PRIVATE SECTOR CONSERVATION ENTERPRISES IN AUSTRALIA

A survey of Australian Private Sector Conservation Enterprises: some initial findings

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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.

Abstract

If markets for nature protection services are to ensure an efficient supply, property rights need to be well defined, readily defended and tradeable. However, some of these services have ill defined property rights that are costly, if at all possible to defend. This limits the incentives for profit maximising entities to deliver nature protection benefits. The question addressed in this paper is whether or not 'Private Sector Conservation Enterprises' (PSCEs) are active in Australia to fill this supply gap. First, a definition of PSCEs is outlined. Then, details of a survey of Australian PSCEs are provided. The results of the survey show that there is an active and substantial PSCE sector operating across all states and territories. These organisations focus on managing nature protection areas and administering devolved grant schemes. Ownership of natural areas and the administration of nature protection covenants also feature strongly. Despite their private sector roots, most PSCEs in Australia receive a proportion of their revenue from government grants. Their actions involve local people in nature protection activities and leverage private sector funds.

Key words: Property rights, environment, conservation, private sector, enterprises

1. Background

A growing emphasis is being placed on the significance of property rights as a key component in the development of natural resource management policy in Australia. The importance of clearly defined, well enforced and readily traded property rights to the efficient allocation of resources and hence economic performance is well established (North 1994 and Olson 1996). International evidence (De Alessi 2003) shows that the productivity of land is enhanced when property rights are defined, defended and traded. It also shows that land stewardship is encouraged under an institutional regime of strong stable property rights. Hence, the property rights regime can enhance both the use value and the asset value of the land.

The relationship between the property rights regime and the efficiency of water use is now also becoming better established (Young, MacDonald, Stinger and Bjorlund 2000). In Australia over the past decade, title to irrigation water has been more completely defined and trading has been facilitated by the separation of water title from land title. Reallocation of water from lower to higher marginal value crops has been evident with consequential improvements in overall water resource use efficiency.

The property rights approach has been successful largely in terms of efficiency as defined by improvements in the welfare of society that are generated by the production and consumption of marketed goods. The ownership of rights to resources and the self-interested pursuit of individual wellbeing leads people to maximise their net benefits from resource use. However, the utility so generated relates to marketed goods. By definition, marketed goods are those that can be exchanged in markets because rights to them are defined and defended.

What then of goods which display the public good characteristic of non-excludability? For these goods, even if property rights can be defined, defence is problematic. Non-excludability implies that the exclusion of users is at best expensive and at worst technically infeasible. Can the decentralised process of social coordination embodied in the property rights approach work to secure the efficient production of these goods?

For instance, rights to land where the habitat of an endangered species is located may be defined to the extent that trespass can be punished through legal processes. Other rights associated with the land resource are not defined. The rights to prevent the use of the knowledge that the endangered species continues to exist are neither defined or defended. One way of looking at this is through an analogy: property rights are akin to a 'bundle of sticks'. Different bundles include different sticks. Hence, resources can have associated with them different combinations of rights. An area of land for instance may have rights defined over access but not over product extraction. In the case of a resource that produces some non-excludable benefits, some elements of the rights to the resource (i.e. some of the sticks in the bundle) may not be defendable at acceptable cost to an owner, even if they are defined.

Similarly, rights to water can include many 'sticks' in the bundle. Rights to the water from a river or lake for irrigation, fishing or industrial purposes may be defined and defended. But rights to the benefits derived from water *'insitu'* where direct use is not involved and where the physical exclusion of users is immaterial, may be more difficult to define and defend. For instance, where a river is the habitat of an endangered species that is valued by society for its existence, then the definition of the rights to the use of the river as a means of protecting that species may be problematic. Knowing who benefits from the protection is at the outset difficult because of the free-rider problem.

Proponents of the property rights approach to the protection of environmental values associated with land and water have tended to put their case in terms of environmental use values. For instance, Anderson and Leal (1991) cite cases in the UK and the USA where the protection of environmental assets has been successful due to the purchase of use rights by groups seeking hunting and fishing opportunities. Similarly, documentation of the revitalisation of the African Elephant population in Zimbabwe (Sanera and Shaw 1996) demonstrates the significance of hunting property rights. Thus, by securing use rights to resources, people interested in types of uses that are consistent with non-use benefit provision effectively provide for the wider public good. In a sense, the use benefits for which rights can be defined and defended 'piggy back' the non-use benefits where property rights are more problematic. In this way, skins are produced because there is a demand for meat, even if ownership over the hides cannot be defined.

The question of whether the property rights approach can be used to protect environmental assets for which there are only minimal use values, but for which there are significant non-use values remains. Such assets are prevalent in Australia. With a relatively small population in comparison to the extensive array of environmental assets, the ratio of use to non-use values is low.

In addition, another form of use values arising from nature conservation assets is associated with the hunting of native species. In Australia however, these values are restricted because hunting is highly regulated by government. Ownership of native species is vested in the Crown and most jurisdictions limit hunting to the culling of birds and animals when their populations reach pest proportions.

The comparison between the costs of forming and maintaining entities that exclude non-paying users (including the costs of counteracting the free-rider incentive), as promulgated by Anderson (2004), and the transaction costs associated with defining, defending and trading rights to the non-use benefits is key to this argument. Following Demsetz (1967), markets will only emerge when the transaction costs associated with establishing the market are less than the surpluses that are available to those who would trade in the market. Hence if the coordination costs of organising groups of people into entities that can act within the current institutional structures are less than the transaction costs associated with market formation, then there is the prospect for private sector provision of public goods. This is in the absence of government intervention beyond the role of transaction costs minimisation, through the standard process of defining and defending use rights via the legislative, judicial and enforcement agencies.

A wide range of entities is potentially capable of forming to see the provision of public good producing environmental assets. Profit maximisers, not-for-profits, clubs and societies all may arise. The issue is, will they?

In Australia, the Federal Government and a number of State Governments have actively promoted the concept of private sector involvement in the field of nature conservation. This has been an addition to their ‘privatisation’ endeavours in fields such as health care, education, telecommunications and finance. In other words, a policy climate has been established that is supportive of private sector involvement in conservation activities. The question addressed in this paper is whether or not, given this favourable climate, private sector conservation enterprises are active and if so, what type of operations are they pursuing.

In the next section, a definition of “private sector conservation enterprises” (PSCEs) is developed, followed by an outline of a survey that was designed to yield a snap shot picture of Australian PSCEs’ operations. The results of the survey are detailed in Section 4 and the paper ends with some conclusions regarding the future prospects for PSCEs both in Australia and internationally.

2. Defining a PSCE

In defining PSCEs, three factors were taken into account:
- What constitutes the ‘private sector’?

- What type of conservation activity constitutes conservation for the purposes of this research?
- Interpretation of the term 'enterprise'.

2.1 What constitutes the 'private sector'?

Defining the private sector involves a circuitous process. The definition used by the Australian Bureau of Statistics (ABS) to classify the private sector is '(a)ll businesses not classified to the public sector' (ABS, 2002). The public sector is in turn defined as 'that part of the economy which consists of all resident enterprises through which the Commonwealth, State and Local governments, separately or jointly, implement their economic, social and other policies by their ability to control what activities the enterprises undertake and/or how they are undertaken' (ABS, 2002). The key phrase therefore is 'ability to control' in the ABS's differentiation between the private and public sectors.

Three factors are influential in determining whether a government has the 'ability to control' an enterprise: ownership, provision of direction and appointment of directors. If a government owns more than half the shares of a corporation or if legislation or regulations empower a government to determine strategic direction or enable government to appoint a majority of directors of a corporation, it is considered to be a public sector organisation for the purposes of this research.

Organisations that rely on donations, memberships, and corporate sponsorships can be considered part of the private sector, as are publicly listed companies. Organisations that receive a substantial proportion of their funding from government may be perceived to be under the control of government, however their ability to refuse the funds indicates that they should be considered within the categorisation of the private sector.

2.2 What are 'conservation activities'?

For an organisation to be defined as focusing on conservation, it must be undertaking direct conservation activities as its primary purpose. Organisations can be classified as either suppliers or facilitators of conservation activity. Activities undertaken by conservation suppliers may include:

- Ownership of natural areas;
- Management of natural areas including on-ground works that maintain, restore or enhance biodiversity; and
- Use of private funds to conserve native wildlife and habitat through establishment and management of reserves and sanctuaries.

In addition, activities undertaken by organisations that facilitate nature conservation activities may include:

- Administration of conservation covenants and/or revolving funds that facilitate land purchases; and
- Administration of devolved grant schemes; and
- Brokering between groups that undertake on-ground works and those seeking to achieve nature conservation goals.

Organisations that principally undertake indirect actions to conserve biodiversity, such as lobbying the government for changes to biodiversity conservation policies and programs of community education activities are outside the definition used here. Organisations that simultaneously undertake both direct and indirect conservation activities are encompassed in this research. In addition, organisations with nature conservation as their primary goal, but who supplement their income with other activities, such as tourism, financial investment, or agriculture, are also included in the research. The definition also includes groups that undertake conservation activities on land managed primarily for nature conservation.

2.3 What is an 'enterprise'?

The term 'enterprise' is broadly interpreted for the purposes of this research. It is defined to include commercial or not-for-profit organisations that have an Australian Business Number (ABN). The ABN was introduced as a means for the Australian Taxation Office (ATO) specifically and government agencies more generally to identify individual businesses in Australia. Businesses require an ABN to register for the Goods and Services Tax (GST) and thus to receive tax credits for their costs of operation. According to the Australian Securities and Investments Commission (ASIC) (2004), '(c)ompanies registered under the *Corporations Act 2001* and business entities carrying on an enterprise in Australia are entitled to an ABN if they apply'. The ABN is therefore used in this research to differentiate between 'enterprises' and other organisations.

3. The survey

3.1 The sampling frame

The definition of PSCEs outlined in the previous section is specific to this research project. Hence no pre-existing sampling frame was available. Indeed there is no single database of Australian conservation organisations, however defined. In one sense, the survey carried out for this project acted as a means of developing such a database.

Three sources of information were used to develop the sampling frame. First, the Australian Government Department of Environment and Heritage (DEH) provided a database of organisations that had received assistance under the Natural Heritage Trust (NHT) Programme. This scheme was the vehicle whereby community organisations with an interest in environmental protection were able to access federal government funds derived from the partial sale of the national telecommunication company Telstra. The Programme was criticised because it distributed small grants to such a diverse set of projects that their combined impact on the environmental health of the nation was minor. This programme characteristic was, however, an advantage to this research project because the database of grant recipients was consequentially extensive.

Nonetheless, the database was incomplete as a sample frame for the purposes of this study because it did not include, for example, those organisations unaware of the NHT or those committed to maintaining their activities independent of government funding. Conversely, the NHT programme was also used by agencies of governments

at both state and local levels as a source of funding. Not only did these agencies bid directly for funds to engage in environmental protection works but they also formed subsidiary groups that were used as bid vehicles. Organisations readily identifiable as government agencies and their 'Trojan Horses', were removed from the database.

Two approaches were taken to supplementing the DEH listing. Firstly, each of the state nature conservation councils (NCC) were contacted. The NCCs act as peak bodies for member environmental groups in their respective states. The NCCs memberships are thus an additional source of information on PSCEs. In addition to supplementing the DEH list with NCC member listings, representatives of the NCCs were interviewed to establish if there were other organisations outside of both their own members and the DEH list. Given the 'grass roots' knowledge of these representatives, the resultant supplemented database was considered to be an adequate sample frame. However in addition, internet searches were conducted to identify further organisations that were not listed in the DEH database or identified by the NCCs.

The final result was a sampling frame consisting of 626 organisations.

3.2 The questionnaire[1]

Questionnaire development was undertaken using an iterative process. An initial draft of the questionnaire was formatted for a mail delivery and mail return. It canvassed a wide array of issues regarding the nature and extent of PSCEs, as well as their strengths, weaknesses, opportunities and threats. To test the questionnaire, copies were circulated to NCC representatives, prominent PSCE representatives as well as to members of the project's advisory committee. The consensus of opinion from this test was that the questionnaire was too long to ensure a sufficiently high response rate.

In response a two-stage survey was proposed, with the first stage questionnaire aimed at two goals. Firstly it would be used to refine the sampling frame, that is, to establish if the sampled organisation satisfied the definitional criteria of a PSCE. Secondly, it would be used to establish a basic picture of the operations of the responding organisations, including organisation structure, number of paid employees and volunteers, gross revenue and assets.

Stage two of the survey process would involve more detailed questioning of only those organisations that satisfy the PSCE definition. Furthermore, the second stage questionnaire would be tailored to the specific operations of each PSCE respondent, as gleaned from the first questionnaire. This enables the questionnaire to be targeted towards those types of activities in which each PSCE is engaged. This strategy was designed to reduce the size of the questionnaire delivered to each respondent in stage two – given that the PSCE sector overall undertakes a wide variety of activities yet individually, groups display a strong degree of specialisation.

With a first stage questionnaire designed, a pre-test was again undertaken with a different group of NCC and other PSCE representatives, this time without difficulties.

[1] A copy of the questionnaire is available from the authors on request.

On the basis of this, the questionnaire was submitted for graphic design and vetting with the Australian National University's Human Research Ethics Committee.

The final version of the questionnaire consisted of 16 questions and the opportunity for respondents to provide additional comments on pertinent issues. The first set of questions related to the structure and operations of the respondent organisation and in particular whether or not the organisation fitted the PSCE definition. Other questions in the first section dealt with type of activities undertaken, the location of activities and the scale of work force involved. The second section of the questionnaire focused on financial details including the scale and sources of revenue, expenditure and assets held.

3.3 Survey logistics

A three-stage survey process was used. Initially, a letter of invitation was sent by post to all 626 organisations included on the database. This was designed to generate interest in the questionnaire amongst potential respondents and to refine the database by culling listed organisations that yielded 'return to sender' responses and those that responded with a request to be excluded. Through this process, the original database was reduced by 20 organisations.

The second stage involved the mailing out of the questionnaire. A personally signed letter explaining the survey process and a stamped envelope accompanied the questionnaire. In the preamble to the questionnaire, it was stressed that organisations should select the most appropriate person or persons from within their organisation to complete the questionnaire. A total of 606 questionnaires were dispatched.

Finally, after two weeks had elapsed since the mailing of the questionnaire, a reminder postcard was dispatched to respondents who had at that stage not replied.

Throughout the conduct of the survey, telephone and email enquiries were answered.

4. Results

4.1 Sample characteristics

Of the 606 questionnaires dispatched, 318 responses were received. Twenty-nine of those responses were found to be from either government agencies that had not been detected in the initial proofing of the NHT database or organisations which were no longer active. A further 28 organisations were effectively removed from the original database because of late received 'return to senders' and organisations identifying themselves as not meeting the PSCE definition. With these responses and organisations removed, the overall response rate recorded was 53 per cent. Table 1 documents the differential response rates across the states.

Table 1: Survey distribution and response rate

State/Territory	Dispatched	*%*	Received	*%*	Response rate (%)
ACT	14	*3*	9	*3*	64
NSW	137	*25*	76	*26*	55
NT	13	*2*	4	*1*	31
QLD	82	*15*	34	*12*	41
SA	80	*15*	42	*15*	53
TAS	24	*4*	12	*4*	50
VIC	114	*21*	66	*23*	58
WA	85	*15*	46	*16*	54
Australia	549	*100*	289	*100*	53

The data in Table 1 also show that the distribution of questionnaires dispatched across the states and territories was largely reflected in the receipts, with Queensland being slightly under represented and Victoria being correspondingly over represented.

The vast majority of responses (94 per cent) were from non-profit organisations that are not controlled by government. Similarly, most responding organisations (73 per cent) were incorporated with an elected governing body/council. However, seven per cent of responses were from incorporated bodies where the governing body is appointed and another nine per cent were unincorporated. Seventy eight per cent of responses were from organisations that had an ABN.

Table 2 sets out the distribution of respondents' place of operation. The dominance, at least in terms of numbers of organisations, is at the regional and local levels.

Table 2: Place of operation

Place of operation	Number of organisations	*Percentage of organisations*
National	15	*5*
State	36	*12*
Regional	137	*47*
Single local site	101	*35*
Total	289	*100*

The questionnaire differentiated between direct and indirect conservation activities, as outlined in Section 2 above. The most frequently observed indirect activity, carried out by responding organisations, was community education (89 per cent) followed by lobbying government (58 per cent) and research (44 per cent). However, the majority of responding organisations indicated that direct conservation activities were either equally as important (33 per cent) or more important (41 per cent) than indirect activities. The types of direct activities undertaken by responding organisations are set out in Table 3.

Table 3: Direct conservation activities

Activity	Respondent organisations involved	*Percentage of all respondent organisations*
Ownership of natural areas	35	*12*
Management of natural areas	228	*79*
Administration of covenants	43	*15*
Administration of devolved grants	125	*43*
Brokering direct actions	69	*24*
Technical advice/support	158	*55*

The division of activities is also reflected in the reported percentages of expenditure devoted to particular activities. Table 4 displays this information.

Table 4: Expenditure distribution

Expenditure item	Mean percentage of total	Median percentage of total
Administration (wages, stationary, insurance, occupancy etc)	26	12
Recruiting and training volunteers (interviewing, advertising etc)	1	0
Marketing and fundraising (publication preparation, printing, postage etc)	11	2
Direct conservation	43	40
Indirect conservation	17	5

Whilst the management of natural areas was the most frequently observed direct conservation activity and direct conservation activities consumed on average around 40 per cent of organisation expenditure, the provision of technical advice and support and the administration of devolved grants were also prominent activities. The latter is noteworthy in terms of the sources of funds identified by responding organisations. It would appear that the majority of the grants administered were devolved from government sources as 80 per cent of responding organisations indicated that they received funds from government[2]. Other sources of funds are set out in Table 5.

[2] The proportion of organisations receiving government funding needs to be considered bearing in mind that the sampling frame was developed in part on the basis of the database of recipients of NHT funds. Necessarily therefore, these organisation have received government funds.

Table 5: Sources of revenue

Sources of revenue	Respondent organisations in receipt	*Percentage of all respondent organisations*
Government grants	230	*80*
Philanthropic grants	50	*17*
Sponsorships	72	*25*
Donations	201	*70*
Membership fees	227	*79*
Merchandising	75	*26*
Events (incl. public lectures, dinners, bush walks, etc)	72	*25*
Tourism (incl. entry fees, food, accommodation, etc)	26	*9*

Also of note is the strong proportion of responding organisations that are in receipt of donations and membership fees as opposed to the corresponding numbers receiving sponsorship and 'product revenue' including merchandising, events and tourism. Clearly the extent to which the responding organisations are 'clubs' in contrast to entities focused on the sale of products is high. This is consistent with the survey observation that the extent of revenues for most respondent organisations is limited. The modal average annual revenue class is $1000 to $9999 with 36 per cent of respondent organisations. Seventy five per cent of respondent organisations had annual average revenue of less than $50,000. However, nine per cent of the responses reported revenues between $100,000 and $500,000 and 15 responses (five per cent) had in excess of $1m revenue per annum on average. This distribution indicates that the bulk of responding organisations are in the low revenue categories, but a small number are substantial 'players'. The same picture is to be found in data supplied by the respondent organisations on their assets and expenditures.

4.2 PSCE characteristics

Respondent organisations were classified as PSCE if they were not deemed to be public sector based, focused on direct conservation activities and had an ABN, as per the definition put forward in Section 2 above. Of the 289 responding organisations, 174 or 60 per cent were classified as PSCEs. Most of these were non-profit organisations (95 per cent), with only nine organisations identified as corporations.

The responding PSCEs were predominantly dealing on a local or regional level. Table 6 documents the place of operation for the responding PSCEs. The geographical focus of surveyed PSCEs is not significantly different from non-PSCEs[3].

[3] Chi squared statistic of 4.7 with a level of significance of 0.19.

Table 6. PSCE place of operation

Place of operation	Number of respondent PSCEs	*Percentage of respondent PSCEs*
National	10	*6*
State/Territory	23	*13*
Region	73	*42*
Local site	68	*39*
Total	174	*100*

The direct conservation activities undertaken by PSCEs are set out in Table 7. The management of natural areas is the predominant activity undertaken by PSCEs, as it was for all respondent organisations. The higher percentages of PSCEs involved in these direct conservation activities compared to all organisations in the survey reflects the exclusion of the groups undertaking indirect conservation activities from the PSCE classification. Hence it is because of the definition of PSCEs used that results in the relatively high proportion of PSCEs that are involved in direct conservation activities.

Table 7. Activities of Private Sector Conservation Enterprises

Activity	Respondent PSCEs involved	*Percentage of respondent PSCEs*
Ownership of natural areas	27	*16*
Management of natural areas	156	*90*
Administration of covenants	32	*18*
Administration of devolved grants	93	*53*
Brokering conservation activities	45	*26*
Technical advice/support	101	*58*

Other activities undertaken by surveyed PSCEs not reported in Table 6 include fauna conservation, undertaking flora and fauna surveys, the gifting of natural areas and the management of environmental flows in rivers. These, however, were only undertaken by small proportions of the sample.

Nearly all the PSCEs responding to the survey received government grants as one source of revenue. Table 8 sets out information on revenue sources for responding PSCEs.

Table 8. PSCE revenue sources

Sources of revenue	Respondent PSCEs in receipt	*Percentage of respondent PSCEs*
Government grants	156	*90*
Philanthropic grants	32	*18*
Sponsorships	53	*31*
Donations	116	*67*
Membership dues	138	*80*
Merchandising	45	*26*
Events	42	*24*
Tourism	23	*13*

Small numbers of responding PSCEs reported other revenue sources including asset sales, consulting, fundraising, investments, plant and seed sales, primary production, venue hire and water trading. A greater percentage of the PSCEs sampled are in receipt of government grants than the total of all responding organisations (90 per cent compared to 80 per cent). Table 9 sets out a Chi squared test of the difference between organisations surveyed that were classed as PSCEs and the remainder in terms of their accessing government funds. The PSCE classified organisations were more likely to have secured government grants.

Table 9. Government funding as a source of revenue

Received Government grant	Non-PSCE (%)	PSCE (%)
NO	71	29
YES	31	68
Chi squared	30.1*	

* Significant at the one per cent level

The relative importance of government grants to PSCEs compared to other responding organisations may be viewed as a reflection of the exclusion of groups primarily undertaking indirect conservation activities from the PSCE category. There is currently a trend, in Australia, towards the increased provision of government funds to groups undertaking 'on-ground' conservation activities, while groups seen as environmental lobbyists are receiving reduced levels of funding.

Other categories of revenue sources are largely unchanged between PSCEs and all other responding organisations, apart from sponsorship and tourism revenues. PSCEs are more likely to have secured sponsorship arrangements. Thirty one per cent of surveyed PSCEs had sponsorships, whilst only 16 per cent of non-PSCEs responding to the survey were sponsored[4]. Similarly, PSCEs are more likely to have generated income from tourists visiting their sites. Thirteen per cent of PSCEs surveyed

[4] Significant at the five per cent level.

received tourism income, whilst 3 per cent of non-PSCEs generated income from site visitors[5].

Responding PSCEs are larger in revenue terms compared to responding organisations overall. For instance, the modal class of revenue ($1000 - $9999), whilst the same across the two distributions, has a lower frequency for PSCE respondents (30 per cent compared to 36 per cent) while all 15 of the greater than $1m revenue group are PSCEs. The same picture emerges from an analysis of expenditures and assets. As revenue, asset holdings and expenditure increase, the chances of a surveyed organisation being classed as a PSCE increases[6].

The picture emerging from a comparison between PSCE respondents and other responding organisations is that the PSCEs are larger in scale defined in financial terms. Furthermore, an analysis of the relationship between the classification of surveyed organisations and their organisational structures shows that PSCEs tend to have the more sophisticated structures. The impact of the definition of PSCEs developed for this project has been to focus more on larger organisations. For instance, it is more likely that smaller organisations will not be concerned with having an ABN. Another example of this is found in the pattern of asset ownership amongst surveyed organisations. Table 10 displays this pattern.

Table 10. Asset ownership across surveyed organisations

Asset type	PSCE (% owning)	Non-PSCE (% owning)	Chi squared	Significance level
Office equipment	48	35	5.1	(0.02)
Other equipment	69	38	26.2	(0.00)
Motor vehicles	17	2	19.4	(0.00)
Offices	19	4	14.2	(0.00)
Conservation areas	14	4	7.9	(0.00)
Self generating assets	26	11	10.5	(0.00)
Cash	76	66	3.2	(0.07)
Fixed interest deposits	44	30	5.6	(0.02)
Trust funds	13	12	0.1	(0.79)
Equities	6	3	2.1	(0.15)

For each of the classes of assets above, a higher percentage of surveyed PSCEs possess them than non-PSCEs. The high percentage of PSCE managing natural areas (90 per cent), is also reflected in the percentage (69 per cent) of PSCE that own 'other equipment', identified as including equipment for carrying out on-ground works.

The pattern of expenditure of surveyed PSCEs is displayed in Table 11. The higher percentage of expenditure devoted to direct conservation activities (compared to all

[5] Significant at the one per cent level.
[6] All three relationships are significant at the one per cent level.

responding organisations, see Table 4) and the lower percentage spent on indirect conservation activities reflects the definitional requirement that PSCEs have their major interest focused on direct conservation activities. The other expenditure items are broadly consistent across the different types of organisations.

Table 11. PSCE expenditure distribution

Expenditure Item	Mean % of total	Median % of total
Administration	23	10
Volunteers	1	1
Marketing/fundraising	10	3
Direct conservation activities	51	50
Indirect conservation activities	13	5

The PSCE sector in Australia – as reflected by the respondent sample – is comprised of predominantly small organisations, with most receiving a proportion of their revenue from government sources. However, there is a segment of the PSCE group surveyed that is larger in scale, both in terms of the scale over which they operate and their revenue/expenditure. Differences within the PSCEs category are explored in the next section.

Nevertheless, the evidence from the survey shows that PSCEs are active in the Australian conservation scene in every state and territory:

- Fifteen of the PSCEs responding have per annum revenue of over $1m.
- Total annual revenues across the PSCEs surveyed are in the order of $99m.
- Total average value of responding PSCEs' assets exceeded $112m.
- In the 2002/03 financial year around 31,000 volunteers worked with the surveyed PSCEs, representing the equivalent of over 1600 full time equivalent workers.
- In the same year, over 800 paid employees worked for the responding PSCEs.

4.3 Differences across PSCEs

The activities of the PSCEs responding to the survey are largely independent of their location. In other words, PSCE operations are similar across all the Australian states. The exception to this is that PSCEs located in Queensland and South Australia are less likely to be involved with the provision of technical advice/support than those in the other states and territories[7].

The geographic focus of PSCEs also gives rise to different concentrations of activity. Owning natural areas is more frequently observed in national or state focused PSCEs than those with a regional and local site focus[8]. For example, 30 per cent of national

[7] The Chi squared test for differences is significant at the five per cent level.
[8] Significant at the one per cent level, however there is a caveat relating to this result due to the small numbers of observations in some categories.

PSCEs and 39 per cent of state focused PSCEs owned natural areas, compared with 7 per cent for regional and 15 per cent for local site focused PSCEs.

PSCE with a national focus are also more likely (50 per cent) to act as a broker between PSCEs undertaking on-ground works and those wanting them. In contrast to the trend observed for ownership of natural areas, the next most likely PSCEs to act as brokers are those with a regional focus (34 per cent) rather than state focused PSCEs (26 per cent)[9]. However, state focused PSCEs are more likely to be involved in both the administration of covenants[10] and provision of technical advice/support[11] than other PSCEs. Table 12 displays the data on activity differences.

Table 12. PSCE activities by focus of operations

	Percentage of PSCE, separated by focus of operations, undertaking an activity					
Focus\Activity	Own	Manage	Covenant	Devolved Grants	Broker	Tech. advice
	%	%	%	%	%	%
National	30	80	10	30	50	70
State	39	78	30	48	26	87
Regional	7	90	23	63	34	64
Local	15	94	10	49	13	40
Chi square	13.9	5.1	7.0	5.9	11.7	20.2
Significance level	0.00	0.17	0.07	0.12	0.01	0.00

Other differences across PSCEs are less marked. For instance, activities carried out are generally invariant across the scales of PSCEs, as indicated by revenue. The exception is PSCEs with larger revenue flows, which are more likely to be involved in the provision of technical advice and support[12]. Similarly, activities are independent of PSCE structure, with the exception that public corporations with elected boards are more likely to be involved in the ownership of natural areas[13].

5. Conclusions

Private sector conservation enterprises are active participants in the protection of natural ecosystems in Australia. The activities undertaken by these groups are broad ranging, but most of the PSCEs surveyed are involved with the on-ground management of nature protection areas. Other activities carried out by a majority of responding PSCEs are the administration of devolved grants and the provision of technical advice/support. These activities are spread across all states and territories.

[9] Significant at the one per cent level.
[10] Significant at the ten per cent level, however there is a caveat relating to this result due to the small numbers of observations in some categories.
[11] Significant at the one per cent level.
[12] The difference is significance at the one per cent level.
[13] Significant at the five per cent level. This result however goes with a caveat relating to the small numbers of observations in these categories.

PSCE are responsible for significant funds being invested and considerable labour resources being mobilised for the achievement of nature conservation objectives. Surveyed PSCEs receive revenue from a range of sources, with most receiving government funds. PSCEs in the survey were more likely to be in receipt of government funds than the other conservation organisations surveyed. The strength of the devolved grant activity in the sector may also be a reflection of government funding policy, that is, to channel public funds through PSCEs at a regional or local level so as to ensure that a 'grass roots' approach is secured. Donations and membership fees were also important sources of funding for the survey PSCE.

Although the receipt of government grants may be a key driver, in terms of the activities undertaken by PSCE, the success of this sector in leveraging private sector resources is significant. Of particular importance is the labour input; the volunteer labour force in the sector is substantial. The sector also receives important private financial contributions through sponsorships and membership fees.

The prevalence of government grants as a revenue source within the PSCE sector may indicate that significant barriers confront these organisations in the raising of private sector revenue streams. The long-term sustainability of many PSCEs could become questionable if a change in government policy led to either, less funds being available to PSCEs for leveraging other resources, or a greater channelling of public funds for the environment to public sector agencies. However, the data collected do not enable an analysis of the degree to which PSCEs are dependent on government funding.

It remains to be seen if the barriers to private sector revenue raising can be challenged by changing the policy environment or if the inherent problem of free-riding behaviour will always necessitate the public sector's role in the collection of funds for environmental protection, if not the delivery of natural area protection services. These questions will form a focus of the second stage of the project when a more in-depth set of questions will be posed to the PSCEs identified in the first stage.

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