Sydney's Hands-On Environmental Forum

Forum Proceedings
Edited by Leanne Cusiter

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Foreword

Sydney’s Hands-on Environmental Forum – *Inspirations, Motivations & Celebrations* was the first major event undertaken by the Sydney Metropolitan Catchment Management Authority (CMA). As a key outcome of the CMA’s community support program, the forum was successful in bringing together a diverse range of people working on grassroots environmental projects across Sydney.

Held over two days, more than 60 presenters showcased a wide range of successful projects including volunteer bushcare, urban biodiversity, stormwater, advocacy and community engagement projects and activities. The diversity of topics was impressive, and each presenter highlighted the time, dedication and enthusiasm they put into working on their particular project.

Over 300 people participated in the event with representatives attending from all levels of government, the indigenous community, non-government organisations, environmental contractors, environmental educators, and community volunteers. The forum provided a unique opportunity to connect and develop networks between a broad range of people all helping to keep Sydney one of the greenest and most livable cities in the world.

These proceedings attempt to capture some of the content and information that was presented over the two days of the forum. The document contains all the papers provided by presenters and each paper reflects the individual style and personal approach given to each particular project.

In the spirit of the forum, I am pleased to present these proceedings to you as a small but important glimpse of the enormous amount of work being undertaken in Sydney. May you be inspired and stimulated by the individual and collective achievement of these projects!

Bob Junor
Chair
Sydney Metropolitan Catchment Management Authority
April 2005
SYDNEY: OUR UNIQUE GREEN CITY

Sydney Metropolitan Catchment Management Authority: A New Regional Approach to the Environment

Bob Junor
Chair, Interim Board
Sydney Metropolitan Catchment Management Authority (CMA)

Introduction

It has been a very dynamic period of change in natural resource management (NRM) in New South Wales over the last 12-18 months.

As Chair of the Sydney Metropolitan Catchment Management Authority (CMA) Local Establishment Team (LET) and now the Interim Board, I appreciate that at times it has been difficult for those at the coal-face. In particular, it has been difficult for local government and the community to engage with the changing structures and new faces, and to deal with the regional uncertainties that have accompanied the changes.

I am pleased to see such a strong response to Sydney’s Hands-On Environmental Forum, showing that despite the difficulties, there is an underlying strength of support for NRM in Sydney. I thank you for your participation and welcome you to two days of Inspirations, Motivations and Celebrations.

NSW Natural Resource Management (NRM) reform

A new catchment management structure has been successfully rolling out in NSW. There are now 13 new Catchment Management Authorities (CMAs) established across the state. Similarly, across Australia there are 56 regional NRM bodies that have been established to lead the process of developing and implementing integrated regional NRM plans, with all States and Territories working together with the Australian Government to manage investment through the Natural Heritage Trust (NHT) and National Action Plan for Salinity and Water Quality (NAPSWQ).
The Sydney Metropolitan CMA

In Sydney the process of forming a new regional NRM body has been slower and more complicated than elsewhere. Within the boundaries of the Sydney CMA area there are at least 20 different government authorities, agencies and key stakeholders, 39 local governments and over 3 million people, all of whom have some role to play in managing Sydney’s natural resources.

Now the Sydney Metropolitan CMA has been established. There is currently an Interim Board, which is helping to formulate the roles and functions of the CMA. This Board, made up of members of the former Local Establishment Team, has strong continuity with the previous Sydney Harbour and Southern Sydney Catchment Management Boards and strong local government representation.

Once the form and function of the Sydney Metro CMA is finalised there will be a formal recruitment process to appoint a new Board and General Manager, and after this CMA staff. The Interim Board has the key responsibility of ensuring that these processes take place, something that has now been completed for all other CMAs in NSW.

The main work of the Interim Board is communicating CMA activities to all stakeholders and driving the development of a Catchment Action Plan and associated Investment Strategy. The Catchment Action Plan (CAP), like the Sydney Harbour and the Southern Sydney Catchment Blueprints that it will incorporate, is the central mechanism to deliver natural resource management investments and outcomes to the Sydney catchment community.

The CMA’s strategic planning covers the areas of native vegetation; terrestrial and aquatic biodiversity; land use and land use planning; estuary and marine management; management of soils and water-related issues including water quality, stormwater management and water-sensitive urban design, as well as cultural heritage.

The Interim CMA does not intend going back to first principles to identify catchment outcomes in these areas. We are aware that the councils, agencies and communities in Sydney have been consulted again and again in regard to NRM issues and we intend to take account of previous work and processes. However, the CMA will work to ensure that the identified shortcomings in the former blueprints are addressed in the CAP. They include more comprehensive acknowledgment of coastal, marine and estuarine issues. At the fine-tuning stage of the CAP there will also be further community consultations.
Sydney’s natural assets

We all value Sydney’s unique environment and its rich diversity of natural landscapes. We depend on these natural assets for our quality of life. Our natural landscapes clean our air and water, provide us with recreational opportunities, and give our city its famous green back-drop.

A snapshot of the natural landscapes of the Sydney Metropolitan catchment includes:

- Woronora Plateau: head-waters of the Georges and Woronora Rivers;
- coastal and estuarine landscapes of the Georges, Woronora and Cooks Rivers;
- drowned river valleys and ridge-lines of the Parramatta River, Middle Harbour and Sydney Harbour;
- sheer coastal cliffs of Manly and Watsons Bay;
- North, South and Middle Heads, defining the entrance to Sydney Harbour;
- coastal bays, beaches and sand dune systems, such as Botany Bay;
- wetlands and lagoons; and
- the broad plains and low hills of the Cumberland woodlands.

Each of these landscapes contains distinctive and often sensitive ecosystems, helping make the Sydney Basin the fifth most biodiverse region in Australia.

Across our natural landscapes we have, however, built homes, sports-fields and shopping centres, and constructed roads, bridges, and concrete channels. Sydney’s natural environment is now one of the most threatened and extensively degraded in the country:

- 90 per cent of riparian vegetation has been cleared;
- there are now 19 endangered ecological communities listed under the NSW Threatened Species Conservation Act;
- many coastal bays and estuaries are polluted and the sediments in some are highly toxic;
- salinity threatens infrastructure in western Sydney; and
- weeds continue to extensively displace native plants and threaten human health.

Sydney’s social assets

Sydney is where most people live and work in NSW. The catchment’s growing population may be one of the major pressures on our environment, but it is also an essential asset to help restore and preserve our degraded natural assets.
The engagement of all sections of the community, including the Aboriginal community and culturally and linguistically diverse (CALD) groups, is essential for helping to achieve sustainable catchment management targets in biodiversity, land and water.

Sydney local government led the way over 15 years ago, in responding to the community’s desire to get involved in environmental restoration work. Now Bushcare and other programs of community action run by local councils and national parks see up to 5000 people in the catchment every month being actively involved in on-ground works.

Hundreds of thousands more are adopting environmentally responsible actions, encouraged by a range of educational programs, most run through local government, which are helping people realise the links between individual actions and a healthy, sustainable environment.

Catchment management in partnership

The Sydney Metropolitan CMA has a large and diverse population, many ecological challenges and a multiplicity of government bodies with specific or local area responsibilities, all working within a complex land use planning system. It is a challenging environment in which to attempt to develop a catchment-wide approach to natural resource management.

However, the role of Catchment Management, as acknowledged by the NSW Government, is to provide regional co-ordination and facilitation and a landscape-scale approach to dealing with the management of Sydney’s natural environment.

The Sydney Metropolitan CMA can provide a range of services to its catchment partners, in particular local government. The CMA has a brokering role, brokering knowledge, tools and resources; a linking and liaison role, identifying common needs and linking and helping to fund partners from government, industry, research and education in cross-sectoral projects to achieve efficiencies and direct on-ground outcomes; and a supporting role, helping community groups, schools and governments to effectively work together at a regional level.

The CMA is above all about partnerships.

Investment through the Natural Heritage Trust

The other key function of the CMA is to deliver Australian Government Natural Heritage Trust (NHT) funding for regional catchment projects.
Through the CMA Investment Strategy, the Sydney Metropolitan CMA will invest $5.7 million over the next four years.

Current projects and those to be funded under the 2003-4 NHT allocation include Green Web Sydney (a biodiversity project managed by the Southern Sydney Regional Organisation of Councils); weed management and environmental education projects; vegetation mapping and guidelines development; a review of fish passages in urban waterways; and projects related to urban stream de-channelisation, riverine corridors and harbour surveys.

The largest of our NHT projects is the Community Support Program, which plays a pivotal role in developing and maintaining our partnerships with local government and the community.

The NHT Envirofund component continues to be available for local community projects.

Inspirations, motivations and celebrations

The Sydney Metropolitan CMA acknowledges that changing government policies have made it challenging for community and local government to keep faith.

However, the CMA Board and Staff commit to engaging with all levels of government, industry and the community, and to working together with these partners to develop a sustainable model for an effective CMA.

In the spirit of our evolving partnerships, we welcome you to Sydney’s Hands-On Environmental Forum, *Inspirations, Motivations and Celebrations.*
Local Government and the Sydney Metropolitan CMA:
A Working Partnership

Councillor Genia McCaffery
President
Local Government Association of NSW and Shires Association of NSW, Mayor of North Sydney Council, Board Member of Sydney Metropolitan CMA

I am delighted to be here to talk about the strong working partnership between local government and the Sydney Metropolitan CMA.

By working together, councils and the CMA can ensure that our natural resources are managed in a way that is sustainable and meets the expectations of our communities.

Local government is a critical player in the delivery of good NRM outcomes. In the Sydney Metro region, councils spend vast sums of money on NRM activities and have substantial legislative responsibilities which influence the management of natural resources. We are close to the communities we serve so our involvement is vital to ensure community engagement in NRM.

A strong relationship between councils in the Sydney Metro region and the Catchment Management Authority is vital to ensure regional co-ordination and to achieve regional targets for managing natural resources in the long term.

The CMA, with limited resources, cannot achieve this without building a real and effective partnership with local government. We cannot be regarded as ‘just another stakeholder’.

By way of background, I’d like to talk briefly about the role of local government in NRM.

Role of Local Government in NRM

There is a great deal of legislation relevant to local government in terms of our NRM responsibilities. I won’t go into great detail, but to give you an
idea of the scope, local government has NRM roles under the Local Government Act, the Environmental Planning and Assessment Act, the Protection of the Environment Operations Act, the Contaminated Land Act, the Threatened Species Conservation Act, and the Rural Lands Protection Act.

Local government is also a major investor in NRM. According to ABS figures, in 2002-3 local government nationally spent $2.6 billion on environmental protection, up 6 per cent from 2000-1 and $1.9 billion on natural resource management, up 9 per cent from 2000-1. In New South Wales we spent $839.4 million on environmental protection (or $127 per capita) and $494.3 on NRM (or $75 per capita).

We are a major deliverer of NRM outcomes. In the Sydney Metro CMA a number of councils have environmental levies or a special variation to rates to spend on environmental works.

In Randwick the environmental levy approved for 2004-9 is 5 per cent on rates and will generate $1.7 million over 5 years. In applying for the environmental levy council used the Catchment Management Blueprint and the Greenweb Strategy to identify priority natural resource projects and activities.

A few examples of projects to be funded through the levy include:

- implementation of a bio-diversity strategy;
- identification of threatened species and implementation of local actions, including community education;
- protection of coastal flora and fauna and extension of coastal walkways, including interpretative signage;
- water conservation initiatives;
- preparation of bushland management plans; and
- pest species control activities.

These activities demonstrate how councils can deliver on Catchment Management Blueprint actions.

Our NRM functions include:

**Strategic planning through zoning of land use** and statutory controls on all private land and locally managed open space.

**Enforcement powers** for development consent conditions and unauthorised land uses.
**Water management** responsibility for stormwater management and control, sewerage and septic works and flood control and planning.

Councils **manage public land** and **control pest plants and animals**.

Councils **manage local open space** to restore remnant vegetation to provide habitat.

Councils **co-ordinate volunteer community groups such as Bushcare groups**.

We are responsible for all sorts of NRM projects. These include: Water Management including everything from construction of wetlands to monitoring of water quality; Vegetation Management including dealing with noxious weeds and pests; Biodiversity Management and Planning such as Vegetation Mapping, which many Sydney councils have undertaken; Threatened Species Management including planning buffer zones, reflected in Development Control Plans (DCPs) and Local Environmental Plan (LEP) amendments and developing specific purpose plans for species such as Koala Plans of Management.

We also play a vital role in community education. We provide support to community groups including bushcare, coastcare and landcare groups, hold workshops and training, and produce newsletters, fact sheets and other advice to the community.

The Catchment Management Blueprints developed for both the Sydney Harbour and Southern Sydney Catchment Management Board areas recognised the key role of local government in delivering NRM outcomes.

They identified that local government has a lead role in about 20 per cent of management actions in the Blueprint and a support role in over half the actions.

All of these responsibilities demonstrate that local government is a major player in the management of natural resources and not just another stakeholder to be consulted. While this is the case across all catchments in NSW, the urban region is unique.

The Sydney Metro region includes 38 councils which are either in, or partially in the CMA region. Sydney Metro is a highly developed and urbanised region with a large and diverse population base. Activities and approaches to NRM that are very effective in rural areas of NSW are not necessarily equally effective in an urban context.
A large proportion of NRM activities, including volunteer activity, is occurring on public land, which is quite distinct from rural areas where the majority of activity takes place on private land.

The key pressures on resources in urban areas arise from a high level development, industrial, commercial and residential, rather than agricultural production. Local government is a key player in managing such development.

It is clear that the Sydney Metro CMA requires an effective partnership with local government if they are to have an impact on the management of natural resources.

The Sydney Metro region has received an indicative allocation of $5.1 million for the next three years from the Natural Heritage Trust and Sustainability Trust, to implement the regional NRM Plan (Catchment Action Plan). While funding may also be contributed by other partners, the indicative allocation to Sydney Metro is less than $2 million a year and, spread across the region, really is not going to deliver the regional NRM outcomes expected without significant partnerships with other investors.

Partnering with local government in the Sydney Metro CMA

We are that pleased the LET has been appointed as an Interim Board, but it is disappointing that the longer term future of the Sydney Metro CMA Board is still not finalised, creating some ongoing uncertainty.

The creation of CMAs was, in the government’s words at the time, to enable ‘local people with real money making real decisions’. As such the Local Government Association is looking to the government to finalise the Sydney Metro Board and resolve the uncertainty surrounding the future of the CMA, and the membership of its Board, as a matter of priority.

Membership of the Board needs to reflect the different land managers in the region. The Sydney Metro CMA must have suitable local government participation at Board level to facilitate the partnerships.

The Department of Infrastructure, Planning and Natural Resources and the LGSA have developed an NRM Partnership Agreement, a Memorandum of Understanding (MOU), which recognises the role of local government in natural resource management. This includes our role as a manager, investor and deliverer of NRM projects and proposes mechanisms for engagement between local government and CMAs.
The MOU was developed in response to councils seeking a more formal arrangement between the CMA and local government.

The MOU proposes the development of CMA/Local Government Forums between each CMA and the councils, with the CMA ensuring ongoing interaction between CMAs and local government. These Forums will:

- co-ordinate NRM activities between local government and CMAs through an agreed plan of action;
- establish agreed mechanisms for communication and information sharing;
- work towards integration of regional NRM planning and local planning processes;
- identify capacity building needs and opportunities to work together.

However, while the principles of this mechanism still apply in the Sydney Metro region, the sheer number of councils and the significance of local government in the urban area will require a different approach.

Key areas on working collaboratively with the CMA process include input into the development of Catchment Action Plans, by integrating existing planning instruments including stormwater plans, LEPs etc; developing collaborative projects with other councils and the CMA to deliver on management actions; and providing for input into the development of investment strategies to identify how the regional NRM plan will be implemented.

Local government input in this process could assist in value-adding to projects from investment councils intend to make, and ensuring better co-ordination of activities, avoiding duplication of effort.

There is also an opportunity to devolve to local government or a group of councils a suite of projects to meet a management action in the regional plan through the investment planning processes.

Local government is well positioned to manage and deliver on projects and this could simplify the delivery of components of the regional NRM plan and leverage significant investment contributions from local government.

It is clear that a regional plan for managing natural resources cannot be implemented in the Sydney Metro region without local government participation. The resources available to the Sydney Metro CMA are not sufficient to achieve all the management actions identified in the plan.
Partnerships are needed and in the Metro region local government partnership is critical.

In a recent survey of councils undertaken by LGSA, over 30 per cent in the Sydney Metro CMA region identified that they had either no involvement or limited involvement in the previous Catchment Management Boards activities. It is clear that there is still a challenge ahead for the CMA in engaging all councils in the region in their activities.

Now the Interim Board has been announced, the LGSA will be working with the Board and other regional organisations of councils to identify mechanisms to build the local government / CMA partnership.

We look forward to ensuring this partnership develops in a way that will achieve the best possible NRM outcomes for our communities.
Beyond Community Engagement and into the Marriage

Peter Dixon  
Executive Officer  
Sydney Metropolitan Catchment Management Authority

Sydney is unique in many ways. Our geological and biological diversity is huge.

We are the largest city in Australia but have a remarkable amount of bushland dotted throughout the urban area.

We are also one of only cities in Australia where community engagement in environmental management (through Bushcare programs) has always been seen as part of the core business of government, rather than something to fund through grants.

I have two streams to my talk. The first deals with programs that work with the community and the second with community engagement itself.

Traditionally, there has been a great degree of independence between the local and state and federally-funded community support programs operating in Sydney. Much of the co-ordination of activities has come about informally, through networks like the Volunteer Co-ordinators Network (Natural Areas) and ad hoc regional and sub-regional projects or events. There has been no regional strategic framework for supporting the involvement of communities in natural resource management.

Under the Catchment Management Boards (CMB), there was a move to identify how they could help the integration of the plethora of programs that were operating in Sydney. Through the Volunteer Co-ordinators Network (VCN), CMB and National Parks and Wildlife Service (NPWS) community support staff undertook consultation with both program co-ordinators and community organisations to identify how we could move towards an integrated community support strategy for Sydney.

The discussion paper and associated feedback that came from this consultative process formed the basis of the Community Support Program under the Sydney Metropolitan CMA. This Program consists of two
Regional NRM Facilitators, a Local Government Support Officer, an Indigenous Community Support Officer, a Groups Community Support Office and an Advocacy Officer.

These positions are all in place, with the exception of the Local Government Officer, (who will be employed soon! (Note: this position was filled in December 2004), and the CMA Community Support Program is basing its operation on the results of the consultation.

Over the next year to 18 months, it is our intent to develop the integrated Regional Community Support Strategy. This will clearly define the roles of the local and regional organisations, and identify what activities and resources can be delivered more effectively from a regional perspective; how each program can best support its community; where there are opportunities for working with new communities of interest; how community-led environmental management can be better acknowledged and linked to local and regional natural resource planning and programs; and most important of all, how we can all work together in an integrated manner.

We hope to gain as much input as possible from local government and the communities on this. It has been generally acknowledged that such a strategy would be a good thing, but it is essential that it is owned by everyone: local communities, local government and other program managers.

In relation to the community itself, there are huge opportunities for programs to better engage with people.

It is usual for government to talk about community as if there is only one community in Sydney. This has restricted what we do to a large degree. There are many communities in Sydney and many communities of interest when it comes to involvement in natural resource management. Some examples are Bushcare/Landcare, Streamwatch and Waterwatch, as well as those involved in biodiversity surveys, litter projects, history projects, and development and land use issues.

There are varying levels of interaction within and between communities of interest.

It is my belief that two of the best ways that the CMA can help the community is to assist the various communities of interest to network and interact and to help the organisations that already exist to support the community.
Another important aspect of how we engage with the community is how this involvement is perceived. It is not good enough to see the community as merely a stakeholder in the management of natural resources in the catchment. Effectively, the CMA is managing the catchment resource for the community and any decision making should be done in true partnership. This poses a number of issues for the CMA, as it does with many of the other community programs in Sydney. Working with a large number of people is resource-hungry, and takes up a large amount of time and a lot of money.

It is also impossible to make sure that you have engaged with all of the communities of interest. No matter how hard we have tried in the past, we have always discovered that there are other groups and individuals who have wanted to be involved.

A third issue that often arises is that the community often feels over-engaged and over-consulted and so involvement in decision making becomes a chore.

Taking this into consideration, it is undeniable that a relationship where an organisation like the CMA that advocates for its community, and a community that advocates for its organisation, can achieve a lot more in the long term than when there is conflict between the community and the CMA.

I mentioned earlier the number of the communities of interest in Sydney. Market research conducted by the then-NPWS showed that between 50-70 per cent of people would be willing to become engaged in community projects to improve bushland. This means that there are many more people out there willing to be involved than are actually doing anything at present. Perhaps only 5 per cent of the community is already involved in natural resource management. How do we engage more? It's unlikely that most people have not heard about Bushcare or Landcare, so what trigger do we have to pull for these people to become involved?

It is possible that they may not be interested in the activities we currently provide across Sydney. Maybe we have to try new things. Events like National Tree Day show that there are many people willing to get involved in helping in these types of events. There are also a growing number of people wanting to use their professional skills to benefit local environment programs. Computer programmers, media and advertising people, scientists and printers are all using their own talents to help local environments.
The CMA Community Support Program will be working with the already engaged community, and community support programs to identify what we can do to encourage these missing masses.

One thing that we have to realise though is that as a CMA, we should be operating our community programs to service our community. While a strategic approach is important, and will hopefully make it easier for the community to become involved and will free up resources to put back into programs and create a legacy that will outlast any one program or organisation, we are very aware that strategies and programs should be there to help community involvement, not to regiment it.

We also have to be aware of the cynicism that many in the community have in regards to catchment management, with so many changes, from committees to boards to authorities. We understand that many in the community are not willing to invest their precious time in getting involved with us.

We do hope, though, that our approach is relevant, will result in a legacy of enabling the community to become meaningfully involved, and as time goes on, that more and more people in Sydney will see us as part of their community and our role as real and useful.
BUSHCARE: AN ON-GROUND ENVIRONMENTAL MOVEMENT

From the Early Days of Bush Regeneration to the Future

Robin Buchanan
Head Teacher
NSI TAFE, Ryde College

Abstract

In the mid 1960s the Bradley sisters started bush regeneration using the limited ecological knowledge of the day. Their example and leadership were an inspiration for many followers. Training courses were established for newcomers. These courses gave credibility to the emerging field and status to the new job of bush regenerator. I will look at the directions the Australian National Training Packages are taking and assess the importance of the weekend volunteer courses. There is an outline of the history of bush regeneration training and the lessons we can learn from it.

Bradleys


Joan had a strict plan of work:

- prevent deterioration of good areas;
- improve the next best area;
- hold advantages gained;
- cautiously move into really bad areas;
- cautiously move into the worst areas.
She also had strict rules for working in the bush:

- watch your feet;
- disturb the soil as little as possible;
- preserve and replace the mulch;
- mulch with the weeds themselves;
- do not pile weeds in heaps;
- never hang weeds on weeds;
- remove all species of exotics from areas weeded;
- work with the weather;
- do not remove any plant you cannot identify.

National Trust

In 1975-6 Evelyn Hickey of the National Trust employed Joan and a team of bush regenerators to work at a National Trust property, Blackwood Sanctuary at Beecroft. Interest in bush regeneration grew rapidly, and by 1980 five Sydney Local Councils were contracting the National Trust to bush regenerate reserves. With this interest went a need for training. In 1980 the National Trust of Australia, NSW started bush regeneration classes on the weekends. These catered for people interested in doing volunteer work and for those who went on to become part of paid teams. The involvement of the National Trust continued to grow, as residents demanded management of their bushland. Evelyn Hickey and her team drew up many management plans for urban bushland during this time.

Wingham Brush

In the early 1980s the National Trust was asked to give advice on Management of Wingham Brush, a remnant lowland rainforest on the edge of the Manning River. Interested locals were trained and a management plan written. There rapidly arose a major conflict between the Trust and the local regenerators. This conflict was fuelled by personality differences, philosophical differences, and poor understanding by the National Trust of the differences in basic ecological processes between the sclerophyll systems of Sydney and the process in Wingham Brush.

These are outlined in the following table:
<table>
<thead>
<tr>
<th>Sydney/ National Trust</th>
<th>Wingham Brush</th>
</tr>
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<tbody>
<tr>
<td>generally sclerophyll system with an open canopy</td>
<td>closed forest</td>
</tr>
<tr>
<td>main diversity in the under-storey</td>
<td>diversity in the dominant layer, the trees</td>
</tr>
<tr>
<td>nutrient and water from stormwater drains lead immediately to weed invasion and death of natives</td>
<td>addition of nutrients and water from flooding a normal part of the system</td>
</tr>
<tr>
<td>slow rate of growth</td>
<td>rapid growth</td>
</tr>
<tr>
<td>nil to minimal use of herbicides</td>
<td>herbicide essential due to rapid rate of growth</td>
</tr>
<tr>
<td>insistence on working slowly in the under-storey according to the Bradley plan of work and rules</td>
<td>insistence that rapid work freeing the trees of vines to prevent tree death was essential</td>
</tr>
</tbody>
</table>

The controversy was so great that it became a major preoccupation of the local papers around Wingham, and it broke the Sydney bush regeneration scene into factions. Despite the heat and argument of the time it was this controversy that helped some of the leaders in bush regeneration to see that it needed more than just a philosophy and weekend classes. It also needed properly-trained people with a strong education in ecology.

The mid-1980s

These years were crucial for the development of bush regeneration in New South Wales. Helen Petersen, Janet Fairlie-Cuninghame and others such as Toni McKay and Jenny Roxburgh were responsible for the setting up in 1986 of the Australian Association of Bush Regenerators. Helen and Janet were also instrumental in organising in the same year the first TAFE syllabus focused on bush regeneration. In 1987 Ryde College of TAFE was the first to run an accredited course in bush regeneration.

Joan Bradley’s book *Bringing Back the Bush* was published in 1988. I also had two books published in the 1980s, *Common Weeds of Sydney Bushland* in 1981, and *Bush Regeneration Recovering Australian Landscapes* in 1989. It was this last book that gave bush regeneration the publicity and status it needed. Interest in it and general land care was already high, and this colourful book that was distributed across Australia through bookshops helped legitimise bush regeneration as a worthwhile activity.

The 1990s

The 1990s saw bush regeneration grow as an industry and the establishment of a Certificate II and Certificate IV in the TAFE system.
that specifically catered for New South Wales. Many TAFE colleges in the state started running these courses. Other States, notably Western Australia, also ran courses in bush regeneration.

In 1996 Tein McDonald completed her PhD, *Ecosystem resilience and the restoration of damaged communities: a discussion focusing on Australian case studies*. This helped raise the profile of bush regeneration in the academic sphere.

Volunteer training grew in Sydney. Keen volunteers with time to spare came into TAFE, and many of them are still leaders in the industry. Examples include those speaking at this conference such as Margaret Reidy, Noela Jones and Rymill Abel. Volunteer training by local councils also increased.

**The new century**

There has been an enormous change in training in the bush regeneration industry with the new nationally-accredited training package in Conservation and Land Management, introduced in 2003. This training package has a specific strand specialising in natural area restoration. This has led to Certificates I, II, III and IV and the Diploma all being available across the country in natural area restoration. An enormous change from a few weekend classes!

This new package has also enabled Ryde TAFE to give volunteers nationally-accredited training to people who do not have enough time to get to TAFE course. Weekend classes that cover units from this training package will begin shortly.

**Conclusion**

Improved and widespread training that is available in colleges and through local councils will, it is hoped, prevent a rift like that which occurred in the industry in the 1980s. Improved and widespread training should also prevent mistakes being made in regeneration strategies and techniques. Good education means knowledge, status, good pay rates and fun.
Volunteers: Breaking the Bradley Rules and Loving It

Peter Clarke
Bushcare Officer
Ku-ring-gai Council

Ku-ring-gai Volunteer Bushcare Program

In Ku-ring-gai, we run a mature community volunteer program with more than 750 people aged mostly over 55. Ten per cent of them are skilled bush regenerators. They have no interest in the technical side of the work, but want instant results.

Volunteer Survey 2003

What makes a volunteer join Bushcare?

- being useful;
- passion;
- love of the bush;
- caring for the environment;
- preservation of natural heritage.

The Ku-ring-gai environment

It is predominantly Hawkesbury sandstone, naturally weed-resistant and with boundary and waterway problems.

The following maps show the environment and Bushcare work:
Typical Ku-ring-gai Bushcare site

Three years later

Sydney’s Hands-On Environmental Forum – *Inspirations, Motivations & Celebrations*

5th-6th November, 2004, Sydney University
The Bradley (broken) Rules

- work from good to bad
- don’t over-clear
- minimum disturbance
- mulch weeds on site
- don’t remove plants you can’t identify

The Volunteer “Rules”

- work from bad to good
- impossible to over clear
- great in theory...
- keep the site tidy
- if it looks like a weed, it is one

Ku-ring-gai solution

We treat volunteers as partners, but give them continuing education by recruiting trainers from skilled volunteers. We also have a secret weapon, the ZOD (Zone of Death).

What is ZOD and why does it work?

We spray the degraded edges of sites with glyphosate, sacrificing common ground-covers in the process. This provides relatively instant results for unskilled time-poor volunteers. The ZOD technique is:

- primary weeding of site;
- spray on monthly basis for 12-18 months;
- once the site being worked is free of weeds, with a natural layer of mulch, re-introduce the ground covers.

Bolwarra St, West Pymble
Eden Lane, Turramurra

Why use Ku-ring-gai’s approach?

- Bushcare is a collaboration between the community and Council;
- Bushcare is primarily about education;
- Other benefits:
  - Reduction of noxious weeds, dumping and encroachment
  - Promotion of responsible pet ownership and the like;
- ZOD has been proven to work;
- Bushcare volunteers are an effective lobby group for the environment;
- Keeping volunteers in the program and happy is more important than adherence to some technical check-list.
Bushland Conservation Practice: 
Leeches, Invasive Surgery and Preventative Medicine

Graham Quint
Deputy Conservation Director
The National Trust of Australia (NSW)

I have been involved in bushland conservation for 27 years, 16 as a community volunteer and 23 with the National Trust.

My work with the Trust commenced as its bush regeneration program was beginning to expand. I was a student in the first Bush Regeneration School taught by Joan Bradley in 1981. My particular role at that time was in the survey of bushland reserves in most Sydney local government areas, in mapping and native and weed plant identification. In more recent years I have been involved in the broader conservation of cultural and historic landscapes.

For the past 20 years I have operated a plant nursery and for 10 years supplied native plants grown from local seeds and cuttings for an annual Southern Sydney Council tree give-away day.

My title may create the impression that bushland conservation, like medicine, has evolved from quaint practices through major intervention to new-age approaches.

In my view this is not the case. All three approaches are valid in their correct context. There is no fundamentally right or wrong way to carry out this work. If the science is right and the approach logical, effective and efficient then we have a lot to learn from all the different ways of conserving bushland.

But first we must understand and define what we mean by both bushland and “conserving bushland”.

First and foremost, bushland is an historic landscape. Few major cities in the world have so much intact landscape dating back thousands of years. Sydney’s topography and areas of poor soil have saved large areas from clearing for forestry, farming, and urban and industrial development.
Urban bushland is a repository for Aboriginal artefacts, paintings and engravings. Difficult to deal with and appreciate for management purposes, bushland itself and particular bushland places are sacred to the Aboriginal people.

The bushland that we now inherit and conserve has been shaped by thousands of years of management by the Aboriginal people and the impacts of all manner of activities in the years since 1788.

Bushland is likely to contain archaeological relics from the first days of European settlement from 1788. Think of Windsor, Richmond and the Hawkesbury River as being the colonial era food-bowl for the early colony. In my own area, on the Georges River in southern Sydney, farmers were being protected by troops from attack by Aboriginal people in the early 1790s. Farming was only abandoned and moved to the Hawkesbury after major floods on the Georges River in 1803 washed away crops.

Bushland areas are sometimes named after early explorers who visited the sites, or bush-rangers, early settlers or military events. Examples are Garrison Point, Shortland Brush, Flinders Slopes and Cattle Duffers Flat on the Georges River.

Early European settlement and practices such as timber-getting, quarrying, market-gardening, orchard operation, lime production and steps, track and historic road construction have all left their mark on our bushland.

All these are part of the history of our bushland, and need to be understood, appreciated and managed appropriately if we are to practice bushland conservation that takes account off all the different values of that area.

Let me give you an example. In Oatley Park on the Georges River the vegetation is typical Sydney Red Gum/ Sydney Peppermint Woodland with a rich under-storey of shrubs and ground-cover plants chiefly from the Fabaceae (pea) and Proteaceae (banksia/grevillea) families. I had always viewed one particular area as being particularly sad and degraded. Among the rich under-storey of flowering plants beside the headland track was an area of about half a hectare totally dominated by Bladey Grass (Imperata cylindrica var. major). Nothing else, just Bladey Grass!

The Park does burn (or is burnt) fairly frequently and annual firing will allow a monoculture of Bladey Grass or Bracken Fern to establish because these are the only plants that will survive and flourish in such conditions.
But the park is not burnt annually and no other area has this monoculture of Bladey Grass.

On one of my seed-collecting trips in the Park I sat down at this point for a break and suddenly realised what had probably happened there. One of the best views in the park and the only view over both the Georges River and Salt Pan Creek could be seen from this point. It is most likely that this was the site of an Aboriginal encampment and that centuries of campfires had wiped out all other under-storey species with the exception of the Bladey Grass.

So the site that I had originally viewed as being poor and uninteresting took on a whole new special quality. It told a very important story and beneath that thick sward of Bladey Grass there may well be important archaeological evidence of the original Aboriginal people of this area.

Another interesting example is at Era on the coastline of the Royal National Park. A Landcare group is re-vegetating blown-out sand dunes with Coast Banksia (*Banksia integrifolia*) and native grasses. Much of the area is grassland, with some Kangaroo Grass (*Themeda australis*) and other exotic grasses such as Kikuyu and Buffalo Grass.

In discussions about ten years ago with the-then Park manager, he indicated that the area needed to be re-vegetated with native shrubs and trees. My own view was that Era was predominantly a native grassland albeit heavily invaded by exotic grasses.

Again, the history of the site is informative. Early settlers in the 1830s drove cattle to the site for grazing. Would they have driven the cattle through the park to an area of trees and shrubs to graze, or would they have chosen a grassy meadow of Kangaroo Grass? Similar Kangaroo Grass grasslands dominate headlands up and down the New South Wales coast.

My point in telling you about these experiences is that the first stage in conserving bushland with all its values is to have a good understanding of the history of that landscape, both Aboriginal and post-settlement.

These considerations extend to the geological history. A geologist friend has a theory that Aboriginal engravings are more likely to be found in areas of bushland where volcanic activity may have hardened the sandstone, typically indicated by the presence of crystals on the stone.

On a number of occasions we have left tracks and pressed on through bushland to these mapped geological features, to find that his predictions are correct.
Another example is the presence of particular plant species along volcanic diatremes. For example, Forest Red Gum (*Eucalyptus tereticornis*) only occurs in Lugarno and Oatley along such a diatreme.

Apart from the commonsense of taking the history of bushland into account before conservation work is commenced, there are also legal requirements. Aboriginal sites are protected and the NSW Heritage Act defines “relics” as any evidence of European settlement more than fifty years old. Thus, for example, stone steps, crockery or tools deposited in the bushland prior to 1954 are “relics” and cannot be disturbed without a permit from the NSW Heritage Office.

Then we come to the various bushland restoration techniques and approaches. The Bradley Method developed by Joan and Eileen Bradley in the 1970s was aimed specifically at restoring core areas of bushland which were only lightly weed-infested. Its premise was that such areas, with their high density of native plants and large numbers of native propagules, would quickly recover and develop a stronger resistance to further weed invasion.

The concept with this method was that you could gradually move into more densely weed-infested areas and the native plants would colonise the treated areas from the better adjoining bushland. Too often, though, areas classed as good core bushland may have only had minimal native plant ground-cover of strongly colonising species such as Commelina (*Commelina cyanea*) and Basket Grass (*Oplismenus spp.*). With the removal of weeds these very vigorous natives would flourish and dominate a site.

Another problem with this approach is that the densely weed-infested perimeter areas along roadways and beside houses remain untreated for years and the overall appearance of reserves improve very slowly. In addition, these weed-infested areas would cascade seed propagules, often downslope, back into the better bushland, re-infesting it with more weed growth.

Two quite different approaches are required. One is careful hand weeding in the good quality bushland, and the other using poison injection and spraying and even earth-moving equipment on heavily weed-infested perimeters. Concurrent with this second approach is the need to have native plant stock already propagated from local genetic stock, ready to plant in these areas.

The use of fire in these areas is often also of benefit. Deliberate burning for fire hazard reduction can clear piles of chopped-down privet, burn off
the seed of weed annuals, and encourage native plant regeneration from seed in the topsoil. Never underestimate the ability of native seed to germinate in an area which may appear to have been devoid of native plants for decades.

I am constructing a new room under my house, which was built in 1954. The sandy bush soil which I am digging out from under the house is being placed at the rear of our property. Many Acacia species have germinated from this soil after lying dormant for at least 50 years.

Now we come to preventative medicine. Weed presence in bushland is a symptom of a problem. It is not the problem itself. In most cases, if you remove weeds they may well return if you do not identify and treat the problem.

Most commonly the inflow of large quantities of stormwater carrying nutrient and weed propagules is the reason for plumes of weeds establishing themselves in bushland. There needs to be proper diversion of this stormwater away from the bushland or its containment in pipes or creek-lines.

Lack of fire can be another issue. Too infrequent fires will allow soft-leaved exotic and native species to colonise and these will shade out most native plant regeneration. This is acceptable in a rainforest gully, but not in dry sclerophyll woodland where you want to conserve diverse understories.

I also mention leeches and invasive surgery in my title. Invasive surgery is in my view the physical removal of weeds whether by chain-saw, bulldozer or hand-trowel.

The term “leeches” covers those traditional procedures which encourage native plant regeneration and regrowth, such as the use of fire.

There is a need for all three approaches in this work: horses for courses.

But is even that enough? If after years of work you have a weed-free reserve with a thin over-storey of Sydney Red Gum and some wattles and the occasional Lomandra sp., have you really conserved the bushland?

I believe that you should give the native seed bank every opportunity to germinate, but if after some years there is little discernible improvement then enrichment planting should be considered from the closest local genetic stock.
As an analogy, if you are conserving an historic building which has lost some of its decorative ironwork and interior decoration then it is perfectly valid to re-instate these features sympathetically.

As I indicated earlier, there may be some situations where you may want to maintain a monoculture of Kangaroo Grass or a low woodland of Melaleuca. But where a site would originally have had more diverse vegetation then it may well be necessary to re-introduce plants which have been lost over the years.

Finally, there may be instances where historic exotic trees need to be retained in bushland. The Artists’ Camp below Taronga Zoo contains historic Coral Trees (*Erythrina sp.*) planted by Tom Roberts and his fellow painters. These trees need to be conserved for their historic importance and any seed spread controlled.

Often the remnants of early orchards survive in bushland areas. In Evatt Park, Lugarno there are the remnants of the first land grant of the 1830s. On the site grape-growing and wine production occurred in those early days, and orchards were planted. Some of those orchard trees survive to the present in the bushland re-growth and they have historic importance as one of the few such examples of species planted by the earliest pioneers.

Many of the trees in Sydney’s urban bushland were totally cleared in the Great Depression of the 1930s. Even many of the tall Sydney Blue Gums are actually re-growth from that period. We are very fortunate that development pressures in the following years were not so great that this re-growth may have been suppressed and replaced with urbanisation.

We now have a heavy responsibility to ensure that this still-recovering bushland, very poor in places and under constant pressure will survive for the future with all its historic qualities intact: its archaeology, land-forms, significance to the Aboriginal people, biological diversity, scenic qualities and its post-settlement historic evidence.
LOCAL GOVERNMENT AS THE INTERFACE FOR COMMUNITY ACTION

Hornsby Shire Council’s Community Sustainability Indicators Project: Engaging the Community in Sustainable Action

Kellie Walters
Team Co-ordinator, Environmental Protection
Hornsby Shire Council

Introduction

If the primary role of local government is to provide services for their communities, how can we best engage our communities in decision making and setting the strategic agenda for local areas? Staff and the Local Agenda 21 Committee at Hornsby Shire Council addressed this challenge through the Community Sustainability Indicators Project (CSIP).

Project aims

This project aimed to develop indicators to measure Council’s progress towards achieving the sustainability vision shared by Council and the community, through:

- identifying what members of the community value about the Shire;
- clarifying the visions and ideals of stakeholders for the future of their local area;
- establishing partnerships between key stakeholders in the community; and
- engaging the community in discussion and debate about sustainability.

The importance of community participation in such a process cannot be underestimated. There exists no better collection of stakeholders to guide the direction of their Shire, given their extensive and excellent knowledge of their surroundings. Additionally, given that widespread sustainable action is dependent on critical mass, we as a Council can only strive towards positive change if we value and empower those responsible for implementing it.
Project process

A series of six workshops was held throughout the Shire in late 2001. These were facilitated by consultants holding IAP2 accreditation and experienced in community consultation. Members of the community were invited to participate in these workshops via information distributed with rates notices and media releases in local papers.

Through these workshops, participants were encouraged to explore their visions of the future, and invited to expand on these by identifying specific aspects associated with these visions. For example, a clean healthy environment for a resident interested in recreational fishing included healthy aquatic eco-systems, a reduction in litter in local waterways, and improved methods of sewerage disposal.

These specific aspects were refined into potential indicators which were reviewed at the end of each workshop session. Indicators were analysed by a panel of community and staff experts, further refined, and sent out to the wider community for comment and general agreement.

Communication of indicators

The sustainability indicators were included in both Council’s Management Plan for 2001-2 and 2002-4 and the State of the Environment Report. An external communications specialist was also engaged by Council at this time to develop a communications strategy aimed at guiding promotion of the indicators and utilising all available opportunities to continue engaging the community.

As a first step, a community launch of the project was undertaken in September 2002 in conjunction with the launch of Council’s earthwise cottage, a sustainable house established next to the Community Nursery in Pennant Hills. This was followed by another more formal exhibition of the indicators, and the release of a sustainability calendar promoting their existence.

Project outcomes

At the end of this process, Council and the community had developed a comprehensive set of 31 indicators spread across 22 topic areas. Additionally, primary areas of concern were organised by the community into 8 distinct themes, aligning well with corporate elements already existing in the Management Plan. More recently, Council developed and implemented a Web-enabled State of the Environment Report, demonstrating clearly measures of progress against indicators.
How can we improve our approach?

The CSIP was designed to be an ongoing, cyclical process allowing constant revision and evaluation of indicators and indicating progress towards the sustainability that they measure. Improvements to be implemented in the next round of this process will include engaging more participants, and ensuring that these people adequately represent all key stakeholder groups within the Shire, through:

- providing better upfront communication;
- using key agents of change within the community;
- allowing greater flexibility in the process, accommodating people's busy schedules; and
- utilising more appropriate tools and techniques for empowerment.

Where has Council progressed from here?

The CSIP has provided for Council and the community a strong and solid platform upon which to build partnership-focused programs. The most successful of these has been the Rural Lands Incentive Program, enabling Council to engage rural community members in improving the management of their properties through implementing improved stormwater management and biodiversity conservation measures. Through this, Council has become involved in the Land for Wildlife program, and this has allowed a number of properties to establish covenants on their land to protect native flora and fauna.

Next steps

Council is aiming to continue building on the use of indicators through developing and implementing further partnership-oriented programs during the next financial year. Then another cycle of CSIP will commence, ensuring that the indicators continue to reflect the values of the community.
RiverLife: A Positive Community Engagement Experience

Nell Graham and Hazel Storey
Environmental Education Officer and Environmental Projects Co-ordinator
Marrickville Council

Introduction
The Cooks River has a long history of pollution over the last 150 years due to industry and high population density in the area around it. As a result it has suffered from high levels of general and specific negligence. However, times have been a-changing, and activities during the past ten years have resulted in an improvement in community perceptions of the river. It is seen as a good place to be and the facilities alongside it are used regularly by many of the residents of the area. At last Census there were approximately 400,000 residents in the catchment whose activities and attitudes to water impact on the quality of the Cooks River. While awareness and enjoyment of the river is improving, impacts on the water quality remain one of the key focus areas for sustainability.

The RiverLife project
The RiverLife Project was a Cooks River Foreshores Working Group initiative managed by Canterbury, Marrickville and Strathfield Councils and funded by the NSW Government’s Stormwater Trust. RiverLife worked to decrease stormwater pollution entering Cooks River from non-point sources in the catchment. It employed structural approaches to doing this (riverbank restoration works in Freshwater Park) and non-structural approaches (education and management).

Organising the project
Using Councils’ knowledge of stormwater issues, and working with a community who have participated in stormwater education programs for a number of years, partnerships with and between interested parties were identified as the most effective way to build the capacity of the 400,000 residents whose activities and behaviours impact the river’s amenity and water quality. Councils have worked closely in partnership with the State Government, community groups and local residents on a number of
programs that work towards minimising pollution and improving the sense of ownership and responsibility for the Cooks River and its catchment.

Project overview: non-structural approaches

The aim of RiverLife is to improve the condition of the Cooks River by reducing the pollution impact of stormwater. RiverLife represents a move from simply raising awareness of the issue to including a focus on personal responsibility. The program highlights the stormwater connections between the river and the rest of the catchment, and aims to engage the community in unique social and physical environments:

- Strathfield Golf Course Capacity Building: working with club members;
- English as a Second Language Teaching resources kit developed for TAFE;
- Streamwatch: 9 schools and 2 community groups trained in water testing;
- RiverLife Interpretive Tour Volunteer program;
- RiverLife Film Festival.

All these programs delivered under the RiverLife banner focused on facilitating an increase in the capacity of our community to make positive change with regard to behaviour around and relating to the Cooks River.

The following concentrates on just two projects, relating to action learning. Action learning can be defined as a process in which a group of people come together more or less regularly to help each other learn from their experiences.

Community-based programs

**The RiverLife Interpretation Program**

The program organised training, by interpretive consultants, for 18 volunteers to develop and deliver interpretive tours of the Cooks River Catchment. These community volunteers now conduct tours about the Cooks River, linking stormwater education messages into the history, culture and local knowledge of the area. This gives local residents a context for changing their behaviour in order to improve the life of the river. Current tours include a kayak tour; an arts workshop that allows creative expression of the value of the river; and a walking tour that interprets the history and stories of the Cooks River. The volunteers are now working autonomously to develop their own promotional strategies and material and Council supports the group with minimal administrative assistance. The group has made links with other sectors of the community.
and have an exciting role in promoting the Cooks River and environmental education in the local area.

The program was a successful engagement of the volunteers since it allowed them to broaden their sense of place, both personal and physical, through sharing stories, through skills development and by having an opportunity to learn about their local area. The real success came through the drive and energy of the participants to engage a receptive community.

**RiverLife Film Festival**

The Cooks River catchment contains a high percentage of residents who, in the Census, identify themselves as being employed in creative fields. This sector of the community was seen to be “hard to reach” with regard to environmental education programs. Moreover, as creative people tend to be good communicators, they were seen as key players in a capacity-building program. A program that encouraged participation through creative projects was seen as a valuable approach to reduce negative impacts on the Cooks River. Learning outcomes would be participatory and action-focused throughout the life of the project for all participants, including Council project staff. For example, the Festival Co-ordinator had quite extensive experience of the professional film and television world as well as event management, but had not previously directed a film festival. All-round learning was anticipated. This learning by doing was supported and enabled by the confidence of the NSW Stormwater Trust and senior management within each Council.

Using current research and experience of action learning and behaviour change, the festival was developed to provide an environment in which film-makers – most of whom in initial enquiries indicated that they had no idea what stormwater was – were given sufficient supporting information to enable them to drill down into an aspect that interested them. This could be behaviour change, environmental responsibility or science. They were presented with a challenge to meet. The immediate rewards were professional development, screening time and, for the winners, hard cash.

Film-makers were challenged to take another look at our local environment and human interactions with the Cooks River. Films were encouraged in any style: “Unique interpretations of the river are encouraged, for example the natural, social or cultural attributes of the river. They could refer to the way the river is now, or the way it has been in the past or will be in the future, or any other themes that are meaningful to the film-maker.”

To support the learning process film-makers were provided with discount hire rates from sponsors, so lessening any financial barriers to entry, and
an information package covering the history of the river, a number of potential research sources, and an overview of the science of stormwater. This package was put together with the intention of enabling film-makers to quickly get up to speed on the broad issues and enable them to lift the level of the content or message contained within their competition entries. In addition, there was always someone at the end of a phone to provide production support. More important to the group learning experience during the production of the films was attendance at a workshop facilitated by Council staff. Attendance was compulsory, and unless they attended, film-makers would not receive the “mystery item” that had to feature in the film as a condition of entry. No item, no entry. No attendance, no item. We had a captive audience!

The workshop content was designed to facilitate discussion and both reflective and critical thinking among and between the 78 participants about various aspects of environmental responsibility. Such questions as “What should or could be done and by whom?” were explored, with the ultimate identification of “What am I going to do?” and “What is my role?” RiverLife branded t-shirts were given to all participants, leading to empowerment and the feeling that we all, as a group, had the power to make a difference. The workshop created a real buzz, and this carried into and through the gala night at the Dendy Cinema, Newtown.

The program was successful in that Council was able to partner with a previously non-participatory segment of the community to produce something that resonated with everyone. The project leaves a legacy of RiverLife short films for use now and in the future.
INDIGENOUS PERSPECTIVES ON ENGAGING WITH THE ENVIRONMENT

Celebrating Aboriginal Culture in Schools

Pat Hall
Manager, Education/Information/Tourism
National Parks and Wildlife Division, South Coast Region
Department of Environment and Conservation

Aboriginal mentoring program

Shoalhaven Youth Volunteering Initiative
The NSW National Parks and Wildlife Service (NPWS) in 2003 participated in a pilot program managed by the Shoalhaven Area Consultative Committee on behalf of the Australian Government and supported by Shoalhaven City Council. The program was called Shoalhaven Youth Volunteering Initiative and targeted students from high schools within the Shoalhaven Local Government Area. The program was so successful that the NPWS decided to participate again in 2004.

For those who may not be aware of the origin of the program, content, delivery and funding, the following is a brief outline.

Media release, October 2003
“The Australian Government has approved funding of $130,600 for the Shoalhaven Youth Volunteering Initiative Project under the Stronger Families and Communities Strategy. The funding is for a two-year project with total estimated costs and in-kind support of over $320,000.

The project will identify and support over 240 young people who will train as volunteers in community service organisations including Rural Fire Service, State Emergency Service, Surf Life Saving, National Parks and Wildlife Service, NSW Police and the Police Citizens Youth Club and other community groups. This activity builds on the successful Shoalhaven Youth Development Demonstration Project which co-ordinated 210 school students who completed accredited training with the participating service organisations during 2001-2. In this demonstration during the final six
months 90 per cent of participating students went on to take up full membership of the relevant service organisation or were successful in developing their skills to seek employment.

The aim of the project is to capitalise on the gains already made and achieve the following outcomes:

- to reinforce the volunteer participation of young people in community service in the Shoalhaven;
- a greater participation by Indigenous young people;
- increased participation of community service agencies;
- to develop the sustainability of the project in the Shoalhaven which may include industry sponsorship and other local support;
- to develop guidelines and resource materials that can be used by other organisations to establish similar projects in their regions.

The project is of great importance for the Shoalhaven with the potential to benefit other regions in Australia. It involves agencies and departments across the three levels of government and will benefit young people, their families and their communities.”

National Parks and Wildlife Service involvement

The NPWS participated in the pilot program in 2003 and as a result of its success, decided to participate again in 2004. Since we were targeting Aboriginal students, we named our project Aboriginal Mentoring Program. We also employed several local Indigenous staff, thus enabling us to provide Aboriginal people to actually deliver the program. This is important. Members of our staff cut across all work environments, and include site officers, rangers, project officers, an archaeologist, discovery rangers, field officers and clerical staff.

Through the school principal, we offered up to 15 places to Indigenous students, preferably from Years 10 and 11. The students volunteer and are required to give up their sports afternoon one day per week for 15 weeks. We also endeavour to commence the program by the beginning of second term, so as to finish before their exams.

Objectives

To provide:

- incentives for senior Aboriginal students to continue with their education;
- opportunities for students to participate in Aboriginal cultural activities with Aboriginal staff from the NPWS;
opportunities for students to work with Aboriginal people in role model situations;
opportunities for students to learn more about their culture and the role of the National Parks and Wildlife Service in managing heritage sites;
experience in site identification, management and policies;
experience in interpreting Aboriginal culture;
Awareness of the possibilities available to them as future career opportunities.

Course content

- introduction to the program; meet staff; provide students with uniforms;
- NPWS role and responsibilities in relation to Aboriginal Culture and Heritage;
- key protocols and procedures;
- role and responsibilities of NPWS staff in managing Aboriginal sites;
- interpreting Aboriginal culture;
- guidelines for working as a guide;
- planning, developing, delivering, monitoring and evaluating a cultural interpretive activity;
- understanding NPWS OH&S and risk management system;
- introduction to cultural site management;
- site inspections;
- identifying sites;
- preparing site record data;
- visiting the Aboriginal Heritage Unit;
- Undertaking a project.

Outcomes

- students better informed on career opportunities available;
- recognition of the school and peers on positive outcomes of the course;
- accreditation and encouragement for students to continue higher education;
- better understanding, appreciation and ownership of their culture;
- knowledge of and access to support networks available to participants in the future;
- development of personal skills, knowledge and confidence;
- interest in further studies;
- ability to share knowledge and experience within the wider school, family and community settings, becoming role models;
- reinforcement of volunteer participation of young people in community service in the Shoalhaven;
- greater participation by Indigenous young people;
• increased participation of community service agencies;
• development of the sustainability of the project in the Shoalhaven which may include industry sponsorship and other local support;
• development of guidelines and resource materials that can be used by other organisations to establish similar projects in their regions.

The project is of great importance for the Shoalhaven, with the potential to benefit other regions in Australia. It involves agencies and departments across the three levels of government and will benefit young people, their families and their communities.

Changes in the 2004 program

• start at the start of Term II so as not to run into end of year exams;
• include a project to be completed as a group;
• target students undertaking the Aboriginal Studies unit for the School Certificate, since they have already indicated an interest and the subject is a unit in their curriculum. This enables us to include non-Indigenous students;
• 80 per cent attendance is required to graduate (this is not a problem);
• ensure the school is very supportive, with a teacher plus an Aboriginal Education Assistant allocated to organise the students;
• conduct activities in the field where possible.

The project assigned to the 2004 program, required to be completed by the end of 15 weeks, was for students to interpret the importance of Coolangatta Mountain to the local Aboriginal community.

This project was chosen because the NPWS South Coast Region had received funding to interpret Shoalhaven Heads as a significant shore-bird habitat. Included in this project was the interpretation of Coolangatta Mountain, which is adjacent to the shore-bird site and extremely significant for the local Aboriginal community.

The project required students to visit the site regularly, interview the elders, listen to their stories and identify connections with the birds and, most importantly, their connection to the mountain.

The result was extremely successful and fully supported by students, the elders, NPWS staff and the designers. It was decided to construct a mosaic depicting the link between the birds, the mountain and the Aboriginal people. In addition to the mosaic, they designed an interpretive sign to be located at the site. It is hoped that the sign and mosaic will be in place by the end of January 2005.
The elders have now committed to future projects and to working with more students. In fact, they have already selected several sites for attention.

In addition to the project, which was on-going, the students attended weekly sessions with NPWS staff.

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| Week 8 | Archaeologist | Scientific aspects of management and protection of site |
Week 9  Role of Discovery Rangers  Identify, prepare and conduct a cultural activity for students from Nowra Primary School

Week 10  Work on Shoalhaven Heads Project

Week 11  Work on Shoalhaven Heads Project

Week 12  Work on Shoalhaven Heads Project

Week 13  Work on Shoalhaven Heads Project

Week 14  Presentation of project with Aboriginal elders

Week 15  Graduation Presentation

Conclusion

Over the course of the project, students were required to make a CD for presentation to NPWS staff, their school and finally the Board Members of the Shoalhaven Area Consultative Committee, who are the co-ordinators of the project for the Australian Government.

We would like to think that eventually this program would be Australia-wide or at least used across New South Wales.

We would also like to think that our program has given these students the skills to move on to Further Education, to enter the workforce and to become part of their community. What we do know is that they have connected with their culture through their elders, and the elders have connected back to their culture through the students.

Anyone wanting to know more should contact Pat Hall, phone (02) 4423 2170, NPWS. South Coast Region, PO Box 7007, Nowra NSW 2541.
Re-designing Environmental Education for Effectiveness and Fun

Stuart Hill
Head of Program, Social Ecology
University of Western Sydney

Social Ecology strategies for working with change

**Personal**
Review, reflect on, and expand the boundaries of your thinking and acting.
Communicate from your/with the person (core being) not your/their patterns (distress behaviours), and support recovery from the latter.
Recognise windows of change: pre-7-11, puberty, pair-bonding, pregnancy, birth, crises, changed conditions.
Act on love vs fear, and form mutually loving relationships.
Support spontaneity.
Clarify your hopes, dreams, goals, values and beliefs, and re-design your life plans, structures and processes you use, and your activities.
Ask for/offer and get/give support (exchange of “gifts”).

**Socio-cultural**
Integrate support, reward and penalty strategies.
Respect and collaborate across difference, and meet people where they are.
Identify compatible and mutually supportive issues, form alliances around them, and be actively mutually supportive:
Participate in democracy, gender and other equity and understanding issues, social justice, peace, sustainability, health and well-being.
Choose small meaningful collaborative initiatives that you can together carry through to completion rather than heroic Olympian ones.
Publicly celebrate effective processes and “successes” to share them, and learn from experience.
Pay attention to, and learn from, outcomes/feedback: respond/re-design.

**Environmental**
Use ecological and co-evolutionary frameworks as models and for inspiration: cycles, high functional bio-diversity, successional stages,
system maintenance (regeneration) and service functions, multi-functions, natural limits, mutualism and synergy, uniqueness in time and space, complexity, non-linear threshold relationships, survival strategies. 

*Focus on design/re-design*, and use efficiency and substitution initiatives as stepping-stones and not end-points.

**General**

*Be pro-* rather than *re-active.*

*Focus on indirect, long-term, complex, subtle, low-power, anonymous* rather than direct, short-term, simple, conspicuous, high-power and heroic strategies.

*Learn from history*, have bold shared dreams for the future, yet live fully active and awake in the present, recognising the power of the moment, creating contexts for synchronicity and for working with chaos, complexity and paradox.

**Guidelines for finding and choosing ecologically sustainable 'solutions' to natural resources problems**

Don't be blinded by what you think you know, especially by “deceptive naive simplicities”. The future has always had its roots largely in the ‘unknown’, so the challenge is to be open to engaging with the unknown, as well as with the known in radically new ways. Also resist letting your “successes” carry you back into the blind-knowing loop. Be willing to stay humble, confused and open to seeking new understandings. Resist all attempts to impose order on the 'unknown'. This prevents both discovery and our psycho-social evolution.

Science and technology (like money) are definitely part of the solution, but they can only be really effective and reach their potential when they are regarded as “tools” that are to be used “in the service of higher values and goals”, and the design/re-design and management of whole systems to meet such goals. To make clear decisions about such issues, we need better “indicators” and “testing questions” re our values, goals, actions and outcomes (feedback). Money and power are poor measures of ecological, social and personal success. Only use “back-end”, single issue, symptom-based “solutions” in emergencies and to buy time to find “front-end”, whole-system, design and management strategies. Use integrated change strategies for improving situations.

Use all of nature for everything -remembering that you are part of nature-as models, and for services, products and inspiration. Do this in sustainable ways and ways that support nature.

Be aware that if you are not yet open to thinking paradoxically and radically, you are not yet ready to discover the profound answers. Become
all “others”, and experience the world from their perspective, to gain fresh thinking.

Know that no psycho-social problems can be completely solved by science, technology and social engineering. Strategies must include integrated psycho-social initiatives. Also, know that our species is continuing to co-evolve psycho-socially, and that all “sustainable” solutions must include integrated, co-evolutionary, psycho-social components. Choosing solutions from earlier stages in our evolution will drag us back to those stages, and will deprive us of the benefits associated with later stages.

Use areas of profound understanding to ask the key questions and gain insights in areas of naive understanding and ignorance, But remember that non-living models (such as fractyls, chaos and complexity theories, quantum physics, entropy/negentropy and so on) can never adequately explain living systems. They need to be understood as living systems. Use collaborative processes to engage the understanding, experience and wisdom of the greatest diversity of people.

For further information, see the School of Social Ecology and Lifelong Learning Website: http://www.uws.edu.au/about/acadorg/caess/ssell Social Ecology
Environmental Learning with Ethnic Communities

Danielle Blenkhorn
Education Officer
Department of Environment and Conservation (NSW)

New South Wales is a culturally and linguistically rich state, with almost 20 per cent of the state’s population speaking a language other than English at home. In designing effective environmental education programs, the Department of Environment and Conservation (NSW) has taken a pro-active approach to providing people from non-English-speaking backgrounds with culturally appropriate learning opportunities to enable them to adopt ecologically sustainable behaviours. This paper reports briefly on the Department’s Ethnic Communities Sustainable Living Project.

The Ethnic Communities Sustainable Living Project is delivered in partnership between the Department and the Ethnic Communities Council of New South Wales. The project objectives are to:

- promote awareness, knowledge and understanding among specific ethnic communities about ways to live more sustainably at home, leisure and work;
- facilitate behaviour change by promoting simple practical ways for people from ethnic communities to live sustainably through running education sessions in community languages;
- encourage deeper involvement in sustainability issues through promoting community development activities about living sustainably with interested ethnic groups;
- develop a greater understanding of motivations and knowledge, skills, attitudes and practices of ethnic communities in relation to their environments;
- build the capacity of environmental educators to develop and deliver environmental education to ethnic communities in their local communities, with a particular focus on local government environment officers.

The core of the project is the employment of a team of experienced bilingual educators who deliver environmental education sessions in
different languages. The bi-lingual educators were employed based on their interest in environment issues and knowledge of, and contacts in their communities. They have received training to enhance their knowledge and understanding of sustainability issues and the skills needed to facilitate groups. The team of 20 bi-lingual educators work with the Arabic, Chinese, Korean, Greek, Italian, Macedonian, Spanish, and Vietnamese communities in New South Wales, encouraging them to adopt simple practical ways to improve their local environment.

The education sessions address a range of issues including sustainable living, water conservation, composting and worm farming, recycling and reducing waste, stormwater, green cleaning, protecting bio-diversity, and saving energy. The workshops have a flexible format, running 1-2 hours, and can focus on one or a number of issues depending on the group requirements. The sessions are run in a participatory way to take account of knowledge, skills and/or practices the participants may have brought with them from their home countries or have gained in Australia, and to engage them through discussion and critical thinking.

An independent program evaluation reported that the model of bi-lingual educators has been extremely successful, with a consistent set of messages delivered across a range of environment issues, made culturally appropriate by the individual experts representing each of the target communities. Participants in education sessions were able to identify simple, practical ways for people to live sustainably and could nominate a range of behaviours that they had modified in their daily life as a direct result of attending an education session.

In addition to environmental education sessions, the bi-lingual educators participate in a range of other environment and community activities including cultural festivals, experiential learning and field trips, arts projects and community radio interviews. The educators also provide advice where relevant on the development of the Department’s social marketing campaigns.

To support this program, the Department has produced a range of environmental education materials in the eight chosen languages. These resources are available on the Department’s Web page www.environment.nsw.gov.au/education/communities.htm

This program has been based on a number of social research projects conducted by the Department, including the 1997 Report *The Environment and Ethnic Communities* (EPA) ² which provided data on the relationships between ethnicity and environmental knowledge, attitudes and behaviours of the six major non-English-speaking populations in the state: Arabic, Chinese, Greek, Italian, Spanish and Vietnamese. Following this 1997
research, the Department, Sydney Catchment Authority and the former Sustainable Development Energy Authority in 2003 initiated a joint agency social research project to explore current relationships between ethnicity and the environment, and changes in knowledge, attitudes and behaviours over time. This new research paints a comprehensive and accurate picture of the environmental concerns of people from eight ethnic communities: Arabic, Chinese (Cantonese and Mandarin), Greek, Italian, Korean, Macedonian, Spanish and Vietnamese. It aims to broaden and deepen understanding of the relationships between ethnicity and environmental knowledge, values and practices in specific areas. Importantly, it also provides comparisons with other research in this area. The research is due to be released in 2005, supported by a guide for environmental educators to assist them in developing environment projects with their local ethnic communities.

References


If you would like to find out more about the Ethnic Communities Sustainable Living Project, contact the project manager: Danielle Blenkhorn, Education Officer Department of Environment and Conservation (NSW) email danielle.blenkhorn@environment.nsw.gov.au or phone 8837 6000
Working With Ethnic Communities in Canterbury City: A Waste Education Perspective

Angela Maier
Waste Education Officer
Canterbury City Council

Background

Canterbury City Council is a highly diverse area with approximately 132,000 residents. Seventy per cent of residents are from a non-English-speaking backgrounds, and almost half of them were born in a non-English-speaking country. Many residents within the area of Canterbury City Council are newly arrived to Australia and have low levels of spoken and written English. The area has a large transient population with approximately one-third of all residents renting their homes. Combined with other factors such as high numbers of multi-unit dwellings, these conditions raise barriers to carrying out environmental education and awareness campaigns with the community.

In 2002, Canterbury City Council implemented a comprehensive community waste education program in preparation for a new domestic waste and recycling service. The program was carefully planned and implemented to ensure that the education campaign supported and complemented the main objective, providing information about the new system that was simple, effective and easily understood by residents.

The waste education program was specifically geared towards accommodating the high ethnic and linguistic diversity of our city. A number of key principles, including those listed below, were used in the design of the education campaign, as well as for future programs.

Know your audience

It is essential to research the make-up of the target audience prior to the development and implementation of any education program. This can include looking at Census data from the Australian Bureau of Statistics and other sources. Many councils produce demographic profiles based on Census data which relates specifically to their areas. In the case of
Canterbury City, Census data and Council’s social and demographic profiles provided information on languages spoken, literacy, disability and levels of education within the community, all of which can affect the design of an education program.

Councils may also have multicultural officers and/or multicultural advisory committees who can provide additional information about the local community and how to reach them effectively.

Keep it simple and direct

Keeping messages simple and direct will ensure that as many people as possible will understand them. Although this applies to all education campaigns, it is particularly important when working with non-English-speaking communities.

Slogans and key messages should be easy to translate and not ambiguous. It is often not possible to translate information into every language spoken by your audience. A simple message in English is more likely to be understood by a majority of your audience, particularly non-English-speakers. In Canterbury City, residents come from more than 130 countries. It would be logistically impossible to translate information into all of the languages spoken in the area, so key information was translated into six languages, covering the needs of more than half of the non-English-speaking residents in the LGA. Additionally, the slogans included “Red for rubbish”/“Yellow for recycling” (corresponding to the colour of the bin lids), “Put it in the right bin” and “Living with less waste”, which are direct, action-oriented and easy to translate.

Strong colour and clear photographs were also used. This assisted printed resources to be easily understood without the need for understanding every word.

Consult with the community

Ideally, during the development of any education campaign, it is helpful to test the materials prior to final production. People’s perception of images, slogans, even colours, can be vastly different from your own. Therefore, if possible, it is sound practice to test draft materials with members of the local community. Focus groups can be used to ensure that symbols, slogans and language to be used in a campaign are not culturally offensive and that they are easily understood by each language group. These groups can also be used to canvass people’s attitudes towards the environment or a particular issue.
It is essential to ensure that translations are accurate and correct. Some councils have language aides or staff who can speak another language and are able to assist non-English-speaking residents with enquiries. They are also able to check translations.

In the case of Canterbury City Council, draft materials for the new waste service were tested with English, Cantonese, Mandarin, Arabic, Vietnamese and Korean-speaking groups, with bi-lingual facilitators running the non-English-speaking groups.

The groups were asked to discuss the most appropriate translations for “rubbish” and “Put it in the right bin” for use in the printed resources. An interesting and important finding of the testing was that for non-English-speaking participants the word “rubbish” was more popular and easily recognised than “garbage” or “waste”. The groups also helped determine the most appropriate symbols to represent rubbish and recycling.

Additionally, in some circles of the community, the focus testing may have actually helped to engage more residents during the implementation of the program. It is thought that this could have resulted from word-of-mouth from focus group participants that Council wanted to hear what residents thought. News of this opportunity spread quickly through parts of the community, making them more receptive to Council’s education programs.

Use face-to-face education with bi-lingual educators

Language and literacy issues can be a major barrier in the dissemination of information, particularly when working with non-English-speaking communities. Carrying out face-to-face information sessions and workshops, particularly in other languages, can be effective in overcoming some of these barriers. Workshops can also provide an informal and non-threatening environment where participants can ask questions and discuss issues with their peers.

The Department of Environment and Conservation has a team of twenty bi-lingual educators who have been trained in environmental issues as part of the Ethnic Communities Sustainable Living Project. They cover eight language groups. The bi-lingual educators carry out information sessions and workshops, and also attend festivals and events. They have a good knowledge of the ethnic communities in Sydney and can tap into existing networks. Workshops and information sessions are carried out with community groups who meet for reasons other than environmental/waste education purposes (as senior citizens, for bingo or play-groups). Additionally, since the bi-lingual educators are from a non-English-speaking background, they are able to compare environmental practices in their home countries with what is being done in Australia.
Bi-lingual educators can be employed by councils as contractors to carry out information sessions on waste or environmental topics. They are an effective and cost-efficient way of reaching non-English-speaking residents who may also have low levels of literacy in their spoken language. Bi-lingual educators have been used regularly for a number of years and integrated into Canterbury City Council’s on-going waste education program targeting recycling, waste reduction, home composting, litter and stormwater pollution. In addition to holding workshops, bi-lingual educators attend community festivals and events, helping non-English-speakers with enquiries at waste information stalls.

Bi-lingual educators carrying out work for Canterbury City Council have received training from a Council officer prior to workshops. This has been a very important component of their involvement, since it ensures that the educators are aware of the services Council provides and familiarises them with specific environmental issues affecting the local community. Workshops with community groups are then tailored to deal with these issues: what can be recycled, why certain materials can’t be recycled, and what to do with those materials, such as plastic bags and clothes. Information sessions in other languages have been very successful in Canterbury City, particularly when a Council officer is able to attend and answer Council-specific questions that participants may have at the end of the session. Council recognises that the use of bi-lingual educators has been a very important and successful component of its waste and environmental programs and, where possible, will continue to use them in future initiatives.

Conclusion
As with any education program, the implementation of environmental education programs targeting non-English-speaking communities requires a multi-faceted approach. In the case of Canterbury City Council, an ethnically diverse area, a number of strategies have been used in waste education programs to reach as many non-English-speaking residents as possible. Factors such as researching the target audience, ensuring information is simple and easy to understand in English as well as other languages, carrying out community consultation, and running information sessions in other languages will maximise a program’s effectiveness, particularly when working with non-English-speaking communities.
WORKSHOP SESSION

Urban Bio-diversity or Weed-free Wastelands: What are we working towards?

Facilitator:
Frank Gasparre
Head Teacher
NSI TAFE Ryde College

Speakers:
Heather Stolle
Bushcare Officer
Hurstville City Council

Nicholas Gooden
Project Manager
Toolijooa

Rachel Yeomans
Bushcare Officer
Mosman Council

Overview: What are our long-term goals for urban bushland?

This session was based on three case studies highlighting aspects of the industry that are important for the future of urban bushland management. The case studies highlight some key points that need to be considered in determining long-term goals for urban bushland.

The presentations were not scientifically referenced academic research, but instead outlined the experiences of the presenters through reference to case studies.
Particular discussion points for the session were:

- Processes that help to determine suitable long-term goals;
- Lessons learned, both positive and negative;
- Success stories and what made them successes.

**Heather Stolle, Bushcare Officer, Hurstville Council**, provided a presentation on Evatt Park, Lugarno titled *Weeding natives and scratching around to maintain bio-diversity*, which described managing changes to the composition of native species in a small urban bushland remnant, as well as dealing with the issue of weed control and other human impacts. (Her presentation follows this section, as do the following two).

**Nick Gooden** from the **Toolijooa Bush Regeneration Company** followed with a presentation on issues relating to the contracting arm of the bushland management industry. This is the source of much of the professional labour used in bushland management and is therefore an increasingly important part of the future of our bushland.

**Rachel Yeomans** from **Mosman Council** wound up with a presentation on *Kunzea Carnage* in the quiet suburb of Mosman, which also dealt with managing succession in isolated fragments of coastal heathland at Bradley Reserve. This case study outlined an aggressive approach to the restoration of fragments of coastal heath and woodland communities through the clearing of senescing Kunzea with chain-saws, combined with a carefully-thought-out pile burning and maintenance strategy.

As an introduction to the discussion, the challenge of establishing suitable long-term goals was put into perspective with an example of regional forest plans in Northern New South Wales that work on 80-100 year hardwood plantation cycles. Forestry in Australia is not without its important issues of debate, but the question was posed: How many urban bushland managers are planning for the state of their bushland in 100 years?

Both Evatt Park and Bradley Reserve are experiencing significant changes to their native vegetation, both in species composition and community structure. These two case studies highlight one of the greatest challenges in establishing long-term goals for urban bushland. These are managing the inherently dynamic changes within natural systems at the same time as the many human impacts conflicting with natural processes.

Each bushland area is the product of a blend of influences. These include relatively static factors such as topography, soils and geology, and how
they interact with more changeable influences such as rainfall and temperature patterns, disturbance such as fire and erosion, and human impacts.

The process of change in community structure and form and species content over time is known as *succession*, and is a key part of the natural cycle of things. The challenge of managing succession means that although we often want our bush to stay the same forever, the natural environment is dynamic and changing and does not allow this luxury. The many influences of urban development, and how we manage change to achieve our long-term goals becomes are further key challenges for natural area managers.

Both case studies highlight a range of site changes from the "natural" state of these bushland areas. The impacts of changes to natural processes on urban bushland are well documented. In small fragmented areas the most common changes are:

- changes to natural fire regimes;
- increases in moisture and soil nutrient status;
- the introduction of weed propagules and weed competition erosion of drainage lines;
- sedimentation of waterways;
- pollution;
- rubbish dumping; and
- infrastructure.

Add to these changes the small, isolated and fragmented nature of many urban bushland reserves, as well as the influence of issues such as climate change, and deciding on appropriate long-term goals for bushland can become a complex task.

One of the key issues at Evatt Park, Lugarno is the encroachment of mesic vines such as *Cissus antarctica*, *Cissus hypoglauca* and *Morinda jasminoides* into what were formerly open forest and open woodland communities. The change to a plant community typical of more moist conditions is commonly known as a “mesic shift”.

The key factors influencing this are changes to fire regimes and increased soil moisture and nutrient status. To illustrate the extent of change, Heather showed several photos of vine encroachment, including a picture of the last remaining *Banksia serrata* seedling in the reserve, surrounded by encroaching native mesic vines.
In some situations, regenerators would be ecstatic to find such vigorous growth of locally indigenous native species on a fairly disturbed site. However, at Evatt Park, the long-term objective is to try and retain local representation of the open forest and woodland communities. The reasons for establishing this objective are to:

- maintain adequate representation of community types that are poorly represented locally;
- take into account the goals of local volunteers and the community; and
- maintain habitat for local fauna

The extensive expansion of the locally indigenous native vines is thus working against the long-term goal for the site. Heather described several methods that have been employed to try and control the expansion of these mesic native species including:

- Herbicide spraying of encroaching native vines to control their spread;
- attempts at soil disturbance such as scratching the ground surface with rakes;
- broad area burns (which in this instance did not have great success, and will be discussed later in the paper).

Heather concluded her talk with the point that “for all its impacts and problems, Evatt Park is still a very diverse patch of bushland and I would like to keep it that way.” The implicit goal in this statement is that the maintenance of bio-diversity is the key long-term objective. The hard part of achieving it at the site is determining what bio-diversity means in this context. Achieving long-term goals of maintaining open forest and woodland communities will require active intervention to prevent the shift to completely mesic ones. Finding ways to maintain “natural” disturbance patterns is critical to achieving this goal in Evatt Park.

A detailed outline of Rachel Yeomans’ presentation follows. It’s key points concern managing successional change where “natural” succession is unable to occur. In this instance, the main threat to maintenance of biodiversity was the lack of an appropriate fire regime, combined with the effects of fragmentation and other human impacts already outlined.

A long-term goal of maintaining the case study areas in Mosman is the retention of a coastal woodland/heathland community association.

After researching the life cycles of key plants and community needs within the subject areas, and carrying out a small-scale trial broad area burn, it
was determined that the key requirements of the “natural” fire regime could be mimicked using a pile burning strategy. The use of pile burns to stimulate natural germination of soil-borne seedbanks is now a fairly commonly used and successful strategy in bushland regeneration. Where the strategy differed in this case is in the decision to chain-saw senescing Kunzea ambiguа (Tick Bush). The benefits of this were increased ground fuel loads and less light competition for germinating seedlings. This approach better mimicked the sort of fire that would occur in a less disturbed example of this type of community.

A word of caution before you hit your local bushland with your chain-saw. This approach is not as simple as it sounds and needs a great deal of careful thought. In this instance the likely response to the strategy was well researched and then pilot-tested before it was applied to large areas. An illustration of how important this can be is an understanding of the response of the species Banksia ericifolia. This is an obligate seeder, which means that an adult individual is killed by a hot fire. The seeds of a live Banksia are protected by large woody follicles and open following drying out by the heat of a fire as it passes. The papery seed then falls to the ground long after the fire front is passed, and is very likely to germinate in the ash bed. The research showed that chain-sawing this species would lead to the woody capsule opening and the seed being destroyed in the pile burn, leading to local loss of the species.

The lessons from these two case studies can be summed up as:

- have a clear long-term goal in mind before you implement an action as part of your management strategies;
- base your goal on good science and thorough research;
- keep the local community informed and involved in the strategies, and in developing long-term goals;
- make sure that your goal is an achievable one;
- do your research to guide your management strategies;
- think through all of the implications of the strategy that you propose;
- identify the likely outcomes for a range of species, and the community as a whole, not just your favourite or the most obvious species;
- pilot-test your strategy before applying it on a broad scale.

Discussion topics

A member of the audience suggested that in the instance of the failed broad area burn at Evatt Park, Lugarno, a more aggressive approach to clearing the mesic vines beforehand would have allowed the site to dry out
more, resulting in a more successful broad area burn. This method has been successfully used a number of times in the Ku-ring-gai area. The discussion highlighted that when using fire as a management tool, in many situations potentially successful burning strategies have been undermined due to lack of a clear goal, poor communication, poor maintenance and weed control, and little information for the local community.

A key discussion point in the workshop was the need with any management approach involving fire to:

- have a clearly-defined goal;
- good preparation, including pre-fire weeding;
- the burn carried out when conditions are right to achieve the desired goal, not simply when it’s convenient;
- maintain;
- maintain and
- maintain!

Contracting

The labour for much of the work in urban bushland comes from the bush regeneration contracting industry. This has expanded rapidly over the last decade, as have the quality and skills of the professionals working in the industry.

Key issues presented to the forum in relation to the contracting industry are highlighted below. Discussion points in the workshop regarding each issue follow.

Short-term nature of contracts

The short-term budget cycles of many tendering bodies often mean that there are large gaps in site work. This can lead to critical delays in the timing of work such as the seed set of key weed species, or maintenance around plantings. Many local councils are not able to advertise for tenders until July 1 each year (the beginning of the financial year), which means that contracts are often not let until several months later. This is often at a critical time in staging works for regeneration.

Council representatives at the workshop said that this issue is often beyond their control, but is slowly being addressed. It remains a key problem in ensuring effective bushland management through the use of contractors.
The workshop identified a need for longer-term contracts as a means of avoiding problems of discontinuous maintenance work due to delays between contracts.

Another related problem is the funding cycles for grant projects. Contractors are often a key part of implementing environmental grant programs. Delays in the determination of funding and the short time-frames sometimes imposed for completion of work do not fit well with the natural cycles required for successful urban bushland management.

Grant funding bodies are attempting to address this. However, it remains a significant problem.

**High turnover of staff**

The lack of long-term funding commitments to urban bushland management projects has another negative side-effect, with the cyclic nature of available work leading to poor continuity of employment, meaning many people do not stay in the industry, or are frustrated by a lack of certainty of what might happen. This leads to high staff turnover, a lack of continuity of skills, and little historical appreciation of individual site characteristics.

**Lack of knowledge sharing when contractors compete for work**

The industry currently has limited exchange of information on key issues such as herbicide success rates, plant responses and new techniques, because of the competitive nature of the contracting market. The Australian Association of Bush Regenerators (AABR) currently make a valuable contribution to this area. Workshop participants felt, however, that there was need for more work in this area.

**Difficulty measuring progress and success of work carried out**

Performance measures for urban bushland management projects have improved significantly in recent years, with much more clearly detailed contracts and reporting requirements. However, there are still significant limitations in measuring performance. For instance, measures for achieving bio-diversity outcomes are limited and need improving.

**Science versus observation strategies: Pittosporum undulatum**

There is significant inconsistency in the application of scientific research to contracts. An example highlighted was the issue of *Pittosporum undulatum*. In some areas it is being eradicated and in others completely left alone. The workshop linked this issue to better exchange of technical
information across the industry to achieve more consistent approaches to key urban bushland management issues.

Conclusion

Approaches to urban bushland management have come a long way in the last decade, with new and innovative approaches bringing positive results and much greater recognition of the need to manage our natural areas in the long term.

The workshop highlighted the importance of remembering why we are doing what we are doing, and where we want to be at the end of the process. Even a small, short project needs to keep in mind impacts over 5, 10 and 20 years – and beyond. A clear well-thought-out long-term goal is an essential part of getting it right.
Weeding Natives and Scratching Around to Maintain Bio-diversity in Evatt Park, Lugarno

Heather Stolle
Bushcare Officer
Hurstville City Council

My observations are of the bushland in the St George district over the last 14 years (since the 1990s).

People such as the Sydney Plant Identification Author, Alan Fairley and I agree that bushland vegetation has changed over the years to become mainly grasses and trees, with the gradual loss of many healthy plant species such as *Kunzea*. I believe this has added to the loss of many small bird species.

Ecosystem dynamics have changed

Some of the ways they have done this are:

- different grazing regimes: no more bandicoots, wallabies, kangaroos, wollies, betongs, koalas and many other marsupials, while cattle and goats feed as they prefer;
- no more ground scratching fauna such as the Lyrebird;
- the only grazers are invertebrates, a few mammals and the fox;
- logging of specific trees has changed the range of large tree species;
- people picking their favourite blooms such as the Waratah or Boronia, has had an impact;
- different fire regimes, too much or too little, usually during the cooler months;
- increased stormwater run-off;
- climate change: drought and the drying of the Sydney bushland, with last summer seeing the death of many *Banksia serrata* in shallow soil on north/west-facing slopes, and winter the death of many large trees as well as regeneration;
- council and residents have a long history of inappropriate planting.
What to do?

Memories from older local residents tell of many more flowering plants in open woodland. Is that due to the impacts of logging, grazing or general clearing of an area as new settlers moved in? Residents have also told me where many years ago, Council and residents have been involved in inappropriate planting.

The changes I have seen in Evatt Park since 1990 have been the aggressive nature of the native rainforest vines such as Cissus hypoglauca, Cissus antarctica and Morinda jasminoides, and increase in number of Ficus, Acmena smithii and Synoum glandulosum.

The dense growth of vines can stop rainforest renewal and the renewal of rainforest canopy species.

Because of the lack of hot wild fires, these aggressive species have spread out to dominate open woodland with heath under-storey. Some of these species are not necessarily aggressive, however. Once Ficus or Acmena become established mature trees, very little underneath will ever change again.

For the sake of bio-diversity, I believe that management is required to try and stimulate growth of diminishing species such as Flannel Flowers (Actinotus helianthi), Pittosporum revolutum, Correa sp., Kunzea ambigua, Dillwynia retorta, Leucopogon sp, Monotoca elliptica, depending on location and numbers.

I have weeded the surrounding native vines and other dominant species such as Dodonaea triquetra and raked and cleared the soil around desired species, hoping to increase their numbers through regeneration/germination. These experiments are on a small scale, often around a single plant or a small group of plants. Decisions are made on percentages and resources, and knowing that bushland composition is always evolving.

Consider the following map of Evatt Park:
Edge problems – downhill – exotic gardens – drains/moisture

Evatt Park’s special places

*Site 4 southward*

This area has a highly disturbed history and is dominated by *E. Pilularis*, in the creek line a number of dead trunks remain of the *Melaleuca styphelioides*, with some areas still containing mature species. Much of the under-storey is covered in Wandering Jew or a thick cover of native ground covers. There is little chance of any natural regeneration. Many years ago I tried raking the ground under a *M. styphelioides*, with no results. I will try again. It is shady along the creek due to the number of *Glochidion ferdinandi*, *Acmena smithii* and *Pittosporum undulatum*. I still ponder how much clearing of this site is appropriate or beneficial for regeneration.
The Polaroid picture above, taken about 1988, shows a dominant *E. pilularis* canopy. The mid-story is mostly privet and lantana. To me the spacing in the canopy indicates how open this area used to be at one time. This assumption is reinforced by a resident’s recollection of a more open area with Flannel flowers (*Actinotus helianthi*).

**Site 3**
Dominated by *Ficus, E. pilularis* and Turpentine (*Syncarpia glomulifera*).

**Site 2**
Dominated by *E. pilularis, E. punctata* and *Angophora costata*, with heath mid-storey. The open areas of shallow soil have some Flannel flowers and orchids.

Along the track edge there is one large *Ficus* with smaller ones nearby, plenty of *Glochidion ferdinandi* and vines, all of which are encroaching on the open woodland. In 1990 this site had five very large *Banksia integrifolias*. Since then three of the *Banksias* have fallen, leaving only two, one snapped in half during a storm. Initial clearing did not produce much in the way of *Banksia* seedlings before the vines started to move in. To date only one seedling remains, now 1.5m in height. There is a program for keeping it free of aggressive vines. In the year 2000, a broad acre burn had little impact on the vines.

**Site 1**
Dominated by *E. pilularis, Angophora costata, Allocasuarina torulosa, Ceratopetalum gumniferum* and *Backhousia myrtifolia*. In the mid-storey are a small number of *Monotoca elliptica*, another species that is declining in numbers in the Hurstville area. Some disturbance and clearing of surrounding weed has allowed a number of *Monotoca* seedlings to survive. *Cissus hypoglauca* is proving to be a problem and is being removed. There is a patch of Woody Pears (*Xylomelum pyriforme*) and *Podocarpus*.

**Site 6**
What I believe is the true rainforest pocket is dominated by *E. tereticornis, Backhousia myrtifolia, Ceratopetalum apetalum, Ficus* and *Glochidion ferdinandi*. Since a partial *Pittosporum* cull, seedling *Backhousias, Pittosporum revolutum, Notelaea*, and ferns have increased in number. One raking/baring the soil beneath *E. tereticornis* has not produced any seedlings; however, I will try again. Raking and baring the soil has had good results in other reserves, with regeneration producing species not found in those particular areas, such as *Platysaeae* and *Opercularia*. 
Site 7
Faces north/west and is dominated by *E. pilularis*, *Angophora costata*, *E. corymbose*, with an under-storey of *Pultenaea flexilis* and *Macrozamia communis*.

Vine encroachment

In the year 2000, a broad acre burn had little impact on the vines

Prior to the burn
One surviving *Banksia integrifolia* after three mature Banksias had fallen. Encroaching vines are kept at bay.

Rainforest vines encroaching on open woodland, with heath under-storey

Vines sprayed back from Maidenhair Fern (*Adiantum aethiopicum*), *Doodia aspera* and *Gahnia sieberana*
Bushcare volunteers helping to clear away vines and weeds

Removed vines expose the damage they have caused to the trunk of an Eucalypt

Grasses and Dodonaea are kept away from Flannel flowers, while mulch needs to be raked away to increase germination
I have had successful raking results in another reserve, without any parent plants nearby, and species such as Platysace and Opercularia have regenerated. Also regenerating are Pimelea, Pomaderris, Lomandra, Persoonia and Eucalyptus.

To re-cap, I have worked in this reserve for over fourteen years, observing the changes. To make similar judgements, one needs the history of particular bushland. It is very important to keep records and photos of changes.

For all its impacts and problems, Evatt Park is still a very diverse patch of bushland and I would like to keep it that way.
Guns for Hire: The Challenges of Bush Regeneration Contracting

Nicholas Gooden
Project Manager
Toolijooa, Ingleside

Bush regeneration strategies

I will look at how we achieve our goals, while minimising conflict and habitat loss:

- bio-diversity and habitat maintenance;
- site and regeneration-specific priorities;
- weed removal in relation to above priorities;
- removal of habitat in staged fashion;
- site constantly observed and managed accordingly.

Issues and conflicts

These include the science or lack of science in what we do, and who can really comment with authority on how work is carried out. Many issues arising from contracting are listed below and affect the ability of the industry to find common ground with other stakeholders:

- scientific versus observation strategies (Pittosporum undulatum, Bushcare Contracts);
- short-term nature of contracts;
- high turnover of staff;
- lack of knowledge sharing due to contractors competing for work;
- difficulty measuring progress and success of work carried out.

Challenges and the future

Are we on the same road or are we diverging as time passes? This may or may not be a positive outcome:

- bush regeneration industry needs a professional outlook;
- it needs more sustainable contracting periods;
- it needs more scientific analysis and reporting;
• there should be focus on sustainable and cost-effective approaches to weed management;
• change will always be a constant.
Kunzea Carnage in the Home of the Bradley Sisters

Rachel Yeomans
Bushcare Officer
Mosman Council

Background information

*Kunzea ambigua* (Tick Bush) is a tall spreading shrub that grows in heath or scrub from Tasmania to Northern New South Wales and from the coast to the tablelands. It has small leaves, a dense habit and white “fluffy” flowers. Kunzeas often grow in dense thickets on shallow, rocky, sandy soils.

Kunzea thickets begin their life when new plants germinate *en masse* after a hot fire. Heath vegetation communities, of which Kunzea is part, contain very diverse vegetation, with many species. Heath vegetation is excellent habitat for a variety of animals, particularly small birds. Many people are becoming increasingly aware of, and concerned about small bird populations. Bird numbers appear to be declining in urban areas where they are most vulnerable to habitat loss and competition (predation?) from larger birds and animals.

Kunzea thickets grow and mature over approximately 20-30 years. After approximately 15-20 years, species diversity begins to decline and fire-sensitive species such as Pittosporum (*Pittosporum undulatum*) start to grow. This is a natural process and is a result of lack of fire.

Diversity is usually understood to be variety (number of species), but can also occur at system level. It has been suggested that it is good to have some areas that are burnt too frequently, others at approximately the right frequency to maintain maximum species diversity, and some that are burnt infrequently and allowed to senesce over time. This results in a variety of systems.

In senescent Kunzea thicket there is very little fuel on the ground (fuel is leaves and twigs less than 6mm in diameter on the ground). This makes them difficult to burn in a controlled situation. An ecological burn often doesn’t catch-on well, because there is little fuel available to burn. When
Kunzea thicket burns “in nature” an extremely hot wild-fire will roar though the canopy, leaving a blackened wasteland.

Kunzea management at Bradley Bushland Reserve

Bradley Bushland Reserve is located off Middle Head Road, Mosman, and is approximately one hectare in size. The area is jointly managed by the Friends of Bradley Bushland Reserve and Mosman Council. The Friends’ involvement in the management of the reserve is a memorial and a tribute to the Bradley Sisters, Joan and Eileen, who pioneered bush regeneration techniques and bushland management from the late 1960s. The Friends are always willing to try new techniques and gain a deeper understanding of the ecology and management needs of the reserve.

In April 2002 a much-anticipated ecological burn was carried out in a section of the reserve. It was a low-intensity fire due to the lack of fuel, and the flames only broke through the canopy in a few places. The senescent Kunzeas were killed but not consumed by the fire.

Two years later there has been good regeneration of native species and minimal weed growth (the area had few weeds before the burn). However, the dead Kunzeas are now falling down all over the regeneration, and have probably created more fuel than was consumed by the original burn.

In December 2003 pile burns were carried out within the area that received the ecological burn in April 2002. The dead Kunzeas were cut up and piled. Logs were removed from the piles and used as habitat or edging in other parts of the reserve. The pile burns obviously killed the plants on top and immediately surrounding that had regenerated after the April 2002 burn.

After a few months the regeneration of native species within the pile burns was unexpectedly spectacular. The plants that regenerated after the April 2002 burn would not have had sufficient time to flower, set seed and re-stock the soil seed bank by December 2003. We can only conclude that the plants that regenerated from the pile burns had been waiting in the soil and were not sufficiently stimulated by the low-intensity ecological burn.

Most of Bradley Bushland Reserve is senescent Kunzea thicket. In March 2004 an area was selected and the Kunzeas cut down with chain-saws: Kunzea Carnage. Large logs were taken out of the area and used elsewhere in the reserve. The Kunzeas were cut up and left on the ground to season, increasing the fuel load of the area. The aim was to get a hot fire close to the ground that was easy to control: the effect of a wild-fire.
without the danger. The result will, it is hoped, be excellent fuel reduction that also creates the best conditions for regeneration of native species.

*Banksia ericifolia* within the Kunzea thicket was left standing. Banksias and other species such as Hakeas protect their seeds from fire by holding them in woody cones. The cones are stimulated by fire to slowly open and release their seeds into the ash-bed. If species such as this are cut down, the cones open and release their seeds into the soil, where they quickly rot.

Pittosporums and other mesic species were cut down within the Kunzea thicket but deliberately left along the fence line. Plants with these sorts of leaves are recommend as “fire resistant” species for planting on the bushland/urban interface. Their leaves and canopy are good at absorbing embers from a fire, thereby providing protection for the houses behind. Pittosporum: Such species are also excellent at absorbing excess water and nutrients and stopping herbaceous weeds from invading the adjacent bushland, thereby protecting the bushland from the houses.

At the time of writing (January 2005) this area was fully seasoned and still waiting to be burnt. There has been some regeneration of native species, particularly on the edges, due to the increased light (disturbance), but generally where the Kunzea is piled up thickly, it has suppressed regeneration in anticipation of the burn.

This is a summary. For more information, please contact Rachel Yeomans at Mosman Council.
**WORKSHOP SESSION**

Growing with the Flow: Integrating Stormwater and Bushland Management

Facilitator:

**James Rennie**
Regional Manager NSW
Earth Tech Natural Resources Group

Speakers:

**Alfred Bernhard**
Bushland Manager
Willoughby City Council

**Dan Williamson**
Catchment Education Officer
Willoughby City Council

**Peter Morison**
Environmental Outcomes Manager
Parramatta City Council

For many years and until the present, bushland management and stormwater management have been looked at through different eyes and dealt with from different perspective’s, often as separate issues:

- two very different silos;
- stormwater traditionally a town planning problem treated with engineering solutions; and
- bushland, if not managed as manicured parkland, often as a separate and unrelated issue from social planning.

Two of the major contributors to weed infestation in bushland are seed dispersal and increased nutrients arising from stormwater contamination.
Add to this erosion problems caused by increased flow, habitat destruction, chemical pollution... the list goes on.

This workshop was aimed at challenging participants to view these two quite complex management challenges as one issue, with a united approach. One other aspect came into the design and execution of the workshop: interactive fun. We felt that the workshop sessions were a good opportunity to get up and move around to challenge normal thought patterns.

As participants entered the workshop they were greeted, given a small coloured piece of paper, and directed to one of four tables corresponding to their colour. Each table had a theme. These were:

<table>
<thead>
<tr>
<th>Colour</th>
<th>Theme</th>
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</thead>
<tbody>
<tr>
<td>yellow</td>
<td>Earth</td>
</tr>
<tr>
<td>green</td>
<td>bio-diversity</td>
</tr>
<tr>
<td>red</td>
<td>society</td>
</tr>
<tr>
<td>blue</td>
<td>water</td>
</tr>
</tbody>
</table>

Adorning the room were representations of these four aspects of our environment: sandstone, plants, dragon-flies, branches, a model house and a fire-truck. Down the centre of the room was a large blue mat depicting a winding creek.

The first activity for participants was to place themselves in the mind (or spirit) of their assigned character. Be the earth, be the dragon-fly, the plants, the creek, buildings, roads etc. Then, in groups, they discussed how stormwater and bushland related to them and what impacts/effects they felt. People then wrote a word or phrase which defined his or her relationship with stormwater and bushland, from their perspective of Earth, bio-diversity, society or water. As this was happening some explained their relationship. It was a grim picture! “Floods”, “erosion-taking me away”, “my home is gone”, “choking”.

The theatrical part of the workshop was about to take place. Each group was asked to come out to the creek in the middle of the room, and place their thoughts (piece of paper) and themselves in an appropriate position that reflected their relationship with the creek. First the Earth then biodiversity, society and, finally, the water group came raining, flooding, gushing down the middle, taking some of the others with them until washed up at the end of the room. A mess of mangled tangled bodies was the result, not very different from the debris that settles in our estuaries and harbours.
While the storm calmed down and people found their way back to a seat, a short video of the Sailors Bay Streets to Creeks program, from Willoughby City Council, was played. The Sailors Bay project was even more interactive than this workshop, and highlighted the success of community engagement in stormwater/bushland management.

Now each group became a councillor on Kick-A-Tin-Along Council and heard a presentation from J. Buildem-High, CEO of MAXGAIN Developments, regarding a development proposal called Fernscape. MAXGAIN claimed to have the solution to a housing crisis in Kick-A-Tin-Along. The answer was a 45-storey apartment building limiting impervious areas, piping stormwater straight to a nearby creek, and eliminating impacts on bushland. Sounded good on the surface!

The Council also heard the perspectives of three officers, the development/engineering manager, community services manager and the environmental services manager. Each gave their views accepting the proposal, with the exception of the environment manager who had concerns for the bushland which contained threatened species and sensitive eco-systems. “What about surface run-off and nutrient management?” he asked. “This is a blind-folded cover-up to natural landscape management.”

With this, the environmental services manager asked councillors (participants in their groups) to come up with development consent guidelines relating to effective integrated stormwater and bushland management.

The outcome, on review, demonstrated two strong sides to consent guidelines put forward by the brave councillors. On one side there were suggestions of physical improvements and conditions. On the other were social education, involvement and relationship forming concepts that would aim to limit any impacts before they could become a problem. Some of these are outlined below.

**Physical consent conditions**

- appropriate assessment of bushland and waterway health as the minimum benchmark;
- priority zoning of bushland, including limited recreation activities in high priority areas;
- a developer bond to ensure repair of any damage to bushland/waterways during the development process;
- re-use of stormwater on playing fields and lawn/garden areas;
- a car wash area on grass for residents;
• compulsory Conservation Agreement on surrounding bushland to protect it from future development.

Social consent conditions
• establishment of an education program for new residents;
• formation of a Bushcare group;
• a neighbourhood social scheme to increase residents’ valuing of their surroundings;
• community garden using grey-water;
• new resident info packs;
• water monitoring group to track changes in water quality.

Among the group, discussion about water-sensitive urban design sparked hot debates and nurtured new concepts for planning the way we connect with stormwater and bushland collectively. It is hoped participants in this workshop left with a better grasp of the issues that can arise from managing stormwater and bushland as separate problems with separate solutions. Our aim was at all times to demonstrate how interwoven the links between the two are, and that a united management approach is not only sensible, but also successful.
WORKSHOP SESSION

Off-leash Areas for People? Managing Sydney's Precious Open Space

Facilitator:

Jeannette Stannard
Reserve Planning Officer
Parks and Wildlife Division
Department of Environment and Conservation

Speakers:

Tina Digby
Natural Resources Co-ordinator
Randwick City Council

Mark Taylor
Open Space Program Co-ordinator
Department of Infrastructure, Planning and Natural Resources

The Task

The workshop was divided into three groups to discuss three recreation/natural area scenarios set in Sydney in the year 2014. Participants were asked to put on a park manager’s hat and to use personal experience and ideas from the presentations to suggest:

- who the park users might be, the experiences they are seeking from the park and the type of recreation activities taking place;
- the range of impacts recreation has on the park’s natural areas, and the management issues and challenges that this visitation presents;
- how you, as manager of the park, will address these recreation management issues to secure the on-going sustainability of the natural area while addressing recreational needs.
Discussion outcomes

Scenario 1: A newly-created bushland reserve in an eastern suburbs urban redevelopment area

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<tbody>
<tr>
<td><strong>Management:</strong> Local Government</td>
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<tr>
<td><strong>Land use type:</strong> Zone 7 Environmental Protection*</td>
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<tr>
<td><strong>Size:</strong> 13 ha approx.</td>
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<tr>
<td><strong>Location:</strong> 7.5 km east-south of CBD approx. adjoining new urban redevelopment site, existing Housing Dept estate and existing 1930s and 1980s urban development</td>
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<tr>
<td><strong>Access:</strong> Easily accessible by bus and car</td>
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<tr>
<td><strong>Key recreation facilities:</strong> None present as land has been locked away for Defence purposes</td>
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<tr>
<td><strong>Population:</strong> Servicing a proposed population increase of 15-1800 people and a surrounding population of approx 7000</td>
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* The park is zoned for bushland conservation and passive recreation. It contains Eastern Suburbs Banksia Scrub, an endangered plant species, an ephemeral wetland and creek, and two turfed areas where previous land use resulted in the clearing of the bushland.

Eastern Suburbs Banksia Scrub is an endangered ecological community, protected under the Environmental Protection and Biodiversity Conservation Act 1999 (federal) and the Threatened Species Conservation Act 2000 (state). Acacia terminalis subsp terminalis is an endangered plant species protected under the Environmental Protection and Biodiversity Conservation Act 1999 (federal) and the Threatened Species Conservation Act 2000 (state).

Considerations include but are not limited to: bush-fire, construction of fire-breaks, vandalism, personal safety, lighting, access, disabled access, water views, snakes, drowning, flora and fauna conservation, provision of picnic facilities, public access times, re-vegetation, feral animal control, weeds, seating, garbage collection, stormwater detention, stormwater/creek repair, Gross Pollutant Trap (GPT) cleaning.

Proposed recreation facilities include 1200m of pedestrian path and pedestrian bridge, BBQs, viewing platforms, educational/interpretive signage, seats and bins.

Park users, the experiences they are seeking and the type of recreation activities taking place in the park

Consultation is needed with park users and potential users in the first instance to find out their values. Park users are expected to be there for recreational purposes including existing users and those moving into the new development. Users will include dog walkers, bike riders, residents, middle class retirees, families and kids building cubby houses or engaged in other play.
Range of impacts recreation has on the park’s natural areas and the management issues and challenges that this visitation presents

- animal waste impacts on wild-life and water quality;
- conflicts between bike riders and walkers and other park users;
- vandalism of vegetation and facilities;
- arson;
- littering.

How you, as manager of the park, will address recreation management issues to secure the on-going sustainability of the natural area while addressing recreational needs

- appropriate consultation;
- interpretive signage;
- fencing of sensitive areas;
- establishing and enhancing resident ownership of the park;
- providing facilities such as BBQs and walking tracks;
- providing information for alternative locations for activities, such as bike riding;
- promoting the environmental values of the park.

Scenario 2: National parks on the southern Sydney metropolitan rim

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<td><strong>Location:</strong></td>
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<td><strong>Access:</strong></td>
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<td><strong>Key recreation facilities:</strong></td>
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*Section 30E of the National Parks and Wildlife Act 1974

National parks
The purpose of reserving land as a national park is to identify, protect and conserve areas containing outstanding or representative eco-systems, natural or cultural features or landscapes or phenomena that provide opportunities for public appreciation and inspiration and sustainable visitor use and enjoyment so as to enable those areas to be
A national park is to be managed in accordance with the following principles:

- the conservation of bio-diversity, the maintenance of ecosystem function, the protection of geological and geomorphological features and natural phenomena and the maintenance of natural landscapes;
- the conservation of places, objects, features and landscapes of cultural value;
- the protection of the ecological integrity of one or more eco-systems for present and future generations;
- the promotion of public appreciation and understanding of the national park’s natural and cultural values;
- provision for sustainable visitor use and enjoyment that is compatible with the conservation of the national park’s natural and cultural values;
- provision for the sustainable use (including adaptive re-use) of any buildings or structures or modified natural areas, having regard to the conservation of the national park’s natural and cultural values;
- provision for appropriate research and monitoring.

Park users, the experiences they are seeking and the type of recreation activities taking place in the park

- campers seeking isolation;
- walkers wanting exercise;
- cyclists wanting exercise and adventure;
- aquatic recreationists such as swimmers, divers, boaters, fishermen and the surf lifesaving club at Burning Palms;
- squatters wanting isolation and peace;
- picnickers wanting to socialise and gather with family and friends;
- abseilers;
- canoeists;
- day-trippers and bus tours;
- residents;
- commuters.

Range of impacts recreation has on the park’s natural areas and the management issues and challenges that this visitation presents

- erosion of soils in visitor precincts and along tracks;
- wildlife disturbance, injury or death;
- flora damage or removal of vegetation;
- vandalism;
- amenities to be created in response to user needs;
- roads, tracks and trails to be provided in response to user demand;
- potential for fire creation;
- pollution caused by visitor activity.
How you, as manager of the park, will address recreation management issues to secure the on-going sustainability of the natural area while addressing recreational needs

- rotate and/or close visitor use areas if necessary;
- set limits to the locations and type of activities such as matching appropriate uses with appropriate sites, and planning for facilities using a regional context;
- provide visitor orientation such as directional signage, brochures, Web, rangers;
- educate visitors;
- use law enforcement;
- develop recreation management zones.

Scenario 3: Aquatic reserve on Sydney’s northern beaches

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<tbody>
<tr>
<td>Management: State Government, Department of Primary Industries (Fisheries)</td>
</tr>
<tr>
<td>Land Use Type: Aquatic Reserve*</td>
</tr>
<tr>
<td>Size: 60 ha approx.</td>
</tr>
<tr>
<td>Location: 20km north of CBD approx.</td>
</tr>
<tr>
<td>Access: Accessible by government buses, private vehicles</td>
</tr>
</tbody>
</table>

**Key recreation facilities in:**

- **Aquatic Reserve:** beaches, rock platform, boat ramp, Greenlink Walk Recreational line, and spear-fin fishing is permitted, collection of intertidal plants and animals is prohibited, no dogs allowed, nature study excursions

- **Adjacent Council Park:** Bicentennial Coastal Walkway (links to the Aquatic Reserve), golf course and club-house, rugby oval, cricket pitch, tennis courts, hang-gliding, model planes, lookout, picnic areas, ocean baths, surf lifesaving club, off-leash dog park, links to Dee Why Lagoon Wildlife Refuge.

*Section 194 Fisheries Management Act 1994 - Section 194 Declaration of aquatic reserves The Minister may, by notice published in the Gazette, declare an area specified in the notice to be an aquatic reserve.*

1. The purpose of declaring an area to be an aquatic reserve is to conserve the biodiversity of fish and marine vegetation and, consistently with that purpose:
   (a) to protect fish habitat in the reserve, or (b) to provide for species management in the reserve, or (c) to protect threatened species populations, ecological communities (within the meaning of Part 7A) in the reserve, or (d) to facilitate educational activities and scientific research.
Park users, the experiences they are seeking and the type of recreation activities taking place in the park (*high impact)

- Fisher-people (fin-fishing*);
- Illegal bait collection*;
- snorkelling;
- school kids*;
- scientists;
- food collection;
- surfing;
- canoeing;
- boating*;
- swimming;
- digging holes*;
- bush walkers;
- bush regenerators;
- dog walkers*.

Range of impacts recreation has on the park’s natural areas and the management issues and challenges that this visitation presents

- rubbish;
- fishing line/plastic bags;
- run-off of nutrients plus faecal pollution;
- denuding crustaceans;
- crushing and flattening of rock flora and fauna;
- noise;
- overall decline in bio-diversity;
- soil erosion;
- anchoring damage.

How you, as manager of the park, will address recreation management issues and challenges to secure the on-going sustainability of the natural area while addressing recreational needs

- zone areas for specific uses (sanctuary zones etc.);
- educate and communicate with users regarding the zoning;
- involve the community (Fishcare volunteers);
- target specific groups for education (“nippers” and surfers);
- publicity (signage);
- plan of management for the reserve;
• undertake stakeholder and community consultation;
• survey visitors to identify their aspirations;
• adopt a regional approach by linking the reserve with adjoining areas to dilute visitor pressure across other areas;
• consider re-location of the car park and creation of walk-in access.

All these suggestions need to be considered in the context of the future. There will be increasing visitation and usage of the reserve, and potential sea-level rises.
Coastal Open Space Management

Tina Digby
Natural Resources Co-ordinator
Randwick City Council

Natural areas

Values, pressures, public expectations, impacts, statutory requirements and management actions all need to be considered.

Values
- bio-diversity conservation;
- flora and fauna habitat;
- educational resource;
- aesthetic amenity;
- recreational amenity.

Pressures
- recreational demands (both active and passive):

active includes golfers, horse riders, cyclists, surf lifesaving clubs, dog walking, horse riders, trail bikers and aquatic area users;

passive includes walkers, bird watchers, beach users, meditation, views from neighbouring residential areas, urban re-development, stormwater, disposal, inappropriate fire regimes, dumping (rubbish and weeds), predation by feral animals (cats, dogs, rabbits, foxes) and vandalism.

Public expectations
- access to coastal edge;
- views;
- safe paths, wide enough for joggers;
- easy walking surface;
- railings;
- lighting;
- safe from muggers;
- conservation of natural values.
Impacts

- soil erosion;
- trampling;
- vandalism;
- mowing;
- dog faeces and chemical contamination;
- litter;
- habitat value loss;
- clearing for views.

Impacts of other pressures

- urban re-development;
- stormwater disposal;
- inappropriate fire regimes;
- dumping;
- predation by feral animals;
- vandalism.

Statutory requirements

Include Local Government Act, EP&A Act, REP, LEP and PoM. Need to undertake public consultation with a range of users (age, ethnicity) and consider types of recreation (active or passive).

Management considerations

- bio-diversity conservations;
- statutory requirements: EPBC Act, EP&A Act, TSC Act, SEPP 19, PoM;
- regeneration of remnant vegetation;
- location of re-vegetation works;
- species selection in re-vegetation works;
- prioritise all considerations;
- identify constraints and opportunities.

Management actions

Identify, protect, restore, enhance and educate.

Identify
What do you have? Where is it? What’s its area? Who and what is using it? How often or how rarely?

Protect
Statutory protection: Is it possible? How? When? What resources do you have?
**Physical protection:** Is it possible? How? When? What resources do you have?

**Restore**
Resources? Quantity? Frequency? Priorities? Values?

**Enhance**
Resources? Where? When? How?

**Educate, educate, educate!**
- Bushcare Volunteer Program;
- Habitat Volunteer Program;
- schools program;
- indigenous nursery;
- talks;
- walks;
- media
WORKSHOP SESSION

Finding Common Ground When Promoting the Environment

Facilitator:
Richard Davies
Senior Education Officer
Department of Environment and Conservation

Speakers:
Richard Davies
Senior Education Officer
Department of Environment and Conservation

Julie Rudner
Strategic Planner Environment
Albury City Council

Abstract

Have you met the stunned mullet look?

Many of us achieve a deep sense of well-being by relating with the living environment in and around our urban spaces and we share a passion for conserving urban eco-systems. But not everyone shares that passion and sometimes we even find our cherished bushland places degraded by someone’s thoughtless actions.

One way or another we all become advocates for the environment and a healthy environment should be an easy concept to promote, but many of us still have neighbours, family and friends who remain unengaged, despite our enthusiastic spruiking.

Join this workshop to explore ways to engender wider excitement about conservation outcomes and create a more inclusive atmosphere around actions that care for our urban landscapes.
Introduction

This report is intended to describe what took place during the workshop session and to provide a record of the output from our one-and-a-half-hour session on Day 1. The workshop was based on the assumption that we are capable as educators of selecting approaches to community education that engage the audience. The session was intended to give individuals the chance to reflect on our effectiveness and recognise the key factors that contribute to our successes.

Setting a context

Two short presentations were given to establish some context for a workshop about community engagement.

Richard Davies outlined some state-wide social research that informed the development of the Backyard Buddies Program. The research reveals that the mainstream audience has understandings about urban wildlife that are different to the understanding we “experts” have. The research helps us find the right starting points for engaging a mainstream audience.


Julie Rudner described some education and community involvement initiatives that target preferences and norms in Albury City, addressing a range of environment and health agendas in Council. The main points are summarised below and sample materials accompany this paper.

When developing engagement programs, consider the audience “bell curve”: those already active, those who will never be interested, and the majority who have the potential to become involved.

Remember that the characteristics of your audience will change depending on the subject matter: people may be interested in energy efficiency but not vegetation protection.

Don’t be afraid of using stereotypes to provide you with a simplified understanding of the motivations and character traits of your prospective audience so that you can target the look, feel and content of your program. Don’t forget, however, that in reality our individual experiences are complex: already interested: material and products may be obviously recycled/home-made; not interested at all: material and products may appeal to ego (prestige) and may not even mention environmental
outcomes; people who might become involved may require something that appears new and clean, but they are informed about its recycled content.

Be willing to experiment with your understanding of the diversity of your audience in socio-cultural ways. For example, a Holden racing fanatic can still be dedicated to gardening with indigenous plants.

Trust your own powers of observation of popular culture to hook into possible avenues of instigating interest, such as linking to a crime or community security theme to get a message across.

Consider your use of words and your intended impact. For instance, biodiversity is a succinct word for describing complex concepts (genetic, species, population diversities, etc.). Does it have meaning, however, for the uninitiated? Plants and animals may be a better way to say it.

Workshop methodology

The workshop is based on a technique known as Force Field Analysis. This is derived from the work of German/American social psychologist, Kurt Lewin (1890-1947). It is the latest, state-of-the-art technique! The workshop method is useful in a strategic planning exercise.

To fit within the time allocated to the workshop an abridged version of the technique was used. The full workshop method might include all of the following stages.

*Carrying out a Force Field Analysis*

- state the current situation;
- describe the ideal situation;
- identify where the current situation will go if no action is taken;
- list all the forces driving change towards your ideal situation;
- list all the forces resisting change towards your ideal situation;
- interrogate all of the forces: are they valid? can they be changed? which are the critical forces?
- allocate a score to each of the forces using a numerical scale: (1) extremely weak (10) extremely strong;
- chart the forces by listing (to strength scale) the driving forces on the left and restraining forces on the right, allowing visualisation of the forces at work and determining whether change is viable and progress can occur;
- note that the viability of the change program can be affected by decreasing the strength of the restraining forces or by increasing the strength of driving forces, and that care needs to be exercised when
increasing driving forces as this can create new forces, or increase the strength of existing restraining forces.

Workshop design

This section provides an outline of the design and processes of this workshop. Note that no time was allocated within the session for an evaluation of the workshop.

Workshop objectives

In designing a workshop I find it helpful to consider two kinds of objectives:

* experiential*: the experience the group will have, and how people will be different at the end of the session.

* rational*: the product from the session or decisions that the group will make.

During the *experiential* part of the workshop, participants discover that by reflecting and working with peers, they are well equipped to select and apply approaches that are appropriate to their audiences.

Using the *rational* objective, participants develop a list of the factors that affect the extent to which people engage in learning (Learning for Sustainability and Environmental Education)

The ideal situation: our effective work as educators

*Working in pairs or groups of three*

Share your most successful small but meaningful act in environmental education. In describing this, cover the following:

- What is it?
- How did I know it was successful/effective?
- Why do I think it worked so well (in a general sense)?
- Why did it suit that audience/ those people/ that person?

Give a couple of your own examples from a range of contexts to demonstrate that we all have successful examples, big or small.

These stories are the foundation for our work as environmental educators.
Force Field Analysis focus questions

Building on our own reflections and the remaining time, the workshop now addressed some focus questions to commence a Force Field Analysis:

1. What assists audience engagement? What assists people to engage in learning for sustainability? (Driving Forces)

2. What can impede audience engagement? (Restraining Forces)

There were around 60 participants. The group divided into two to undertake the workshop.

Answering these questions, the group brain-stormed the Driving Forces and the Restraining Forces. Participants wrote one idea per half A4 page in response to these questions. They used broad-tipped markers so that, when displayed on a wall at the front of the room, all participants could read all comments. Driving Forces were listed on one side and Restraining Forces on the other. Ideas were attached using BluTack to allow them to be moved about. We then found that some ideas belonged to common themes and many ideas remained ungrouped. The lists of ideas given in response to the focus questions are provided at the end of this report.

3. Assign strength to each force (5 = a strong force 1 = a weak force)

This phase was undertaken very briefly to illustrate the way in which the group assigns “strength” to the forces. We tried this process by identifying one strong Driving Force and one strong Restraining Force.

Due to time constraints the workshop ended at this point. The next steps would have enabled the group to analyse the forces and identify strategies that aid selecting the right approaches for community environmental education.

4. What needs to happen/change in our work to engage people more consistently?

(Changes to our work that continue strong Driving Forces, enhance weak Driving Forces, and overcome strong Restraining Forces).

5. What would it take to enable me to bring these changes into my work?
Workshop results

**Group 1**

*Driving Forces: What assists engagement?*
- relevance (x 3);
- the way it is presented and meets some need;
- link to existing interest;
- appropriate communication channels;
- SMS;
- banners;
- enjoyment;
- fun (x 4);
- humour;
- incentives;
- reward;
- satisfaction;
- personal gain;
- food;
- money;
- asset maintenance for next generation;
- the future (own family);
- enthusiasm (x 2);
- passion;
- concrete example;
- doing;
- results;
- small wins along the path;
- synergy;
- mutualism;
- easy options;
- convenience.

*Ungrouped input*
- goals;
- promote ownership;
- peer group pressure;
- common knowledge;
- curiosity;
- contact with nature;
- status.

*Restraining Forces: What can impede engagement?*
- time poor (x 3);
- lack of time;
- not enough time;
• complex lives and too many inputs;
• lifestyle;
• stress;
• lethargy;
• laziness;
• lack of personal connection;
• indifference;
• lack of knowledge;
• ignorance;
• cultural difference;
• no social or environmental conscience;
• attitude;
• fear;
• fear of failure;
• bad experience;
• jargon (x 2);
• language barriers;
• apathy (x 2).

Ungrouped input
• difficulty;
• guilt;
• uncertainty;
• peer group pressure;
• personalities.

Group 2
Driving Forces: what assists engagement?
• fun; entertaining;
• experience;
• education;
• learning aspect;
• time, family, work;
• grand-child;
• children;
• giving appropriate information;
• financial inducement;
• benefits;
• rewards: trees, rate rebate;
• benefits them;
• relevant (x 2);
• promoting interest;
• what’s in it for me?;
• accessible;
• familiarity;
• good timing (patience?);
• positive feedback;
• trust;
• driving forces at a philosophical level (self and group), HUMILITY;
• self-motivation;
• concern for the planet;
• nurture, human inter-relations.

**Ungrouped input**
• sincerity;
• urgency;
• benefit;
• fun;
• interest;
• necessity.

**Restraining Forces: What can impede engagement?**
• poor relationships;
• criticism;
• not enough money to buy organic food;
• cost;
• racialism (social divisiveness);
• lack of foresight;
• not knowing where to start;
• irrelevant;
• shyness;
• inertia;
• fears;
• comfort zone;
• experiences;
• too hard;
• closed mind;
• too much trouble;
• bad timing (impatience?);
• time;
• lack of time (x 2);
• lifestyle.

**Ungrouped input**
• complacency;
• technical;
• costs;
• difficult;
• boredom.
Group 3
Driving Forces: What assists engagement?
- ownership (x 2);
- belonging;
- ability to identify;
- partnership;
- open-ended questions;
- ask questions;
- asking people what they think/want/need;
- enjoyment;
- fun (x 2);
- humour;
- financial incentives;
- rewards;
- incentives;
- prizes;
- involvement;
- physical activity /involvement;
- personal stories, achievements, stuff-ups;
- personal relevance;
- relevance;
- existing interest;
- local relevance;
- tap into existing interest;
- passion (x 2)

Ungrouped input
- visual, auditory stimulus, VARIETY;
- threat of regulation;
- believability (modelling: do as I do)
- interest in them / self / ideas;
- need;
- knowledge;
- rapport;
- presentation.

Restraining Forces: What can impede engagement?
- Language;
- language barrier;
- language and cultural barrier;
- time (x 4);
- lack of time;
- distrust;
- Dis-empowerment;
- fear of change;
• uninterested;
• boredom;
• humiliation/disinterest;
• detachment;
• talking too much;
• info overload;
• isolation in the process;
• not relating to the person/human level;
• adopting a threatening approach or asking people to do something that threatens them.

Ungrouped input
• too daunting/technical or too much hard work;
• financial;
• body language;
• do as I say (lack of modelling);
• competing priorities;
• perceived arrogance;
• obscurity;
• disorganisation;
• “Big Brother”;
• lack of understanding, body language.

Acknowledgments

Thank you to everyone who participated in the workshop. The group produced a great check-list of the forces affecting engagement.

Thanks to the conference organisers.

References

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PAST, PRESENT & FUTURE:
VOLUNTEER ACTION

Creating the Future:
The Sydney Metropolitan Strategy

Susan Calvert
Director Natural Resources and Environment,
Metropolitan Strategy
Department of Infrastructure, Planning and Natural Resources

Please click on the link below for access to the Sydney Metropolitan Strategy Discussion Paper. The presentation given at the Sydney Hands-On Environmental Forum was based on this Discussion Paper.


(Link correct at the time of this publication).
Greenspace, A Century Long Battle: 
The Evolution of Community Consultation in Sydney

**Jeff Angel**
Director
Total Environment Centre

Across the developed parts of the state in the cities, towns and villages the claim that open spaces are crucial to local identity and quality of life is testified by the community action to protect them. Some of the longest-lived community groups have been campaigning on such issues.

The campaigns and groups are also formative places for environmental activists, introducing them to environmental principles and contact with the wider movement. At the same time the larger groups like Total Environment Centre (TEC) and Nature Conservation Council devote resources to helping local groups, keeping in touch with the grassroots while also focusing on systemic problems with the planning and development regime.

The battle for the parks is a sign that a city is bursting at the seams. In the early stages of any city’s development urban open space largely exists naturally (except for the provision of facilities for organised active recreation). In such a situation of ample natural supply rarely do political forces emerge pushing for any positive protection or management policy for urban open space.

As cities grow, pressure for the development of land previously used as de facto open space increases. However, as population densities in an area rise with this development the need for urban open space also grows. Hence there arises a time in the history of every urban locality when if the need for open space is to be met, there must be positive policy to protect open space from the pressures of development and an equally positive managerial policy.

Sydney has been in this state of ‘open space crisis’ for many decades. First the County of Cumberland green belts were dismantled to make way for urban sprawl. Then conflicts arose for competing demands on open space land. Examples are found in a 1980 TEC report, ‘Urban Open Space – a
policy crisis' which lists almost 50 instances of park and open space alienation.

These included:
- Building of a leagues club and associated member facilities including car parking on Parramatta Park;
- North Sydney Bowling Club uses adjacent open space for a car park and illegally erects a sign, ‘private car park’. Resident complains to council, which orders sign to be taken down;
- Rodd Island in Iron Cove is leased by the Trust to a harbour cruises company. The lease fee is covered with less than a week’s revenue. Leaseholder presses for a 120 seat restaurant;
- 130 trees are cut down in Oakleigh Park, Thornleigh by local council to build two full size ovals and netball courts;
- Plan to alienate one third of Roy Johanson Park in west Wollongong for soccer club amenities block and fencing;
- Swallow Rock Reserve to lose sizeable portion of mangroves for a boat ramp; and
- Five parks along Wolli Creek targeted for new expressway.

Urban park controversies can also elevate to the top of the local and state political agenda, particularly at election times. Most recently we have had the ADI site reverberating at all three political levels. In the 1970s the Wran Government obtained good political capital by protecting the Cooks River parklands, which were besieged by a freeway on one bank and an oil pipeline on the other. Efforts to restore the river and its banks continue today.

Often a centrepiece of political party environment policy is the creation of new local parks. In 1995 the then Carr Opposition promised seven new regional parks in the west, northwest and inner suburban areas. Their media release at the time (23 January 1995) also refers to the Coalition Government’s Urban Parks Authority and the fact that it had not created any new parks since its establishment.

Over the years a number of principles have been developed in response to the continual depredations on open space. In a report, 'The Ethics of Community Land’ (2000) TEC and other environment groups stated:
- Parkland is not a temporary use;
- Parks are acquired by Councils for present and future public recreation or protection of the environment, public foreshores or access;
- Parks are not convenient assets to raise revenue or to be treated as a land bank for development. Parks can be donated to councils as a gift to future citizens; can be a contribution from subdivisions to the public

Sydney’s Hands-On Environmental Forum – Inspirations, Motivations & Celebrations
5th–6th November, 2004, Sydney University
domain and a balanced development proposal; or can be acquired by resumption for a public purpose - and should be respected as such;

- It is not acceptable to sell parks at the request of neighbours or developers;
- Covenants running with the land should be honoured; and
- Any proposal to reclassify, sell or lease community land must be through an extensive investigation of benefits and costs across a range of values; full public access to information, including titles, uses (present and future), values, contamination, reports, etc; and an adequate public hearing process.

Such statements revealed a need to change the policy settings. While there have been many long and eventually successful battles to protect the parks and open spaces, it has been necessary to change the system of dedication, zoning, management and leasing to stop the problems occurring in the first place. These efforts do not always fully achieve their goals, sometimes they occur in stages, but they have been essential in bolstering up the parkland estate against the pressures of an ever growing city. There have been two key policy developments over the last 25 years.

1. **State Environmental Planning Policy 19 – Bushland in Urban Areas**

The SEPP attempted to reduce the threats from adjoining and direct development on bushland, much of which was inside urban parks. Key concepts were:

1.1 **Legal recognition of the varied values of urban bushland:**

2(1) The general aim of this Policy is to protect and preserve bushland within the urban areas referred to in Schedule 1 because of:

(a) its value to the community as part of the natural heritage,
(b) its aesthetic value, and
(c) its value as a recreational, educational and scientific resource.

2(2) The specific aims of this Policy are:

(a) to protect the remnants of plant communities which were once characteristic of land now within an urban area,
(b) to retain bushland in parcels of a size and configuration which will enable the existing plant and animal communities to survive in the long term,
(c) to protect rare and endangered flora and fauna species,
(d) to protect habitats for native flora and fauna,
(e) to protect wildlife corridors and vegetation links with other nearby bushland,
(f) to protect bushland as a natural stabiliser of the soil surface,
(g) to protect bushland for its scenic values, and to retain the unique visual identity of the landscape,
(h) to protect significant geological features,
(i) to protect existing landforms, such as natural drainage lines, watercourses and foreshores,
(j) to protect archaeological relics,
(k) to protect the recreational potential of bushland,
(l) to protect the educational potential of bushland,
(m) to maintain bushland in locations which are readily accessible to the community, and
(n) to promote the management of bushland in a manner which protects and enhances the quality of the bushland and facilitates public enjoyment of the bushland compatible with its conservation.

1.2 A wide ranging definition of bushland, that acknowledged its remnant nature and restorative capacity:

bushland means land on which there is vegetation which is either a remainder of the natural vegetation of the land or, if altered, is still representative of the structure and floristics of the natural vegetation. (4.1)

1.3 Introduction of a consent process (excluding certain necessary works) that gave focus to impact assessment of bushland disturbance in a decision making system:

6(1) A person shall not disturb bushland zoned or reserved for public open space purposes without the consent of the council.
6(4) A consent authority shall not consent to the carrying out of development referred to in subclause (1) unless:

(a) it has made an assessment of the need to protect and preserve the bushland having regard to the aims of this Policy,
(b) it is satisfied that the disturbance of the bushland is essential for a purpose in the public interest and no reasonable alternative is available to the disturbance of that bushland, and
(c) it is satisfied that the amount of bushland proposed to be disturbed is as little as possible and, where bushland is disturbed to allow construction work to be carried out, the bushland will be reinstated upon completion of that work as far as is possible.

1.4 Bushland adjoining land zoned or reserved for public open space has to be considered (off site impacts):

9(1) This clause applies to land which adjoins bushland zoned or reserved for public open space purposes.
9(2) Where a public authority:

(a) proposes to carry out development on land to which this clause applies, or
(b) proposes to grant approval or development consent in relation to development on land to which this clause applies,

the public authority shall not carry out that development or grant the approval or development consent unless it has taken into account:
(c) the need to retain any bushland on the land,
(d) the effect of the proposed development on bushland zoned or reserved for public open space purposes and, in particular, on the erosion of soils, the
siltation of streams and waterways and the spread of weeds and exotic plants within the bushland, and
(e) any other matters which, in the opinion of the approving or consent authority, are relevant to the protection and preservation of bushland zoned or reserved for public open space purposes.

These are important rules, which while not absolute, certainly put bushland open space at the main decision table.

2. Local Government Act

The next big effort was to stop the rate of alienation of community land that was created under the new Local Government Act 1993. A large range of issues arose including dedication, leasing and plans of management.

The Local Government Act 1919 provided a set of rules to regulate land uses for public land. The 1993 Act transferred much of the power to regulate public land use to councils. It required councils to classify all land under their control as either community or operational. According to a note in the 1993 Act:

The purpose of classification is to identify clearly that land which should be kept for use by the general public (community) and that land which need not (operational). The major consequence of classification is that it determines the ease or difficulty with which land may be alienated by sale, leasing or some other means.

Under the Local Government Act all land acquired by councils is automatically classified as community land, unless council resolves within three months of acquisition to classify it as operational. A number of councils adopted the practice of classifying newly acquired land as operational to avoid conducting a public meeting on a reclassification proposal should they wish to sell or lease the land in the future. The Act also states, however, that a council must not resolve to classify the land as operational if such a resolution would be inconsistent with any other Act or the terms of any instrument executed by the donor or transferor of the land.

This is important as it restricts the ability of councils to classify land dedicated for open space and conservation purposes as operational. In the 1998 Bathurst Council v PWC Properties case the High Court took a very broad interpretation of the definition of a trust. It can be simply an obligation placed on council by the intent of the dedication of the land to council.
This has important implications for land dedicated to council in section 94 contribution plans as open space or conservation land. The 1998 High Court decision was instrumental in preventing Lake Macquarie City Council from classifying a wildlife corridor to be dedicated under a Section 94 contributions plan for a major residential development as operational land. The 1998 High Court judgement would clearly suggest that dedicating the land as a wildlife corridor would place a trust upon the land that it be maintained for that purpose. Classification as operational land (permitting sale or lease) would obviously be totally inconsistent with such a trust. When this precedent was drawn to council’s attention the proposal to classify the land operational was withdrawn.

The High Court’s judgement means that it is probably illegal for councils to resolve that land dedicated under Section 94 contribution plans for open space or conservation be classified as operational.

However, it soon became apparent that there were other problems with the way community land was being managed. A major community campaign was launched resulting in the new Local Government (Community Land Management) Amendment Bill 1998.

Key amendments

2.1 Increased the opportunity for public hearings

Under the 1993 Act, Councils could reclassify community land as operational land in two ways, either through a local environmental plan (LEP), or (in limited circumstances) by resolution. Councils previously held a public hearing in respect of a reclassification by LEP only. Now there is a further requirement that reclassification by resolution also requires a public hearing. Public hearings will also now occur in connection with the making of plans of management. In addition, a hearing must be held into a draft Plan of Management that looks to change the category of land that an area is placed in. The amended Act now provides that public hearings must be conducted by a person independent of the council.

2.2 Increased transparency when trusts, covenants or similar restrictions are removed

The 1993 Act provided that upon land being reclassified from community to operational, any trusts, covenants or similar restrictions over the land automatically ceased to apply. As a consequence, many members of the public were surprised when they found out that when land was reclassified, conditions of its initial grant to the council that it be used for public purposes ceased to apply to the land. The changes provided that this will no longer automatically occur; and if a council wishes to remove restrictions over community land, then that removal must be expressly provided for in the local environmental plan that reclassifies the land.
This will ensure that members of the public inspecting the draft local environmental plan will see more readily that these restrictions are being removed, and will be able to make submissions about the desirability of the restrictions.

2.3 Provided more meaningful categories of land
The Act requires councils to place all community land into a series of categories - natural area, park, sportsground or general community use. However, prior to the Bill, this was a virtually meaningless exercise, as there was no statutory consequence of categorising land in this way. In Friends of Pryor Park v Ryde Council (1996), the Court of Appeal held that the granting of a lease for the conduct of a child care centre in the middle of land categorised as a natural area was permitted under the 1993 Act. This was because the proposed land use was judged not "manifestly inconsistent" with the categorisation.

To redress this, the amendments added a series of statutory "core objectives" for each category of land, which govern the way the land can be managed. Leases and licences will only be able to be granted if they are consistent with the objectives of that category of land. This provides more meaning to the process of categorisation, and imposes a more rigorous test than that laid down by the Court of Appeal. Where land is categorised as a natural area, the Act now permits only a very limited, specified range of buildings to be built or uses to be carried out on that land. These include walkways, pathways, bridges, observation platforms and signs which can be built; as can information and refreshment kiosks, work sheds and toilets, but uses such as restaurants and child care centres that have previously been carried out in natural areas will not be permitted.

Also, in addition to the Act, there is a new regulation that gives specific guidance about what each category of land can include to prevent misidentification.

2.4 Gave specific recognition of special aspects of community land - threatened species and cultural attributes
The new Act recognised that some community land may contain critical habitat under the Threatened Species Conservation Act 1995 or the Fisheries Management Act 1994. Community land that contains the critical habitat which has an existing plan of management needs a new plan to be drawn up in recognition of its special attributes. These plans have to meet the requirements of the Director-General of National Parks and Wildlife or the Director of NSW Fisheries. Another characteristic to be recognised in the new Act concerned the special cultural or natural (including wildlife corridor) features of community land. Cultural significance is inclusive of Aboriginal, aesthetic, archaeological, historical, technical or research or social importance.
2.5 Improved fund control: funds from community land leases to be used for community land
An amendment required that although lease money will be paid into a council’s consolidated fund, the council must use that money primarily for buying more community land and managing existing community land.

2.6 Created tighter restrictions on leases
Under the 1993 Act, if a lease of between 5 and 21 years was to be granted over community land, the lease had to be advertised; and if there was an objection to that lease, the Minister had the power to overturn any decision to grant a lease. These provisions now also apply to leases of less than 5 years, preventing a council from avoiding Ministerial review of a lease by continually granting leases for less than 5 years.

Another potential loophole in the 1993 Act was that once a lease was granted over community land, it could be sub-leased for any purpose, including one not authorised by a plan of management. This loophole was closed by the Act, which requires any sub-lease to be granted for the same purpose as the original lease, or a purpose permitted by the Regulations. The Act now provides that any lease for a period of longer than 5 years must be the subject of public tender, unless the lease is granted to a non-profit organisation.

2.7 Required public exhibition of changes to draft plans of management
There was no requirement to re-exhibit a draft plan of management if a council decided to amend it. Under the new Act, all proposed changes to draft plans have to be publicly exhibited.

The battle for the parks thus moved from the local to the global, that is the decision-making system in place for government agencies and councils was improved overall and while not perfect, reduced the degree of alienation. Nevertheless community groups need to remain vigilant.

3. The Metro Strategy
Sydney is still growing with the projected expansion of the city to northwest and southwest. Key decisions will be made about bushland protection and provision of parklands in the new suburbs. We should do all we can to avoid the mistakes of the past. Curbing the loss of bushland must be a key plank of the Metropolitan Strategy.

Maximum protection of bushland communities and corridors and maintenance of a permanent green belt of open space must be key elements of the strategy, as should targeted recovery/stabilisation of nominated threatened species and vegetation communities. Additionally
agricultural practices will need to reduce their polluting and habitat fragmentation impacts, through programs that implement best practice. These targets will require the development of measures to protect land in public and private ownership. Such measures should include:

- allocation of acquisition, incentive and restoration funding from the Development Commission;
- strict clearing and development controls on the green belt, whether privately or publicly owned through planning controls such the proposed SEPP and application of the Native Vegetation Act maintain or improve test, in order to dampen speculative clearing;
- use of permanent conservation orders; and
- an act of parliament to protect publicly owned green belt and strict controls and transparency on any leasing and other alienation proposals.

In addition regional and local groups will have to persist in their campaigning and participation in the planning process.

Application of all the lessons from the past 50 years of efforts to save the parks should be ensured – as open space and bushland preservation are essential to an environmentally sustainable city.
What Volunteers Can Achieve:
The North Head Sanctuary Example

Dr Judy Lambert
President
North Head Sanctuary Foundation

Abstract

The North Head Sanctuary Foundation (NHSF) is a group of community residents, many with professional expertise in environment and heritage conservation, striving for a publicly owned sanctuary across the whole of North Head. Such a sanctuary would be a flagship for Australia’s environmental resolve and a celebration of natural and cultural heritage. The NHSF has been working tirelessly with the Sydney Harbour Federation Trust and the Department of Environment and Conservation (DEC), (formerly the National Parks and Wildlife Service) to ensure that North Head becomes a sanctuary of outstanding natural and cultural heritage for the people of Australia.

Car-rang-gel (North Head) is a natural gateway to Sydney Harbour and to Australia’s largest city. It is a place of outstanding natural beauty, largely surrounded by towering sandstone cliffs. Across the approximately 260 hectares of North Head is found a diversity of Sydney sandstone bushland ecological communities containing more than 600 plant species, many of them in relatively intact condition, several of them rare or, in the case of the Stringybark Eucalyptus camfieldii, and the Sunshine Wattle Acacia terminalis spp. terminalis, endangered. Some of the largest and most intact remnants of the endangered Eastern Suburbs Banksia Scrub are found on ancient windblown (Aeolian) sands on North Head.

North Head is also home to two endangered populations, the only mainland breeding colony of Little Penguins, Eudyptula minor, which now numbers only 45-60 breeding pairs, and the Long-nosed Bandicoot, Perameles nasuta, with as few as 100 adults remaining.

But North Head is not just a place of scenic beauty and natural value. It is a place of immense spiritual significance to Aboriginal people and the quarantine and military history of North Head brings with it built and cultural heritage of national significance.
North Head, or Car-rang-gel (the name given to the lee side of North Head in Aboriginal lore) was a meeting place for Aboriginal peoples from different clans. It was a place of healing, a place where the Kuradgi or wise men practiced their healing, and it was also a place of burial.

The Quarantine Station, which operated from 1828 to 1984, is Australia’s oldest and most intact quarantine facility. From the early sailing ships, through the peak of travel by ship, to aircraft arrivals and finally refugees from Vietnam, the North Head Quarantine Station has been a place of arrival for those suffering infectious diseases and those who travelled with them. The history of North Head Quarantine Station, with its 60 or so heritage buildings, its sandstone carvings and its clearly delineated class structure, reflects much of the medical and immigration history of Australia.

Across the road from the Quarantine Station is the former School of Artillery site, set aside for the defence of Sydney early in the 20th Century. With its fine art deco buildings, the 9.2 inch guns, radar installations and other military structures that played a key role in the defence of Sydney during World War II, this site is significant in Australia’s military history. Since 1990 the adjoining site has been home to the Royal Australian Artillery National Museum.

North Head is a tied island, connected to the ‘mainland’ only by Manly’s narrow sand spit. Towering sandstone cliffs, and the sandstone block walls constructed in the 1930s for quarantine reasons separate North Head from the neighbouring residential area. These features, and the restricted access associated with a long history of quarantine and military use, have seen North Head retain much of its peace, solitude and the strong sense of spirituality recognised by Aboriginal people.

The whole of North Head is public land, but there are no fewer than seven different agencies responsible for its management. The National Park (including the Quarantine Station, which is scheduled for imminent leasing to a private hotel and restaurant developer) and the School of Artillery site (managed by the Sydney Harbour Federation Trust) cover the majority of North Head, along with Sydney Water’s North Head Sewerage Treatment Plant (STP) (servicing 40% of the Sydney region), the Department of Defence’s North Fort Museum, and the Australian Institute of Police Management training facility nestling on the shores of Spring Cove. There is also a small parcel of unallocated Crown Land adjoining the STP, and beyond the stone wall, closer to Manly are the former St Patrick’s Estate, which is home to the International School of Tourism & Hotel Management and a Lend Lease residential development, and the Manly Hospital site.
Despite this diversity of management, North Head is widely recognised as a single entity and should be managed as such. A Section 22 Committee established in 1995 under the EP&A Act clearly identified this. The Sydney Harbour Federation Trust early in its existence reinforced this view, stating in its initial planning documents *North Head lends itself to be planned and managed as one entity aimed at creating an ecological sanctuary*. With the adaptive re-use of the Quarantine Station site and the Trust’s planning for the School of Artillery site currently in progress, the time is right to achieve integrated management of the whole of North Head as an educational sanctuary.

In July 2002, the Trust persuaded the NPWS to co-host a 2-day conference to further the notion of a North Head sanctuary. While several notable speakers addressed this vision, community members present at the conference felt the sanctuary concept required reinforcement to ensure it was firmly entrenched in planning beyond that forum. A statement from community participants at that forum saw the formation of a group dedicated to respecting and honouring the Indigenous significance of North Head, building understanding of the natural and cultural values of North Head, and promoting integrated planning and management for the whole area, keeping it in public ownership and control, and ensuring the highest level of protection for the whole area.

From this grew the North Head Sanctuary Foundation, incorporated as a not-for-profit organisation with a vision for North Head as “A flagship for Australia’s environmental resolve and a celebration of our natural and cultural heritage.”

Foundation members bring together a rich mix of skills and experience – educational, research, local government, planning, and built, natural and cultural heritage conservation, as well as Aboriginal knowledge. Community members come together with professionals from universities, schools and TAFE, museums and other places.

The Foundation sees its role as catalyst, researcher, watchdog, consensus-builder, fundraiser, provider of volunteers for on-ground activities and, ultimately, partner in management of the sanctuary. Working closely with the Trust, Department of Environment and Conservation and Manly Council, the Foundation has

- made significant input to the Trust-initiated Concept Plan developed by business planner and Karori Sanctuary (Wellington, NZ) leader Jim Lynch;
- organised and led workshops on understanding the Aboriginal heritage and significance of the area and appropriate Indigenous naming for the sanctuary, mapping the physical and cultural values of North Head.
and identifying uses compatible with maintaining the values that make the sanctuary significant;
• made numerous submissions to government processes affecting the future management of North Head;
• prepared a nomination for National Heritage listing of the whole of North Head;
• presented numerous public talks and information stalls designed to increase public awareness of the area, its outstanding national heritage significance, and the opportunities available in having the whole area dedicated as an educational sanctuary; and
• initiated work towards a shared Statement of Intent for the future management of the Sanctuary.

The Foundation is working towards possible future management of the whole of North Head by an independent Trust on which community members sit at the Board table with government agencies and Aboriginal people, co-managing a major educational and research precinct directed to conserving the natural, built and cultural heritage of the place as well as the sense of peace and tranquillity it brings in such close proximity to the city and the 5 to 8 million visitors that come to Manly each year.

It is our intention that before the Sydney Harbour Federation Trust’s charter expires in 2011, Car-rang-gel Sanctuary will be a place of national and international renown, shared by all who have an interest in and respect for its heritage values, a place for learning, research and contemplation. The Sydney Metropolitan Strategy, currently being prepared to guide the development of Greater Metropolitan Sydney for the next 25-30 years, recognises the importance of our green spaces to the liveability of Sydney as Australia’s major global city. There can be few green spaces of greater significance in that regard than North Head.

In its 2 years existence the North Head Sanctuary Foundation has made considerable progress towards securing a publicly owned and controlled sanctuary of national significance across the whole of North Head. Much remains to be done, but the Foundation is confident that with continued goodwill and collaboration with both the Sydney Harbour Federation Trust and the Department of Environment and Conservation, this will be achieved.

Acknowledgments:

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IN FOR THE LONG RUN

And Now For the Next 10 Years: Lane Cove National Park Bushcare Volunteers

Margaret Reidy
President
Friends of Lane Cove National Park

The Bushcare volunteers and the Friends of Lane Cove National Park are closely intertwined as will become apparent as I speak. The volunteers recently celebrated the 10th anniversary of the Bushcare Program - hence the title of this presentation And now for the next 10 years.

Early days

Lane Cove National Park covers an area of 600 ha and attracts up to 1 million visitors a year. Between 1991 and 1994 a group of locals, under the guidance of Nancy Pallin, worked monthly and then weekly on regenerating the bush. This group saw a need to involve more of the community in bushcare and at the end of 1993, formed a working committee called the Friends of Lane Cove National Park.

However, before any action could be taken, the 8 January 1994 fire occurred and destroyed over 80% of the bush. When the Park re-opened on 12 February, the Friends manned the gates to inform visitors about the Friends and the proposed volunteer bush regeneration movement.

The Volunteer Bushcare Program was born at a public meeting in the Park on 15 April when 150 people signed up to work on 19 selected sites. Since then extensive bush regeneration in the Park has occurred. The Foundation for National Parks and Wildlife obtained funds, mainly from the Lord Mayor’s Bushfire Appeal Fund, to set up the Bushcare Program and employed two coordinators for a three year period.

10 years of progress

The Friends’ role was to support the new Bushcare Program, assisting coordinators and providing funds through membership and donations and
seeking outside funding from the Catchment Management Committee and State & Federal Governments.

The first volunteers started working on sites in May 1994 in sensitive burnt areas, receiving guidance from experienced bush regenerators who generously passed on their expertise. The two knowledgeable and experienced Bushcare Coordinators, Lynn Rees and Trevor Prowse, supervised groups, conducted workshops, established a nursery, wrote procedural manuals and sought grants for specific projects.

A large grant was obtained from the then NSW Environment Protection Authority to restore bushland at the historic Fiddens Wharf site where the first European settlers on the Lane Cove River, the timbergetters, felled the Blue Gums and Blackbutts.

Another grant from the State Government was used to purchase and fit-out a mobile educational trailer. This is used to provide information to the public on conservation issues. From 1997 more funding from Governments became available to community groups including small grants from the Catchment Management Committee for equipment, signage, drainage and removal of exotic species.

Large grants from the Federal Government included:

- Natural Heritage Trust for rehabilitating riparian habitat on two creeks & hanging swamp;
- Centenary of Federation for a heritage walk from Park Headquarters to Fiddens Wharf and for bush regeneration and signage about the historical and natural environment; and
- Environmental Trust Grant for bush regeneration and education at Dalrymple Hay Nature Reserve, the last significant example of Blue Gum High Forest.

Some of the grant money is spent on signs and brochures but it is mostly used to employ contractors to do heavy primary work. When this is completed, the volunteers take on maintenance of the sites.

The above Natural Heritage Trust grants are now in their fourth year, funding a long term project. Grant money has to be matched "in kind" on a one for one basis. Work hours of volunteers, park staff and students from the Bush Regeneration Course at Ryde TAFE are required to achieve this condition of the grant.

Experienced and enthusiastic volunteers take on ownership of the sites in the project areas. Also Ryde TAFE Bush Regeneration students, under the guidance of the head teacher, Robin Buchanan, weed and monitor in the
The enthusiasm and dedication of bushcare volunteers; cooperation of Park staff and the supervision & guidance from the volunteer bushcare coordinator; and the Friends Group - loyal members and a hard-working committee.

Community education

The Friends of Lane Cove National Park disseminate information to the public on conservation issues in a variety of ways:

- The Friends’ website attracts enquiries about bushcare, conservation and volunteering from local and overseas searchers;
- A newsletter combines input from Park & Friends;
- The mobile educational trailer has displays of weeds & material on establishing bush friendly gardens;
- There is an interpretative display in Park’s Display Centre;
- Brochures, posters and signage on habitat for wildlife, bushcare, water quality are produced;
- Friends attend workshops, special events, e.g. Weedbusters Week;
- There are community workdays, e.g. Annual Tree Planting Day; and
- Media releases in local newspapers.

The future

The Park has grown over the years with additional land and reserves and accompanying bushcare groups. Bushfires have prompted new groups to spring up. There are presently over 200 volunteers working on 33 bushcare sites. There are 100 members of the Friends with an energetic committee of 12. Almost $400,000 has been raised in grants and the value of volunteer hours, when costed out, amounts to approximately $2,000,000.

The large number of visitors to the Park is testament to its popularity. There are constant threats - road widening, construction of a railway,
encroaching developments at Dalrymple Hay Reserve and VTS, West Lindfield and the ever-present pollution problems.

The faithful volunteers, many still there from 1994 and even earlier, are getting older and feeling the aches and pains that come with "seniors status". There is the need to keep on recruiting to maintain status quo and increase the numbers. Many new volunteers are drawn from recent retirees looking for a new and different lifestyle.

The Bushcare Program will continue while ever there is park support and dedicated volunteers. People come and go but overall the enthusiasm has not flagged. We may, one day, see a new brand of volunteers - all turning up in wheel chairs.

The role of the Friends will continue. Membership is critical as are donations to enable us to maintain support for the Bushcare Program. The Friends and the volunteers are there for the long term.

Conclusion

To celebrate the 10th Anniversary of the Volunteer Bushcare Program, a brief history entitled "Why do we care" was written by Friend/Volunteer, Winkie Chevalier.

It ends thus:
We have seen it all; fires, drought and flooding: a field of flannel flowers on the dry exposed ridge tops: the rainbow flash of wrens and pardalotes in weed-free foliage along Fern Valley Creek: wood ducks and water dragons in the new green bracken on the river bank.

The Australian bush is remarkably resilient with a little help from its Friends.
25 Years in the Bush – The Highs and Lows of a Bush Regenerator

Noela Jones
Ku-ring-gai Council Bushcare Program

Introduction
During the past 25 years as a bush regenerator there have been highs and lows and some of these are presented here. Early experience with the Bradley sisters inspired a love for the bush and a desire to become a professional bush regenerator.

Milestones
Some of the milestones, both high and low, include the following:

Field of Mars Reserve
I had several years bush regenerating in this Reserve. Cooperation with Ryde City Council led to some low-key solutions to solve drainage problems. Two large stormwater pipes were discharging into the Reserve below the cemetery, creating a wide plume of weeds. Machinery was used to define the channels and our National Trust team then lined the channels with underfelt, rocks, logs and hay bales to prevent erosion. The sides of the drains were then planted with indigenous plants. A ‘checkdam’ and detention pond were also constructed to lessen the flow. However despite all our good efforts the contract was lost in 1994.

Wallumatta Nature Reserve
A high in my career was to see the dedication of Wallumatta Nature Reserve in 1990. This small Turpentine-Ironbark Forest at East Ryde is significant as there is less than 1% of its vegetation type left in Sydney. Voluntary weeding was initially carried out and three National Estate Grants from 1987-1990 enabled a National Trust team to undertake bush regeneration there. Subsequent funding by Lane Cove National Park has ensured the continuation of bush regeneration in this small forest.

TAFE teaching and Lord Howe Island
Two very rewarding highlights are ten years teaching practical bush regeneration for Ryde TAFE and six trips to Lord Howe Island to remove
weeds which are one of the greatest threats to the island’s World Heritage status.

**Hawks Nest Koala Reserve**

Cooperating with Myall Koala & Environmental Support Group secured two grants for a weeding program to protect the habitat of the endangered Koala population in Hawks Nest. Volunteers and professional bush regenerators visited from Sydney to carry out the work with the help of local people. Disappointingly, in Christmas 2003 vandals destroyed the interpretive sign constructed from grant money and Country Energy reduced to stumps many of the plantings. An ‘ecologist’ employed by a local developer tried to publicly discredit the work carried out.

**Quarry Creek Bushcare Group, West Pymble**

Our local group has just celebrated its 10th anniversary. The site is jointly managed by Ku-ring-gai Council and Lane Cove National Park and good support is provided by both land managers. The burning of weed piles has ensured good regeneration. Other activities carried out by the group include a nest box program and Streamwatch.

**Lows**

These have included siltation from run-off due to urban consolidation, the usual dumping of garden refuse, building materials etc, and counter-productive activities by land managers. Sadly, some land managers do not have training in bush regeneration, have little appreciation of it or don’t take it seriously.

**Conclusion**

After 25 years the highs have far outweighed the lows. One does not have to be super fit to do bush regeneration – there is a job for everyone. The rewards are many - making a difference, seeing the bush come back and sharing it with wildlife and like-minded people. The commitment, enthusiasm and dedication of fellow bush regenerators has been inspirational.
Turning Point at Maandowie Reserve, Loftus – A Case Study in Successful Bushcare

Christine Guthrie and Louise Broadhead
Bushland Coordinator and Volunteer Coordinator
Sutherland Shire Council and Maandowie Reserve Bushcare Group

A serene and beautiful place

The site is 34 hectares of Crown Land zoned Environmental Protection (Bushland), 26 kilometres south of Sydney. There are also a few small areas of Council owned land in the upper reaches of the catchment. The land is part of green corridors of the Loftus and Woronora valleys in the Woronora River catchment – in Council’s Greenweb. It was part of the Royal National Park (RNP) until 1920s when Loftus was opened for housing development.

Aborigines from the east coast used to trek across Maandowie Reserve annually to the Menai area. There is a fish carving on a rock surface in the creek and hand stencils in a cave under the eastern cliff line.

Flora and fauna

The area consists of Open Forest, sandy ridge tops and riparian vegetation with over 300 Hawkesbury Sandstone species including 40 orchid species. There are five Rare or Threatened Australian Plants (ROTAP) species: Grevillea longifolia, Tetratheca neglecta, Eucalyptus luehmanniana, Bossiaea stephensonii and Leucopogon amplexicaulis.

Eric the Koala travelled from Wedderburn via the green corridors and lived in and around Maandowie for three years. There are echidnas, swamp wallabies, turtles, lace monitors, water dragons, snakes, frogs, sugar gliders, possums, grey-headed flying foxes, and a wide range of birds including the king parrot.
Small beginnings

Housing development and urban infrastructure increased from the 1950s and the bushland margins quickly became degraded by invasions of weeds, altered water inflows, erosion, chemicals etc. There was no effective stormwater management.

Bushcare started in 1993 with an area of 1.4 hectares. Permission was required from former Department of Land and Water Conservation (DLWC) for volunteers to work but was fully supported by Sutherland Shire Council (SSC) Bushcare.

Problems and solutions - weed removal

As with all Bushcare sites, weeds appear to be the immediate problem. The initial site was 75% weed-affected with the usual assortment of weeds like Privet, Lantana, Camphor Laurel, Cassia, Wandering Jew and Giant Reed. Bushcare volunteers toiled away at removing the weeds at an increasing number of sites with some external help. As with all Bushcare sites, we quickly realised that weeds were just a symptom, not the cause of the problem.

Problems and solutions - stormwater management

Management of stormwater became a priority as each new site was assessed. We trialed a method of controlling stormwater and found it to be very successful and the same principles have been applied to most of the 11 stormwater outlets throughout the reserve. A stilling pond is constructed at the stormwater outlet using jute matting, rocks and hardy grassy plants. This captures the water and stops it fanning out (an old engineer's solution to dealing with stormwater). A curved channel is dug to slow water velocity and is directed down natural drainage lines off the edges of the plateau. The channel is lined with jute matting, rocks, mulch and grasses. These channels only carry water after rain so are dry most of the time.

In one site young teenage volunteers from Global Tribe (Shire Christian Centre Youth Service) helped and, with enormous good spirits and alarming energy, dug a big stilling pool and a channel for the stormwater across the site leading to the edge of the ridge. After completing the task, the heavens opened and we watched water pouring into the stilling pool and down the channel and disappearing over the edge of the ridge.
Other problems – bike tracks, builders rubble & fire

As the Bushcare Group moved along the edges of the plateau each new site presented its own set of challenges. Bike quarries and bike mounds beset the group in one site. There are various ways of solving the bike problem. Having patience helps a lot and we opted for the long and patient game. We found that the bikers lose interest in four-six months. We now immediately dismantle any mounds that are found. The group also establishes a presence on the site, showing that the natural bushland belongs to the whole community. We chat to bikers, we don’t ‘educate’ them. One solution is to offer to provide soil for the mounds. By a strange twist, children can lose interest because their hobby is being ‘managed by adults’. Similarly, when children are offered a more suitable site for their bike mounds, they may abandon their mounds altogether because they have lost autonomy.

Areas of builder’s fill and road building fill can be a problem to maintain because of the lack of soil and the instability of the site. These areas are unlikely to naturally regenerate. Our solution to these problem areas has been to mat where possible, mulch heavily, lie logs across the slope to allow easy access and plant with a mixture of fast growing shrubs and groundcovers. These areas are then easier to maintain and are far more attractive.

Recently two motor bikes wiped out two delicate Maandowie orchid communities in one afternoon. A creek bank can be eroded by one bike in a moment - the sand falls away into the creek, the vegetation is torn up and, to top it all, weeds grow almost immediately. Probably the most effective method of managing the problem is to report issues to the Police Patrol bikes. Don’t enter into a discussion with motor bike riders - they may have unpredictable and intimidating behaviour patterns.

Too frequent hazard reduction burns have taken their toll on Maandowie Reserve. Being a west facing slope with houses above, the area is targeted for hazard reduction. Unfortunately a six year period has been deemed as suitable and in one area there were burns in 1995 and 2001, both in late August, and no doubt one will be planned for next year. The burns combined with drought conditions have led to a marked reduction in species density and diversity. An area of 1,000 m² of Christmas Bells has been reduced to an occasional sighting and Banksia ericifolia and Calytrix tetragona have disappeared altogether. Another area was burnt in 1998 with a further burn scheduled for this year. An environmental assessment of the area with input from Bushcare identified two ROTAP species and a small population of Banksia ericifolia. The recommendation was to avoid these areas but that made the burn more difficult so luckily we’ve
managed to delay the burn for this year at least. Bushcare knowledge can be invaluable for these types of assessments.

**Bigger and bigger problems**

Work over the first five years concentrated around the housing interface on the edges of the plateau but we knew there were many more problems lurking downstream. The riparian zone of the southern side of Maandowie Creek was virtually destroyed by the Water Board in 1976/77 during the construction of an underground sewerage line. Dynamite was used and large areas of topsoil were removed or replaced with soil from other areas or just sand. The native seed bank along big stretches was irretrievably lost. Invasion by woody weeds began. The creek became a degraded, polluted watercourse – although the north side has mostly beautiful, steep, undisturbed slopes of fernland, Sydney Red Gums and dense vegetation.

It was realised in 1998 that even if the number of volunteers quadrupled, it would be impossible to tackle the primary work involved in restoring the riparian zones along Maandowie Creek. The Coordinator’s husband, Geoff, took on the considerable task of applying for and acting as local project manager of Maandowie’s first grant on behalf of the two local groups which formed a Loftus Bushcare Coalition. A coalition of groups seems to be more favourably viewed by funding bodies. The application to the Environmental Trust for $39,000.00 over twelve months was successful. The aim of the first grant was to control the woody weeds such as huge camphor laurels, small and large-leaved privet, lantana and cassia as well as a range of other weeds. The woody weeds were injected with undiluted Roundup. Most of them are still standing. Other weeds were sprayed.

**We’re growing!**

By 2002 there were three new Bushcare Groups and 24 hectares of bushland was being managed.

**A bigger problem - the big hiccup**

By mid-2000, access to the creek by volunteers was possible. The big problem was “what volunteers?” Time constraints, age of volunteers and steep terrain were also problems. Vital time sped by. In the spring of 2001, following the completion of the grant, there were outbreaks of flowering annuals and perennials. In the heat waves of spring and summer 2002 massive invasions of *Solanum*, fleabane and cobbler’s peg occurred.

Another major hiccup after the first grant was that, in opening up the dense canopy previously formed by large and numerous woody weed trees,
and clearing of herbaceous weeds, the way was opened for *Ehrharta erecta* which simply swept through, covering long sandy flats and banks and even rocks. We all know this problematic weed!

A new grant was needed but it was important to avoid a repetition of the ‘grant hiccup’. New grant applications by the Loftus Bushcare Coalition (now involving four Loftus Bushcare Groups) were possibly unsuccessful because instead of pinpointing causes for the continuing contamination of the Creek, the applications looked at the symptoms. The main sources of mist flower, privet and camphor laurel etc were ten new sites in the upper reaches of the catchment draining into Maandowie Creek. This meant that the application had to be for a longer-term, larger grant.

**Systematic approach essential**

By 2004 34 hectares were being managed. To avoid the ‘grant hiccup’, it was decided to adopt a systematic approach, applying the same management principles used consistently for the rest of Maandowie Reserve. These were:

- steady, long-term volunteer maintenance;
- determining all weed cycles and developing a management schedule;
- preventing or reducing weed invasions following the removal of well-established weed canopies, eg camphor laurel, or tradescantia;
- monitoring;
- developing site plans;
- well-provenanced revegetation; and
- the provision of opportunities for new volunteers to join Bushcare.

The key factor was whether we would be able to attract new reliable, dedicated volunteers.

**The turning point**

By 2003, after ten years’ work, nineteen of Maandowie’s twenty sites were finally placed on a three-six monthly maintenance-only basis. The maintenance is still a massive task - but manageable.

A new application was sent in to the Environmental Trust for $56,000.00 over a period of two years for the upper reaches of the catchment and it was successful. This 2004-2005 grant is in progress and we have enough dedicated volunteers - a steady main group, and a number of small groups to target ‘hot spots’ throughout the Reserve. The formation of the smaller groups of high-quality volunteers has taken us to the turning point.

The Creek’s summer and winter weed cycles have been scheduled and a plan developed around these. In June this year, the second annual Mist
Flower/Crofton Weed project started and it was found that Crofton Weed had disappeared from many sections of the creek. There is no doubt that the thorough ten-year eradication of Crofton Weed from the drainage lines along the ridges contributed to this sharp decline along the creek. There were still huge invasions of mist flower. But we can’t wait till next winter to see how many mist flower survive this year’s onslaught. At the beginning of 2004 a schedule was set up for Ehrharta and it is now checked every six weeks along the creek and sprayed or hand-weeded.

By the start of winter this year, the huge job of maintaining the creek had become manageable. It requires a formidable amount of work, but the Coordinator is encouraged that already a few tiny sites have become three-monthly maintenance-only sites. The turning point means that overall management of the Reserve is now viable.

Secrets of success

Some of the secrets to our success have been:

**SSC Bushcare Unit**

The council’s Bushcare unit provides funding and highly professional and inspirational staff. The Bushcare Unit gives extra help such as the ‘weed whackers’ team, chain-sawing, noxious weed management, track-building etc often at a time when the volunteers need special help.

**Name change**

The name of the reserve used to be Gorse Close/Broom Place, Spur Crescent Reserve, Loftus which is a mouthful and excludes those that live in Eugenia Street, Viburnum Street etc. The name “Maandowie”, one of the Aboriginal names for grey gum or Eucalyptus punctata, was chosen in 1996, when Rod Mason from the local Aboriginal Land Council visited Maandowie Reserve at the group’s invitation. It was important that the name receive approval from the local Aboriginal Land Council and the group were also interested in his observations on the area and its aboriginal heritage.

**A sense of place and signage**

As our knowledge and understanding of Maandowie has increased over the years, we have become aware of the uniqueness and wonder of a very special place and learnt respect for its environmental significance. The new signs for various key access points add to the special sense of place and identity for Maandowie Reserve and have encouraged community awareness and education.
In For The Long Run

Planning
Weed cycles - once the weed cycles are scheduled for each season the chances of successful bush regeneration increases dramatically. The advantages of knowing your weed cycles are that:

- each weed species can be prevented from adding seeds to the soil and the cycle is broken;
- precious volunteer time is saved;
- doubling-handling stops;
- environmental waste is reduced because you don’t have to bag the weeds and send them to the tip; and
- planning and management is simplified and takes less time.

Records - these are essential particularly if a new coordinator comes. Four essential records provided by the Maandowie Group Coordinator are:

- work diary records, including work hours, signatures of volunteers, dates, name of site, type of work;
- quarterly reports to the Bushcare Unit, with achievements and number of hours worked, easily compiled by taking the information from the work diary;
- flora and fauna lists updated at least once a year. Remember to keep the old lists so that you can see the difference in vegetation or fauna over time; and
- photos which provide a pictorial record of your work and its long-term effects, and of your volunteers.

Other useful records kept by the Maandowie Group Coordinator include maps, site plans, copies of new registration forms, correspondence, threatened/ROTAP species and management or monitoring practices and fire regime record.

A Plan of Management – this enables you to describe your reserve, your aims and objectives, the reserve’s history, Bushcare’s policy and a program for the future. The group and surrounding residents will be aware of your aims and how your bushland fits in the bigger picture of the State’s natural environment. A Plan of Management needs to be updated when appropriate.

An annual schedule is an invaluable tool. You may never show it to anyone else, but it enables you to step back, clear your vision, assess your previous year’s achievements and failures and work out your priorities for each month in the coming year. It doesn’t matter if the schedule is not rigidly adhered to - it usually deviates.
Reminders sent to volunteers about the next work day helps to keep them involved. You can add details of what they should bring, what will be provided and what the aim of the work day will be.

**People**
The main volunteer group supervised by SSC Bushcare Officer and four small sub-groups, supervised by the fully trained coordinator, meet on different work days throughout the month or week. The Group Coordinator provides on the job training for the small groups until such time as these small group volunteers can fit Bushcare Unit training into their busy schedules. The Group Coordinator has to remain flexible in adjusting to the needs of these sub-group volunteers who already have demanding full-time jobs, families and a limited amount of time. These small groups have been highly effective, concentrating on key areas along the Creek or on other sites and have been a key factor in enabling the turning point in 2004. These sub-groups are highly dedicated and highly motivated.

It is important to know the volunteers’ abilities and limitations, their special skills (eg bird watching), and their work style preferences (eg working on their own or with others). Volunteers also need to know that they are very highly valued. Morning tea provides a great opportunity for socialising and discussing the work program.

External help from the Environmental Trust and other funding bodies, corporate staff, Conservation Volunteers of Australia, school children and P&C Committees, and local church and scouting community groups are immensely encouraging to Bushcare Groups as well as being capable of contributing a great deal of help. Very often these services cannot be provided by the group volunteers simply because there is no time available or the work is outside their competence. Some of the happiest days at Maandowie Reserve have been spent with these groups. Their enthusiasm and youthful energy and strength have been magnificent.

Grants, of course, provide funds to employ contractors to do highly specialised and often difficult work which requires a high level of training and experience.

**Create opportunities to recruit new volunteers**
Engaging community involvement with Bushcare is an ongoing search. We have found that planting days, sausage sizzles, bushwalks, spotlighting and special events such as National Tree Day and Clean-up Australia Day are all great occasions to draw the community’s interest. These special occasions will sometimes attract a highly motivated volunteer for Bushcare.
However probably the single most important means of attracting volunteers is the Bushcarer’s presence in the reserve. That presence demonstrates the carer’s commitment to the bushland and is a marvellous opportunity to be FRIENDLY AND WELCOMING to all-comers.
FAR REACHING VISIONS

Wolli Creek: Against the Odds

Gavin Gatenby  
Committee Member (formerly President)  
Wolli Creek Preservation Society

Wolli Creek Regional Park is taking shape in inner southwest Sydney. It lies between Earlwood on one side of the creek and Bexley, Bardwell Park and Turrella on the other. The preservation of this area of bush and open space is the outcome of Sydney’s longest-running conservation battle.

It all began in the late 1970s as a movement to save this bush valley from the threat of an eight lane freeway and ended in the 1999 decision to put the M5 East underground and the establish a regional park.

During the 20 year struggle, the Wolli Creek Preservation Society was faced with the intransigence of successive governments and their departments. To win, we had to be equally intransigent and pioneer new political tactics and methods of getting our message to the community.

 Mostly this is a story about the defeat of the Roads and Traffic Authority (RTA), formerly known as the Department of Main Roads (DMR). The RTA remains the most powerful and influential of NSW government departments, and, I would argue, the major barrier to a more efficient and liveable Sydney.

Critical success factors

1. **We had something iconic and clearly worth saving.**

The Wolli Valley has the last substantial area of native vegetation in the inner South-West. It is good wildlife habitat and an important north-south migration route for birds. Each year about 90 bird species are recorded and there are more than 260 native plant species. We have the world’s biggest and best example of a fossilised tidal wave, and some great cultural history. It is terrific passive recreational space in a region starved of such. Saving the valley was largely about explaining these values.
(For those who haven’t been there, there are photos of the valley at our website http://www.wollicreek.org.au).

2. We had a firm intellectual underpinning provided by the Kyeemagh-Chullora Road Inquiry of 1979-80.

To understand the importance of the Inquiry we have to go back to the 1970s. At that time the first evidence of the counter-productive nature of freeways was emerging from the American experience and the DMR had been defeated in an attempt to bulldoze the F4 through the centre of Glebe. After that defeat they turned to their next favoured project: the F5.

The DMR proposed to build two roads in our area: a motorway up the Cooks River Valley and the F5 (now known as the M5) which was designed to ‘support growth’ – future suburbs sprawling from East Hills to Bowral. These were the days before environmental impact statements (EISs) and the two roads threatened to devastate open space and bushland along the way. There was a huge public outcry.

The Premier, Neville Wran, decided to announce a commission of inquiry, but who could he appoint? One night at the opera, in a happy accident of history the effects of which have prevented Sydney from now looking like Los Angeles, he bumped into a young barrister of his acquaintance named David Kirby (now Mr Justice Kirby of the NSW Supreme Court) and asked him if he would like to do it. At that time neither Kirby nor anybody else had done a road inquiry, but Kirby said he’d give it a go.

It is clear that the DMR engineers felt that the outcome was a foregone conclusion. It was unthinkable that the commissioner would recommend against their proposal, which was for an eight lane freeway built in two four lane stages.

In the best tradition of public enquiries Kirby approached his task with a concern to get to the fundamentals of the freeway issue. The community and experts from outside the DMR responded wholeheartedly and in opposition to the road. The DRM experts, on the other hand, believing a pro-road outcome of the inquiry was inevitable, made some extraordinarily unguarded and damaging admissions about the problems created by freeways. In response to the commissioner’s interest in why the DMR proposed to complete the Wolli Creek section of the road first, one DMR engineer blurted out that the Department felt it was important to destroy the valley as soon as possible because, with time, the community would come to value such areas.

In 1980 Kirby reached the conclusion that the F5 would only generate extra traffic and encourage Sydney to sprawl more rapidly to the south-
west (which, of course, it was designed to do) and he recommended that
the F5 corridor through the Wolli Valley be abandoned because of the
valley's irreplaceable value as heritage and open space.

Opposition from the road transport industry rapidly emerged and the
recommendations of the Kirby Inquiry weren't implemented but they
stopped the DMR in its tracks for a decade. It became a rallying point for
opposition to freeways in general and a quasi-legal bulwark against the
M5 in particular.

3. The issue attracted a core group of determined individuals
   with the skills and experience needed to rally persistent
   community opposition over a long period, despite setbacks.

I believe the social composition of the area was important. The Wolli
Valley was, and still is, one of those quirky places where old stone and
weatherboard cottages butt up against 50s neo-lousy and Tuscan modern.
We had there a potent mix of the working class and the working
intelligentsia – people with a critical mix of skills and an oppositionist
spirit. And some of our key activists were people who didn't reside in the
valley – intrepid activists march towards the sound of the guns.

To pull off something like this you need the sort of people that are a
conservative columnist's worst nightmare: people who can write well,
design good leaflets, explain complex issues, dream up novel tactics to
keep the issue in the news. People who know something about plants,
animals and ecosystems, people who can lead guided walks; people with
an interest in local history.

We're talking about teachers, lawyers, academics, public servants, park
rangers, professionals, trade unionists, people who know how to run small
businesses and community organisations, people with a lot of life skills.
And they have to be folk who think it's okay, natural, honourable, to be
"agin' the government". This isn't a gig for good burghers. You need people
who aren't easily spooked or intimidated. Being slightly mad also helps.

You need people who aren't scared of hostility or who don't mind knocking
on doors and talking to strangers; people who'll stand at windswept bus
stops at six in the morning to collect petitions and who are robust enough
to withstand long committee meetings once a week for years.

4. A broad alternative vision.

In our case, the struggle began with a group of mostly local residents who
didn't want to lose something they felt was of great value (for many
reasons) both to themselves and to a wider region. The Kirby inquiry gave
this core group an intellectual foundation for opposing freeways *per se*. It was clear that freeways were counterproductive. So we couldn't simply be dismissed as tree huggers or ‘Nimbys’ – but that’s still something short of an alternative vision.

Fortunately the struggle attracted a number of activists with a vision of an alternative Sydney – one in which the development of public transport infrastructure, abandoned for many years, was resumed and in which at least the bulk of commuter trips could be accomplished by rail, light rail, bus, bicycle and foot.

It was that bringing together of the local thing of value, with a solution to the broader urban planning crisis that was ultimately our most powerful weapon and the scariest thing for our opponents. Without having that vision of an alternative Sydney, one which wasn’t car-dependent, I don’t think we could have the intellectual steel to resist the constant pressure for the road exerted by the RTA and sections of the media.

A history and turning points in the struggle

Although the Kirby Inquiry recommended against the road, the Wran Government did not adopt the recommendations. However the DMR’s plan went on the backburner until 1987, when the Unsworth Government revived the proposal. In the 1988 state elections lifting the road reservation through Wolli Creek was a key promise of the Greiner Opposition.

*In late 1988*, after some prodding from the conservation movement, Environment Minister Tim Moore announced that the road reservation had been lifted. Unfortunately it was a ruse. Three months later the RTA released an EIS for a surface road through the valley. This EIS was comprehensively discredited by the society and the government retreated from the proposal.

*In 1990* the RTA’s attempt to revive the proposal via a process called the Botany-West Transport Study ended in disaster for the Authority. The Wolli Creek Preservation Society leaked the plan for an airport rail line and we forced this plan onto the agenda. It got the go-ahead in the last days of the Fahey government while the M5 plan was still mired in controversy. When that happened the RTA lost something like $400m to the rail project and the road was pushed further back. Simultaneously, we dramatised the demand for a park by getting Clover Moore to sponsor a private member’s bill, the Wolli Park Trust Bill in Parliament.

*In 1994*, under the Carr Government, the RTA brought out a new M5E EIS, featuring a long tunnel under the valley. We again completely
opposed the project. It was revised in late 1996 to link the M5W with the Eastern Distributor, and this, essentially, was what was finally built. However there was also the substitution of the now notorious 'superstack' in the Wolli Valley, for the originally proposed three ridgeline stacks and a tunnel under Cooks River in place of a bridge over it.

In 1998, with the tunnel plan adopted, and as a campaign commitment, the Carr Government announced the establishment of a Wolli Creek Regional Park.

Tactics

Finally, let me add a few words about tactics. We used the opportunity provided by EISs to generate the maximum level of public discussion and involvement. In this respect we pioneered the use of tabloid and later broadsheet newspapers as a great way of getting a lot of complex material out to the public quickly and cheaply. We always tried to include translations of our key points into local non-English-speaking background languages. We always gave people something to do, some avenue, such as form letters, for expressing their opposition.

We always opposed the project. We never fell for the spin that the road was an inevitability, so we should join the consultation committee (or whatever the current mode of co-option was) to get the best possible outcome. As soon as you do that, it’s all over. You’ve blinked first. Community consultation is just a sophisticated method of crowd control. It’s hopelessly naive to believe that organisations like the RTA set up consultation processes with any object in mind other than to push their favoured project through.

We were politically intransigent. We never trusted the government, and we boycotted and denounced almost every consultation processes other than EISs, which at that time had some legal weight. If necessary we created our own public process in opposition to the official one.

When an alternative project showed up that was in line with our own broader vision for Sydney, we embraced it and promoted it, and got it on the agenda. In our case that was the airport rail line.

And along the way we discovered this: it’s about money. If the RTA gets its project it gets the money. If the railways get the project, the RTA doesn’t get money. That applies whether the funds are public or private.
ENVIRONMENTAL EDUCATION: 
FROM LITTLE THINGS...

Schools and their Communities: Working for the Environment

Sue Burton
Senior Project Officer
Department of Environment and Conservation (NSW)

Around New South Wales, many schools are quietly undertaking amazing environmental projects. In the process students are learning and developing skills in environmental citizenship as well as helping to improve their school’s environment. Increasingly schools are working with their communities to assist them to move towards a sustainable future.

The Department of Environment and Conservation and the Department of Education and Training jointly manage the state’s Sustainable Schools Program with funding from the Department of Environment and Heritage. The program aims to support schools to implement the New South Wales Environmental Education Policy for Schools 2001. This requires all government schools in the state to have an environmental management plan that outlines how they are managing their grounds, resource use (energy, waste and water) and the environmental curriculum.

What’s happening in New South Wales schools?
Many schools are increasing bio-diversity by designing habitat gardens, and growing and planting local species, both in school grounds and in local parks.

Students are also learning about local fauna and learning practical skills to encourage wildlife to school grounds. The local voluntary community groups, councils or businesses often assist this by linking schools to local projects and information, and by providing technical advice and assistance. The reward for a child is often looking after what they have planted and watching it grow over their years at school.

Many schools in Sydney are working towards reducing water consumption by conducting regular water audits, implementing water saving activities and installing rainwater tanks. Local catchment knowledge also contributes to schools assessing their impact on creeks and rivers and implementing processes in the school grounds to reduce stormwater leaving them.

Schools are developing indigenous food gardens in consultation with local experts and parents. Many schools are also growing food for the school community through gardening clubs and programs that involve community gardeners and often reflect their multicultural composition.
Waste is being reduced from hundreds of schools through undertaking audits and implementing programs such as paper recycling, and green waste recycling (worm farms and composting). Schools are re-thinking purchasing processes and students are finding creative solutions to school litter issues.

School communities are forming school environment clubs and committees with students, parents, office staff and teachers all contributing ideas and skills. Many schools are winning awards and competitions. Teachers are being acknowledged for their expertise in, and commitment to environmental education.

Students are taking direct action to influence their community. Some student groups are working to reduce the use of plastic bags in their communities through innovative schemes. Others are advocating action on local bio-diversity and recycling services at local, state and international
levels. Students are promoting environmental messages through public art and conference forums. Often it is the advice, support and knowledge of local community groups that has assisted them.

Learning from one another: the role of the school’s community

Schools are part of their local communities. Within a school’s boundaries are usually the same people who live in the local area: the students.

Schools are complex places. The challenge for community groups working with schools is to ensure environmental actions such as those above are sustained, despite the complex system within which schools work. Teaching, executive and support staff have responsibility to the community to educate children in the formal curriculum, develop social skills, sporting prowess, musical/artistic ability, team-work and thinking skills over the formative years of each student’s life. Around 30 per cent of the student population changes every year, which means that all of the above has to be achieved in a framework of continual renewal. Staff turnover often adversely affects the continuation and success of a program. School staff are exceptional managers of the inherent challenges of this system, putting in place programs that run over years and planning programs that build on the development of each student.

The environmental values of a community group are reflected in its key priorities and issues, and by actions: for example, valuing natural bushland, indigenous sites and heritage, or improving the local catchment. These may not, however, be a high priority for local schools. In trying to influence the values of a school community, so leading to positive environmental actions, community groups and other organisations often conclude that schools have a lack of knowledge of environmental issues and so produce kits, brochures and websites. These excellent resources often sit on shelves in school libraries and are typically under-used. A successful environmental action needs the flexibility and thinking and answering-back that only committed people can offer. In moving towards
sustainable communities (and their schools) it is critical to have passionate and knowledgeable individuals from local community groups who are good communicators and who have the time and patience to work with local students. Kits don’t think; kits don’t re-arrange themselves and their schedules; kits don’t work at night; kits don’t answer back.

For community groups thinking about implementing environmental actions with schools, it is also useful to build on the existing good ideas and resources that are already available, both in a school and in the community. Assisting the school’s environmental committee or club to develop a plan and to build support for environmental actions takes time, but often the resulting activities are more sustained, as more people become involved.

In talking to school students about how to bring about change in their schools, the following points are useful. They have been adapted from the work of Stuart Hill from the University of Western Sydney (also see his own presentation from Day 1):

- choose small acts that have big effects;
- make them contagious;
- talk to others, network, collaborate;
- be open to unplanned opportunities: seize the day!;
- be kind to yourself and give yourself rewards: don’t burn out;
- think about bringing about change anonymously and indirectly through others;
- act from your heart;
- support other people;
- spend time in nature;
- spend time with others;
- develop your knowledge, understanding and skills;
- if you see something wrong, interfere in a positive way.

Fundamental change in environment practices within schools is always a slow process; one of small steps celebrated and rewarded. Each school will take its own slightly different steps. Across New South Wales local community groups are assisting schools to take these.
The Possum Trail: A Student Outdoor Learning Program

Greg Short and students
South Coogee Public School

Background and aims of the project

Environmental Education is our way to the future. Environmental education is the responsibility of the whole school community.

History of the Possum Trail

The Possum Trail itself is a metaphor for the whole project. The aim has been to establish pockets around the school which are developed for specific environmental purposes. These areas are all linked, and each is now the habitat for many different types of animals, including possums, native sting-less bees and micro-bats.

Planning and design
A virtual tour: features of the Possum Trail

**The Banksia Heath**

The Banksia Heath has involved students and volunteers planting over 5000 trees, shrubs and ground-cover to re-create the original vegetation type that existed before the area was urbanised. This is called Eastern Suburbs Banksia Scrub. It is now a protected threatened eco-system type. The plants have established a diverse eco-system around the main school playground.

**The grassland**

The grassland area before it was developed

The grassland now
The bush tucker garden
Before

After

The Forest
The Possum Trail ends at the Forest. Before we built the Outdoor Learning Area this part of the school was called the Forest because it was fenced off and out of bounds. Now it is quite the opposite.

The herb garden
At the far end of the Outdoor Learning Area we have established an herb and vegetable garden, composting area and worm farm. This gives us the opportunity to learn about environmentally-friendly things we can do in our own homes, as well as enjoy maintaining them at school. We have produced fresh herbs for use in the school canteen and been able to recycle food scraps.

Solar power and the frog pond
A solar-powered re-circulation pump was installed to power our frog pond.
The weather station

Moving the pole into place required some ancient engineering skills, and combining brain power with quite a bit of muscle power.

Our own MicroZoo

Our bee-hive has native sting-less bees called Trigona Carbonaria. They are very small and have made homes in other parts of the Outdoor Learning Area as well as the bee-box.

Current projects in the Outdoor Learning Area

- worm farm;
- growing herbs and vegetables;
- taking plant cuttings;
- studying decomposition;
- our bio-diversity study.

The worm farm

Throughout this year kindergarten students have taken responsibility for learning about and managing the worm farms in the Outdoor Learning Area.

Growing plants and vegetables

Year 4 students investigated the types of plants which could survive in dry conditions and compared their growth with other types of plants in a controlled experiment.

Harvesting the carrots: They did grow but they were strange shapes due to the pattern of rainfall over recent months.
**Studying decomposition of litter**

Class 2R wanted to find out what happens to the rubbish left behind in our play-ground if it is not disposed of properly. As a class they decided on the following steps to complete the investigation:

- collect some rubbish from the school Possum Trail;
- sort the rubbish into natural and man-made items and observe them;
- form a hypothesis based on the observation;
- take some items and bury them in various spots in the Outdoor Learning Area;
- three weeks later dig up the items and observe;
- prove or disprove the hypothesis.

**Burying the litter to study decomposition:** This project aims to develop student understanding of environmentally-sustainable litter disposal, as well as give students the opportunity to participate in self-directed scientific investigations involving predicting, hypothesising, collecting data and analysing.

**Our bio-diversity study**

**Aims**

The study aimed to apply our understandings of bio-diversity to our local environment and at the same time evaluate the effectiveness of the Possum Trail project.

Bio-diversity means the variety of plant and animal species that live in a particular environment or eco-system.

**Our hypothesis**

The bio-diversity levels at South Coogee Public School have increased since the Possum Trail and Outdoor Learning Area were introduced.

**Testing the hypothesis**

We decided to compare two different areas of the school: The Outdoor Learning Area/Possum Trail which have been developed with native plants, and the Stage 1 Quadrangle which has no native plants. We also decided to collect samples over a period of time in these areas and look at the differences.

**Collecting the samples**

We used a variety of different sampling techniques:
- observation and drawing;
- leaf litter sifting;
- tree shakes;
• pitfall traps;
• aquatic dip searches.

Our findings

Aquatic animals found: dragon-flies and dragon-fly larvae, damsel-fly nymphs, lots of water spiders, blood-worms, water cicadas, Koonunga crustaceans, Elf dragon-flies, tadpoles, hundreds of water mites, damsel-flies, beetles and other types of worms.

Tree and leaf litter: Ten types of spiders, including monkey spiders and jumping spiders; ants, cicadas, 4 types of beetles; moths; stink bugs; butterflies; earwigs; worms; lady-beetles; lace-wings, wolf spiders, native sting-less bees, magpies, crows, a wren, black cockatoos and rainbow lorikeets.

Animals found in the infants quadrangle: pigeons, Miner birds, ants and slaters.

Plants: ‘Outdoor Learning Area: over 40 types; Quadrangle: 4 types.

Considering bio-diversity refers to the variety of plant and animal life within an environment or eco-system, our data proves our hypothesis that the development of the Possum Trail and Outdoor Learning Area at our school has significantly increased the bio-diversity levels in the area.

Other observations we made that support our hypothesis:

• greater numbers of invertebrates were found in the native trees in the Outdoor Learning Area;
• there was a lot more leaf litter and ground cover in the Outdoor Learning Area compared with the Quadrangle.

How has the project impacted on our school?

• student involvement;
• teacher professional development;
• community involvement;
• ecologically-sustainable school environment.

Incorporating the Outdoor Learning Area into other areas of the curriculum

Visual arts, music and reading were carried out in the Outdoor Learning Area.
Our future directions

- maintaining our frog pond so that we attract more local frogs;
- designing and developing other parts of the school to increase the types of eco-systems we have in our school, such as rainforests;
- planting even more native trees and shrubs;
- investigating other ways in which we can use renewable energy within the school.
Arbors: A Student-run Environmental Program

Juris Miezis and students  
Jasper Road Public School

Who are the Arbors?

They are an elected group of senior students who are responsible for caring for their environment. They are taught the necessary skills to enable them to carry out tasks, and are given opportunities to develop leadership skills. They monitor projects as they continue.

When did the program begin?

Work commenced in 1991 under the Trees for Survival project. A shade-house was erected by Winston Hills Rotary Club. Seedlings were supplied. Senior students were taught potting skills, and they taught and supervised younger students in potting.

The birth of the Arbors

In 1992, a badge was designed and a set of rules was established. Students were taught meeting procedure. The first President was elected. Mature trees were sent to various parts of New South Wales.

What has been achieved?

Over 60,000 trees/shrubs/grasses have been potted/nurtured. Mature plants have been planted in local reserves, given to Council or donated to other schools. Links have been established with Baulkham Hills Council, who now supply us with seeds, as do Wagon Wheel Nursery, UPRCT, Hydromaster and many schools.

The following pictures show the program in action:
Visits to and from other schools are now very common

Our school’s environment has been enhanced by many additions over the past 12 years:

- butterfly garden, our first venture in designing and building;
- frog pond;
- bulb and no-dig gardens;
- wattle and olive tree groves;
- vegetable plot;
- bush tucker garden;
- walk and wheel playground.

More pictures follow:
Arbors being filmed constructing worm farms for the ABC program  
*Creature Features*

K-6 classes and teachers are directly involved in planting and taking  
ownership of new areas within the school
Water watch or bug surveys are carried out regularly, and water and energy surveys are conducted.

Support for the program has increased each year, and parents help at working bees (Arbor Bees), donations or supplies from the community are made, and contacts are facilitated through great media coverage.

- learning is not just based in the classroom;
- an Arbor Training Day now takes place;
- Arbors organise a roster for each holiday;
- Arbors monitor classes to ensure set tasks have been completed;
- each class has a paper recycling bin;
- signs appear everywhere, encouraging the saving of water, electricity and paper.
Where to in the future?

- water tank has been ordered;
- run-off problems to be addressed;
- hydroponics to supply fresh produce and supply comparisons with vegetable plot;
- bird and possum boxes;
- native bee hive;
- rainforest walk.

What does this lead to?

- students, school and community taking charge, improving, appreciating and showing greater respect for their environment;
- ownership enhanced and vandalism reduced;
- students develop greater leadership skills, and knowledge and pride are increased;
- inspiring others to follow the path;
- sharing ideas with others.

Where does one start?

Select a project that is achievable, which involves students and possibly the community. Students have great ideas. Parents have a wealth of skills and knowledge. Also investigate and get support from local government agencies and businesses. Use your existing resources. You’ll be surprised what can be found and used. Publicise your results.

How to maintain the program

Get as many people involved as possible. Prepare long-term goals, but start small. Gather ideas and adapt them for your locality. Give ownership to the students and the community. Publicise, publicise, publicise. The contacts you establish are worth their weight in gold.

With small beginnings, huge achievements follow. It all takes time, but don’t rest on your laurels, for there is always one more idea or another task.
REFLECTIONS

Cycles of Learning: Monitoring and Evaluation Give You Real Feedback

Louise Brodie
Education and Community Involvement Officer
Department of Environment and Conservation

What does monitoring and evaluation involve?

Monitoring
This is the gathering of information to enable you to track the progress of your work. In the case of bushland management this may be to track the change in vegetation or habitat quality over time, or to track the community involvement or participation in caring for bushland.

Evaluation
This is the next step, involving looking at the information you have gathered and using this to judge whether or not your work is leading you where you want to go.

The cycle of learning
This involves entering the results of your monitoring and evaluation into a feedback loop, by incorporation of what you have discovered into what you are doing and plan to do. This may confirm that what you are doing is successful, or perhaps it points to the need for change and to adopt a different approach or methodology to achieve such change.

For a cycle of learning to work we need to have a vision or goal. This could be broad, such as increasing the bio-diversity on the site, or it could be specific, like providing good habitat for lizards.

For bushland management and restoration, goals need to be related to ecological outcomes. We may have other outcomes, but ultimately we want our bushland to be healthy and have a diverse and appropriate number of
species which live in that type of area. For a movement such as Bushcare or Landcare, there are also social outcomes. We subsequently need to determine the sort of monitoring required to feed into our cycle.

Why do we want to monitor what we are doing?

There are several reasons why we might monitor management and restoration of a bushland site or the success of a Bushcare program. We might want to:

- measure how successful we are in retaining bushland and improving the quality of degraded areas;
- track the progress of a project which is being funded under a grant;
- note what happens on our site as a way to learn more about our bushland;
- watch if certain strategies are being successful or not, so we can improve what we do;
- report to our funding source so that they know their money is being well spent.

Some good reasons for monitoring, if hard to measure, might be to:

- to see the effect our Bushcare program is having on raising the knowledge of the broader community about bushland;
- to make sure that our activities are increasing the number of people who enjoy the bushland being part of their local surroundings.

What sort of monitoring might we do?

There are a number of different types of monitoring which could be put into the following broad categories:

- scientific monitoring;
- measuring performance indicators on a broad scale: across the state or across an LGA;
- measuring performance matched to specific project outcomes, generally to demonstrate the progress of a specific project either under a grant or a contract (compliance monitoring can also fit here);
- informal monitoring through observation and discussion by a group working on a site, or anecdotal evidence;
- measuring social change.

It is important that we understand that there are differences in these. It is also important to recognise that each has its own value if we use it in a cycle of learning.
**Scientific monitoring**

This generally looks at a specific question. Monitoring is set up with appropriate methods, including controls and specific measurements. It will require expertise to determine sample size, and appropriate methodology to enable the right sort of statistical analysis.

The methodology used needs to be able to reflect what is actually happening on-site. If there is a decline in a particular species on your site, will your methods of data collection be sensitive enough to reflect this?

Assessment of sites is an aspect of this – ideally for biodiversity monitoring the collection of data provides a baseline against which changes in species and numbers can be measured in the future.

A current project of University of Melbourne in partnership with the Department of Environment and Conservation (DEC) and Forests NSW is using model-based monitoring designs to determine the effectiveness of different designs. If many replicates are used, the data obtained will be sensitive to changes on a site. However, resources and money are required and the right balance needs to be found between an affordable level of data collection and the ability of that data to detect changes.

Most scientific monitoring or assessment has been carried out through universities and agencies. Some work has been relevant to bush regeneration and ecological restoration. These projects are generally written up as papers in scientific journals, such as *Ecological Restoration and Management* (from Blackwell Publishing), or are presented at conferences.

For bush regenerators there are avenues for involvement in such studies if organisations call for volunteer assistance, such as community biodiversity monitoring through the National Parks Association.

**Performance indicators**

Performance indicators are a statement of something you want to achieve. Collecting relevant information about your progress over a period of time will show if you are progressing to where you want to go. For example: “Area of bushland being looked after by the community and Council”. You want this to increase over time. Studying this area on an annual basis will tell you if this is happening.

A major improvement in monitoring the success of bushland management has been via the implementation of State of the Environment reporting, especially by local government. Many reports are now providing
performance indicators against which success can be measured. Indicators regarding bio-diversity are difficult, and it would appear that a number of councils and agencies are still developing these.

The same type of performance indicator is used to measure the progress of a project, generally for specific projects funded under grants, or to track budget expenditure.

In all cases the trick is to make the indicators mean something. It is all about asking the right questions.

Observation/anecdotal

This is really what goes on all the time at a site, where members of a team watch the changes which occur. Being present at a site on a regular basis over a period of time enables people to see changes occurring, even at a micro level. This sort of monitoring relies on observation, and any decision to change management strategies is largely an educated and intuitive one. Hard to explain to someone wanting scientific back-up – but many of our past decisions in bushland restoration have been made on this basis, and appear to hold true.

Involvement in this type of monitoring also allows participants to learn from the site and start to understand bushland eco-systems and resilience.

It still requires asking questions about what you want to achieve and deciding what it is you want to observe.

Sometimes observations are measured more formally by setting up quadrants and listing the species occurring, and the number of each species in the defined area.

Also talk to those with experience. They will have more knowledge and will have observed many things happening on a site. They can talk about factors which someone without this experience will not have considered.

Some projects and stories of work on sites have been recorded in a formal manner in brochures or books. These are worth reading to enable greater experience and knowledge to be gained. The journal Ecological Restoration and Management has had articles on a number of sites including the Ku-ring-gai Flying Fox Colony and the Greening Western Sydney project. Another interesting story is found in The Greening of the Hill by Horace Webber (Hyland House, 1992), in which the story of restoring vegetation around Broken Hill in the 1930s is told. It seems some of the things we think we have recently discovered were already known after this project!
We could include photo-monitoring in this category. This can include the use of aerial photos to see changes over a period of time. It is interesting to study old photos and understand how the landscape has changed.

Photo-monitoring, using photo-points is regularly carried out on bush regeneration sites. Points on the site are identified, and a photo can be taken at the same place in bushland over time. This will record gross changes on a site. A bit of skill and thought is required to make these work. Again, it is useful to have an experienced person to help interpret the changes.

**Social changes**

One of the interesting things about the bush regeneration movement, especially in Sydney, was that paid regenerators were working in bushland for many years before Bushcare programs supported by the local Council or National Park started.

The concept of Bushcare arose because professional regenerators realised that without the local community being aware and involved in the management of bushland, much of their work would be futile and unlikely to gain continued support from councils and others. Is it successful?

Programs are developed to try and raise community awareness of the environment, including natural areas, so that each individual can value and contribute to keeping these. It would be good to know how we are progressing with this.

Formal social research is carried out using surveys and focus groups. This needs to be done by those with expertise. Objectives need to be clearly defined.

Studies to reveal changes in attitude are best when carried out over a long time period. The Department of Environment and Conservation has carried out such research since 1993, and the latest survey in 2003 was able to show changes in people’s concern about the environment. The reports on these surveys are called *Who Cares for the Environment?*.

The social research done as part of the Backyard Buddies program by DEC is the sort of research which throws light on what people value in the natural environment, and how their understanding may be different from those of us deeply involved in caring for bushland.

Once again, the challenge is how you design active programs to address these results.
There are other surveys carried out which are not necessarily specifically about the environment, but may shed light on attitudes of the local community.

We should not forget the conversations we have as individuals working on a site. Do you notice a change in attitude to your bush regeneration when you talk to neighbours on a regular basis? If not, there may be a need to evaluate your approach and the language you use, and change your style of conversation.

Setting goals and indicators

We talk about the need for indicators and goals to be SMART:

- **Specific:** clearly defined in terms of what will be achieved;
- **Measurable:** able to be demonstrated and tracked;
- **Achievable:** realistic given the resources and time available;
- **Relevant:** essential to the project’s or program’s vision and goals;
- **Time-frames:** associated with specific time-frames.

All of this assumes that we know what we want to achieve, the desired end point, the right questions to ask, and what to measure to give us meaningful results.

If we are talking about restoration and management of wetlands and other natural eco-systems, we can talk philosophically about what our best end point might be. Are we looking at trying to make bushland similar to that before European way of life impacts? Do we actually know what that might mean? What have the impacts been? Do we want a different eco-system but want to ensure it has a good structural diversity and habitat qualities?

Goals which are often stated are:

- we will increase bio-diversity;
- we will raise awareness in the local community.

But how do we measure these?

Individual project and State of the Environment reports often tell us about activities rather than ecological or social outcomes.

Consider the following ideas for indicators for raising awareness and producing changes in behaviour:

- we produced 3 new brochures and 4 new plans of management;
we held 3 workshops with an average of 10 people attending; (was this as good as expected?);
we held 3 workshops, with a number limit of 20 per workshop, and participants completed a questionnaire about the day indicating that 90 per cent had improved understanding of the issues;
80 per cent attended a follow-up workshop and said they had already changed their actions because of what they had learnt at the previous one.

Which of these really tells us what is happening?

Other examples found are:

decrease in the hectares of bushland lost (this would require good mapping and a starting point);
decrease in the hectares of Council-managed bushland lost;
percentage of Council-managed bushland in good condition (note that this would need to be coupled with the amount of bushland, otherwise we could just bulldoze the bad stuff and get a great increase in the "good" bush);
measurement of "good" condition: percentage of weeds; presence of wildlife; bird species present?

Indicators for contract/team performance

Performance indicators can also be used to track the progress of contract work on bush regeneration sites. The performance indicators for contractors and bush regeneration teams need to be meaningful. Are we trying to find out the ecological success of the work, or once again is it activity-focused? Or is it simply what looks impressive for visiting councillors or inexperienced Council officers?

Input from some Council officers indicated that determining the quality of contract work on a site involved some reporting coupled with the officers’ experience in bush regeneration and the ability to build up a good understanding of what the contractor was hoping to achieve.

Conclusions

Different types of monitoring will produce difference information. We need to think about the questions we want answered by our monitoring, and to work out the best methods to provide the answers.

Then we need to build the results into our work. This is adaptive management.
One challenge is the ability of community groups and land managers to be able to admit that their current methods are not working and that the goals of the project are not being achieved. Such change needs to be handled sensitively so that organisations and individuals can be congratulated for changing their approach rather than blamed for failure.
Aboriginal People and Connection to Place

Tabatha Timbery-Cann
Aboriginal Community Support Officer
Sydney Metropolitan Catchment Management Authority

For thousands of years Aboriginal people have held an identity that is connected to family kinship (name) and to a place (Country). In contemporary Australia we continue to identify ourselves by asking “What's your name and where are you from?” Connecting with ‘Country’ and ‘People’ is one of the ongoing aspects of our living culture.

The aim of the workshop was to briefly look at aspects of identity and the strong relationship Aboriginal people have with the land and our environment. To encourage a more dynamic and interactive understanding of these connections, an experiential approach was taken. A purposeful space was created where participants could reflect and discuss Aboriginal Australia, with particular reference to Sydney.

Initially participants sat in a circle and discussed Sydney’s history and the impacts of settlement on our environment and the local Aboriginal communities. Participants were then asked to assist in creating a space of quiet, while listening to the sounds of the didgeridoo and the cries and calls of Australian animals and birds. A creative visualisation of the landscape prior to 1788 was undertaken and the live didgeridoo player created a scene of peace and reflection.

At the conclusion of the visualisation, considerable discussion was generated. Connections between Aboriginal and non-Aboriginal people participating in the workshop were made. Relevant information was also freely available and distributed among participants.

Overall, the workshop resulted in a greater understanding among participants of Aboriginal people’s connection to family and the environment. Also highlighted, was the sudden impact that European colonisation had on Sydney’s Aboriginal communities and environment.

For further information on Aboriginal involvement in natural resource management in Sydney, please contact Tabatha Timbery-Cann at tabatha.timbery@dipnr.nsw.gov.au.
RIDING THE WAVES OF CHANGE

Building Bridges to Boorowa where Urban Bushcare meets Rural Landcare

Adam Burrowes
Bushland Management Coordinator
North Sydney Council

Inception of project

Bushcare volunteer Ross McLelland, approached North Sydney Council in early 2000 to suggest taking a group of local Bushcare volunteers out to Boorowa. Ross had recently visited Boorowa and learnt of the environmental problems that this rural area were facing, such as salinity and protecting threatened species like the Superb Parrot.

The town of Boorowa, or as it was originally known Burrowa, was established around 1830, apparently taking its name from the local Aboriginal dialect. Boorowa has a population of 2376 people and covers an area of 2600 sq km. It is one of the best fine wool sheep growing areas in Australia. It is also one of the main natural breeding habitats for the Superb Parrot. Key industries include fine merino wool production, specialised horse breeding and training farms, cattle studs, and agricultural production of wheat and canola.

North Sydney Council saw this as a great opportunity to give our local volunteers first-hand experience of the issues that the country Landcare groups were up against. North Sydney Council, with a population of 57,000 in an area of 10 sq km, is very different from the wide open spaces of Boorowa, with significantly different demographics and industries. The experience of the journey would not only broaden volunteers’ environmental understanding of issues of salinity and threatened species but also give them a better idea of Landcare (country greening programs) and Bushcare (city greening programs) and their similarities/differences in a holistic “big picture” manner.
After consultation with North Sydney Council’s Bushcare volunteers at a regular Bushcare Convenors’ meeting, it was agreed that the trip would go ahead. Contact with the Mayor of Boorowa and the local Landcare Coordinator proved very positive, and arrangements were made to take a group of 29 volunteers out to the country for a weekend (2-day) country experience during September 2000.

Activities over the weekend away

The trip involved travelling to Boorowa Shire which is approximately 3.5 hours south-west of Sydney.

Upon arrival, the team of volunteers were split into 2-3 smaller groups and transported to local farms in the area. Each group visited 2-3 farms in an afternoon. Each farmer transported the volunteers to the planting site via truck or 4WD, since sites are often a couple of kilometres from the homestead and the dirt tracks are pretty rough. On average the entire team planted approximately 2500 tube-stock across the Shire.

Each farm has different issues. The native plants, as they grow, will achieve many things: create a series of wind-breaks, help reduce salinity problems by lowering the water table, and provide habitat for the threatened Superb Parrot.

A celebratory BBQ was provided by Boorowa Council in the evening, which all volunteers were welcome to attend. Speeches and thanks were given from both Council parties. The hospitality of the country people is legendary and often overwhelming.

On Sunday, we were given a tour of the local catchment by the local Landcare Co-ordinator to see the salinity issues on a larger scale. Those keen for early morning activities were encouraged to travel just out of town to spot Superb Parrots and other birds in their natural habitat. Those who missed the Superb Parrot spotting were given the opportunity to see them when we visited the local Superb Parrot breeder to see the threatened birds up close. We were then treated to some local historic points of interest and lunch before heading back to Sydney in the afternoon.

Logistics of planning a Boorowa trip

- transport (tour bus) to Boorowa itself should be organised well in advance and large enough to accommodate all volunteers, staff, baggage and tools;
tools and gloves should be provided to volunteers, as the host, for example, Landcare Co-ordinator, may not have sufficient numbers for all volunteers to achieve objectives;

is the site well fenced and prepared for planting?

to reduce time wasted on snacks and meals along the way, encourage volunteers and staff to bring a packed lunch from Sydney;

a support vehicle should be brought from Sydney to transport volunteers to farms or in case of emergency; ideally, this should be 4WD, as many farms have challenging roads (too difficult for the tour bus);

ensure all attending pack for all weather conditions, including wet, cold and very hot. If wet, the mud will require two or three sets of clothes.

Costs associated with a Boorowa trip

transport: the hire of the tour bus with driver should cost $2000-3000, including meals and accommodation for the driver;

accommodation for staff costs $30-80 each;

staff are paid for two 9-hour days, and a staff member is needed for every 5-6 volunteers;

Landcare provided the plants we needed, but plants are usually no more that $2 each; tree guards (which are recommended against frost, drought, rabbits and kangaroos) cost on average 10 cents each;

fencing is a significant cost to the farmer/Landcarer, and the standard rate for fencing is $2000 per kilometre, a cost usually carried by the farmer with Landcare grants or assistance.

Outcomes of the trip

sense of achievement, doing something for the “greater good”;

increased awareness of environmental issues faced by rural areas such as Boorowa;

contributing to rehabilitation of local environment (provision of habitat for Superb Parrot and reducing impact of salinity);

education and hands-on experience;

partnerships between city and rural councils and Landcare/Bushcare;

closing the gap between understanding the country and the city.

Based on report by Penny Barker. *(Note: the Boorowa trip has now become a regular part of North Sydney Council’s Bushcare program).*

References

Two Case Studies of Successful Bushcare in Willoughby

Rob Foster and Roger Pittaway
Bushcare Volunteers
Willoughby City Council

Introduction
I am Rob Foster, a volunteer Bushcarer with one of Willoughby Council’s Bushcare groups. I will describe a little of what we have done, our successes and challenges, and my colleague, Roger Pittaway will follow to tell you a little about his group.

Willoughby is located on Sydney’s North Shore, with the Pacific Highway crossing north to south, the Lane Cove River on the western boundary, and Middle Harbour to the east. Most of the remaining bushland in the area is adjacent to these two waterways and the creeks that flow into them.

Council has a very active and progressive Bushcare program, with 39 different groups. Each site is cared for by a volunteer team, supported by a professional trainer, with tools provided by Council. All volunteers complete a 3-day training program run by Council over 3 weekends. Each site has a professionally-developed management plan to which we work, and which is updated periodically.

Eastern Valley Way Group
My group, the Eastern Valley Way Group, is a little different from most, in that we work on 4 separate sites: one on Middle Harbour, two on Scotts Creek, and one on Sailors Bay Creek.

Why 4 sites? The group was formed when one resident sought Council assistance to control a weed problem between the back of her property and some beautiful virgin bush above Scotts Creek. Council agreed to provide a professional assistant if a group could be put together, so she advertised in the local paper.
Each person who joined the group had a property which adjoined bushland, and had similar weed infestation problems they were trying to control. So each of these sites was added.

We currently have 4 members who attend our monthly work sessions regularly, and 3 or 4 others who attend occasionally. The different sites provide great variety for the group.

We have dealt with stands of Bamboo, dense Privet forest, bare steeply-sloping areas of road-fill, and all the usual infestations of weeds.

**Broad area burn above Scotts Creek**

A broad area burn was conducted on one of the sites above Scotts Creek. It was originally quite weed-infested, with Fishbone Fern, Fleabane, Privet and Lantana, and various garden escapees. The site was weeded and dead timber strategically scattered over it. No one touched or walked on the site for 2 years after the burn, to allow all the regeneration to take place unhindered.

The regeneration has been astounding. A huge variety of native species have come back since the burn in 2002. Only in 2004 did we enter the site, and found just a few small weeds. We identified almost 70 individual species in our survey earlier this year!

**Sailors Bay Creek**

Along Sailors Bay Creek we started with a greatly degraded area, with lots of Fishbone Fern and Lantana, and a virtually impenetrable Privet forest. Hand removal of the smaller weeds, cutting and poisoning of the medium-sized Privets, and frilling and poisoning of the larger Privets has gradually turned the Privet forest into a Coachwood forest. We only removed half the large Privets at first, to leave roots for creek bank stability. About 2 years later, after Coachwood seedlings had responded to the increased light and had grown to 2-3 metres, we poisoned the remaining large Privets.

It has taken about 5 years, but we now have a beautiful Coachwood forest along the creek. You can still see some of the large dead Privets, and it still requires maintenance to keep the Privets from re-emerging, but it is now a beautiful area and is quite manageable.

We believe there are some benefits from our group rotating between multiple sites. We meet monthly, so each site is visited only every 4 months.
Some of the benefits are:

- variety of experiences for us;
- benefits for native plants: weeds which grow between each visit protecting emerging native plants;
- less disturbance for emerging natives, including less soil compaction;
- we get to the weeds before they produce seed.

Three of the sites are adjacent to the homes of members of the group, and although the whole group only visits them once every 4 months, they benefit from regular maintenance from the Bushcarer who lives immediately adjacent. It works well on the 3 sites adjacent to our homes, but the fourth site does present some problems and really should be visited more regularly.

On our fourth site, although we have weeded, mulched and planted it previously, the Ehrharta Grass is proving to be a continuing challenge, probably because the site is not visited frequently enough, and it has a chance to seed. Our approach now is to try and maintain a barrier between the heavily degraded area and the “good” bush, until we can manage to get control of the Ehrharta.

**Lessons learned**

- the amazing regenerative effect of fire on bushland;
- opening up the canopy encourages the growth of natives;
- weeds can be beneficial (provided they don't produce seed)!
- benefit of not over-working an area;
- different sites require quite different management techniques;
- frequency of working on a site is important.

I will now hand over to Roger.

**Flat Rock Drive Group**

My name is Roger Pittaway, and I want to tell you about the activities of a Bushcare group that has been running for over 10 years, and is known as the Flat Rock Drive Group.

The Flat Rock Drive Bushcare site is on the upper northern slopes of what was the gully of Flat Rock Creek which, after confluence with another creek, Quarry Creek, runs into Long Bay, one of the many long arms of Middle Harbour.

The group works over a large area and officially has seven different areas to work in. These areas range from patches of good bush to large stands of
Privet and vines, and areas which the group have re-vegetated or are in the process of re-vegetating.

The Bushcare Site looks over the creek gully. This area is an inspiration for many reasons.

One reason is that for many decades much of Flat Rock Gully became a massive tip for that part of the Lower North Shore, and was known as Naremburn Tip. The impact of the tip on the natural environment was catastrophic. It completely changed the landscape. It introduced highly toxic pollutants to the soil and waterways, and dumped vegetation spread weeds.

Much of the inspiration for the set-up of this Bushcare site came out of the fact that tip operations were curtailed, and Willoughby City Council undertook a huge restoration project for the whole site, involving landscaping, re-direction of water courses, creation of ponds and wetlands, the planting of numerous native plant species, and opening up areas for community use.

The group is made up of local residents, and has only ever attracted small numbers. We originally met once a month, but over the last year or so, have taken to meeting 3 times a month. This has given us the capacity to bring about significant changes in the site.

One main area of work slopes to the south away from the back gardens of the houses, and is separated from the bushland by a broad area of grass. This grass corridor was originally almost continuously boggy, due to run-off.

Heading down the side of the gully, behind the grass corridor was a zone of severe weed infestation. In some parts large sections of Privet predominated, and in others, dense Lantana.

Beyond the weed zone, native plants became more and more prevalent as the now-dense bush climbs down the tiered rock shelves toward the creek line below. At one point, only a short distance in from the weed zone, there is a small bog or swamp. Despite the elevation of the site, there is a spring there. It is wonderful to crouch beside the bog, listening to the frogs and keeping a watchful eye on the 1.5 metre Red-bellied Black Snake which has been seen here, knowing that if you stand up between the tangle of foliage you can see Centrepoint Tower.

I wonder if you have sensed that I love this place.
Initially the grass corridor could not be mown, since it was too boggy to get the vehicles in. Weeds were rampant, and weed invasion into the perimeter of the bush site was a huge problem. It was decided to extend the edge of the bush site out into the grassed area.

Matting was used, even though we were aware that it would not only suppress the weeds, but also inhibit the spread of native ground-over such as Weeping Grass and Commelina. Once the matting was down, native plants, ranging from grasses to shrubs and small trees were planted.

Behind the extended bush-edge area – beyond the matting and planting – deeper into the area where there were more native plants, another tactic was required. Bush regeneration! So we opened up the Privet canopy to allow sufficient sunlight in to encourage the spread of native ground-covers, trying to minimise ground disturbance. We didn’t remove all the Privet, and were particularly careful to leave trees bearing nests or possum drays.

The results were rewarding. After some time we found the native grasses moving into areas previously covered by Privet.

Referring back to the matted areas, plantings are going well (despite the drought) and, as the matting mulches down, native ground-cover is appearing.

The group is now at a stage where we are moving down the slope, opening up previously unknown rock ledges and parts of the gully that have been covered in dense weed. Occasionally I begin to find myself so deep into the dense bush that I began to lose my colleagues.

We are discovering Tree Ferns and lines of Black Wattle running down gullies.

We become more than ever aware of small birds, such as Silver Eyes and Fairy Wrens. Of course there had always been plenty of birds around. The earlier work up the top of the gully had often been arduous, and we had little inclination to pay attention to the common larger birds. However, we were sometimes delighted and inspired by visits from Yellow Tailed Black Cockatoos.

Penetrating deeper into the bush causes excitement within the group so that inspiration and motivation become indistinguishable and a celebration is required. We always celebrate at 10.30am. The group takes time for morning tea, at least half an hour. Everyone stops work and is expected to be there. It is a time to circulate information, keep everyone
informed about the site and get a further understanding of bush regeneration techniques. It is a time when the trainer can record the day’s work, and the group can refer to the action plan.

Council engaged a fauna consultant to look at Willoughby, specifically our site. This provided us with inspiring reports of unexpected fauna, including bush-mice, snakes, lizards and turtles. An Echidna was seen in the re-vegetated mounds at Flat Rock Gully last week. We have reason to celebrate!

*Members of our group consider the provision of habitat for wildlife to be the main motivation for their hard work. Giving back something to the wildlife in the form of more food and more homes is the main aim.*

Being involved in habitat restoration and real solutions for wildlife is a real *inspiration* and *motivation* for the group. A Feral Cat was observed at our site, a baited cage was set and sure enough the animal was caught. The support Willoughby Council provides is essential for dealing with wildlife issues on our Bushcare site.

We have learned many lessons:

- don’t use matting material that has a plastic-netting backing, since once the matting has mulched down, the plastic remains, and makes subsequent weeding that much more difficult;
- when planting in areas that have been matted, do include native ground-covers such as grasses, or at least make sure the matted area has a boundary where there are native ground-covers that can spread over the matted area (Commelina has proved particularly good at our site);
- if you are going to clear the tree canopy, do it only to the extent that immediate local natives have the opportunity to invade the site;
- good records including photos help to sustain the back-up the group needs.

Going back ten years...We have cleared large stands of Privet, enabled a fire break to be established, cleared vines and planted natives. The site now acts as a barrier to weed invasion. Our site achieves a reduction in the pollution of urban run-off, a reduction in the choking of waters by weeds, and an improvement in the landscape for the local community. And of course the animals are coming back.

“You start with a bit of weeding and before you know it you’re the dedicated convener of a Bushcare group,” says our convener. The two of us here at the conference had already been involved in volunteering and have
made it a way of life. I am a guide in several parts of Sydney and a part-
time curator at St Thomas’s Sexton Cottage in North Sydney. Our
convenor started as a volunteer at the Zoo. Then she was motivated to
help save habitat in order to help save native animals and got into
Bushcare. Now her personal goal is to see the whole area re-vegetated or
regenerated.

Robert Foster says: "Two of us have begun volunteer work elsewhere,
including the formation of another Bushcare Group that looks after a
roadside area. One of us has become heavily involved in the Australian
Plant Society group that runs a weekly walk-and-talk program at Ku-ring-
gai Wildflower Gardens. And I assisted in the production of a video,
Making Your Garden Bush Friendly."

In conclusion it is obvious that both groups operate in completely different
ways. In fact, all sites are different and all Bushcarers are different.
**POWER TOOLS: POLITICAL STRATEGIES FOR THE COMMUNITY**

Community Response to Threatened Species Reform

**Samantha Newton and Craig Morrison**  
Manager (Operations) and Community Support Officer (Advocacy)  
Nature Conservation Council of New South Wales and Sydney Metropolitan CMA

**Introduction**

The aim of this presentation is to give an insight into how some of the bigger environment groups in New South Wales handle proposed changes to key pieces of legislation such as the Threatened Species Conservation Act 1995.

Throughout the presentation the impacts of the proposed changes are highlighted, but the main aim is to outline the campaign actions undertaken by the Nature Conservation Council and other environment groups in the state.

**Background**

Over 80 species of native plants or animals that used to exist in New South Wales are now extinct.

Over 800 more species are endangered.

Loss of native vegetation (which provides habitat for animals and other plants) is a major threat to bio-diversity. Additionally, the future viability of threatened species is dependent on the protection of habitat, as well as the health of rivers and soils.

In 1995 the NSW Government introduced threatened species legislation to address this problem. In 2004 it introduced the Threatened Species...
Amendment Bill to better integrate threatened species laws with land use planning and natural resource management laws.

The aim of the reform proposals in 2004 was to shift the focus of threatened species protection so that bio-diversity issues were dealt with at the beginning of the planning process rather than at the end in an *ad hoc* manner.


**Time-line**

The time-line for environment group involvement in the proposed changes was as follows:

**April 2004:** Environment groups presented with a discussion paper  
**August 2004:** Environment groups presented with a second discussion paper  
**September 2004:** Bill presented to the NSW Legislative Assembly in late September  
**October 2004:** Bill passed through the NSW Legislative Assembly on 26 October, unchanged  
**October 2004:** Bill presented in the NSW Legislative Council in late October  
**November 2004:** Bill passed through NSW Legislative Council on 10 November, with amendments

**Overview of proposed changes to the Threatened Species Conservation Act**

The views of the Nature Conservation Council can be summarised in the following way.

Overall, a *move towards strategic planning* is to be applauded, but it must never been seen as a replacement for specific site analysis when threatened species are affected by proposed development.

The *certification* of the Native Vegetation Package and Environmental Planning Instruments is a process that replaces an objective test for threatened species assessment with a subjective test. It effectively gives the Minister for the Environment the discretion to certify development or
conservation for an entire LGA without any right of appeal for other stakeholders.

*Listing of threatened species* will be maintained as a scientific process, with enhanced credibility and transparency. There has been a push by other stakeholder groups over the last 10 years to introduce social and economic considerations at the listing stage. Once again, they have not been successful. The listing process is a scientific process and it will only be the implementation of recovery actions and all other mechanisms after it that will need to take into account socio-economic considerations.

*Actions for recovery and threat abatement* will be prioritised through a Priority Action Statement. This may have the effect of favouring iconic species (which doesn't bode well for the Cumberland Snail!)

*Enforcement and compliance provisions* will be upgraded.

*Expert advisory councils* will be established to advise the Minister on social and economic implications and on biological diversity.

Environment groups also support a proposal within the Bill to formally *accredit environmental consultants*. NCC has been pushing for a formal accreditation system for many years. It is expected that further detail regarding criteria for accreditation will be contained in regulations that are yet to be developed.

**Actions**

In May 2004 NCC convened a group of all interested environment groups to work on a campaign. Environment groups requested further meetings with representatives from the Department of Environment and Conservation and the Minister’s Office in June 2004:

- undertook cross-bench briefings in August and October 2004;
- developed a brochure for circulation to community and media in August 2004;
- attempted to co-ordinate a response with other key stakeholders between May and November 2004;
- successfully received Sydney and regional media on concerns with proposed changes between June and November 2004;
- circulated information to member groups throughout the campaign.

**Outcomes**

At the time of the presentation the Threatened Species Conservation Bill was yet to pass through the Upper House of Parliament. *(Note: the Bill*

Overall NCC is hopeful that the reforms will lead to a more strategic approach to threatened species protection and recovery. However, like all environment groups, NCC will be closely monitoring its implementation.
LOOKING ELSEWHERE, 
CARING EVERYWHERE

Community and Industry 
Working Together to Make a Difference

Megan Kessler 
Co-ordinator 
Mighty Duck River Restoration Collective

Why we need corporate partnerships?

- government funding is increasingly harder to come by and corporate partnerships can provide an additional source of revenue;
- there is an increase in the need for corporate responsibility, and many companies are happy for an opportunity to give funding to an environmental cause;
- corporate staff can provide a new audience for your messages, and approaching local companies provides an additional way to involve your local community in your project.

Forms of partnership

- sponsorship is where a company provides you with resources in the expectation that you will give them something in return, and has two forms:
  - cash: funding for you to spend as required by your project and as agreed with your corporate partner;
  - in-kind: the company provides you with equipment, materials or staff time that you need to complete your project, ranging from mulch to accounting skills.

- donations mean that the company doesn’t expect something in return for their support:
  - one-off: perhaps as part of a special fund-raising drive;
  - on-going: some examples include monthly pay-roll giving from company staff or a local retailer that has a donation box for your group next to their till.
• **volunteers:** if you have a job that needs a single one-off effort from a large group of people you may want to host a corporate work-day. You need to ensure that your group can then maintain the project on their own. Don’t forget that your volunteers may never have done this before so you need to be very aware of Occupational Health and Safety issues and walk them through the full day. Also, don’t forget to tell them how their project fits into the bigger picture.

• **on-site corporate projects:** many companies own property to the water’s edge but don’t do much to maintain their site. Getting a company to start their own project can be just as effective as getting them to help with yours.

Existing programs

If you are interested in corporate partnership but aren’t ready to go it alone, there are a number of existing programs you can take advantage of:

• **Landcare Australia**
  - Bundaberg Rum Bush Fund, a water quality improvement small grants program;
  - Kennards Landcare Hire Gift Voucher Offer, gives access to Kennards equipment;
  - Mitre 10 Junior Landcare Grants Program, for small (<$500) projects involving schools;
  - Westpac Operation Backyard, to get your local branch involved to access funding.

• **Conservation Volunteers Australia**
  - CVA has a number of programs that involve corporate sponsors Providing subsidised access to CVA teams for your group.

Is corporate partnership right for you?

**Who can you approach?**

As a first step you could identify the companies in your catchment and decide whom you might like to work with and who has products/materials/skills that you want. The companies that you approach could range from your corner store to the local branch of a multi-national. The other thing to look for is for links between your project and a company. Is there a company with the same name as your local river, or do they have some historical ties to your catchment?

**What do you have that sponsors might want?**

Sponsorship means being prepared to offer something in return for funds received. Think about what you have to offer (some suggestions are below).
Remember to stagger your offerings. You should be offering more benefits to the company that offers you $10,000 in cash compared with the one that provides some meat for your work-day BBQ.

**How much time do you have to invest?**

Corporate partnerships can be very time-consuming if you don’t manage them properly. You need to be prepared to invest the time but make sure they don’t cost you more effort than they gain you in benefits for your project. Prior planning can help you overcome this problem.

**Are you prepared?**

Don’t approach a company until you’ve done your homework. Know what you want from them, think about what they might want from you, and know what you are prepared to offer.

**What can you offer?**

**Promotion to members and supporters**

Whether it’s through a newsletter, at a field day or at your Council Christmas party, you have a network of people to whom you can promote your corporate partner. This network is particularly important to local companies, who often get business by word of mouth.

**Local publicity**

Most local papers are happy to run articles on companies supporting local community groups. Write a media release quoting yourself and a representative of the company, and take a picture with your new corporate partner and send it to your local paper. There’s a good chance it will be published.

**Official recognition**

Letters or home-made certificates are a simple way to say thank you and give the company something they can hang in their foyer to demonstrate their commitment to the local community.

**Tax deductibility**

Gifts to volunteer groups can be deducted as a business expense. Most company accountants know how to do this. Landcare Australia can provide tax-deductible receipts to companies if they need them. See their Website for more information.

**Expertise**

Never under-value your skills and knowledge. Offering to help a company look after a patch of bushland behind their site or even work on local provenance landscaping can be valuable to people who haven’t been involved in these types of activities.
**Staff work-days**

Many companies see corporate work-days as an opportunity for team building or as a reward for their staff. These can be a lot of work to organise but can also help you get a lot of work done in a single day. Make sure you’ve thought about all the legal implications before offering to host a corporate work-day.

**A sense of ownership**

For large partnerships you might think about naming some or all of your project after a sponsor. Don’t under-value this. Several years ago there was a Victorian project called Rio Tinto Project Platypus, and Rio Tinto contributed $100,000 to gain the naming rights. For smaller sponsorships, you might consider naming a particular site within your project after a corporate partner.

Where to from here?

**Know what you want**

The first thing you need to know is what you are asking for. Write down your 5-10 year plan and identify what you need to complete it and which aspects a corporate partner could get involved in. Develop a group prospectus and list of things you are prepared to offer that can be presented to different sponsors with minor modifications.

Identify companies in your catchment that will be able to help you reach your goals

Different companies will be able to help you fulfil different sections of your plan, either by providing cash or access to their equipment and materials. In Sydney we are lucky that, for most of us, there are probably companies in our catchment that can help us. The fact that they are local makes them more likely to help.

**Write a proposal that makes everything clear**

The first step is to approach companies and see if they are interested and try and get an idea of what you can offer that they might want. When you make a formal approach, make sure that the company is clear on both what you are asking for, and what you are offering. Write it down!

**Be professional, but don’t forget you are a volunteer**

You are asking a company to trust you with their money so you need to demonstrate that you are capable of spending it wisely and completing the project in a timely fashion. However, you must never forget that you are a volunteer. It is your passion for your project that will make you different from all the other people asking the company for support.
Give it a go
The worst that can happen is that a potential sponsor will say no. So have a go and view every experience as one you can learn from to help you get your next corporate partnership.

Contacts

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- Landcare Australia  
  phone 9412 1040 or www.landcareaustralia.com.au
- Conservation Volunteers Australia  
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Birds in Backyards: Researchers and Community Working Together to Understand Bird Interactions in Sydney Gardens

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The Birds in Backyards project

The Birds in Backyards Project was established by Birds Australia five years ago. Its aim is to re-establish native bird diversity through research and community participation. In so doing so, it attempts to help people re-connect with the environment just outside their front door and become involved in the future of their natural world. Birds are a useful tool for such a study because they are visible and highly attractive members of suburbia. The majority of people take an interest in the wildlife in their gardens and there is an associated sense of pride. Potentially, a program such as this has the ability to develop people’s interest in wider environmental issues.

Australian suburban birds

Australia’s urban bird community is dominated by a few species that occur at elevated densities, but there are many other birds that are present in much lower numbers. The suburban garden itself is a comparatively recent habitat, and in conjunction with the fact that most species are non-migratory, in order to survive, birds simply have to adjust to this new environment. However what has been noted anecdotally is that while there has been a decline in the numbers of some native birds, other bird species have become more prevalent. This shift in community composition has, until recently, been largely unstudied.

One group of birds characteristic of suburban environments are the introduced species. These birds tend to be omnivorous and small-to-medium in size. Their long history of human co-habitation gives them the ability to use man-made structures. They include the infamous Common Myna, one of the most commonly seen and most hated birds in the Sydney region. However, introduced species are not the only birds that have
reached high numbers in suburbia. There are a whole suite of native species that have adapted well to this new environment. Changes in garden composition have been implicated in an increase in two common native birds in eastern Australian gardens. It has been suggested that the popularity of new cultivars of Australian Grevilleas, with larger flowers and longer flowering seasons has created ideal conditions for the aggressive Noisy Miner. Exclusion of small birds by this species is well documented in traditional woodland. Similarly, the Pied Currawong is another native species whose dominance of the urban matrix is partially due to the provision of exotic vegetation that produces abundant berries (such as Privet and Blackberries). The Pied Currawong is also a predator of small birds and their eggs and nestlings. It is these small bird species, primarily insectivores and honeyeaters, that are thought to be in decline in suburban areas.

Methodology for the community survey

The first Birds in Backyards project wanted to examine the distribution of suburban bird species throughout the Greater Sydney region (Sydney, Newcastle, the Illawarra and Blue Mountains) and attempt to determine factors that might be responsible for the apparent decline of small native bird species. These include the characteristics of gardens, interactions with large and aggressive bird species, and direct human impacts of pets and food provisioning.

In order to gather data over such a large area, as well as encourage community participation, a community survey was considered the best way to conduct the project. Participants were asked to record all the birds observed in their garden over any 7-day period in November 2000. They were provided with a target list of 20 species to identify and given photographs of each of these birds to minimise identification errors. The species to be discussed here include 3 large and aggressive species, the Noisy Miner, Pied Currawong and Common Myna, and 7 small birds, the Eastern Spinebill, New Holland Honeyeater, Willie Wagtail, Superb Fairy Wren, Eastern Yellow Robin, Silvereye and Red-browed Finch.

In conjunction with the bird survey, volunteers also completed a garden questionnaire and recorded the percentage of lawn, shrubs and trees in their garden (0-25 per cent, 25-50 per cent and >50 per cent); the type of vegetation (mostly native, mostly introduced or equal mix); the number of cats and/or dogs in the garden; and if food is provided for birds (of seed or meat).
Findings

Although 871 people took part in the survey, the data of only 723 volunteers could be included in the analysis because the other participants were not confident of their ability to identify all the target species.

The Common Myna was the most frequently reported bird across urban Sydney, occurring in 80 per cent of gardens, and the most common native species were the Pied Currawong (64 per cent) and Noisy Miner (59 per cent). The Willie Wagtail was the most common small bird, occurring in 37 per cent of gardens, and the Eastern Yellow Robin was the rarest (7 per cent) (Figure 1).

**Figure 1** Relative abundance of 20 focal bird species in Sydney gardens.

**Bird interactions**

Gardens in which Noisy Miners were observed were less likely to also have any of the 7 small birds recorded. Likewise, gardens with Pied Currawongs were less likely to have Silvereyes in them. However, gardens with Common Mynas were actually more likely to have Superb Fairy Wrens, Willie Wagtails and New Holland Honeyeaters. In the case of the Superb Fairy Wrens and Willie Wagtails, this is likely to be because all 3 of these species forage on open lawn space.

The negative associations between the small bird species and Noisy Miners were particularly interesting. In order to test whether body size
shows whether a bird can co-exist with Noisy Miners, the proportion of gardens in which they were observed with these was plotted against the body mass of the birds. Each bird that was negatively associated with Noisy Miners weighed less than 100g while the 3 species that were positively associated with Noisy Miners each weighed more than 100g (Figure 2). Even the 6 species that were not associated with Noisy Miners were all greater than 100g in weight. This suggests that the ability of a bird to co-exist in a garden with Noisy Miners is strongly dependent on its size.

**Figure 2** The relationship between body mass and inter-specific association with noisy miners: AUMU, Australian Magpie, GALA, Galah, PICU, Pied Currawong, LAKO, Laughing Kookaburra, AURA, Australian Raven, SCCO, Sulphur-crested Cockatoo, RALO, Rainbow Lorikeet, CRRO, Crimson Rosella, REWA, Red Wattlebird, COMY, Common Myna, AMLA, Australian Magpie-lark, WIWA, Willie Wagtail, LIWA, Little Wattlebird, SFWR, Superb Fairy Wren, RBFI, Red-browed Finch, EYRO, Eastern Yellow Robin, SILV, Silvereye, ESBI, Eastern Spinebill, NHHE, New Holland Honeyeater
Garden characteristics
Gardens that had more lawn space were more likely to have Willie Wagtails whereas they were less likely to have Eastern Spinebills. These and Eastern Yellow Robins also preferred gardens with more trees, and these two species, along with Superb Fairy Wrens were more likely to be observed in gardens with a greater proportion of native vegetation.

Direct human impacts
It was found that while gardens that provided meat for birds had a greater overall abundance of them, there were actually fewer smaller birds observed. Instead, there was a positive association with larger species such as the Pied Currawong, Australian Raven and Noisy Miner. While the provisioning of seed also increased the overall abundance of birds, it had no influence on small bird abundance. However, this study didn’t record the presence of granivorous species like the Spotted Turtle-dove or Feral Pigeon that may be positively affected by seed provisioning. Only one species surveyed here, the Red-browed Finch had a positive association with seed provisioning. This species was 2.5-9 times more likely to be observed in gardens in which seed was provided.

Dogs and cats were common in suburban gardens, with cats present in 65 per cent and dogs in 44 per cent of gardens surveyed. However, there were no associations between the presence of dogs or cats and the abundance of birds observed.

Discussion
This study found that the Noisy Miner is potentially having a major impact on the suburban bird community of the Greater Sydney region, and may actually be a dominant competitor, particularly affecting a range of small native birds. The Common Myna was the most commonly-observed bird, and while any impact that they may be having on the bird community was not seen here, their sheer prevalence throughout gardens warrants further attention. While similarly there was little indication of any impacts of Pied Currawongs on suburban birds, this could be due to the scale at which the survey was conducted. Pied Currawongs prey opportunistically on small birds and their eggs as they move over large distances in search of fruiting trees. Any influence on the bird community is likely to be at a larger scale than can be detected here.

It was also discovered that 4 out of the 7 small birds surveyed were associated with very simple garden characteristics. So even by making simple adjustments to gardens such as planting more native plants, gardeners may be able to encourage small native birds into their gardens.
The provisioning of meat appears to be promoting the dominance of aggressive species such as the Noisy Miner and Pied Currawong and therefore may be having a indirect impact on the smaller bird community. While the decision to provide food for birds might also be influenced by what is already present in the garden, undoubtedly by supplementing the diet of these larger species, feeding might help elevate numbers. This study suggests that food provisioning, particularly in the form of meat, should not be encouraged.

There was no observed impact of cats or dogs on the abundance of birds observed in Sydney's gardens. For the Pied Currawong, any potential impacts may not be detected at the scale in which this survey was conducted. A cat, for example, might influence a bird community on a neighbourhood scale by reducing the numbers of new recruits into the habitat, whereas a flock of Noisy Miners may have a persistent impact in a garden by actively chasing away any smaller birds.

Conclusions

Overall the Birds in Backyards community survey generated a large amount of data over a short period, and has demonstrated that a community survey can yield valuable scientific results. It has uncovered associations between bird species, and potentially impacting factors affecting Sydney’s urban bird assemblage. This survey has demonstrated that the Sydney bird community may be structured not only by habitat variables but also by the presence of a dominant competitor and, importantly, that the average household can have a direct impact on the bird community, either positively, by planting native vegetation, or negatively, through the provisioning of supplementary food.