

BushBids

*Biodiversity Stewardship in the
Eastern Mount Lofty Ranges*

An initiative of the Maintaining Australia's Biodiversity Hotspots Programme



Australian Government



Government
of South Australia

South Australian
Murray-Darling Basin
Natural Resources
Management Board

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BushBids: Biodiversity Stewardship in the Eastern Mount Lofty Ranges. An initiative of the Maintaining Australia's Biodiversity Hotspots Programme

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Abbreviations

AMLR NRM Board:

Adelaide and Mount Lofty Ranges Natural Resources Management Board

DWLBC:

South Australian Department for Water, Land and Biodiversity Conservation

EMLR:

Eastern Mount Lofty Ranges

EPBC Act 1999:

Environment Protection and Biodiversity Conservation Act 1999

MABH:

Maintaining Australia's Biodiversity Hotspots Programme

NCSSA:

Nature Conservation Society of South Australia Inc

SABAT:

South Australian Biodiversity Assessment Tool

SADEH:

South Australian Department for Environment and Heritage

SA MDB NRM Board:

South Australian Murray-Darling Basin Natural Resource Management Board

TAC:

Technical Advisory Committee

Executive Summary

BushBids established stewardship agreements over 2,256 ha of native vegetation on private land in the Eastern Mount Lofty Ranges of South Australia. The initiative used a market-based approach (two rounds of single-sealed bid reverse auction) to negotiate and agree on management plans and actions for the conservation of native vegetation on private land. *BushBids* is an initiative of the Commonwealth Government's Maintaining Australia's Biodiversity Hotspots Programme and is administered by the SA Murray-Darling Basin NRM Board. *BushBids* was designed and implemented by O'Connor NRM Pty Ltd.

The original native grassland and grassy woodland communities of the Eastern Mount Lofty Ranges (EMLR) have undergone extensive fragmentation and modification, with only 8.4% of the original vegetation remaining. The native vegetation includes two vegetation types listed as threatened under the *Environment Protection and Biodiversity Conservation Act 1999* and contains a large number of threatened plant and animal species. The majority of remaining native vegetation is on private land and requires management to maintain its conservation values. *BushBids* aimed to protect and enhance the biodiversity values of the region.

The information and incentive program established by *BushBids* was designed to allow landholders to determine the price at which they would undertake the management actions necessary to conserve and protect the biodiversity values of the native vegetation. Eligible landholders were invited to tender a bid price for the management services they would agree to undertake. A cost:benefit score called the Biodiversity Benefits Index (BBI) was used to determine the relative value for money offered by each bid. This score was based on the calculated biodiversity benefits of undertaking the works on the site and the bid price. Landholders who offered acceptable value for money were offered contracts to provide the agreed management services.

Sixty-three landholders submitted expressions of interest resulting in the development of 77 management plans (some landholders had single plans for multiple sites). Sixty-three bids were submitted and management contracts were offered for 39 bids. The achievements of the project are summarised below as progress towards meeting the four key ecological objectives of *BushBids*:

OBJECTIVE 1: Protect and enhance the biodiversity values of the EMLR

Native vegetation is being managed at 70 sites including sites where six threatened plant communities, 8 threatened fauna species and 19 threatened flora species occur. Ten properties receiving funds are protecting and actively managing 408 ha of threatened plant communities. Twenty-one of the managed sites are habitat for eight vulnerable animal species.

Managed sites contain one endangered plant species, one vulnerable plant species and 17 rare plant species. The endangered *Prostanthera eurybioides* and the vulnerable *Acacia menzeli* each occur at 4 of the funded sites.

OBJECTIVE 2: Improve the condition of native vegetation in the EMLR

Comprehensive management plans were prepared for approximately 3000 ha of native vegetation on private land and management of threats to the condition of native vegetation is being funded on 2,256 ha. The outcomes of this management will be assessed in future years through a monitoring and evaluation process implemented during the *BushBids* project.

OBJECTIVE 3: Increase the area of native vegetation actively managed for conservation

Approximately 15% (2,256 ha) of the known (mapped) native vegetation on private land in the Eastern Mt Lofty Ranges is being protected and managed for biodiversity conservation under contracts through *BushBids*.

OBJECTIVE 4: Increase the area of native vegetation protected under long-term conservation agreements

The majority of *BushBids* sites will be protected and managed for a 10-year period under the *BushBids* Management Agreements. Sites representing nineteen existing (or pending) Heritage Agreements were funded for comprehensive management and an additional 9 new Heritage Agreement applications (representing 365 ha) were initiated by *BushBids*.

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1 Background

The extent of Australia's natural ecosystems has been dramatically reduced by land clearance and the condition of native vegetation is under continued threat from invasive species, livestock grazing, firewood collection and competing land management priorities. In order to minimise further loss of biodiversity, the protection and enhancement of natural ecosystems through appropriate management is needed. Protecting intact ecosystems has been shown to be seven times more cost effective than trying to re-establish the vegetation after degradation (Figgis 2003).

Seventy percent of Australia's remaining native vegetation occurs on privately owned land (private freehold, leasehold or indigenous title; Figgis 2003). Private landholders therefore have a critical role to play in the management of native vegetation and the conservation of Australia's biodiversity. However, as biodiversity conservation provides a significant public benefit, it may be appropriate to provide financial assistance to landholders for management of remnant vegetation on private land (Stoneham et al. 2003).

The Maintaining Australia's Biodiversity Hotspots (MABH) programme¹ was implemented to take a cost-effective, proactive approach to managing threats in high conservation value areas that are still relatively intact. Managing the threats effectively requires taking a whole of landscape approach, across all tenures, to promote active, ongoing conservation management. The MABH programme aims to improve the conservation of biodiversity hotspots on private and leasehold land by enhancing active conservation management and protection of existing terrestrial and freshwater ecosystems as habitat for native plants and animals.

The Eastern Mount Lofty Ranges was identified as a biodiversity hotspot because

- the area has high diversity of endemic species.
- current, planned or potential management activities place the natural values at risk, and it is likely this risk will increase in the future in the absence of active conservation management.
- the area has the potential to provide value-for-money in contributing to conservation of biodiversity.

The Eastern Mount Lofty Ranges Stewardship Initiative (*BushBids*) was the first stewardship-based initiative to be established under the MABH programme and is delivered in partnership with the South Australian Murray-Darling Basin Natural Resource Management Board and the Adelaide and Mount Lofty Natural Resource Management Board. *BushBids* provides direct financial support to landholders to help them protect existing natural habitats with high conservation values. Contracts with landholders were established on a value-for-money basis.

The design and development of *BushBids* began in 2004 with competitive auctions held in 2006 and 2007. Landholder payments associated with some contracts will continue up until 2016.



¹ MABH website: <http://www.environment.gov.au/biodiversity/hotspots/publications/programme.html>

2 Introduction

The primary aim of *BushBids* is to improve the management of native vegetation on private land in the Eastern Mount Lofty Ranges (EMLR), by establishing long term protection and conservation management through agreements with private landholders.

2.1 Objectives

Ecological objectives

- protect and enhance the biodiversity values of the EMLR
- improve the condition of native vegetation in the EMLR
- increase the area of native vegetation actively managed for conservation
- increase the area of native vegetation protected under long-term conservation agreements

Programme objectives

- provide an incentive for changing land management decisions and practices
- provide autonomy for landholders in determining commitments, actions and price
- provide economic and social benefits for participating landholders
- increase the public and landholder understanding of biodiversity in the EMLR
- increase the capacity of stakeholders for implementation of market-based approaches to conservation in South Australia
- allocate public funds to achieve the highest biodiversity gain per unit cost (using evidence based decision making)

Project Management objectives

- minimise the ratio of administration and delivery costs to funding committed on-ground
- maximise the accessibility of the programme
- provide an open and transparent process
- value add to existing programmes
- make use of existing data and information where possible

2.2 Use of a conservation tender

Traditional methods of influencing managers of privately owned native vegetation have used tax incentives, fixed-price grants, extension and education schemes etc. Tender or auction-based environmental stewardship schemes have been proposed as mechanisms for auctioning contracts for conservation works (Latacz-Lohmann and Van der Hamsvoort, 1997). Recent projects in Australia have used auction-based approaches to pay landholders or lessees to undertake conservation activities to protect and enhance the condition of native vegetation on their properties (e.g. Stoneham et al, 2003; Bryan et al, 2005; Department of Sustainability and Environment, 2008). Some of the recognised benefits of these schemes are that competitive bidding can increase the cost-effectiveness of establishing contracts (compared to fixed-rate payment schemes) as landholders reveal their costs in the bidding process. Additional benefits from well designed schemes include: a necessary focus on the use of evidence of conservation value to prioritise contracts; potential for establishing holistic and flexible contracts for native vegetation management; and, a level of transparency in awarding contracts.

Major projects adopting these approaches have included the US Conservation Reserve Program, the Victorian Bush Tender Program and European agri-environment schemes such as the European Financial Instrument for the Environment. The recently announced Commonwealth Government funded 'Environmental Stewardship Programme' will also use this approach (Commonwealth of Australia 2007).

The conservation tender approach adopted in *BushBids* aimed to facilitate the efficient, accountable and well-targeted allocation of funds. Detailed site assessments were carried out for participating landholders and management plans were negotiated and documented the commitments and actions landholders agreed to provide. Landholders submitted single-price sealed bids, these were assessed using a metric developed for use in the Eastern Mount Lofty Ranges and funding was allocated to bids representing the highest value for money. Landholder's whose bids were successful were invited to enter into an agreement with the South Australian Murray-Darling Basin Natural Resource Management Board to undertake the management actions detailed in their management plans and to receive periodic payments of the agreed bid price.

3 Project Area

3.1 Geographic area and extent

The *BushBids* project boundary covers 274,667 ha in the Eastern Mount Lofty Ranges (EMLR) (Figure 1). It includes the towns of Strathalbyn, Mt Barker, Palmer, Harrogate, Mount Pleasant, Eden Valley, Angaston and Truro. The majority of the *BushBids* area is located within the SA Murray Darling Basin Natural Resource Management Region (approximately 90%), with the remaining area occurring within the Adelaide and Mount Lofty Ranges Natural Resource Management Region.

3.2 Land use²

There are more than 5000 land parcels in the *BushBids* project area, with an average parcel size of approximately 38 ha. There are approximately 2,500 individual owners who have more than 1 hectare. The main land uses in the area are grazing modified pastures (71%), crop/grazing rotations (15%), and horticulture (e.g. wine grapes, tree crops and vegetables; 1.5%).

3.3 Biodiversity

The native vegetation of the eastern slopes of the Mount Lofty Ranges has undergone extensive clearance, fragmentation and modification. Only 8.4% of the original native vegetation remains, and most of this occurs on private land. Threats to biodiversity in this area include the effects of fragmentation, isolation and small remnant size, competition from weed species and competition, grazing and predation from feral animal species, competing land use priorities and inappropriate management practices.

The vegetation community types identified for the Eastern Mount Lofty Ranges (NCSSA, 2005) include:

1. Eucalypt Forests and Woodlands with a Dense Sclerophyll Shrub Understorey
2. Forests and Woodlands with an Open Sclerophyll Shrub Understorey
3. Woodlands with an Open Shrub and Grassy Understorey
4. Gully forests
5. Watercourse Vegetation
6. Swamp Vegetation
7. Coastal Communities (present in the Southern Mount Lofty Ranges but not represented in the EMLR)
8. Samphire Communities
9. Mallee over Very Open Understorey
10. Shrublands

The vegetation associations and known extent within the *BushBids* project boundary are listed in Appendix 1.

Many plant and animal species threatened at the regional, state and national levels are found within the *BushBids* project area as are the nationally critically endangered ecological communities: Peppermint Box Grassy Woodland of South Australia and Iron-grass Natural Temperate Grassland of South Australia. Remnant native vegetation in this area provides vital habitat for these species and communities as well as the declining woodland birds of the Mount Lofty Ranges.



² Figures based on analysis of parcels > 1ha in the Fleurieu IBRA sub-region approximately co-incident with the *BushBids* boundary.

Figure 1. *BushBids* project boundary within the Eastern Mount Lofty Ranges, South Australia



4 Development and implementation of the *BushBids* tender process

BushBids land management contracts for each site were developed based on field assessments of distinct units of native vegetation and on discussions with land managers about the most appropriate and achievable management actions for each site. The selection of contracts for investment was undertaken through a competitive tender, where land managers submitted a bid price (single-sealed bid price) to undertake the actions described in the Management Plan. Contracts were awarded based on value for money in achieving biodiversity conservation objectives. Contracts were awarded through two rounds of tender selection.

This section provides a brief outline of the steps undertaken in the development and implementation of *BushBids* and then provides more detailed descriptions of selected aspects of these processes.

4.1 Steps involved in the development of the *BushBids* tender process

The steps involved in developing the *BushBids* tender process are outlined in Figure 2 and Table 1.



Figure 2. *BushBids* process showing landholder involvement

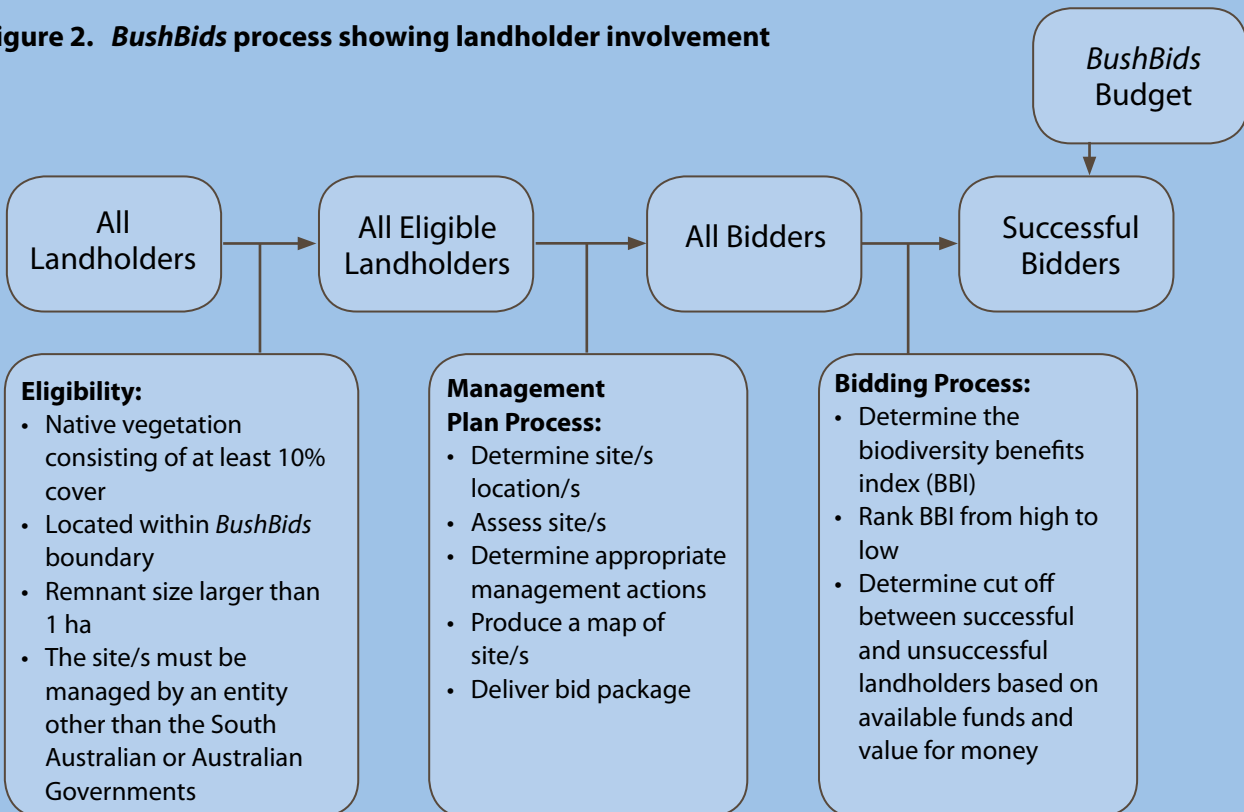


Table 1. The steps and procedures involved in the development of *BushBids*

Steps	Procedures#
Assessed / controlled the size of the market	<ul style="list-style-type: none"> • The approximate area of native vegetation and vegetation types on private property was determined. • The uptake rate of the incentive scheme was estimated by determining the number of private properties with native vegetation in the region. • An open-ended Expression of Interest period was used to reach the desired amount of hectares.
Determined landholder and property eligibility for participation in <i>BushBids</i>	Project area boundaries were determined from landscape features and plant community types (refer to Figure 1).
Determined available information and datasets on native vegetation	Accessed and used existing data (e.g. flora lists, locations of threatened species, Heritage Agreements, conservation reserves, native vegetation cover and floristic datasets).
Established project data and database management systems	<ul style="list-style-type: none"> • Expression of interest data • Site assessment / Management Plan data • Mapping data • Database generated scores • Bid assessment data • Management Agreement data • Survey data • Project management • Annual reporting data
Established vegetation benchmarking procedures	Bushland Condition Monitoring method was modified for <i>BushBids</i> by NCCSA for the EMLR.
Established landholder essential commitments and minimum management standards	Established and communicated essential commitments and minimum management standards for management services.
Determined overhead to on-ground action ratio	Cost benefit calculation
Developed project management process and timeframe	Gantt chart and project milestone plan developed
Determined best advertising/ communication methods for expression of interest from landholders	<ul style="list-style-type: none"> • <i>BushBids</i> was advertised in local papers and by regional NRM officers who contacted landholders and by word of mouth • A brochure and four factsheets were developed and disseminated detailing the project and process (Appendix 2) • An information session (at Callington) was conducted for interested landholders (advertised in local papers) • A meeting was held for NRM officers and information on the programme provided
Modified SABAT (SA Biodiversity Assessment Tool Database)	SABAT was modified for <i>BushBids</i> use in the EMLR by incorporating additional facilities for scoring conservation values and benefits resulting from proposed management services.

Steps	Procedures#
Determined scoring system and Biodiversity Benefits Index	<ul style="list-style-type: none"> • The metric used to assess the value for money offered by bids was established as: • Biodiversity Benefit Index = • Conservation Value Score x Management Service Score/ Bid Price • Conservation Value Score was based on habitat condition, landscape context and conservation significance. Management Service Score was based on the management service the landholder agrees to undertake. The landholder determined the bid price. • Refer to section 4.4 for a more detailed explanation.
Adjusted process to interact and fit with existing schemes and legislation	<p><i>Including the Native Vegetation Act 1972, Heritage Agreement scheme, fire management, Natural Resources Management Act 2004 (animal and plant control statutory obligation), non-market based incentive programmes and future incentive schemes. Landholders agreeing to seek covenants under the Heritage Agreement scheme were eligible to offer the biodiversity services of permanent protection with stipulation that application to SADEH must occur within the first year of BushBids funding.</i></p>
Established site assessment methods and trained site assessors	<ul style="list-style-type: none"> • Information and guidelines were developed for site assessments (Bond et al, 2005) • Field datasheets were developed for the site assessments • Site assessors were trained in assessing bushland condition and determining appropriate management services. They were also trained in data entry into SABAT and the development of the Management Plans. Refer to Appendix 3 for details of the training site assessors received.
Determined Management Plan outline and mapping layout	<p>Templates for the Management Plan, including weed and animal control procedures and mapping layout were developed (Appendix 4 and 5)</p>
Established site assessment data storage	<p>SABAT database was provided to site assessors for data entry. Site data was also entered into the Management Plan template.</p>
Established probity protocols with PSI Consulting.	<ul style="list-style-type: none"> • Probity plan • Bid evaluation plan • Conflict of interest policies
Establish quality control protocols	<ul style="list-style-type: none"> • Consistency protocols were established for: • Site assessments • Landholder discussions • Management plan development • Data management • Information and communication management
Established rules for evaluation of bids	<ul style="list-style-type: none"> • Developed an evaluation process (including bid evaluation plan)
Drafted contract agreement and payment schedules	<p>Developed contract agreements and payment schedules (Appendix 6)</p>
Determined monitoring, evaluation and auditing methods	<p>Developed guidelines and protocols (refer to Appendix 7)</p>

#NB: some changes were made to procedures after evaluation of the first round of bidding. Procedures shown represent those used in the second round where they were modified.

4.2 Implementation

There were eight main steps to implementing *BushBids*:

- 1. Expression of Interest:** The project called for expressions of interest from landholders. Landholders registered an interest by phoning *BushBids*. To be eligible landholders must have patches of remnant vegetation located in the EMLR. Landholders who were eligible were sent information on the *BushBids* process.
- 2. Site Assessment (management):** Interested landholders received a site visit and discussed with the site assessor the best options for best practice and achievable management actions for native vegetation on their property. For example: fence native vegetation, prevent/reduce grazing, control weeds and undertake supplementary planting.
- 3. Site Assessment (biodiversity value):** An assessment of the biodiversity value of each site was undertaken, including a site assessment of native vegetation structure, function and diversity; calculations of landscape values built from best available GIS data; and conservation priorities of the project, State and Australian Governments. In addition, 29 reference sites were assessed for biodiversity value to facilitate the evaluation of the incentive scheme.
- 4. Site Information:** The landholder received a Management Plan outlining agreed targets for conservation management and improvement of native vegetation condition, agreed management actions for each key threat or asset in the native vegetation for each year of the contract agreement (5 or 10 years), and a list of minimum standards specific to each identified threat. Included with this Management Plan were measures of the management service being offered, the overall bushland condition and individual indicators of the condition ('health') of the native vegetation at the site.
- 5. Bidding Instructions:** The landholder was asked to submit a sealed bid nominating the price they were seeking to undertake the agreed Management Plan.
- 6. Bid Evaluation:** All bids were assessed objectively on the basis of current conservation value of the vegetation, the services (management actions) to be supplied and the price the landholder bid. Bids were converted to a ranking of biodiversity value-for-money and the highest value-for-money options were funded to undertake the agreed actions.

7. Contract: Successful landholders were invited to sign a Management Agreement contract based on the agreed Management Plan.

8. Payment: Payments will occur annually based on the landholder undertaking the agreed management actions which they document as part of an annual reporting process.

Please refer to Appendix 8 for a detailed outline of implementation and timeline

4.3 Assessing the market

To optimise the efficiency of delivery of the project an assessment of the market for conservation contracts was undertaken and the process was designed to make optimal use of the available funding.

This was achieved by

- Identifying the ideal success rate and anticipated range for price per hectare from a review of previous incentive programs, material costs and experience from interstate.
- Determining the approximate area of native vegetation and vegetation types on private property (land use analysis).
- Developing a participation model to determine optimal levels of expression of interest, using an open-ended Expression of Interest period. The EOI period was closed when the target number of participants and hectares were registered (calculated from participation model).
- Establishing a rationale for two rounds (building confidence in the process, building the market, improving accessibility, providing opportunities to improve delivery).

4.4 Assessing bid value

The Metric

The metric used to assess the value of bids was developed from a modified version of the biodiversity benefits score developed by Oliver and Parkes (2003). Additional thinking from the Victorian Bush Tender program was incorporated, with modifications made to accommodate the use of alternative systems for assessing habitat condition and landscape context, management services relevant to the land use and threats to biodiversity in the region, and South Australian information for threatened species and ecological communities.

The score used to rank the bids in order of biodiversity value for money is referred to as the Biodiversity Benefits Index (BBI) and was based on the following calculation:

$$\text{Biodiversity Benefits Index (BBI)} = \frac{\text{Conservation Value Score (CVS)} \times \text{Management Services Score (MSS)}}{\text{Landholder Bid Price (\$)}}$$

The **Landholder Bid** Price is the price in dollars that the landholder bid to provide the agreed Management Services.

The **Conservation Value Score (CVS)** is a composite of the Conservation Significance Score (CSS), Landscape Context Score (LCS) and Bushland Condition Score (BCS). It was calculated as follows:

$$\text{Conservation Value Score (CVS)} = ((\text{Conservation Significance Score} + \text{Landscape Context Score}) \times \text{Bushland Condition Score}) / 200$$

Conservation Significance Score (CSS) is the sum of the Threatened Communities Score and the Threatened Species Score. The Threatened Species and Communities Scores were based on the presence of threatened species or ecological communities at the site. The presence of endangered or vulnerable species (but not rare species), listed under the SA *National Parks and Wildlife Act 1972*, 2000 threatened species schedules review contributed to this score. Threatened ecological communities were based on SADEH (2001) unpublished Provisional List of Threatened Ecosystems in South Australia cited in NCCSA (2005).

Landscape Context Score (LCS) is calculated in the SABAT database, based on native vegetation mapping and includes scores for the following:

1) Regional context:

- biodiversity priority areas
- regional corridors

2) Local context:

- area or patch of native vegetation in which the assessment patch is situated
- native vegetation within the neighborhoods: 100m, 500m, 2000m from patch
- distance to core area of native vegetation patch greater than 50 ha

3) Site context:

- site is adjacent to existing remnant
- site area connects two or more remnants
- site area incorporates a riparian zone
- site area contains rocky habitat
- assessment area has a large area to perimeter ratio

The **Bushland Condition Score (BCS)** is the sum of the Vegetation Condition Indicator Scores. Vegetation Condition Indicators include: Species Diversity, Weed Abundance and Threat, Structural Diversity A: Ground Cover, Structural Diversity B: Plant Life Forms, Regeneration (Trees), Tree and Shrub Health (Dieback), Fallen Logs and Trees and Habitat Tree Density (per Ha), and were assessed according to the Nature Conservation Society’s Bushland Condition Monitoring Manual techniques and benchmarks (Croft, Pedler and Milne 2005; NCCSA 2005).

The **Management Services Score (MSS)** was based on the Management Services that the landholder agreed to undertake, the maximum possible management services points for the site, the site area, the length of the proposed Management Agreement and the covenant status. This is calculated according to the following:

$$\text{Management Services Score (MSS)} = (1 + (\text{management services points} / (\text{maximum management service points} \times 5)) \times \text{site area (ha)} \times (\text{Management Agreement length and covenant status points}))$$

Assessing bushland condition

The condition of native vegetation at each proposed site was assessed using the Bushland Condition Monitoring technique developed by the Nature Conservation Society of South Australia. This method examines a range of indicators of bushland health relating to structure, function and diversity and is based on measurements taken in representative assessment patches. Selected indicators used for *BushBids* assessments are described in more detail in Appendix 9. For a complete description of the method see Croft, Pedler and Milne (2005).

This method of condition assessment was selected because it offered the best opportunity to meet multiple project objectives. The accuracy and validity of this method ensured project decisions were based on the most reliable and valid evidence available. As a rapid assessment technique, which could be used to assess 2-3 sites per day, it offered an excellent balance of accuracy and practicality, allowing implementation costs to be kept down.

By adopting this recently published method, *BushBids* was able to save the cost of developing a new method and increase the capacity of NRM practitioners to understand the existing method’s application and value. *Bushbids* was also able to add value by significantly increasing the bushland condition dataset for the state.

Assessing landscape context

SABAT landscape context scoring was based on the work of Oliver (2002) and Oliver and Parkes (2003). This work was modified and operationalised in the SABAT. Details of landscape context scoring are listed in Derby (2005).

Assessing management services

Management services were classified into three groups: essential commitments, maintenance activities and improvement activities. Essential commitments included: no fertiliser application or artificial feeding; no soil disturbance (beyond that which is necessary for agreed management actions); no cropping, new dams, drainage alteration or rock removal. Maintenance activities included: excluding stock (in non-grassy ecosystems) or a commitment to graze (or other biomass reduction) at an agreed timing and frequency (in grassy ecosystems) and agreeing to retain all dead trees, fallen logs and branches and plant litter. Improvement activities included managing all significant threats at the site, for example management of high threat weed species, feral animals, erosion, and in some circumstances involved supplementary planting.

Management points were awarded for the maintenance and improvement activities proposed, and were structured to account for the current condition of the site and the expected outcome of undertaking the proposed management services. The length of the proposed Management Agreement and the covenant status of the site were also valued in the management services score.

As part of the site assessment, *BushBids* officers discussed management options and intentions for management with the landholder, using the information from the site assessment as a basis for determining biodiversity assets and threats. Landholders received a record of this discussion and this information was then used to draft the Management Plan. Minimum standards for the management actions were developed and provided to landholders in an information sheet (see Appendix 2) at, or prior to, the site assessment.

4.5 GIS and data management

BushBids used the South Australian Biodiversity Assessment Tool (SABAT) to manage data and for the assessment of bids. SABAT was originally developed by the State Government Department for Water, Land and Biodiversity Conservation, to assess the value of native vegetation for the Upper South East Dryland Flood and Salinity Program. Like *BushBids*, this program based the value assessments on the core methodologies of the Bushland Condition Monitoring Manual, and therefore only relatively minor modifications were needed to extend the functionality of SABAT to meet the requirements of *BushBids*.

Both GIS and database functions are used by SABAT to allocate a biodiversity significance index to a site or patch of native vegetation.



Each patch of native vegetation was mapped using ArcMap and both the vegetation condition information and the spatial location of the sites were stored within the Geodatabase. Modifications made to SABAT included the incorporation of facilities for storing additional information, scoring conservation value and management services, and using these in the calculation of the Biodiversity Benefits Index. Please refer to Appendix 10 for a list of the data layers used by SABAT.

SABAT was not only used to store information and to calculate the Biodiversity Benefits Index. It was also used to provide a preliminary assessment of site eligibility (based on location); preparation for on-site assessments (reviewing existing data e.g. the presence of threatened species or previous vegetation survey sites); to map participating sites accurately and to provide this information graphically in the Management Plan. The GIS function was also used to assess the landscape context based on native vegetation extent mapping and on-site verification.

As described above with regard to the use of the Bushland Condition Monitoring Method, the use and extension of the existing tool, SABAT, met many of the objectives for delivery of *BushBids*. By adopting an existing Geodatabase, the cost of developing a new tool was saved while the functionality of the tool was extended to cater for programs using a market based approach. The profile and potential of SABAT was also raised among NRM practitioners.

All data entered or calculated in SABAT were verified by cross-checking data entry and a random sampling method for identifying anomalies.

4.6 Communication

Critical to the success of *BushBids* was effective communication of the project's objectives and processes. As the tender mechanism used in *BushBids* was new to the area, some information barriers had to be overcome to provide confidence in the approach and recruit landholders willing to enter bids and enter contracts for long-term conservation. Key approaches to ensuring communication was effective and effectively targeted included

- understanding the market (characteristics, values, aspirations)
- using a variety of communication channels that landholders are likely to respond to
- advertising the *BushBids* programme in local newspapers and providing information to NRM officers through regional meetings

- encouraging the established NRM officer networks to connect with landholders, providing a 1300 number for information, providing information packages for interested parties and holding an information session in the region for interested landholders (advertised in local papers)
- providing information on the project at appropriate stages in the process
- incorporating feedback from participants from the first round of the auction into the design of the second round
- evaluating participant experiences
- providing information from evaluation as feedback to participants

Key issues communicated to participants regarding bid development

- Given the aim to let the market set the price, no information or advice was given to landholders about anticipated cost of management services.
- Participants were advised to give primary consideration to the cost of undertaking the agreed actions, and secondly to consider the competitiveness of this cost.
- Participants were advised to seek independent advice regarding the tax implications of receiving funding through this scheme
- Participants were at liberty to seek independent advice and support in formulating the bid.

In order to assist the participants to understand how their bid might be valued in relation to the maximum value possible for their bushland, a number of scores were provided with the Management Plan package. The overall Management Services and Bushland Condition scores were provided to landholders in both auction rounds for each *BushBids* assessment site. In the second auction round, scores for each Bushland Condition Indicator were also provided.

The **Management Services Score (%)** was calculated as a score for the actions that the landholder agreed to undertake to maintain and improve the habitat value of the sites covered by the *BushBids* Management Plan. The Management Services Score was given as a percentage of the maximum points that could be scored for the highest level of maintenance and improvement commitments possible at the site/s.

The **Bushland Condition Score (%)** was calculated as an aggregate score representing the current condition of the sites covered by the *BushBids* Management Plan, relative to a benchmark condition for vegetation of that type in the Eastern Mount Lofty Ranges. The Bushland Condition Score was given as a percentage of the benchmark score.



Bushland Condition indicators were rated on a five-point scale from excellent, through good, moderate and poor, to very poor. It is important to note that the ratings do not necessarily indicate the conservation value of the bushland as in some cases bushland in poor condition may have high conservation value. These ratings were provided as advice about the current condition of vegetation at the site/s and may also be used to assist with tracking changes in site condition over time. Table 2 shows an example of the Bushland Condition Indicators and ratings given for a site.

Table 2. Bushland condition ratings for an example site[^]

Bushland Condition Indicator	Condition Rating
Plant Species Diversity	Moderate
Weed Abundance and Threat	Poor
Structural Diversity A - Ground Cover	Good
Structural Diversity B- Plant Life Forms	Poor
Regeneration of Native Trees*	Not Applicable
Tree Health- Dieback*	Not Applicable
Tree Health- Lerp Damage*#	Not Applicable
Tree Health- Mistletoe*#	Not Applicable
Tree Habitat*	Not Applicable
Fallen Logs and Trees*	Not Applicable
Total Grazing Pressure#	Moderate

[^] Bushland condition ratings were only included for round 2.

* these condition indicators will not be applicable for some types of native vegetation, e.g. native grasslands.

these condition indicators were measured as part of the assessment but do not contribute to the overall bushland condition score.

5 BushBids Results

5.1 Results of auction rounds 1 & 2

The *BushBids* project developed native vegetation Management Plans for 121 sites of native vegetation representing 2,962 ha (see Table 3 for a summary of the enquiries, expressions of interest, bids, bid prices and bid evaluation results). Sixty-three landholders submitted expressions of interest resulting in the development of 77 Management Plans (some landholders had single plans for multiple sites). Sixty-three bids were submitted. Fourteen landholders (18%) did not submit a bid for a variety of reasons.

BushBids was successful in securing and funding 70 sites (2,256 ha) representing 39 Management Agreements or 62% of the submitted bids. The average price of management services for successful bids was much lower (average \$59 ha/year) compared to the average price of unsuccessful bids (average \$325 ha/year). The average site area of successful bids was 58ha, while the average site area of unsuccessful bids was 13ha. Overall \$1,229,677 were committed for investment in landholder payments for comprehensive conservation agreements. Most sites required weed and animal control, while a small number required fencing and supplementary planting.

In auction round 1, the total price for the 33 bids submitted was \$1,286,338, more than double the funds allocated for *BushBids* in the first round. The cumulative price of the bids (working from the best value for money to the least) was approximately equivalent to the available funds at the 19th bid (\$622,510) and within the acceptable range of prices for the services offered (Figure 3).

In auction round 2, the available funds were \$663,828. The total price for the 30 bids submitted was \$781,082. Twenty-one bids (cumulative price of \$652,522) (Figure 3) represented acceptable value for money and were offered contracts. The land area offered in auction round one was 1394 ha compared with 862 ha in auction round 2.

Figure 4 shows the price per biodiversity benefit (bid price / conservation value score x management services score) gradually increasing with bid rank in the two auction rounds.

The locations of sites assessed in both rounds of *BushBids* (successful and unsuccessful) and the reference sites (monitoring control sites) are shown in Figure 5.



Table 3. Summary of enquiries, expressions of interest and bids

Stages	Details	Results - Round 1	Results - Round 2
Number of landholder enquiries	Number of interested landholders enquiring during Eol period	50	38
	Number of landholders enquiring after Eol had closed	7	0
Expression of Interest within boundary	Number of expression of interests within <i>BushBids</i> boundaries	31	32
	Number of sites assessed	60	61
	Total area of land in Eols	1,845 ha	1,117 ha
	Percentage of known (mapped) native vegetation on private property within <i>BushBids</i> project boundary	12.3%	7.5%
	Number of management site assessments (sites requiring Management Plans)	67	67
	Number of Management Plans prepared (= number of potential bids) ¹	39	38
Bids submitted	Number of bids submitted ²	33 (50 sites)	30 (49 sites)
	Total area of land in bids submitted	1687 ha (average 51 ha per property)	948 ha (average 32 ha per property)
	Total price of all bids submitted	\$1,286,338	\$781,082
	Average \$ / biodiversity benefit (1/BBI)	\$178 biodiversity benefit	\$63 biodiversity benefit
	Average bid price	\$82.4 ha/year	\$102.1 ha/year
	Percentage of known (mapped) native vegetation on private property within <i>BushBids</i> project boundary	11.3%	6.3%
Successful agreements (accepted)	Number of landholders who accepted the contract agreement ³	18 (28 sites)	21 (42 sites)
	Total land area of accepted bids	1394 ha (average 77 ha per property, range 3 ha to 523 ha)	862 ha (average 41 ha per property, range 4ha to 15 ha)
	Total price of accepted bids	\$577,155	\$652,522
	Average \$ / biodiversity benefit (1/BBI)	\$31 biodiversity benefit	\$35 biodiversity benefit
	Average bid price	\$46.6 ha/year	\$79.5 ha/year
	Number of Management Plans established for 10 year agreements ⁴	14 (1,288 ha)	19 (850 ha)
	Number of Management Plans that have Heritage Agreement (HA), or HA being processed ⁵	10 (442 ha)	9 (291 ha)
	Number of new HA applications	2 (72 ha)	7 (293 ha)
Percentage of known (mapped) native vegetation on private property within <i>BushBids</i> project boundary	9.3%	5.75%	

Stages	Details	Results - Round 1	Results - Round 2
Unsuccessful bids	Number of unsuccessful bids	14 (27 sites)	8 (12 sites)
	Total land area of unsuccessful bids	232 ha (average 16.5 ha per property, range 0.6 ha to 84 ha)	58 ha (average 7.3 ha per property, range 2.4 ha to 17.3 ha)
	Total price of unsuccessful bids	\$663,828	\$235,010
	Average \$ / biodiversity benefit (1/BBI)	\$368 biodiversity benefit	\$136 biodiversity benefit
	Average bid price	\$297.2 ha/year	\$430.3 ha/year
	Number of Management Plans for 10 years ⁶	13 (221 ha)	7 (42 ha)
	Number of Management Plans that have Heritage Agreement (HA), or HA being processed ⁷	5 (71 ha)	6 (49 ha)
	Percentage of known (mapped) native vegetation on private property within <i>BushBids</i> project boundary	1.6%	0.4%
Successful bids for rounds 1& 2	Number of successful bids	39 (70 sites)	
	Total land area of successful bids	2,256 ha (average 58 ha per property)	
	Total price of successful bids	\$1,229,677	
	Average \$ / biodiversity benefit (1/BBI)	\$33 biodiversity benefit	
	Average bid price	\$59.0 ha/year	
	Number of Management Plans for 10 years	33 (2,138 ha)	
	Number of Management Plans that have Heritage Agreement (HA), or HA being processed	19 (733 ha)	
	Number of new HA applications	9 (365 ha)	
Percentage of known (mapped) native vegetation on private property within <i>BushBids</i> project boundary	15%		

Explanatory Notes

	<i>BushBids Round 1</i>	<i>BushBids Round 2</i>
¹	<i>includes Management Plans for multiple sites</i>	<i>includes Management Plans for multiple sites</i>
²	<i>6 landholders did not submit a bid (10 sites in total, 157.7 ha)</i>	<i>7 landholders did not submit a bid (10 sites in total, 132.8 ha) & 1 landholder was ineligible- late with bid price (2 sites, 36.3 ha)</i>
³	<i>1 landholder pulled out of the contract agreement (61.9 ha, 2 sites, bid price \$45,355)</i>	<i>1 landholder pulled out of the contract agreement (27.5 ha, 1 site, bid price \$17,750). A second round offer was then made to the next ranked unsuccessful landholder. This landholder accepted.</i>
⁴	<i>remainder for 5 years (106 ha)</i>	<i>remainder for 5 years (12 ha)</i>
⁵	<i>6 Management Plans have no Heritage Agreement (880 ha)</i>	<i>5 Management Plans have no Heritage Agreement (278 ha)</i>
⁶	<i>remainder for 5 years (11 ha)</i>	<i>remainder for 5 years (16.5 ha)</i>
⁹	<i>9 Management Plans had no Heritage Agreement (161 ha)</i>	<i>2 Management Plans had no Heritage Agreement (9.3 ha)</i>

Figure 3.
Cumulative cost of bids
(auction rounds 1 & 2)

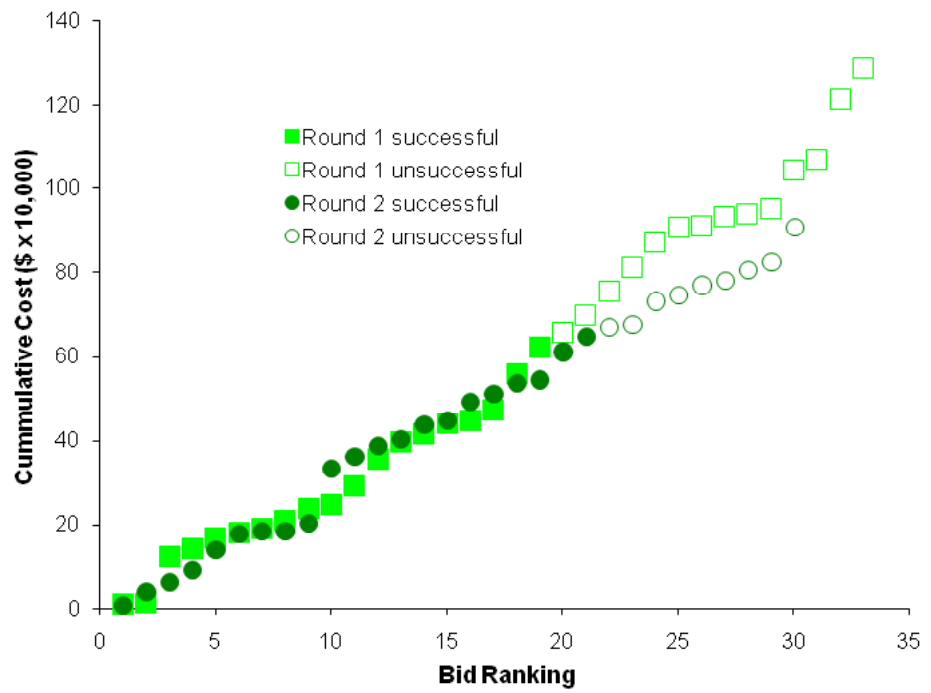
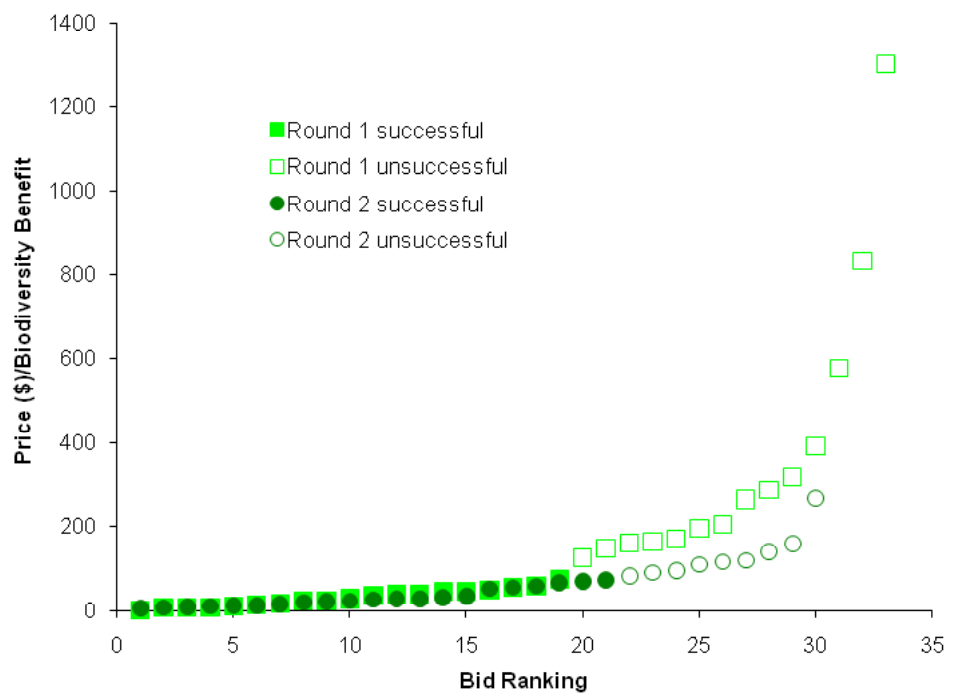
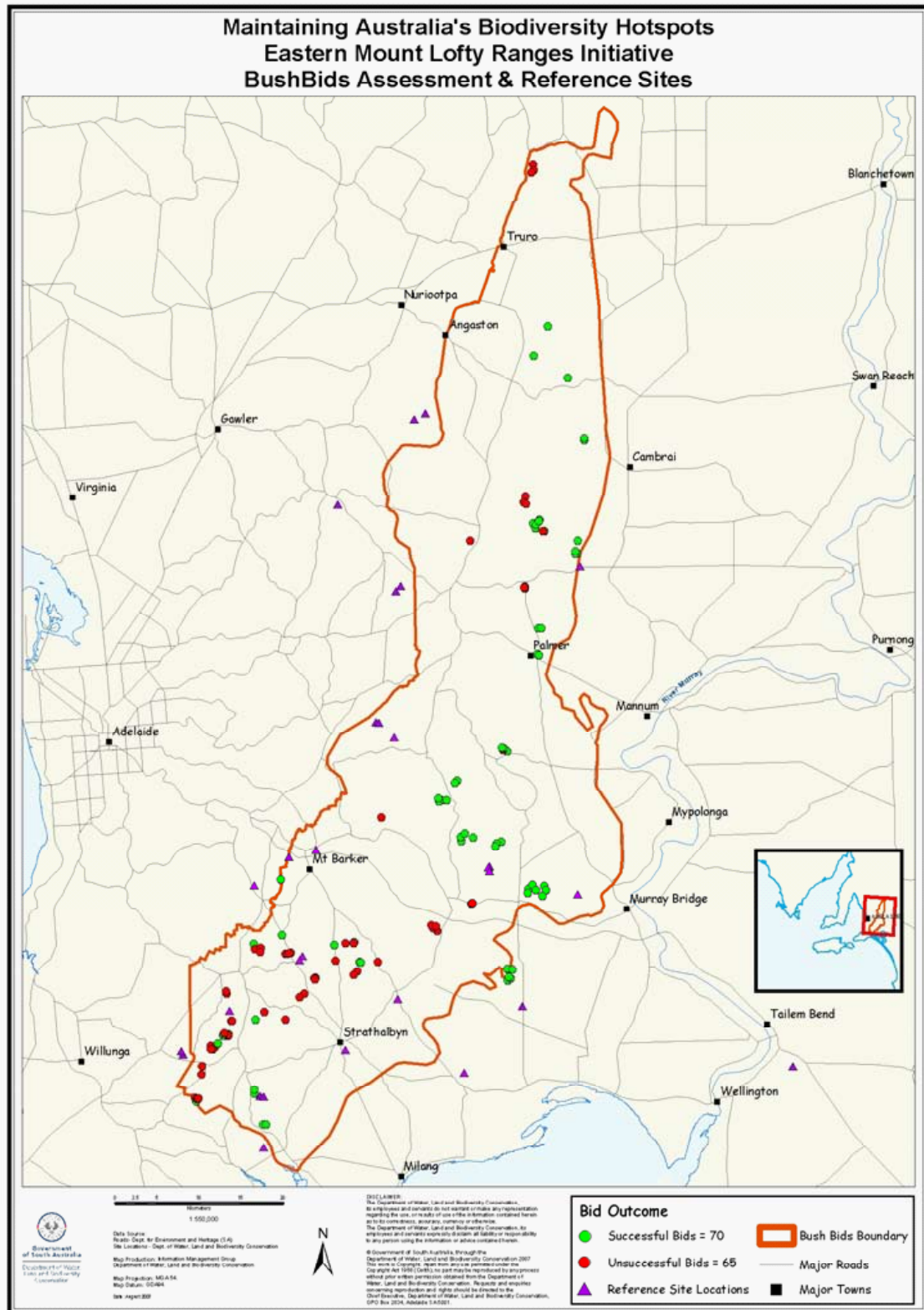


Figure 4.
Marginal cost of biodi-
versity benefits (auction
rounds 1 & 2)



5.2 Biodiversity gain in the Eastern Mt Lofty Ranges region

Figure 5. Distribution of successful and unsuccessful bids and reference sites



The successful sites are scattered throughout the EMLR with a concentration of sites in the southern part of the region.

Seven of the community types (all except samphire and gully forests) identified by NCSSA (2005) for the EMLR, were present at sites assessed for eligibility for the *BushBids* project. Within some of these broad community types, several sub-community types are identified. Appendix 11 describes the community and sub-community types found.

Successful bids included six of the main plant community types (Table 4). There were no successful sites in the Mallee over Very Open Understorey community. Sub-community type 3.3 represents 51% of the total area of successful bids (1143 ha), sub-community type 2.2 represents 18% of the total area of successful bids (403 ha), sub-community 2.3 represents 12% of the area of successful bids, and sub-community types 2.1, 3.2 and 10.1 each represent between 3% and 6% of the total area of successful bids (67-128 ha).

The biodiversity gains from *BushBids* are shown in Table 5 as achievements against the projects' original ecological objectives.



Table 4. Area of sites assessed in the vegetation communities and sub-communities

Community	Community type reference	Number of hectares from landholders who were:							
		Funded		Unfunded		Non bidders		Pulled out/ ineligible	
		Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2
Woodlands and Open Forests with a dense Sclerophyll shrub understorey – Trees > 10m tall	1.1	0.0	86.7	0.0	0.0	0.0	0.0	0.0	0.0
Very Low Woodlands, Very Low Open Woodlands and Forests with a Dense Sclerophyll Shrub Understorey	1.2	0.0	0.0	0.0	0.0	0.0	0.0	10.7	0.0
Low Woodlands and Low Open Forests with a Dense Sclerophyll Shrub Understorey	1.3	0.0	13.0	16.0	0.0	0.0	37.3	0.0	0.0
Forests and Woodlands with an Open Sclerophyll Shrub Understorey	2.1	81.2	46.4	53.4	36.2	42.4	23.1	51.2	36.3
Low Woodlands with an Open Sclerophyll Shrub Understorey	2.2	284.9	118.1	11.8	0.0	83.6	0.0	0.0	0.0
Mallee and Low Woodland with an Open Sclerophyll Shrub Understorey – Grasses, Sedges and Tussock-like Species not Prominent	2.3	62.5	202.0	0.0	0.0	11.8	0.0	0.0	0.0
Smooth-Barked “Big Gum” Woodlands with an Open Understorey	3.1	3.1	0.0	9.0	13.0	5.6	30.0	0.0	0.0
Box-Bark Eucalypt and Small Tree Woodlands with an Open Understorey	3.2	76.6	14.5	0.0	3.1	13.4	39.4	0.0	0.0
Very Sparse Woodlands or Grasslands and/or Mat-Rush Sedgeland	3.3	798.7	344.0	124.1	0.0	0.0	0.0	0.0	27.5
Drainage Line in Grassy Woodland	5.1	0.0	2.3	10.7	0.0	0.9	3.0	0.0	0.0
Steep Creekline in Stringbark Forest	5.2	0.0	0.0	0.0	5.9	0.0	0.0	0.0	0.0
Deep Channel with Big Gum Woodland	5.3	19.5	26.2	2.8	0.0	0.0	0.0	0.0	0.0
Shrubland, Sedgeland or Woodland Swamps and Bogs on Saturated Soil	6.1	9.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Seasonally or Irregularly Saturated, Woodlands and Sedgelands with Tall Sedges/Rush or Shrub Dominated Understorey	6.4	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0
Mallee over Very Open Understorey	9	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0
Acacia, Senna and Eremophila Dominated Shrublands	10.1	58.2	8.8	0.0	0.0	0.0	0.0	0.0	0.0
Total ha for each round		1394.0	862.0	231.5	58.2	157.7	132.8	61.9	63.8
Total ha for the 2 rounds combined		2256.0		289.7		290.5		65.7	

Table 5. Achievement against *BushBids* ecological objectives

Ecological objective	Achievements	Comments
Protect and enhance the biodiversity values of the EMLR	<p>Six threatened plant communities, 8 threatened fauna species and 19 threatened flora species occur in funded <i>BushBids</i> sites (Tables 6, 7 and 8). Ten properties with successful bids contain threatened plant communities (Table 6). This represents protection for 408 ha containing threatened plant communities. Eight vulnerable fauna species occur at or close to 21 of the funded sites (Table 7).</p> <p>One endangered plant species, one vulnerable plant species and 17 rare plant species were present at funded sites. The endangered <i>Prostanthera eurybioides</i> and the vulnerable <i>Acacia menzelsii</i> each occur at 4 of the funded sites (Table 8).</p>	<p>Although unsuccessful bids included a number of sites where threatened plant communities occur, these represent a relatively small area (59 ha) in comparison to the area protected at funded sites.</p> <p>No additional rare and vulnerable fauna species occur at or close to unfunded sites.</p> <p>Five threatened plant species occur at unfunded sites.</p>
Improve the condition of native vegetation in the EMLR	<p>Comprehensive Management Plans are being funded for management of threats to the condition of native vegetation on 2,256 ha of private land in the EMLR. The outcomes of this management will be assessed in future years through a monitoring and evaluation process implemented during the <i>BushBids</i> project.</p>	
Increase the area of native vegetation actively managed for conservation	<p>Approximately 15% (2,256 ha) of the known (mapped) native vegetation on private land in the Eastern Mt Lofty Ranges is being protected and managed for biodiversity conservation under contracts through <i>BushBids</i>.</p>	
Increase the area of native vegetation protected under long-term conservation agreements	<p>The majority of <i>BushBids</i> sites will be protected and managed for a 10-year period under the <i>BushBids</i> Management Agreements. Sites representing nineteen existing (or pending) Heritage Agreements were funded for comprehensive management and an additional 9 new Heritage Agreement applications (representing 365 ha) were elicited by <i>BushBids</i>.</p>	

Table 6. Threatened ecological communities at funded and unfunded *BushBids* sites

Threatened Plant Community	Threatened category ¹	Round 1				Round 2				Round 1 & 2			
		Funded ²		Unfunded ³		Funded ²		Unfunded ³		Funded ²		Unfunded ³	
		No. sites	No. ha	No. sites	No. ha	No. sites	No. ha	No. sites	No. ha	No. sites	No. ha	No. sites	No. ha
<i>Eucalyptus odorata</i> +/- <i>E. leucoxylon</i> ⁴	Endangered	1	11	2	13	0	0	0	0	1	11	2	13
<i>Lomandra effusa</i> ⁴	Endangered	1	243	2	10	1	25	0	0	2	268	2	10
<i>Allocasuarina verticillata</i>	Vulnerable	2	27	0	0	2	37	0	0	4	64	0	0
<i>E. fasciculosa</i> +/- <i>E. leucoxylon</i>	Vulnerable	1	17	3	11	0	0	3	7	1	17	6	18
<i>E. leucoxylon</i> ssp. <i>pruinosa</i> +/- <i>E. odorata</i>	Vulnerable	1	18	2	12	0	0	0	0	1	18	2	12
<i>E. viminalis</i> ssp. <i>cygnetensis</i> and/or <i>E. viminalis</i> ssp. <i>viminalis</i>	Vulnerable	1	30	0	0	0	0	1	4	1	30	1	4
<i>E. ovata</i> +/- <i>E. viminalis</i> ssp. <i>cygnetensis</i> +/- <i>E. camaldulensis</i> var. <i>camaldulensis</i>	Vulnerable	0	0	0	0	0	0	1	2	0	0	1	2
Other unthreatened		21	1047	30	405	39	818	19	224	0	0	49	629
Total number of sites with threatened communities	Endangered /vulnerable	7		9		3		5		10		14	
Total number of threatened communities conserved in sites (total ha)	Endangered /vulnerable	6 (346)		4 (46)		2 (62)		3 (13)		6 (408)		6 (59)	

¹ Conservation status from DEH (2001) unpublished Provisional List of Threatened Ecosystems in South Australia

² Successful bids

³ Unsuccessful bids, did not enter in a bid or pulled out from contract

⁴ Some or all of the examples of these two community types may be consistent with the definition of Peppermint Box Grassy Woodland of South Australia or Iron-grass Natural Temperate Grassland of South Australia which are listed as Critically Endangered under the *Environment Protection and Biodiversity Conservation Act 1999*.

Table 7. The rare and threatened fauna species found within 2km of funded and unfunded *BushBids* sites

Threatened fauna Species	Common name	Threatened category ¹	No. sites:			
			Round 1		Round 2	
			Funded ²	Unfunded ³	Funded ²	Unfunded ³
<i>Calyptorhynchus funereus</i>	Yellow-tailed Black-Cockatoo	Vulnerable	2	0	0	0
<i>Delma inornata</i>	Olive Snake-lizard	Rare	0	2	2	0
<i>Falco peregrinus</i>	Peregrine Falcon	Rare	0	2	6	4
<i>Isoodon obesulus</i>	Southern Brown Bandicoot	Vulnerable	2	0	0	0
<i>Melithreptus gularis</i>	Black-chinned Honeyeater	Vulnerable	2	0	0	0
<i>Morelia spilota</i>	Carpet Python	Vulnerable	0	2	2	0
<i>Stagonopleura guttata</i>	Diamond Firetail	Vulnerable	3	1	0	0
<i>Turnix varia</i>	Painted Button-quail	Vulnerable	2	0	0	0
Number of threatened fauna species conserved			5	4	3	1
Number of sites with threatened fauna species			11	7	10	4
Number of threatened fauna species at funded sites for both rounds combined				8		

¹ SA conservation status from *National Parks and Wildlife Act 1972* 2000 schedules review

² Successful bids

³ Unsuccessful bids, did not enter a bid, or did not proceed to a contract

Table 8. Rare and threatened flora species found at funded and unfunded *BushBids* sites

Threatened Flora Species	Common name	Threatened category ¹	No. sites:			
			Round 1		Round 2	
			Funded ²	Unfunded ³	Funded ²	Unfunded ³
<i>Acacia menzeli</i>	Menzel's Wattle	Vulnerable	3	0	1	0
<i>Acacia montana</i>	Mallee Wattle	Rare	1	0	0	0
<i>Acacia rhigiophylla</i>	Dagger-leaf Wattle	Rare	0	0	3	0
<i>Austrostipa breviglumis</i>	Cane Spear-grass	Rare	1	0	0	0
<i>Austrostipa multispiculis</i>	Spear-grass	Rare	1	0	0	0
<i>Caladenia minor</i>	Pigmy Caladenia	Rare	1	0	0	0
<i>Cryptandra</i> sp. long hypanthium	Long-flower Cryptandra	Rare	0	1	0	0
<i>Danthonia carphoides</i> var. <i>carphoides</i>	Short Wallaby-grass	Rare	1	0	0	0
<i>Eragrostis lacunaria</i>	Purple Love-grass	Rare	1	0	0	0
<i>Eucalyptus conglobata</i> ssp. <i>conglobata</i>	Port Lincoln Mallee	Rare	1	0	0	0
<i>Eucalyptus leucoxydon</i> ssp. <i>megalocarpa</i>	Large-fruit Blue Gum	Rare	0	0	1	0
<i>Eucalyptus viminalis</i> ssp. <i>viminalis</i>	Manna Gum	Rare	0	1	1	0
<i>Maireana rohrlachii</i>	Rohrlach's Bluebush	Rare	1	0	0	0
<i>Myriophyllum papillosum</i>	Robust Milfoil	Rare	0	0	1	0
<i>Olearia passerinoides</i> ssp. <i>glutescens</i>	Sticky Daisy-bush	Rare	1	0	0	0
<i>Prostanthera eurybioides</i>	Monarto Mintbush	Endangered	1	0	3	0
<i>Ptilotus erubescens</i>	Hairy-tails	Rare	0	0	2	0
<i>Scutellaria humilis</i>	Dwarf Skullcap	Rare	0	1	1	0
<i>Stellaria palustris</i> var. <i>tenella</i>	Swamp Starwort	Rare	0	1	1	0
<i>Swainsona behriana</i>	Behr's Swainson-pea	Vulnerable	0	1	0	0
<i>Swainsona tephrotricha</i>	Ashy-haired Swainson-pea	Rare	1	0	0	0
No. of rare or threatened flora species			12	5	9	0
No. of sites with rare or threatened flora species			14	5	14	0
Total no. of threatened flora species at funded sites for both rounds combined					19	

¹ SA conservation status from *National Parks and Wildlife Act 1972* - schedules review 2000

² Successful bids

³ Unsuccessful bids, did not enter a bid, or did not proceed to a contract

6 Monitoring and evaluation

Monitoring and evaluation processes were built into *BushBids* to ensure that learning was captured and that outcomes could be measured in the future. Monitoring and evaluation had three components:

- Evaluation of landholder participation – to improve *BushBids* between auction rounds and to learn from implementation
- Reporting and compliance – to continue to engage with participating landholders and to ensure that agreed activities are being undertaken and outputs achieved
- Evaluation of biodiversity outcomes – to measure the improvement in biodiversity conservation at funded sites.

6.1 Evaluation of landholder participation

The experience of participating landholders was evaluated through a questionnaire at the conclusion of each auction round. This was initiated to gauge the landholders' attitudes and satisfaction with the process and enabled an evaluation of project performance. Questionnaires were sent to successful and unsuccessful participants to seek feedback about the scheme. Returned questionnaires were examined and a brief summary of the results is given below.

The majority of the successful and unsuccessful participants (82%) responded to the questionnaire. Important findings and changes to the program made as a consequence of the evaluation were communicated directly back to participants in a feedback letter.

All respondents had been active in some way in protecting or managing native vegetation on their properties prior to participation in *BushBids*. The primary motivation for landholders participating in *BushBids* was access to the support offered for managing and protecting native vegetation. Some land managers in auction round 2 stated that they were encouraged to become involved by participants in round 1.

Most participants were satisfied with the quality of the information provided (91%), access to assistance (88%), explanation of the application process (85%), and length of time of the process (76%)

The majority of respondents (93%) stated that the written information provided about the process adequately explained the program. Nearly all respondents (98%) understood that

they would be competing against others for limited funds. In addition, the majority of respondents (93%) found the site visit satisfactory. Landholders provided feedback on the site assessment process, including the (seasonal) timing of assessments, challenges of time constraints when assessments were conducted, requests for further information on the site assessment process, interest in being present during site assessments (landholders were asked to be absent during site assessments to avoid bias in sampling) and for additional information on weed and native plants for identification.

Overall the majority of respondents were also satisfied with the information provided for the Management Plan package. Satisfaction with the clarity and accuracy of Management Plan information, as well as the adequacy of information provided to inform the land manager of the management actions required, increased in round two after changes to the approach based on feedback from round 1 (i.e. clarity increased from 85% to 100%; accuracy: increased from 93% to 100%; and adequacy increased from 85% to 95% between rounds 1 and 2). Much of this improvement can be explained by changes in the amount and timing of information provided to landholders.

In preparing their bids, the majority of participants considered the time taken to implement the Management Plan, the size of the area to be managed, the costs of materials, labour and contractor hire and in kind contributions. Other factors considered were

“the long term outlook”

“inflation over 10 years” and

“the efficiencies associated with working/ sharing with neighbours”.

Land managers stated that they liked the *BushBids* scheme for a number of reasons including:

- Support for land managers by government for recognised problems
- Learned more about the property and issues
- Management plan helped clarify some of the land management issues
- Funding provided for conservation management
- Provided a focus for land management activities and the required costs
- Limited funding goes to projects of greatest merit/ commitment
- Positive outcomes for native fauna and flora
- Simplicity of the application
- Long term funding and management over 10 year period
- Friendly, encouraging and committed project staff
- Information about plant species and threats
- Negotiations of management actions

Feedback from the round 1 questionnaire was invaluable in identifying what was working well with the *BushBids* process and allowed for opportunities to improve the process. Suggestions for improvements centred on addressing communication, wanting more information and assistance, and reducing the length of the process. Many suggested improvements were incorporated into implementation of round 2.

The evaluation found that the single biggest difficulty for landholders involved in *BushBids* was determining a bid price.

The majority (73%) of land managers stated that the bid price was difficult to determine. Because this issue was identified as the key evaluation finding, further investigation on price setting was undertaken. A separate report on the findings has been prepared by Morgan and O'Connor (2008).

6.2 Reporting and compliance

To ensure landholders are undertaking agreed management actions and meeting the obligations of the Management Agreement, they are required to submit annual reports in order to receive the annual staged payments. Compliance monitoring is important to determine the level of management achieved by the landholders. As part of the annual report process the landholders are sent an annual report form for each site. The report form is pre-filled with information on the agreed management actions specified in the Management Plan. Landholders are required to complete the annual report and return it with an invoice for payment.

Draft protocols for compliance and feedback on management actions (Appendix 7) have been designed to ensure landholders meet their obligations, to assist landholders with any problems/issues, to receive feedback about the management process and maintain contact with the landholders throughout the Management Agreement period.

6.3 Evaluating biodiversity outcomes

BushBids aimed to overcome the general lack of accountability and insufficient demonstration of environmental improvements in incentive schemes (Cocklin et al., 2007) by establishing a strong base for monitoring vegetation condition change through the project. The project established vegetation monitoring sites at all assessment sites and also established 29 reference (control) sites (refer to Figure 5) in similar vegetation on public land in the area. This Before-After-Control-Impact (BACI) design will enable biodiversity outcomes from *BushBids* to be measured and evaluated in future years. The monitoring design will allow six key evaluation questions to be answered:

1. How much does the condition of native vegetation improve with described management?
2. Which indicators of vegetation condition are most sensitive (and most useful for future programs)?
3. How well does the transformation function (estimate of change over time with different actions) predict change?
4. How much does the measured improvement in vegetation condition cost?
5. How much improvement is due to information and how much is due to financial incentive?
6. What is the predicted market price of key conservation targets in the EMLR?

The evaluation of biodiversity gain can be undertaken after reassessment of funded (impact) and reference (control) sites. Condition of the vegetation before interventions under *BushBids* Management Agreements has been assessed and analysed (see O'Connor et al 2008). An analysis of the most appropriate sites to reassess has been made and sites selected.

Sites including the following vegetation types have been selected:

- Three woodland types with open shrub and grassy understorey – including ecological communities listed under the *EPBC Act (1999)*
- One woodland type with an open sclerophyll shrub understorey
- One Eucalypt woodland type with a dense sclerophyll shrub understorey

The BACI design can be optimised to answer the evaluation questions with a design including five replicate impact sites and three control sites for each plant association chosen as representative of the broad vegetation types. The total number of sites to be reassessed is 45 sites.

The average condition of vegetation at *BushBids* sites before the implementation of Management Agreements was approximately 57% of benchmark value.

This design has a power of > 80% (80% chance of detecting the change of interest if it occurs) with an average increase in site condition of 10% of benchmark value. An increase in the site condition score (see Table 2 for Bushland Condition Indicators) of 10% over 4-5 years is expected as this is equivalent to:

- Average change in site condition score from weed abundance & threat reduction; or
- Combined average change in ground cover and regeneration scores from grazing removal.

Evaluation of biodiversity outcomes can commence in 2009-10.



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