

**PRIVATE SECTOR CONSERVATION ENTERPRISES
IN AUSTRALIA**

Nature Conservation: a Public Good?

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About the 'Private Sector Conservation Enterprises' project

The 'Private Sector Conservation Enterprises in Australia' project will explore the current role of the private sector in nature conservation activity. The overarching objective of the research is to achieve an improved understanding of the nature and scale of PSCE operating in Australia.

The initial phase of the research aims to:

1. identify the range of PSCE currently operating in Australia, both profit and non-profit entities;
2. characterise their activities, for example scale, organisational structures, supply capacities, demand sources, competitors, strategies, promotional activities, work force, financial/capital base, location and performance; and
3. identify any barriers to the formation and operation of PSCE including both 'natural' barriers (such as non-excludability and non-rivalry) and policy induced barriers (including regulatory restraints to trade and accounting standards).

A questionnaire of targeted organisations will be the key mechanism for data collection.

The understanding gained through the project will facilitate the development of Commonwealth, State and Local Government policies to generate more efficient and equitable provision of nature conservation in Australia. It will also form a key component of any future assessment of the potential for PSCE to generate viable alternative rural industries.

1. Introduction

In Australia, nature conservation has traditionally been considered a public sector responsibility because of the public good characteristics of nature conservation benefits. These benefits have been assured by conserving natural ecosystems in public conservation areas such as national parks. The public sector's role in providing nature conservation benefits is further justified by the importance of ensuring equity of access to natural areas and the risk of a monopoly price being charged for access to unique natural areas.

Whilst these factors provide a clear rationale for the role of the public sector in nature conservation, they do not fully convey the complexity of nature conservation benefits. This complexity will be explored in this Research Note, with a focus on the implications for the actual and potential roles of both the private and public sector in providing nature conservation benefits. Options to enable the greater participation of the private sector in nature conservation are also considered.

2. Nature conservation benefits: public and private goods

Conservation areas have long been considered the responsibility of the public sector (Charters *et. al.*, 1997), due to their public good characteristics. However, there is growing recognition that nature conservation benefits are not solely public goods and that it is possible for nature conservation to be jointly provided by both the private and public sectors (Bennett, 1995b).

Public goods are characterised by non-excludability¹ and non-rivalry². It is clear that some nature conservation benefits are non-excludable and non-rivalrous in nature, typically the indirect-use and non-use benefits (see Box 1), such as ecosystem services and the knowledge that a natural area will be conserved into the future.

¹ Excludability is the ability to prevent others from enjoying a good or service. Excludability is economically determined; the cost to exclude non-payers, enforced by property right holders and the state, vary according to the cost of physical exclusion, monitoring and enforcement. These costs can be reduced over time through technological advances (Wills, 1997).

² A good is considered rivalrous when one person's enjoyment of it reduces the amount available to others. Non-rivalrous goods are those characterised by the fact that one person's enjoyment of a good in no way reduces another person's enjoyment (Wills, 1997).

Box 1: Nature conservation benefits

There are three categories into which nature conservation benefits can be classed:

Direct-use benefits are based on conscious use of environmental assets in consumption or production activities. Examples of direct use values are those enjoyed by recreationists, tourists and passers-by. Many direct use benefits are rivalrous and excludable; however hiking undertaken by tourists is generally non-rivalrous and non-excludable. It is only when levels of use rise that activities such as hiking can become rivalrous due to overcrowding.

Indirect-use benefits are based on the contributions of natural resources to human life support. Life support benefits of nature conservation include ecosystem services such as water purification.

Non-use benefits involve no tangible interaction between the environmental asset and the people who benefit from it. The benefit is derived from the knowledge that the asset exists or will exist in the future. Use benefits may include option values, existence and bequest values. Option values are the values attached to maintaining future options to use, learn more about and enjoy the existence of an environmental asset where there is uncertainty about the future use of an asset. Existence values relate to the value of an environmental asset independent of their actual or potential use, for example an individual's satisfaction knowing that an environmental asset exists, for themselves and for others.

(Wills, 1997, p146-8)

Without the ability to exclude people, it is not possible to prevent those who do not pay, from enjoying a public good's benefits. This is said to lead to 'free riding' behaviour, because there is no incentive for people to pay for a good or service which they cannot be prevented from using. Therefore, it is generally not possible to generate revenue or profit from the supply of public goods. Without this incentive, the private sector has no motivation to become involved in supplying public goods, in this case nature conservation. This lack of motivation leads to the sub-optimal supply of nature conservation benefits, and hence a rationale for public sector involvement, i.e. public sector involvement counteracts the limited role taken by the private sector.

The capacity to exclude people from enjoying some direct-use benefits of nature conservation, such as bushwalking and tourism, does exist. However, in the past, the difficulty and high cost associated with excluding people who wish to partake in these activities has provided insufficient profit motive to encourage the optimal supply of nature conservation by the private sector. Growing interest in the natural environment has led to innovation in methods to prevent people accessing it. These trends require the public good nature of conservation areas to be re-evaluated, with the conclusion that the ability to exclude people from enjoying some nature conservation benefits – particularly the benefits enjoyed from direct use – means that it can no longer be considered solely a public good.

A logical extension of this conclusion is the potential for joint supply of the public and private benefits of nature conservation (Bennett, 1995b and Bennett, 2001). This will occur where profit generating direct-use benefits, such as recreation, are sufficient for the private sector to be interested in ownership and/or management of conservation areas; having taken the costs of excluding unauthorised use into account. Indirect-use and non-use benefits, such as species protection, which do not generate profits for the private owner, are therefore only supplied where they can be provided concurrently with profit generating direct-use benefits. However, joint provision of

public and private nature conservation benefits may not be successful where the supply of private goods adversely impacts on the provision of public goods³.

The provision of conservation areas because of the private goods they supply, and the joint supply of public goods, is unlikely to result in an optimal supply of conservation areas. Any conserved natural area supplies a mix of excludable and non-excludable benefits. If the ratio of that mix does not coincide with society's demands for the two types of benefits, there will be a misallocation of resources when supply is determined only by the extent of the demand for the excludable benefits. In other words, conserved natural areas that provide mostly non-excludable benefits, for example, remote areas where endangered but 'non-charismatic' fauna and flora species are conserved, are likely to be undersupplied by private suppliers motivated by direct-use benefit-driven profits (Bennett, 2001).

3. Free-riding not all pervasive

As outlined above, free-riding occurs when benefits are obtained without paying a corresponding share of the costs of obtaining those benefits (Wills, 1997). Due to the inability to prevent people from enjoying the benefits of public goods, these are the goods most likely to be associated with free-riding behaviour. However, there are indications that free riding is not universal. Increasing levels of altruism is one such indication

There are several possible explanations for altruistic behaviour. For example, people may enjoy the sensation of helping people other than themselves (Andrioni, 1988). They may also fear that if everyone free rides; no one will get the benefits associated with public goods. This understanding develops with greater experience of systems where free-riding opportunities are available leading to overall supply failure (Bennett, 1995a). Donations to organisations actively involved in undertaking nature conservation activities, such as Australian Bush Heritage Fund and Australian Wildlife Conservancy, is an example of altruism with a nature conservation focus. When the actions of individuals are well known to their peers, for example through club membership, the resulting peer pressure can also reduce the prevalence of free riding (Olson, 1965).

The current level of altruism towards nature conservation may be constrained by public perception that the government is responsible for its provision. This perception can make it difficult for the private sector to raise funds, because people feel they have already contributed through the tax system to nature conservation objectives. One possible strategy to increase the level of altruism for nature conservation is for the government to outline a clear role for the private sector in providing nature conservation benefits (Bennett, 1995b).

³ For example, recreational use of a nature conservation area can be at levels that threaten the integrity of the natural ecosystem and hence have negative consequences on the survival of species in the area.

4. Equitable access to natural areas

It has been argued (Tisdell, 1977), on equity grounds, that Australians should have free access to areas set aside for nature conservation. Nature conservation has also been identified as a merit good; that is, a good for which the value it provides to the whole of society is greater than the sum of the value it provides to individuals (Bennett, 2001).

In terms of nature conservation, equity and merit good concerns can be readily addressed; particularly given that the key concern appears to be the charging of entry fees. Mechanisms based on the principle that income transfers are preferable to direct price subsidisation, address this concern. The distribution of free vouchers to groups that may be deemed as being of 'special merit' for either equity reasons or because they would otherwise not take up the opportunity to use a conservation area, for example children of school age or those on income support, could address equity concerns (Bennett, 2001).

5. Conservation areas as natural monopolies

Although some nature conservation benefits derived from conservation areas are substitutable between areas, there are others that are clearly not. For example, mountain bike riding in a conservation area may be substituted for riding in a commercial forestry plantation. There are other conservation areas that have a particular appeal that may result in a monopoly price being charged. Uluru-Kata Tjuta National Park would be such an example. A private owner of Uluru-Kata Tjuta would be able to charge a price in excess of the socially optimal, competitive price, simply because the good being provided is unique. With no substitute good being supplied by competitors, the entry fee would be set at a level above the cost of provision and a monopoly profit would thus be earned. This disadvantages society because the high price limits the number of people who visit to levels that are sub-optimal and the profits generated reflect a sub-optimal use of resources.

However, even in cases where a natural monopoly exists, it is still possible for the private sector to have a role in providing nature conservation benefits. This requires the presence of a contestable market, for example through the ability to tender for reserve management. In order for the market to be truly contestable, additional suppliers should be able to enter the market unimpeded. This effectively maintains pressure on the incumbent suppliers to keep prices at competitive levels (Bennett, 2001). It is also possible for government to specify maximum entry fees in contracts with management providers, to prevent monopoly prices being charged, much in the same way as governments regulate the prices charged by the suppliers of other natural monopoly goods such as gas pipelines, freeways and telecommunication networks.

6. Not a case of public or private sector provision

The provision of nature conservation benefits need not be the exclusive domain of either the public or private sector. Whether nature conservation in a given location is

provided by the private or public sector should be determined by the choice between the relative efficiency advantages afforded by competitive private ownership⁴, and possible inefficiencies created when non-excludable benefits are predominant (Bennett, 2001). The extent of the private sector's role can also be variable, i.e. the private sector may be involved only in conservation area management or both management and ownership. The appropriate level of involvement will be determined on a case-by-case basis according to the characteristics of the benefits supplied at a given location.

The ability to exclude people is important in ensuring sufficient incentives for private sector involvement in nature conservation. When this incentive is combined with the potential for the joint conservation of direct-use benefits, and indirect and non-use benefits, there is a strong case for the involvement of the private sector. This could occur where the exclusion of visitors is relatively inexpensive and where non-use benefits contribute to the appeal of the park to visitors.

In circumstances where direct-use benefits are a small component of total benefits, the revenue generated by a private owner may be insufficient to cover all costs. The potential here is for the general public to supplement revenues through altruistic payments for non-use values. These payments may be made directly through private 'conservation brokers' or via the government as taxes.

There is also the potential for the private and public sectors to work in partnership to provide nature conservation benefits, for example where there is insufficient revenue stream to enable private ownership. This can be achieved through contracts for the delivery of services, for example, reserve management. Such contracts would need to be accompanied by either standards to ensure there are no adverse impacts or the payment of security bonds that would be forfeited should the natural values of an area be degraded. Under such a model there is scope for private owners to earn income (e.g. through entry fees) and thus reduce the cost to government of providing nature conservation benefits.

Given the range of mechanisms through which the private sector can be involved in the provision of nature conservation benefits, there is the potential to tailor a mix of private and public sector involvement to suit a wide range of circumstances.

A key goal of this research project is the identification and characterisation of the ways in which the private sector is currently involved in natural area conservation. This information will be useful in the design of potential future 'mixes' of private and public sector involvement in the sector.

⁴ The relative advantages of the private sector compared to public sector provision are generally considered to be greater flexibility, increased cost effectiveness, higher customer responsiveness and equating supply and demand.

Bibliography

- Andrioni, J., 1988, 'Privately Provide Public Goods in a Large Economy: The Limits of Altruism', *Journal of Public Economics*, 35:57-73.
- Bennett, J., 1995a, 'Protecting Nature... Privately', *Policy*, 11(3):11-15.
- Bennett, J., 1995b, 'Private Sector Initiatives in Nature Conservation', *Review of Marketing and Agricultural Economics*, 63(3):426-434
- Bennett, J., 2001, 'Private Sector Business Opportunities in National Parks', *Agribusiness Review*, Vol. 9 paper 5.
- Charters, T., Gabriel, M., and S. Prasser, 1996, *National Parks: Private Sector's Role*, USQ Press, Toowoomba.
- Olson, M., 1965, *The Logic of Collective Choice*, Harvard University Press, Cambridge.
- Tisdell, C., 1977, 'National Parks: Economic Issues', in: Mercer, D. (Ed), *Leisure and Recreation in Australia*. Sorrett Publishing Co., Melbourne.
- Wills, I., 1997, *Economics and the Environment: A signalling and incentives approach*, Allen and Unwin, St. Leonards.