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## The Environmental Stewardship Program: Lessons on creating long-term agri-environment schemes

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### Key lessons

The conservation of biodiversity on private land is both a high priority and a considerable challenge. An effective response to this challenge requires a combination of legislative and incentive mechanisms, coupled with preparedness by government to review and revise administrative arrangements. Preliminary results from the Environmental Stewardship Program, established by the Australian Government, highlight that there is a role for market-based approaches. However, implementation of this program through a Commonwealth bureaucracy was not without its challenges. Here we provide an overview of the program's implementation from 2007 to 2012, followed by discussion of some key lessons learned.

We summarise these lessons as:

- Designing for the long-term presents many challenges.
- Land managers liked the program but there were a few surprises.

- Monitoring is important.
- Start simple and engage early and often.
- Governance and administrative reforms are needed.



Figure 3.1: A sign on the gate of a property involved in the Box Gum Grassy Woodland Project, part of the Environmental Stewardship Program.

Source: Photo by David Salt.

## Introducing the Environmental Stewardship Program

In mid-2007, the Commonwealth established the Environmental Stewardship Program, a ground-breaking scheme that used competitive tenders to engage private land managers in long-term contracts (up to 15 years) to manage environmental assets of high public value. The program resulted in a series of tenders being implemented by the Commonwealth across New South Wales, Queensland, and South Australia. We were involved in the design and implementation of the program and, more than most, we are aware of the challenging ecological, social, and economic dimensions of designing and implementing such a process. Here we reflect on the experience and offer several lessons that may help with the design of similar schemes in the future.

### 3. THE ENVIRONMENTAL STEWARDSHIP PROGRAM

The Environmental Stewardship Program initiated a new way for the Commonwealth to support the conservation of biodiversity on private land, through a process where land managers were empowered and funded to be recognised as environmental stewards.

Being a Commonwealth initiative meant funding was targeted at matters of National Environmental Significance as listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC).<sup>1</sup> Therefore, the program was only permitted to target nationally threatened species and ecological communities, migratory species and wetlands of international importance, and natural values associated with world and national heritage places.

Aligning a market-based incentive scheme to clear Commonwealth legal responsibilities for biodiversity conservation was critical to gaining initial approval for the program. Depending on the assets targeted, the program sought to achieve a range of outcomes including:

- Improved habitat quality across the landscape.
- Increased viability, integrity, and buffers to high quality remnants for species, ecological communities, Ramsar wetlands, and World Heritage areas.
- Improved long-term protection of nationally threatened species and ecological communities.
- Improved condition and function of ecological communities.
- Enduring changes in land manager attitudes and behaviours towards environmental protection and sustainable land management practices.

The initial funding for the program was \$42.5 million from 2007/08 to 2010/11, with a contingency reserve to allow annual payments until 2024/25 (a contingency reserve for a program represents funds committed for the program beyond the standard three-year forward estimates period). In the 2011 budget, the Commonwealth announced additional funding of \$84.2 million from 2011/12 for a further four years. However, no further funding rounds were offered after 2012.

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<sup>1</sup> Note, not all departmental programs need to target matters of National Environmental Significance. They can have their constitutional basis through external affairs powers — helping the Australian Government meet their international obligations under the Convention on Biological Diversity, for example.

In the implementation phase of the program (2007–2012), managers designed and delivered the competitive tenders through two projects in collaboration with on-ground delivery agents and external scientific experts: the Box Gum Grassy Woodland Project and the Multiple Ecological Communities Project. Both projects, which comprised the entire program, employed a reverse auction tender process (see Zammit et al. 2010), which resulted in a total government investment of approximately \$152 million in approved grants with individual land managers up to 2025/26. Landowner contributions remain uncoded, but are likely to be significant.

From 2007–2009, the program targeted the critically endangered box gum grassy woodland ecological community in south east Australia through the Box Gum Grassy Woodland Project. This project targeted the remaining patches of woodland on private land, without specific reference to the adjoining matrix of agricultural lands or other non-target native habitats. In total, five tender rounds across New South Wales and Queensland were conducted under the Box Gum Grassy Woodland Project, resulting in 26,470 ha being managed by 210 land managers for an approximate cost of \$71 million over 15 years.

Program managers recognised an opportunity to increase the program's efficiency through experience gained from implementing the Box Gum Grassy Woodland Project; desktop research; staff expertise (see, for example, Attwood et al. 2009); and formal review and structured feedback mechanisms with delivery agents and land managers.

Consequently, they sought to improve program design by broadening the program's reach through targeting multiple EPBC-listed ecological communities in a region, and incorporating options for conservation management of the surrounding matrix through buffers and connectivity. These program refinements were subsequently found to have improved the efficiency and effectiveness of the implementation model (see, for example, Marsden Jacobs Associates 2010).

In 2010–2011, the program implemented the Multiple Ecological Communities Project in New South Wales and South Australia, across six different Natural Resource Management Regions. Five nationally threatened ecological communities were targeted: in New South Wales, basalt and alluvial grassland, weeping Myall woodland, and box gum

### 3. THE ENVIRONMENTAL STEWARDSHIP PROGRAM

grassy woodland; in South Australia, iron-grass grassland, and peppermint box woodland. In 2011–2012, a second round of the Multiple Ecological Communities Project was implemented in South Australia. In total, after these two tender rounds, 87 land managers were contracted to manage 26,988 ha of threatened ecological communities, which included over 7,000 ha of adjoining land for an approximate cost of \$81.3 million over 15 years.

Relative to the Box Gum Grassy Woodland Project, the development of the Multiple Ecological Communities Project recognised the need for a more integrated and landscape-scale approach to conserving threatened ecological communities. As such, more technically nuanced protocols and tools were required (Whitten et al. 2011). These, in turn, required more sophisticated management planning with land managers. Building on the successful uptake of the Box Gum Grassy Woodland Project and Multiple Ecological Communities Project, the program managers commenced designing a more generic reverse auction framework that targeted native vegetation (habitat), which supported nationally threatened species and ecological communities. Under this approach, the program could then be rolled out without specifying a precise target, but rather allowing land managers with different assemblages of EPBC-listed species and communities on their properties to participate in a tender round. This approach was never implemented, given the Commonwealth's decision not to undertake further funding rounds of the program.

In summary, after five years of implementation, 297 land managers across New South Wales, Queensland, and South Australia were approved by the Commonwealth to implement (up to) 15-year conservation management plans over 56,527 ha of private land. The last of these contracts will end in 2026/27. The realisation of the potential conservation benefits from a public investment of approximately \$152.3 million will depend on how these contracts are managed, and how land managers are supported.



**Figure 3.2: A reptile monitoring station within a Box Gum Grassy Woodland Project site.**

Source: Photo by David Salt.

The program can justifiably be called groundbreaking because it required a longer-term perspective to the management of grants than has customarily been taken by Commonwealth governments. Consequently, the program contained many innovations, which were developed and implemented in a relatively short period of time. As we look back on what was achieved, we believe there are several important lessons for policymakers seeking to set up similar schemes in the future.

## **Designing for the long-term presents many challenges**

The original design of the program that supported long term payments for conservation management on private land was a significant achievement. The original budget — for the full funding term to 2026 — contained the necessary allocations for outsourcing the management of tenders to third-party providers, environmental and social monitoring, compliance, and extension support.

Retaining these features adequately through the implementation and maintenance phases of the program proved to be difficult due to a combination of factors, including budget pressures, changes in department staff, and changes in priorities and attitudes within government and the department towards how the program should best be managed. For example, the Box Gum Grassy Woodland Project featured ecological and social monitoring, and externally contracted delivery agents to manage site assessments and provided ongoing extension support to land managers. However, the Multiple Ecological Communities Project had few of these features. The challenge was presented by the fact that governments always retain the prerogative to reallocate limited funds, and other resources — and to shift priorities as circumstances change.

The translation of policy decisions into programs with long-term budgets can be difficult to maintain successfully over time. Original planning cannot deliver intended results without the institutional commitment and enduring support to implement a program as intended. This is a reflection of the vulnerability of agreed government policies and investment programs to shifting political ideologies and their preferences. Such shifts can limit long-term policy coherence in favour of short-term flexibility. This can, in turn, limit opportunities for securing enduring long-term environmental improvements. The major challenge for any future agri-environmental program will therefore be securing enduring bi-partisan political support, combined with institutional governance arrangements that make it more robust to withstand short-term pressures and shifting attitudes.

## **Land managers liked the program but there were a few surprises**

### **Land manager feedback**

The program was popular with land managers (Coggan et al. 2013; Ecker and Thompson 2010; Marsden Jacobs Associates 2010). The features of the program prompting the most positive feedback from land managers were site assessments and ongoing monitoring, information packs and evenings, and the use of state-and-transition models, which were used to explain the desired conservation

outcomes. Zammit et al. (2010) and Attwood and Burns (2012) provide further information on the use of state-and-transition models by the program. Zammit (2013a) outlines the social benefits to farmers from participating in incentive programs for conservation. Here we focus on land manager feedback, with selected quotes from land managers from semi-structured interviews.

To some, the offer of 15-year contracts was appealing; to others it was daunting. Some found the Commonwealth's interest (through weighting in the metric) in conservation covenants — deeds to land titles that define the limitations, conditions, or restrictions on the use of that land in perpetuity (see [www.environment.gov.au/topics/biodiversity/biodiversity-conservation/conservation-covenants](http://www.environment.gov.au/topics/biodiversity/biodiversity-conservation/conservation-covenants)) — was a barrier to participation, even though it was not a requirement to participate.

Many land managers were proud of their involvement and thought the department should go further to develop a brand for the program (something akin to current organic farming branding). The department did provide them with signs for display on properties (e.g. gates) that recognised their participation in the program, but did not develop a brand. As yet, there is no evidence of a clear market advantage to properties that have participated in such schemes, but as such schemes mature, the competitive advantages of products that arise from participating properties might be more evident:

I would like to see stewardship branded as a premium product. We have happy sheep and look after the environment — wouldn't you want to buy that wool?

Some saw the reverse auction process as confusing and undesirable:

I had a hard time coming up with a bid price because I didn't know what I was doing. Why don't you just tell us a flat price then we can decide if it is worth it?

At the outset, managers did not know a reasonable price to make direct offers, but after running multiple rounds within a region, there was sufficient price information for direct offers. This approach had already been successfully used in the Commonwealth's Tasmanian Forest Conservation Fund (Binney and Zammit 2010).



Some felt the management plans developed were too prescriptive and should be outcome-based rather than input-focused:

Rather than tell us what to do, you should have a hands-on person come around and pay us a bonus if we are getting the outcome you want.

## A few surprises

Implementation of the program produced some surprises, including a large number of requests for site assessments. For example, the Box Gum Grassy Woodland Project had initially budgeted for 150 site assessments, but received over 350 requests in round one. Project managers were further surprised by some applications worth millions of dollars over the contract period. To address this, managers introduced a capped total bid amount (e.g. \$3.5 million maximum over 15 years for the Multiple Ecological Communities Project).

From initial rounds, project managers discovered that land managers were generally costing their bids linearly. As efficiencies were expected, this made large holdings more expensive than anticipated. As the program was rolled out, concern grew within the department regarding what was an appropriate \$/ha/year figure for management. The concern was that, in many cases, it could be cheaper to purchase the property, as was the approach for funding the purchase and covenanting of private land through a state government or private entity under the National Reserve System. Under that approach, the new owner carries the ongoing costs to implement the conservation management plan.

In response to this concern, the Australian Government's Evaluation Panel (which was responsible for overseeing the process and recommending successful tenderers to ministers) developed a \$/ha/year cap as a red flag when evaluating Multiple Ecological Communities Project bids. This figure was informed by cost data from existing Box Gum Grassy Woodland Project contracts, such as the average annual cost and the variation from the mean. This information is commercial-in-confidence. However, in a commissioned review, Marsden Jacobs Associates (2010) reported that across the Box Gum Grassy Woodland Project, the average annual cost was \$202 per hectare per year, with significant variation around the average both within

and between regions. The actual figure used was not communicated to land managers, but the Evaluation Panel's discretionary powers to support their responsibility to make the best value for money judgements was communicated in the program guidelines (see, for example, [nrmonline.nrm.gov.au/catalog/mql:2408](http://nrmonline.nrm.gov.au/catalog/mql:2408)).

## Monitoring is important

In recognising that several kinds of monitoring and engagement activities are needed, a set of monitoring tools and approaches were developed for the program. These aimed to:

- Provide feedback to land managers to engage them to increase their understanding of the program and its aims, and to engender positive attitudes towards the environment.
- Provide information for compliance checking, risk management, grant acquittal requirements, and departmental reporting for the program.
- Provide rigorous evidence for the performance of the program in achieving its conservation and attitudinal change outcomes.

A structured approach should highlight the benefits from the investment, and the positive behaviours and attitudes of those participating. Critical components include annual (short term) compliance reporting by land managers against contracted obligations; longer term ecological monitoring to reveal ecological improvements; and longer term social monitoring to track changes in attitudes and priorities to biodiversity conservation among farmers.

These monitoring systems are coupled with extension support, which gives land managers somewhere to go for advice, and provides them with opportunities to build capacity and share their learnings with other land managers, researchers and government. Finally, monitoring systems require regular independent auditing of a proportion of contracts to help detect and deal with fraudulent activity at an early stage.

The lack of fit-for-purpose long-term biodiversity monitoring has been a source of considerable criticism, from both scientific and policy perspectives, of agri-environment schemes in Europe, as well

as earlier conservation initiatives in Australia (Kleijn and Sutherland 2003; Morrison et al. 2010; Lindenmayer et al. 2012). In recognising these shortcomings, the program contracted The Australian National University to undertake scientific monitoring of woodland sites on 153 farms in New South Wales and southern Queensland (Lindenmayer et al. 2012). Securing this monitoring project was a significant policy achievement, and was vital for determining progress towards achieving the program objective and desired outcomes.



**Figure 3.3: A native skink found in a monitoring station in a Box Gum Grassy Woodland Project site.**

Source: Photo by David Salt.

The monitoring project had an initial budget of \$2 million over four years. In 2013, the project was re-funded, but at half its initial budget. Consequently, the size of the monitoring has been adjusted by introducing rotational sampling, as described in Lindenmayer et al. (2012). In addition, some sites are no longer visited, such as those for which property ownership has changed and stewardship payments are no longer being made. Despite these changes, the monitoring project is still considered appropriate to assess many aspects of change in certain groups of biota, and woodland condition.

The results of the monitoring project are provided to the department in annual reports. These reports include evidence-based recommendations for alterations to the prescribed Box Gum Grassy Woodland Project grazing regime. To date, results from the monitoring indicate that the areas of vegetation being managed are on a different trajectory to the controls (currently being prepared for publication). More time is needed to understand these trajectories, but early indications are that the management plans are effective in achieving conservation outcomes. (See Kay et al. 2013 for an insight into reptile and amphibian assemblages at these sites.)

## Start simple and engage early and often

When seeking to establish a new biodiversity market, it makes sense to begin with a simple investment target, but one that is sufficiently recognisable and widespread to ensure a reasonable number of eligible participants. In the case of the Environmental Stewardship Program, the targeted asset was box gum grassy woodlands. This critically endangered ecosystem is distinctive and widely spread from north eastern Victoria across western NSW and into southern Queensland.

Building on the targeting of a single asset (i.e. box gum grassy woodlands), one can then use early learnings to improve effectiveness and efficiency through *increasing* the amount of land secured and *decreasing* the administrative costs associated with program management. In the case of the Environmental Stewardship Program, this led to introducing multiple ecological communities into the reverse-auction process, and thereafter to the design of a more generic, habitat-based approach to tender design. The habitat-based approach leads logically into more explicit consideration of how landscape-scale outcomes can be secured through formal inclusion of opportunities for creating corridors and other kinds of functional connectivity (see Chapter 11 for Geoff Kay's discussion on how the landscape-scale of an agri-environment program can affect outcomes).

Agri-environment schemes and markets for biodiversity are a novel idea to many land managers, so misinterpretation of the process and resulting contracts is a risk. It is important to investigate concerns early and to regularly engage with land managers. It is also important to use simple tools to communicate program intentions, operational

guidelines, and contractual conditions. As understanding grows and early successes become evident within rural communities, there is significant opportunity to build land manager capabilities for biodiversity conservation on their properties and to cultivate new social networks around these environmental assets. This is because some of the biophysical and social benefits from stewardship projects could be privately captured (i.e. be of personal rather than public benefit). This should help facilitate the acceptance of such programs within land manager communities (see Chapter 10 on restoring ecosystem services on private farmland).

## **Governance and administrative reforms are needed**

Several independent reviews provided valuable insights and generally concluded that the program was well designed (Ecker and Thompson 2010; Marsden Jacob Associates 2010; Whitten et al. 2011). During this time, it was also well regarded by the ministers for the environment, the scientific community, many farmers, and the National Farmers Federation. The program proved successful in targeting threatened ecological communities, and in highlighting the role played by other native habitats and the surrounding agricultural matrix in market-based conservation management on private land.

There were other benefits for the department in meeting its legislative requirements under EPBC, including improved knowledge of the location, condition, and extent of certain threatened ecological communities, with flow on benefits to recovery planning processes. Most recently, a senate committee inquiry into threatened species protection endorsed the Environmental Stewardship Program, and recommended longer time frames for funding (see recommendations 25 and 32 of the senate committee report at: [www.aph.gov.au/Parliamentary\\_Business/Committees/Senate/Environment\\_and\\_Communications/Completed\\_inquiries/2010-13/threatenedspecies/index](http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Completed_inquiries/2010-13/threatenedspecies/index)).

For all these benefits, however, there were also considerable challenges, and the Commonwealth closed the program to further investment rounds in 2012. While the authors do not know the reasons why the

program ceased further investment after two successful projects, we speculate several factors had some influence on that decision. As a relatively small and discrete investment, the program was vulnerable to cost-savings efforts during the more restrictive fiscal budgets from 2012. Second, the program never secured the political support of the mainstream environmental non-government organisations during its life, so no pressure was placed on government by them when funding was under threat.

The program, as originally approved, was designed to be innovative in addressing the long-term management of specific matters of national environmental significance on private land. But the realities of implementing an innovative conservation program through a Commonwealth bureaucracy, with rigid business processes, were broadly underestimated. Essentially, implementing reverse auctions was demanding because running a cycle of market-tenders inside a broader culture based around funding open-call public grants caused a range of procedural and time-critical constraints.

There was also the issue of dealing with scientific knowledge and its application, something essential in designing a program aimed at sustaining complex threatened ecosystems. The Commonwealth successfully administers a number of technically and scientifically complex policy areas (e.g. the Bureau of Meteorology, Great Barrier Reef Marine Park Authority, and the Antarctic Division within the Department of the Environment) which are resourced and willing to support scientific research and analysis in policy design and program management. However, this kind of approach to scientific knowledge and its application was not fully adopted for the Environmental Stewardship Program. Rather, it was delivered through the Caring for our Country (CfoC) initiative, and administered by a bureaucracy with a primary focus on managing a large and complex national grants program. (CfoC involved spending \$2 billion over four years.) However, an administrative culture more akin to those in the above Commonwealth areas, which have a strong scientific focus, will be critical to designing and implementing any future national agri-environment scheme successfully over an enduring period.

Institutional learning is a slow and iterative process, with inevitable pockets of resistance to change. Governance and administrative arrangements need to be made more responsive and adaptive to implementing new policy innovations — with scientific underpinnings — if there is a genuine commitment to significant policy reform.

Policy reform will take a long time, and will be built step by step through innovation and experimentation. The Environmental Stewardship Program experience showed that, although governments demonstrate that they are sometimes willing to try new ways to protect biodiversity, their administrative arrangements are often so inflexible that they stifle the original innovative idea and approach. Innovative policy instruments need to be supported by more flexible and adaptive governance arrangements and an enduring commitment to credible scientific input. If this can be achieved, governments will be best placed to successfully implement market-based conservation initiatives.

## Summary

Despite the challenges, we consider that the lessons learnt from the Environmental Stewardship Program can usefully inform future agri-environment schemes implemented by governments. Our key recommendations for any future public-funded and market-based program are:

1. Design and implement fit-for-purpose business processes and staff management strategies up front. Procurement plans that allow for ongoing provision of external services are needed, and land manager contracts should not be considered grants (and be regulated under grant guidelines). Rather, they should be commercial fee-for-service contracts to promote a business culture reflective of the service(s) the government is purchasing.
2. Focus on developing a more generic approach to maximising high-value biodiversity outcomes for as many priority investment targets (e.g. threatened species or ecological communities) as possible. A generic approach targeting habitat for multiple species/communities will minimise the knowledge intensity of program design. That is, it will reduce the need for species-specific or community-specific conservation value metrics and management

plans. This approach could also easily accommodate the design principles of the Multiple Ecological Communities Project, including conservation management actions in the adjoining matrix at little additional cost (Whitten et al. 2011).

3. Any habitat-based approach should continue to develop greater landscape-scale connectivity between properties and across catchments (Zammit 2013b). This can be achieved by designing biodiversity markets that also support corridor development and continue to manage the agriculture matrix more sympathetically for conservation.
4. A greater emphasis needs to be given to the development of conservation management plans and appropriate performance assessment of their effectiveness. In particular, different grazing management strategies used by any new agri-environment scheme should be monitored and compared, to inform future programs.
5. A direct offers option can be implemented once sufficient market price information is available. Subject to considering other conservation priorities and the availability of funds, there is scope to offer additional interested land managers a fixed \$/ha/year rate, and thereby improve efficiency and increase the area managed for biodiversity. A direct offer is a one-off offer of a contract by the government to a land manager with a stipulated price, duration, and management plan. The price is based on modelling price information from successful bids in previous tenders (see Binney and Zammit 2010 for a forest example). These land managers would hold an asset of quantified biodiversity value, as they would have participated in the initial aspects of a previous tender but either withdrew or were not successful. The subsequent fixed-price scheme would improve the return on investment for the program, which has high upfront costs because of the initial assessments, developing a suitable conservation value metric, and management plans.

Finally, a valuable outcome that the Commonwealth secured through this program (in addition to the hectares being managed) were the relationships forged with the contracted land managers and developed with the CSIRO and ANU. These relationships should be nurtured to foster further learning and trust (Gibbons et al. 2008). Effective conservation will come from mutual respect and common goals — the implementation phase of the program has provided the framework,



but ongoing land manager support to 2025/26 is needed for enduring success. The more educational support provided to generate effective conservation outcomes, the more likely it is that land managers will believe in the benefits of a change in management practice. This will become critical for the maintenance of asset condition beyond 2025/26, although regulatory frameworks which prevent wilful degradation of protected assets will also play a role, as will conservation covenants for a number of properties.

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