

Engaging the Community in Reforestation After the 2003 Canberra Bushfire

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Abstract

The 2003 bushfire destroyed about 10,500 hectares of ACT Forests' pine plantations, prompting the ACT Government to review the future use of non-urban land in the ACT. The review process recognised two zones – east and west of the Murrumbidgee River – with different land use constraints and options. Those for the former were constrained by fire abatement considerations and their proximity to current or potential suburban development. Those for the land west of the Murrumbidgee remained potentially available for plantation reforestation, but the relative proportions of radiata pine and native species to be replanted in this zone was to be determined on a sub-catchment basis by consultation between ACT government agencies and relevant scientists.

Both the planning and conduct of reforestation and restoration in each zone offered opportunities for engaging the ACT community, which had also been invited to comment during the land use review process, and which was keenly interested in the future of the ACT's non-urban lands. ACT Forests, the ANU and Greening Australia established and facilitated a regreening partnership involving Canberra-based scientists, ACT Government agency staff, and Greening Australia. The partnership provided the basis for the advice to ACT Forests about reforestation west of the Murrumbidgee, but also facilitated expert input to reforestation decisions generally, research and teaching and learning opportunities, monitoring of environmental outcomes, and community participation in reforestation and restoration activities.

This paper describes the origins and genesis of the partnership, and its activities. It discusses the benefits of the partnership approach to both the partners and to the wider ACT community, and briefly addresses the challenges facing the partnership. We note that the partnership is a particular manifestation of the more general participatory forestry paradigm.

Keywords: Community engagement, post-bushfire reforestation, participatory forestry, partnerships, plantation forests, urban forests

Introduction

ACT Forests is the government forest agency in the Australian Capital Territory¹. Prior to the January 2003 bushfire (for an overview, see McLeod 2003), ACT Forests managed a forest estate of 26,000 ha, which included 16,600 ha of softwood (*Pinus radiata* D. Don) plantations. The plantations were concentrated in four areas: Mt Stromlo, to the immediate northwest of Canberra (2,300 ha); in Uriarra (4,600 ha) and Pierces Creek (4,500 ha), further to the west across the Murrumbidgee River; and Kowen (5,200 ha), to the east of Canberra.

Both because of their proximity to Canberra and because of the particular forms of recreational opportunity they provided, the ACT's plantation forests were very heavily used for forest recreation, with an estimated usage of one million visitors each year (Mackay 2003). Stromlo Forest in particular was highly valued because of its immediate adjacency to Canberra's suburbs. Around 5,000 ha of the Uriarra and Pierces Creek Forests were within the lower catchment of the Cotter River, above the Cotter Dam. While water from this dam has not been used in Canberra's water supply since the 1970s, restoring supply from it was and remains under active consideration by the ACT water supply corporation (ACTEW 2004).

ACT Forests operated as a public trading enterprise, and the ACT Government expected its plantation forestry operations to operate on a commercial basis. This meant that ACT Forests focused largely on improving the commercial performance of its plantation operations, and there was only limited public participation in the management of the forest estate.

The January 2003 bushfire, which originated in the Brindabella Ranges west of Canberra, burnt about 2/3rd of the Australian Capital Territory, killed four people and destroyed nearly 500 houses and about 10,500 hectares of ACT Forests' pine plantations (McLeod 2003). The burnt plantations included all of Pierce's Creek, Uriarra and Stromlo Forests. The latter had existed on the western urban interface of Canberra since the 1920s and was, as a result, part of fabric of Australia's "Bush Capital".

The loss of life and extensive property brought out unprecedented community spirit in Canberra, attracting a remarkable level of donations, volunteer assistance and effort, as well as an outstanding government-facilitated recovery process (see ACT Government 2003a). The suburbs of Weston Creek adjacent to Stromlo Forest were those most severely impacted by the bushfire and, the community's views about these peri-urban pine plantations changed as a result. The plantation forest environment which was previously perceived as desirable, or at least benign, came to be seen as a significant threat by at least a proportion of the community. However, the fire also destroyed places – for example, Deek's Forest Park in the Stromlo Forest, or the Cotter Reserve adjacent to the Cotter Dam - which were heavily used and highly valued by the community, and so there was also an acute sense of disconnection and loss.

Immediately after the fire, ACT Forests commenced salvage harvesting and clean up operations in the burnt plantations, while the ACT Government considered the both the lessons which should be learnt from the fires and the future use of the burnt plantation land. The ACT Government acted quickly to establish two review processes: the first, chaired by Ron McLeod, was to inquire into the operational response to the bushfire (McLeod 2003); the second, chaired by Sandy Hollway (as Chair of the ACT Bushfire Recovery Taskforce), was to review the non-urban land use in the ACT (ACT 2003b & c). The loss of such large areas of plantation provided an opportunity for land use changes well beyond those which had previously been consideredⁱⁱ, and significant land use changes were mooted by the Government, including the conversion of highly-used prei-urban former plantations to new suburbs. Both of these reviews involved extensive community consultation, and the level of community interest in the processes and their outcomes were very high.

Reviewing fire management in the ACT

The McLeod Inquiry was conducted in the six months immediately after the bushfire. While its main focus was on the operational response, it also considered some aspects of land use

planning and fuel management. Given the impact the fire had on Canberra, it was not surprising that the Inquiry received over 130 public submissions. Public views on the role of forests and fuel management in forest areas were diverse, but in general there was concern about the proximity of parks and forests to the urban edge, and the need for forest managers to adopt more active fuel management practices.

The report of the Inquiry (McLeod, 2003) made 61 recommendations. McLeod noted that the forests had preceded the suburbs, but concluded on the basis of concerns about ember attack that “the wisdom of having any kind of plantation very close to the edge of a large city highly questionable”. The recommendation of most significance to reforestation involved the establishment of a Bushfire Abatement Zone to the north and west of Canberra, and the exclusion of commercial plantations or other dense tree plantings from this zone. The ACT Government acted immediately to adopt all recommendations of the McLeod Inquiry, which thus constrained subsequent land use decisions.

Community Involvement in Reviewing Land Use

The Non-Urban Study commenced in March 2003, released a draft report for discussion in August (ACT Government, 2003b), and its final report in November (ACT Government, 2003c). The Non-Urban Study recognised the high level of community interest in its work and incorporated a high level of community representation and consultation about future land use and associated issues from the outset. A 13-person Steering Committee, comprising key government staff (*eg* Heads of the Chief Minister’s Department and of the National Capital Authority), community and business representatives (*eg* Robert de Castella), and experts (*eg* three professors), was established to oversee the review. In recognition of the high level of interest in the ACT community, the process involved various forms of public consultation (see ACT 2003c, Appendix 2)ⁱⁱⁱ. Reflecting this, more than 160 written submissions were submitted initially by stakeholders and members of the public, and more than 460 submissions were received on the draft report.

Greening Australia made a major submission (Butz & Jones, 2003) to the Non-Urban Study, which went well beyond commenting on the draft report recommendations. It noted that the fires had led to a strong sense of community disorientation and alienation due to dramatic changes in landscapes. This was reflected in the submission title, *Reuniting people and places*. The submission set out a vision for a ‘working landscape’ which met multiple objectives and was infused with, and realised through, active community engagement. This vision sought a central and enduring role for the community in specific initiatives designed to catalyse a sense of ownership and shared responsibility for landscape reclamation and management.

This approach echoed parts of previous documents such as the McLeod Report and the *ACT Lowland Woodland Conservation Strategy* (Environment ACT 2004) which had advocated community engagement. The submission went further to assert that the potential of new land use and activities in the ACT would not be met by application of the same resource management approaches which had been applied prior to the fires. Greening Australia felt that the previous approaches had failed to motivate or sustain community engagement, and relied almost solely on professional staff in agencies for expertise, relegating community volunteers to roles requiring physical labour.

The Greening Australia submission advocated a new approach, premised on availability of considerable potential in the community, not only for hands-on activity, but for contribution of knowledge and skills in the redesign and restoration effort. This would require a new concept of landscape management and an investment in development in the broader community of a more vital sense of resource stewardship and pride in 'our place'.

The final report of the Non-Urban Study (ACT Government, 2003b) noted that there was widespread agreement in the 467 submissions that the rural and bush setting of Canberra was a special and distinctive asset, and communicated a strong desire not to see future urban expansion swamp opportunities for outdoor recreation in the Mt Stromlo area. The greatest single issue generating comment (113 submissions) related to a call to re-establish Stromlo Forest "as it was", in contradiction to the McLeod Report recommendation. A further 86 submissions supported the reinstatement of plantation forests generally, and 19 submissions supported replacement of the pines with native species.

The views of members of the Non-Urban Study Steering Committee also reflected this diversity of community views. The Committee was particularly concerned with reforestation in the Cotter catchment, where water quality was deemed of paramount importance. The Committee was aware that some of the Cotter plantations had been established specifically to restore land degraded by clearing and grazing, but that roading densities were very high and that there were high levels of turbidity in Cotter Dam water (Wasson 2003).

Recognising that the Government had already accepted the McLeod Report recommendation excluding pine plantations from the former Stromlo forest area, but also the strong community interest in forest-based recreation there, the Non-Urban Study recommended the establishment of a smaller and differently-composed recreational forest park on the slopes of Mt. Stromlo. It made a series of other recommendations on reforestation, with the guiding principle that the future of forestry in the ACT should be principally determined by considerations of water quality, fire protection, ecology, recreation and landscape. It suggested that decisions about establishment of commercial plantations should be a consequence of decisions taken for these other reasons. and recognised that plantation forestry may provide some offsets for the costs of meeting these other community objectives. It recommended that riparian and steep areas be revegetated with native species, and that revegetation should be conducted in partnership with community organisations such as Greening Australia. It also recommended that ACT Forests should work with relevant scientists to review reforestation options for each sub-catchment in the Cotter catchment, and determine the appropriate balance of reforestation with pines and native species in each sub-catchment, and the best management practices to maintain water quality (ACT 2003c, Chapter 7).

In November 2003, the ACT Government accepted the recommendations of the Non-Urban Study and decided to reforest much of the burnt plantation area with a combination of pine plantations, native forests, and mixed species peri-urban forests. At the broad scale, this meant that plantations could only be re-established in parts of the former Pierces Creek and Uriarra Forests west of the Murrumbidgee River, while the smaller peri-urban forest around Mt Stromlo would be reforested with a mix of native and exotic species. It was anticipated that about 6,500 ha of the burnt plantations would be re-established as pine plantation, 1,300 ha would be converted to native forest, and 1,000 ha would be redeveloped as the new Stromlo Forest Park. Other areas of Stromlo Forest would be converted to urban use. The reforestation program was expected to take some seven years to complete.

External Advice and Establishment of the Regreening Partnership

Immediately after the adoption of the Non-Urban Study, ACT Forests convened a scientific expert group envisaged in the Non-Urban Study Report, to assist in reforestation decisions in the Cotter catchment. The composition of the group sought to be inclusive; individuals who had contributed to the Non-Urban process, who had already been working in the catchment, or who were thought to have relevant expertise, were invited to participate. Various CSIRO Divisions, Canberra's three universities, ACT government agencies, Greening Australia, and other interested scientists and professionals were all represented.

The initial focus of the group was to provide advice on an appropriate reforestation strategy in one sub-catchment, both to serve as a pilot study and to enable planting operations to begin in winter of 2004. To facilitate the process, ACT Forests arranged a field inspection for the group in the chosen sub-catchment; many of the group were already familiar with the area from previous work or visits. On this field inspection, participants were able to observe the magnitude and complexity of the issues facing ACT Forests, such as the amount of soil erosion and weed infestation, and there was an initial open discussion about the options for developing an integrated reforestation and land rehabilitation program with community participation. Following some spirited discussion about the options and constraints, the general approach proposed by ACT Forests – of restoring riparian zones, steep slopes, and other specific areas to logical boundaries with native species, and “infilling” this matrix with pine plantations - was accepted by the group. Discussions also emphasized the need for an adaptive approach, and the opportunities for research and need for monitoring to inform the reforestation process. Participants also appreciated the significant challenges inherent in achieving the planned scale of native forest restoration.

In January 2004, both to build on this initial dialogue and to explore opportunities to work more actively with both scientists and the community, ACT Forests and Greening Australia catalysed the formation of a “Regreening Partnership”, incorporating but extending the expert group which first met in December 2003. The partnership formed naturally to a large extent, as members recognised the potential and benefits of a partnership approach extended well beyond simply contributing expert advice to the decision making process. In particular, members were motivated by concerns to capitalise on complementary expertise within the group, and the learning and community engagement opportunities which the land restoration challenge presented. As with the expert group, membership sought to be inclusive, and the partnership functioned informally rather than formally, meeting on an as-needs rather than a scheduled basis. The organisations represented in the partnership are listed in Table 1.

The partnership continued to convene in the field on an as-needs basis, to review ACT Forests' proposals for other sub-catchments, or specific issues. It also soon began to focus also on how best to facilitate longer-term learning from the reforestation process. The ANU's Professor David Lindenmayer was instrumental in capitalising the opportunity to establish a landscape scale experiment to assess biodiversity and environmental outcomes associated with the reforestation process, and the necessary preliminary work has been supported financially by ACT Forests, the ACT Bushfire Recovery Taskforce, the ANU, and Environment ACT. The partnership also quickly began to focus on ways in which to engage the ACT community in the reforestation and restoration process.

Table 1. Membership of the ACT Regreening Partnership

| Organisation | Principal Areas of Interest/Expertise |
|---|---|
| ACT Forests | Forest Land Manager; Plantation Forestry |
| ACT Government - Shaping Our Territory Implementation Group | Non-Urban Land Use Planning; Development of Stromlo Forest Park |
| ACTEW | ACT Water Supply |
| Bureau of Rural Sciences - Australian Department of Agriculture, Fisheries and Forestry | Long-term Ecological Research |
| CSIRO | Research (Catchment Hydrology, Forest Management and Practices, Sustainable Ecosystems) |
| Australian National University | Research (Forest Management and Practices, Landscape and Forest Ecology, and Water Catchment and Resource Management); Environmental and Forestry Education |
| Environment ACT | Environmental Regulation; Biodiversity Conservation and Land Management |
| Greening Australia | Landscape Restoration; Community Involvement in Revegetation |
| University of Canberra | Research (Freshwater Ecology, Water Resources); Environmental Education |
| University of NSW – Australian Defence Force Academy | Catchment Hydrology |

Community Involvement in Reforestation and Restoration

Given the magnitude of the reforestation and restoration program, there were many opportunities to actively involve the community in aspects of the program such as tree planting, monitoring and maintenance. However, consistent with the vision which Greening Australia articulated to the Non-Urban Study, partners sought to involve the community in ways in which participation was more than just providing labour.

Greening Australia and ACT Forests collaborated to develop a calendar of community events to reforest areas with native species, with two seeding events and twelve planting events held during 2004. Some of these involved the general community for key events, such as World Forestry Day and National Tree Day, or specific community organisations such as Orienteering ACT (who undertook a world-first ride-run-plant “Treeathlon”). Other events engaged particular groups (*eg* Engineers Australia, ABC Radio, Café Brindabella, and the Department of Foreign Affairs and Trade).

While planning was proceeding on some of the more complex components of the reforestation program, there was an urgent need to re-establish native vegetation in strategic areas, including those close to the urban edge. Priority was given to sites which were clearly ‘no-regrets’ within the context of the large land use planning process; *i.e.*, no matter what the detailed planning ultimately determined, the initial activities would not have been wasted. Particular attention was given to identifying areas suitable for community volunteer effort, with different degrees of site difficulty matched to different volunteer capabilities. These

areas were then allocated to Greening Australia to plan and arrange the revegetation program, with ACT Forests providing some financial and technical support.

The events targeted important riparian areas and conspicuous hillsides. Major community events, such as those on World Forestry and Environment Days, were directed to relatively easy sites closer to suburbs, such as Holden's Creek on the slopes of Mt Stromlo, while the more remote or challenging sites, such as Mt Macdonald (since dubbed 'Heartbreak Hill') in Uriarra Forest, were tackled by smaller more specialised groups. Essential support for these community events was provided by ACT Emergency Services Authority volunteers.

About 15 of these community events were held in 2004, attracting more than 1,000 registered volunteers who established more than 19,000 native tree, shrub, rush and grass seedlings, with additional sowing of native grass seed. The events received a high profile in the Canberra community, attracting local and national politicians (including the relevant Ministers), civic and sporting identities, and considerable media coverage. Watering at planting from tankers from ACT Forests and the local Rivers Bushfire Brigade provided a tangible link with the fire event which triggered the revegetation effort. In the continuing drought conditions which prevailed in the ACT in 2004, the planting was followed up with much-needed hand watering by volunteers. As a result of this attention to aftercare, and despite severe and protracted drought conditions, survival rates were greater than 85% at each site monitored, demonstrating that the volunteer effort had been highly effective.

Benefits of the Regreening Partnership

The partnership approach described above has generated significant benefits to ACT Forests as the responsible land management agency, to other members of the partnership, and to the ACT community. The community events assisted many members of the community who had been deeply affected by the bushfire, through their personal role in re-establishing forests which they had valued but which had also fuelled a devastating bushfire. The community events also provided a structure in which staff of ACT Forests could work closely with members of the community, and understand just how important the reforestation program was to many people. It also helped establish a new culture within the agency of working in partnership with stakeholders, and recognising the value of ongoing community support.

The partnership approach was also particularly important to Greening Australia, which was involved as a partner rather than as a service provider to the government agency as had been the case prior to the bushfire. The central role of Greening Australia recognised that a community-based organisation could use its expertise and networks to achieve outcomes that may have been difficult for the government agency to achieve within the same timeframe.

This included:

- particular knowledge and skills in the environmental and community spheres;
- a portfolio of both proven ideas and new ways for working with the community;
- energy and momentum fuelled by a strong and growing community supporter and volunteer base which has been built on safe and rewarding experiences in participation;
- not-for-profit status which enables Greening Australia to attract corporate or philanthropic investment for landscape renewal;
- established links and partnerships in the fields of science, education, media and business, drawing on the national Greening Australia network.

For the research and academic stakeholders, the partnership has provided a framework both for expert contributions to a forest agency's decision making, and for development of a more coordinated approach to planning and conducting research in unique, opportunistic circumstances. As a consequence, research partners are both directly influencing current management and establishing the basis for a longer-term and potentially wide-reaching impacts from research.

As noted previously, the Non-Urban Study suggested that ACT Forests should evolve from a commercial softwood producer to a land manager addressing multiple objectives, including water yield and quality, biodiversity, recreation and timber production. The partnership has been a principal means of giving effect to this transition, and one of its enduring benefits has been the forging of a quite different relationship between ACT Forests, partners and the community volunteers to that which existed before January 2003. The positive impacts of the initiative have not gone unnoticed in ACT government circles, and other ACT agencies have subsequently begun to explore new approaches to community engagement, in partnership with Greening Australia.

Conclusions, Challenges and Next Steps

Faced with significant reforestation challenges and changed land management priorities after the 2003 bushfire, ACT Forests was quick to adopt a new approach based on partnership with other interested parties, and which sought also to engage the ACT community as partners. In doing so, it not only addressed the specific contentious issue of what species to plant within a water catchment, but changed the organisation's management approach and culture by involving others in decision making and by actively engaging the community in the reforestation and restoration program. Given the long term nature of this program in the ACT, there is great potential for the partnership to generate significant long term changes in relationships and working cultures of the partners.

While the catastrophic circumstances responsible for the emergence of the partnership are (hopefully) unique, many of the elements which facilitated a partnership approach are more ubiquitous:

- an initial stimulus – in this case, a major land restoration challenge and a degree of unresolved conflict between interested parties - that catalysed interest in an innovative response;
- a willingness on the part of those with primary responsibility and power – in this case, the forest management agency - to embrace a partnership approach;
- a strong desire on the part of other interested parties to be actively involved in decision and implementation processes;
- a willingness by all parties to accept some level of compromise;
- active community interest in both the outcomes of, and opportunities to assist with, the (in this case) bushfire recovery process.

It is most unlikely that the partnership could have been effective without the enthusiastic participation of an established community-based organization such as Greening Australia. From Greening Australia's perspective, the reforestation and restoration challenges presented an opportunity to engage with both government agencies and the community in terms which facilitated education for participation - to invite active engagement in, and create ownership of, change. This requires processes to develop awareness, knowledge, skills and participation,

far beyond the common emphasis on using volunteers to undertake work for which agencies do not have capacity or resources.

Greening Australia argued in its submission (Butz and Jones 2003) to the Non-Urban Study that community participation needs to be valued not simply for its potential to economise on costs but for its potential to improve the quality and relevance of outputs and outcomes, and to maximise the value obtained from inputs; and that true sustainability depends on the community being enabled to play a creative role at the heart of landscape renewal action, rather than a reactive role confined to, and controlled at, the margins. This calls for treatment of the community as co-owners of the natural and cultural resources to be managed – owners enabled and facilitated to play active and enduring roles in planning and management, rather than passive or ephemeral roles as consumers or clients.

This is, of course, an articulation of the community or participatory forestry paradigm, now pre-eminent in many countries (eg FAO 2004, Petherham et al 2004), in which many Australian professionals have been active participants (eg Fisher 1995, Gilmour et al 1989, Griffin 1988), and which is slowly emerging in the Australian context (Petherham et al 2004). As Gilmour et al (1989) pointed out at the 1989 IFA Conference, and as is evident from the extensive literature on this topic and from related Australian experience such as that with Landcare (eg, Cary and Webb 2000), there is wealth of experience to help nurture and guide the development of partnerships such as that described here.

There are both short and longer term challenges facing the partnership. The financial resources to enable both community activities and adequate research are sub-optimal, principally as a consequence of the larger governmental processes of which funding decisions are part. Securing adequate funding for the next 3-5 years is an immediate challenge for all partners, and probably essential to maintaining partners' commitment. Maintaining strong community engagement as memories of the bushfire begin to fade, and as other issues overtake local agendas, is also a significant challenge. As discussed above, realising true community empowerment through the reforestation and restoration process is likely to be fundamental to meeting this challenge. Continuing the evolution of new forms of relationship between Greening Australia, as a community-based organization, and government agencies in the policy and land management roles, is a significant institutional challenge. Members of the partnership will be seeking to rise to these challenges in the next phase of the partnership.

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ⁱ see <http://www.forests.act.gov.au> for more information about ACT Forests

ⁱⁱ however, the ACT Treasury had already been advocating conversion of plantation forests to housing development for financial reasons – eg, ACT Treasury (2002). Chapter 3: ACT Forests. In *Commission of Audit Report (No. 2) on the State of the Territory's Finances*. Australian Capital Territory.

ⁱⁱⁱ including a half-day forum jointly organised by the Environment Institute of Australia, the Institute of Foresters of Australia, and the Planning Institute of Australia.