



# The impact of permanent protection on cost and participation in a conservation programme: A case study from Queensland<sup>☆</sup>



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## ABSTRACT

Conservation covenants have become a popular tool to protect land in perpetuity. Understanding the impact of a covenant on price and enrolment in a conservation programme can help decision makers plan their interventions more carefully, and judge whether the extra longevity justifies the changed participation rate and cost. This paper uses the case study of a conservation auction in Queensland, Australia, to investigate the influence of a compulsory conservation covenant on bid price and participation. Results from the case study indicate that inclusion of a mandatory covenant reduced participation rates and increased costs, and resulted in a narrow subset of the rural population participating in the auction and providing competitive bids. In particular, non-production landholders were more likely to participate and to provide lower bids.

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## Introduction

Conservation covenants, otherwise known as conservation easements, are becoming a popular conservation tool in Australia and the United States (Adams and Moon, 2013; Yonavjak and Gartner, 2011). A covenant is a voluntary agreement attached to a land title that specifies allowable land management activities. Typically only some property rights are restricted such as the clearing of vegetation or construction of new dwellings. Occasionally covenants may require positive management actions such as control of invasive species. As covenants attach to land title, they are binding upon all future owners of the land. The agreement is generally managed by the government or an authorised non-government organisation. The extent of this management differs between jurisdictions, but often includes managing the legalities of establishing the agreement and monitoring any included management actions.

Covenants are widely used throughout the USA by conservation groups and federal, state and local governments to promote biodiversity habitat and restrict development of agricultural land (Merenlender et al., 2004). The National Conservation Easement Registry had registered over 18 million acres of land in 2012, but estimates that there are 40 million acres of privately owned con-

servation covenants in the United States (Conservation Registry, 2012). The majority of these covenants are designed to prevent fragmentation or development, with one survey reporting over half of covenanted properties carrying out compatible economic activities such as farming and forestry (Rissman et al., 2007). There are over 4000 covenants registered in Australia (Adams and Moon, 2013). Although there has been no comprehensive survey of conservation covenants in Australia, most programmes that register covenants, such as Wildlife Refuges, the Australian and Tasmanian Government's Forest Conservation Fund and Western Australia's National Trust programme are designed to retain vegetation and associated biodiversity values.

Covenants provide a wide range of perceived benefits to conservation outcomes. Most significant is the permanence offered in comparison to alternative tools such as short-term agri-environment payments. They allow biodiversity conservation on private land, fostering broader scale landscape conservation beyond that occurring in selected public reserves. Further, covenants do not have the ongoing management costs that accompany public land acquisition. Even if financial compensation is paid in exchange for the agreement, the cost to the public purse is likely to be substantially lower than purchasing the land, as only some rights are acquired. Landholders need only cede the rights they choose, and any management actions that are required for the property can be incorporated into the agreement. Allowing landholders to carry out private businesses while delivering environmental outcomes may also reduce the social disruption associated with public land acquisition.

The benefits to landholders from conservation covenants vary depending on the programme circumstances, but can be broadly

<sup>☆</sup> This work is based on Comerford, E., 2008, *Designing more effective conservation auctions: lessons from Queensland's Vegetation Incentives Program*, PhD thesis, University of Queensland. Opinions expressed in this work are purely those of the author and do not reflect Queensland or Australian Government policy.

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categorised as financial or personal in nature. As a covenant effectively diminishes the range of property rights enjoyed by the landholder, some programmes compensate landholders who sign up with a cash payment or tax reduction. Other programmes attract conservation-minded individuals who desire to preserve certain attributes of their property beyond their death.

### Theoretical expectations and empirical evidence

Generally it would be expected that a covenant would increase the price of participating in a conservation scheme relative to shorter contracts such as the shorter management agreements more commonly found in agri-environment schemes around the world, due to the restrictions the agreement places on economic activity in perpetuity. The bids landholders submit in a conservation auction can help reveal the impact of a covenant on the price of participation. Conservation auctions involve landholders bidding for conservation payments for management plans for their properties. In a conservation auction there are many possible influences on bid prices. In their seminal paper [Latacz-Lohmann and Van der Hamsvoort \(1997\)](#) outline a formal model of bidding in conservation auctions where essentially a bid is made up of opportunity cost, information rent and a risk premium. Opportunity cost represents the alternate use of the land, generally for agricultural production or real estate development. This includes the option value of future expected use, which is obviously impacted by the acceptance of a covenant. Information rent occurs when landholders take advantage of information asymmetry to be paid above their true opportunity costs. Finally, the landholders may have a component called a risk premium in their bid that reflects the expected reward from participation and likelihood of success. The effect of the risk premium will depend on the risk averseness of the landholder, and the specific contract conditions. It is possible that risk averse landholders will bid low in order to secure a more guaranteed conservation payment compared to uncertain future returns from the land ([Latacz-Lohmann and Van der Hamsvoort, 1997](#)). However, it is also possible landholders will increase their bids if contracts are seen as being risky and thus less valuable – for example an outcomes focused payment would be expected to attract higher bids than an inputs focused contract ([Goddard et al., 2008](#)). Similarly, permanent covenants seem likely to be perceived as a risky proposition that require a higher bid.

There is little empirical evidence on influences on bid prices for covenants. In a series of experiments in the Fitzroy basin [Gowen et al. \(2010\)](#) found that increasing carbon sequestration contract lengths from 20 to 50 years would lead to a 50% increase in price and significantly decrease likely participation rates amongst graziers. In the Australian Government's Environment Stewardship Programme, 25% of landholders chose a covenant mechanism, indicating the preference for some landholders for a long-term contract ([Binney et al., 2010](#)). Bids with a covenant cost 47% more on average per hectare than those without a covenant, although influences on this cost were not explored.

The main influences on participation in conservation programmes are a mixture of personal, property, community and scheme characteristics. Many studies have evaluated the influences on motivation to participate in conservation programmes (for example [Moon and Cocklin, 2011a, 2011b](#); [Greiner and Gregg, 2011](#); [Pannell et al., 2006](#); [Kabii and Horwitz, 2006](#); [Rogers, 2003](#); [Wilson, 1997](#)). Making generalisations regarding the type of people most likely to participate in incentives programmes is difficult. However, some property characteristics appear to consistently and positively influence willingness to participate, including land size, security of tenure, and a more accepting community (including high levels of trust). The programme characteristics consistently identified in the literature as encouraging participation include an

appropriate level of financial assistance, clear information provision to reduce uncertainty and risk, flexibility of activities proposed and low transaction costs. As covenants reduce flexibility of property management and are arranged in a state of uncertainty over future impact, it is expected they would decrease participation in most schemes.

Some empirical studies have looked at the influence of including a covenant in a conservation scheme on participation levels, and the characteristics of landholders who choose to place a covenant over their land. [Moon and Cocklin \(2011a\)](#) investigated the motivations for participation in three Queensland conservation schemes, including the Nature Refuge and Cassowary Coast Conservation Covenant Rate Reduction Scheme. The study found that non-production landholders in the Cassowary Coast preferred permanent conservation agreements compared to production landholders. There was a wider range of participants who took up Nature Refuge covenants. [Greiner et al. \(2008\)](#) found that most Queensland pastoralists reported they would prefer a short-term conservation contract to a conservation covenant. However, there were some economically motivated land managers who would prefer a conservation covenant with a large up-front payment than a shorter contract with regular payments. [Brown et al. \(2011\)](#) report on a Canadian uniform price auction that compensated landholders for placing conservation covenants on their land. Participation appeared to be low but it was not clear if this was due predominantly to the inclusion of a covenant. Participants were more likely to be older, female and have lower farm receipts than non-participants. Another Canadian study ([Hill et al., 2011](#)) found that no one chose the permanent protection option in their wetland restoration auction, due to concerns over the restriction of future development opportunities and the impact on resale value. [Farmer et al. \(2011\)](#) investigated the motivations of landholders in five US states for placing conservation covenants on their properties, finding the main motivations related to place attachment and a desire to contribute to the public good. Financial motivations provided the lowest motivation. [Ma et al. \(2012\)](#) investigated forest conservation programmes in the US, and found that landholders who were wealthier, had forest management plans and owned larger areas were more likely to place conservation covenants on their land.

### Methods

#### Case study

This paper adds to the empirical evidence for the influences on participation and bid prices for conservation programmes that require covenants. It uses a case study of Queensland's Vegetation Incentives Program (VIP).

The VIP was run as a discriminatory price, single round conservation auction intended to fund private landholders to protect and manage high quality non-remnant vegetation in Queensland. The Queensland Department of Natural Resources and Water (NRW) introduced the VIP, with a \$AUS 12 million budget, as part of a financial assistance package that accompanied extensive changes to the State's vegetation management legislation in 2004. The programme was run in three phases in 2005 and 2006.

Greening Australia, an environmental non-government organisation, delivered the VIP in each region. Landholders received a site visit to help them develop a 5-year management plan that accompanied the covenant. A very restrictive covenant was designed for the use of the VIP in the first round. This covenant could not be varied between properties and carried significant implications for positive management obligations into the future. Very few tenders were submitted and no tenders were funded as bid prices were considered to be too high for the expected environmental gains. Difficulties associated with phase one led to the

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