News of Friends of Grasslands

Supporting native grassy ecosystems

November-December 2003

Program

Saturday 8 November, 2pm - Royalla A FOG member has a good example of grassy box woodland, including some interesting orchids, in this new development. We'll meet at the Royalla Estate turn off on the Monaro Highway.

Sunday 23 November, 9pm - Roger Farrow will lead a Tinderry Walk. Meet at Michelago Service Station. The all day walk includes a visit to Michelago grassland. After that there is no track, some rock scrambling. Grade: moderate, distance about 5k, climb c. 200m. Spectacular displays of *Philotheca, Grevillea, Phebalium, Platysace, Leptospermum* etc probable.

Wed-Fri, 26, 27 and 28 November - Third Native Grasses Conference, Cooma Many of you have registered already, and it looks like the conference being organised by Stipa and FOG will be a great success. If you have not thought about it, this is a rare opportunity to learn about so many issues associated with grassy ecosystem conservation and the links to sustainable land use and farming. To entice you we are including a pamphlet on travelling stock reserves in the area. If you have lost the conference brochure that we distributed in the last newsletter, or need more, contact Margaret.

Saturday 29 November - Packers Swamp (Tantwangalo NP). Meet at Nimmitabel Bakery at 9am. This is a grassy montane swamp with several arms and a range of habitats from moist short grassy sward round the edges to tall wet tussock grassland out in the middle. Good things to expect are *Xerochysum palustre* (formerly *Bracteantha palustris*) and *Craspedia palustris*. Bring gum boots!

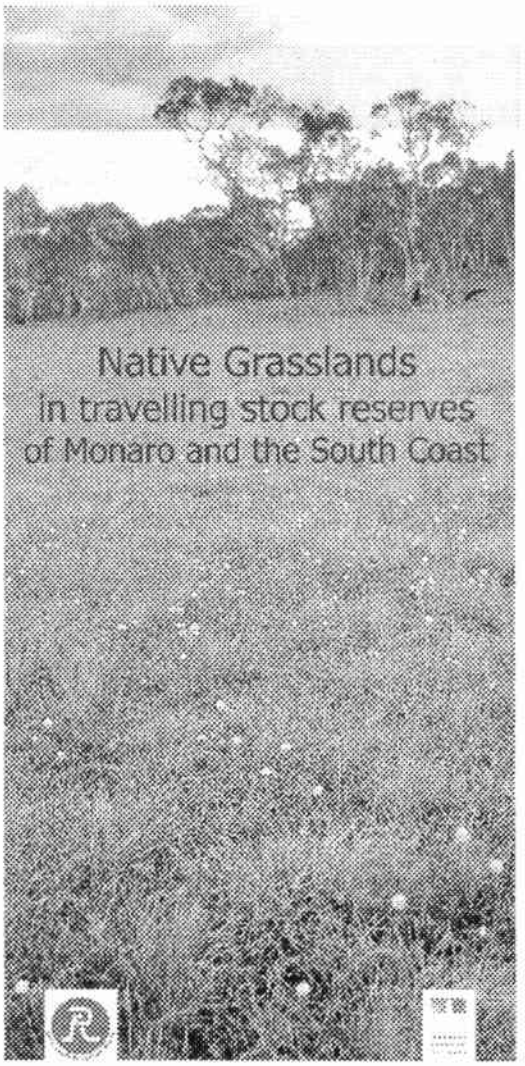
Weekend of 12 to 14 December - SubAlpine grassland/wetland weekend Kylie Durant has organised a weekend not to be missed. We shall stay in Tumut on the Friday night and Tumbarumba on the Saturday. People can join us on the Saturday morning or Sunday morning if they cannot spare a full weekend. The program is Micalong Swamp (Saturday a.m.), Tarcutta Swamp (Saturday p.m.), and MacPhersons and Tomneys Plain (Sunday). An enticing description of the trip is on page 2 - details from Margaret.

7 to 8 January - Tasmania Midlands Grasslands Tour - Have you thought about joining us for FOG's two-day trip to see Tasmanian grasslands? As usual, we shall keep costs to a minimum and the reward will be to see ecosystems that are both alike and different to those on the mainland. Our leader is Louise Gilfedder, who by the way, will be at the Native Grasses Conference. On the first day we shall put aside a couple of hours to talk about grassland conservation in Tasmania and the mainland. For more information talk to Margaret.

Saturday 22 February, 4pm - FOG's Annual General Meeting, Mugga Mugga. Short but fun AGM followed by a traditional free barbecue. This is an important annual event for FOG to discuss its broad direction, elect a new committee, and to relax and enjoy the comfortable environs of Mugga. So please put this in your diary now.

Membership renewal

Yes, it is time to get out the chequebook and renew your membership for 2004. Please do this promptly as it will save Margaret chasing you up. We have kept fees to their current low levels: $20 for individuals and families, $50 for corporate members and $5 concession for those on social security benefits. Donations are welcome as the budget is tight. If you have any doubts about rejoining, remember we need your support. More on page 3.



Native grasslands in TSRs

The enclosed brochure shows some of the delightful native grasslands in the Monaro and South Coast. We have reported on many of these sites in past newsletters. We thought you would enjoy the brochure and might wish to plan a future trip to some.

News Roundup

Cryptogam Workshop
Alan Ford

David Eldridge drove down from Sydney on a sunny Saturday 20 September to give FOG a fascinating introduction to cryptogams and their role in the surface of soil, and the part they play in stabilising soil.

David began by pointing out that biological soil crusts are important components of the ground flora in the drier parts of the world. They are formed by an intimate relationship between a rich assortment of lichens, bryophytes (mosses and lichens), cyanobacteria, green algae and fungi. This workshop concentrated on the things we could see, as the algae and fungi are another world of difficulties.

Unaltered landscapes are dominated by small areas of huge diversity, and biological soil crusts tend to be found in sparsely vegetated country, filling in the gaps between other vegetation classes. Biological soil crusts have a number of roles. They reduce water and wind erosion; regulate infiltration of water into the soil; enhance soil nutrition by fixing nitrogen; increase carbon; provide a home to small animals; and influence and protect germination of plants.

Soil crusts create a microtopography which assists in holding the soil together and stops the erosion of important soil particles. We were shown slides of the tiny gullies trapping eroding soil in these micro landscapes.

Their presence indicates a healthy landscape, but they are subject to threat from fire and trampling from heavy grazing animals. While fire has the potential to destabilise soil by breaking the links between soil particles, trampling can wipe out these communities leading to erosion, weed invasion and potential dust bowls. It has been shown that communities take a long time to recover, one study indicating a return to 40 percent ground cover after 40 years. Components of the crust have other values - lichens have been used as biological indicators to ascertain toxin levels.

The party was taken to Queanbeyan Nature Reserve to look at soil crusts and came across an impressive diversity of lichens and bryophytes. To examine these you need a hand lens in the field and microscopes inside. While at the Nature Reserve we were shown the dehydrated version and their reaction to small amounts of water. A stunning example of resilience to water stress.

We then learnt that lichens are a combination of fungi and algae and fall into five main forms: a) fruticose, shrubby; b) pendulose, hanging; c) foliose, leafy; d) crustose, crusty; and e) squamulose, warty. One genus, *Xanthoparmelia*, has at least 150 species in Australia. This gave us some idea of the problem confronting us in identification, there are huge numbers of species, and identification to this level is very difficult.

Mosses have stems and leaves, photosynthesize and have mechanisms to survive in dry environments: twisting stems and curling leaves; hair points on leaves; and niche preferences.

Liverworts are liver-shaped and fall into two main types, leafy and strap like. They photosynthesize, have scales to reduce water loss and can live dehydrated for long periods.

Our thanks to David for providing us with his view of elements of the soil crust. He is co-author of *A practical guide to Soil Lichens and Bryophytes of Australia's Dry Country.*

Bushfire recovery
Aristida

Twenty-two members of FOG were privileged to have three different views of the recovery process in the fire-affected areas in southern NSW and the ACT on the very rainy afternoon of Saturday 23 August. The contrast between that day and the January fire period could not have been starker than

In this issue

Sub-Alpine Weekend
With Kylie D
12 to 14 December

The program is described on the cover page. Here are some more details to wet your appetite.

Micalong Swamp is the largest montane swamp (the reserve is 526ha) on the NSW slopes and ranges and is on the Register of the National Estate. Part of the Hume and Hovell Track goes through the swamp. At an elevation of 900m, it is montane rather than sub-alpine and has areas of both heath and Poa grassland, Carex fen associations and open, wet schlerophyll forest. A management plan is being developed for the swamp by State Forests, the managers of the land and aspects of its ecological, historical and cultural heritage significance are being investigated. It has been heavily grazed in the past and it will be interesting to see how well it has survived the drought. Kylie says she is am pretty excited about getting a good ground layer species list together!

The Tarcutta Swamp is another montane swamp between Batlow and Tumbarumba and is the headwaters of the Tarcutta Creek. It is a heath swamp with sphagnum in places, surrounded by pine forests.

McPhersons and Tomneys Plains are both grassy wetland ecosystems on the very edge of the sub-alpine zone (1100m). The Plain is a mixture of private and leasehold land, and three adjoining landholders have recently fenced the area from cattle to manage it better. It experiences pressure from travelling and agisted stock through the summer and autumn, as well as brumbies. Kylie is keen to get a good species list together for the landholders, to develop a management plan. The Plain comes alive with Eyebrights and other annual herbs in December, so look forward to a spectacular display. The planned accommodation for Saturday night is nestled in the Snowgums on the edge of the Plain - might be some good spotlighting to be done for Yellow-bellied Gliders on Saturday night!

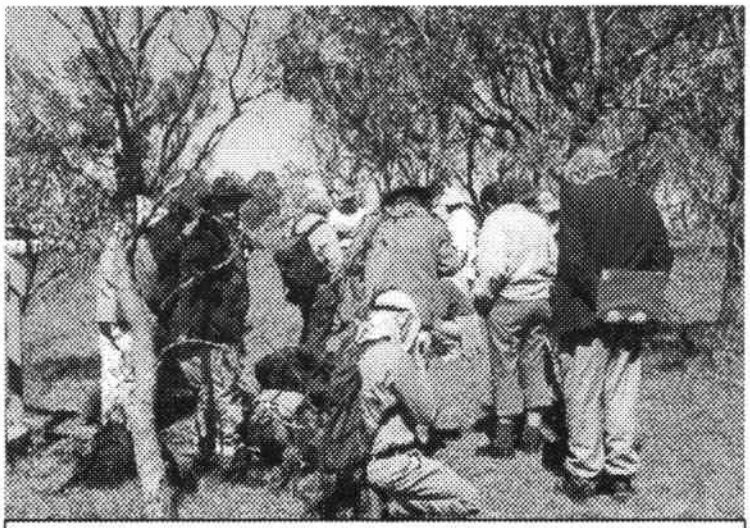
the views of the immediate post-fire regime.

Nick Webb from Environment ACT (EACT) started with a review of Environment ACT's survey, a post fire snapshot of the recovery of natural systems 3-4 months after the event. EACT had first to determine the communities to be surveyed and then selected them from aerial photos. They are mostly flora sites with some fauna sites surveyed as well. The survey showed that while the area covered by the fire was huge, the actual burnt areas contained patches that had not been burnt. Her presentation revealed the different responses that selected species have evolved to cope with fire events. Kurrajong (*Brachychiton populneus*) seemingly recovers almost effortlessly and Grass trees (*Xanthorrhoea* sp.) are stimulated to flower by fire. Alpine Ash survives through seed, though the adults are generally killed by fire. While the She-oaks (*Casuarina cunninghamiana*) appear to be coming back, there was no sign of life in shrubs such as certain Grevillea species. In relation to the fauna, one idea is that there was an initial survival rate but that selected populations may have crashed because of factors related to lack of food or shelter.

Frank Ingwersen began with stark slides of the destruction of the infrastructure and programs at Tidbinbilla Nature Reserve. The bush can come back, but has to cope with the enormous severity of the fire in parts of the reserve areas. He pointed out that patchiness of the fire is vital as there are refuges that remain for both fauna and flora. He showed that some Alpine Ash stands had been burnt in 1983 and that those stands may not have produced seeds, resulting in the disappearance of this species from some, relatively small areas, of appropriate habitat. One series of slides showed the massive erosion that had resulted from a storm event in late March and resulted in significant levels of sediment being deposited in Bendora Dam.

Ian Haynes had a different, but no less dramatic, perspective on the January fires. In March-April he had travelled from Thredbo to Namadgi. His presentation showed huge areas affected by fire and one view of a distant main range showed the mosaic of burnt and non-burnt landscapes on a vast scale. The main range has been affected by the fires with large black patches, although in some cases the fire burnt along the ridge lines leaving the intervening saddles and lower areas virtually untouched. There were scenes of the Snow Daisy coming back. However, down near the Geehi River there was a nastier scene, substantial areas of Blackberry asserting itself.

Our thanks to Nick Webb, Frank Ingwersen and Ian Haynes for a truly riveting afternoon.



Looking at cryptogams in the Queanbeyan Nature Reserve as part of the Cryptogam Workshop. More pictures page 5.

Time for Membership renewal: FOG needs your support

In this year we have:

- *Continued with a quality newsletter,*
- *Organised the Stipa-FOG Native Grasses Conference,*
- *Had workshops on insects and cryptogams,*
- *Supported the establishment of the Southern Ecosystems Ecosystems Park,*
- *Had a widely supported field program,*
- *Lobbied for grassy ecosystems,*
- *Networked with many people with shared visions and objectives,*
- *Continued to visit members' properties or sites in which they are involved,*
- *Assisted with field surveys, and*
- *Enhanced members' hands-on experience.*

So please send in your completed membership renewal form.

If you joined (not renewed) since 1 July your membership is up to date, i.e., it is paid until end of 2004.

Picaree Hill
Alan Ford

On Sunday 19 October FOG participated in the flora survey of Picaree Hill, an 800 hectare Greening Australia project about 30 km north of the city. I was part of a team led by Dave Mallinson which surveyed three sites, all based on a dry forest association of Red-anther Wallaby Grass (*Joycea pallida*), Red Stringybark (*Eucalyptus macrorhyncha*) and Scribbly Gum (*Eucalyptus rossii*). The three sites contained very few weeds and were almost pristine in large parts of the areas surveyed.

The first area (Picaree site 7) was a steep slope with about 20 native species: the thing that stood out was the *Allocasuarina littoralis* and the little *Tetratheca* sp in flower. The second area (Picaree site 9) was a long dry forest gully with what seemed an incredible number of around 35 natives, including 6 orchids. The latter included the Waxlip Orchid (*Glossodia major*), Pink fingers (*Petalochilus carneus*) and the Sun Orchid (*Thelymitra pauciflora*). The third area (Picaree site 8) was a small dry forest gully with around 20 natives.

This area is a tribute to the owners who have obviously put a lot of thought into the management of the property. It is not often that you get to wander in the real bush - a weed free bush, at that! The Grass Trees really stand out. Greening Australia had organised the day so that 3 teams managed to survey around 8 of the sites that form the base for the project.

FOG visits Woden
Aristida

On a sunny, but cold, Saturday 11 October, we went to Woden, a property to the south of the city. The site is listed in the ACT's Action Plan No. 1 on Natural Temperate Grassland, an endangered ecological community. FOG had visited

the site about 5 years ago and again in the winter of 2002.

We found around 55 native species through wandering from the lower areas to the remnant woodland at the top of a slight rise. The usual suspects were present, Common Everlasting (*Chrysocephalum apiculatum*), Kangaroo Grass (*Themeda triandra*), the Blue Devil (*Eryngium rostratum*) and Early Nancy (*Wurmbea dioicea*).

There were some surprises, real gems in the crown which mark the site as something special. As the site had stock on it and had been affected by the drought we needed to be careful in our identification. We were confronted by a possible Grass Cushion (*Isoetopsis graminifolia*), stunned by the little Chamomile Burr-daisy (*Calotis anthemoides*), and knocked over by the Peas (*Swainsona sericea*) and, hiding in the rocks, (*Bossiaea buxifolia*).

This is clearly an important site and we will watch its future with interest. Our thanks to Charles Campbell for allowing us to visit the property.

Woden postscript

We found a couple of other interesting things at "Woden". First was Lobed Wallaby Grass (*Danthonia auriculata*) which is fairly widespread but not all that common on the Southern Tablelands - more so on the Western Slopes and into northern Victoria. More mystifying was a *Galium* species which may be the native *G. compactum*, Compact Bedstraw - another visit will be made to check this.

ACT NRM Plan
Grasscover

The ACT Natural Resource Management (NRM) Plan was released in September, calling for comments by 24 October. While the ACT is part of the broader Murrumbidgee Catchment and therefore is part of the *Murrumbidgee Blueprint,* being a separate jurisdiction, the ACT needs to have its own NRM Plan.

The document contains much information that is useful, referring to a plethora of Commonwealth, Regional and Territory policy documents that are relevant. But, I have to admit that the Plan is a very complex document and somewhat bewildering. I attempted to focus on a couple of areas that I know a little about - biodiversity and community building and to explore what the documents says about that.

Biodiversity and community building, together with soil health, salinity, and water quality and flow are the Murrumbidgee Catchment targets. The Catchment target for biodiversity is to "manage for biodiversity conservation a minimum of 30% of the area of each remaining native vegetation communities and related habitats of the Murrumbidgee Catchment by 2012." The ACT comment is a little disappointing on this, noting that this may not be possible. The document lists six ACT management targets to achieve this, such as "by 2006, have in place biodiversity targets that enable on-going assessment and protection of biodiversity values." Within each of the six management targets, numerous tasks are mentioned. Many look appropriate, but it is difficult to know the precise intention of each, and how the tasks would be approached, resourced and implemented. Is this a political document that pays due deference to all the other documents out there or will it be the vehicle to ensure that biodiversity is protected and allowed to recover? Certainly, the authors do not reflect a clear understanding of our local ecosystems and flora and fauna, but then this is a management process!

Ecological Society of Australia
Annual Conference
University of New England
8 to 10 December

The Annual Conference includes symposia, an open forum of contributed papers and poster session, postgraduate course, social events and post-conference excursions. Conference information can be accessed at the web site, or telephone 02 6773 2539 and e-mail: jreseigh@metz.une.edu.au.

The first management target for community building is "by 2005 provide the community with access to the identified information, skills and knowledge required to undertake activities to achieve the NRM targets in the Plan." Again, many activities are listed here. But one is left with the impression that this is more brainstorming, by people with diverse views and degree of understanding, rather than a plan.

Organisations like FOG, the Australian Native Plants Society, the Canberra Ornithologists Group and the Southern Tablelands Ecosystems Park, (none of whom, unfortunately, are mentioned in the document, would have a strong role to play providing essential information and guidance to inform the content of the framework.

Development destroys Delma
Grasscover

Can you imagine my horror when the *Gungaderra Trunk Sewer Stage 1, Preliminary Assessment* (PA) was put in front of my nose? "You would be interested in this." This proposal will result in a sewer pipeline going from the suburb of Harrison, near the Gungahlin Town Centre, through the Mulanggari and Gungaderra Grassland Nature Reserves.

As I read on, matters got worse. For a 400mm pipe, a corridor of 19 metres will be cleared - the Eastern Gas Pipeline approach. Those of us familiar with that exercise will know the permanent scar that has been left. This includes a long trench down the centre, piling up soil on one side and allowing heavy vehicles on the other. Turning areas of thirty metres are also to be placed en route, and permanent access to be provided to ACTEW. Images of natural temperate grassland ripped up for development! In Gungaderra alone this will mean damaging four hectares. The PA seems to make light of the damage, does not consider other alternatives, scarcely mentions any plants that may go, and seems indifferent to the Delma that may be killed - the tone is that they should recover as should the grassland.

My ire was also raised by the lack of consultation process. The Conservation Council received this report, but Friends of Grasslands, which usually receives such reports, didn't. The PA states that this proposal had been around for yonks - a well-kept secret in my view. The assessment was done in May 2003, but despite our numerous contacts with government, no one said "by the way, did you know...?" The time allowed for comment was minimal - I received a copy of the report on Thursday to peruse, comments due Friday. When are ACT Governments going to get their act together about consultation processes? Was this Government trying to slip one by us?

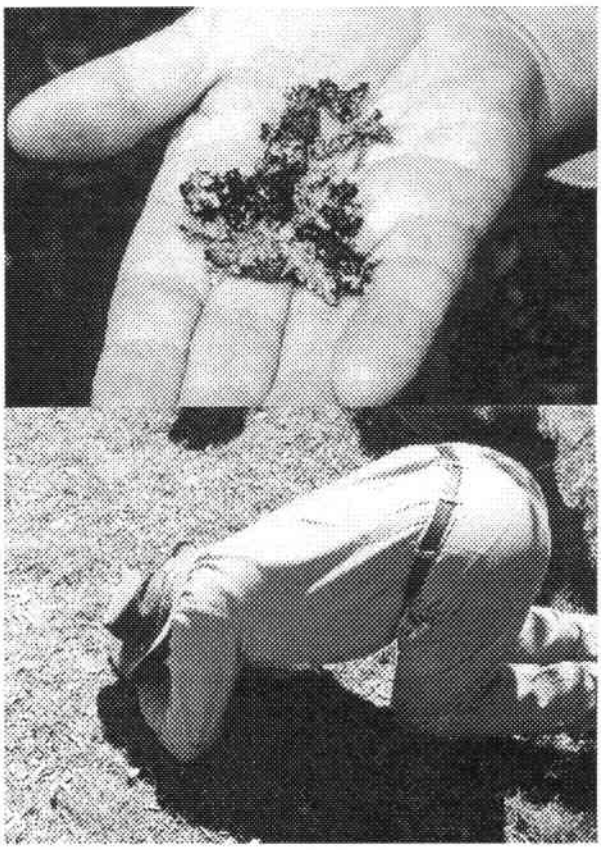
After receiving the report I went for a walk along the route. I saw patches of Kangaroo Grass, Wallaby Grass, Tall Spear Grass, Blue Devil, Button Daisy, Woodruff, Sun Dew and Erodium

crinitum. However, for the most part, the area was weedy and took on the appearance of a muddy cow paddock. Cape Weed proliferated and St John's Wort, Serrated Tussock and Hawthorn were present. In fact, little damage would be done to remnants and with a little care, plants could be removed and put back after the operation. In some areas less care could be taken but in some, more care could be taken and unnecessary damage avoided by using underground boring, which is proposed for the roads in the area.

After the walk I made many phone calls. Ok, there was not a big threat to the Natural Temperate Grassland, but what about the Striped Legless Lizard, the reason for the creation of the reserve? The consensus seems to be that deaths would be inevitable, but given its strong presence, it would recover.

Wildfires in the ACT 2003
Alan Ford

Environment ACT recently released Technical Report 17, *Wildfires in the ACT*. The report presents the results of flora and fauna surveys conducted by Environment ACT in the first few months following the fires. It indicates that the 2003 fires resulted in the near complete removal of ground vegetation over about 70 per cent of the ACT. The highest fire intensities were sufficient to remove or scorch tree canopies and large shrubs over about one-third of the ACT (83,452 hectares).



David Eldridge and Dierk von Behrens illustrate different ways of examining cryptogams. Notice in the second method that it is important to get one's head around the subject. Looking through microscopes proved the most fascinating.

Photos from the cryptogam workshop.

The Report notes that, generally, the flora is showing regeneration in all but the most severely burnt areas. In these severely burnt areas, much of the canopy cover may not be replaced until the seedlings mature. The type and degree of response showed marked differences between species; from those with almost completely restored canopy such as Kurrajong, to those showing only the very first signs of shoots, such as Snow Gum.

Habitats for most mammals, reptiles, frogs and birds were considerably altered by the severity and extent of the fires. The initial impact of the fires caused an apparent marked reduction in population sizes of most fauna species in these areas.

Recovery, if it occurs, is obviously going to take some time.

Landcare Dying, or Stayin' Alive?

Sue Fletcher

The theme of the NSW State Landcare conference held during August 2003 at Batemans Bay was *Stayin' Alive – a celebration of strength and new growth.* So - where is Landcare headed now, after more than a decade of growth and success? Funding for co-ordinators has been erratic and uncertain for over a year, and many landcarers have become discouraged and demotivated.

Landcare, a victim of its own success?

The first keynote speaker, Rick Farley, Farley Consulting, suggested that Landcare was a victim of its own success. Now that Landcare has been instrumental in moving issues such as water management and salinity to the top of the political agenda, governments want to be more involved in the decision-making process. He pointed out that as Catchment Management Authority (CMA) blueprints will soon be the basis of government funding, Landcare could tender for projects to implement them. Individual farmers and Landcare groups will need to have property management plans which match the objectives of the blueprints if they are to be successful in gaining grants.

Getting farmers to change their land management practices has proved very difficult to achieve through legislation. Rick feels that cooperation between the following four major groups is vital to any long-term change in land management practices throughout the landscape:

- Farmers, who hold title to about 60% of Australia's land,
- Indigenous people, with title to about 20%,
- Environment groups, and
- Governments.

Respect between these stakeholders is important, and all views must be accepted as valid. There is a need to find areas of mutual interest, and co-operate on these, setting differences aside. Without local and regional co-operation, little will be achieved.

Clearly, the way forward for Landcare poses many challenges. In my view, the greatest challenge is to find ways to compensate farmers for losses incurred in modifying their management practices to enhance sustainability. Rick suggested that this would most probably need to be achieved through offering tax incentives.

The Wentworth Group

The second major speaker, Glen Klatovsky, from WWF, is part of the support team for the Wentworth group. This group of eminent scientists was formed in response to calls to drought-proof Australia by turning coastal rivers inland. They felt that 'we need to learn to live with the landscape, not fight against it'[1]. In November 2002 they proposed five areas for sustainable landscape reform in their "Blueprint for a Living Continent":

- clarifying water property rights;
- restoring environmental flows;
- ending broadscale land-clearing;
- paying farmers for environmental services; and
- removing hidden environmental subsidies from the cost of food, fibre and water.

The NSW government has agreed that the Native Vegetation and Threatened Species Acts have failed, and that they have lost the trust of farmers. They have accepted the Wentworth Group's model below as the basis for their new native vegetation management policy:

- Strengthen and simplify native vegetation clearing regulations ending the broadscale clearing of remnant vegetation and protected regrowth
- Set environmental standards and clarify responsibility for native vegetation management which will, over time, create healthy rivers and catchments
- Use property management plans to provide investment security and management flexibility, along with financial support for farmers
- Provide significant levels of public funding to farmers to help meet new environmental standards and support on-ground conservation
- Restructure institutions by improving scientific input – into policy setting, improving information systems, and regional administration.

A committee chaired by Ian Sinclair has been examining the ways in which the recommendations within this model might be implemented, and is due to report soon. How closely the implementation plan matches the priorities set by the Wentworth Group remains to be seen.

Past Landcare successes have been due in no small part to the fact that they were largely landholder driven. My feeling, over the last few years of living in the country, and from farmers and landholders at the conference, is that distrust of governments, scientists, and 'greenies' remains widespread in rural Australia. The success of the new CMAs may lie in their ability to improve the flow of information and acceptance of sound science so that farmers and landcarers are still able to play a pivotal role in driving progress towards sustainability in land management.

Snowy Monaro Biodiversity Project

The workshop of perhaps the greatest interest to FOG readers was that presented by Kerry Pfeiffer on 'Managing the Monaro grasslands'. Kerry described how he had been instrumental in securing $1 million for the Snowy Monaro Biodiversity Strategy project, with funding spread over 4 years. Landcare will be one of many partners he will attempt to engage in the process. Kerry hopes to encourage landholders in the 30-40,000 hectare pilot area to create zones within their properties. One zone would be for more intensive grazing, and hence improved production - he feels that an improvement from 1 DSE (dry sheep equivalent) per acre to 1.5 DSEs is possible. This would free up other areas for less intensive management, and allow others of high conservation value to be set aside altogether. The main weed threats which have been identified and which will be targeted during the project are Serrated Tussock and African Lovegrass, native grassland enemies many FOG members are already only too familiar with!

State Landcare Awards

A dinner dance on the Saturday night was a great occasion to celebrate the achievements of Landcare individuals and groups. My personal favourite was Charlie Weir, winner of the *National Landcare Individual Award*. Charlie is a retired fisherman who works alone and with groups to regenerate mangrove swamps. Charlie's methods are self-taught, built up over years of observation and trial and error. He clearly enjoys passing on his expertise, and derives enormous satisfaction from his contribution to the health of the Shoalhaven River. Well done, Charlie!

The Upper Murray Landcare Groups (I am a member of Tooma Landcare, which is part of this Upper Murray Group), co-ordinated so ably by Kim Krebs, won the *Sensis Landcare Catchment Award* for 'excellence and innovation in creating and carrying out a catchment plan'. Kim's project, GIS for Farm Planning, used a program called MapInfo (used by local councils) to generate property plans for farmers throughout the district. Usually, property management plans consist of an aerial photo, overlaid by transparent sheets, each with either roads, fences, waterways, etc, hand drawn and marked on them in coloured pen. Using this software, and after a half day visit and drive around the property, Kim is able to present the farmer with A4 computer printouts showing all these features, and a spreadsheet listing a full farm land management plan which expresses the farmer's goals for the future. Funding is required both to purchase the aerial photographs, and then to rectify and digitise the images.

Kim has gained accreditation from the Taxation Office to certify these property plans. Where a landholder undertakes fencing to separate paddocks on the basis of land capability classes[3], then tax deductions will be allowed. A great leap forward – congratulations Kim.

Other State Landcare Gold Award Winners announced at the dinner were:

- *Landcare Australia Local Government Award* - Wingecarribee Shire Council
- *Alcoa Landcare Community Group Award* - Lake Macquarie Landcare Inc.
- *Rural Press Landcare Primary Producer Award* - Bernard and Margaret Conway, Kyeamba Valley Landcare Group
- *Telstra Countrywide Landcare Research Award* - John Ive, Murrumbateman Landcare Group
- *Bushcare Nature Conservation Award* -The Saltshaker Project, a collaboration by Greening Australia (ACT SE NSW), Boorowa Regional Catchment Committee, Boorowa Council and CSIRO
- *Murray Darling Basin Commission Rivercare Award* - Tarcutta Creek Catchment Committee

- *Westpac Landcare Education Award* - Holy Family Primary School Landcare Group, Merewether Beach
- *Landcare Australia Indigenous Landcare Award* - South Beach Negotiating Forum, Nambucca Heads

Stayin' Alive

Julie McCrossin closed the conference with a wonderfully energetic and entertaining session focused on 'what I really want for the future', encouraging us all to 'keep the faith', stay alive, and take Landcare into another decade of success and growth.

After the enthusiasm generated by the conference, the question remains – will Landcare survive the shift to greater government control and higher levels of accountability for the spending of funds?

References and further reading:

Ecos Issue 115 April – June 2003, *The Wentworth View*, pps 23 – 36.

WWF Australia (2002) *Blueprint for a Living Continent. A way forward from the Wentworth Group of concerned scientists.*

Physical Property Planning, 1999. NSW Agriculture, Department of Land and Water conservation. *Rural Land Capability*, pp 51-56.

Weed Control in Native Grasslands, suggestions from practice in Melbourne Victoria

Bram Mason

Email: Bram.Mason@research.vu.edu.au

Our native grasslands are disappearing at an alarming rate. Those grassland reserves that are not destroyed by human activities face being fragmented away from other grassland reserves. The simple act of reducing the size of reserved grassland areas increases the relative boundary area of the grassland habitat. An increase in boundary area relative to the enclosed habitat increases the relative area for invasion by exotic plants. This leads us to our current problem – exotic weeds invading and changing the floristic component of remnant grasslands.

The following are suggestions for reducing invasion by exotics and for controlling the exotics once they have invaded. The points are basic suggestions that many grassland managers are already incorporating into grassland management plans.

Reducing Invasion

- The most obvious: Keep large areas of grasslands intact.
- If slashing or grazing is part of the management program, ensure good hygiene of equipment and stock (keep clean of weed seed). In some cases if grazing animals are to be used, a quarantine period should be induced to ensure any weed seed carried in the intestines of stock is removed from their system before introduction into the grassland reserve. Removal of weed seed from animal hide is also necessary.
- Make sure any management practices do not disturb the soil profile. Soil disturbance can kill the remnant vegetation; increase the amount of available soil nutrients and, coupled with the ever-present weed seed in soil seedbanks or from transient weed species, can increase the degree of weed invasion.
- Keeping the remnant vegetation productive in terms of the amount of seed and plant vegetative matter produced can favour the remnant vegetation over the exotic vegetation for utilisation of the available resources (water, nutrients, light, space, etc.).
- Circular reserves have a smaller boundary area in comparison to square reserves of equal internal area. This fact needs to be incorporated into the initial planning stages if small reserves are to be made from larger reserves. Corridors linking reserves are also a must to maintain remnant biodiversity values.
- Make the local community aware of weed invasion problems associated with dumping of garden waste in or around grassland reserves.
- With appropriate management, native grasslands can be used as spectacular floral displays, which the local community can be introduced to for increasing community ownership of the remnant reserve.

A personal reward of grassland conservation is to see rare and unusual plants. This one, Lomandra bracteata, *with its bright yellow flowers gripping the ground, is one of many special plants seen this spring.*

Controlling weeds after invasion

- The biology and ecology of both the exotic and remnant vegetation must be investigated. This investigation, even if kept very simple, can highlight strengths and weaknesses of the exotic and remnant veg. A key area to look for is the point in time when the exotic is going through a weak point in its life cycle and the remnant is at a strong point in its life cycle. Things to concentrate on are: the type of photosynthesis (summer or winter growing); time of flower production; time for seed to set; time of seed germination including initial, most productive and reduction phases; key climatic requirements for the above points; any abnormalities in current climatic conditions that may hinder or help with weed control.
- Do not allow exotics to set ripe seed.
- Methods used to obtain a direct kill of the exotic must also be carefully investigated. Often herbicides that are used can be just as detrimental to

the remnant vegetation and fauna. Herbicide spray drift can increase the area invaded by an exotic. To control annual grasses, some grassland managers have used fire. In these situations the annual exotic must be burnt before seed is set. It is important to note that fire can also stimulate the growth of some exotics. Also, the exotic soil seedbank can be very large and the exotic will often reinvade the same area from this soil seedbank.

- If you **kill** an exotic you must **fill** the space it occupied with a native species. This fact must be incorporated into any weed control plan and will affect times of exotic kill and ongoing weed control practices. The remnant species used to fill the area once occupied by the now dead exotic, must be able to adequately compete with any re-invading exotic. For example, research carried out by Victoria University in Melbourne indicates that Kangaroo Grass can actively compete with grassy weeds such as Serrated Tussock (*Nassella trichotoma*) and Chilean Needle Grass (*N. neesiana*) if certain requirements are met relating to the establishment of Kangaroo Grass seedlings.
- Ongoing monitoring of the invaded area must be carried out and results fed directly into the integrated weed control plan.
- There is currently no quick fix for weed control (except for building a car park or housing development, etc. over the site, which is not recommended) so patience is a must.

Weed control in remnant grassy ecosystems is a process that is always undergoing development and further research. We as a community dedicated to the conservation of grassy ecosystems, must work together to ensure best practice technology is available to all of us.

I would like to thank Friends of Grasslands for giving me the opportunity to write this article. Keep up the great work, as I know you will, cheers.

Blowing our own trumpet: Part 2

On 21 August FOG was awarded the ACT Bushcare Conservation Award "for excellence and innovation in implementing nature conservation activities on land outside formal parks and reserves". The following is the second part of an extract from the nomination using the criteria against which the awards are judged. Continues from previous issue.

Contribution to the protection of rare, threatened or endangered ecosystems and/or species

FOG's efforts are directly related to rare and threatened species and ecosystems, including wetland systems. Many of our members own and/or manage land with threatened species and communities present, and we provide encouragement, advice, and work to support their efforts.

FOG undertook a project that led to the creation of the Old Cooma Common Grassland Reserve, which contains two threatened plant species and a threatened community.

It has lobbied and supported the creation of other reserves. FOG has played an active part in the Monaro Grasslands Advisory Group which recently launched the Monaro Grassland Conservation Management Network (CMN). It has also assisted in the development of the Southern Tablelands Grassy Ecosystems CMN and continues to contribute to both CMNs. It is a member of ACT Parkcare and contributes to their understanding of conservation issues. It has assisted in the establishment and ongoing work of the ACT Fisher Park Landcare Group.

Between 2000 and 2002, FOG participated in the NHT-WWF Devolved Grassy Ecosystems Grants as a member of the advisory group assessing project applications for work associated with the protection and recovery of grassy ecosystems remnants.

FOG has organised and participated in vegetation and fauna surveys. This has led to the discovery of new populations of threatened animal and plant species. Its activities have directly led to the discovery of two new Leek Orchid species.

FOG members have attempted to get a sound scientific base for their activities and participate in a number of advisory committees that deal with threatened communities and species. FOG has participated in National Recovery Teams for the Grassland Earless Dragon and Natural Temperate Grasslands. It actively participated in public consultations in the ACT's *Woodlands for Wildlife, Draft ACT Lowland Woodland Conservation Strategy, Action Plan No. 27,* which is the ACT framework for conserving Yellow Box Red Gum Grassy Woodlands and related threatened and significant species.

FOG attempts to be objective in its assessments and to steer away from politics. However, on several occasions it has acted publicly to gain support for remnant areas that may have otherwise been cleared for development. This has led both directly and indirectly to important areas with threatened communities and species being set aside for conservation.

FOG's initiation of and support for STEP should also in time greatly increase the scientific and community understanding of threatened and rare communities and species.

Raising awareness of the presence, importance and better management of remnant native vegetation, to maintain bio-diversity

At the end of 2002, FOG had a membership of 180 members, many of whom are families and corporate members. In addition it gives away many complimentary copies of its newsletter. The newsletter is focused on awareness raising on both the theoretical and practical aspects of the presence, importance and better management of remnant native vegetation, to maintain bio-diversity. FOG has targeted conservation, rural, landcare and parkcare groups, national, state and territory, and local government agencies, rural lands protection boards, and land owners and managers with public awareness campaigns. It has done this through some major workshops, each with around 100 attendees, two in Canberra, one in Queanbeyan, and one in Cooma. Working with NPWS in 2001 it visited numerous sites in a set of open field days from Mulwaree to Monaro. In all, over 300 people attended. It takes the opportunity where possible to visit landowners to offer conservation assistance. Each of these workshops received much local publicity. FOG has organised many smaller workshops on plant identification, grassy ecosystem restoration, insects in grasslands, and soil analysis, and many more are planned on topics

that will push out the envelope of understanding on grassy ecosystem ecology.

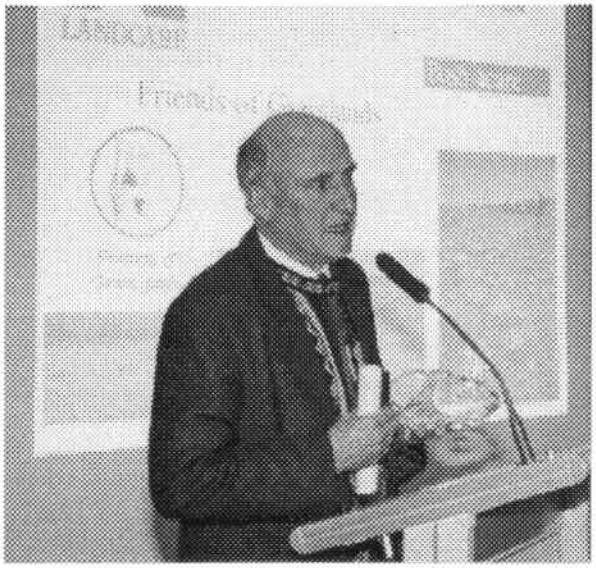
On Thursday 6 May 1999, Geoff Robertson, FOG's President, received a cheque for over $18,000 from Senator Hill as part of the Threatened Species Network Community Grants round, for work at Old Cooma Common. This was shown on national television. Subsequently, for several years this project was promoted in Cooma especially on Threatened Species Day. On the opening of the reserve, 7 September 2001, over fifty people attended and the event was well publicised locally.

FOG continues to get press coverage for its many activities, including its initiation and support for STEP. Material from its newsletter is often reprinted in other newsletters.

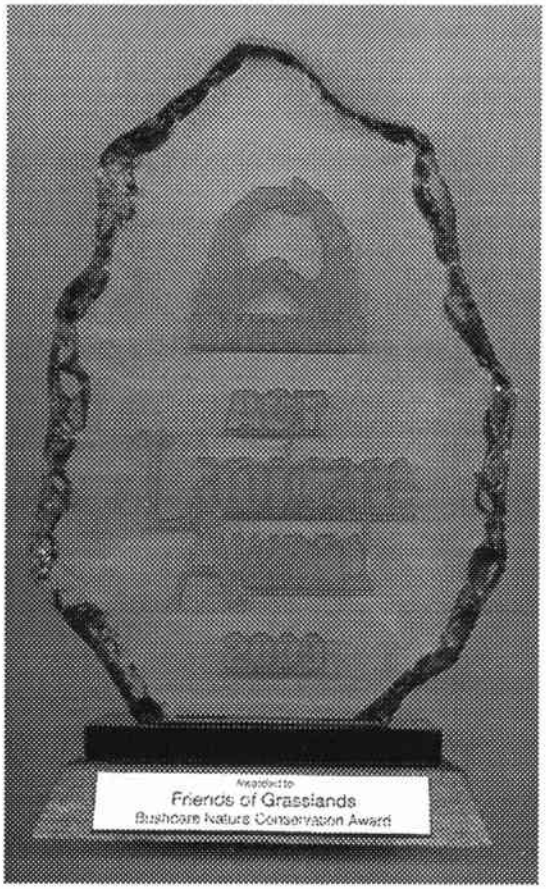
Linkages to existing protected areas or other conservation areas

FOG has actively attempted to participate in finding and assessing quality grassy ecosystem sites. It has actively publicised the existence of such sites. It has prepared submissions in support of government agencies and/or other groups who are attempting to have reserves created in respect of these sites. It worked with Cooma Council and other agencies to create the Old Cooma Common Grassland Reserve.

FOG has visited many areas of public land and generally encouraged the establishment of formal conservation agreements. Its advice or participation in management groups has been sought. It has organised visits to reserves and potential reserves on numerous occasions and participated in weeding, planting and other work on such sites. Many of FOG's activities take place on public land which may have a different primary purpose but where conservation is an important objective, eg Defence land, SMEC-owned land, travelling stock reserves, railway sidings, roadsides, and cemeteries. It actively encourages land-owners and managers to ensure that long term conservation agreements exist over such sites.



Geoff takes the opportunity to explain the FOG philosophy at the ACT Landcare awards, holding FOG's certificate and plaque. Photo provided by Alice Campey. Below is a scan of the plaque.



Likewise, FOG frequently visits privately-owned land where owners want information about conservation values. It encourages such owners to recognise the plant communities and the plant and fauna species that exist on such property and provides advice on how to ensure the best long-term conservation outcomes.

Encouraging the wider community to investigate, protect, promote and care for or manage remnant native vegetation

FOG's central aim is to encourage the wider community to investigate, protect, promote and care for or manage remnant native vegetation. FOG achieves this in a number of ways.

First, by encouraging people to join and participate in FOG's activities, they will automatically become aware of grassy ecosystems, the different types of remnants and vegetation scattered across this region and elsewhere, as well as threatened and rare species that inhabit these areas. They will also be taught practical species identification and weeding and land management skills. The newsletter provides high quality and informative material to underscore this.

Second, FOG promotes itself through many forums, and gives away numerous complimentary newsletters. This is seen as a second line of education.

By organising or participating in workshops and other events, through its submissions and broader publicity, FOG also promotes its key messages about conservation.

Finally, by promoting STEP, it hopes to take much of what it has learnt to a much broader public.

Reptiles and Frogs in Gooroo

Geoff Robertson

On a cold day in late August, I had the pleasure of visiting the new Gooroo grassy woodland reserve that has been announced by the ACT Government. It is on the eastern border of the ACT between Mulligan's Flat and the Federal Highway.

Those guiding us from the ACT Government were highly enthusiastic about the new reserve, as they should be. It has some wonderland landscapes and it is a very large area. There was a well-established grass cover, even if this was somewhat short. Short grass is not necessarily a bad thing, as it is favoured for hunting by birds such as Robins that are in serious trouble in the region. Hooded Robins are on the endangered list and the Flame and Scarlet Robins may be listed as threatened soon.

The EACT people talked enthusiastically about their sighting of Hooded Robins. Nicky Webb mentioned many plants that she had found in flora surveys in the reserve. Nicky and David Shorthouse also related stories about areas that had been plucked from the Canberra development juggernaught - we owe them for that.

However, the point of this piece is to talk about some of the fauna found in Gooroo. Nicky supplied me with the following data about the fauna that had been encountered during a hand search of selected Gooroo woodland polygons by the ANU Herpetological Group over two days in March 2001. The most exciting species in my view is the Black-headed snake. The Sugar Glider record was from just a tail, hopefully the rest of the animal had been eaten by a native predator!

Species	Common name	Polygons									
		76	77	78	79a	79b	80	81	116	148	150
Amphibolurus muricatus	Jacky Lizard	X									
Delma inornata	Olive Legless Lizard			X							
Hemiergis decresiensis	Three-toed Skink		X			X		X			
Lamprophlis delicata	Delicate Skink	X	X		X	X			X		
Morethia boulengeri	Boulenger's Skink	X	X		X	X	X	X	X		
Suta spectabilis dwyeri	Black-headed snake				X					X*	
Tiliqua scincoides	Common Blue-tongue								X		
Trachydosaurus rugosus	Shingleback	X					X		X		X
Crinia parinsignifera	Plains Froglet	X									
Limnodynastes tasmaniensis	Spotted Grass Frog	X	X					X	X		
Uperoleia laevigata	Smooth Toadlet		X						X		
Petaurus breviceps	Sugar Glider	X									
Sminthopsis murina	Common Dunnart			X			X				

* Additional record resulting from hand searching by N. Webb and P. Ormay during the Gooroo survey.

Chilian Needle Grass 'Mystery' Plot revealed

Nick Webb

In the last FOG newsletter there was a picture of a 'mystery' Chilean Needle Grass plot. On discovering that the plots were at the end of Vasey Cres in Campbell I felt compelled to own up!

As a Ranger at Canberra Nature Park North from 1997-1999 I was aware of a patch of Yellow Box/ Red Gum woodland at Mount Pleasant Nature Reserve. Within the woodland was a good stand of Kangaroo Grass (*Themeda australis)* alongside an area of 100% cover Chilean Needle Grass (CNG) (*Nassella neesiana*). Presumably the CNG had been spread there by the mowing which occurred before the area became part of the Reserve.

Having read about a successful method of replacing CNG with Kangaroo Grass in Victoria, I decided to try a small trial myself. In late September 1999 I set up two 2 m x 2 m square plots in the middle of the CNG area and sprayed each with glyphosate (15ml glyphosate in 1000ml water). I checked the plots five weeks later (early November) and resprayed any CNG that was still green.

At this point I was transferred to Canberra Nature Park South but found a willing accomplice for my trial in the new face at the Northside office, Dave Whitfield. When the Kangaroo Grass had mature seed (beginning of January 2000), Dave cut the full stems and layered the 'straw' fairly thickly (several inches deep) on **one** of the plots. Use of the adjacent Kangaroo Grass stand had the advantage that very little seed dropped from the heads as the straw was cut and transferred, and the seed was of local provenance. The other plot was left unthatched.

The plots were left undisturbed until the start of November 2000 when I removed the Kangaroo Grass thatch and observed thousands of Kangaroo Grass seed awns sticking up out of the ground like sparse hair.

Unfortunately I do not have a record of when I next visited the plots so I cannot determine when the seedlings germinated. However, by the following spring (2001) there was a sparse cover of Kangaroo Grass seedlings on the 'thatched' plot and a sparse cover of CNG seedlings on the 'unthatched' plot.

Looking at the plots now (winter 2003), the 'thatched' plot has a good cover of Kangaroo Grass, some of which seeded last summer. Even though there are small areas of bare ground amongst the Kangaroo Grass, no CNG has germinated except for a couple of plants at the plot edge next to the original CNG stand. In contrast the 'unthatched' plot has returned to CNG, albeit at a reduced cover since the CNG plants are currently smaller than the original tussocks. It therefore seems that the Kangaroo Grass seedlings have successfully suppressed the germination of the CNG seed which must also have been in the soil of the 'thatched' plot. Rabbits had been fairly active on both plots, grazing and digging.

I am very interested to know if this technique can be as successfully applied to replace other exotic grasses such as African Love Grass, or even Phalaris in areas where it is not

wanted. It would also be great if someone could repeat my trial but keep better records on the germination times of the grasses! I do advise that trials should be done on small plots to limit the quantity of Kangaroo Grass required for thatching, and to ensure that if for some reason (eg lack of rainfall) seeds do not germinate, we aren't left with large areas of bare ground.

If you are inspired to carry out such a trial anywhere other than on your own land, please remember to discuss it first with me or Sarah Sharp for advice on any permits (seed collection or herbicide use) that will be required. We can also provide any NSW members with the relevant State contacts. I can be contacted on 6207 2116, or nicola.webb@act.gov.au

Barbed Wire Grass

Michael Bedingfield

"I believe a leaf of grass is no less than the journey-work of the stars".

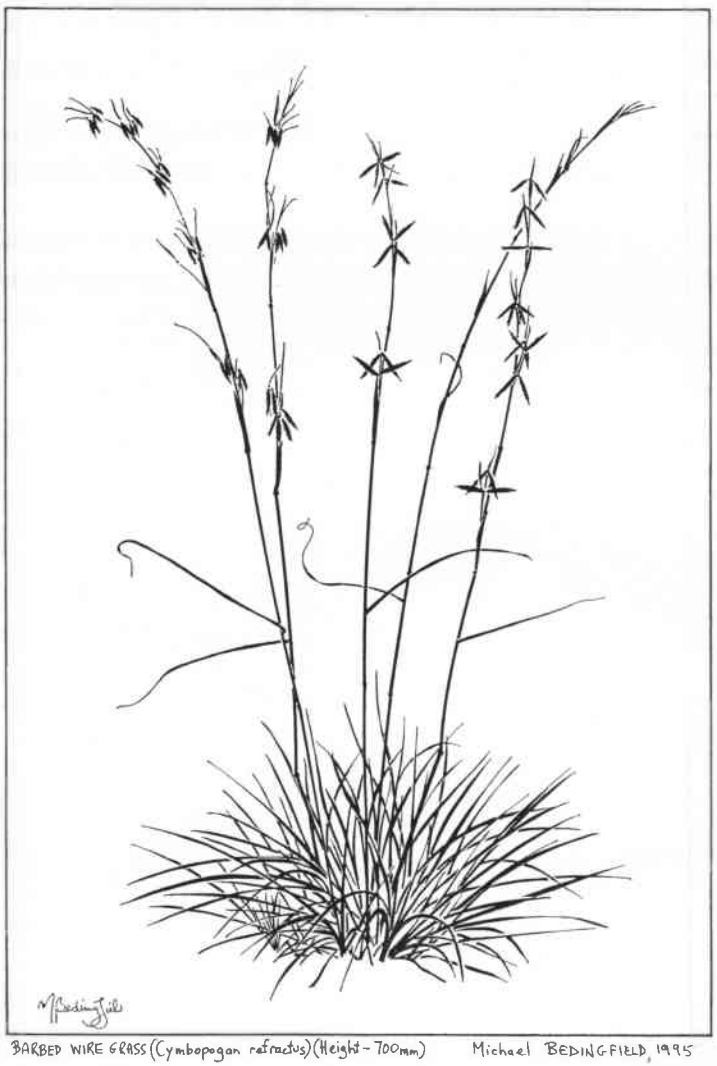
This was not said by a fanatical member of Friends of Grasslands, but by the 19th century American poet Walt Whitman. He knew nothing of FOG, but was intrigued by the wonders of nature, from the minuscule to the enormous.

Getting to know our grassy ecosystems often reveals fascinating new things, and to me, one of these was Barbed Wire Grass, which was a surprise to my eye when first encountered. The inflorescence or flower head has a similar look to barbed wire, with the flower structures sticking out at an angle to the stem. The plant grows 50 to 100 cm tall, and when the grass seeds have matured these structures fold up and sit closer to the stem. This I've tried to show in the drawings presented, with the full plant shown at about one-sixth size. The inflorescences are shown separately at about one-third size, with the floral stage on the left and the seed stage on the right. While the tallish seed heads can get tangled like barbed wire, they are not spiky to the touch.

The scientific name for Barbed Wire Grass is Cymbopogon refractus. *It is an uncommon species and therefore significant. This is because it is good to the taste and tends to disappear under grazing. Also, the seeds stay on the stems for some time, making it an easy snack for herbivores. The leafy tussocks look similar to Kangaroo Grass, the plants being distinguishable by the inflorescence. Both are quite palatable, and the kangaroos that visit my yard in Conder have a habit of nibbling the tops off both grasses.*

Barbed Wire Grass is quite rare in the ACT and district. It doesn't usually occur in natural grasslands, but is most often found on the slopes of hills, preferring woodlands and dry forests. Despite it being hard to find locally, it is widespread in eastern Australia, from eastern Victoria to the tropical areas of the north.

Barbed Wire Grass - a curious but rare component of our local grassy ecosystems.



BARBED WIRE GRASS (Cymbopogan refractus) (Height - 700mm) Michael BEDINGFIELD 1995

FRIENDS OF GRASSLANDS INC Web address: http://www.geocities.com/friendsofgrasslands

Supporting native grassy ecosystems

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Friends of Grasslands Newsletter

Do you want to subscribe to the newsletter? It comes out six times a year, and you can obtain it by joining FOG. You do not need to be an active member - some who join often have many commitments and only wish to receive the newsletter.

However, if you own or lease a property, are a member of a landcare or parkcare group, or actively interested in grassland and woodland conservation or revegetation, we hope we have something to offer you. We may assist by visiting sites and identifying native species and harmful weeds. We can suggest conservation and revegetation goals as well as management options, help document the site, and sometimes support applications for assistance, etc.

Of course you may wish to increase your own understanding of grasslands and woodlands, plant identification skills, etc. and so take a more active interest in our activities. Most activities are free and we also try to arrange transport (or car pool) to activities.

If you are already a member, why not encourage friends to join, or make a gift of membership to someone else? We will also send a complimentary newsletter to anyone who wants to know more about us.

How to join Friends of Grasslands

Send us details of your name, address, telephone, fax, and e-mail, etc. You might also indicate your interests in grassland issues. Membership is $20 for an individual or family; $5 for students, unemployed or pensioners; and $50 for corporations or organisations - the latter can request two newsletters be sent. Please make cheques payable to Friends of Grasslands Inc.

If you would like any further information about membership please contact Kim Pullen or Margaret Ning, or if you would like to discuss FOG issues contact Geoff Robertson. Contact details are given in the box above. We look forward to hearing from you.

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