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Who participates in conservation incentive programs? Absentee and group landholders are in the mix

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ABSTRACT

Voluntary incentive programs are widely used to generate conservation actions on private land. Although there is a growing body of research about factors that influence landholder participation in incentive programs, studies generally conceptualise landholders in agricultural landscapes as owner-occupier, farming individuals or families. Few studies have considered participation by absentee landholders and fewer still have recognised group landholders (e.g. non-government organisations or community groups) as potential incentive program participants. We examined participation in a conservation stewardship tender (reverse auction) in South Australia to identify the diversity within participants, and particularly to evaluate the extent of participation by absentee landholders and groups. A diverse set of landholders participated, where nearly a quarter of participants were absentee landholders, and a small component were groups. Although small in number, groups were shown to be important because they were likely to offer larger land areas in the stewardship tender. With very little known about how absentee and group landholders may differ from their counterparts, further research is recommended to inform incentive program design. We recommend that incentive programs consider landholder diversity in order to achieve effective conservation in agricultural landscapes.

1. Introduction

At the global scale, publicly governed protected areas are not sufficient to meet environmental targets on their own (UNEP-WCMC and IUCN, 2016), leaving a significant contribution required from private landholders (Figgis, 2004; Knight, 1999; Norton, 2000). Consequently, private landholders have an important role to play in biodiversity conservation and the sustainable provision of other ecosystem services. The public good quality of biodiversity conservation and the implementation and opportunity costs of changing management mean that there are often cost barriers to optimal production of conservation benefits on private land (Kinzig et al., 2011). Offering payments to private landholders for environmental services through voluntary incentive programs is one approach widely employed to generate conservation action on private land (Doremus, 2003; Kamal et al., 2015). However the drivers of participation can be complex and in many cases remain insufficiently known (Lastra-Bravo et al., 2015; Sorice and Donlan, 2015).

When participation in incentive programs is voluntary, the environmental outcomes of the program rely on appropriate levels of participation (Mettepenningen et al., 2013; Rolfe et al., 2017; Selinske et al., 2015; Zanella et al., 2014). Positive environmental outcomes are dependent on sufficient participation from landholders responsible for the assets of interest. However, high participation is not always desirable. In programs with a finite budget where participants compete for funds, interest in participation may extend far beyond the available budget, resulting in avoidable transaction costs and inefficiencies for the program and participants (Whitten et al., 2013). Knowledge of the target audience, and the factors that influence their participation, is therefore required to inform the design of effective incentive programs (Mettepenningen et al., 2013; Morrison et al., 2012; Rolfe et al., 2017; Whitten et al., 2013).

While the level of incentives offered is a key factor, there are many other factors that influence participation in incentive programs. These include characteristics of the potential participants themselves, their landholdings, their attitudes and behaviour and the social context (Lastra-Bravo et al., 2015; Morrison et al., 2012). Research in this area commonly examines factors such as participant age, education level and experience (e.g. Comerford, 2014; Pavlis et al., 2016) and dependence on the land or associated resources (e.g. Lindhjem and Mitani, 2012;

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Table 1
BushBids conservation stewardship tenders.

Project name	Tender Rounds	Contract start	Contract length (years)	No. unique participants
Eastern Mt Lofty Ranges (EMLR)	2	2006–07	5 or 10	55
Woodland (WLND)	2	2010-11	5	32
Riverbend (RBND)	1	2013	5	23
Southern Mallee (SMLE)	1	2013	5	9
South Eastern (SEAST)	2	2013	5	44

Petrzelka et al., 2012). Social factors such as trust, connectedness and access to information (e.g. Moon, 2013; Morrison et al., 2012; Zanella et al., 2014) and attitudes and behaviour including personal satisfaction from participation, agreement with the incentive program goals, business orientation and information seeking behaviour (e.g. Comerford, 2014; Morrison et al., 2012; Pavlis et al., 2016; Reimer and Prokopy, 2014) are also frequently addressed. However, as Burton (2014) highlights, findings about the presence and direction of relationships between these factors and participation can be inconsistent or contradictory because the cause of the relationships often remain poorly understood. Another limitation of this area of research is that studies of environmental behaviour in agricultural landscapes almost always conceptualise landholders as owner-occupier farming individuals or families, in empirical studies and reviews (e.g. Burton, 2014; Defrancesco et al., 2008; Hill et al., 2011; Perkins et al., 2013) and in economic choice experiments (e.g. Boxall et al., 2017; Wichmann et al., 2016). Exceptions to this prevailing view are a small number of studies that have considered absentee landholders (e.g.Lindhjem and Mitani, 2012; Petrzelka and Armstrong, 2015; Petrzelka et al., 2013, 2012; Ulrich-Schad et al., 2016).

In many places, rural land ownership is becoming increasingly diverse, with growing numbers of non-primary producer “amenity migrants” (Cooke and Lane, 2015; Gosnell and Abrams, 2011) and absentee landholders (Mendham and Curtis, 2010; Petrzelka et al., 2013). While the influence of land use on participation has been addressed by many studies, only a small number of these have examined participation by absentee landholders. Studies of absentee landholder participation indicate that absentee landholders may be less concerned with financial incentives for land management change (Farmer et al., 2015), or accept lower incentives compared with resident owners (Lindhjem and Mitani, 2012), and that access to information can be a key barrier to participation (Petrzelka et al., 2012; Ulrich-Schad et al., 2016). Another contribution to the diversity of participants in conservation on private land is made by group landholders such as community groups, not-for-profit conservation organisations, and corporations (Fitzsimons, 2015; Gosnell and Travis, 2005; Selinske et al., 2015). To our knowledge, information about group landholders as participants in conservation incentive programs has not been directly examined in the literature.

This study aims to investigate the diversity in incentive program participants, and in particular, to identify the role of absentee landholders and groups. We took a novel approach to the characterisation of participants in a conservation stewardship program in South Australia where incentives were allocated by tender (a reverse, single-sealed-bid auction). We examined a range of participant characteristics including their involvement in primary production, whether they are resident or absentee and whether they participated as an individual/family or group. Statistical models were used to test the relationships between these factors and the size of the area offered in the tender. Results are discussed in the context of incentive program design to promote conservation on private land.

2. Materials and methods

To investigate the question of which landholders participate in conservation incentive programs we used the BushBids conservation stewardship program as a case study. This program had 163 unique participants and spanned a large geographic area (more than 30,000 km^2) in the agricultural regions to the east of Adelaide, South Australia. Average annual rainfall in the program area ranged from approximately 880 mm in the wettest part of the Mt Lofty Ranges to approximately 210 mm in the arid plains to the north of the River Murray (BOM, 2014). Agricultural activities in the program area included broad-acre cropping (cereals, pulses, oilseed), hay and silage production, horticulture, viticulture, livestock grazing, and intensive livestock production (ABS, 2016). The program area’s native vegetation was diverse, primarily including eucalypt dominated forests, woodlands, and mallee, as well as grasslands, wetlands, and chenopod shrublands (DEWNR, 2011).

2.1. BushBids conservation stewardship program

The work presented here is based on the BushBids program (Australian Government, 2006). The aim of this program was to support private landholders to maintain or restore the ecological function of remnant native vegetation on their property. Briefly, private landholders were invited to tender (bid) for 5 or 10 year contracts to manage and restore native vegetation. Over the period from 2006 to 2013, there were five BushBids projects with a total of eight tender rounds (Table 1). The projects were advertised through a variety of channels: local newspapers and newsletters; local radio and television; agricultural field days; and government and non-government organisation natural resources management networks. Participation was voluntary and landholders were not obliged to bid in the tender, or accept the contract if their bid was successful. After the landholder made an expression of interest, an on-site assessment of the location, size and condition of the native vegetation on their property was made by BushBids, and a native vegetation management plan was prepared for the landholder (O’Connor et al., 2014). Management plans mapped the area of native vegetation offered in the project and outlined management actions designed to maintain or improve the condition or ecological function of the native vegetation. Management of grazing pressure from stock and retaining fallen timber were mandatory, and always included in the management plan, while weed control and feral animal control were usually included and revegetation was occasionally included.

At a broad level, management plans were consistent throughout all five BushBids projects, however, the extent to which management actions differed from existing practices depended on participant circumstances. Management of stock grazing pressure under a BushBids management plan required complete stock exclusion from the site in most cases, but a conservative stock grazing regime was allowed in grassy ecosystems where it was used as a management tool to maintain or restore ecological function. For some participants this represented a change in management with associated forgone resources, while for participants who had already excluded stock or were already using conservative grazing practices in grassy ecosystems, there was no or minimal change required. Weed species and feral animal species targeted for control also differed between project locations and to a lesser extent, within project locations according to variation in climate and