to enhance:

- the contribution of long-term scientific and technological research and innovation to Australia’s sustainable economic and social development;

- the transfer of research outputs into outcomes of economic, environmental or social benefit to Australia;

- the value of graduate researchers to Australia;

- collaboration among researchers, between researchers and industry or other users; and efficiency in the use of intellectual and other research outcomes.