The Tasmanian Forest Conservation Fund and associated programs: purpose, performance & lessons

A report prepared
for the Department of the Environment, Water, Heritage and the Arts

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Executive Summary

The conservation of public forest resources in Tasmania is insufficient to ensure a comprehensive, adequate, and representative reserve system. Following a review of the Tasmanian Regional Forest Agreement in 2002, a supplementary Agreement was put in place in 2005.

Under the supplementary Agreement an additional 135,450 hectares of forest was identified for protection of which the majority was sourced from public forest land. However, the Agreement also identified the protection of up to 45,600 ha of forest on private land to be achieved through voluntary market-based measures. The Forest Conservation Fund (FCF) was created to meet this policy objective.

This report summarises the findings of a review of the key results of the FCF, design lessons, lessons from the implementation of the FCF and broad policy lessons. The report also includes 22 recommendations on ways DEWHA could enhance the design and implementation of market based instruments (MBIs) in the future.

RESULTS

The headline targets for the FCF were to protect up to 45,600 hectares (ha) of forested private land, including a minimum of 25,000 ha of old growth forest and up to 2,400 ha of forest land in the Mole Creek area. As at the end of 2009, the FCF secured a significant area of high quality forest, totalling almost 29,000 ha (63 % of total areas targeted) and almost half of the old growth target.[1]

Achievements against headline targets (end of 2009)

Forest type	*Target (ha)*	*Secured (ha)*	*% of target*	*Outstanding (ha)*
Total	45,000	28,900	63	16,700
Old growth	25,000	11,000	44	14,000
Mole Creek - Karst	2,400	540	22	1,860

Source: MJA analysis of FCF data

While a significant achievement in itself, to completely satisfy its targets the FCF would need to secure an additional 16,000 ha of old growth and karst forest area. The fact that the targets were not fully achieved is largely because of budget constraints for the program, not that there were any major problems with the design and implementation of the FCF.

The decision to adopt a suite of market based approaches for the FCF and associated programs was entirely justified on an environmental, economic and commercial basis. The approaches used generated a significant volume of quality proposals and there was significant competition for funding. All elements of the FCF (reverse tenders, revolving funds, fixed offers) performed as expected.

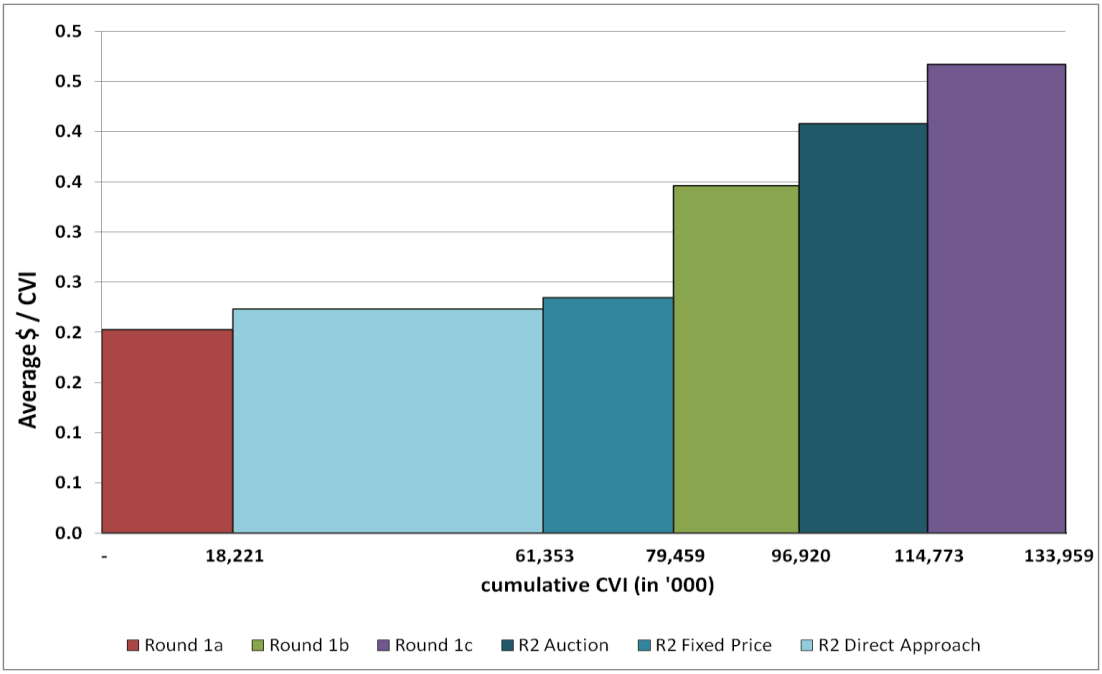
The figure below shows the relative cost effectiveness of each sub-element of the FCF (y-axis) and the contribution towards the total conservation gains (x-axis), in terms of the conservation values index (CVI).

[1] Note: More are has been secured through the FCF since data for this review was provided by DEWHA and the area secured will continue to increase though the ongoing operations of the revolving fund component.

Key points to note were that the reverse tender/auction delivered very cost effective proposals in the earlier stages of the program, but proposal prices increased over the life of the program as the most cost effective proposals from early adopters were exhausted.

Based on the earlier tender rounds (1a to 1c), DEWHA established prices for fixed price and direct offers to landholders. This approach also proved to be very cost effective, but it should be noted that this approach would not have been possible without running the early rounds of the tender to establish a market price.

Cost-effectiveness of fixed price and tender offers, $/CVI



Source: MJA analysis of FCF data

Over 80% of the covenants secured were perpetual. Approximately 12% of the area was secured under 24 year covenants and interviews with participants indicated that this option was often utilised by landholders who did not want to commit their children to the ongoing obligations under the program.

While the revolving fund is still in its infancy, results to date are highly encouraging. The revolving fund has the potential to be the most cost effective mechanism, but is not suitable for securing multiple properties into the conservation estate quickly. This is due to the inherent property market constraints (primarily demand) for conservation properties and the speed at which they can be resold.

LESSONS

As with all MBIs, there are lessons to be learned from the evaluation process that can inform the design and delivery of future programs.

Design lessons

The design of the FCF was entirely consistent with the policy objectives outlined in the TCFA and it is unlikely a materially more efficient design could have been achieved given the FCF's information, budget and time constraints.

Analysis of the approaches used, using actual proposal data, indicates that the market-based approach adopted increased the conservation benefits significantly (potentially over 50%), when compared to simple approaches such as funding eligible proposals in the order in which they are received.

While the use of metrics (in this case the conservation values index, or CVI) is often criticised due to the additional program design costs, economic analysis of the incremental expenditure incurred to develop the CVI shows a benefit cost ratio of 6:9. In other words, investing in the CVI paid very high dividends. However, some design lessons have emerged, including:

- the need to have contingencies in place to manage for over or under subscription;
- the need to better align payments under a program with actual costs faced by landholders to reduce overall program compliance risk; and
- minor modifications to the metrics could improve the economic efficiency of selections.

Implementation lessons

Generally the use of third parties was an effective approach to delivering the FCF on-ground. However, it is vital that any third party delivery organisation has an appropriate 'cultural fit' with the program objectives and has credibility with potential participants.

In addition, the establishment and maintenance of the capacity of third party service providers (skills and ability to meet workloads) is also fundamental to the success of any program. The KPMG-led consortium struck problems with both of these areas during the course of the FCF.

Program management costs and transaction costs faced by participants can also be substantial, and these costs need to be considered and managed throughout the design and implementation phases of programs.

Finally, the success of any market-based program is highly reliant on the ability of the program to attract sufficient and appropriate levels of participation from landholders who are able to provide quality proposals at competitive costs. The review found these objectives could have been further enhanced through:

- improving the scope, content and approach of information delivery to participants; and
- undertaking activities to increase the ability of participants to understand the program and to develop quality and cost-competitive proposals.

These actions are likely to result in more cost effective proposals in the future, as well as partially mitigate risks of non-compliance.

Broad policy lessons

There are a number of broader lessons that come from the review. These generally reinforce the policy position taken by DEWHA in developing and implementing the FCF, but also highlight the need to overcome any deficiencies identified. The review has also identified a number of longer term challenges to the future use of market approaches to enhance the management of biodiversity in Australia. These include:

- the consequences of one-off transactions (such as those used for reverse tenders) compared with ongoing stewardship-like arrangements;

- the opportunities and risks that emerge from further unbundling of land-based property rights;
- the need for fundamental reform to the current structure and application of covenants to cater for multiple ecosystem services and (potentially) multiple markets for ecosystem services; and
- the need to better understand and manage interactions between different MBIs and between MBIs and other policy interventions.

1. Introduction

Australia has a long history of environmental debate over forest use, including over the conservation of old growth forests. In 1992 a national policy framework, The National Forest Policy Statement, was agreed between the Australian Commonwealth and all state and territory governments. Thereafter a series of twenty-year Regional Forest Agreements were progressively established by the Commonwealth and specific state governments between 1997 and 2001 to manage the long term protection and sustainable use of the nation's tall forest estate.

A Tasmanian Regional Forest Agreement was finalised by the Australian Commonwealth and Tasmanian Governments in 1997. Following a review in 2002, a supplementary Agreement was put in place in 2005. Under the supplementary Agreement an additional 135,450 hectares of forest was identified for protection of which the majority was sourced from public forest land. However, the Agreement also identified the protection of up to 45,600 ha of forest on private land to be achieved through voluntary market-based measures. The Forest Conservation Fund (FCF) was created to meet this policy objective.

Marsden Jacob Associates (MJA) was engaged by the Department of Environment, Water, Heritage and the Arts (DEWHA) to undertake a Final Review of the FCF and associated market based programs run between early 2007 and mid 2009. The review covers a broad suite of issues, particularly:

- context and background information (Section 2);
- results and efficiency (Section 3);
- design lessons (Section 4);
- implementation lessons (Section 5); and
- broad policy lessons and future challenges (Section 6).

In addition, Appendix A provides an overview of the suite of approaches used in the FCF, while Appendix B provides a list of key documents reviewed as part of this review project.

1.1. General Approach

The process of MJA's review of the FCF took the following form.

- Extensive document and data review involving interim assessments, probity reviews, ministerial briefings, policy and strategic documents, raw output data, etc. Key documents reviewed are outlined in Appendix B.
- Semi-structured interviews of policy officers from DEWHA and the Tasmanian Department of Primary Industries, Parks, Water & Environment (DPIPWE), key service delivery agents (in roles covering coordination, spatial assessment, communication and metric development), and landowner participants in different parts of the FCF. Interviews with government officers and service delivery personnel were generally held face to face, while the landholder interviews were undertaken by phone.
- Quantitative analysis and qualitative assessment of the above information into spreadsheet models. This included assessment of results based on the data relating to each individual proposal submitted for funding under the FCF.

- The presentation and workshop delivery of key findings to DEWHA and DPIPWE representatives.
- Based on the above tasks, this final report was developed.

2. Context and background

This section outlines the context and background for the review of the FCF.

2.1. Policy context and FCF targets

Approximately 45.8% (3.1 million hectares (ha)) of Tasmania's total landmass is covered by native forest, and much of this forest has high environmental values.[2] The protection and conservation of forest resources in Tasmania is currently insufficient in many areas. Efforts to develop a CAR reserve system, established under the 1997 Tasmanian Regional Forest Agreement (RFA), included actions to achieve conservation on private land where CAR reservation values are protected under private agreements. Examples of programs targeting conservation outcomes on private land include the Private Forest Reserves Program (PFRP) and the Protected Areas on Private Land (PAPL) program.

Following on from the 1997 Tasmanian RFA, the TCFA was signed by the Commonwealth and Tasmanian Governments in 2005. The 20 year TCFA is a joint commitment of the Tasmanian and Commonwealth Governments to protect and enhance forest resources in Tasmania, including the ultimate protection of 1 million ha of old growth forest. It also provides:

- a framework for the management and use of Tasmanian forests; and
- a framework for the implementation of effective forest conservation, forest management and industry practices.

2.1.1. FCF targets

The TCFA includes a target for additional forestry protection of 135,450 ha, of which the bulk of protected forest would be on public land. However, the TCFA also seeks to protect 45,600 ha on private land through voluntary measures. The headline targets for the FCF were to protect up to 45,600 ha of forested private land, targeting old growth forest and under-reserved forest communities, of which there would be:

- a minimum of 25,000 ha of old growth forest; and,
- up to 2,400 ha of forest land in the Mole Creek area (protecting karst values).

2.1.2. Key findings and recommendations

While the establishment of the headline targets for the FCF were consistent with the establishment and negotiation of the TCFA, there were only limited economic data and assessment undertaken to determine if the targets were actually achievable within the budget constraint for the FCF. The potential inadequacy of the FCF budget to meet targets became apparent relatively early in the FCF's implementation phase and was raised as part of the mid-term review.[3]

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2 Tasmanian Government, 2009, Infrastructure and Resource Information Service. http://www.iris.tas.gov.au/resource_industry/forestry (viewed 10 Nov 2009)

3 MJA, 2008, Mid-term review of the Tasmanian Forest Conservation Fund.

Recommendation

1. Where headline targets are to be established for tenders (such as the FCF), undertake economic assessments as part of the target setting process to ensure targets are likely to be achievable within the available budget.

2.2. Economic rationale for intervention

From an economic perspective, the case for government intervention for the protection of high conservation forest areas essentially requires:

- establishing that the market cannot provide the optimal social outcome, and that there are significant externalities or other market failures preventing the optimal provision of conservation; and
- establishing that the benefits of government intervention exceed the associated costs.

2.2.1. Key findings

The case for market failure in nature conservation and the protection of native forests has been extensively made, specifically relating to the public good nature of native vegetation.[4] In the case of forest estate, the benefits of protecting and enhancing forestry assets primarily accrue to the broader society (public benefits), while most of the costs of managing them (outside the public reserves estate) are generally incurred by landowners (private costs). In short, there are insufficient private incentives for landholders to protect sufficient areas of native forest in Tasmania without some form of intervention.

While a specific formal benefit cost analysis was not undertaken for the FCF, the rationale for intervention was established through the development of the TCFA and previous policy development (e.g. the 1997 Tasmanian RFA). In addition, recognising the importance of the forestry community in Tasmania, a comprehensive package exceeding $250 million was established to meet the goals of the TCFA including funds for industry revitalisation and to preserve old-growth forests.

2.3. Decision to adopt market based approaches

The Australian and Tasmanian Governments had three broad suites of policies at their disposal to meet the agreed private land protection targets outlined in the TCFA:

- regulation, subordinate regulations and regulatory planning approaches, such as the *Private Forests Act 1994*, the *Forest Practices Code 2000* and the *Nature Conservation Act 2002*;
- suasive approaches such as information and extension; and
- market based approaches such as:
  - the FCF where a market was created where landowners are paid to provide environmental protection; and
  - the use of revolving funds where properties with high conservation values are purchased and on-sold (with a covenant to protect environmental values) within the existing property market.

[4] MJA, 2008, The Benefits and Costs of Managing Native Vegetation In Australia.

DEWHA opted for a suite of market based approaches to complement other regulatory and suasive policies. Two market based approaches of the FCF had targeted geographical foci and each approach targeted different sub-sectors of the conservation market in Tasmania. As noted, these elements of the FCF were:

- competitive reverse tender processes, including contributions towards the Maintaining Australia's Biodiversity Hotspots program;
- fixed-price and direct offers;
- the revolving fund; and
- the Mole Creek Karst Forest Program.

The specific market based approaches used for the FCF and associated programs are outlined in more detail in Appendix A.

2.3.1. Key findings and recommendations

The decision to adopt a suite of market based approaches for the FCF and associated programs was entirely justified on environmental, economic and commercial grounds for a number of reasons.

- The approach used for the FCF was voluntary and complemented other regulatory and suasive approaches already being adopted by the TCFA.
- The protection of only a portion of relevant forest resources on private land was required to meet the forest protection targets. Therefore the approach used by the FCF would be more economically efficient than blanket bans on clearing of all native forests on private land.
- The use of the competitive reverse tender approach for the FCF would ensure value for money outcomes for the Commonwealth Government and increase the likelihood of maximising conservation outcomes within the budget available.
- The competitive nature of the FCF enabled the revelation of the true proportions of private and public benefits to protect native forests in Tasmania. The mechanism also catered for the variance in both environmental benefits and costs to landholders from different parcels of forest.
- The revolving fund mechanism also works on a voluntary basis and enables a longer term market for conservation properties to be established.
- All of the approaches used were both fair and equitable, as all participants gained from trade, and transacted prices were determined by willing market participants.
- The use of management agreements and covenants resulted in greater certainty than regulatory or suasive approaches.
- The approach used by the FCF for assessing proposals would provide enhanced timeliness, transparency and repeatability of assessments when compared with previous voluntary funding programs (e.g. the PFRP).

The nature of the resource management issues and the economic and social nature of the impediments to the protection of native vegetation on private land all suggest a range of incentive mechanisms would be necessary. This is entirely consistent with the policy decisions made by DEWHA when designing the FCF.

Each of the mechanisms used catered to different environmental, economic or social conditions, therefore providing a suite of options to ensure appropriate levels of participation by eligible landholders.

The decision to establish a suite of market based approaches was entirely consistent with the Strategic Plan for the FCF established under the TCFA.[5]

While the decision to use a suite of instruments was sound, the degree to which the suite of instruments would actually achieve the targets of the FCF was largely unknown prior to the commencement of the program. It would have been prudent to undertake a modest socioeconomic assessment prior to the commencement of the program to better understand the likelihood of uptake and the potential of the program to achieve its targets. In addition, this would have also enabled DEWHA to manage stakeholder expectations of what was actually achievable within the available budget.

Recommendations

2. For future market based programs, prepare appropriately targeted information to enhance potential participants' understanding of the rationale for the choice of incentive mechanism. This is particularly necessary where the proposed approach is unfamiliar to target landholders and / or it differs significantly from previous incentive programs used in the region.
3. Utilise targeted socioeconomic assessments to inform the process of target setting.

[5] Australian Government, 2006, Strategic Plan for the Forest Conservation Fund.

3. Results and efficiency

In this section, we outline the key results of the FCF and compare and contrast its sub-elements on the grounds of efficiency.

3.1. Areas secured for conservation

The total areas secured by the FCF are summarised in Table 1. As can be seen in the table, the FCF secured a significant area of high quality forest, totalling almost 29,000 ha from a target of 45,000 (63%). With a stated target of securing 25,000 ha of old growth forest, the FCF secured almost half of this (11,000 ha). Lastly, the Mole Creek target of 2,400 ha was 22% achieved (540 ha).

Table 1: Achievements compared to targets

Forest type	*Target (ha)*	*Secured (ha)*	*% of target*	*Outstanding (ha)*
Total	45,000	28,900	63	16,700
Old growth	25,000	11,000	44	14,000
Mole Creek - Karst	2,400	540	22	1,860

Source: MJA analysis of FCF data

While a significant achievement in itself, to completely satisfy its targets the FCF would need to secure an additional 16,000 ha of old growth and karst forest area.

The FCF commenced soon after the completion of the Private Forest Reserves Program (PFRP), a broadly similar voluntary covenanting program. While a high level comparison between the two programs is useful, these comparisons must be treated as indicative only given differences in timing and approach.

Table 2: FCF compared with the PFRP[6]

Program	*Funding ($)*	*Area secured (ha)*	*Cost $/ha*	*Old growth (ha)*	*Duration of program*
FCF	$54.4m	28,900	$1,378	11,000	4 years
PFRP	$30m	43,140	$695	6,108	9 years

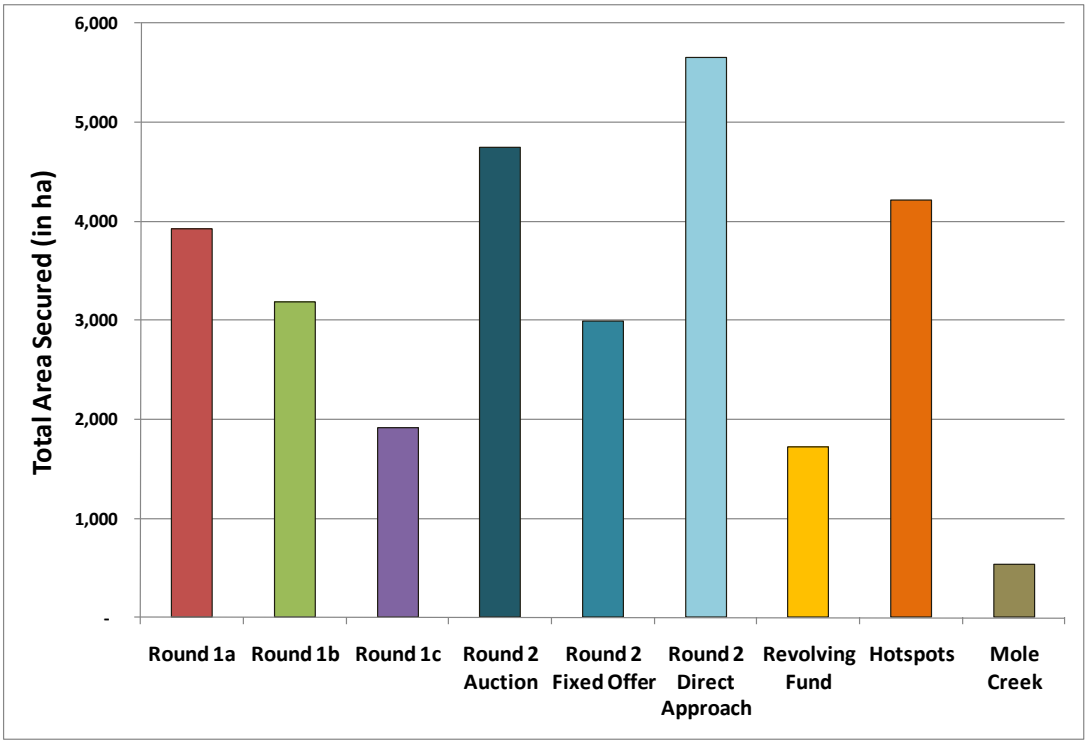
Source: MJA analysis of FCF data and Syneca, 2007, and Review and Evaluation of the Tasmanian Private Forest Reserves Program, Final Report.

Table 2 compares headline data between the two programs. The PFRP secured a larger total area at lower cost; however the FCF secured roughly double the area of old growth forest in less than half the time. It is worth noting that the Revolving Fund element of the FCF has been funded to continue until 2014, and total area will increase.

In terms of total area secured by sub-component, Figure 1 summarises these split by tender round as well as other sub-elements. Key findings are that areas secured via subsequent rounds of the reverse tender were lower than areas secured in previous rounds, and that the Round 2 fixed offer and direct approach elements also secured large areas in short timeframes. Around half of the total area was secured by tenders.

[6] Unless noted, all cost data in this report excludes administrative costs

Figure 1: Total area secured by FCF sub-element



Source: MJA analysis of FCF data

The area shown for the Revolving Fund reflects properties purchased, not necessarily revolved.

3.2. Duration of agreements

Table 3 shows the total areas secured across all sub-elements of the FCF split by duration of covenant. As can be seen, the great majority of area secured was in perpetuity (over 24,000 ha or 80% of the total). Agreements made for 48 years totalled only 2%, raising the question of whether they are a useful option.

Table 3: Area secured by duration of covenant

Duration	*Total area (Ha)*	*$/Ha total area*	*$/Ha FCF area only*	*$/CVI*
Perpetuity	24,225	1,507	1,775	0.28
48 years	682	1,542	1,570	0.32
24 years	3,614	593	604	0.40
12 years	295	315	331	0.74

Source: MJA analysis of FCF data

The 24 year covenant secured 12 % of area, suggesting landowners place some value on this option. MJA interviews revealed that some participants were strongly in favour of preserving forest areas, but did not wish to leave a burden to their children, thus choosing the 24 year option. The 12 year option secured only 1% of the area, and was dropped after Round 1a. There are valid questions about the efficacy of securing forest area for such a short duration.

In terms of cost-effectiveness, the longer duration covenants were unsurprisingly more expensive to secure by area.

Interestingly, by total area, preservation by 48 year covenant was more expensive than those in-perpetuity. This was not the case when FCF community forests were isolated, however. In this case the difference in cost was marginal ($1,800/ha for in-perpetuity agreements compared with $1,600/ha for 48 year agreements).

3.3. Efficiency of sub-elements of the FCF

This section explores the economic efficiency of FCF sub-elements, first comparing tender rounds and then exploring other tools.

3.3.1. Competitive tender efficiency

Table 4 summarises the key statistics of each tender round. As can be seen, the cost-effectiveness of the tender (by $/ha and $/CVI) tends to decrease with each round, as the 'low hanging fruit' are taken early and the community becomes more aware of some of the higher prices being offered. This is a trend that is common to auction/tender MBIs.

By Round 2, which ran concurrently with fixed price bids on all offers, the $/CVI range had narrowed significantly, with no bids below $0.23/CVI and none above $0.71/CVI.

Table 4: Key tender efficiency statistics

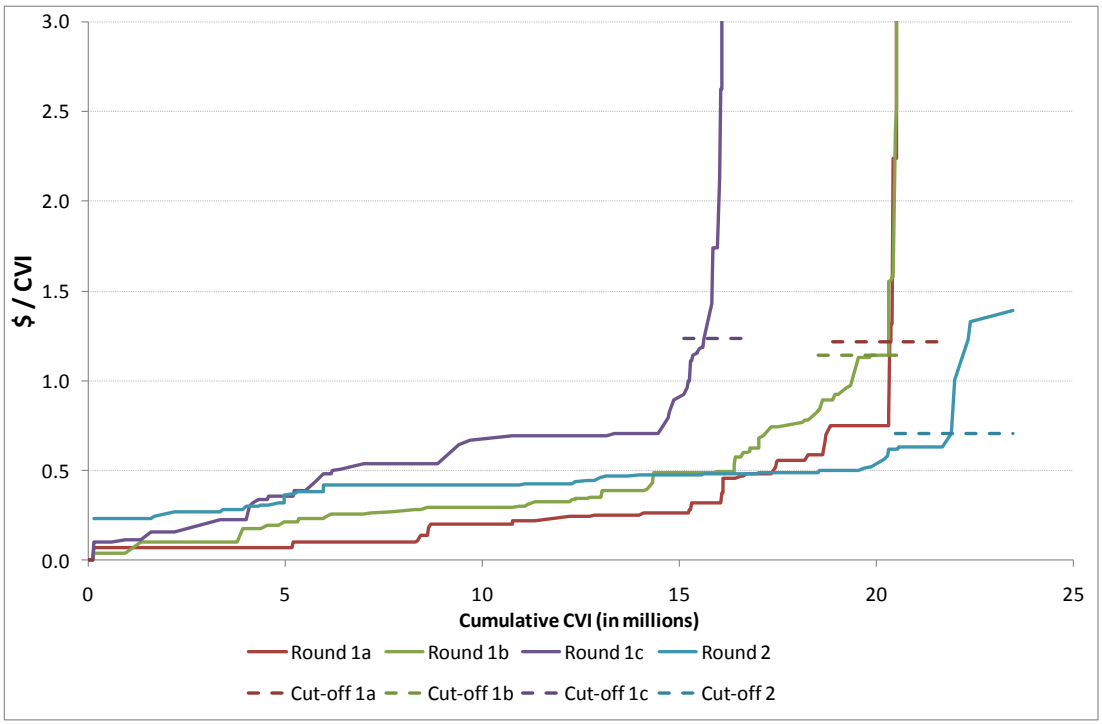
Round	*Area (ha)*	*CVI (total)*	*$/ha*	*$/CVI*	*Bid wins*	*$/CVI range*
1a	3,921	17,750,000	925	0.20	23	0.07-0.81
1b	3,192	14,647,000	1,168	0.25	24	0.04-0.49
1c	1,916	6,465,000	1,270	0.38	12	0.16-1.14
2 Tender	4,750	18,272,000	1,683	0.44	29	0.23-0.71
Total/avg	13,779	57,136,000	1,290	0.31	88	

Source: MJA analysis of FCF data

Figure 2 shows the cumulative securing of CVI values for each sub-round of the tender, ranked by most cost-effective bid to least for each round. The horizontal dashed lines are the cut-off point for each round. As can been seen in the chart, Round 1 received the most cost-effective bids, lying closest to the X-axis. Round 2 (the pale blue line) starts higher but is flatter than other rounds, reflecting the tighter range.

The lines kick vertically at the point where cost-effectiveness falls away for each round. As the chart shows, each round cuts off at broadly similar points of cost-effectiveness, suggesting there is little scope for efficiency gains from different cut-off points between rounds. The only way to improve cost-effectiveness would be to increase the number of lower bids by introducing new entrants into the FCF.

Figure 2: Supply curve of forest conservation by sub-round, $/CVI



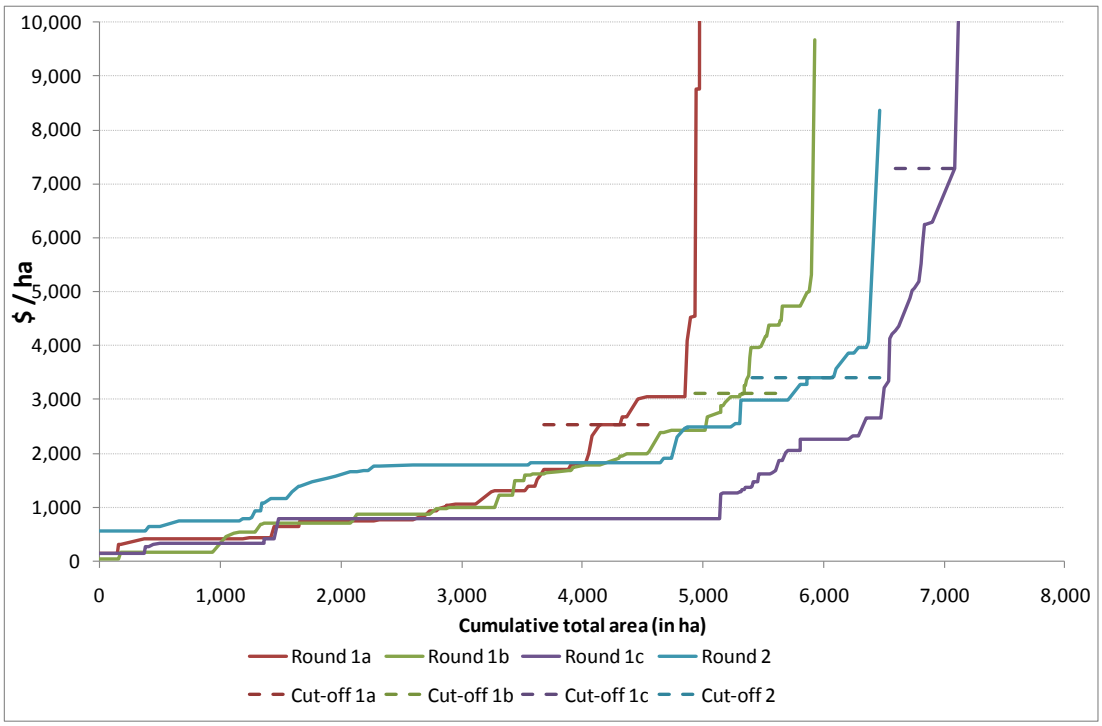
Source: MJA analysis of FCF data

Figure 3 shows the same chart with cost-effectiveness estimated by hectare. The chart generally shows the same picture, although Round 1c contained a number of smaller properties that were cost-effective on the basis of measurement ($/CVI) but were more expensive on a per-hectare basis. This suggests relatively small properties with especially high conservation forest values may still be worth pursuing.

Other issue to note include the following.

- There was a significant variation in bid prices, reinforcing the decision for competitive tenders in order to capture value for money proposals.
- There was a general trend to increasing prices over the life of the program. This is largely a result of two issues. First, early adopters with a strong conservation ethic and a lower tendency to seek full opportunity costs tended to participate in the early rounds. This is typical of virtually all conservation incentive programs. Second, over time a market price was being established and landholders were less inclined to offer price proposals materially below their understanding of a market price.
- The FCF was able to deliver significant conservation gains in a very short time compared with other programs (e.g. the PFRP).

Figure 3: Supply curve of forest conservation by sub-round, $/ha



3.3.2. Direct approach and fixed price offers

Table 5 summarises the key statistics for the Direct Approach and Fixed Price sub-elements, compared with the tender. As noted, these elements unsurprisingly had a narrower range of costs than the competitive tender, and averaged a lower cost per CVI than the tender.

The Direct Approach is characterised by large areas (intentionally targeted), a higher price per hectare but a low price per CVI (partly driven by the fact that all Direct Approach offers were in-perpetuity). This is also a feature of the Fixed Price bids.

These fixed price bids created a 'market clearing' price, but one that is potentially unrelated to participant costs (take it or leave it). This creates a potential compliance risk where landholders that accept fixed price bids later find they are insufficient to cover the costs of meeting their obligations under the FCF.

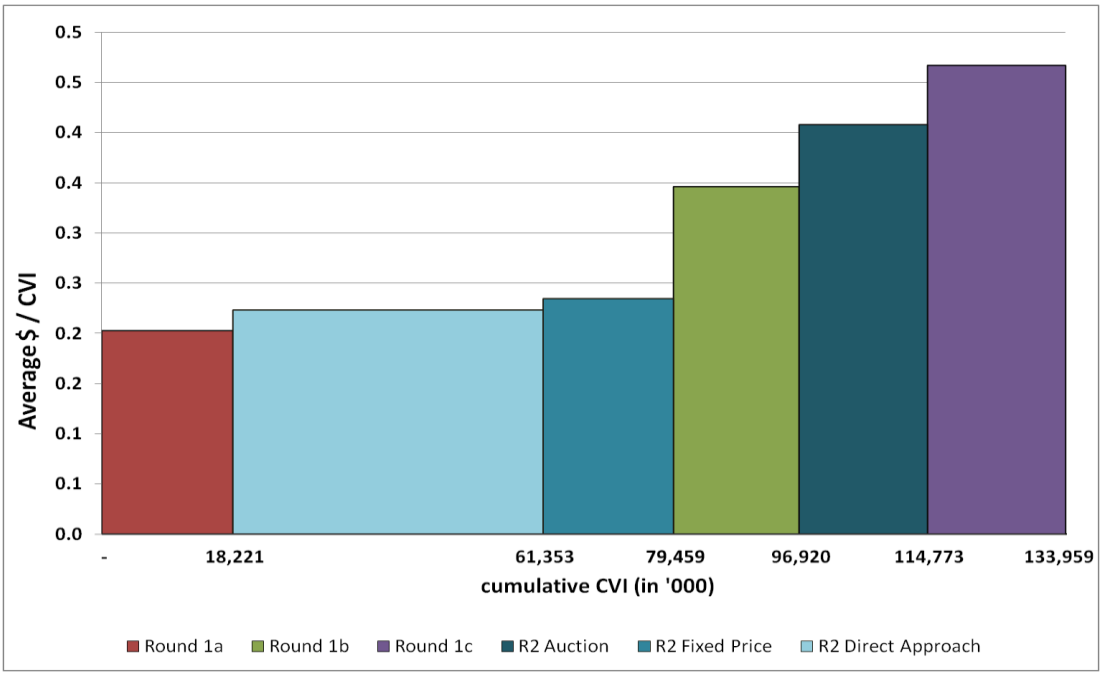
Table 5: Key direct approach and fixed price efficiency statistics

	Area (ha)	*CVI (total)*	*$/ha*	*$/CVI*	*Bid wins*	*$/CVI range*
Tender avg/tot	13,779	57,136,000	1,290	**0.31**	88	0.07-1.14
Direct Approach	5,657	43,132,000	1,700	**0.22**	8	0.21-0.24
Fixed Price	2,996	18,106,000	1,418	**0.23**	26	0.19-0.34

Source: MJA analysis of FCF data

The cost-effectiveness of each sub-round of the tender and the fixed price elements are shown in Figure 4. Round 1a was the most cost-effective, followed by the Direct Approach and Fixed Price sub-elements.

Figure 4: Cost-effectiveness of fixed price and tender offers, $/CVI



Source: MJA analysis of FCF data

The low average price of fixed price bids (both the fixed price and direct approach) compared with the tender, suggests that the tender bids might have been higher than they otherwise might.

However, it needs to be noted that the establishment of the prices for the Fixed Price and Direct Approaches would not have been possible in the absence of Rounds 1a to 1c of the reverse tender. In effect, those rounds of the reverse tender served to simultaneously secure areas into the conservation estate as well as establish an average market price.

3.3.3. Maintaining Australia's Biodiversity Hotspots and Mole Creek Karst

Table 6 summarises the key statistics for the Mole Creek Karst and Maintaining Australia's Biodiversity Hotspots sub-elements. The Mole Creek program was a specific sub-element of the FCF, while the Maintaining Australia's Hotspots program was funded through a separate Australian Government budget allocation. These two elements are reported jointly for this report as they were only run in tight geographical areas and were run under different competitive arrangements than the rest of the FCF sub-elements. They are essentially included for completeness of the coverage of the full suite of approaches used.

On a per hectare basis, the Mole Creek sub-element was the most expensive of all parts of the FCF, but focussed on recognised community aspirations as well as nature conservation goals. It did not use the CVI.

Table 6: Key Biodiversity Hotspots and Mole Creek efficiency statistics

	Area (ha)	*CVI (total)*	*$/ha*	*$/CVI*	*Successful bids*
Hotspots	4,221	21,563,000	1,314	0.26	17
Mole Creek	537	-	5,522	-	7 + 2 RF

Source: MJA analysis of FCF data

The Hotspots program returned $/CVI values that were on a par with the Fixed Price and Direct Approach sub-elements of the program, but had the most cost-effective price of any sub-element on a per-hectare basis.

3.3.4. Revolving fund

Key Revolving Fund statistics are found Table 7. The Revolving Fund purchases properties from the existing real estate market, places a covenant on areas deemed significant and then re-sells the properties to willing buyers. As such, areas are covenanted that are of primary relevance to the FCF, but also of secondary interest. The data in Table 7 splits efficiency data along these lines.

Table 7: Key Revolving Fund efficiency statistics (end 2009)

	Area purchased (ha)	*Area revolved (ha)*	*$/ha*	*Properties purchased*	*Properties revolved*
Totals	1,700	70	92	14	1
FCF communities only	950	35	170	-	-

Source: MJA analysis of FCF data

Key to the effectiveness of any revolving fund is the ability to quickly revolve properties in order to secure more high conservation value land. It must be noted that, being in the early stages of its operation, the FCF Revolving Fund has successfully revolved only one property at the date of writing. This property was resold at 90% of its purchase price with a perpetual covenant in place.

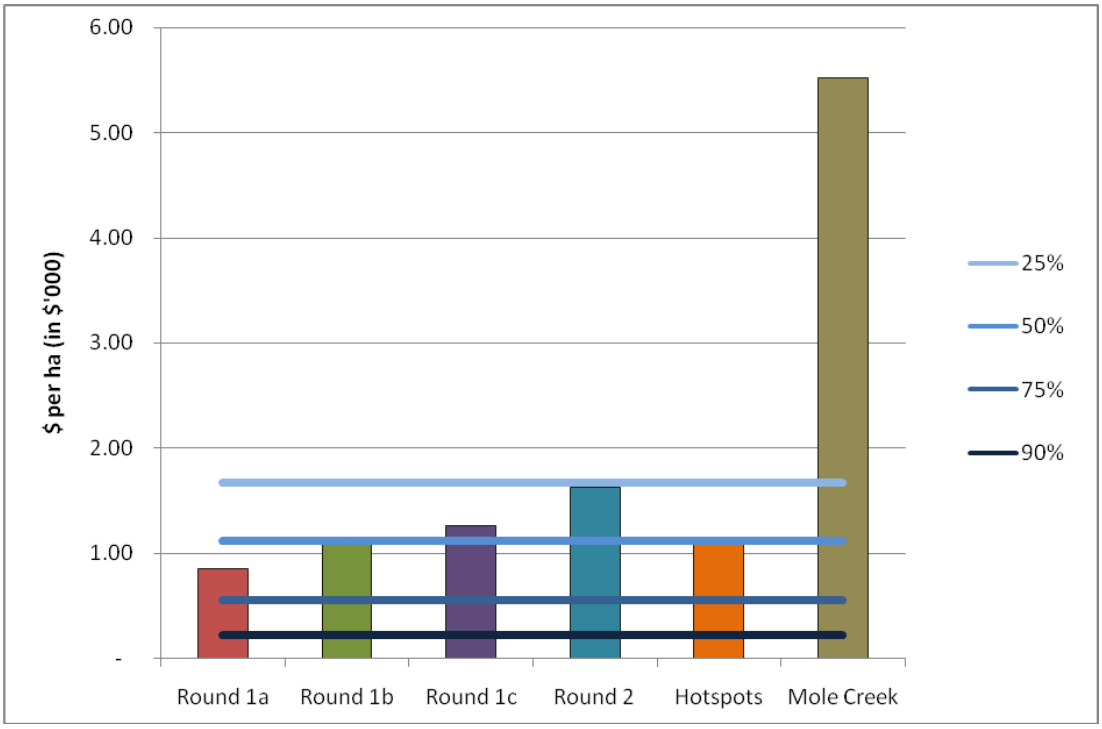
In order to undertake a comparative analysis, MJA has assumed this resale rate for all purchases to estimate the cost-effectiveness of the Revolving Fund, taking into account improvements made and management costs incurred prior to resale. When comparing against other sub-elements of the FCF, cost-effectiveness has been estimated for FCF forest communities only. However, in order to explore the cost-effectiveness of the Revolving Fund under different resale assumptions, Figure 5 compares average resale rates at different percentages of purchase price, with the other sub-elements of the FCF.

As can be seen in Figure 5, at the current resale proportion of 90%, the Revolving Fund is significantly more cost-effective than alternatives. This remains the case even at 75% of purchase price. At an average resale price of 50%, the Revolving Fund competes on a par with most other elements of the FCF, and even at a resale rate of 25% it is only marginally less competitive than most elements.

The key shortcoming of the Revolving Fund compared with other elements is timeliness, with the Revolving Fund under the FCF revolving properties relatively slowly due to market constraints.[7] just 35 ha since its inception.

There are significant start-up time issues for a Revolving Fund that, ultimately, can be expected to be overcome through strategic purchase and effective marketing. However, securing the areas achieved by the tender and fixed price approaches in the same timeframe would simply be beyond any type of Revolving Fund. It is a long term investment in a distinct sub-market that is only now developing.

Figure 5: Relative cost-effectiveness of Revolving Fund at varying resale proportions



Source: MJA analysis of FCF data

3.4. Compliance and risks to FCF efficiency

Potential compliance risks that could affect the FCF could arise from a number of sources:

- successful participants, who have bid significantly lower than the eventual ongoing cost of management actions, and who decide to discontinue management actions in future;
- participants proceed through covenanting process with no intention of undertaking actions, regardless of cost, relying on lax enforcement; or
- the actual costs of management actions increase rapidly in the future, creating widespread compliance risk, especially to agreements in-perpetuity.

[7] As at the end of 2009 when this analysis was undertaken, only one property had actually been revolved. However, MJA is aware that more properties were revolved between the end of 2009 and April 2010 and other properties have been purchased with the sales proceeds.

MJA analysis and discussion with participants suggest that standard management functions are not excessively onerous or expensive, nor are they likely to change significantly in the future, discounting the first and third compliance risks.

Further, participants appeared acutely aware of the significance of the change to their property rights associated with the covenanting action, and are at least conscious of the potential for government oversight of their actions. The extent to which the risk of intentional non-compliance is realised is, in large part, dependent upon the Tasmanian Government's ongoing compliance regime. Assessment of this is beyond the scope of this analysis.

However, it is worth noting that provision of information and assistance facilitating participants' calculations of opportunity costs and management costs could reduce compliance risks by creating efficient bids reflecting actual expected costs.

4. Design lessons

This section provides an overview and analysis of the design process and key design elements of the FCF and associated programs.

4.1. Appropriateness of broad design principles

The design of the FCF drew on the collective knowledge and experience of some of Australia's leading experts in the technical aspects of forest ecology, MBIs, and program design.

The principles guiding design and implementation of the FCF were:

- reward conservation services voluntarily provided by landholders for the public good;
- establish clear priorities for selecting high conservation value forest;
- adopt cost effective approaches;
- meet landholders' needs flexibly;
- maintain participants' confidentiality;
- communicate and consult; and
- work in partnership (with other programs, and broader voluntary measures by landowners).

As a market-based program, participation in any aspect of the FCF was entirely voluntary on behalf of the landowner, based on their willingness to accept payment for the protection of forest assets with high conservation values. Each element generally involved a single payment[8] from the program to landholders[9] reflecting:

- participants' opportunity cost (the cost of productive opportunities forgone from conservation of forest area); and
- the cost of management activities agreed to for the duration of the covenant.

Payments made under the FCF reflect market values for covenanting forest areas, and for the management activities (e.g. weeding, fencing) undertaken by the landowner for the duration of the agreement.

4.1.1. Key findings and recommendations

The detailed involvement of the Assessment Methodology Advisory Panel (AMAP), Australian and Tasmanian Government officials, and interviews and discussions with other nationally recognised practitioners were fundamental to ensuring the development of a robust and effective program.

[8] Although a single payment, participants received a proportion upon accepting an offer, and the remainder upon completion of the covenant.

[9] The exception to this payment approach is the Revolving Fund, in which properties are purchased from the open market, a covenant applied to the area of interest to the FCF, and the property resold in the property market. A 'payment', if any, would reflect any discount the subsequent buyer might receive relative to the original sale price.

Market creation

Prior to the implementation of the program, only limited knowledge was available on the number of potential participants, their willingness/ability to develop bids with high environmental values, and the potential degree of price competition. The success of the program was highly reliant on the ability to create a market that had sufficient depth and competitiveness.

To create sufficient participation to ensure a competitive market, information materials for participants were specifically designed to both encourage participation and assist in the development of quality bids. This included media (print and radio), information packs, and public information sessions to explain the FCF targeted forest communities, mechanism and processes, etc. The fact that the FCF was a suite of market mechanisms (reverse tenders, direct negotiations, revolving fund, etc) was emphasised to ensure landholders were aware of their options for participation. This was vital to ensure there was more likely to be an approach/instrument that met the needs of as many potential participants as possible.

The competitive elements of the Fund were continually emphasised, particularly that available funding was limited, competition for funding would be high, and that bids would be selected based on value for money.

When implemented, the FCF was initially overwhelmed with over 420 expressions of interest and approximately 240 requests for site assessments. This far exceeded the capacity of the on-ground delivery team, and was a key reason for establishing multiple rounds to make the task manageable. In hindsight, as part of the design process, it would have been prudent to:

- undertake more detailed market assessments to estimate likely participation rates; and
- establish processes to manage the potential for over/under-subscription of the FCF.

Ongoing technical input from design experts

The early rounds of the FCF required the resolution of a number of relatively minor technical issues that hampered program timeliness. While these issues were all resolved over the life of the FCF, they highlight the need for ongoing modest input from program designers to ensure technical aspects of the program design are practicable and effective.

Commercial arrangements and potential compliance risks

Payments under FCF involved a part payment (20%) upon signing an agreement and the remainder upon the registration of the covenant. While this approach is administratively simple for both Government and landholders, it may result in compliance risks. This is particularly the case where payments for management actions are made ‘up-front’ and actions are required in the future. Where possible, payments should be matched as closely as practicable to costs faced by landholders to ensure compliance risks are minimised.

Transaction costs and misspecification of cost effectiveness

The approach of ranking proposals (i.e. $/CVI) largely ignores future transaction and administration costs faced by the Tasmanian Government. This issue was raised as part of the mid-term review.

Many of the *ongoing* program administration and management costs are borne by the State - for example, the administration of covenants. To comprehensively assess the relative value for money of different proposals across the life cycle of the FCF requires that all costs are

considered. Currently *future* administrative costs are not included in evaluating proposals for value for money.[10] Value for money over the full lifecycle of the FCF could be enhanced if an estimate of the present value of *future* FCF administration costs is incorporated into the value for money formula.[11] The value for money formula then becomes:

Value for money = ($(proposal) + $(ongoing administration)) / CVI

Because a fixed price agreement was struck between the Australian and Tasmanian governments to undertake much of the ongoing management, administration and compliance management of covenants and agreements secured through the FCF, this design change would not materially change the financial cost effectiveness of the FCF from DEWHA's perspective. However, including transaction costs in the selection process in future is likely to result in fewer contracts and covenants for DPIPWE to administer. This would partially mitigate resource risks associated with DPIPWE's ongoing administration of the program in the long term.

Recommendations

4. As part of the design phase of future MBIs, ensure contingencies are in place to deal with under or over subscription.
5. Ensure ongoing access to technical expertise is available to expedite any necessary amendments to program design or implementation procedures.
6. To minimise compliance risks, investigate and implement commercial payment arrangements for MBIs where payment schedules are better aligned with actual costs borne by landholders.
7. To ensure the assessment of proposal costs is comprehensive over the full lifecycle of the FCF, incorporate estimated future administrative costs into the value for money formula.

4.2. Measuring benefits – the conservation values index (CVI)

MBIs in nature conservation often require the quantification of natural values so that different parcels of land can be compared on the same basis. While a complex process, the development of a scale or 'metric' of natural values of interest to the program can incorporate different aspects of interest to the program (including forestry type, condition, age – old growth or not). The metric developed for the FCF – the CVI – was based directly on the objectives outlined in the FCF Strategic Plan and was developed to assess three aspects of participants' proposals:

- **significance** of the proposal in contributing to the CAR reserves system;
- **conservation** provided by the proposal in relation to current conditions and risks; and
- **security** of the proposal in terms of the length and level of agreement over the proposal area.

The CVI includes key criteria (highlighted in italics below) to assess each proposal against the objectives of the FCF using a number of relevant measures:

[10] In the case of the FCF, these future costs have been funded under a separate agreement between the Australian Government and the State of Tasmania.

[11] Costs incurred prior to proposal selection (e.g. costs of CAs) are 'sunk' costs and should not be considered in the proposal selection.

- *Forest Priority Score* assesses the relative preferences for different forest types;
- *Structural Condition* details the structural form of the forest, derived from RFA Forest Resource Type assessments;
- *Current Condition* of the proposal areas based on benchmarked conditions;
- *Regional Threat Index* assesses the threat to the proposal area from surrounding land uses and conditions;
- *Reservation* considers the current level of reservation for each specific forest type using the established JANIS system;
- *Maintenance* determines a value to represent maintenance of current condition;
- *Improvement* considers the voluntary management actions and the impacts they are likely to have on improving the condition of the proposal site; and
- *Security*, which measures the degree of security offered by the proposal to ensure conservation values are achieved for a specific period, either a fixed term or perpetual covenant.

Models were developed to calculate the CVI for each proposal to enable prioritisation of proposals based on a value for money criteria ($/CVI).

The CVI was used for assessing and comparing all proposals for all components of the FCF except for Mole Creek Karst (where the number of proposals was very small) and for the revolving fund (where multiple properties are not simultaneously assessed).

4.2.1. Key findings and recommendations

There are a number of key findings and recommendations relating to the CVI. These are outlined below.

Appropriateness of CVI to inform proposal selections

MJA found no direct evidence that the CVI is inconsistent with the objectives of the FCF. The CVI was created by professionals with significant technical expertise and experience relevant to the task. It builds on the knowledge gained from the design and implementation of previous programs, using ecological data and mapping capabilities.

However, it should be acknowledged that, during the interview process, some experts consulted did raise some concerns about the CVI, including:

- the extent to which it actively encouraged efficient reserve design;
- that it did not explicitly include endangered fauna in its measurement design;
- that it did not account for corridor effects; and
- that its complexity may have reduced its transparency to landowners.

However, counter-arguments were raised by participant experts that the design of the CVI indirectly accounted for endangered fauna, that the CVI did not preclude reserve design being included in decision-making, and that its design was as strong as any alternative.

The CVI is theoretically robust, practical, repeatable, transparent, and pragmatic given current data, knowledge, and program constraints. Given time, information, and budget constraints, it is unlikely a materially better metric could have been developed.

The CVI and FCF target measurement and reporting

The design of the CVI and the policy intent are perfectly aligned. The CVI:

- enabled the measurement of the extent and condition of target vegetation from proposals;
- differentiated bids based on both condition and extent of existing vegetation and the impacts of ongoing management and protection;
- provided quality information to aid the value for money assessments; and
- provided a robust and accurate means to measure vegetation protection from the FCF and associated programs.

However, the headline targets for the FCF are area-based, and do not perfectly reflect the (superior) approach adopted by the FCF and measured by the CVI. The prime operational objective and first indicator of performance should be defined in terms of improvements in conservation values (measured by the CVI) rather than in terms of areas secured. To avoid confusion, this key distinction between measurements needs to be emphasised to natural resource management policy makers and practitioners.

Where information and data are available, it may also be worthwhile in future to estimate improvements in conservation protection in percentage terms based on the actual metric being used. This would require an estimation of the current extent and condition of forests protected (e.g. what is the estimated CVI score for forests currently protected). This would allow for the development of relatively intuitive targets and measures that utilise more sophisticated measures of conservation value such as the CVI.

Recommendations

8. Ensure information is readily available to all relevant stakeholders to enable their understanding of the advantages in measuring conservation values using the superior CVI approach as opposed to area based targets.
9. For future programs, explore the possibility of establishing targets that better reflect the measurements from metrics such as the CVI (e.g. % increase in levels of protection).

Weightings in CVI

The weightings used in the CVI represented the best information available at the time of development. At no time during this review did anyone raise any material concerns regarding the weightings used in the CVI.

However, the reservation status of key vegetation communities will have changed as a consequence of the FCF.

Recommendation

10. If the CVI is to be used for future programs, it would be prudent to update weightings prior to the commencement of those programs.

Ongoing use of CVI

The CVI is a practicable and useful tool that could assist greatly in the design and implementation of future forestry conservation programs in Tasmania, run by both the government and non-government sector. To the extent possible, the CVI could be made available to other organisations wishing to run forestry conservation programs.

In addition, the establishment of the CVI has also created a unique opportunity to test the relative efficiency of alternative market based approaches to achieve conservation outcomes on private land.

Given the fact that the TLC will be continuing with the revolving fund in Tasmania, there is a unique opportunity to compare the relative efficiencies of alternative market approaches. These comparisons would be enhanced if the CVI was retrospectively applied to the information gathered for properties being revolved. This comparative information will be vital to inform future design of programs across Australia.

Recommendations

11. Make the CVI available for use by future conservation programs where applicable.
12. Consider applying the CVI retrospectively to the properties being revolved through the Revolving Fund to enable a more robust analysis of the relative cost effectiveness of alternative market approaches.

4.3. The potential efficiency gains from using an MBI

The major policy innovation in the FCF was the use of a reverse tender to create a competitive market and to ensure value for money.

4.3.1. Key findings and recommendations

It is possible to estimate the efficiency gains from the FCF by comparing successful bids (selected through the reverse tender) and a less sophisticated approach to incentive design, for example, awarding contracts in the order in which proposals with appropriate FCF forest types are received.

Table 8 shows the total value of CVI units purchased through the reverse tender rounds of the CVI, compared with the CVI units that would have been purchased if proposals had been funded based on the order in which they were received. It demonstrates that the gains from using the reverse tender approach are very significant -in this case, in excess of 52%.

Table 8: Potential efficiency gains from using a reverse tender

Conservation Outcomes	*CVI (millions)*
CVI units purchased using reverse tenders (millions)	90.8
CVI units purchased based on order of proposals received (millions)	59.6
Increase in CVI units attributable to use of reverse tender (millions)	31.2
Increase in CVI units (%)	52.3

Source: MJA analysis of FCF data

Recommendation

13. The potential for efficiency gains through the use of more sophisticated approaches to conservation funding needs to be clearly communicated to policy and programs managers.

4.4. The economic value of investing in metric design

One of the criticisms of sophisticated MBIs like the FCF is the significant up-front investment often required to design metrics and the additional GIS inputs associated with applying the metric. It can be argued that all of the other management and administration costs would be the same for any incentive program, irrespective of the metric used.

4.4.1. Key findings and recommendations

There is little empirical evidence on the value of the use of more sophisticated metrics. However, it is possible to isolate and estimate the efficiency gain from using a more sophisticated metric, where:

- benefits are valued based on differences in conservation gains between selections using a complex metric (in this case $/CVI) and a simple selection process (say $/ha); and
- costs are the incremental increase in management and administration costs attributable to the design and application of the metric to underpin the CVI-based selection process.

Using actual proposal data from the FCF, selections of the most cost effective proposals were made using $/CVI (a complex metric) and $/ha (a simple metric) assuming a hypothetical $20 million program budget. The value of additional CVI units achieved using the $/CVI metric are estimated based on the average prices from all successful bids. Results of this hypothetical analysis are shown in Table 9.

Table 9: Return on investment in CVI-based selections (hypothetical $20 million program)

Conservation outcomes	*CVI (millions)*
CVI units purchased using $/CVI selection (millions)	66.3
CVI units purchased using $/ha selection (millions)	55.9
Increase in CVI units (millions)	10.4
Increase in CVI units (%)	18.6
Economic benefits and costs	*$ (millions)*
Estimated value of additional conservation outcomes (millions)	3.3
Estimated incremental cost of establishing and using CVI (millions)	0.5
Net benefit from CVI-based assessments (millions)	2.8
Benefit cost ratio	6.9

Source: MJA analysis of FCF data

Using the $/CVI metric, an additional 18.6% in conservation outcomes are achieved. The additional conservation gains are valued at approximately $3.3 million, while the cost of achieving those benefits is only $0.5 million. The ratio of benefits to costs from investing in the CVI is 6.9.

Recommendations

14. For all future programs, use practicable but robust metrics to assist with the measurement of proposal values.
15. The economic benefits of using metrics need to be communicated to policy makers and MBI implementers.

5. Implementation lessons

This section summarises the analysis and lessons relating to the implementation of the FCF.

5.1. Service providers

There are two key on-ground service providers relevant to this assessment. A consortium led by consultancy firm KPMG and the Tasmanian Land Conservancy (TLC). Both of these organisations had responsibilities for implementing the program to a point where covenants were secured.

DEWHA and DPIPWE also played major roles in the on-ground implementation. However, it should be noted that the government agencies had limited direct contact with participants, expect where problems arose.

5.1.1. Key findings and recommendations

KPMG consortium

KPMG is an international management consultancy specialising in project management activities. The rationale behind choosing the firm to manage the service provision activities of the FCF leant on its size of operations, reputation and project management capacities.

The firm does not have a significant presence in the natural resource sector and had previously undertaken limited work in this field prior to the FCF.

From our interviews with the service provider consortium, government agencies and participants, and a review of relevant program documents, MJA has identified the following strengths of the KPMG consortium:

- clearly, the consortium was able to attract a significant number of quality proposals, with significant oversubscription especially at the beginning of the process;
- participants viewed the Conservation Advisors most favourably, with positive feedback provided to IPSOS in a post-program review, and to MJA in discussion with landowners;
- sophisticated data systems were developed and well managed by GIS providers;
- MJA is aware of no concerns relating to timeliness of reporting, although concerns were strongly noted on quality of information provided to DPIPWE to facilitate covenanting; and
- probity was undertaken rigorously and considered by all to be a key strength of the program.

Identified weaknesses of the service provision consortium included the following.

- Given the nature of the objectives of the Fund and the target participants (i.e. primarily foresters and farmers) it is vital that the on-ground delivery agent has an understanding of the target participants and their industry to maintain credibility and develop the market. Semi-structured interviews with participants raised particular problems relating to a lack of knowledge of farming, forestry and conservation within critical parts of the consortium delivery organisation. This may have had a detrimental impact on the conversion of expressions of interest into actual proposals.

- Project management coordination of the team, especially in the early stages of the project. Clarification of tasks and identification of delivery responsibilities between participants was lacking during Round 1, but notably improved in Round 2.
- Some variability in the quality of site assessments was identified, relating to differing capacities of Conservation Advisors, and the stop-start nature of assessments meant some trained staff left the program between rounds.
- Delivery of the information sessions was identified as a shortcoming, with information provision considered 'too formal' and simply a repeat of printed material already received.
- As noted, administrative effectiveness was considered a shortcoming in the early stages of the project.

More broadly, the effectiveness of choosing a service provider without significant experience in natural resource management at its core was questioned by many participants in the interview process. The issue of the 'cultural fit' of KPMG with the program was constantly raised as a real risk to the effectiveness of the consortium.

Tasmanian Land Conservancy (Mole Creek, Hotspots, Revolving Fund)

TLC was the service delivery agent for the Mole Creek Karst program, the Maintaining Australia's Biodiversity Hotspots program and the ongoing operation of the Revolving Fund. TLC has a strong background in nature conservation and land management in Tasmania, and judging by the outcomes achieved in the FCF, they appear to have significant capacity for community consultation and on-ground delivery and natural resource management projects of this nature. For example, the Mole Creek program was characterised by particularly sensitive community issues, and a reasonable outcome has been achieved on-ground.

Importantly for a program requiring trust and confidence, TLC has a suitable 'cultural fit' to the objectives of the FCF, with a strong understanding of nature conservation as well as on-farm issues for commercial operators. The IPSOS communications work undertaken prior to implementation of the FCF noted potential participant concerns about service deliverers being 'too closely aligned' with either the conservation movement, or logging interests. TLC appears to fit comfortably between these.

However, it is highly doubtful the TLC could have managed the larger elements of the FCF (reverse tenders) without having to establish a consortium. This would have probably resulted in similar problems to those encountered by the KPMG-led consortium.

Commonwealth and Tasmanian Government agencies

Both the Commonwealth and Tasmanian Government agencies (DEWHA and DPIPWE) have invested significant resources and allocated appropriately experienced staff to the overall management of the FCF.

Because of some difficulties in early on-ground management by the KPMG consortium, both government agencies were required to invest greater levels of resourcing than had been anticipated, with DEWHA officers undertaking communications tasks and DPIPWE liaising with the service provider consortium on product delivery. In addition, some difficulties arose early in the on-ground delivery where KPMG consortium subcontractors could not readily discuss technical issues without first going through KPMG. This created unnecessary delays in the roll out of certain aspects of the program.

Probity reports undertaken by PSI note that only minor concerns were raised with government agencies, and promptly dealt with.

Given early delivery difficulties that may have been assisted by more detailed contract specification, it may be prudent for future managers of programs of this nature to seek assistance in contract development.

Recommendations

16. For future programs, it will be vital to ensure service providers have an appropriate 'cultural fit' with the intentions of the program and have a high degree of credibility with participants.
17. Where on-ground programs are being delivered by a consortium, DEWHA should ensure contractual arrangements between the Commonwealth Government and the consortium allow for direct contact between DEWHA and sub-contractors to quickly resolve issues of a technical nature.

5.2. On-ground implementation of technical assessments

The CVI is fundamental to the effective evaluation of competing proposals in the FCF. While the CVI design served the selection process well, the tool is only useful if it can be applied on the ground.

5.2.1. Key findings and recommendations

Significant efforts were made to ensure the CVI could be applied on-ground by Conservation Advisors. This included the establishment of manuals, formal training and the selection of Conservation Advisors with a relevant technical and professional background. These actions generally resulted in an effective application of the CVI to on-ground assessments.

Semi-structured interviews revealed that the oversubscription of the FCF resulted in additional Conservation Advisors being employed, and some of those Conservation Advisors only received limited training. In some limited circumstances this created quality assurance problems for the FCF (requiring additional assessments, etc.).

However, the problems encountered were relatively minor given the number and scale of the assessments. These quality assurance risks could have been mitigated further through ensuring the capacity of Conservation Advisors was maintained through both recruitment and training.

Recommendation

18. For future programs, ensure on-ground staff have sufficient and relevant skills to undertake assessments through appropriate recruitment practices and targeted and relevant training.

5.3. Program administration costs

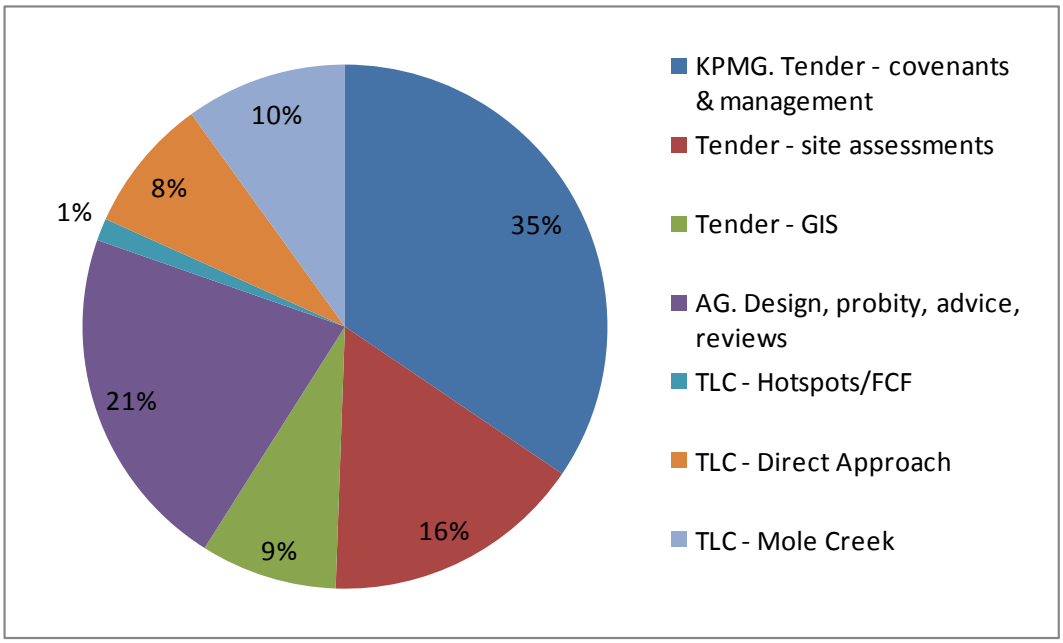
Program administration costs include the full cost of designing and implementing the program and essentially cover all budgeted program funds except disbursements to participants. The following analysis is based on confidential budget and contract data provided directly by DEWHA.

5.3.1. Key findings and recommendations

Program administration costs for the FCF totalled 10.5% of the total program budget, including design costs and all service provider contracts, but not including ongoing costs to DPIPWE (covenant management).

The breakdown of included costs across service provision can be found in Figure 6 below. The bulk of administration costs went to KPMG management (35%), Australian Government oversight, probity and reviews (21%) and the site assessments (16%).

Figure 6: Breakdown of administration costs, FCF



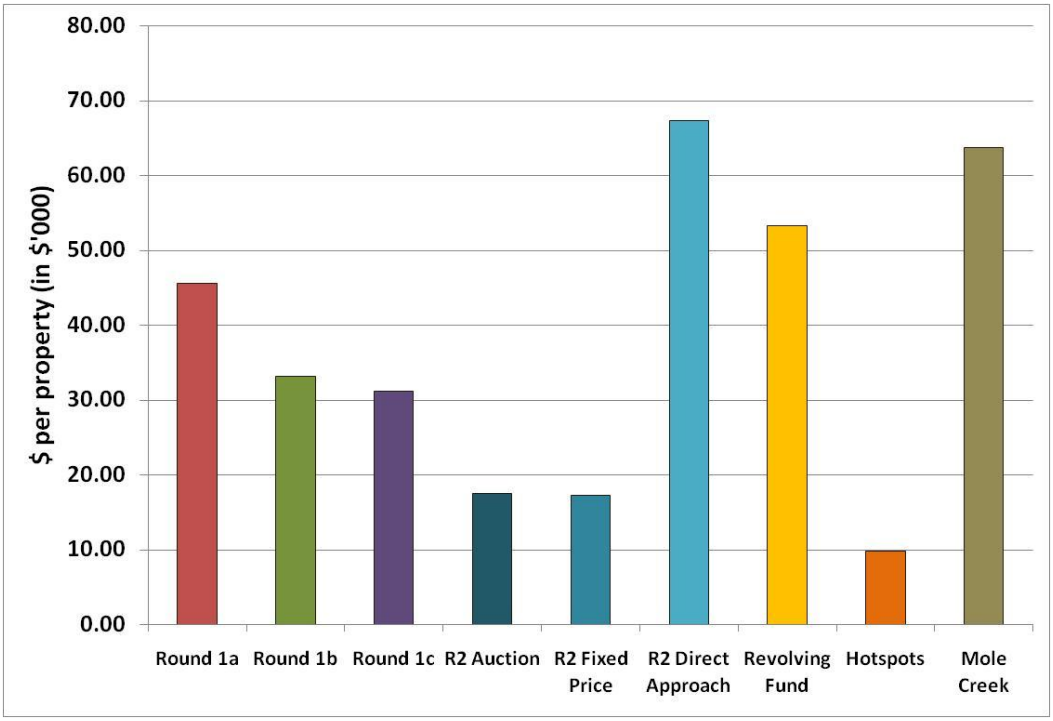
Source: MJA analysis of program costs

Administrative costs per successful property for each sub-element of the FCF varied significantly due to the complexity of administrative tasks, and the ratio of assessments to eventually accepted offers. Administration costs per property are shown in Figure 7. Key points to note include the following.

- The relatively high administrative costs of the Round 2 Direct Approach partly reflects the high number of approaches and assessments undertaken (twenty four) relative to the small number of properties (eight) which accepted offers.
- Mole Creek costs reflect the extent of detailed community engagement required for this sub-element of the FCF. The low Hotspots costs reflect the fact that the FCF complemented an existing program and costs were therefore shared.
- The lower Round 2 Tender and Fixed Price administration costs per property reflect the fact that many participants had already undertaken assessments for earlier rounds of the reverse tender.

The costs are substantial and are often predominantly fixed in nature (i.e. they do not change much, irrespective of conservation benefits). Therefore, program design and implementation needs to ensure that effort is channelled to proposals that are more likely to provide significant conservation benefits (e.g. via coarse screening prior to field assessments).

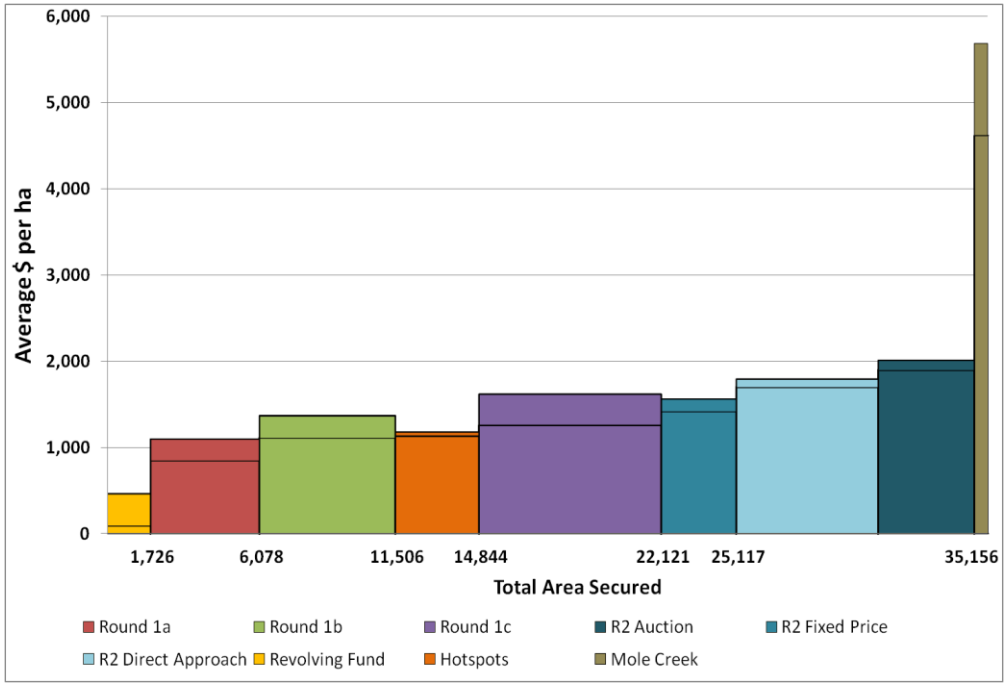
Figure 7: Administrative costs per property by FCF sub-element



Source: MJA analysis of program costs

Figure 8 shows the addition of administration costs and program costs expressed per hectare for each sub-element of the FCF.

Figure 8: Program cost and administrative costs per hectare by FCF sub-element



Source: MJA analysis of program costs.

The administrative costs sit above program cost for each sub-element.

The incorporation of administrative costs reorders the ranking of cost-effectiveness (per hectare) in that the low administrative costs of the Biodiversity Hotspots sub-element render it more cost-effective than Round 1b.

Recommendation

19. Information from this analysis of administrative costs for the various elements of the FCF should be utilised to better design future programs and to establish targets (i.e. what proportion of program costs may be used on administration).

5.4. Transaction costs faced by participants

Landholders participating in the FCF also faced their own transaction costs. While quantitative data is not available on these costs, semi-structured interviews did gain some insight into these costs.

5.4.1. Key findings and recommendations

Key findings from the analysis include:

- Landholder transaction costs were highly variable, depending on specific property circumstances (e.g. whether they had comprehensive information and valuations of their forest assets), the level of consultation undertaken with family members (e.g. discussing property succession options with their children), and the degree to which professional advice was sought (e.g. tax advice, property valuation advice).
- Developing the content of proposals generally took between a few hours and a few days. Often these time requirements were increased as participants sought additional information regarding rights and obligations under the program.

While all successful and unsuccessful participants faced transaction costs, interviews revealed that even the unsuccessful participants gained some benefit from the program, particularly a better understanding of the extent and condition of the forest assets on their property and a better understanding of best management practices to maintain or enhance forest condition.

The semi-structured interviews also revealed that landholders' transaction costs may have been higher than necessary due to ambiguity about key issues such as the tax treatment of payments and the impacts of covenants on rates. These transaction costs could be lowered through the provision of targeted and relevant information on key common issues by DEWHA and/or on-ground service providers.

Recommendation

20. Transaction costs faced by landholders should be considered as part of program design and implementation to ensure the overall economic efficiencies of programs are improved.

5.5. Participant engagement and impacts on program outcomes

Communication was vital to participant recruitment for all elements of the FCF. This was managed through a series of information products and one-on-one contact (particularly from Conservation Advisors).

5.5.1. Key findings and recommendations

Semi-structured interviews undertaken by MJA for the mid-term and final reviews of the FCF, as well as work undertaken by IPSOS, provided a wealth of qualitative information on the effectiveness of information provision, the degree to which participants could establish efficient proposal prices, and the impacts the instrument used had on participation.

Information provision: content and approach

Communication to the Tasmanian public and recruitment of suitable and interested landowners were clear strengths of the program, as reflected in the oversubscription at the first call for participants. A variety of strategies were undertaken to encourage participation, including radio, print, and appearances by FCF staff at rural exhibitions. In discussion with participants during semi-structured interviews, most could not remember where they had first heard of the program, which may suggest the breadth of communications.

Semi-structured interviews indicated that the level of satisfaction with printed information available was generally high, but that the language could be simplified and more case studies provided. However, there were critical issues where information was not readily available, particularly the tax treatment of payments and the potential for capital loss implications.

In addition, some landholders who sought professional advice found the advice expensive to obtain and, in some cases, ambiguous. This may have had an upward impact on proposal prices as opportunity costs were worked out on a pre-tax cost base, whereas the true financial cost to the landholder was often on a post-tax basis.

These issues raise the need to ensure that a broad suite of fit-for-purpose information products are available for all critical issues that impact on participation and proposal prices.

In addition to the various levels of printed information, there were two key forms of verbal information available to participants: formal information sessions and direct contact with Conservation Advisors, primarily during property visits. Generally the interviews revealed that the information sessions could be significantly improved by providing more in-depth information, for example through an introductory session and an in-depth session, and ensuring presenters have significant industry knowledge and credibility. Field assessments and one-to-one contact with Conservation Advisors were generally very well received.

Finally, regarding communication, MJA interviews with successful applicants revealed significant disquiet regarding timeliness of payment, and responses during the ongoing operations of the program. Rather than an inherent failure of communication, this reflects the time burden of administration. However, a communication regime could perhaps be better designed to reduce negativity surrounding these issues.

Establishing reasonable proposal prices

MBI programs will be most efficient where proposal prices are an accurate reflection of economic opportunity costs. The IPSOS post-program review noted that the difficulty

establishing a realistic bid was the main barrier to participation for potential landowners. Detailed assistance on bid-setting might reduce the 'risk premium' added to bids. While the competitive nature of the Fund discourages rent seeking behaviour, interviews revealed that participants often incorporated a contingency cost or uncertainty premium within their proposal prices. Key drivers of these contingency values included:

- commercial issues such as taxation treatment (mentioned previously) and impacts on property values and property rates;
- the 'fit' of obligations under the FCF with broader property management and landholder aspirations;
- a reluctance to commit their children to obligations under the Fund (particularly for 48 year and perpetual covenants);
- uncertainty regarding the costs of some management actions in the long-term (e.g. costs of replacing fences to exclude stock in 50 years); and
- limited capacity to systematically develop a proposal that effectively meets the requirements of the FCF (e.g. what management actions should be included?) and where the price sought represents the tradeoffs between commercial outcomes and delivering environmental services.

In addition to the upside price risks, where participants are unable to establish a reasonable proposal price, and bid below the true economic cost, they are more likely to become a compliance risk to the program in the future.

The limited capacity of some participants to establish a reasonable proposal (both content and price) could have a significant impact of the efficiency of the MBI being used. Therefore, it would be prudent to undertake modest investments in enhancing participant capacity, including, for example, workshops to assist participants in resolving any uncertainty without perversely impacting on the competitive nature of the program.

Instrument used: reverse tender vs. other approaches

Tasmania has a history of utilising grants-based funding mechanisms and suasive programs to encourage enhanced forest conservation on private land. The FCF was the first attempt to use a more sophisticated MBI approach. Semi-structured interviews reveal mixed preferences towards the different approaches.

Many participants, particularly landowners on larger properties, preferred the ability to establish a price themselves under the reverse tender approach. The reverse tender approach overcame common shortfalls between private costs and funding available under other programs with fixed co-contribution ratios (e.g. 50% landholder and 50% government).

Conversely, many other participants struggled to establish a price and/or were opposed to the highly competitive nature of the reverse tender. These landholders held a strong preference for the fixed price approach. However, it should be noted that the introduction of fixed price offers in Round 2 of the FCF created dissatisfaction amongst some participants from the earlier rounds that had submitted successful proposals at a lower price than those offered in the later fixed price rounds. It may have also perversely encouraged an upward shift in price expectations for some landholders who had opportunity costs below the take-it-or-leave-it rate being offered.

The different preferences of participants reinforced the decision to establish a suite of approaches under the FCF, each with different attributes that would appeal to a wide mix of landholders.

Recommendations

21. Information provision needs to be enhanced (e.g. tax treatment of payments) to cover issues that may become impediments to participation, or result in uncertainty premiums being priced into bids.

22. It would be prudent to undertake actions to enhance the capacity of participants to develop quality bids (e.g. workshops). In doing this, it is vital to ensure the competitive nature of proposal prices is maintained.

6. Broad policy lessons and future challenges

There are a number of broad policy lessons and future challenges that arise from the review of the FCF that have a direct bearing on future conservation incentive programs. These relate to the use of market approaches, the use of third parties to deliver programs and a need for ongoing policy development to continuously enhance the use of MBIs.

6.1. The use of market approaches

The FCF was a successful program, achieving significant gains in the protection of strategic forest communities across Tasmania. On the whole, it was an efficient and effective investment of funds, a successful application of Commonwealth policy and a useful contribution to the further development and application of MBIs for nature conservation in Australia.

There are a number of key lessons coming out of the FCF that could inform future Commonwealth applications of MBIs.

- It is prudent to undertake some basic socioeconomic assessment prior to designing and implementing bids to better understand what issues and MBI attributes will drive participation and bid prices.
- Competitive tenders are a cost-effective tool for nature conservation in contexts similar to that of the FCF (many participants, differing costs and quality of environmental goods), and efficiency can be maximised where longer timelines allow several tender rounds and potentially multiple entry points.
- Where timelines are short, fixed price offers are a complementary cost effective option to secure large areas quickly, albeit only after some reverse tender rounds or other approaches have been used to establish a reasonable market price.
- From the early evidence to hand, Revolving Funds can be an especially cost-effective tool for delivering conservation outcomes. However, they cannot deliver large areas from multiple properties into a conservation estate quickly due to their inherent market constraints. They require long timeframes and outcomes are heavily dependent upon the ability to revolve properties in a sometimes limited market.
- More sophisticated approaches and the use of metrics can deliver very significant efficiency gains and the up-front investment in good design pays dividends for the Government.
- There is a case for enhancing participants' capacity to develop quality proposals and to reduce uncertainty for landholders to avoid a 'risk premium' added to tender bids.
- Given the long term policy goals and the relative cost-effectiveness of covenants of different duration, consider limiting offers to covenants in-perpetuity.
- It would be worthwhile exploring the merits of on-going payments rather than a single up-front lump sum, in order to reduce risk and 'buy' a relationship with participants.
- There are a number of issues that need to be managed carefully when using third parties to deliver MBI programs, including:
  - the need for terms of reference and contracts to be tightly structured to provide certainty and avoid variations; and

– the need to ensure the 'cultural fit' of service delivery suppliers to ensure appropriate capacity and the trust of potential participants.

6.2. Third party delivery model

The third party delivery model ultimately achieved the desired goals of the program. Given the current lack of in-house service delivery options, third party delivery is a necessary choice.

MJA has raised the issue of the 'cultural fit' of the service delivery project manager. It is possible that choosing service delivery organisations with closer ties to on-ground issues and relationships will make it more likely that service delivery organisations achieve greater buy-in by participants, overcome key trust issues associated with government programs, and foresee potential risks and challenges relating to landowners.

6.3. Future policy challenges

As the results show, the FCF has made a significant contribution to conservation of native forestry in Tasmania. It has achieved the results in a very short time frame compared with other programs and has delivered the outcomes in a cost effective manner. However, a number of future challenges have become evident from this review. These include the following.

- The need to design programs that move beyond efficient one-off transactions to achieve conservation, to a situation where an ongoing relationship, underpinned by an MBI between governments and landholders, is established that allows for adaptive management over time.
- The need to research and understand the opportunities and risks that are emerging from the process of unbundling land-based property rights and obligations and how this process impacts on the design and delivery of effective and efficient programs in future.
- The need to establish covenants that are more flexible and do not inadvertently extinguish landholders' future opportunities to participate in complementary environmental programs (e.g. carbon abatement and biodiversity programs).
- As markets for ecosystems are established and become more common, the interaction between different MBIs and MBIs and other policy approaches needs to be better understood and managed to ensure perverse outcomes do not occur.
- The need to develop capacity of third party delivery organisations to ensure continuity and quality of service will become increasingly vital as the use of MBIs becomes more widespread. Consideration of a degree of centralisation of some technical capacities that apply to multiple MBI programs may be warranted (e.g. payment systems).
- The need to better understand where multiple environmental benefits from programs can be achieved. Where are the synergies? Where are objectives in conflict and what can be done about it?

The challenges outlined above demonstrate that there are still a great number of issues that need to be resolved before MBIs will become more widely adopted. Fundamental to ensuring appropriate and efficient use of MBIs into the future will be the need for continuous monitoring and evaluation of MBIs. Only by doing this can policy makers make informed choices on what policy instruments to use and under what circumstances.

Appendix A: Overview of the suite of measures under the FCF

As part of the design process, the Australian and Tasmanian Governments designed and implemented a suite of mechanisms. These are outlined below.

Reverse tender approach

The centrepiece of the FCF was a tender process in which participants offered the conservation of a parcel (or parcels) of land populated with forest communities of interest to the program, nominating a price paid by the program in exchange. Participants set the duration of protection, and could nominate specific management actions to be undertaken at their expense. This aspect of the FCF was implemented by service provider KPMG.

CVI scores are established by field assessment and GIS mapping, so that the cost effectiveness (price per CVI, price per hectare) of the offer can be established. Once all tenders have been received for each round of the tender, applications can be compared on a like-for-like basis ($/CVI) and the best value for money offers accepted.

The FCF involved four sub-rounds under the reverse tender approach – Rounds 1a, b, c, and Round 2 involving participants who had expressed interest in the program but not yet participated, and those who had been unsuccessful in Round 1.

Fixed price offers and direct offers

Concurrent with the Round 2 tender, two extra approaches were introduced due to time constraints. These were fixed price offers and direct approach offers.

Fixed price offers

Unsuccessful applicants from Round 1(a-c) and any other landholders who had expressed an interest in the FCF but not participated were provided with fixed price offers for land parcels, with the price fixed at the average (mean) price ($/CVI) paid to successful participants in Round 1. Participants could either accept these fixed price offers, nominate instead to enter into the Round 2 tender, or reject all offers.

Direct approach offers

A range of larger landowners who had not filed an expression of interest to the FCF were also directly approached by the service provider (the TLC) and asked to participate in the program on the same basis as the fixed price participants, fixed price offers fixed at the average accepted price from previous rounds.

Maintaining Australia's Biodiversity Hotspots Tender

The Midlands Maintaining Australia's Biodiversity Hotspots Tender was part of a broader Commonwealth program[12] targeting conservation in areas of high biodiversity across Australia. The Tasmanian Midlands was identified as one of these areas, and a tender

[12] The Maintaining Australia's Biodiversity Hotspots Program

mechanism was developed to conserve all classes of native vegetation, and involving shorter Stewardship contracts than the FCF. Service provision was undertaken by TLC.

Some overlap between the objectives of the FCF and the Hotspots program were identified, and, as a result, areas of FCF value were protected through FCF funding under a fixed price approach (based on the average CVI score paid in tender rounds 1a and b), leading to administrative efficiencies.

Mole Creek Karst

The Mole Creek High Sensitivity Karst Catchment is a region of high conservation value karst limestone caves in Central Northern Tasmania, that is heavily dependent on dairying, grazing, forestry and tourism. The area also contains priority FCF forest communities.

A 'direct offer' approach was developed and implemented by service provider TLC based on the quality of forest assets (old growth, priority assets, connectivity) combined with the priority of limestone karst assets on a property. The CVI was not used in this component of the FCF, and the offers were non-competitive, as the program was deemed to be meeting community as well as social objectives.

Revolving Fund

The final component of the FCF is the Revolving Fund, with service provision by TLC. A Revolving Fund is a 'market friction' MBI which uses the existing property market to conserve priority assets. The FCF Revolving Fund involves the strategic purchase of properties on the real estate market retaining FCF priority forest communities, the introduction of improvements and management activities, the application of a conservation covenant on areas of interest, and subsequent resale to the property market. All participation is voluntary, and the 'cost' of conservation is the price of purchase, management activities and covenanting, less the resale price.

Appendix B: Documents reviewed

Outlined below are the key documents reviewed during the first phase of this consultancy. Note: the majority of these documents are unpublished and commercial-in-confidence.

Documents relating to policy intent and strategy

Anon., 2005, *Supplementary Tasmanian Regional Forest Agreement between the State of Tasmania and the Commonwealth of Australia*.

Commonwealth of Australia, 2006, *Strategic Plan for the Forest Conservation Fund.*

Documents relating to the design of the FCF

Anon., 2006, *FCF assessment methodology terms of reference.*

Anon., 2006, *Assessment Methodology Advisory Panel Options Paper: Methods for Assessing the Significance, Services and Security offered in Proposals to the Forest Conservation Fund and Recommendations for Tender Design.*

Cork, S., 2006, *Rules that the Evaluation Panel should use to prioritise applications for funding from the FCF*.

Corporate Communications Pty Ltd, 2007, *Forest Conservation Fund: draft communication strategy*.

Department of Environment and Heritage, 2006, *Forest Conservation Fund: draft communication strategy*.

Eigenraam. M, Barker. P, Brown. M, Knight. R, Whitten. S, 2007, *Forest Conservation Fund: Conservation Value Index Technical Report.*

IPSOS, 2006, *Forest Conservation Fund: communications strategy development research – executive summary document.*

Documents relating to the implementation of the FCF

Anon, 2006, *Agreement between the Commonwealth of Australia and KPMG in relation to consultancy services for delivering the voluntary conservation agreement component of the Tasmanian Forest Conservation Fund (FCF).*

Assessment Methodology Advisory Panel, 2007, *Forest Conservation Fund: Field Assessment Manual.*

Commonwealth of Australia, 2006, *Agreement between the Commonwealth of Australia and the Crown in the right of Tasmania in relation to ongoing monitoring and management support services to owners of covenanted land participating in the Forest Conservation Fund.*

Commonwealth of Australia, 2007, *Agreement between the Commonwealth of Australia and the Crown in the right of Tasmania in relation to services to implement the Forest Conservation Fund.*

Commonwealth of Australia, 2007, *Forest Conservation Fund: conservation advisor information kit.*

Commonwealth of Australia, 2007, *Information kit for landholders interested in the Forest Conservation Fund.*

KPMG, 2007, *Tasmanian Forest Conservation Fund Application Process Guidelines, May 2007.*

PSI, 2007, *Probity Plan for the Forest Conservation Fund*.

In addition, several commercial-in-confidence internal documents from DEWHA were reviewed.