

Funding Recreational Opportunity Provision on the New Zealand Conservation Estate

Tobias Haque

New Zealand Treasury
Policy Perspectives Paper 06/07

November 2006

**NZ TREASURY
POLICY PERSPECTIVES
PAPER 06/07**

Funding Recreational Opportunity Provision on the New Zealand Conservation Estate

MONTH/YEAR

November 2006

AUTHOR

Tobias Haque
The Treasury
PO Box 3724
Wellington 6008
NEW ZEALAND

Email tobias.haque@treasury.govt.nz

ACKNOWLEDGEMENTS

I would like to thank Megan Taylor, David Galt, Steven Rylands and the Department of Conservation for their help in the development of this paper; Kevin Guerin, Joanna Smith, John Scott, Patrick Conway and Linda Cameron for their helpful comments on earlier drafts; and John Craig and Ross Cullen for reviewing this paper and providing valuable feedback. All errors and omissions remain the responsibility of the author.

NZ TREASURY

New Zealand Treasury
PO Box 3724
Wellington 6015
NEW ZEALAND

Email information@treasury.govt.nz

Telephone 64-4-472-2733

Website www.treasury.govt.nz

DISCLAIMER

This document was commissioned by the New Zealand Treasury. However, the views, opinions, findings and conclusions or recommendations expressed in it are strictly those of the author(s), do not necessarily represent and should not be reported as those of the New Zealand Treasury. The New Zealand Treasury takes no responsibility for any errors, omissions in, or for the correctness of, the information contained in this Paper.

ISSN

1176-9513

Summary

Recreational opportunities on the Conservation Estate are largely paid for through general taxation.	The New Zealand government pays a large proportion of the cost of providing outdoor recreational opportunities on the Conservation Estate. The Department of Conservation (DOC) does not use (and this paper does not propose) access charges for parks. While DOC sometimes charges for the use of certain recreational facilities, the vast majority are provided at heavily subsidised rates, and many are provided free of charge.
There does not appear to be a strong public-policy rationale for heavy subsidisation of recreational opportunities.	There does not seem to be a strong economic rationale for such heavy subsidisation of recreational opportunity provision. ¹ Recreational opportunities exhibit many of the characteristics of a private good and it is generally more equitable and efficient to recover the costs of providing private goods from users. Empirical evidence suggests that increased use of charges would not significantly reduce demand for recreational opportunities and therefore not impede the production of any positive benefits that accrue to the wider community from outdoor recreation (e.g. health benefits or contributions to national identity) (Lindberg 2001; USDA 2000; Williams 1999). In fact, in Australia, the United States, Canada and other developed and developing countries, increased user-charges have allowed park administering agencies to improve service provision and the range of opportunities provided to park users (Queensland Parks and Wildlife Service 2000; Lindberg 2001; USDA 2000).
Many countries are moving towards increased use of user-charges to fund recreational opportunity provision.	On the basis of such arguments, many overseas park administering agencies have moved to recover a far larger proportion of the costs of providing recreational opportunities than is recovered by DOC in New Zealand. In many instances this has resulted in positive outcomes for park-management agencies and visitors. The provision of recreational opportunities has become more efficient, parks have been able to use revenue to improve services and members of the public who do not use recreational opportunities have not been required to contribute as much to their provision.
There is a case for adopting this approach in New Zealand	DOC's ability to recover costs in New Zealand is constrained by legislation and ingrained social expectations of free access to conservation areas. Even within these constraints, however, some expansion of DOC's current systems of charging for the use of specific facilities is both possible and desirable.

¹ There may be non-economic reasons for subsidisation. While these are mentioned at various points in this paper, they are not discussed in detail.

Contents

Summary	ii
Contents	iii
Glossary	iv
1 Introduction	1
1.1 Purpose of this paper	1
1.2 The Department of Conservation in Context	3
2 Funding Recreational Opportunity Provision	4
2.1 Assessing Funding Options.....	4
2.2 Issues in funding recreational opportunity provision.....	6
3 The case for cost-recovery	9
3.1 Improved Opportunities	10
3.2 Equity.....	15
4 Application in a New Zealand Context	17
4.1 Attitudes to charges.....	18
4.2 Administration and Enforcement	19
4.3 Reduced Usage.....	21
4.4 Equity Issues	23
5 Conclusion	24
References	27

Glossary

Conservation Estate	<i>Land owned by the Crown and administered for conservation and recreation purposes by the Department of Conservation.</i>
Cross-subsidisation	<i>The practice of using revenue paid by one user to support or subsidise the provision of services to another user.</i>
Externalities	<i>Side-effects of an action that influence the well-being of non-consenting parties. The non-consenting parties may be either helped (by external benefits) or harmed (by external costs).</i>
Non-excludability	<i>A property of market failure in the form of public goods where non-payers cannot be excluded from receiving the benefits of the public good or service.</i>
Public good	<i>A good that is both non-excludable and non-rival. A good is non-excludable if it is not possible to prevent someone from consuming that good. A good is non-rival if one person's consumption of the good does not preclude or detract from another person's consumption of that good.</i>
Private good	<i>A good that is both excludable and rival. A good is excludable if it is possible to prevent someone from consuming that good. A good is rival if one person's consumption of that good precludes or detracts from another person's consumption of that good.</i>
Merit good	<i>A good that provides both public and private benefits.</i>
Price elasticity	<i>The degree to which demand for a good changes as a result of changes in the price of that good. A good is considered price-inelastic if a change in price causes a proportionately smaller change in demand.</i>

Funding Recreational Opportunity Provision on the New Zealand Conservation Estate

1 Introduction

1.1 Purpose of this paper

The vast majority of the costs of providing recreational opportunities on the Conservation Estate are met by the taxpayer.

The New Zealand taxpayer pays ninety-three percent of the cost of providing recreational opportunities on the Conservation Estate. Facilities provided without charge include tracks, visitor centres, restrooms, viewing platforms, roads and some huts. Even those services and facilities that do incur a user charge – including the great walks through some of New Zealand’s most iconic scenery and serviced huts² – are provided by the Government at heavily subsidised rates.

While the government park-administering agency, the Department of Conservation (DOC), does have a cost-recovery system, user-pays revenue accounts for a small proportion of the amount that the Department spends upon recreational opportunities. Even when cost-recovery measures are in place, subsidies are almost always provided. The New Zealand taxpayer spends well over \$115 million a year on the provision of recreational opportunities on Conservation land.

Overseas, user-charges are increasingly used to fund recreational opportunity provision...

Park-administering agencies in a large number of overseas contexts have found that outcomes can be significantly improved by requiring those who benefit from the use of recreational facilities to pay at least a large proportion of the costs through user-charges. Agencies undertaking such strategies have been able to improve the quality of the recreational experiences that they offer. They have gained greater and more sustainable access to financial resources, reduced cross-subsidisation between users and become more responsive to visitor requirements. Because of this, the implementation of user-charges systems for recreational facilities is often viewed favourably by park agencies, park visitors and the general public (Lindberg 2001, Queensland Parks and Wildlife Service 2000, USDA 2000).

² These huts have bunks or sleeping platforms with mattresses, toilets, water-supply, washing facilities and heating with fuel available. There may be cooking facilities with fuel and a warden.

...reflecting growing recognition of efficiency and equity benefits.

Recognition of the benefits that a well-implemented user-charges system can provide has fuelled a global trend towards their use. While not a new idea, cost-recovery through user-charges has increased rapidly over the past three decades. In 1994, user-charges for basic facilities were being levied at over half of the world's protected areas (Giongo et al. 1994). Today that proportion is probably far higher (Lindberg 2001: 6).

In New Zealand there is an ingrained social expectation that access to public conservation land will be provided free of charge. This is reflected in the Conservation Act 1987, which explicitly precludes DOC from charging for access to the Conservation Estate or for the use of roads or paths provided upon the Estate. Guaranteed freedom of access imposes limitations upon DOC's ability to emulate the experience of overseas park-administering agencies, but expanding DOC's current system of charging for the use of specific facilities is both possible and desirable.

In the first section of this paper the role of the Department of Conservation is briefly explained. In the second, various methods the government has available for funding services that it provides are discussed. Some general criteria for deciding upon an appropriate method in various situations are outlined and these criteria are applied to recreational opportunity provision.

In the third section it is shown that increasing reliance upon user-charges would lead to a number of positive outcomes. Overseas experience has shown that a well-designed and carefully implemented expansion of New Zealand's current user-charges regime could provide:

- more equitable outcomes, as a greater proportion of the costs of providing recreational opportunities would be met by those who used them most;
- more efficient allocation of resources, as user-charges would reveal the preferences of visitors and could be used to manage current problems involving deterioration of the visitor experience or the condition of natural heritage due to over-visitation.

A number of issues would need to be worked through before any expansion of the current user-charges system could be carried out in New Zealand.

Finally, objections and practical limitations to any expansion of DOC's current cost-recovery mechanisms are outlined. There are likely to be equity and transition issues with any movement towards greater use of cost-recovery mechanisms. Such a policy change would need to be informed by a sound consultation process and care would need to be taken to ensure that the right to use and enjoy recreational opportunities was protected for all New Zealanders. While it is beyond the scope of this paper to outline a comprehensive implementation plan or charging schedule, it is clear from overseas evidence that these issues can be successfully addressed.

The social expectation and legislative requirement of free access to the Conservation Estate will also constrain DOC's ability to recover some costs. Nevertheless, an expansion of DOC's current system of charging for the use of specific facilities is both practicable and desirable.

1.2 The Department of Conservation in Context

The Department of Conservation (DOC) is an established, medium-sized government department with a mandate to protect indigenous biodiversity and foster outdoor recreation.

The Department of Conservation was established under the Conservation Act 1987 with a mandate to 'conserve New Zealand's natural and historic heritage for all to enjoy, now and in the future' (DOC 2005: 11). In pursuing this goal, the Department undertakes two key activities. Firstly, it works to protect indigenous biodiversity. This work takes the form of species recovery programmes, ecosystem protection projects, biodiversity advocacy, research and the publication and dissemination of biodiversity-related information. Secondly, the Department works to foster recreation and tourism on the Conservation Estate.

In fostering recreation and tourism, DOC:

- provides and maintains pathways, visitor-centres, washrooms, jetties, signage, viewing platforms, car-parks; and
- employs maintenance staff, guides, cleaners and other service staff for the benefit of those visiting the Conservation Estate for recreational purposes.

For the purposes of this paper, costs incurred in the provision of such facilities and services are referred to as the costs of providing recreational opportunities.

DOC spends forty percent of its operating budget on recreation outputs and recovers only a small amount of the costs of recreational opportunity provision from users.

DOC is a medium sized department, with an annual operating budget of approximately \$270 million. DOC has responsibility for the administration and management of the Conservation Estate, which covers more than thirty percent of New Zealand's land area and has a book value of \$2.9 billion. The Department also administers \$400 million worth of departmental assets. In 2005/06, DOC spent \$116 million on the provision of recreational opportunities and recovered about \$8.5 million of this through user-charges. Recreational opportunity provision comprises more than forty percent of the Department's total operating expenditure each year.

Box 1: DOC's Current User-Charges

User-charges are currently used by DOC to recover some of the costs of providing the following recreational facilities:

Great Walk huts -	\$10–45 per night
Serviced huts -	\$10 per night
Serviced Alpine huts -	\$20–35 per night
Standard huts -	\$5 per night
Campsites with huts -	\$15 per night
Campsites -	\$3-12 per night

2 Funding Recreational Opportunity Provision

2.1 Assessing Funding Options

All costs incurred in the provision of public services need to be recovered in some way. Most frequently, the Crown recovers the costs of goods and services that it provides through:

Government must choose between general taxation and user-charges when deciding how to fund the provision of services.

- charging those who use or benefit from the provision of the good or service or those whose actions create a need for the provision of the good or service; or
- general taxation.

The most efficient means of funding the provision of a good or service will depend upon the nature of the good or service being provided. In this section the potential efficiency benefits of user-charges are outlined and the distinction between public and private goods is explained.

2.1.2 Efficiency and user-charges

Governments and citizens are typically concerned with the efficiency of public expenditure. Because of the economic costs of taxation, governments generally strive to realise the greatest benefit possible from

the limited resources at their disposal. User-charges are one of the ways in which such efficiency can be pursued. As Bird (1997: 48) notes:

Charges can be useful in ensuring that government-provided services are valued by users.

the main economic reason why user-charges should be levied on the direct recipients of benefits from particular public services is simply to improve the efficiency with which governments make use of resources.

In many instances, funding the provision of a good or service through user-charges is more efficient than funding provision through general taxation. User-charges help limit over-consumption of resources and ensure that funding is used to provide goods and services that provide a net social benefit.

If a good is funded through general taxation, individuals will not take account of the cost of provision when making consumption decisions. On average, individuals will continue to consume goods for as long as they privately derive some slight net benefit from consumption. However, if the cost to the government of providing any unit of the good that is consumed outweighs the benefits derived from its consumption, society as a whole experiences a net welfare loss.

User-charges can improve efficiency by ensuring consumers of government-provided goods and services take account of the costs incurred in providing them. When charges are set at marginal cost (the cost of producing the last unit of a good) the individual consumer will purchase that good only for as long as the private benefits derived from consumption outweigh the cost of providing that unit of the good. Consumption that leads to an overall loss of social welfare will be limited.

Public funding can be a better option when equity considerations are important or when a public good is being provided.

While user-charges can increase efficiency, they are not appropriate for every good and service that the government provides. Public provision can be a better option when equity considerations are important. In some instances, subsidised or free provision can also be more efficient.

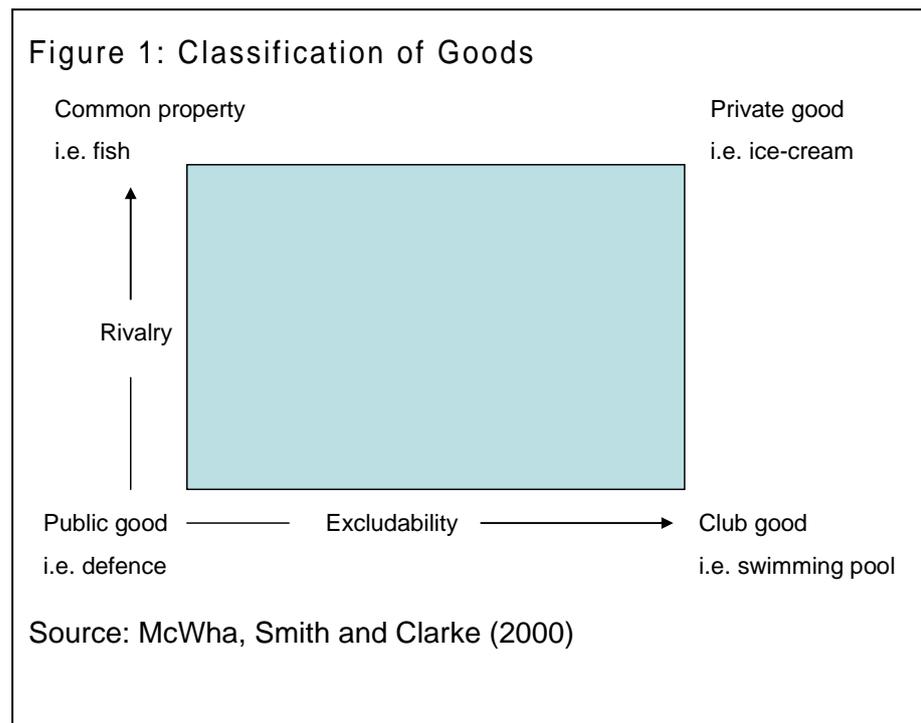
One situation in which government provision can be justified on efficiency grounds is where a good or service exhibits public good characteristics.³ A good is considered a public good when it is:

- a) *non-excludable* (excluding people from its benefits is difficult and/or costly); and
- b) *non-rival* (its use by one person does not detract from its use by another).

³ User-charging is also not feasible for public goods. As individuals cannot be excluded from enjoying the benefits of a public good, there is no incentive to pay a charge for accessing those benefits (Hartley 1997; 67).

Charging for a public good is impractical. Because a public good is non-excludable, there is no way to charge for use. Funding of public goods through user-charges is also inefficient. Adding an additional beneficiary does not affect how much others can consume and so has no negative impact (Bird 1997: 49). If there is no need to ration and no marginal cost of provision, allowing the greatest number of people possible to benefit from the good maximises social benefit.

As discussed in the next section of this paper, most goods are neither pure public nor pure private goods. The following diagram helps conceptualise goods on a spectrum between pure public and pure private goods.



2.2 Issues in funding recreational opportunity provision

2.2.1 Recreational opportunities: A public or private good?

At present DOC recovers only a small proportion (approximately seven percent) of expenditure upon the provision of recreational facilities from those who use the services provided. Generally, a conservative approach is taken, with only some recreational facilities – generally huts, campsites and a small number of walkways – being charged for at all, with full cost recovery seldom achieved. The overwhelming majority of the costs of recreational opportunity provision are met by the taxpayer. Such an approach would be the most efficient option if recreational opportunities were a public good.

Recreational opportunities are not a public good as access can be controlled...

Recreational opportunities are not inherently non-excludable. The vast majority of recreational use of the Conservation Estate is concentrated in some relatively small areas. In many cases, those accessing recreational opportunities also tend to use a number of access points – such as car-parks and access that can be easily regulated and monitored. Overseas park management agencies have developed a variety of innovative means for monitoring, controlling and charging for access to, and use of, recreational opportunities.

Excludability is achievable in many instances. The question as to whether exclusion is desirable depends upon wider social values and the extent to which one person's use of recreational opportunities detracts from another's. Social attitudes to controlling access to the Conservation Estate are discussed in the third section of this paper.

There is little doubt that recreational opportunities are rivalrous. Visitors identify several benefits that they derive from the Conservation Estate that are, to some degree, contingent upon a degree of isolation from other users. DOC's visitor strategy reports that people use recreational opportunities in order to:

...and heavy usage of recreational opportunities can erode the visitor experience.

- experience 'natural quiet: the natural ambient conditions or the sound of nature'(DOC 1996: 20); and
- 'get away from the stresses of civilisation';
- experience contact with a 'natural order' that has not been affected by humans (DOC 1996: 6).

Congestion at appreciation sites reduces the ability of visitors to derive these benefits. DOC research indicates that 'some visitor groups resent the intrusion of increasing numbers of visitors' (DOC 1996: 11). A range of New Zealand and international research suggests that recreational usage may also impact upon the natural environment in some instances.⁴

Some facilities upon the Conservation Estate are used very little and congestion does not yet pose a problem. At others, it is a recognised issue, and DOC is forced to resort to booking systems and queues to alleviate pressures (Hartley 1997: 245). The concept of a 'carrying capacity' to describe limits to recreational use of a finite resource has existed within recreational economics literature for several decades (Cullen and Booth 1995: 101). In these circumstances, it is difficult to argue that recreational opportunities are entirely *non-rival*.

⁴ Kuss (cited in Cullen and Booth 1995) suggests that intensive recreational use can lead to changes in soil and plant communities, reduction in species numbers and increased barren or eroded surfaces.

2.2.2 Recreational opportunities: A merit good?

Recreational opportunities exhibit some merit-good characteristics...

Recreational opportunities, in many senses and contexts, exhibit the characteristics of a private good. This does not, however, in itself, represent a conclusive argument that greater use of cost-recovery mechanisms would be efficient and equitable. Many of the services that the government provides largely through general taxation are also rival and excludable (for example, public healthcare and education). In these cases, taxpayer provision is justified largely on the grounds that the nation, as a whole, desires a higher consumption of the good or service than would be provided if it was charged for at full cost.⁵ Society benefits from individuals' consumption of education and may be willing to pay for it because of this. When consumption of a particular good creates benefits to both the individual consumer and society as a whole, the good is sometimes referred to as a merit good.

Given the high reliance upon taxpayer funding for the provision of recreational opportunities, it is unsurprising that visitors emphasise the benefits of recreational opportunity consumption that accrue to the nation as a whole rather than simply to those that accrue to the user. The primary public benefits from the provision of recreational facilities identified by DOC (2005 II: 68) include:

- a shared sense of stewardship over New Zealand's natural heritage;
- improved public awareness and knowledge of natural heritage;
- a sense of national identity;
- health benefits to individual users and consequent reductions in the costs of government healthcare provision.

...but this is not a conclusive argument for public funding.

While the public benefits from recreational opportunity provision could potentially be considerable, this does not mean that the New Zealand taxpayer should necessarily be funding the provision of recreational opportunities at current levels. To justify current levels of public funding for recreational opportunity provision, an assessment needs to be made as to whether:

- the public benefits are at least equal to the costs to the taxpayer of funding the activities that produce them; and
- the public benefits would not be produced if cost-recovery mechanisms were employed more often.

⁵ Equity considerations are another common justification for public provision of private goods. This argument, and its application to the case of recreational opportunity provision, is discussed on page 23 of this paper.

The first question is problematic, as the public benefits listed above are very difficult to quantify. It is worth noting, however, that the Government currently spends a considerable amount (over \$116 million per year) on recreational opportunity provision on the Conservation Estate.

It is unlikely that an incremental expansion of the current user-charges system would lead to a large reduction in the positive externalities from recreational opportunity usage.

It is possible to provide a more concrete answer to the second question. Research from other OECD countries suggests a large degree of price inelasticity in the market for recreational opportunities and that individuals are willing to pay for access to them (Lindberg 2001; USDA 2000). In countries such as the United States, Australia and South Africa, the imposition or increase of user-charges has seldom led to a proportionate reduction in usage (Lindberg 2001). Many of the public benefits that are commonly cited are likely to continue to be generated if an expanded cost-recovery regime is implemented, as people will continue to take advantage of recreational opportunities. This is especially true if cost-recovery increases the ability of the park administering department to expand the quality of the service that it is providing.⁶ This point is expanded upon in section three of this paper.

2.2.3 Funding recreational opportunity provision

While some recreational opportunities exhibit merit good characteristics (i.e. the consumption of the good benefits society as well as the direct consumer), the current heavy subsidisation of recreational opportunity provision does not seem to reflect the strong private good nature of many of the recreational opportunities that the department provides.

3 The case for cost-recovery

In general, cost-recovery mechanisms are an appropriate means of funding a private good that provides few positive externalities. In this section, the potential benefits of expanding current user-charges systems are outlined in greater detail. With specific reference to recreational opportunity provision by park-administering agencies in other OECD countries, it is argued that increased use of cost recovery mechanisms can bring significant benefits to individuals and the wider community through:

- improving the current recreational opportunities network; and
- improving the equity of the current funding system.

⁶For example, private outdoor recreation ventures such as Whakarere Thermal Village and the Karori Wildlife Sanctuary illustrate a relatively high willingness to pay for nature recreation in New Zealand.

3.1 Improved Opportunities

User-charges can provide information for more efficient management of resources and allow park-administering agencies to become more self-supporting.

Economic theory and international experience suggests that charging for the use of recreational opportunities would provide a valuable tool for improving the provision of recreational opportunities.

In South Australia, the Australian and New Zealand Environment and Conservation Council found that implementation of cost-recovery mechanisms provided park-administering agencies with a valuable source of funding and allowed them to use available resources far more effectively, increasing the satisfaction of park staff and visitors. Information and resources provided by cost-recovery mechanisms allowed the creation of a more complete and useful management system over 'a wide area of the state, making more efficient use of existing resources and by using user-pays funded staff to provide services in new areas' (Queensland Parks and Wildlife Service 2000: 14).

User-charges can allow the improvement of recreational opportunities by:

- providing information that allows the more efficient use of existing resources; and
- providing additional resources for the improvement of facilities and services.

3.1.1 Cost-Recovery as an Information Tool

The 1986 report of the President's Commission on Americans Outdoors concluded:

Fees ... provide important feedback from users in determining what a particular use or type of facility is worth to users. This information can be compared with costs to help assure that the right mix of services is provided.

User-charges can create efficiency benefits because of the information that they elicit. An expansion of cost-recovery mechanisms could allow DOC to obtain greater understanding of the desires of visitors and the value that they derive from the use of various different facilities and sites. This information could be extremely useful in informing the development of the recreational facilities network. While current survey-based information is useful in this regard, charges could provide a useful complement to existing information systems.

Management of the recreational facilities network is a challenge for DOC. The network was not developed using a comprehensive planning process, but rather accumulated over the past century. The current network was constructed by a number of agencies to achieve a variety of goals – not necessarily related to recreational opportunity provision. Some of the tracks

were originally cleared by Iwi in pre-European times and maintained throughout the nineteenth and twentieth centuries by explorers, acclimatisation societies and hunters. The tourist industry led to further expansion of this network, including the addition of walkways, viewing platforms, signs and visitor centres. The Forest Service constructed a substantial network of huts during the deer control operations of the 1960s and 1970s and the entire network was further expanded through the work creation schemes of the 1970s and early 1980s (DOC 2003: 10).

The inheritance of an unwieldy and sprawling network of facilities has posed problems for DOC. The Department has been forced to decide which facilities are worth investing in and which are not. Facilities at some sites have been allowed to deteriorate or removed, while DOC continues to upgrade or build additional facilities at others.

The Department uses a number of mechanisms to make decisions regarding the allocation of resources provided by the Government for the provision of recreational opportunities. This involves the Department making judgments as to:

- the type of experiences that visitors desire; and
- the best way to allocate resources to increase visitor satisfaction.

Because it is not possible to ask every visitor what kind of recreational experience they desire and how much they desire it, surveys are a useful but imperfect tool.⁷

User-charges elicit valuable information about the preferences of users.

DOC can gain some broader sense of the benefit derived from various recreational facilities by tracking visitor numbers at selected sites (DOC 2006). Visitor numbers vary widely. Across the 3900 recreation sites that DOC manage, usage ranges from around 750,000 visits per year for iconic sites like Huka Falls, to remote wilderness sites that 'might be visited by fewer than twenty people in a year' (DOC 2003: 10). DOC can reasonably make an assumption that a site visited by 750,000 people a year provides greater benefit and is a better target for maintenance resources than a site visited by twenty. This is an extreme example, however, and often visitor numbers do not necessarily provide sufficient information to adequately inform decisions around the optimal management of the recreational facilities network.

⁷ DOC's Recreational Opportunities Spectrum (ROS) planning tool reflects this approach. ROS categorises all visitors to the Conservation Estate and all sites managed by the Department into seven different categories. The management of different 'types' of sites reflects the Department's views regarding the number and 'type' of visitors that would benefit from their use.

User-charges could usefully complement existing information systems simply because not all users obtain an equivalent amount of benefit from use of recreational facilities. A small number of enthusiasts may obtain far more total benefit from recreational opportunities than a larger number of casual visitors. A popular picnic site that commuters only visit because they are passing may produce less benefit than an iconic site that is visited less often, but provides an exceptional and hugely valuable experience. Visitor numbers can be useful, but they provide an inadequate metric for net benefit provided by individual sites and facilities.

Survey data, visitor numbers and the stated preferences of visitors provide an incomplete set of information. DOC often needs to be able to ascertain the amount of benefit that each visitor obtains from access to specific sites and facilities. Different people value different things for different reasons. DOC cannot know how much benefit every visitor derived from the use of recreational facilities without knowing the preferences of every visitor.

User-charges would represent a useful addition to DOC's current mechanisms, because they would allow recreational facilities users to reveal their preferences, assisting prioritisation decisions. If visitors to a certain site obtain a large amount of benefit from the recreational facilities that are provided, they are likely to be willing to pay more towards the costs of provision than visitors who obtain only slight benefits. By pricing access to recreational facilities, DOC can immediately improve its knowledge regarding which facilities are highly valued by visitors and should be maintained or improved, and which are of low value to users.

If DOC could recover the full costs of provision from any number of users – regardless of how small – DOC would know that provision of facilities at that site was worthwhile, as the benefits that visitors derived would obviously outweigh the costs of provision.

Even in an environment where full cost-recovery was not considered desirable, willingness-to-pay information, revealed through cost-recovery systems, would provide a valuable input into management decisions. If visitors were not willing to pay even a set proportion of the cost of provision it would be clear that the cost of providing that facility outweighed the benefits that visitors derived. This would be a clear signal that resources could be reallocated into more productive areas.

3.1.2 Cost-Recovery as a means of expanding opportunities

As well as providing an effective tool for gathering information about the nature and extent of facility usage, user-charges also provide a means of managing increasing demand for recreational opportunities.

As previously noted, DOC is increasingly concerned about pressures on the current recreational facility network. In certain areas, growing tourist numbers are fuelling concerns regarding the degradation of the visitor

Increased recreational usage and limited resources pose problems for DOC.

experience through congestion and the human impacts of excessive visitation upon the natural environment (DOC 1994):

Overseas visitors now predominate at many of the higher profile locations. Their rapid growth in numbers, generally lower level of back country skills and desire for higher quality facilities in the front country has highlighted the tension (between recreation and preservation) that has always been there. (DOC 2002: 4)

Because of both increasing tourism and higher levels of domestic visitation, DOC are experiencing capacity issues on great walks and easy tracks, and state that natural heritage or visitor experiences will be degraded unless facilities are upgraded or limits to the number of visitors are imposed through booking systems. The Department notes growing pressures on water supplies, toilets, campsites and amenity areas.

MacLennan (2000: 8) cites a 1995 report of the New Zealand Conservation Boards documenting impacts of over-visitation at sites across the Conservation Estate. These impacts included:

- track deterioration and erosion;
- clearance of vegetation for firewood;
- water supply contamination by human waste;
- disturbance of wildlife by off-road vehicles, jet skis, horses, dogs and guided tours;
- visitor impacts on fragile landscapes such as sand dunes and sub-alpine areas.

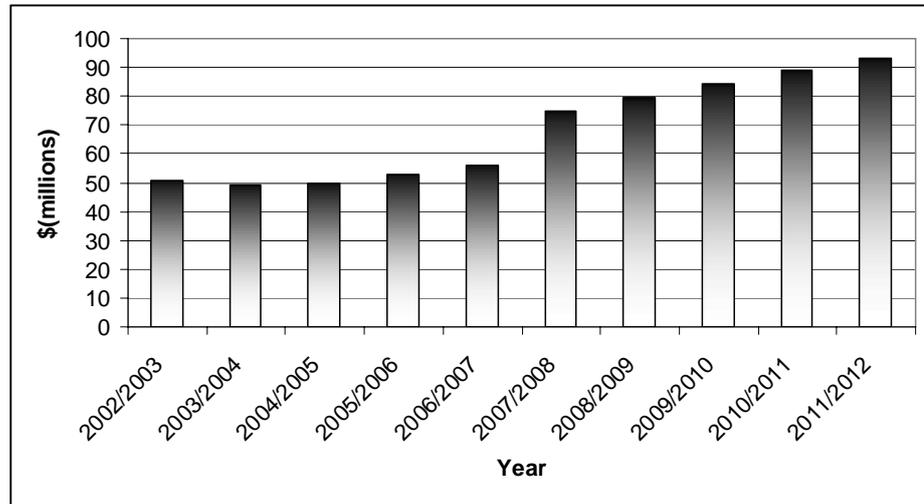
Wray (2005) reports similarly negative consequences of increasing use of the Conservation Estate upon the visitor experience:

- deterioration of the remote experience;
- demand for improved facilities and structures;
- increased noise.

While methods exist for mitigating many of the adverse impacts of increasing visitation, the dependency of DOC upon appropriations for the funding of recreational opportunities limits the viability of 'shielding' the natural environment and upgrading facilities to cope with increased visitor numbers.

In 2002, the Government provided DOC with sufficient additional capital and operating funding to maintain the existing asset base at current levels. This funding is laid out in figure 2, below.

Figure 2: Additional Capital and Operating Funding for Recreational Facility Provision and Maintenance approved in Budget 2002



Source: The Treasury

Expenditure will increase over coming years. However, because of the age and replacement profile of recreation assets, the appropriated funding is required simply to maintain the existing level of facility and service provision. While DOC has some scope to improve the delivery of recreational opportunities with existing funding, long term increases in visitor numbers are likely to put strain on the resources the Department has available for recreational opportunity provision. In this context, DOC sees recent increases in visitor numbers as a potential problem. A recent DOC report noted that:

the Department will require increased funding if it is to achieve the government goals and outputs that are expected of it ... Existing levels of third-party revenue will be insufficient to enable the Department to meet expectations and expenditure demands. (DOC 2006: 4)

Revenue from user-charges could complement public funding, allowing DOC to better manage additional pressures.

Without the capacity to fund the necessary mitigation measures, DOC's strategic response to the issue is predictable. The DOC Visitor Strategy outlines a number of strategies for dealing with increased visitor pressures. The first of these involves 'restricting the number of visitors, imposing a limit on the length of stay [and] *discouraging potential visitors*' (DOC 1996:15, emphasis added).

People are obviously benefiting a great deal from DOC's provision of recreational opportunities. Its ability to handle increased visitor numbers is dependent – at least to some extent – upon access to additional funding yet DOC is turning away visitors who would almost certainly be willing to pay for the facilities that DOC cannot otherwise provide.

While decisions regarding the expenditure of revenue are always subject to government priorities, overseas experience has shown that revenue from an expansion of user-charge regimes provides an effective means of managing such pressures.

User-charges could be used to protect against the negative outcomes of overuse and expand facilities to cater for growing demand. Alternatively, differential user-charges could be used to create incentives for use of alternative facilities on less well-used parts of the Conservation Estate.

In Australia, Canada and the United States, user-charges generate a far greater proportion of the revenue available to park-administering agencies.

In many countries, recreational opportunity user-charges represent a substantial portion of total funding provided to park administering agencies. In the period 1990 to 2000, self-generated revenue accounted for an average of over forty percent of expenditure for all US state park administering agencies (Crompton and Kaczynski 2004: 108). Over this period one-hundred percent of costs were recovered in Alabama, New Hampshire and Georgia, although Washington was more typical, where a recovery rate of thirty-seven percent was achieved. A similar balance is achieved in Canada, where Parks Canada recovers approximately thirty-six percent of the cost of providing recreational opportunities (Parks Canada 2004).

South Australia's Department of Environment and Heritage has recently implemented user-charges to recover a larger proportion of costs. This was intended to address 'management problems created by high visitation levels'. User-charges allowed 'high visitor numbers to be absorbed with less impact upon protected areas...for example walking track improvements reduced erosion and trampling, and new waste disposal systems solved serious pollution problems experienced in some protected area picnic and camping areas'. Overall, visitor services became more 'self-supporting' allowing the agency to channel more funds into natural resource management (Queensland Parks and Wildlife Service 2000: 15).

3.2 Equity

Usage of recreational opportunities is widespread but uneven.

All New Zealanders pay through their taxes for the provision of recreational facilities. A large number of New Zealanders benefit from the provision of DOC facilities:

- the total number of visits to the Conservation Estate in a year is estimated at 40 million;
- more than two-thirds of the adult population have visited a Department visitor centre and/or been on a short walk in a Department-managed area at some time in the past;

- one third of the adult population has done so in the last twelve months (DOC 2003: 7).

The Conservation Estate is used by a wide-range of New Zealanders in a variety of ways. However, usage is extremely uneven:

- only four percent of New Zealanders regularly go tramping;
- only twelve percent have tramped in the past year;
- one third of New Zealanders have stayed in a Department managed hut or campsite but only ten percent have done so in the past year;
- foreign tourists comprise ten to fifteen percent of total Conservation Estate visitor numbers and up to two-thirds of visitors on some great walks (DOC 2003: 7; SPARC 2006).

Taxpayer funding may be unfair, given that those who make extensive use of recreational opportunities pay no more than those who do not use them at all.

The proportion of the cost of recreational facility provision currently met by an individual does not bear any fixed relation to that individual's usage of recreational facilities. For example, the ninety-six percent of New Zealanders who do not regularly go tramping are subsidising the four percent who do, to the extent that all taxpayers pay for some facilities that only trampers use. While, as previously noted, all New Zealanders benefit from some of the indirect benefits of the provision of recreational facilities (such as health spin-offs and contributions to national identity), direct recreational facility use in New Zealand is extremely uneven. Under the current system those who use facilities extensively often pay very little more than those who obtain only indirect benefits from their provision (Cullen 1998).

Equity issues often arise with taxpayer funding of public services. Those who pay for a good or service do not necessarily enjoy an equal share of the benefits. The equity implications of public provision of recreational opportunities become apparent when the demographic features of recreational opportunity users are taken into account.

Recreational opportunity users tend to be relatively well-off.

DOC research has shown that "non-minority" males from managerial and white-collar professions tend to be over-represented among users of recreational opportunities (DOC 2005 II: 6).⁸ A synthesis of available survey data undertaken by Booth and Peebles (1995: 44) concludes that 'outdoor recreationists involved in active pursuits tend to be young, single, well-educated, have above average incomes and work in professional or technical jobs'. A disproportionately high number of recreational opportunity users have tertiary qualifications (Booth and Peebles 1995: 44). Cullen (1998) also cites research suggesting that many low-income users of recreational opportunities upon the Conservation Estate have high

⁸ Eighty-seven percent of recreational opportunity users are European. The ratio of males to females is 3:2 (DOC 2000).

expected future earnings and are from relatively wealthy families. This is consistent with overseas research that finds 'national park visitors and forest visitors are not typically lower income. They tend to be non-minority, college-educated, middle-income wage earners' (USDA Forest Service 1992).

A system where all taxpayers subsidise a fairly well-off minority is less equitable than potential alternatives. Such inequity could be reduced with the use of non-uniform, user-pays charges. Under such a system, users would be given a choice regarding which services they did and did not wish to purchase. A graded charging system, reflecting the true costs of facility provision, would ensure that all users were able to make a subjective judgement as to what recreational facilities were worth to them, and purchase or forego recreational opportunities accordingly. A partial opt-out option would be provided to those who did not use them at all, as they would not pay any charges.

4 Application in a New Zealand Context

So far it has been shown that increasing the usage of cost recovery mechanisms to fund recreational opportunity provision would be likely to lead to improved conservation outcomes and management of resources.

A number of obstacles exist to an expansion of the current user-charges system...

There are, however, significant obstacles to the successful expansion of DOC's current cost-recovery regime for recreational opportunities. New Zealanders have ingrained social expectations that, while they may have to pay for the use of some facilities, access to the Conservation Estate will be free. This expectation is reflected in both the National Parks Act and the Conservation Act, which guarantee freedom of access to parks. Because of constraints upon the ability of DOC to control access to the Conservation Estate, there are serious logistical problems in relation to charging for use of facilities.

The inability to charge for access to the Conservation Estate is the most serious constraint upon DOC's ability to expand the current cost-recovery regime. However, further expansion is possible and would bring gains to the New Zealand public and DOC.

A number of other objections to the use of user-charges for recreational opportunities are also discussed. Objections that user-charges are inequitable or that they would lead to a reduction in social benefits from outdoor recreation are addressed. It is argued that these problems are often overstated, and in most cases, innovative solutions to relevant problems have already been developed overseas.

...but overseas experience suggests means by which many of these can be overcome.

4.1 Attitudes to charges

'Perhaps the most pervasive, yet diffuse [obstacle] is a socio-political one. In many countries, people have viewed national parks and other public national areas as part of their natural heritage...they feel that the areas and recreation at those areas ... should be provided by the government to all citizens (Lindberg 2000: 6).

Recreational opportunity users are generally willing to pay reasonable charges.

There is little evidence that the public would refuse to pay for recreational facilities and services. Generally, greater use of user-fees for recreational facilities is surprisingly popular. Bowker, Cordell and Johnson (1999) found in 1999 that ninety-five percent of Americans supported the use of user-fees to fund or partially fund the provision of recreational facilities. Similarly, a 1997 US National Parks Service study found that seventy-one percent of park visitors were 'happy' to pay for access to national parks, as long as the revenue was used to provide park services.

A USDA review, following a one-hundred percent increase in fees at national parks from five to ten dollars, found that eighty-nine percent of visitors continued to consider fee levels 'about right' or 'too low' (USDA 2000).

This might be because of altruism on behalf of recreational opportunity users.

A survey carried out in Finland, where public support for tax-payer funding of recreational facilities remains strong, found that sixty-eight percent of respondents would still be willing to pay for some park services (Huhtala 2004: 39). In this survey sixty percent of respondents cited altruistic reasons for their willingness to pay, such as wanting to 'promote the preservation of nature and cultural values' (Huhtala 2004: 34). A cultural concern for the environment and natural heritage does not appear to preclude a tolerance for user-charges.

The design of charging schemes and implementation plans is important.

Bowker, Cordell and Johnson (1999) show public assessments of the desirability of user-charges depends upon the facility in question. Their study found that while almost all respondents believed that specialised facilities (such as boat ramps) should be user-funded, individuals were less likely to support complete user-funding of facilities more closely fitting the definition of a public good (such as access to national parks). Lundgren et al. (1997) and Bowker, Cordell and Johnson (1999) also identify different attitudes to user-fees between various income groups. Low income groups are likely to view user-fees less favourably and be more opposed to paying for recreational facilities (this is discussed further in the equity issues section).

A survey of agencies administering user-charges in Australia, conducted by the Queensland Parks and Wildlife Service (2000: 4), showed that visitors are likely to be receptive to user-charges if:

- clear information is provided in advance and delivery of service is efficient;
- funds are retained by the agencies - preferably in the local district - and result in improvements to facilities and park management;

- the public perceive they are getting value for money and that the system is fair and equitable; and
- discounts are available for children, pensioners and other recognisable low-income groups.

Widespread objection to the use of cost-recovery mechanisms in relation to specific services and facilities is unlikely. Levels of opposition are likely to vary depending upon how charging systems are designed and the range of facilities charged for.

4.2 Administration and Enforcement

Overseas experience suggests that user-charges systems can be effectively administered and enforced.

Overseas park-administering agencies have been relatively successful in designing systems for enforcing cost-recovery regimes. International experience indicates that administration costs will not necessarily be prohibitive or lead to counterproductive outcomes if these costs are taken into consideration when implementing user-charges systems (Queensland Parks and Wildlife Service 2000, Lindberg 2001).

Across Canada, the United States and Australia – where, in many cases, geographical features are not conducive to effective enforcement – access and service fees are standard at all national parks. In the context of high willingness-to-pay, significant cost recovery may be achieved even in the absence of flawless enforcement mechanisms.

In Australia and Canada, access charges are collected at toll-booths on the busiest entranceways and ‘honour-system’ canisters at less frequently used access points. Systems are also in place in these countries whereby visitors purchase access subscriptions by mail. A windscreen sticker indicates that a subscription has been purchased and is checked at random by park rangers. The following table, adapted from a Queensland Parks and Wildlife Service report illustrates the range of user-charges mechanisms currently in use in Australian national parks:

Figure 3: Revenue collection options

Fee Collection Method	Advantages	Disadvantages/Constraints
Money/credit card information sent through post; permits processed at office and posted back to clients: commonly used for camping permits, commercial operations permits, agricultural permits. In some cases fees paid as a result of an invoice raised.	Response to application is at agency convenience; eg staff can process in concentrated bursts. Appropriate information can be sent to clients (eg campers) before their visit. Makes it easy to operate a booking system for accommodation and camping areas.	Delay for clients between applying and sending money and receiving permit or approval.
Phone applications by credit card to office; permits posted back to clients.	Common and convenient method of purchase, well accepted by public. Reduces time requirements. Appropriate information can be sent to clients (eg campers) before their visit. Makes it easy to operate booking systems.	Security for credit card access must be ensured. Telephones need to be staffed reliably during office hours.
Permits and tickets sold over the counter at regional, district, park or central office or information centres: also used for camping permits, entry tickets, tickets for interpretive activities and tours.	Face to face staff contact, enabling clients to be fully briefed where necessary. Potentially good compliance rates. No postage costs.	Need to have facilities staffed to provide comprehensive client service. Staff training and support necessary. Security problems of cash transactions.
Tickets sold by roving rangers (with or without portable automatic ticket-issuing machines).	Staff contact, simpler for clients, increases compliance.	Auditing problems, security, time-consuming.
Tickets sold at special entry stations.	Staff contact, simple for clients.	Costs of construction and staffing, security.
Self-registration stations: widely used in remote parks for camping fees and are sometimes also used for park entry fees. Sometimes used in combination with phone booking systems.	Very cheap to operate. Enables collection of fees at sites where it would not be economical for Rangers to collect fees every day. Costs are low: estimated at 5-10% of revenue raised (SA).	May be a low level of compliance requiring regular ranger checks. Fewer opportunities for personal contact and for monitoring and control of visitors. Vandalism potential.
Combinations: Combination of methods may be used for one permit or charge: eg people book and pay deposit for camping or accommodation via post and pay the balance on arrival at a park.	Secures deposits and ensures serious bookings.	Means double-handling/ increased costs of administration.
Concessions: Many agencies sell at least some entry tickets through concession outlets, eg shops, petrol stations, visitor information centres. Camping fees may be collected by concessionaire campground managers.	Availability for public; externalises labour costs and safety risks in money handling; can create involvement/ boost employment in local community. Public may be more prepared to pay private business than govt.	Share of revenue going to businesses; can mean people selling tickets/permits may have no interest in or knowledge of parks.

Source: Queensland Wildlife and Parks Service 2000

Geography and current legislation pose some challenges in the New Zealand context.

While overseas park-administering agencies have been successful in enforcing cost-recovery regimes, they have often relied upon access charges as a primary cost-recovery tool. Visitors are charged for the costs of providing facilities and services within a park upon entry into that park.

This tool is not available in New Zealand because of public attitudes and legislative barriers to charging for access to parks. DOC notes that New Zealanders have ingrained socio-cultural expectations that access to parks should and will be free. This expectation is traced back to early legislation and the desire of early settlers to have more land in public ownership than in Europe, with correspondingly greater freedom of access. This history is reflected in the National Parks Act and the Conservation Act, which effectively prohibit the use of access charges or charges for the use of paths or tracks.

In the absence of access charges, the administrative problems associated with recovering costs are more challenging and more innovative solutions are needed. DOC would need to devise means of enforcing payment from those who use facilities and services provided within parks, without charging for access to the park, or being perceived to be doing so. Despite this, DOC acknowledges that 'significant opportunities to grow revenue streams in this area exist' (DOC 2006: 5).

There is a near consensus in the international literature that the most appropriate means of charging will be dependent upon the local context, in terms of geography, public awareness of and attitudes towards charging, and the specific facilities being charged for (Queensland Parks and Wildlife Service 2000; Lindberg 2001). This is particularly important in the New Zealand context, where one of the primary means of revenue collection will not be available.

Effective expansion of DOC's user-charges regime would require detailed planning, pilot-schemes and monitoring programmes. The Queensland Parks and Wildlife Service (2000) state that international best-practice in the administration of user-charges systems involves ongoing identification, trialling and implementation of different systems.

4.3 Reduced Usage

There is concern that an expansion of the current user-charges regime will lead to a reduction in use.

As noted in section one, it has been argued that individuals' use of the Conservation Estate produces benefits that accrue beyond individual users. DOC (2005: 68) notes the centrality of New Zealand's natural heritage to national identity and perceptions of what it means to be a New Zealander and the importance of recreational experiences in creating a shared sense of stewardship over New Zealand's unique natural heritage.

A potential objection to the implementation of user-charges is that reductions in usage of recreational opportunities would lead to a

However, most evidence from developed countries shows that demand for recreational opportunities is unresponsive to price changes.

subsequent reduction in the production of these benefits to wider society. As previously noted, reducing the production of such positive externalities may not be undesirable if the costs of their production outweigh the benefits they provide. Leaving this aside, a carefully implemented expansion of user-charges would be unlikely to result in a significant reduction in usage.

There is a strong indication that domestic demand for recreational facilities and opportunities in developed countries does not change significantly in response to even relatively large changes in price. The demand for recreational opportunities in relatively rich countries such as New Zealand is typically insensitive to changes in the price of those opportunities. A large international literature suggests that it would take very large fees to discourage individuals in the developed world from visiting recreation sites (Lindberg 2001: 10).⁹

One reason there is likely to be low elasticity in demand for recreational opportunities in developed countries is that fees generally comprise a small proportion of an overall 'trip price' (Tversky and Kahneman 1986). Taking advantage of recreational opportunities, especially experiences that are in isolated areas or other parts of the country, requires an upfront 'psychological, financial and time commitment' (Lindberg 2001: 10). Cullen (1998) points out that this up-front investment is likely to be especially large for potential visitors to the New Zealand Conservation Estate because of the distance between National Parks and most major population centres. Given the inherent limitations on the levels of cost-recovery fees, user-charges are unlikely, in most instances, to be material in comparison to other investments that many visitors to the Conservation Estate are required to make.

Reasonable user-charges would be unlikely to reduce the desirability of New Zealand as a tourist destination.

A similar argument can be used to counter claims that increased cost-recovery of recreational facilities would reduce international tourism in New Zealand. Many international tourists visit New Zealand because of its natural landscapes and wildlife. It might seem that charging for the use of recreational opportunities would:

- reduce the desirability of New Zealand as a tourism destination, given the centrality of parks and park facilities to the visitor experience; or
- divert limited tourist expenditure from the private to the public sector, if tourists have a set budget to spend during their trip and are forced to pay for the use of publicly provided recreational facilities.

The empirical evidence, however, does not support either of these arguments. On the basis of cross-country data, Bird (1992) argues that tourists' demand for a unique experience is unlikely to be affected by price,

⁹ Knapman and Stoeckl (cited in Lindberg 2001), for instance, estimated that demand for visitation of Kakadu and Hinchinbrook Island national parks in Australia would be adversely affected until entrance fees of AU\$197 and AU\$166 respectively were imposed.

especially in countries or areas where the tourist products on offer are highly differentiated from those available in other countries. Bird considers that in many countries potential domestic welfare increases from tourism charges are foregone because the elasticity of tourist demand is overestimated.

Tourists are also unlikely to pay for recreational facility charges entirely by substituting from expenditure that would otherwise have been used to purchase goods and services from the private sector. A comprehensive study of tourist reactions to taxes in the United States by Mak and Nishimura (1979) found that tourists were likely to fund taxes through a combination of reduced expenditure on other tourism products and by reducing savings/spending at home. At least some tourist taxation is therefore likely to lead to 'extra' – and therefore costless – tourist expenditure, rather than result in a drain upon strictly delimited tourist resources that would otherwise be spent within the private sector. While recreational opportunity charges are not a tax, it is likely that the behavioural reactions would be similar.

For both domestic users and tourists, very large fee increases will result in reductions in usage. However, there is no reason to expect that a carefully implemented expansion of the cost-recovery regime for recreational facilities could not be achieved without any significant impact upon visitor numbers.

It is also worth noting that, under any scenario, a large number of recreational opportunities are likely to remain accessible to visitors free of charge simply because the costs of administering a user-charges system would be prohibitive.

4.4 Equity Issues

User-charges can discourage low-income groups from using recreational opportunities.

While, in some senses, user-charges are more equitable than the current system of Crown funding (cross-subsidisation is avoided), equity objections to user-pays charges could still be raised.

Overseas experience has shown that low income groups are likely to reduce participation in the event of user-charges being implemented.

Reiling, Cheng and Trott (1992) found that higher user fees at camping facilities in Maine state parks led to the exclusion of low-income groups. A 1998 study also showed that the imposition of user-charges exacerbated differences in park usage between Europeans and Hispanics (Bowker and Leeworthy 1998).

Interestingly, however, some studies have found that minority groups tend to be more in favour of user-charges, despite their higher elasticity of demand. This is likely to be because minority groups are less likely to use recreational facilities anyway, and view user-charges as a means of reducing the tax burden they share for a service that they are unlikely to benefit from (Harris and Driver 1987 cited in Lindberg 2001: 6).

Cullen (1998: 1306) shows that access to recreation opportunities in New Zealand is inequitable even in the absence of any charges. Because of the geographical dispersion of National Parks in New Zealand, travel costs are likely to constitute a far larger proportion of overall trip-cost than charges for the use of specific facilities. Travel costs are largely a function of distance from National Parks and are inevitably inequitably distributed.

Despite this, differing price elasticities between low and middle income and minority and non-minority groups pose significant problems in the context of current government and DOC objectives. Current government and DOC goals emphasise the importance of providing opportunities for the enjoyment of natural heritage to all New Zealanders. A core concept underlying legislation such as the Conservation Act, the National Parks Act and the New Zealand Walkways Act is the belief that recreational opportunities should be provided to all New Zealanders regardless of their socio-economic status.

Any expanded user-charges system would need to be designed to maintain access to disadvantaged groups.

User-charges could potentially lead to the exclusion of certain groups, conflicting with current DOC and government objectives. A trade-off between economic and non-economic goals could be necessary in this context or mechanisms could be put in place to mitigate the exclusion of low-income and minority groups.

Lindberg (2001: 6) argues that:

It is generally possible to devise fee systems to facilitate visitation by groups that might be disadvantaged, such as through lower fees for students or the elderly or through annual passes or open days which implicitly favour local residents.

Other means by which this might be achieved include discounts for the bearers of community services cards or more generalised subsidisation of specific recreational facilities disproportionately used by low-income groups – such as those provided in low-income areas.

5 Conclusion

User-charges systems for recreational opportunities are becoming more popular...

User-charges for recreational facilities are common around the world, and their popularity is increasing. While in some instances, DOC does recover the costs of the recreational opportunities that it provides, the vast majority of recreational opportunity expenditure is taxpayer-funded. Recovering more of the costs of recreational opportunity provision from visitors is likely to lead to greater efficiency, provide support for wider conservation activities and promote more equitable outcomes. The overseas experience has shown that such changes are practicable. DOC would face particular administrative challenges in the expansion of the current cost-recovery regime because of social and legislative barriers to charging for access to parks that exist only in New Zealand.

For reasons of efficiency and equity, provision of public goods is often funded through general taxation. While recreational opportunities have some public and merit good characteristics, there is also an argument that they have a larger private good component. Overseas experience has shown that recreational opportunities can be made excludable in many instances, and with increasing pressures of over-visitation being experienced at many recreation sites, it is difficult to argue that recreational opportunities are non-rival – additional visitors will at some point detract from the experience of existing visitors. Individuals' participation in recreational opportunities probably does create some positive externalities. Nonetheless, it is difficult to argue that the public benefits of recreational opportunity outweigh the costs to the taxpayer. Given evidence that increasing or imposing prices is unlikely to lead to a significant reduction in demand for recreational opportunities in the developed world, it is also unlikely that an expansion of current cost-recovery systems would significantly impede the production of such wider social benefits (Lindberg 2001).

...on the basis that they can improve equity and efficiency.

Increasing usage of cost-recovery mechanisms would improve equity and efficiency in recreational opportunities provision. This is because cost recovery mechanisms can:

- reduce cross-subsidisation and ensure that those who benefit most from the use of recreational opportunities pay the most towards their provision;
- allow visitors to express preferences, informing visitor-asset management decision and facilitating better use of existing funding;
- be used to mitigate the adverse effects over-visitation at sites where high visitor numbers are leading to the deterioration of the natural environment or the overall visitor experience; and
- support improved recreational opportunity provision and/or conservation activities.

An expansion of DOC's user-charges system would bring benefits and some common objections are overstated.

The expansion of current cost-recovery mechanisms for recreational opportunities could provide significant benefits. Objections, however, do exist, and the development of an expanded cost-recovery regime would need to take account of potential pitfalls.

Any expanded system would have to be carefully designed to take account of the New Zealand context.

Objections that increased use of user-charges would lead to an unacceptable decline in the demand for recreational opportunities are not supported by empirical evidence. However, any expansion of the existing user-charge regime would need to take account of the potential impacts upon low-income groups and the practical problems of administering and enforcing such a system. The overseas experience has illustrated that innovative solutions to such problems can be found.

The fact that DOC cannot charge for access to parks poses significant difficulties in enforcing any significantly expanded cost-recovery regime. It

is likely that DOC would have to find innovative solutions to the enforcement of an expanded charging regime. While literature based upon overseas experiences cannot provide a complete blueprint for successfully expanding cost-recovery mechanisms for recreational opportunities in the New Zealand context, it illustrates that the benefits of doing so – in terms of both equity and efficiency – are likely to be large.

References

- Bennet, J. (2001) "Privatising Parks: Why the Private Sector Can Enhance Nature Protection" *Policy* Summer 2001.
- Barr, Nicholas, (1993) *The economics of the welfare state* (Stanford: Stanford University Press).
- Bird, R. (1992) "Taxing Tourism in Developing Countries." *World Development*, Vol. 20, No. 8.
- Bird, R. (1997) "User-charges: an old idea revisited" in Krever, R. (ed) *Tax Conversations* (The Hague: Kluwer Law International).
- Booth, K. and Peebles, C. (1995) "Patterns of use" in Devlin, P., Corbett, R. and Peebles, C. (eds) *Outdoor Recreation in New Zealand* (Wellington: Department of Conservation).
- Bowker, J., H. Cordell, C. Johnson. (1999) "User Fees for Recreational Services on Public Lands." *Journal of Park and Recreational Administration* 17(3).
- Bowker, J. & Leeworthy, V. (1998) "Accounting for Ethnicity in Recreational Demand: Flexible Count Data Approach" *Journal of Leisure Research* Vol. 30(1).
- Clough, Peter. (1993) *Economic Instruments and Visitor Services on the Public Estate* (Wellington: New Zealand Institute of Economic Research).
- Combs, J.P., and B. Ellege (1979) "Effects of Room Tax on Resort Hotels/Motels" *National Tax Journal*, Vol. 32.
- Crompton, John, Andrew Kaczynski (2004) "Trends in State Governments' Expenditure on Parks and Recreation 1989/90-1999/2000" *Journal of Park and Recreation Administration* Vol. 22(2).
- Cullen, R. (1998) "Zero prices, equity and natural areas" *International Journal of Social Economics* 25:6/7/8.
- Cullen, R. and Booth, K. (1995) "Recreation impacts" in Devlin, P., Corbett, R. and Peebles, C. (eds) *Outdoor Recreation in New Zealand* (Wellington: Department of Conservation).
- Department of Conservation (1996) *Visitor Strategy* (Wellington: Department of Conservation).
- Department of Conservation (2000) *Recreational Facilities and Services: Defining Visitor Needs and Measuring Visitor Satisfaction* (Wellington: Department of Conservation).

Department of Conservation (2003) *Providing for recreation on public conservation lands: A discussion document*. (Wellington: Department of Conservation).

Department of Conservation (2003) *Towards a better network of visitor facilities: National public resource document*. (Wellington: Department of Conservation).

Department of Conservation (2005) *Statement of Intent 2005-2008* (Wellington: Department of Conservation)

Department of Conservation (2005 II) *Visitor Satisfaction with Recreational Opportunities* (Wellington: Department of Conservation)

Department of Conservation (2006) *Review of Revenue Sources Report* (In press).

Department of Conservation (2006 II), *How does DOC analyse recreation opportunities?*

<<http://www.doc.govt.nz/Explore/DOC-Recreation-Opportunities-Review/001~How-does-DOC-analyse-recreation-opportunities.asp>>

Gooroochurn, Nishaal and M. Thea Sinclair (2003) *The Welfare Effects of Tourism Taxation: Discussion Paper* (Nottingham: Christel DeHaan Tourism and Travel Research Institute).

Giongo, F., J. Bosco-Nizeye, and G.N. Wallace (1994) *A study of visitor management in the world's national parks and protected areas* (Vermont: The Ecotourism Society).

Hartley, Peter (1997) *Conservation Strategies for New Zealand*. (Wellington: New Zealand Business Round Table).

HM Treasury (2002) *Choosing the right fabric: a framework for performance information* (London: HM Treasury)

Huhtala, A. (2004) "What Price Recreation in Finland? A Contingent Valuation Study of Non-Market Benefits of Public Outdoor Recreation Areas" *Journal of Leisure Research*, Vol. 36, No. 1.

Lindberg, Kreg (2001) "Tourist consumption of biodiversity: Market characteristics and effects on conservation and local development." Paper presented at the World Bank/OECD workshop on market creation for biodiversity products and services, Paris, January 2001.

Lundgren, A. et al. (1997) *Monitoring Park Visitor Reactions to the National Park Service Recreational Fee Demonstration Programme* (Minnesota: Co-operative Park Studies Unit).

Maclennan, Paul (2000) *Visitor information as a management tool* (Wellington: Department of Conservation).

McWha, Vhari, Joanna Smith, Mary Clarke (2000) *The Government's role in sport, fitness and leisure* (Wellington: NZIER).

Mak, J. and E. Nishimura (1979) "The Economics of a Hotel Room Tax" *Journal of Travel Research*, Vol. 17, No. 4.

Mendes, Isabel (2003) *Pricing recreation use of national parks for an efficient nature conservation: An application to the Portuguese case*. Paper presented to the permanent seminar of the Department of Economics, University of Lisbon. April 2003.

Parks Canada (2004) *Annual Report 2003-2004* (Ontario: Parks Canada)

Queensland Parks and Wildlife Service (2000) *Benchmarking and Best Practice Project: User-Pays Revenue* (Queensland: Australian and New Zealand Environment and Conservation Council).

Reiling, S.D., Cheng, H., and Trott, C. (1992) "Measuring the discriminatory impact associated with higher recreation fees" *Leisure Sciences* 14:2.

Richardson, Martin (2002) "Some simple economics of eco-tourism" New Zealand Treasury guest lecture, November 26th 2002.

Sport and Recreation New Zealand (2006), participation in sport and active leisure by New Zealand adults:

<http://sparc.org.nz/research/participation_adult.php>

Treasury (2002) *Guidelines for setting charges in the public sector* (Wellington: Treasury).

Tversky, A. and D. Kahneman (1986) "Rational Choice and the Framing of Decisions" *Journal of Business* 59: 251-278.

United States Department of Agriculture (1992) *Customer: Understanding Today's Recreating Public* (Washington D.C.: USDA Forest Service Outdoor Recreation and Wilderness Assessment Group).

United States Department of Agriculture (2000) *Recreation Fee Demonstration Programme: Progress Report to Congress Fiscal Year 1999* (Washington: USDA).

United States Department of Agriculture (2001) *Recreation Fee Demonstration Programme: Progress Report to Congress Fiscal Year 2000* (Washington: USDA)

Williams, Daniel (1999) "Structural equation modelling of users' response to wilderness recreation fees." *Journal of Leisure Research* 31(3): 245-268

Wray, Kerry, M. Harbrow, B. Kazmierow (2005) *Planning for visitor management at Mason Bay (Rakiura National Park, Stewart Island)* (Wellington: Department of Conservation).