



News of Friends of Grasslands

Supporting native grassy ecosystems

May-June 2003

PROGRAM

Sunday 4 May, 9.30am - Walk in endangered woodland. The decision on East O'Malley is imminent so please support this walk organised by FOG and others. It will be an opportunity to learn about and help to save an icon woodland. Meet at Callemonda St, bring the family and enjoy the free guided walks with expert commentary on birds and plants. BYO binoculars.

Thurs 22 May, 5-6.30pm - Southern Tablelands Ecosystem Park (STEP) launch. Come and hear about this exciting venture that FOG and the Australian Native Plants Society are supporting (see *STEPping up* in *News Roundup*, page 2). Arrive at 5pm for 5.30pm, Crosbie Morrison Building, Australian National Botanic Gardens. Contact Cathy Robertson (6257 1951) if you plan to come. Catch up with friends, refreshments available.

Saturday 24 May at 11am - FOG visit to Warren's nursery and landscaping projects. Warren Saunders' nursery, Seeds and Plants Australia in Pialligo, has more local species than any other nursery. He will explain his operation followed by a visit to some of his revegetation landscaping projects. BYO light lunch. Meet at 8 Beltana Road, Pialligo at 11am.

Saturday 28 June at 2pm - Sikkim Grassland slides. Come and see Roger Farrow's slides from his recent visit to Sikkim. Venue: Mugga Mugga Education Centre, Symonston. A light afternoon tea will be provided.

Saturday 26 July at 2pm - Alan Ford's Winter Tour of Canberra Grasslands This is the fourth successive year that Alan has organised his winter tour, and we'll focus on the Mt Stranger area.

26, 27 and 28 November - Third Native Grasses Conference, Cooma See news item and advertisement, page 4.

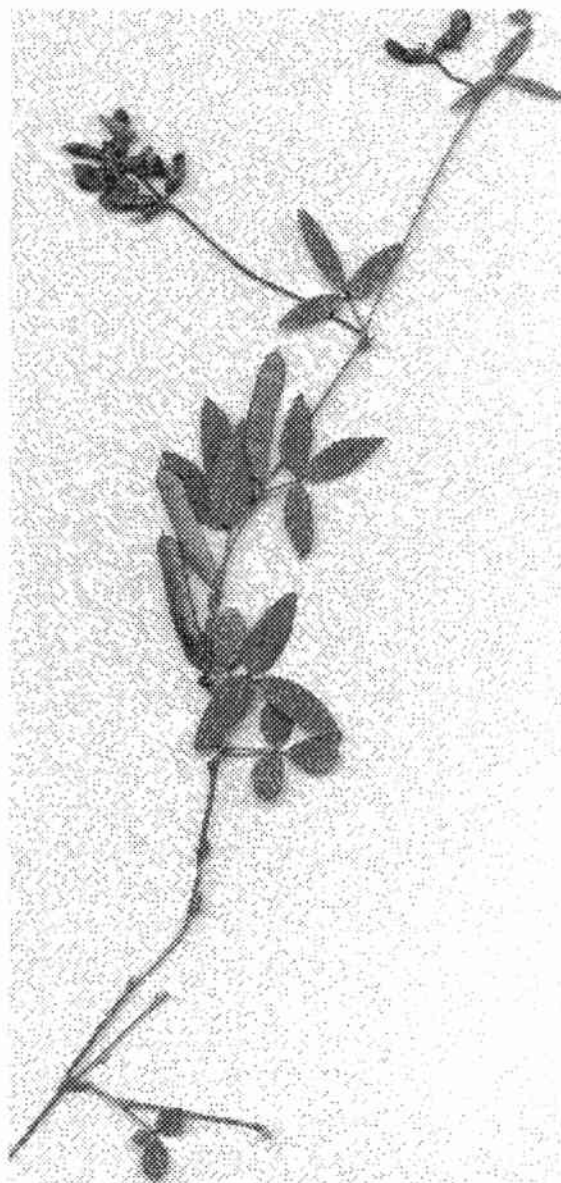
Glycine (see scan) on our nature strips

Groundcover

Travelling around, I am always looking for plant stories, and Canberra nature strips and road divides are always fascinating. The struggle on these often dry, hardened soils, takes place between some plants which obviously thrive there. On the shadier wetter sites one might see Weeping Grass (*Microlaena stipoides*) or the dreaded introduced Chilean Needle Grass (*Nassella neesiana*). On the sunnier clayey sites the battle is on between Short Stipa (*Stipa falcata*) and Wallaby Grass species (*Austrodanthonia* spp.) and the dreaded African Love Grass (*Eragrostis curvula*), not to mention Paterson's Curse (*Echium plantagineum*). Both introduced and less spectacular native daisies (eg Cudweed) may also compete. But from time to time, one is very pleasantly surprised by seeing plants such as Australian Bindweed (*Convolvulus erubescens*) and, more recently, Twining Glycine (*Glycine clandestina*) making an appearance on many sunny nature strips and road divides, so we have included the scan in the next column. Have you seen it?

Late News Flash

NPWS has recently been informed that three new grassland nature reserves have been gazetted by the NSW government. They are Turallo Nature Reserve near Bungendore, Kuma Nature Reserve near Cooma, and the Tanta-wangalo inholding which is now part of South East Forests National Park. Also change in helm at the Conservation Council. See page 13.



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NEWS ROUNDUP

Grassy ecosystems: guest appearance

Rosemary Blemings

On 22 March, FOG organised a display of local grasses at the Australian Native Plants Society (ANPS) sale together with our posters which explain the nature of grasslands (photo page 3). Each spring and autumn ANPS (Canberra Region) sells thousands of native plants from a carpark-site at the Australian National Botanic Gardens. Species of grasses and grassland forbs are grown for these sales by ANPS members.

Michael Bedingfield lent his photographic guide to local grassland species, and his album and the illustrated record of FOG field trips helped sale customers identify grasses and to appreciate the beauty and diversity of grassy ecosystems. FOG brochures were distributed to those who paused to show their interest in the display of grasses, sedges and rushes.

There's no doubt there's been a subtle increase in interest in grasses as they're bought in bulk or as feature plants in suburban gardens. Perhaps sale customers would be further stimulated to buy grasses if FOG's guest-appearance display could have been located closer to the sale-rows arranged on the asphalt - an approach to try second time around? Thanks go to the FOG members who turned up to help. All had a good time, enjoying talking about and learning about some of our wonderful Southern Tablelands ground storey plants.

Bushfire recovery working bee

Fourteen able-bodied people turned up for the FOG working bee at Conder on 12 April to rake back the soil moved by a bulldozer creating a firebreak in the January fire emergency (photo page 3). Four of the 14 people were non-FOG members who had volunteered through Environment ACT (EACT). The good number of people certainly made a big job easier and we were rewarded by pleasant weather conditions. Michael Bedingfield provided overall supervision. Any visit to this site is a pleasure and there were plenty of flowers to be seen, including Twining Glycine, Yellow Rush Lily and the Parson's Bands orchid. For those who went the distance, FOG put on a light afternoon tea which was an opportunity to relax and talk. At

day's end we were rewarded by seeing a Spotted Ctenotus (*Ctenotus uber*) - a skink which is somewhat rare for these parts (photo page 11).

STEPping up

A new conservation concept is emerging and now goes by the title of the Southern Tablelands Ecosystems Park (STEP). The history of its evolution, resulting from biodiversity initiatives undertaken by ANPS and FOG, has been documented in this newsletter over a number of issues, and a potted history of its development is given in Geoff's president report which is included in this issue.

STEP is being formed as a separate organisation but will keep close ties with FOG and ANPS. An interim management committee has been established and is now looking at clearly defining its objectives, membership and incorporation. It has established its own bank account and has started to seek donations. It is favouring a site at North Amaroo (and hopes that the ACT government eventually will offer this or an equally suitable site). Geoff Robertson, Cathy Robertson and Shirley Pipitone gave a paper to the Australian Network for Plant Conservation Conference on STEP on 26 February. By the way, Geoff also participated in a workshop on a related theme at the Conference where he gave a presentation on *grassland restoration*. Some of you recently may have heard Sarina Locke (2CN) interview Cathy and Geoff on the concept and the possible location. Assuming that the ANPS and FOG application for NHT funding for a feasibility study gets a guernsey, the interim management committee will need to have a clear set of proposals to be considered, although the feasibility study itself will help sort out much of the detail. Now the discussion is moving from why to how, as the concept is clarified and receives more acceptance.

Assuming the feasibility study establishes a way forward, the key objective of STEP is to provide an experience, and support for the restoration/recovery, of our wonderful Southern Tablelands ecosystems - especially our grasslands, woodlands, dry forest, and wetlands. Wet forest communities and heathland may prove to be a little more problem-

atic. The plan is to establish a regional botanic garden and ecological park, an adjacent restored remnant, an education program, and an ecosystem recovery centre providing a range of services to recover our threatened and rare landscapes, ecosystems and species. If successful, STEP will allow FOG to realise many of its key objectives.

We have a long way to go but we will only be successful if we can build suitable infrastructure and get broad and intense community support. So please come along and support the launch of STEP that will take place on 22 May. You will be amongst many friends. Please see program (page 1) for details.

Bushfire recovery

Much has been happening on the bushfire recovery front. EACT held a community forum on fire on 27 March. On behalf of FOG, Geoff Robertson gave a presentation on the recovery of threatened Southern Tablelands ecosystems and species after the fire. This presentation provided background on the broad vegetation communities in the region (based on a *planning framework for natural ecosystems of the ACT and NSW Southern Tablelands*), and set out FOG's pre-fire recovery strategy for our ecosystems and species. He described the questions and issues FOG had addressed since the fire and how that had modified but not substantially changed its direction. A copy of his slides is available. On 3 April, several FOG members visited Namadgi National Park, courtesy of EACT. This was an excellent opportunity to see the impacts of the fire (both natural and human) at first hand. Some concerns remain about possible natural losses, but there is much ground for optimism as there was a lot of evidence of natural recovery.

After bushfire monitoring

The FOG AGM decided that FOG should organise to provide its services in bushfire recovery monitoring and training. Benj Whitworth has taken on coordination of this project with gusto, and has spoken several times to FOG, Field Naturalists and ANPS audiences. He has put together a list of people from the three organisations who would like to be involved in monitoring. Benj gave a presentation on recovery monitoring to

the community forum on fire on 27 March. On 10 April, Benj and others met with EACT to explore how we might combine efforts on monitoring. Unfortunately EACT is not yet in a position to participate in any community monitoring activity. It was agreed that a workshop should be held in spring to discuss uniform methods that might be adopted, and to start an EACT-community group program of monitoring. As Benj is about to leave the country for a few months, contact Geoff Robertson with any inquiries.

Woodland review

The third woodland forum, organised by EACT, was held on 20 February. This promises to be an important piece of research into grassy woodlands and we understand the results should be published in early May. However, there is widespread concern

FOG at work. Top: Grassland display at ANPS plant sale. Bottom: Working bee at Conder.

that the review may not deliver good results for East O'Malley (see separate article) and North Gungahlin. Sarah Sharp will be providing a presentation on this review to the next meeting of ANPS (8 May).

East O'Malley

East O'Malley is in the news again. The history of East O'Malley and the arguments for saving it have been recorded in this newsletter many times. Eleanor Stodart (*Canberra Times*, 2 April, page 19) wrote a wonderful piece entitled *walk though the valley and see for yourself* on the reasons why East O'Malley should be saved. She mentions the FOG

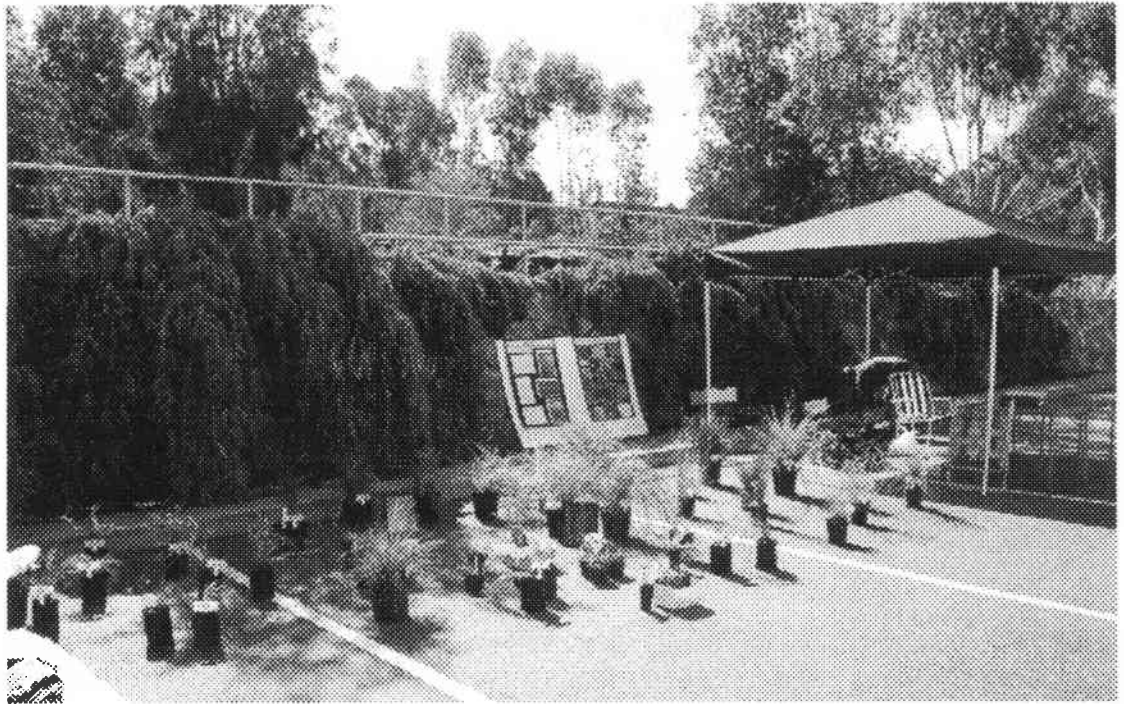
walk there in October last year. On a recent visit there, many species of what are nowadays rare birds were recorded.

A decision on East O'Malley's future should be announced shortly. Jon Stanhope, ACT Chief Minister and Minister for Environment, has agreed to visit the site to talk to groups such as FOG in early May. Those involved in the decision to save East O'Malley have no clear signal on how the Government might decide on this. So some guided walks in East O'Malley are being organised for Sunday 4 May in part to show the ACT Government that this is an important site. The early start (9.30am) will enable

us, hopefully, to see some rare birds. Please try to come to what we hope will be a rewarding and enjoyable activity and bring the kids (see program on page 1). Meanwhile there is growing concern as to the fate of grasslands and woodlands in North Gungahlin.

Stipa conference planning

Planning for the November Stipa Conference, supported by FOG, is going according to schedule. The organising committee has now held its third meeting (the first was in Cooma and the second and third in Canberra) to look at the many expressions of interests for papers



and posters that have been submitted and to prepare the brochure. Jon Stanhope, ACT Chief Minister and Minister for the Environment, has agreed to be the after dinner speaker. The South-East Catchment Board has agreed to sponsor a one-day trip of Monaro grasslands. As the advertisement (next column) says, please put the conference dates in your diary.

Conservation Volunteer Nomination

FOG has nominated its committee member Rosemary Blemings (photo below) for the Volunteer of the Year Award: Conservation category. In its supporting material FOG detailed her contribution to FOG, the Canberra Field Naturalists and ANPS Canberra Region. The winner(s) will be announced in May.



A biodiverse future

Alan Ford

The Australian Network for Plant Conservation (ANPC) conference and workshop held in Geelong from 24 February to 1 March, was titled *Recovery: a decade towards a biodiverse future* and contained five days of papers, workshops and a field trip. It was a very full program with papers stretching from Tasmania (or the Chatham Islands, for that matter) to recovery planning for a threatened Javanese palm, *Pinanga javana* and a field trip from the coastal heathlands to the tall forest in the Otways.

We started with an overview from Carl Binning asking a fundamental question about how we pay for maintaining

biodiversity, and proceeded to Geelong's Biodiversity study, which, among other things, covers the region's floristic diversity, rare plant populations and biodiversity protection and management.

Put this in your calendar NOW

The Stipa Native Grasses Association

Supported by Friends of Grasslands

THIRD NATIONAL NATIVE GRASSES CONFERENCE

**26, 27 & 28 NOVEMBER 2003
COOMA, NSW**

"Sustainability and Beyond"

Producers, conservationists and horticulturalists will present papers on Australian native grassy landscapes.

Inquiries should be directed to Christine McRae, Conference Coordinator, 1480 Boscoble Rd, Mudgee NSW 2850 or cmcrae@hwy.com.au.

We then heard about the long battle to establish Victoria's marine parks and reserves before learning about the Global Strategy for Plant Conservation. This strategy has sixteen targets, among which: "at least 10% of each of the world's ecological regions be effectively conserved" and "at least 30% of production lands managed consistent with the conservation of plant diversity" show the extent of the problem.

The non-vascular plants got their fair share of attention with papers from David Eldridge on the conservation of non-vascular plants in semi-arid landscapes and another on Macrofungi communities in Tasmania. The latter project compared vascular plants (ferns, gymnosperms and angiosperms) with cryptogams (bryophytes, macrofungi and macrolichens) to assess community congruence.

Graham Lorimer gave a paper on differing needs between rural and urban 'significant sites' studies, pointing out the problems arising from the detailed knowledge of the flora of Maroondah and Knox on Melbourne's fringe against the less well known flora of the Yarra Ranges further out. This leads to situa-

tions, in the latter case, where lack of knowledge due to the sheer size of the area may lead to studies which fail to impart to readers an understanding of what the study omits and the dangers of ignoring this.

Josh Dorrough then gave a paper on 'The Grazing Myth: questioning a grassland management paradigm', which noted that livestock grazing has contributed to considerable loss of native plant diversity in temperate grasslands and grassy woodlands. Regardless, livestock grazing is often recommended as a management strategy to maintain plant species diversity in remnant grasslands. Josh presented evidence from temperate grasslands of southern Australia that suggests that even light intermittent grazing can lead to the degradation of native grassland communities and reductions in the richness of native plant species. He noted that in the landscape positions studied, few native plant species were favoured by grazing and at no stage was the richness of native plants increased by grazing. He considered caution was required before applying general grazing management strategies to all temperate native grassy communities.

The conference section concluded with a paper on mapping vegetation association boundaries in the WA wheatbelt. This information will be used to plan revegetation strategies based on whole-of-catchment and adjacent area information. It is interesting that the ABC has just shown a series of programs on land degradation and SBS has also shown one on the WA wheatbelt.

This summary of the conference papers section cannot do justice to the level of conservation work going on around us as reflected in the whole week.

Woodland bird seminar

The woodland bird seminar organised by the Canberra Ornithologists Group (COG) on 22 March was a big success both in terms of the presentations and the numbers of people attending. For those interested in more information on this, a good write up was given in the COG April 2003 Newsletter.

**Monaro Grassland
CMN launch
Grasscover**

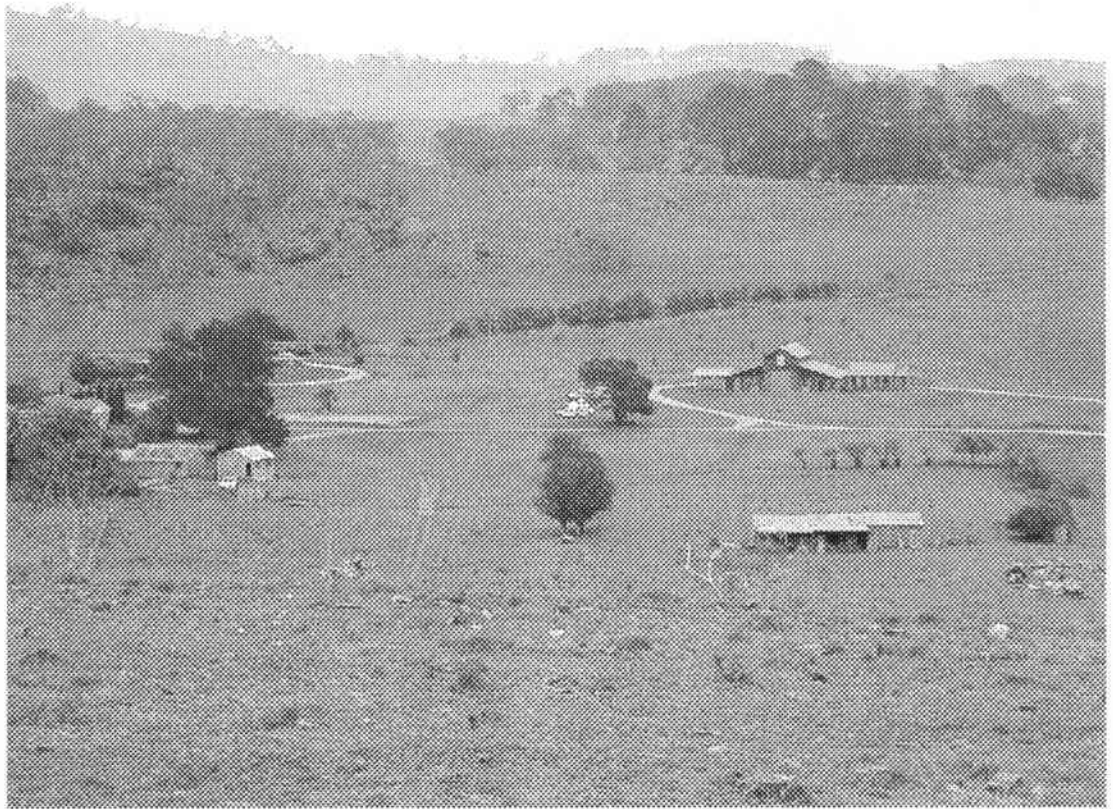
It's official! The Monaro Grassland Conservation Management Network has been launched and the first issue of the *Monaro Grassland Mail: Newsletter of the Monaro Grassland Conservation Management Network* is available.

By now most FOG members will be familiar with the CMN concept (see *Grassy Ecosystems CMNs* in the November-December 2002 newsletter, page 6). We urge members to get a copy of the *Monaro Grassland Mail*: it is a darn good read and provides much background to CMNs and the Monaro Grassland CMN in particular and it has many excellent photos, including a number recording FOG activities.

Of special interest is an article on *Old Cooma Common Grassland Reserve - achievement, lessons and reflection* by Geoff Robertson which provides a history of FOG's involvement in establishment this important grassland reserve. One fascinating article was that by Suzanne Prober and Kevin Thiele on the Yam Daisy (*Microseris lanceolata*).

The launch took place, indoors, on 2 April which was a somewhat cold bleak day at Happy Valley, Neville's Locker's property near Adaminaby. Many will recall Happy Valley because it was included in the itinerary for the field trip in FOG's December 2000 Workshop and we lunched there in the restaurant-cum-museum.

Pam Green, Chair of the South-East Catchment Board, and also, as I learnt later, Mayor of Eurobodalla, did the launch and spoke enthusiastically about the Monaro grasslands. David Eddy, the CMN Coordinator, also said a few words. Then it was time to eat and talk to old friends, many of whom are FOG members, or have been actively involved with FOG activities. Then we rugged up and went for a walk in Neville's grassland areas which were just superb, and showing little evidence of the drought. There was plenty to talk about and do.



FOG has played an active role in establishing the CMN through its intensive involvement in the Monaro over many years and through its many activities in the area. It has been a proactive supporter of the Monaro Grassland Advisory Committee which has established the CMN. David Eddy, well known to FOG members, is the Coordinator of the CMN and continues to be an active FOG committee member. So we can also take much pride in this launch. For more information, contact David (contact details on back page).

Grassy woodland restoration
Jenny Horsfield, Chair MOTH

Between 9-11 April, MOTH (Minders of Tuggeranong Homestead) was engaged on two projects at the Homestead. One was the restoration of some of the nineteenth century gardens at the front of the Homestead; the other involved the Yellow Box/Red Gum grassy woodland which is such a special feature of this historic property. While the understorey of this woodland is degraded after years of grazing, there are still some fine old trees standing, and Geoff Robertson, having visited the site a number of times, has identified a number of native grasses and forbs that could flourish under a program of care.

MOTH was fortunate to receive an Envirofund grant (with FOG's welcome advice and assistance) to undertake some work in the woodland. The drought and

'Happy Valley' - launch site for the Monaro Grassland CMN.
Photo by Marie Waschka

summer of bushfires put our plans on hold, but since the late summer rains we have finally got moving on the project. We engaged a spraying contractor to tackle the enormous blackberry clumps in the neighbouring Pikes Paddock, which have been a harbour for rabbits and feral cats, with of course the seed being spread to the woodland. We were joined on the three days in April by ten young people from Conservation Volunteers Australia, with whose help we slashed and dabbed blackberry clumps and dug out Horehound bushes. We hope to have further spraying by the contractor of some scattered clumps of African Love Grass. On Wednesday Geoff discovered a small native pea in flower, and on closer investigation we found it had successfully colonised under many of the older trees in the woodland. By the end of three days of solid work we felt very satisfied with an almost total elimination of the blackberry patches (and the removal of a wild beehive).

We are looking forward to further work in the woodland in spring, when we hope to plant a variety of native grasses and forbs in the grassy understorey. FOG members are warmly invited to take part in this project.

FOG Artist recognised

We all appreciate Michael Bedingfield's artwork. He is like our Art laureate, contributing his artwork over many years. His regular articles in the newsletter have become a standard feature which are eagerly awaited by many readers. Now the *Chronicle News* (25 March) has given him recognition, with his photograph and caption "Native plant sketcher Michael Bedingfield fought hard to preserve native grassland in Conder." The article, headed "Artist heads for nature", in part reads as follows.

For almost ten years Conder artist Michael Bedingfield has expertly sketched native plants in his area, a talent which has been recognised by several environment groups. In the process of having his sketches published by Environment ACT in a grassy-ecosystem management booklet for farmers, Mr Bedingfield said he enjoyed being with nature and sketching for the Friends of the Grasslands environment group. "It is a really lovely thing to do."

The ANU Fire Forum

Alan Ford

The forum was held on 19-20 February 2003 and covered the huge range of topics that you might expect, notably ecology and the environment, fire behaviour, people and property, policy and institutional arrangements and indigenous land management.

What follows is a potted version of some of the key themes. We started with Dr Malcolm Gill reminding us about interval, intensity, season and type as important concepts, that in our circumstances some species could disappear without a fire regime. He noted that ecological complexity and uncertainty were often disregarded, that there was a difference between back burning and controlled burning and that we would have to accept that some fire management regimes would cause loss of biodiversity.

Jann Williams from RMIT pointed out that we live in a fire prone environment, that we had to take account of patterns of fire in space and time, that we needed a landscape perspective, that fuel dynamics were important and that these were large scale events. She said that in

tends to be segregation between risk creators and managers and this segregation results in much conflict and ambiguity. John Handmer concluded by arguing that we need to identify and reduce ambiguities and develop uncertainty auditing.



Cathy Robertson, Kerry Pfeiffer and Pam Green at the launch of the Monaro Grassland CMN. Photo by Marie Waschka

the future we would need continued research and monitoring covering comprehensive theories, styles of fire management, costs/benefits of fuel reduction and deal with variability and uncertainty.

In the second session Jim Gould talked about fire behaviour and the application of fire models. It was clear that we had a way to go in this field as sources of error include fuel data and fire weather data. Geoff Carey did ask the question: What proportion of a landscape should be maintained in a low fuel state? He thought that management methodology could be informed by manipulative field experiments, surveys of managed landscapes and simulation modelling.

The institutional session was informative in that it was pointed out that problems are institutionalised and that organisations and rules shape society. Rules can be formal, informal or deviant. Future risk involves urban expansion, governance, lifestyles, emergency management and climate change. There

Bob Wasson wanted us to focus on a probabilistic and planning approach rather than a predictive modelling approach, to consider the law of unintended consequences and design institutions that can appreciate whole systems.

Andrew Campbell, in summing up the two days asked us to think of the 'triple helix' as we struggle to come to terms with our country: Landscapes, Lifestyles and Livelihoods.

Tidbinbilla update

The *Chronicle* (4 March 2003) ran some nice stories about the bush fire recovery at Tidbinbilla, repeating some of the images that appeared in our last newsletter. One photo shows Maxine Cooper and staff smiling - some good news at least. Some highlights of the stories by Grant Newton were that the rains that have fallen

have been 'sufficiently soft so as not to cause catastrophic land slips, which was on the cards' and 'the grassland areas have responded almost immediately after the rain.' The centre's popular education programs may be up and running, in an altered form, by Easter.

Nettlefold Street trees

Rosemary Blemings has her photo in the paper again, this time attempting to save the Nettlefold Street trees (The *Chronicle*, Tuesday 4 March 2003). Andrew Kazar reported on a proposal by Kerrie Tucker MLA (Greens) that the site could be swapped for land elsewhere, but this was rejected by a spokesperson for Minister Simon Corbell. The article quoted Friends of Nettlefold Street Trees spokesman who said that the site was one of the best examples of endangered yellow box/red gum trees in the Belconnen area. The developer has said that he is happy to retain most of the trees. Nice photo Rosemary.

Conservation Planning in the Southern Tablelands: A Friends of Grasslands' (FOG) Perspective

Geoff Robertson

Introduction

On 31 March, Jon Stanhope, ACT Chief Minister and Minister for Environment, launched a *planning framework for natural ecosystems of the ACT and NSW Southern Tablelands*. Bits and pieces of this document have been around for twelve months and have been very influential on FOG's thinking about conservation planning and recovery in the region. The author of the *planning framework* rightly says that it provides a powerful tool to plan for conservation and sustainable urban and rural development in the region. As readers will be aware, FOG wrote its vision of *strategic planning for Canberra nature conservation* in the July-August 2002 Newsletter. This was eventually broadened to seek funds for a feasibility study

Area in scope

The *framework* applies to the ACT and the local government areas of Yass, Gunning, Mulwaree, Goulburn, Yarrowlunla, Queanbeyan, and the northern part of Cooma-Monaro, with a total area of 1.7m hectares and population of 391,000 people. Four bioregions come within its ambit: South Eastern Highlands, which forms the bulk of the area, Australian Alps in the south-west, NSW Western Slopes in the north west and a small section of the Sydney Basin. Five catchments fall wholly or partly in the study area (Murrumbidgee, Lachlan, Lake George, Hawkesbury and Shoalhaven), as do six Rural Land Protection Boards (Goulburn, Braidwood, Yass, Moss Vale, Cooma and Young), and three Aboriginal Regional Land Councils outside the ACT (Onerwal, Ulladulla and Jerringah).


Broad vegetation types

The *framework* provides ten categories of vegetation types (see table on next page) and some very useful data that perhaps tell us that our natural assets may be in better health than previously thought.

Native grasslands are Southern Tablelands Natural Temperate Grasslands (NTG), an endangered community under Commonwealth and ACT legislation. Many figures have been thrown around on the level of NTG remaining - the figure in the table suggests that around nine per cent remains. However, the report adds that only three per cent of the pre-1750 area remains in good condition (ie

floristically and structurally intact with low weed cover). Box gum woodland contains any of the following trees White-Box, Yellow-Box and Blakely's Red Gum, usually accompanied by a grassy understorey. These grassy woodlands are variously defined as threatened under Commonwealth, NSW and ACT legislation. No information is given on the quality of the woodland. The grassland-woodland mosaic contains areas of NTG and Box woodland, as well as woodlands dominated by Snow Gum, Manna Gum, Applebox, Black Gum, Candlebark and Swamp Gum (cold climate woodland communities).

Dry forest areas are dominated by Red Stringybark, Red Box, Scribbly Gum, Brittle gum, Broad-leaved Peppermint, Bundy and Mealy Bundy with an understorey that is sparse or dominated by shrubs or tussock grasses such as Red-anthered Wallaby Grass. Wet forests are dominated by taller trees such as Mountain Gum, Manna Gum, Silvertop Ash, Narrow-leaved Peppermint and Brown Barrel, with a ground layer of herbaceous plants and/or shrubs. Riparian forests are dominated by River Oak and River Red Gum. Heathland-shrubland-herbland-rock are described as 'a range of montane ecosystems.' Waterbodies-wetlands includes many ephemeral water bodies (the biggest is Lake George) which are occupied by grassland and herbfield communities when dry.



An example of restoration at Werribee Zoo visited on the recent Australian Network for Plant Conservation conference. A Wallaby Grass grassland has been established in what was once totally Phalaris. Photo by Alan Ford.

on the possibility of establishing a properly resourced restoration (of our natural ecosystems) strategy and program for the whole of the Southern Tablelands. The type of thinking embedded in the *planning framework* formed the basis for much of our advocacy. I strongly urge FOG members to obtain a copy of the *framework* and study its principles, methods and data so that we may pursue genuine grassy ecosystem recovery.

The genesis of the *framework* commenced in 1995 with the establishment of a working group comprising representatives from ACT, NSW, local and Commonwealth Governments and from the Housing Industry Association (HIA) (ACT and NSW Southern Region). This group was a response to the need for a more strategic approach to conservation in the ACT region, and for greater certainty in planning for future development of Canberra and surrounding communities. Eventually it sought NHT funding to undertake the development of the planning framework, and the current *framework* was prepared by Martin Fallding, under the direction of NSW NPWS, Environment ACT, Planning NSW and HIA.

	% of region in 1750	% of region now	% of 1750 level retained
Native grassland	11	1	9
Grassland-woodland mosaic	11	3	27
Box gum woodland	23	9	39
Dry forest	38	21	55
Wet forest	14	12	86
Riparian forest	1	0.5	50
Heathland-shrubland-herbfield-rock	1	1	100
Waterbodies-wetlands	1	1	100
Secondary grassland	Nil	Small	n.a.
Other	Nil	40	n.a.

Secondary grasslands are areas of native grassland derived from clearing other vegetation types. The 'other' category includes exotic pasture, cultivation, urban areas and pine forests.

Two colour maps are included in the document showing the distribution of these vegetation types. Map 1 shows the (modelled) native vegetation pre-1750, and Map 2 the extant native vegetation now, as well as much other useful information. Map 3 provides data on the regional ecological planning settings. It identifies areas known to be of high conservation value, areas predicted to be of high conservation value, and areas known to have low conservation value (although even these areas may contain habitat for threatened species). The map also shows some areas that were not assessed because of lack of data. This map also has a number of useful overlays.

	Native species	Listed as threatened
Plants	>1,200	30
Invertebrates	n.a.	2
Amphibians	25	6
Reptiles	58	5
Birds	279	24
Mammals	54	17
Fish	n.a.	5
TOTAL	n.a.	84

Important biodiversity facts

The *framework* contains much other biodiversity information that needs to be taken into account when planning. It informs us that the area has over 1,200 native plant species, including 64 flora species and 92 fauna species identified as of regional conservation importance, because of their rarity, threats, limited distribution, or other ecological characteristics. Tuggeranong Lignum and Ginninderra Peppercress exist nowhere else, while the Tarengo Leek Orchid has very limited occurrence elsewhere. A decline in bird species has been observed to oc-

cur and now 40 woodland bird species have been assessed as in serious decline. It is estimated that six out of every ten environmental weeds are garden escapees. Thirteen species are believed to have become extinct, including Trout Cod, Southern Swamp Frog, Plains-wanderer, Brolga, Australian Bustard and New Holland Mouse. A range of threatened species (including Button Wrinklewort, Small Purple-pea, Striped Legless Lizard, Grassland Earless Dragon, Perunga Grasshopper, and Golden Sun Moth) occurs within Canberra's urban areas.

Species information

An important element of the *framework* is the linking of data on vegetation types with threatened species habitat. Table 3.4 of the *framework* includes some information on listed threatened species which is presented below. Apart from the 84 species listed as threatened, the *framework* mentions that there are 72 species of 'conservation importance'.

Threatened species mapping

The document has a number of maps showing the location of threatened species. In most cases, these maps show both the known locations of threatened species and their modelled distribution (ie where the species are likely to be found).

Landscape units

So far we have only talked of total region planning. An exciting element of the *planning framework* is the division of the area into eighteen landscape units which 'represent areas within the region having similar ecological, social, economic and administrative characteristics'. For each administrative unit there is a description of the area, the vegetation communities, known threatened and important species and endangered ecological communities, land uses, endemic features and planning and management issues.

Taking the next steps

The *framework* outlines the issues that need to be addressed to take the framework forward. It provides a draft indicative example of landscape unit guidelines for the Yass Landscape Unit. The maps and data for stakeholders to undertake more detailed area analysis are available from NPWS.

FOG believes the assembly of this information and maps represents a major step forward. As the *framework* points out with many examples, including mention of FOG (pages 2-3), it may be used by many agency, natural resource management, industry and community users who are natural players in the planning framework.

For some time, FOG has wanted a framework that provides a way to comprehend the ecology of the Southern Tablelands from the broadest regional, through to subregion, landscape, and site levels. But apart from understanding the ecology, it is important to know what other stakeholders need and aspire to. We have often found ourselves in situations where we have needed to advise on, or lobby on behalf of, sites, and for that we require all the information provided by the *framework*. However, it is only a framework (a tool), and when it comes to on-ground assessment and evaluation, we will need to drill into the information underpinning the framework (ie make use of the tool). It is great to know substantial information is available for this purpose.

It is imperative that we learn how to use this tool. While the analysis in the *framework* suggests that things may be somewhat better than we thought previously, many of our ecosys-

tems and species are seriously threatened and we know from numerous examples how parlous a situation some find themselves in. Recovering the situation must be a priority, and as the *framework* points out (page 25), only 22 recovery plans (for the 84 listed threatened species) have been completed.

This is why FOG has argued that we, working with all other stakeholders, must come up with strategic plans and a well-resourced program for restoration of our ecosystems that includes identifying the best remnants and habitat, and linking them through ecosystem corridors. This is the real point behind our bid for the feasibility study. The *framework* provides a tool that can allow that to happen.

The Plant Underworld

Betty Wood

The *Plant Underworld* exhibition at the Visitors Information Centre, Australian National Botanic Gardens, is well worth seeing. It runs till 2 June.

The exhibition is in two parts. On the left of the foyer as you enter is a display of live mosses, liverworts, and lichens, with a few ferns and seedlings of *Callicoma* (black wattle). It is pleasant green space, with a water feature. In order to keep the humidity high, an ultrasound generator creates a fog which wafts over the water, producing a very pretty effect. I suggest that visitors leave this till after seeing the main exhibition inside, when they will look at this part of the display with more understanding. The main exhibition consists of information boards together with glass cases with examples of the various types of cryptogams.

The term cryptogam is derived from two Greek words meaning "hidden marriage", which refers to the methods of reproduction of this group. One group of cryptogams, the bryophytes, includes mosses (which have leaves on a stem), liverworts (which have flat green "thallose" growth or are leafy), and hornworts (which have flat green "thallose" growth, and a horn-like spore capsule). The other group is the lichens. Lichens consist of an alga or cyanobacterium (formerly called blue green alga) in close symbiotic relationship with a fungus. The alga or cyanobacterium (photobiont) provides the energy through photosynthesis, while the fungus provides the minerals the lichen needs. The photobiont can live alone, but the fungus cannot.

All cryptogams can reproduce asexually. A bit may break off bryophytes. Lichens may produce a powder with photobiont cells wrapped in fungal cells. Bryophytes produce eggs and sperm which mate to form a stalked spore capsule. This opens at one end in mosses, or splits along the length or falls apart in liverworts. In hornworts the capsule matures from top to bot-



Lichens are important in grasslands. Several are shown in this photo by Marie Waschka at 'Happy Valley'. The curling lichen belongs to the *Thallus foliose* group.

tom, the top disintegrating, then the next bit, and so on. Some lichens have never been seen to reproduce sexually. Others produce a cup like structure which produces spores. These spores, derived only from the fungus partner, must land on a photobiont in order to start a new lichen.

Lichens concentrate nutrients and pollutants from very dilute sources, and are thus highly susceptible to air pollution. With too high a level of sulphur dioxide in the air, the photobiont partner dies, and the fungus cannot then survive. Different species are differently susceptible to pollutants, and their presence or absence can be used for monitoring.

Sphagnum holds more than twenty times its own weight of water, and is thus very popular with gardeners. A more environmentally friendly substitute is coir dust from the coconut industry. In Australia, sphagnum occurs mainly in alpine and sub-alpine areas. The water in sphagnum bogs is acidic, nutrient poor and with a low oxygen content. It is the habitat for plants and animals adapted to these specialised conditions, eg

the prickly heath plants, corroboree frogs.

In arid areas in Australia, bryophytes and lichens can form a soil crust which protects the soil from the impact of downpours and from wind erosion. Soil quality can be judged by which lichen or bryophyte species are present. Hoofed animals can quickly destroy this crust, and erosion increases.

Cyanobacteria fix nitrogen from the air. All hornworts and many lichens contain them. This nitrogen becomes available to other plants by leaching, or released from hornworts or lichens as they decay after death. Some invertebrates eat them.

Mosses in the Arctic contain arachidonic acid, a natural anti-freeze compound. Reindeer take in this substance when they eat the moss. Reindeer also eat lichens in winter. After Chernobyl, lichens concentrated the radioactive compounds to such an extent that the meat from reindeer which ate these lichens was unfit for human consumption.

Threats to cryptogams include rock collecting, roadside clearance, trampling, too frequent fire, and ignorance. Areas which are poor in conservation importance from the point of view of higher plants may be rich in cryptogams. This can be overlooked during conservation planning.

Presidents Report to AGM

Geoff Robertson

Friends of Grasslands policy

I am often asked about our policies. This might be summarised as follows. Friends of Grasslands continues to support grassy ecosystems through:

- Strongly focusing on policies and strategies
- Building a strong organisation
- Publishing a quality newsletter
- Providing a varied and interesting program
- Engaging in public education
- Giving advice to members and others
- Undertaking on-ground work
- Lobbying
- Developing partnerships

Particular achievements in 2002

- Membership increased from 160 to 180, around 210 members if family members are counted as two.
- Workshops on restoring native vegetation and future FOG strategies (January), landscape function analysis with David Tongway (April), insects with Ted Edwards, Roger Farrow and Kim Pullen (June), and conservation and restoration in the Southern Tablelands, future initiatives (November).
- Visits to New England with Wal Whalley, Christine Jones et al (May); South Coast grasslands with Rainer Rehwinkel (September); South West Slopes with Kevin Thiele and Rainer (October); and South Coast inland grassy forests with Jackie Miles (November); as well as many local trips.
- Numerous submissions and consultations, particularly in a year of consultation workload initiated by the new government in the ACT.
- Successfully lobbying to stay East O'Malley and to promote FOG's biodiversity initiatives.
- Assisting in the creation of two Conservation Management Networks.
- An operating surplus of \$730, although this is unlikely to be repeated as it is becoming more difficult to cover costs.

Friends of Grasslands people

- Huge numbers of people contribute, including committee and non-committee members and non-members.
- Contributions include administrative help and just keeping the ordinary-things-happening tasks, providing workshops, writing for the newsletter, preparing correspon-

dence and submissions, arranging programs, attending meetings, visiting people, providing time and advice, passing on information and maintaining the web site.

- There is vigorous debate, respect, good feeling and trust. However, members are not always happy with what we do and the style in which we do it and we need to be sensitive to that.
- I am especially appreciative of the committee, although some have had to move on. I would like to thank Susan Winder, Kate Nielsen, Richard Langdale-Smith and Michael Treanor (although the latter wishes to remain technically on the committee), for their real and effective assistance. Two committee members have had to take on the additional burden of caring for elderly parents and I appreciate their juggling their FOG responsibilities to keep things moving.

Personal note

- I have completed over five years as president and am more or less a full-time *de facto* employee. Given that I know of no one else who is willing to become president (I have put out some feelers), I am willing to re-stand and will no doubt continue to enjoy the challenges. However, there are also weaknesses in having so much responsibility in a one person and I ask you as members to ponder this.
- It is also important that I (continue to) receive honest feedback. I am endeavouring to look for opportunities for others to take responsibility.

Year ahead

Biodiversity issues

- The early part of 2002 was devoted to developing our new strategy of restoration/recovery of grassy ecosystems that ended in our *Strategic planning for Canberra nature conservation* statement that was published in our July-August newsletter. This was followed up with a letter to members of the Legislative Assembly.
- Several politicians and their staffers took much interest. This led to support from Simon Corbell and Bill Wood, and the latter asked David Shorthouse to work with us to come up with budget proposals.
- In parallel, I was involved through ANPS in promoting the concept of a regional botanic garden that would give people the experience of the wonders of our region's ecosystems with particular emphasis on grassy ecosystems.

The ACT government considered that given the close synergies between the two initiatives they should be developed as a package.

- In November, ANPS, FOG, EACT and NPWS sponsored a workshop on biodiversity initiative, which was organised by Cathy Robertson, Shirley Pipitone, David Shorthouse and me. It was attended by over 40 people representing many agencies and community groups across the Southern Tablelands (ST). Copies of the report of the workshop are available from me.
- With the assistance of David Shorthouse and John Feint, Cathy, Shirley and I penned a proposal to undertake a feasibility study to look at the viability of furthering the two initiatives:
 - ST biodiversity strategy and program based on our *Strategic planning for Canberra nature conservation* but extended to cover the ST (the extension was Bill Wood's suggestion), and
 - ST regional botanic garden, education and research centre.
- Just before Christmas, FOG and ANPS wrote a letter to Jon Stanhope seeking support for this initiative.
- The concept of the regional botanic garden has broadened to be one of an education and research centre devoted to all aspects of biodiversity in the ST. An interim committee has been formed for the centre, consisting of Cathy (Interim Convenor), Warren Saunders (Treasurer), Shirley (Site design), John Nightingale (ANBG), Andy Russell (President ANPS), Jo Walker, Jean Geue, and me. Alan has flagged his interest in joining the Interim Management Committee. Most of these are FOG members. A newsletter has been published and the name is now tentatively STEP (Southern Tablelands Ecosystems Park: regional botanic garden, education and research centre).
- The centre will undertake a series of projects such as ST plants, frogs and reptiles, birds and mammals, and insects. For most of these projects, especially plants, frogs, reptiles, and insects, FOG has a great deal to contribute and the centre can further our aims. In addition, the Interim Committee considers that the items covered by FOG's *ST biodiversity strategy and program* could be treated as a project with our assistance.
- I believe that FOG should pass a formal motion noting this achievements and offering to cooperate with the feasibility study to ensure its success. I have included such a motion on the agenda.
- On Thursday we learnt that Jon Stanhope had sent both ANPS and FOG letters saying that he supported our ap-

plying for NHT funding for these initiatives and noted that certain funds might also come from the ACT Government. He mentioned that the initiative could fulfil both government and community objectives.

Fire

The recent ACT fires have forever changed the debate on biodiversity and I think that FOG should engage in this debate. We shall be publishing several items related to the fires in the March-April issue of the newsletter. I have placed this item on the agenda under general business to allow some discussion.

Stipa

Stipa is conducting their next conference in Cooma with Friends of Grasslands' assistance. I have also listed this under general business for discussion.

ACT Woodland Review

EACT is undertaking a major piece of work in its Woodland Review and devising a strategy to have a holistic approach to ecosystem conservation in the ACT. Members of FOG have participated in three community forums on the review and their input will be reflected in the final outcome. Nevertheless, this review is unlikely to ensure the protection of areas of concern such as East O'Malley and woodlands, grassland, and some wetlands in North Gungahlin. I have added this item to the agenda for discussion also.

Grassy ecosystems CMNs

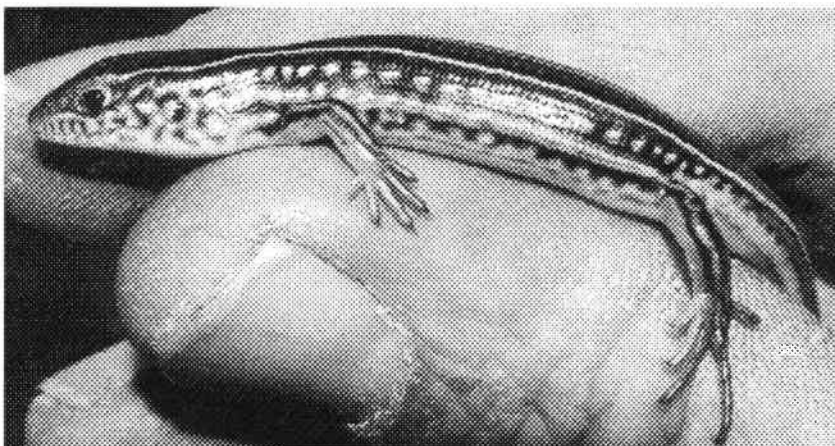
The Southern Tablelands Grassy Ecosystem CMN has published its first newsletter and will be launched shortly. The Monaro Grassland CMN is about to be launched and issue its first newsletter. I think that we as an organisation can take some credit for these developments.

NHT/WWF Devolved Grants for Grassy ecosystems

This has been a very important source of funds for grassy ecosystem projects and members might recall that I was involved as a member of the grants advisory committee. Unfortunately it looks like it is being closed down.

Grassy ecosystem network

This was a Victorian Government initiative with people like Helen Ryan and Donna Smithyman. Again, this initiative seems to have died.



Spotted Ctenopus (*Ctenopus uber*)
seen and photographed at the recent
FOG Conder working bee.

The View from Bald Hill

Grasscover

Recently Ray Polglaze lent me his copy of *The View from Bald Hill; thirty years in an Arizona Grassland* by Carl E. Bock and Jane H. Bock (published by University of California Press, 2000). The forward by Harry W. Greene mentions that the book "is about grassland ecology, written by a couple who have devoted their professional lives to untangling that mystery at a particular place in Arizona. Historically one of the largest biomes in North America, native grasslands, are now among the world's most endangered ecosystems." The book is an easy read, pulling together personal history, anecdotal observation and serious science. It would be good just to quote large chunks of this book to readers because there are many useful insights that are very relevant to this part of the world. I found the sections on the grasses, herps, birds, importance of vegetation niches, fire, drought and management were all very interesting. At the end of the book there is a chapter on aliens, using the example of that familiar one, African Lovegrass. To provide a flavour of the book, I thought I might summarise the book's discussion on this issue.

Two species of African Lovegrass (Lehmann and Boer) are spreading well beyond their original plantation. "As we write this, there are no obvious or easy solutions. Both species are fire tolerant, and they may even increase in abundance following fire because of prolific seed production and the fact that the seedlings do particularly well in bare areas. In many grasslands, 'weedy' species tend to have higher nitrogen requirements than native grasses, and so they can be inhibited by various methods that reduce soil fertility. We have no evidence that African lovegrasses fall into this category." The authors mention that these grasses behave like the native grasses and there are no available pathogens, nor are there herbicides that do not also affect native grasses. But there "must be an answer" and they are still pondering what it might be.

Why worry? Why not let nature take its course and allow evolution to occur? "These are not trivial questions, and they deserve to be answered." They pose the question "Why would it be unfortunate if native grasses in the Sonoita Valley were to be displaced by lovegrasses native to southern Africa? The answers given are:

1. "We would lose things we need right now, including plants we can eat and wildlife we can hunt. Recall that exotic plantations are substantially devoid of native animals as well as vegetation.
2. We would lose things we will need in the future. Native plants and animals in the Sonoita Valley represent unique genetic resources of immeasurable potential value, for food, fibre, and medicine.
3. Species-poor ecosystems are more likely to fail as providers of essential ecosystem services, such as soil stabilisation, watershed protection, and moderation of atmospheric conditions (e.g., carbon storage as a deterrent to possible global warming). If a key grass, herbivore or predator declines, for whatever reason, there will be few if any equivalent species around to fill in and provide the same ecosystem services - a situation known as limited species functional redundancy.
4. We have a moral obligation to protect the full variety of living things on Earth. We were not responsible for their creation, and we have no right to cause their extinction, however often that might occur as part of the natural order of things. African lovegrasses are in no danger of extinction, but the same cannot be said for many species of plants and animals found only in arid grasslands of the American Southwest - especially those threatened by exotics.
5. The Sonoita Valley would be a much less interesting place to live, absent the rich variety of plants and animals found there today. Furthermore it would no longer be distinctive from all other places where African lovegrasses have already spread."

In the view of the authors, these answers converge on "One of the most striking impacts of humans is to homogenize the Earth - to reduce its variety and diversity. Lehmann lovegrass is no less aesthetic or environmentally valuable than any other grass, and there would be little consequence or concern if it is simply integrated in as part of the variety of plants and animals already living in the Sonoita Valley. But that is not what happens.



An alpine *Poa* sp. grassland recovering after fire. Photo taken near Kiandra on 2 April. The black spots are tussock remains, the mid-grey colour is ash, while the light colour is new grass. Three dingoes were seen in this grassland.

Kangaroo Grass

Michael Bedingsfield

Kangaroo Grass is the plant depicted in the FOG logo, which is on the front page of this newsletter. It was chosen for the logo because of its distinctive and attractive inflorescence (flower or seed head), and because it is common and widespread throughout Australian grasslands and woodlands.

Though it is a common plant, it was once much more so than now, and was very common or abundant in a variety of habitats. It doesn't persist well under heavy grazing and so is reduced in farming situations, and this makes it a good indicator species. That is, as a general rule, if there is an abundant amount of Kangaroo Grass present on a site, then you can judge that it is relatively undisturbed.

This perennial grass is summer flowering and has a medium to large tussock. It is very palatable to both native and introduced herbivores, and the tussocks provide a micro-habitat for a variety of small creatures. If not eaten nor trampled, the seedhead will remain standing long after the seeds have gone, even into the cold winters, and then the plant can be identified at any time of the year.

I've tried to show the inflorescence in its different stages in the drawing, which is about a quarter of normal size, the plant typically growing 40 to 60 cm tall. The circled drawing was a preparatory one for the logo, and shows the seedhead in more detail.

Why it's called Kangaroo Grass I don't know, but if anyone does, I would like to find out. The scientific name is *Themeda australis*. "*Themeda*" comes from the Arabic "*thaemed*" meaning "clay-pan", and "*australis*" comes from the Latin for "southern".

Late News

Kathryn Maxwell, President of the Conservation Council of the South East Region and Canberra (CCSERAC) has resigned due to ill health. The CCSERAC Executive has appointed Geoff Robertson, Vice President, to the position of President, subject to confirmation when the Council meets next.

Geoff said Kathryn's vision, energy and dedication over many years will be sorely missed, as she has played a major role in building CCSERAC to what it is today.

CCSERAC now has a staff of eight highly gifted and dedicated people as well as several volunteers, together with a strong executive and a large membership. Recently it has been reinventing itself and the next step is to build stronger links with its member groups.

New grassland reserves. Continued from page 1.

Turallo is a 25ha site of extremely high floristic diversity near Bungendore; Kuma is 180ha of basalt grassland containing three threatened reptile species near Cooma; and the Tantawangalo inholding is the basalt cap grassland site containing the Leek Orchid *Prasophyllum wilkinsoniorum*. This orchid species was named in honour of the site's former owners, Bob and June Wilkinson. More information next issue.



Themeda australis (Kangaroo Grass) Michael Bedingsfield 1997



FRIENDS OF GRASSLANDS INC

Web address: <http://www.geocities.com/friendsofgrasslands>

Supporting native grassy ecosystems

Address: PO Box 987, Civic Square ACT 2608

Membership/activities inquiries: Please contact Kim Pullen or Margaret Ning whose details appear below.

Your committee:

Geoff Robertson	President	6241 4065 (h & fax)	margaretning@primus.com.au
Di Chambers	Vice President	6241 3694	di.chambers@abs.gov.au
Ros Wallace	Secretary	-	ros.wallace@mdbc.gov.au
Alan Ford	Treasurer	-	alford@cyberone.com.au
Rosemary Blemings	Committee	6258 4724	roseble@tpg.com.au
David Eddy	Committee	6242 8484 (w) 6242 0639 (fax)	deddy@wwf.org.au
Roger Farrow	Committee	-	r.farrow@austarmetro.com.au
Sandra Hand	Committee	6297 6142	sandy@wic.net.au
Geoff Hope	Committee	-	greenhood@netspeed.com.au
Margaret Ning	Committee	6252 7374 (w) 6241 4065 (h & fax)	margaretning@primus.com.au
			margaret.ning@abs.gov.au
Kim Pullen	Committee	6246 4263 (w)	kimp@ento.csiro.au
Cathy Robertson	Committee	6257 1951	mrober17@bigpond.net.au
Michael Treanor	Committee	-	micwin@bigpond.com
Benjamin Whitworth	Committee	-	benjamin.whitworth@brs.gov.au
Betty Wood	Committee	-	woodbook@austarmetro.com.au
Dierk von Behrens	Committee	6254 1763 (h)	dierk.von.behrens@immi.gov.au

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, 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.

Friends of Grasslands Inc
PO Box 987
Civic Square ACT 2608