



REUNITING PEOPLE AND PLACES

A Submission by Greening Australia ACT & SE NSW on the report
'Shaping our Territory: Options & Opportunities for Non-urban ACT'

ABOUT OUR SUBMISSION

Greening Australia welcomes this opportunity to comment on options and opportunities for changing lives and landscapes in the ACT following the fires of January 2003.

Our Submission offers a suite of perspectives and challenges that can be realised in the Territory with sound planning and design intertwined with the active engagement of the skills and energies that exist in our community - and a strong dose of inspiring leadership from government and business.

The Submission is presented in the following format:

- A About Us** – an outline of who we are, our core business and what motivates us to participate and comment
- B Journey into a Working Landscape** – a vision for a preferred Territory landscape that meets multiple objectives, and that is infused with, and realised through, active community engagement
- C Benefits from a Working Landscape** – a summary of benefits flowing from that vision, aligned with land uses and activities presented in *Shaping our Territory*, and foreshadowing initiatives presented in more detail in the Submission
- D Community Engagement** – a call for a vital, central and enduring role for the community in specific initiatives designed to catalyse a sense of ownership and shared responsibility, offering practical examples of what is already being achieved
- E Scientific Engagement** – an approach that helps to underpin resource management with a sound knowledge base, with specific initiatives to build bridges between agencies, community volunteers and resource scientists
- F Whole-of-landscape Solutions** – perspectives on scale and feasibility of achieving multiple objectives while realising the potential available in the community, offering practical examples of what is already being achieved
- G Getting Started Now** – some priority steps in target areas that will demonstrate leadership and commitment to action, serving as a catalyst for community engagement in landscape renewal and reclamation
- H Comments and Concerns** – overall comments and specific concerns arising from the report

Every society faces not merely a succession of probable futures, but an array of possible futures, and a conflict over preferable futures.

The management of change is the effort to convert certain possibles into probables, in pursuit of agreed preferables.

Alvin Toffler



A ABOUT US

Greening Australia is a not-for-profit organisation which has been at the forefront of natural resource management across Australia since 1982.

Our Vision: A healthy, diverse and productive environment, treasured by the whole community

Our Mission: To engage the community in vegetation management to protect and restore the health, diversity and productivity of our unique Australian landscapes.

The two central functions embedded in our Vision and Mission are resource management and community capacity building.

Our objective for **resource management** is to provide practical and sustainable solutions to complex environmental problems using vegetation management as our primary on-ground tool. This is underpinned by a strong technical and scientific knowledge base, and innovative approaches to co-investment.

Our objective for **community capacity building** is to engage with and enhance community knowledge, motivation and skills to address issues in their environment. This is underpinned by strong community support and productive inter-sectoral partnerships.

Hence we speak of *Growing the future together*.

As an indication of the type of organisation we are, in 2001-02 across Australia we:

- planted more than 2 million tree and shrub seedlings (170,000 locally)
- direct seeded approximately 5,070 kilometres of plant line (500 kilometres locally)
- collected 3.4 tonnes of native seed (300kg locally)
- conserved almost 180,000 hectares of native vegetation (about 1,000 hectares locally)
- erected more than 3,500 kilometres of fencing to protect and conserve native vegetation (more than 350 kilometres locally)
- partnered with almost 3,600 landholders in on-ground projects (more than 500 locally)
- worked with almost 300 schools (about 50 locally)
- formally trained and educated more than 19,000 people (more than 1,000 locally).

Greening Australia is characterised by, on-ground action charged with passion, practicality and partnership. Under the banner of **Changing Lives and Landscapes** we deliver people-friendly whole-of-landscape solutions to complex environmental problems.

Reflecting this capacity, we also manage national programs such as the **Green Corps** youth development and training program (with Job Futures) and participation in **National Tree Day** (with Planet Ark), as well as local programs such as the **ACT Rural Conservation Fund**.

More details on specific initiatives and programs are included within this Submission. These are not for self-aggrandisement. These case examples demonstrate that innovative landscape scale solutions to environmental issues, engaging and revitalising communities – the kind of exciting and challenging ideas that we are presenting to you - are not Utopian, and not just ‘fine in theory’.

Such solutions are actually being delivered, right now, in our own region, brought to reality by the right mix of know-how, people power and leadership.



B JOURNEY INTO A WORKING LANDSCAPE

This stimulating and rewarding journey takes us into a re-imagined landscape featuring some of the most highly valued parts of the Australian Capital Territory, where people and places have reconnected, and where both the heritage and the future of the Territory have been reclaimed through the effort of the community. In this 'working landscape' we see:

a healthy, diverse and productive environment
sustained by
responsible and active management
informed by
sound knowledge of natural and cultural resources
and powered by
true community participation.

Along the way we encounter rural and urban citizens who are aware, knowledgeable, skilled, and actively engaged in shaping a sustainable environment that is different in many ways from the environment which we inhabited prior to January 2003. It is more resilient and more productive, while increased focus on, and respect for, its biodiversity and heritage values have made it more attractive for recreation and tourism.

Rather than being an environment to be feared, the non-urban setting of the Bush Capital is now understood and celebrated for its unique landscape character. It is treasured by the community as a living and dynamic entity, not as a 'Do not touch' museum piece. Seen as a multiple use matrix, this working landscape offers many tangible benefits for conservation of biodiversity and heritage; protection of water quality; economic production; recreation and tourism; and research and education.

It is clear that a startling landscape renewal has taken place. More than 5,000 hectares of burnt pine plantations across the hills and valleys east of the Murrumbidgee River have been replaced with drought tolerant and fire-resilient lowland woodlands, interspersed with temperate native grasslands. This has been complemented by more than 300 kilometres of stream and riverbank revegetation through the Territory and in the Googong catchment to protect water quality and provide wildlife corridors. Similar efforts have improved the range of benefits flowing from pine plantations which have been retained for production.

Such broad-scale revegetation has not, however, increased the vulnerability of the community to fire. The planted areas east of the Murrumbidgee are not uniformly dense, but vary in species, structure and configuration designed to suit the site. Reflecting the likely pre-settlement landscape, active management ensures that clusters of trees and shrubs with grassy open spaces are maintained to provide optimum habitat diversity for native species, as well as an effective fuel abatement zone.

Along the most exposed parts of the urban edge, we find greened strips of water-efficient native grassland, optimising use of grey water and recycled treated water, to provide constant fire protection for residents. Recycled water also supports new native grass seed orchards established to ensure a sustained local supply of planting material, and new wetlands created on key watercourses to filter stormwater runoff and enhance biodiversity values.

We pass rural lands which are key elements of the Territory's cultural heritage. In these areas diversified production is coupled with use of vegetation to conserve biodiversity and improve water quality, with some of these systems financed by an innovative Green Bank.

Rural lessees are active year-round as the community's frontline fire managers. They play a paramount role within the fire abatement zone by actively controlling major fuel sources through sustainable grazing. Rural and urban bushfire brigades help out with cool season prescribed burning which also contributes to biodiversity objectives.

Practical training has resulted in greatly improved understanding of natural resource management and fire management in schools, tertiary institutions, scientific agencies, and the broader community. Learn-by-doing field events have become a favourite pastime for Canberra's population, who are increasingly 'fire-wise'.

Among its many uses and benefits, the landscape matrix provides a sustainable supply of firewood to the Canberra market through small dispersed hardwood plantations and through improved use of thinning for fuel mitigation, utility clearing and landscape invigoration. Small plantations have been funded by Canberrans investing in land management that provides them with a return in the form of firewood. This helps to reduce the city's ecological footprint by limiting demand for firewood imported from woodlands to the west. Some plantations provide an economic return in advance of development of their sites for other uses in the medium to long term.

A network of trails provides access for fire protection, recreation, tourism, education, and production harvesting. Walking, cycling and equestrian trail systems have been expanded and enhanced, linking ridges and rivers, showcasing the ACT's great outdoors, and assisting interpretation of our natural and cultural heritage.

Visitors to the Territory are offered greatly diversified tourism opportunities. Those seeking nature-based tourism can now take advantage of 'hands-on' experiences, propagating or planting vegetation for landscape renewal. Thanks to the foresight and efforts of those who have gone before them, visitors have unparalleled access to lowland woodland environments, as well as opportunities to observe how lands that are used for rural or plantation production can also offer significant biodiversity benefits. These opportunities are just as keenly sought by researchers and educators, wishing to learn from the Territory's experience.

On our journey through precincts like Stromlo/Lower Molonglo, this renewed vibrant connection between people and landscapes is noticeably alive.

School groups, families, youth, seniors and others are part of a facilitated and focused effort, coordinated by the community for the community. They are out working together to reclaim degraded parts of the landscape - for improved recreational use, biodiversity and heritage protection, and water quality - with lower slopes, flats and drainage lines as priority areas.

The patchwork of plantings around Stromlo strengthens links between the Murrumbidgee and Molonglo Rivers and the urban nature parks of Canberra. This aids the autumn migration of thousands of honeyeaters from the mountains to the coast, and sustains resident populations of species that are declining in surrounding regions due to habitat loss.

Near Scrivener Dam, a significant International Arboretum rises above an expanded National Zoo & Aquarium. The Zoo now hosts a Greening Australia community nursery, providing access to residents and visitors who wish to make an active contribution to landscape renewal. The Arboretum, Zoo and nursery are linked by an enhanced trail system which also runs along a rehabilitated Lower Molonglo as far as Coppins Crossing.

The trails are developed in conjunction with a network of native vegetation stepping-stones and open spaces, to join up with Deek's Park and a revitalised Holden's Creek below Mount Stromlo.

On the lower slopes of Narrabundah Hill, as one of the portals to Tourist Drive 5, an iconic stand of *Xanthorrhoea* grass trees catches the eye as a living symbol of fire-recovery and resilience, simultaneously heralding a renewed and revitalised Tidbinbilla valley.

This working landscape is truly one where nature meets culture, where rural meets urban, where local meets national...and where we in the present have learned from the past.



C BENEFITS FROM A WORKING LANDSCAPE

This section relates aspects of the preceding journey to the land uses and activities listed in *Shaping our Territory*, to outline some of the potential to be explored in this Submission.

Land uses/activities	Benefits from a working landscape
Planning to reduce bushfire risk	<ul style="list-style-type: none"> ▪ Fuel abatement gradation, maximised next to residential and infrastructure, reinforced in key areas by greened urban edges ▪ New matrix of vegetation in rural and public multiple use lands moving from 'fire-prone' to 'fire-wise' ▪ Active management intervention to create and sustain mosaic of species, structures and configurations, manipulated with a mix of rotational grazing, seasonal slashing, and prescribed burning by rural and urban volunteer fire fighters ▪ Active engagement of the community in development and continuing management of the matrix, including fuel abatement
Water resources planning	<ul style="list-style-type: none"> ▪ Appropriate use of grey water and recycled water to sustain greened urban edges, native grass seed orchards, and wetlands created in key watercourses where stormwater quality is an issue ▪ New wetlands created in key watercourses where stormwater quality is an issue, reinforced by water-sensitive urban design ▪ Enhanced revegetation and ecological management in the Googong catchment to improve water yield and quality
Ecological resource conservation	<ul style="list-style-type: none"> ▪ Adaptive management of vegetation to meet multiple objectives for fuel abatement, biodiversity and heritage conservation, water quality, carbon sequestration, economic production, recreation, tourism, research and education ▪ Restoration of 5,000+ha of lowland woodland east of the Murrumbidgee ▪ Restoration/protection of 300+km of riparian zone under native vegetation on major rivers and key tributaries ▪ Retention/enhancement of temp. native grassland communities ▪ Design for biodiversity benefit throughout rural and public multiple use lands e.g. birdscaping, honeyeater migration route, corridors proposed in lowland woodland strategy; this includes design in new potential rural production systems ▪ Design reconfiguration of softwood plantations west of Murrumbidgee with native vegetation corridors for biodiversity benefit, riparian protection and water quality; restoration of about 1,000ha of montane forest in conservation areas

	<ul style="list-style-type: none"> ▪ Inclusion of harvestable firewood plantations in parts of the matrix to reduce ecological footprint in demand for unsustainable imports from regional woodlands ▪ On-going monitoring and evaluation of effectiveness of landscape management and community engagement in meeting multiple objectives
<p>Landscape Setting of the National Capital</p>	<ul style="list-style-type: none"> ▪ Local community moved beyond 'recovery' to 'reconnection' with the landscape of the Bush Capital ▪ Enhanced landscape mosaic, heritage interpretation and recreation opportunities at western end of Lake Burley Griffin and in hills and ridges and river corridors beyond ▪ Expanded National Zoo & Aquarium site with community access nursery contributing stock for revegetation ▪ Retention and enhancement of rural elements of landscape setting, including hard interfaces with urban uses ▪ Distinctive landscape treatments developed at each Gateway to the Capital
<p>Recreation and Community Wellbeing</p>	<ul style="list-style-type: none"> ▪ Enhanced sense of place – new understanding of and respect for landscape character and heritage ▪ Community action providing an antidote to fear of environmental hazards ▪ Building awareness, knowledge, skills and participation ▪ Community facilitated to play active roles as owners, planners and managers of landscapes rather than marginalised in passive roles as consumers ▪ Enhancing health outcomes by creating supportive environments, strengthening community action, developing personal skills and re-orienting services ▪ All sectors of the community assisted to be active at community access nurseries at the National Zoo & Aquarium and at Tidbinbilla-Birrigai ▪ Improved amenity and enlarged range of recreation opportunities in greened edge areas, precincts from Scrivener to Stromlo, along and between Murrumbidgee/Molonglo, and around Tourist Drive 5
<p>ACT Forests and Plantation Forestry</p>	<ul style="list-style-type: none"> ▪ Softwood plantations west of Murrumbidgee reconfigured with native vegetation corridors for enhanced biodiversity/riparian protection/water quality; reshaped for more effective fire defence ▪ Firewood blocks and agro-forestry as part of the matrix; innovative financing by Green Bank and by suburban investors; research and education benefits; economic return achieved without foreclosing medium to long term land use options ▪ Retention and enhancement of workforce expertise in managing public multiple use lands ▪ Opportunities for youth development ▪ Engagement in management and brokering for firewood plantations and agro-forestry in rural and public multiple use lands; management of arboreta ▪ International Arboretum and Lindsay Pryor National Arboretum firmly established and significant historic arboreta retained or restored; with interpretation of research and education values

Land uses/activities	Benefits from a working landscape
Tourism	<ul style="list-style-type: none"> ▪ Increased range of visitor destinations and enhanced opportunities for diverse and satisfying activity ▪ Particular opportunities for nature based tourism in wider range of settings e.g. biodiversity benefits from production lands, lowland woodland ecosystems; including ‘hands-on’ contribution e.g. propagating stock at community access nurseries, planting out ▪ Improved range of opportunities in Scrivener precinct with enlarged zoo, community access nursery, arboreta, enhanced access on Molonglo below dam; all linked to Stromlo precinct ▪ Rejuvenated Tourist Drive 5 with more vibrant and diverse vegetation matrix and improved interpretation
Rural Villages / Residential	<ul style="list-style-type: none"> ▪ Fire-wise landscape treatments with biodiversity benefits, opportunities to invest in firewood plantations
Rural Leases and Agriculture	<ul style="list-style-type: none"> ▪ Retention of rural elements in landscape heritage of Bush Capital ▪ Active engagement of lessees in fuel management through grazing systems in leases and rotational grazing in multiple use lands ▪ Enhanced biodiversity benefits from wildlife corridors and riparian protection, compatible with fuel abatement ▪ More diverse production systems integrated with actively managed vegetation e.g. firewood, agro-forestry, drought fodder, harvesting fuels; access to innovative financing e.g. Green Bank ▪ Strengthened links between urban and rural communities through joint activities/learning opportunities e.g. fire-wise field days
Science and Education	<ul style="list-style-type: none"> ▪ Greatly expanded range of destinations and opportunities for research, learning and teaching in a dynamic open air laboratory/classroom ▪ Education for community participation, rather than for acceptance of change ▪ Abundant action learning from monitoring and evaluation activities ▪ Revitalised Tidbinbilla-Birrigai precinct includes community access nursery linked to education programs and contributing stock for revegetation
Transport and Municipal Services	<ul style="list-style-type: none"> ▪ Power easements and rural roadsides stabilised with appropriate native plant species for biodiversity benefit ▪ City firewood supply bolstered by timber (of appropriate size) removed from easements and roadsides for safety reasons

*Vision without pragmatism is like an ethereal soul.
Pragmatism without vision is like a shapeless body.
Pragmatism within vision adds body to soul.
To attain such a combination needs leadership.*

Dr Halfdan Mahler (WHO)



D COMMUNITY ENGAGEMENT

Community engagement is central to realising the environmental, economic and social aspirations of the ACT and Region in the wake of the January 2003 bushfires. This is highlighted in both the McLeod Report and the ACT lowland woodland conservation strategy.

The *Shaping Our Territory* report lays out a challenging array of land use options and opportunities, and management practices and possibilities for the Australian Capital Territory.

The potential of new land use and activities in the ACT will not be met by application of the same resource management approaches that were applied before the fires. Many of these have not motivated or sustained community engagement, relying instead on professional staff within agencies for management expertise, and selective use of volunteers for labour.

We will need to re-conceive management and invest in development within the broader community of a more vital sense of resource stewardship and pride in 'our place'. This is best cultivated through enhanced mobilisation of community and scientific resources.

To illustrate this approach, we have set out below (as 'desired outcomes') some specific initiatives which Greening Australia believes could provide invaluable help in the reclamation and renewal of fire-affected areas. These programs and their targets are:

- *Adopt a Patch* Schools
- *Green Corps* Youth
- *Nurture Nature* Families
- *You're Never Too Old to Grow* Seniors
- *Natural Partners* Rural lessees
- *Defendable Space* Rural and urban bushfire brigades
- *Community Landscape* NRM and heritage networks
- *Capital Contribution* Interstate and international visitors
- *Business Stepping Stones* Business
- *Green Gateway* Government workplaces
- *Showing the Way* Media

These diverse community programs have in common the goal of providing catalysts for a greater sense of shared ownership, building shared responsibility in care for our heritage and in creation of the landscapes of the future.

Although segmentation of the community in this way is artificial, it reflects approaches to marketing opportunities that appeal in different ways to different people.

In reality, initiatives of this sort are integrated as much as possible to inter-connect participants and to achieve multiple benefits and economies of scale. One of the keys to success will be effective and efficient coordination.

The term participation is not new. Few words convey so powerfully the idea of the individual's aspiration to be a partner in decision-making, of the unwillingness to accept unduly limited roles, and of the desire to live life more fully.

Botkin et al. *No limits to learning*

SCHOOLS

Desired Outcomes - Adopt a Patch

The *Adopt a Patch* program challenges ACT schools to adopt a fire-affected patch for rehabilitation, and to achieve multiple outcomes - environmental, educational, health and 'fire-wise' learning.

Greening Australia assists schools to develop a vegetation plan for each two-hectare patch and works in partnership with school staff and students to ensure they have the skills and other tools to implement their plan. *Adopt a Patch* activities:

- include a fire education component, developed with ACT Emergency Services
- are integrated with environmental participation initiatives e.g. landcare and waterwatch and placed in the context of catchment/regional natural resource management
- include appropriate consideration of, and care for, heritage values
- are structured to address health initiatives directly relevant to school age children (e.g. Robert De Castella's anti-obesity Smart Start campaign); and
- address key learning areas, providing cross-curriculum opportunities to 'learn by doing'.

Rationale

Adopt a Patch would support vital 'fire-wise' education, as advocated by the McLeod Report: "Canberra will always be a city prone to occasional serious bushfire attack, and the realization of this needs to pervade the psyche of the city, its inhabitants and those who inhabit it. Among the specific measures that might be taken are....school programs focusing not only on fire safety in the home but also on safety during bushfires".

The *Adopt a Patch* program would help to tackle childhood obesity issues – approximately one in five Australian children aged between 5 and 18 years old is overweight or obese – by instilling a healthy appreciation of active living. According to the *ACT Children's Plan*, children aged 0-12 years make up 14 per cent of the total population of the ACT.

Living Proof

Greening Australia enjoys a long and active association with more than 50 ACT region schools. Through the Vegetation Investment Project alone, Greening Australia engaged Chisholm, Curtin, Farrah, Karabar, Radford College, Canberra Boys Grammar, Gold Creek and Hall schools in regular growing, planting and environmental education activities. The value added was recognised by the project winning an ACT Landcare award.

As part of National Tree Day 2003 celebrations, Greening Australia asked for feedback from young participants. They said they got involved "because our trees burnt down"; "because we need trees to swap the air around and make it clean and also to make new homes for the animals"; "because it feels good"; and because "I hope the trees grow and I want to come back and find the ones I planted later". Such activities sow the seeds for lasting change.

YOUTH

Desired Outcomes – Green Corps

Exciting landscape recovery projects with multiple benefits to the community are providing excellent opportunities to engage youth in connecting with, and contributing to, the environment in the in the ACT. Part of this is achieved through re-focused and scaled-up Green Corps activities in the non-urban areas of the ACT.

Greening Australia, in partnership with Job Futures, delivers the Australian Government's Green Corps program – environment and heritage projects with youth development and training outcomes. This is not a means of sourcing cheap labour. Participants undergo accredited training and develop vital life skills and employment experience.

The landscape renewal activities in non-urban areas address the key challenges of the Green Corps program:

- to connect more effectively with partners for stimulating and meaningful projects; and
- to establish stronger mentoring links to ACT business and community leaders.

ACT youth in tertiary study also have important roles to play - see 'Scientific Engagement'.

Rationale

Half of 18 to 24 year olds surveyed in 2001 expressed concern about environmental problems – a figure well down on levels reported throughout the 1990s when the average was about 70 per cent. In the wake of the fires, there is an opportunity to make youth more aware of a broad range of natural and cultural resource management issues through direct engagement in positive participation activities provided by the likes of Green Corps.

Exciting volunteer events such as National Tree Day can also stimulate greater levels of youth participation in environmental volunteering. In 2000 roughly a quarter of 18 to 24 year olds were involved in volunteer work and Greening Australia believes that this can be increased if appropriate opportunities are developed.

Living Proof

Since the January 2003 bushfires there have been four Green Corps teams working across various ACT landscapes. One of the teams is presently dedicated to assisting the 60 fire-affected rural lessees in a range of fire clean-up work, fencing and revegetation. They are also gathering information about the experiences of and lessons learnt by lessees.

Greening Australia is currently developing a Green Corps project involving:

- monitoring and evaluation of some of the burnt out arboreta in the ACT, in conjunction with Friends of the ACT Arboreta
- fire recovery work assisting surviving brush-tailed rock wallaby breeding colony and platypus at Tidbinbilla Nature Reserve; and
- other post-fire rehabilitation work at Lions Youth Haven.

FAMILIES

Desired Outcomes – *Nurture Nature*

A high profile community access nursery which enables targeting of family volunteers is established as part of an extended National Zoo & Aquarium. The nursery has been developed with Greening Australia capital, on about one hectare of the extension area, and allows safe and easy access for volunteers. The nursery follows best practice guidelines, e.g. water recycling, and access for people with disabilities.

Through the site and the *Nurture Nature* approach, Greening Australia

- attracts at least 2,000 volunteer visits per year, increasing to 3,000 within three years
- propagates and grows on 100,000 native plants each year for revegetation particularly in the Stromlo/Lower Molonglo precinct, including 20 hectares within the Zoo extension
- assists the Zoo to take a business leadership role in the landscape renewal effort, demonstrating support for biodiversity conservation, water quality and fire recovery
- (over time) strengthens the connection between growing/planting activities with other biodiversity conservation initiatives e.g threatened species programs in the region.

Rationale

According to Volunteering ACT “the ACT community benefits from higher than average levels of volunteering – over 36 per cent of the population volunteer compared with 31 per cent nationally”. Greening Australia believes that volunteer levels can be taken higher again if local and visiting families are challenged with positive participatory volunteering opportunities relating to fire recovery and landscape renewal. Families volunteering together enjoy more

‘quality time’ with each other and derive a sense of satisfaction and pride in the contribution they have made to renewal of non-urban areas of the ACT.

Living Proof

Greening Australia’s community nursery in Aranda currently attracts more than 1,000 volunteer visits each year. About a quarter of these are instances of family volunteering – people volunteering with some or all of their family members – and families growing together propagate about half of the 100,000 native trees, shrubs and grasses produced in the nursery annually. Numbers are likely to be significantly greater in a higher profile location such as the Zoo, complementing a similar facility proposed for the revitalised Tidbinbilla-Birrigai precinct.

SENIORS

Desired Outcomes - *You’re Never Too Old to Grow*

Greening Australia’s *You’re Never Too Old to Grow* program offers unique opportunities for ageing ACT and region citizens to be actively engaged in the physically and spiritually rewarding work of growing and planting, and caring and monitoring patches of native vegetation. In partnership with the ACT Council of the Ageing, Greening Australia engages 1,000 seniors a year in focused growing and planting programs targeting bushfire-affected areas.

A novel element of *You’re Never Too Old to Grow* is a school holiday ‘green grandparent’ initiative that enables grandparents and grandchildren to share experiences involving plant propagation, bird-watching and planting. Apart from the environmental benefits, the program delivers important community health and well-being outcomes.

Rationale

According to ACT Chief Minister, Jon Stanhope: “The ageing agenda is a high priority for the ACT Government, as the proportion of people aged 60 or more living in the ACT is expected to double in the next 10 years” (Actively Ageing Framework for the Australian Capital Territory).

Expansion of the existing *You’re Never Too Old to Grow* program would address key social priorities and related goals of the project *Towards the Canberra Social Plan*, e.g. ‘Improving health and well-being’ and ‘Supporting people at all stages in their life to be active’.

Living Proof

Over the past three years *You’re Never Too Old to Grow* has encouraged and empowered more than 500 of our older citizens in 20 retirement villages, daycare centres and independent housing to be active in nature conservation and to grow 40,000 trees and shrubs.

The relevance of the project title can be gauged by realising that one participant in a retirement village has personally grown more than 1,000 plants and acted as coordinator for other residents at the village. Another has personally planted 5,000 trees and shrubs on a rural site near Tuggeranong, while a third person has contributed more than 1,300 hours since she began volunteering.

RURAL LESSEES

Desired Outcomes - *Natural Partners*

Beyond making a living, ACT rural lessees play a number of critical public benefit roles that are often taken for granted. For example:

- reducing fire risk through grazing
- assisting protection of water quality by controlling erosion

- conserving biodiversity outside reserves by managing native vegetation; and
- conserving cultural heritage values.

Rural lessees need fast and effective direct assistance to enable them to do what needs to be done. Through a *Natural Partners* program - run in conjunction with Environment ACT and the ACT Rural Lessees Association - Greening Australia provide a 'knowledge, motivation and capacity' brokering service. This assists in:

- ensuring that information, advice, incentives and volunteer support for practical on-ground action are delivered quickly and effectively beyond the farm gate; and
- integration of ecosystem management systems in production landscapes.

The *Natural Partners* program has a particular combined focus on riparian restoration and strategic protection and connection of habitat for threatened woodland species. It draws on broader community and scientific expertise to strengthen the bonds between rural and urban ACT and to improve multiple natural resource management outcomes across production landscapes.

Rationale

The McLeod Report notes that ACT rural lessees manage 22 per cent of the ACT. However, as *Shaping Our Territory* comments, lessees often feel their vital work is undervalued and "The aftermath of the fires has presented an opportunity to reconnect the agricultural community with the wider Territory."

The draft ACT lowland woodland conservation strategy emphasises the importance of protecting areas of significance on rural leases, with active involvement of landholders.

Living Proof

Through the ACT Government's *Rural Conservation Fund* Greening Australia currently delivers services to ACT rural lessees, including on-site technical advice, project development assistance and links to community volunteer support.

In partnership with Canberra Ornithologists Group and CSIRO Sustainable Ecosystems, Greening Australia has coordinated a Landcare award-winning *Bringing Birds Back* project which has included monitoring and evaluation of 130 ACT region sites. This has been vital in developing our knowledge base about the design requirements for conserving biodiversity in rural landscape restoration e.g. size, density, structure, configuration and connectivity of native vegetation patches.

Bird-focused activities are a proven means of engaging rural and urban communities in combined activities.

RURAL AND URBAN VOLUNTEER FIRE BRIGADES

Desired Outcomes - *Defendable Space*

Greening Australia stages regular *Defendable Space* field events, to:

- increase skills exchange, camaraderie and cooperation between rural and urban volunteer fire brigades; and
- strengthen relations between rural leaseholders and urban community volunteers.

The events are based on site rehabilitation activities in the fire abatement zone, where on-ground action carried out includes direct joint participation of rural and urban volunteer fire brigades. For example, a planting day for community volunteers on rural leasehold land engages rural and urban volunteer fire brigades includes:

- site planning re the design and density of vegetation
- hands-on help for volunteer planters by watering in new plants; and
- conducting 'fire-wise' training sessions on fire threat identification and risk-reduction, illustrating in practical terms the concept of 'defendable space' for rural and urban areas.

Rationale

The McLeod Report recognises the need for ‘an expanded and continuing campaign of community education about bushfire risks and how individuals and households can prepare for them’ – a campaign which emphasizes that this is a shared responsibility for the entire Canberra community. McLeod also notes the worthiness of trialling bushfire protection initiatives involving local community groups in urban fringe areas and extension of this to rural leaseholders. The initial suburban Community Fire Units are currently being established at Aranda and Chapman.

Living Proof

Greening Australia has hosted numerous community events on ACT rural leases which have jointly involved rural volunteer bushfire brigades, emergency services bureau staff, rural lessees, urban volunteers. For example, an event in August 2003 on the Cotter Road attracted more than 300 participants.

NRM AND HERITAGE NETWORKS

Desired Outcomes - *Community Landscape*

A fundamental factor in reconnecting communities to the new working landscape of the Territory is empowerment and energising of existing natural resource management (NRM) and heritage networks. Although the groups that comprise these networks have been doing excellent local work, the *Community Landscape* program stimulates higher levels of interaction and rewards for participation.

The *Community Landscape* program:

- directly challenges individuals within existing NRM and heritage groups to work together on larger-scale on-ground projects, reaching well beyond their own immediate patch or single interest focus
- improves cooperation between, and effectiveness of, existing NRM and heritage groups
- provides enhanced opportunities for participation in active management of defined areas
- develops heightened awareness, knowledge, skills and participation through a strong ‘learning-by-doing’ component; and
- helps to recruit, motivate and sustain a wider sweep and a new generation of NRM and heritage volunteers.

Rationale

Over the past decade recognition has grown that natural resource management and heritage networks have built up the awareness, knowledge and skills essential to successful on-ground conservation outcomes. Strengthening ties between groups in the ACT:

- provides a strong foundation for a powerfully shared landscape vision, without diluting each group’s primary geographic or subject interest, or their traditional agency links; and
- encourages greater sharing of responsibility for landscape planning and management, by challenging perceptions of both geographic limitations and structural barriers between different types of groups.

Living Proof

Through a medley of award-winning projects such as *Bidgee Banks*, *Saltshaker*, *Vegetation Investment Project* and *Bringing Birds Back*, Greening Australia has demonstrated repeatedly that individual members of local groups respond well to the challenge of being able to join others in participating actively in larger-scale projects that address a wider range of issues.

INTERSTATE AND INTERNATIONAL VISITORS

Desired Outcomes – Capital Contribution

Interstate and international guests are provided with an opportunity to participate in propagation and planting activities in support of fire recovery and landscape renewal. For example, when a group of interstate/international visitors on a tour include in their itinerary the Greening Australia community access nursery at the Zoo or at Birrigai, they receive a brief talk on local flora and fauna and then actively participate in the propagation and thinning of plants. A group of 10 visitors can propagate 3,000 native plants in an hour. Conferences of visitors are also encouraged to find a place in their conference schedule to propagate plant stock and to visit and revegetate a fire-affected site.

Rationale

International embassies, government departments, business groups and scientific organisations often host delegations of international visitors. Canberra Tourism helps to arrange conventions and tours for groups from interstate and all over the world. It is a constant challenge to be able to offer something new and different to attract repeat visits. There is a demonstrable pattern of interest from visitors about natural and human-induced disasters which have affected their destination. This can remain a form of voyeuristic curiosity about the event and its effects, unless people are assisted to elevate their experience with a compassionate response. Following tragedy this may involve signing a book, or leaving flowers, paper cranes or other appropriate markers or tributes. Such opportunities can be cathartic, positive and healthy for visitors.

In the case of the Canberra fires, it would be a most innovative approach to provide opportunities for visitors to make a tangible contribution to recovery and landscape renewal - one which will go on growing.

Living Proof

Greening Australia receives visitors from all over Australia, as well as engaging African, Nepalese, Chinese and American visitors in hands-on activities at our nursery in Aranda and on revegetation sites around the region. The visitors provide very positive feedback on these opportunities.

BUSINESS

Desired Outcomes – Business Stepping Stones

The *Business Stepping Stones* program enlists and challenges 50 ACT businesses to work with one of their key business partners in a joint commitment to adopting a landscape rehabilitation site. With Greening Australia's guidance, the business partners develop a vegetation plan for each site and the two organizations then work with their staff to implement their plan together.

For example, the businesses might be asked to take on patches which require revegetation of 5,000 native trees, shrubs and grasses, as well as site maintenance and monitoring. The program can be linked to a staff giving program, raising funds for active ongoing, environmental custodianship of the site in conjunction with scientific agencies.

Rationale

Many businesses organise community involvement events, which are structured to provide the added benefit of promoting teamwork and/or staff morale. There is an opportunity to turn these usually single-business events into combined activities which will enhance value for both the community and the business. The ACT & Region Chamber of Commerce and

Industry alone represents some 1,300 members - potentially able to participate directly in fire-recovery work.

Living Proof

Greening Australia has staged growing and planting activities and special events with numerous business organisations including Kathmandu, Body Shop, ActewAGL and Deloitte.

Energy utility TransGrid has provided some years of sponsorship aimed at protecting and connecting habitat for threatened woodland birds, while simultaneously managing native vegetation to achieve multiple NRM objectives. This has allowed development of more than 120 bush conservation and native revegetation sites in Yass and Gunning Shires. The company has complemented this with planting events for TransGrid staff, families and friends. In one event, 1,300 native trees and shrubs were planted on a farm near Rye Park, where the landholders are seeking to establish 50,000 additional plants over the next three years.

GOVERNMENT WORKPLACES

Desired Outcomes – *Green Gateway*

The *Green Gateway* program connects government workplaces directly to plant propagation and landscape rehabilitation planning, action, monitoring and evaluation activities.

Government departments are challenged to grow 10,000 native trees and shrubs per year and to adopt sites of some 2 hectares for rehabilitation over several years.

The program assists to pair up ACT and Commonwealth departments and/or departments that often do business with one another.

The *Green Gateway* program also identifies and adopts areas on major routes leading into the ACT which showcase and announce Canberra as the Bush Capital, each with its own distinctive landscape treatment.

Rationale

The ACT has many departments and government employees whose workplaces can often seem unnaturally divorced from the local environment. Activities linking policy and performance would assist the development of a well-rounded public service in touch with local environmental issues.

Living Proof

Greening Australia has directly engaged (at the workplace itself or on-site) many government departments including Environment ACT, Environment Australia, Agriculture Forestry and Fisheries, Defence and the Australian Greenhouse Office.

In 2001 Greening Australia participated in a week of celebrations for the 100th anniversary of the Australian Public Service, coordinating public servants to propagate 10,000 plants.

In 2002, to celebrate Centrelink's 5th anniversary, Greening Australia helped more than 100 Centrelink staff, family and friends to plant 1,000 native tree and shrubs at Hall.

MEDIA

Desired Outcomes - *Showing the Way*

The *Showing the Way* program engages local, regional and national media in recognising the participation of the community and the impressive results achieved by their efforts to recover and reclaim the fire-damaged areas in non-urban ACT.

Avoiding parochialism, *Showing the Way* packages and presents real news and events, which bring to the attention of electronic and print media a range of social, environmental and economic issues relevant to all Australians.

Showing The Way runs off the back of:

- a busy calendar of community events and photo opportunities
- milestone achievements of groups and individuals
- human interest stories
- community education messages
- the re-emergence of Canberra's great places
- new science and learning; and
- celebrity involvement.

Rationale

Media need to play a critical role in enthusing, empowering, educating and sustaining the community for the long journey ahead. Recognition and celebration of achievement through media will be vital in motivating and developing an active ACT community, and in ensuring that due recognition flows to those in the government and business sectors who provide tangible support for community efforts.

Living Proof

Over its 21 year history and particularly in the wake of January bushfires, Greening Australia has engaged media in recognising performance, partnerships and people whether it be landholders, community volunteers, scientific torch-bearers, business supporters or government sponsors.

NATIONAL INSTITUTIONS AND FESTIVALS

Desired Outcomes

The staff of Canberra's national institutions have been engaged and connected with the ACT's special calendar events to promote ongoing renewal of the non-urban landscape. For example:

- the Australian National Botanical Gardens take on an enlarged role relating to seed supply
- Parliament House hosts special plant propagation events in support of fire recovery
- the Australian War Memorial is challenged to create a bushfire diorama
- the Royal Australian Mint cut a commemorative Fire fighter coin
- Questacon develop an educational exhibit for kids based showing the fire tornado of January 18 in action
- the Floriade Festival displays a fire-wise native garden.

Rationale

Canberra is home to an incredible range of skills and resources within national institutions. They often remain untapped for lack of good ideas or want of trying.

Living Proof

Greening Australia hosted a World Environment Day *Super Seeder* event at Parliament House in 2001 which attracted more than a hundred volunteers and resulted in the propagation of 11,000 native trees and shrubs.

During National Science Week Festivals, the organisation has held awareness-raising and hands-on environmental events for school and community groups.



E SCIENTIFIC ENGAGEMENT

The ACT is in an excellent position to connect its many and various centres of scientific research with practical land management and landscape restoration of non-urban areas. This integration of studies with the creation of landscapes will benefit the ACT environment and community as well as improving scientific knowledge about resource management.

Targeted educational programs and activities could and should commence right away across a number of stakeholder sectors because of the need to monitor and evaluate change after the bushfires and to reconnect stakeholders with the landscape.

The re-establishment and restoration of lowland woodlands provides considerable scope for experimentation at a scale and depth that will add significantly to Australia's knowledge base about woodland conservation and management.

Canberra has a number of scientific organisations and institutions that would wish to be involved in research opportunities linked to natural resource management. For example:

- several divisions of the CSIRO
- School of Resources, Environment and Society, Australian National University
- Division of Health, Design and Science, University of Canberra
- Wildlife Research & Monitoring Unit, Environment ACT; and
- CRC for Freshwater Ecology.

Greening Australia has experience in partnering with scientific organisations and is well placed to develop scientific and educational opportunities. Specific initiatives and their 'targets' include:

- | | |
|------------------------------|-------------------------|
| • <i>Science Works</i> | Best practice Science |
| • <i>NRM Masterclass</i> | Training |
| • <i>Catchment Scorecard</i> | Monitoring & Evaluation |

DEMONSTRATING BEST-PRACTICE SCIENCE

Desired Outcomes – Science Works

Through the *Science Works* program, 50 scientific groups, agencies and institutions are challenged to take on responsibility for 2 hectare patches in non-urban areas of the ACT, which enable them to demonstrate examples of best-practice and showcase the benefits of their learning. Each site is a focal point for rehabilitation, research, monitoring and evaluation, and on-site maintenance.

Groups are encouraged to involve nearby school and community organisations with a view to engaging them in key learning activities as part of their involvement in land management.

Rationale

Scientific agencies and institutions often tend to be better at problem description than at providing on-ground solutions. By challenging these groups to take on responsibility for public demonstration sites, the agencies are likely to learn quickly and adapt to the need to develop practical answers.

Living Proof

Greening Australia works regularly with a range of scientific agencies and institutions including CSIRO, Land & Water Australia, University of Canberra and the Australian National University, totalling more than 25 local land management projects.

TRAINING

Desired Outcomes - NRM Masterclass

A dedicated *NRM Masterclass* curriculum of training specifically aimed at tertiary students links coursework at the University of Canberra, the Catholic University, the Australian National University and Canberra Institute of Technology on a year-round basis.

For example, the Catholic University's teacher education program links training in Studies of Society and Environment key learning activities with an outdoor classroom approach to learning.

Typical training topics, designed to build bridges between centres of learning and the non-urban ACT landscape, include:

- ecological restoration
- bush regeneration
- project monitoring & evaluation
- wetland design and construction
- weed identification & management
- riparian management
- native seed collection; and
- native plant propagation & nursery management.

Rationale

The *NRM Masterclass* would promote learning and environmental action together, so that graduates emerge from tertiary institutions with more realistic expectations of the challenges posed by resource management.

Living Proof

Greening Australia has developed practical partnerships with tertiary institutions such as the Australian National University and the University of Canberra which have seen students engaged in seed collection, propagation, planting and monitoring and evaluation.

MONITORING, DATA COLLECTION & EVALUATION

Desired Outcomes – *Catchment Scorecard*

The *Catchment Scorecard* program delivers high quality monitoring and evaluation of natural resources and conservation efforts, collecting information relating to:

- on-ground factors such as location, fencing, tubestock, earthworks, funding committed, and community contributions
- community participation factors such as the number of participants, type of groups, age ranges, topics, demographics, location, costs and outcomes.

The benefits flowing from a working landscape are readily demonstrated due to effective monitoring, data collection and evaluation. This enables success to create success, building confidence in the effectiveness and value of environmental renewal and community participation. It also provides key information for adjusting priority setting or choice of techniques to increase effectiveness.

Rationale

Sound resource management depends on a sound information base. There are currently significant knowledge gaps.

These gaps can be addressed by community monitoring and evaluation. This offers valuable opportunities to engage the scientific world and wider community together in monitoring and evaluating the effectiveness of non-urban ACT landscape rehabilitation progress.

Living Proof

Greening Australia has developed a *Monitoring and Evaluation Manual* which has been recognised by the national Bushcare program and the ACT Rural Conservation Trust Committee for its ease of application by schools, tertiary students, rural land managers and community groups.

Given the scale of landscape restoration and community effort required in the non-urban areas of the ACT, maximum value may be gained by establishing a central clearing-house for consistent and comprehensive data collection and GIS mapping, using the techniques developed and employed by Greening Australia.

Following the January 2003 fires, Greening Australia developed the *Landscapes Under Fire* project with CSIRO Sustainable Ecosystems to monitor fire recovery at 100 ACT sites. Greening Australia's GIS mapping and data management allowed rapid identification of burnt and unburnt revegetation sites across the ACT, and selection of study sites. This was also aided by sound working relationships with the landholders.



F WHOLE-OF-LANDSCAPE SOLUTIONS

A number of landscape solutions will be required in the non-urban areas of the ACT, irrespective of the actual locations or dimensions selected for various land uses explored in the study report. Aspects of these include:

- woodland, forest and grassland restoration on some former pine plantation areas, responding to the McLeod report recommendation for a fire abatement zone east of the Murrumbidgee, and to other concerns about some plantation locations in areas of significance for environment and heritage conservation

- wildlife corridors, responding in part to the lowland woodland conservation strategy and in part to the need to redesign and reconfigure pine plantations that are to be re-planted
- riparian streambank protection for biodiversity and water quality within all land use choices, including urban
- diversified rural production systems
- innovative approaches to financing and benefit sharing
- coordination of volunteer effort; and
- monitoring, data collection and evaluation of effectiveness.

In each case, multiple objectives need to be pursued to optimise the flow of environmental, economic and social benefits. Set out below are approaches to achieving multiple objectives on a landscape scale, while realising the potential available in the community.

A number of these provide further explanation of concepts mentioned above in the Submission, and offer practical examples of what is already being achieved. They include:

- native vegetation restoration and wildlife corridors - *Vegetation Investment Project, Birdscaping, Bidgee Banks*
- environmental benefits in production systems – farm forestry, *GoodWood, Saltshaker, Wine for Life*
- innovative financing and benefit sharing - *Green Bank*, consumer investment in firewood
- coordination of effort; and
- monitoring, data collection and evaluation.

NATIVE VEGETATION RESTORATION AND WILDLIFE CORRIDORS

Desired Outcomes

Integrated native revegetation solutions meet multiple objectives for conserving biodiversity and heritage and maintaining water quality and yield. Design of landscapes treatments is based on sound knowledge to ensure that planning and implementation:

- enable management of fuels and fire risk, particularly in the fire abatement zone east of the Murrumbidgee
- include due regard for protection of environmental and heritage values; and
- assist compatibility with production systems.

These solutions are delivered with active community engagement to maximise outcomes for community health and wellbeing.

Living Proof – *Vegetation Investment Project*

With support from the Natural Heritage Trust, Greening Australia's Vegetation Investment Project has protected, extended and enhanced native remnant vegetation in rural areas in and surrounding the ACT. The project safeguards remnants of native vegetation, including grasslands, by fencing them off and by revegetating areas around them to create buffers.

CSIRO Sustainable Ecosystems has been a key partner in the project from the beginning, developing revegetation guidelines in consultation with local experts. A 'focal species approach' is employed to identify a suite of sensitive species that are then used to define the configuration and composition of habitats that must be present in the landscape. The species that is the most sensitive to a particular threat is called the 'focal species'. It is reasonable to assume that if the landscape and management needs of the most demanding focal species are met, all other species less sensitive to that threat should also flourish.

Survey data from 72 woodland remnants identified bird species whose habitat was threatened by factors such as smallness of remnants, lack of structural complexity and isolation from other remnants. The rare Hooded Robin proved the most sensitive (focal) species for all these threats.

From this analysis, CSIRO produced specifications for the minimum size of remnants that the project should aim to replant or regenerate as well as their placement, structural composition and shape. For example, woodland patches need to be at least 10 hectares and have at least 20% shrub cover within each patch. This provides viable habitat not only for birds, but also for other flora and fauna that would otherwise be at risk in a grazing landscape.

A high priority for vulnerable woodland birds is protection of large woodland remnants of more than 100 hectares area, which are structurally diverse with abundant ground cover, a mixture of low shrubs, middle-size shrubs, and an overstorey of wattles and eucalypts.

Smaller patches are enlarged by fencing and revegetation to the minimum size or larger, with (re)introduction of shrub cover. Connectivity is improved by creating intermediate patches within 500-1,000 metres of each other (like stepping stones).

The shape of patches should provide the greatest area for the smallest amount of edge, with linear plantings generally avoided, although these are suitable for riparian situations and need to be at least 25 metres wide with diverse species and structure.

Wherever possible, revegetation is designed to address multiple environmental threats at the same time as habitat loss, e.g. dryland salinity and erosion.

The design specifications developed from this project demonstrate that effective revegetation for conserving biodiversity in woodlands can be discontinuous and diverse in structure, offering no conflict with the objectives for the fire abatement zone.

Living Proof - Birdscaping

Since 1999 Greening Australia has pursued a number of related programs that have focused on birds as indicators of biodiversity decline due to habitat loss in rural areas. These include:

- four years of the *Birdwatch* program which included the monitoring of 130 sites
- publication of a *Bringing Birds Back* glovebox guide book
- a series of training events entitled *Birds and Breakfasts* held throughout the region

These have now evolved into the *Birdscape* project which aims to:

- engage rural and urban communities in bird monitoring activities to increase understanding of bird species and habitat requirements
- monitor and evaluate sites established through the *Vegetation Investment Project* and *Rural Conservation Fund* projects, including revegetated sites and remnant woodland
- build on the monitoring and evaluation program of the VIP project developed by the Conservation Council of ACT & SE Region

Birdwatch monitoring has shown that, although it is preferable to follow suggested specifications about size, shape, structure and connectivity of vegetation, even small, isolated or linear patches of revegetation may provide habitat for some native birds and lay a foundation for future birdscaping. For example:

- although 10 hectares is a desirable minimum size, small thornbills need 0.5-2.5 hectares of habitat for a breeding territory
- although linear patches are not optimal, in an average windbreak of 3 rows (12 metres wide) 11 species of woodland birds were common; this increased to 17 species in windbreaks of 25 metres width (usually 5 rows)
- although the number of woodland bird species increases with the age of the site, the first birds start inhabiting the site from 2 years of age onwards; and
- although structural density is valued, many ground-feeding species require both dense patches for nesting and open areas (within the patch) for feeding.

'Internal space' can be achieved by:

- spacing planting or seeding rows at least 5 metres, and up to 10 metres apart

- putting two rows close together then leaving a 10 metre gap to the next row
- leaving out a middle row; or
- not infilling gaps where sections of seeding or planting have not survived.

The value of 'internal space' provides further evidence to suggest that revegetation to provide biodiversity benefits need not be incompatible with active fuel management.

Living Proof – Bidgee Banks

With Natural Heritage Trust funding, Greening Australia has been working with the NSW Department of Infrastructure, Planning and Natural Resources and riparian landholders to target streambank erosion hotspots and remnant vegetation in the mid and upper Murrumbidgee through the *Bidgee Banks* partnership project.

This approach responds to issues raised in studies such as the State of the Environment Report 2001 which noted protection from erosion as by far the most important strategy for improving water quality. The National Land and Water Resources Audit listed the Murrumbidgee as one of the top one-third of rivers in the Murray Darling Basin requiring riparian rehabilitation because:

- between 50 and 75% of each reach has lost its riparian vegetation
- between 20 and 50% of the expected macro-invertebrate groups have been lost; and
- sediment loads have increased substantially with a third to a half of this coming from river bank erosion.

In just two and a half years the *Bidgee Banks* project engaged 262 land managers in the rehabilitation of 1,340 hectares of riparian zone (equivalent to two and a half thousand football fields) and in protection and enhancement of 830 hectares of riparian remnant vegetation. The project has delivered riparian restoration at the rate of approximately 130 kilometres per year.

The power of BidgeeBanks has been recognised by its winning a United Nations World Environment Day Award for Excellence in Land Management, as well as a Banksia Award.

An interesting result of *Bidgee Banks* monitoring with the University of Canberra is indications that native grasses and rushes have survived well in fenced off areas, and appear to be a more important factor in bank stabilisation than some of the tree planting.

This has implications for the supply of native grass seed for riparian recovery, and suggests that an irrigated/grazed grass seed orchard would be an appropriate development to support extensive riparian and grassy woodland restoration in the ACT. This could perhaps be developed in the Pialligo area using recycled water.

ENVIRONMENTAL BENEFITS IN PRODUCTION SYSTEMS

Desired Outcomes

Rural landholders are using diverse and integrated production systems which meet multiple objectives, providing significant benefits to businesses as well as the environment.

Adoption of responsible vegetation management practices that provide biodiversity, salinity management and water quality benefits is extended and accelerated by effective integration with production systems.

Living Proof – Farm Forestry

Through the Commonwealth funded Farm Forestry Support program, and in conjunction with the Southern Tablelands Farm Forestry Network, Greening Australia's farm forestry service for landholders in the Southern Tablelands of NSW has helped to:

- disseminate information and advice about the design, establishment and management of high value hardwood plantations

- support landholders wishing to get involved with the small, local hardwood timber industry and to locate niche market opportunities for small volumes of timber products
- demonstrate how small farm plantations can protect stock and pastures, address land degradation (such as gully erosion and salinity) and create bird and animal habitat
- prepare farm forestry plans, detailing the strategic placement of farm forests and integrated revegetation, where potential funding can be sourced for on ground works and a 10 year implementation strategy
- provide information and advice regarding the management of regrowth native vegetation for selective timber harvesting, regeneration and biodiversity enhancement
- linking farm forestry with revegetation for a healthy, diverse and productive landscape.

This has complemented regional native vegetation and farm forestry networks and initiatives such as the Remnant Vegetation Fencing Incentive Scheme, direct seeding contracting and diverse revegetation projects, to maximise community effort and avoid duplication.

Living Proof - GoodWood

GoodWood is an initiative to develop a community owned and operated, non-trading cooperative to encourage active involvement of landmanagers, industry stakeholders and community groups in sourcing, processing and marketing wholesale wood products for the Canberra region.

Supported by funding from the Natural Heritage Trust, Greening Australia works in partnership with CSIRO Sustainable Ecosystems, Australian National University Forestry, Southern Tablelands Farm Forestry Network, and in consultation with southern NSW land managers.

Wood is sourced and sustainably harvested from areas previously unavailable to the market, including:

- degraded regrowth woodlands and forests that require intervention for ecological enhancement
- dense direct-seeded revegetation that requires thinning
- small scale farm forestry on private land; and
- clearing for utility services such as local councils, electricity, gas and rural fire services.

This has multiple benefits, including:

- reducing pressure on areas currently over-cleared
- providing incentives for appropriate forest management, regeneration and revegetation, with additional farm income through royalties helping to offset cost of managing native vegetation
- reducing the ecological footprint of Canberra by addressing unsustainable demand for firewood (more than 50,000 tonnes per year) imported from woodlands up to 500km to the west
- improving market access for landowners with small-scale farm forests (currently more than 100 landowners on the Southern Tablelands) by a collective approach aimed at domestic consumption of products
- providing certified local wood products which are sustainably harvested, processed and marketed in the local region (includes firewood, round posts and poles, sawn timber, cabinet timber and wood by products such as seed, sawdust, etc)
- fostering cooperation between rural communities, government and service providers to optimise resource use
- providing training, part time employment and contracting opportunities for the region.

Living Proof – Saltshaker

Saltshaker is a partnership between Greening Australia ACT & SE NSW, the Boorowa Regional Coordinating Committee, Boorowa Shire Council, CSIRO Sustainable Ecosystems and DLWC Salt Action in the Boorowa catchment. A Natural Heritage Trust-funded project, jointly addressing Lachlan Catchment high priorities of salinity and biodiversity.

Funded by the Natural Heritage Trust, the project addresses both salinity and biodiversity, identified as high priorities in the Lachlan Catchment.

To date Saltshaker has engaged more than 70 landholders who have:

- constructed 300 km of fencing
- planted 107,000 trees & shrubs
- sown 900 km of tree seed; and
- committed their own time and resources at twice the value of funding they have received.

This has resulted in 700 hectares of remnant native vegetation protected and 700 hectares of new vegetation established.

Saltshaker has not only achieved outstanding on-ground results, but is adding significantly to our knowledge of the complex relationships between vegetation, salinity and biodiversity. Currently, more than 100 Saltshaker sites across the catchment have been mapped by Greening Australia ACT & SE NSW through GIS technology. The mapping has been assessed by CSIRO to determine the biodiversity benefits of the Saltshaker project.

Living Proof - Wine for Life

The rapid growth in Canberra Region wineries over several years has put greater pressure on remaining fragmented and often isolated patches of native vegetation. Grapes are highly susceptible to impacts of spray drift from use of agricultural chemicals as are surrounding woodland and bushland areas. Grape growers require access and support to increase their understanding, knowledge, skills and involvement in native vegetation management, in part to address perceptions that the wine industry has negative impacts on the local environment.

With Natural Heritage Trust support, Greening Australia's *Wine for Life* project has encouraged conservation practices on vineyards in the Canberra Region to:

- protect and enhance remnant vegetation, mature trees, watercourses and water storages
- use strategic revegetation to buffer against spray drift and create bush links across the landscape; and
- improve sustainability of the wine industry step by step.

Through *Wine for Life* Greening Australia has:

- delivered technical advice and assistance to nearly two dozen grape growers in the Canberra region
- in conjunction with the Cooperative Research Centre for Viticulture, organised and hosted an introductory EMS workshop "Viticare" for interested growers
- provided incentive funding to more than 20 grape growers to take up the *Wine for Life* challenge to establish 16 kilometres of fencing, 150 kilometres of direct seeding and planting of 4,000 tubestock, designed to protect 45 hectares of remnant native vegetation and 37 hectares of revegetation; and
- translated many of the priorities, actions, and recommendations from the Murrumbidgee catchment's regional strategy, action plan and relevant studies into community driven on-ground action.

Due to the intensive nature of viticulture, some farm managers have been able to commit significant areas of land for conservation. Many did not even require additional fencing.

The project has worked closely with local industry bodies, and has been integrated with the ACT Rural Conservation Fund, Vegetation Investment Project and Murrumbateman Missing Links project to ensure landscape scale changes and to maximise conservation outcomes.

INNOVATIVE FINANCING

Desired Outcomes

New forms of commercial land use that provide both private returns and public benefits are enabled by innovative financial strategies, rather than requiring ongoing public funding to achieve desired environmental outcomes. A 'leverage fund' (rather than 'grant-based') approach provides stronger commercial engagement, and avoids the risk of fostering a culture of dependency on government.

Rationale

Development of land uses that are commercially viable, socially acceptable, and ecologically sustainable is blocked by four impediments:

- poor information on best practice commercial sustainable land use
- risks associated with moving to new (often untried) resource management practices
- landholder liquidity and capital constraints; and
- low private returns on investments that produce public resource management benefits.

Living Proof - Green Bank

Greening Australia Limited, in partnership with CSIRO, the Allen Consulting Group, and leading business people, have secured seed funding to establish a Natural Resource Management Leverage Fund (*The Green Bank*) to broker customised financing for individuals and groups who undertake projects activities delivering commercial and environmental benefits.

Financial strategies include:

- equity investments where the Bank provides venture capital for promising and innovative projects
- risk sharing where the Bank shares both upside and downside risk for projects that do not need direct financial support
- underwriting commercial finance where there is a strong business case and this can reduce net financing costs, improving private and public returns
- integrated NRM/business advice to enhance the case for investment and the benefits achieved
- brokering partners to improve the viability and performance of valuable new initiatives.

Governments have provided seed resources through the *Market Based Incentives* program, and are collaborating in identifying priority catchment level objectives. Private sector partners provide capital, business expertise, and market standing.

A pilot program is addressing a range of knowledge gaps related to engaging the private sector and overcoming market failures, and testing a number of transferable tools and models for facilitating land use change.

In the non-urban areas of the ACT a valuable pilot may be possible to engage Canberran suburban firewood consumers, ACT Forests and GreenBank, as part of landscape renewal and rehabilitation. Firewood plantations could be grown in some areas that are earmarked

for other uses in the medium to long term, providing both environmental benefits and an economic return in the interim.

Innovative financing should be explored. Canberra's demand for firewood comes from nearly a quarter of households, totalling more than 50,000 tonnes per year. With firewood costing \$300+ per tonne, some households are spending \$900 per annum on firewood. It would be worth testing market interest in households investing in the order of \$5,000 now, to start receiving firewood in eight years' time (at approximately \$50 per tonne handling charge).

COORDINATION AND SUPPORT OF COMMUNITY EFFORT

Desired Outcomes

The massive human effort required to bring new life to fire-damaged landscapes of the ACT is well coordinated to ensure:

- effective community engagement and support in events with both meaning and impact
- optimal efficiency in allocation of human, technical and financial resources
- due regard for environment and heritage considerations in design and implementation
- due emphasis on the value gained from volunteer effort; and
- rigorous monitoring and evaluation of effectiveness.

This complements and adds value to a range of current suggestions such as those in the McLeod Report for a more engaged community, and in the lowland woodland conservation strategy to establish a Conservation Management Network for grassy woodlands.

In view of the range of government agencies (and areas within agencies) concerned, and the diverse community interests that need to be brought to bear on the renewal effort, volunteer coordination is carried out within the community sector, in liaison with agencies.

Rationale

Although previous community participation in environmental management in the ACT has achieved a great deal, the effectiveness of much this participation has been inhibited by poor access, isolation, inefficiency, wasted effort and lack of recognition of effort. Despite best efforts from some people in government agencies, perceptions persist of bureaucratic barriers between volunteering opportunities, and frustration at turnover in personnel, administrative changes, inconsistent attitudes and treatment of volunteers as cheap labour.

Data recently released by the Australian Bureau of Statistics show that Canberrans are Australia's most environmentally aware and concerned citizens. But although 71 per cent of ACT citizens expressed concern for environmental problems only 23 per cent were prepared to donate time or money towards environmental protection or improvement (Canberra Times 20 September 2003). We expect that much of this result is due to the disabling effect of the factors noted above which have proven to be a disincentive to environmental volunteering.

Optimal use of resources and maximum value are gained through coordinated attention to factors such as:

- clear points of contact and engagement
- connectivity of volunteer opportunities
- streamlined and comprehensive recruitment, induction and training
- consistent and effective technical and personal support 'for the long haul'
- effective results for effort through well designed projects
- learning enhanced and value gained by effective liaison with agencies, and partnerships with other groups and organisations
- comprehensive recording, valuing and recognition of inputs, outputs and outcomes; and
- increased satisfaction from well planned, well organised and well promoted events.

Living Proof

The above factors are the hallmark of Greening Australia's extensive experience in volunteer coordination, across the spectrum from seed collection, nursery propagation, site preparation, planting out, mulching, maintenance, weeding, wildlife survey, monitoring, GIS mapping, and celebrating success.

This has been attested to by Greening Australia's selection to coordinate volunteer participation in **National Tree Day 2003** (on behalf of Planet Ark). It has been further enhanced by responsibility for on-ground implementation of **Green Corps** environment and heritage projects in partnership with government agencies, industry and community groups.

The scale of landscape change to be created in non-urban areas of the ACT necessitates a significant stepping up of effort and makes effective coordination of all stages essential. An opportunity exists to assign coordination of these factors in volunteer effort to Greening Australia to make best use of this experience in maximising the value gained from coordinated community effort. This would be a contractual arrangement ensuring adequate liaison with management agencies for approvals, logistical support and relationship building.

In addition to 'special events', **Green Teams** of about eight people – two qualified specialists, four youth trainees, and two volunteers – would provide continuous services across all aspects of vegetation management.



G GETTING STARTED NOW

It is absolutely vital that a start be made immediately on engaging the community in landscape renewal and revegetation. This will demonstrate:

- commitment to action
- due concern for the damage done to environment and heritage; and
- genuine belief in the value offered by community participation.

We have identified a number of areas requiring immediate action, with no need for concern about the potential to foreclose on options in the numerous significant decisions required in non-urban areas of the ACT. These are examples only, and include:

Riparian Rehabilitation

- Scale up rehabilitation of rivers, streams and degraded drainage lines e.g. Holden's Creek (urgent)
- Aim to achieve multiple benefits e.g. soil stabilisation, biodiversity conservation and water quality improvements together (all activities)
- Develop and engage riparian Green Teams – teams of 8 comprising paid professionals, NRM apprentices and community volunteers

Seed supply

- Engage the community in seed supply planning (urgent)
- Commission concerted seed collection activities
- Fast-track development of seed supply infrastructure, including seed orchards and community nurseries
- Conduct a community education campaign re efficiency of seed use to minimise seed waste

Onground Action

- Identify key precincts and sites for targeted community on-ground action which does not foreclose on future planning options e.g. Holdens Creek, Molonglo Corridor
- Draw upon existing NRM and heritage networks of volunteer regulars for concerted action
- Scale up community propagation and growing programs to meet autumn 2003 planting season



H COMMENTS AND CONCERNS

OVERALL COMMENTS

Greening Australia commends the study team for posing the challenges inherent in the non-urban study report's menu of ideas with the intent of stimulating debate. We also commend the report's focus on realising opportunities in addition to managing risks.

We recognise that the non-urban study is shaped by the McLeod report, and needs in turn to shape a significant part of the response to that report. At the same time the study has to remain open to the outcomes of the closely related urban edge review. It must also embody key findings of the lowland woodland conservation strategy, recreation strategy, water strategy and the Forests business case. Additionally, the report is operating within the timeframe of processes for the spatial plan, the social plan and economic white paper.

Rather than see these concurrent processes as complications and constraints, we take the view that they add significant weight to the role of the non-urban study as an important foundational process and document.

Greening Australia recognises that the report has been prepared in a very short timeframe. We recognise that it is preliminary and strategic, aiming to document the main facts and considerations as well as posing key ideas.

It was tempting therefore to provide only preliminary and general comments, particularly in view of the timeframe available for comment. However, while accepting that the report is an initial step, it must be seen as laying important foundations for decision-making and we need to ensure that the final report is as informed, robust and comprehensive as possible.

CONCERNS

We believe that there are conspicuous omissions in the 'main facts and considerations' in the preliminary report, and that some of the 'key ideas' lack fundamental grounding. These relate to:

- social and community dimensions of sustainability and decision-making
- the dynamic nature of landscapes
- the place of natural and cultural heritage in sustainability
- reference to a 'biosphere zone'; and
- the nature and place of resource management in landscape scale change.

Social and Community Dimensions

We agree that the test to determine ultimate land use decisions is sustainability, integrating environmental, economic and social goals. However, the emphasis of the report is weighted

to the biophysical and economic parts of this spectrum. Sustainability is equally about enhancing individual and community wellbeing and welfare, providing for equity within and between generations.

The report does not seem to acknowledge aspects of wellbeing other than those arising from recreation opportunities. This risks exclusion of significant potential gains for health and wellbeing from the decision-making and implementation processes for non-urban areas.

In similar vein, RMIT enlarges the concept of sustainability as 'the triple bottom line plus one', the extra component being governance. We believe that this is an entirely appropriate concern, not only for what decisions are made but for how decisions are made. It has considerable implications for equity and outcomes for health and wellbeing.

Socio-cultural considerations are inconsistently treated in the non-urban study report, which has an overt focus on the biophysical and economic in the form of 'land use in general'. For example, although there is a reference to 'hands-on' ownership of the environment this does not find coherent expression throughout the remainder of the report. The words are there but there is no clear understanding of the importance of the concepts inherent in them, or of their place in the schema of planning for change.

Greening Australia believes that community engagement is central to realising the environmental, economic and social aspirations of the ACT and Region in the wake of the January 2003 bushfires. This is a significant part of the reconnection we wish to see between the community and a renewed Territory landscape. We will not achieve true sustainability without it.

There is a significant difference between:

- *education for change* (to encourage acceptance of change); and
- *education for participation* (to invite active engagement in, and create ownership of, change).

The latter requires processes to develop awareness, knowledge, skills and participation. And this needs to go far beyond the current emphasis on using volunteers to save money. Community participation needs to be valued not for its potential to cut costs but for its potential to improve the quality and relevance of outputs and outcomes, and to maximise the value obtained from inputs.

This calls for treatment of the community as 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.

The success of many planning or change processes is measured by counting how many members of the community make submissions or attend meetings, rather than by measuring the satisfaction of the community in their sense of ownership of the process and its products.

Greening Australia believes that the final report needs to envision and present practical examples of a new expanded role to be played by the community in 'shaping our Territory'. This needs to be a creative role at the heart of renewal action, rather than a reactive role confined to, and controlled at, the margins. This may be sufficiently ambitious to approximate the community '*Reclaiming our Territory*'

Landscape ecology

In biophysical matters, the report's focus on 'land use in general' appears to produce a very two-dimensional view of landscapes, expressed in the generalised transect and in colour patches in land use scenarios.

By contrast, landscapes are essentially four-dimensional. They certainly occupy area (2-D) but are also structures in terms of both physical terrain/site factors and vegetation (3-D). Both of these aspects of structure are dynamic e.g. soil is both produced and transported, water is added and transported, and vegetation species are added or removed, growing and

competing with each other. This dynamic nature requires consideration of time (geological and biological), effectively rendering landscapes four-dimensional (4-D).

This is not an insignificant point because sustainability hinges on our ability not only to choose the sites occupied by different uses, but also to intervene in or manipulate the physical and biological structures that both affect and are affected by those uses.

Planning and resource management are both directed at the nature and the timing of interventions and manipulations – how we will manage landscapes as resources for the values and benefits we seek.

Timing of interventions is critical in relation to such factors as flower and seed production, establishment of plant seedlings, vulnerability of fauna species to variations in shelter and food, and creation of diverse age composition in vegetation being managed for habitat.

Our Submission demonstrates this four-dimensional view of landscapes through the Greening Australia projects and case studies offered in sections above.

Heritage

The report does not demonstrate an understanding of the fundamental place of natural and cultural heritage in ‘environmental’ considerations. Perhaps of more concern is that it does not demonstrate an understanding of the binding force that heritage offers between the environmental, social and economic goals of sustainability. This risks skewing content and process towards a limited or overly segmented view of these goals, losing sight of what they have in common – the things that we as a society and community value and want to keep.

Our Submission responds by seeking an appropriate coupling of environment and (natural and cultural) heritage considerations.

Biosphere zone

Although there is no argument with the broad approach of the transect illustrating spatial relationships and land use management, its reference to an ‘actively managed biosphere zone’ creates more confusion than clarity.

We suggest that the final report omit the term ‘biosphere’ altogether, as it blurs established concepts. The ‘biosphere’ refers to the thin film of life on the planet surface (between the lithosphere and the atmosphere). ‘Biosphere reserves’ are a concept advanced by the UNESCO Man and the Biosphere Program since the 1970’s. Kosciuszko National Park was one of the first such reserves established in Australia.

There are current proposals (through Nature & Society Forum and ANU Centre for UNESCO) for Canberra and the Territory hinterland to be established as a Biosphere reserve. This would be considerably closer to the original UNESCO concept than is Kosciuszko. The concept embodies a highly protected core with a gradation of conservation through buffer areas to multiple use and on to intensive use (even urban).

In view of the similarity of this to the concept advanced in the non-urban study report of a gradation from conservation in ‘wilderness’ through a multiple use zone to an urban zone, it is hardly surprising that there would be a spark of recognition of the Biosphere reserve concept. The concept is also reflected in the IUCN categories for protected areas, grading from strict nature reserve to multiple use - a more broadly applicable approach.

Our suggestion that the term be omitted is not a purist or pedantic approach. ‘Biosphere reserve’ has established meaning internationally through UNESCO, and nationally at law through the Commonwealth EPBC Act 1999. At a more fundamental level, use of the term in the report does not assist understanding, appears esoteric, and may serve to confound the efforts of those seeking consideration of a Biosphere reserve for Canberra and hinterland.

Our Submission responds to this by referring to a multiple use matrix in this same area.

Resource management

Although there is mention of 'active management' and 'comprehensive management' to achieve sustainability objectives beyond the micro-scale, this does not find coherent expression throughout the report.

Our Submission responds to this by posing challenging ideas for active landscape intervention and manipulation, and providing case examples of what is already being achieved nearby. The ideas and case examples which we present are fundamentally linked to socio-cultural considerations and mechanisms – matters which also gain relatively scant attention in the report.

Related to this, we encourage the final report to refer to 'resource management' because it embodies the socio-cultural dimensions of sustainability.

A resource is an attribute of the environment that is valued over time for what it offers us in meeting either biophysical needs or cultural aspirations or both.

Resource management is a process of decision-making through which resources (things we value) are allocated over space and time according to human needs, aspirations and desires. It involves weighing options, developing preferences, making judgements and committing to decisions. Community engagement is fundamental to such a view.

We would be concerned if the level of detail we have presented in this area was to be dismissed as an inappropriate response to this report, because its focus on 'land use in general' implies that the detail on management is to be addressed by one of the cited related processes. Our concern stems from the fact that there is no indication as to which related process might undertake this.

Noting our view that the non-urban study is a strong foundational process and document for decision-making, we believe that some detail on interventions and manipulations to create and sustain preferred landscapes (i.e. active management) is not only appropriate but necessary in response to this report.

Closing remarks

We commend the team for presenting in the report overt recognition that the January fire events offer potential for positive legacies. We would go further to say that this is an opportunity unparalleled since the establishment of the Capital.

In the decade leading up to Canberra's centenary in 2013, we are challenged to reflect on
who we are
what we value
what we want to keep; and
what we want to create anew.

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