



News of Friends of Grasslands

Supporting native grassy ecosystems

January-February 2010

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Program

Please register for FOG activities with the **FOG contact person** who can assist with directions and possibly car pooling. By registering, you assist FOG to organise any catering and to provide you with other information you may need.

FRI-SUN 8-10 JAN FOG weekend with three events at Garuwanga near Nimmitabel. You may participate for the whole, or part, of the weekend which will include the Showcase and Monitoring activities advertised below and the Garuwanga shed launch on the Saturday evening. Enquiries and registration: Janet Russell (6251 8949 or janet2.russell@fog.org.au). More info on page 2.

- **SAT 9 JAN 8.45am-1pm Showcase with the FOG All Stars On-ground Team** at Garuwanga near Nimmitabel. More info page 2.
- **SUN 10 JAN 9am-11am Monitoring grassy ecosystem sites with Sarah Sharp** at Garuwanga near Nimmitabel. More info page 2.

SAT 6 FEB 9am-4pm South East Forest NP Swamps visit with Jackie Miles. Enquiries: Linda Spinaze (6288 6916 or linda.spinaze@fog.org.au). More info page 2.

MON-SUN 18-24 JAN Snakes Alive at the Australian National Botanic Gardens (ANBG), 10am-4pm weekdays and 10am-6pm weekend. Costs are adults \$5 (concession \$4) and children \$2. Group bookings in off-peak times may be arranged. Inquiries: ANBG Information Centre. More info page on 2.

It is membership renewal time

A membership renewal form for 2010 is enclosed, if you have not already renewed. Please complete it carefully. You may pay by cheque, money order or EFT. Annual rates are only \$20 for families/individuals, \$5 for students/concessions, and \$50 for organisations. Donations, while not tax deductible, are very welcome. The form is also on our website (www.fog.org.au). For any queries contact Margaret on 02 6241 4065 or margaret.ning@fog.org.au.



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Photos: Top - Monitoring at the Lagoons, 4 Nov, story page 4. Middle - John Fitz Gerald beside some of the woody weeds removed at Stirling Ridge, 5 Dec, story page 3. Bottom - Photo provided by Sue McIntyre, of Dwyer's black headed snake, a small elapid, seen at Gang Gang. For story of visit to Gang Gang see page 3.

Some up-coming FOG events

For times, dates, venues, inquiries and registration for FOG events, see cover page.

Garuwanga weekend

Fri-Sun 8-10 Jan

The weekend which is co-hosted by FOG and Kosciuszko to Coast contains three activities, the Showcase and Monitoring activities described below and the launching of the Garuwanga Shed on Saturday evening. You are welcome to come on the Friday and stay until Sunday or stay for any part of the weekend.

Garuwanga is over 1,000m and is relatively cool in January. It has excellent facilities for camping and cooking, as well as comfortable indoor accommodation.

Apart from the Showcase (Sat morning) and Monitoring (Sun morning), on the Saturday afternoon folk might explore the 230ha Garuwanga and/or visit Adam and Kate's stunning property, Karleila, 30 minutes away.

Regarding catering: on Saturday and Sunday breakfast Margaret and Geoff can provide excellent porridge and toast, and for lunch sandwiches and fruit, and endless coffee and tea. On Friday night it is BYO, and for Saturday evening we suggest people bring a plate and some wine, beer or whatever. There are barbecue options but that would depend on fire restrictions.

Showcase with All Stars Team

Sat 9 Jan 8.45-1pm

The aim of the workshop is to showcase and learn from FOG's many on-ground projects. Presenters include FOG's All Stars: the many project leaders currently contributing to FOG.

The workshop has three elements. The first is to showcase each of FOG's projects by describing the nature and approach of the project, sharing experiences, and talking

about the framework/methodology used. The projects include: working with NCA at Yarramundi Reach and Stirling Ridge, Old Cooma Common Grassland Reserve, Hall Cemetery, STEP (establishing Block 100), GSM counting, and Scottsdale monitoring.

The second element is to consider how we might lift the bar by looking at how advocacy, Bush Regeneration principles, and state-of-the-art practice might better inform and direct what we do.

Finally there will be an opportunity to draw out the lessons learnt, to identify on-going challenges, and articulate future plans.

Monitoring grassy sites

Sun10 JAN 9am-11am

Sarah Sharp will run a workshop on using the monitoring methods that are presented in the soon to be released Community Monitoring Guidelines. Most of the workshop will be at several sites at Garuwanga. The workshop will run for two hours, but can be extended if participants would like to trial methods on other sites.

Swamp visit

Sat 6 Feb 9am-4pm

Over the years, Jackie Miles has led many a FOG trip to swamps and bogs, which are more pleasant to visit in the summer months, and generally with guaranteed floristics.

This South-East Forest National Park activity will include Nunnock and Packers Swamps, and possibly Dragon Swamp as well. Jackie anticipates visiting parts of these swamps not previously visited by FOG. Our meeting place will be the Nimmitabel Bakery at 9am Saturday morning where people can purchase lunch.

Those participating may like to stay at nearby Garuwanga on the Friday and/or Saturday nights.

Corroboree Frog

Mon-Sun 18-24 Jan

The theme at Snakes Alive 2010 is *Back from the Brink: survival of the highly endangered corroboree frog*.

FOG highly recommends this outstanding display of local herpetofauna organised by the ACT Herpetological Association which provides excellent information on keeping frogs and reptiles, and their conservation in the wild.

Monies raised assist student and other educational and research projects.

FOG AGM

Normally FOG holds its AGM in February. The committee has decided to make less of a song and dance about it in 2010 and probably to hold it on the fourth Tuesday in March. Stay tuned for more details.

FOG e-Bulletin

The FOG e-Bulletin contains the latest information on FOG happenings and more. It contains no pictures so its size is minimal.

If you haven't been receiving it, and you want to, please provide Margaret with your e-mail address at <membership@fog.org.au>. Also, please let Margaret know of address changes.

FOG website

The FOG website (www.fog.org.au) is now well established and attracting over 2,000 visits per month. If there is anything you'd like to contribute to the site, let us know: webmanager@fog.org.au.

Newsletter available electronically

You can receive the newsletter electronically. The electronic version is in colour. To arrange, contact margaret.ning@fog.org.au.

News roundup

Gang Gang

25 OCT On a cold with rain threateningly day, a small FOG contingent visited Gang Gang. This is a 50ha property, eight kilometres west of Gundaroo, belonging to Sue McIntyre, well known woodland ecologist, and Jon Lewis (both in photo). Rainer Rehwinkel (also in photo) was part of the group and was readily able to identify each plant species.

After some warming food, supplied by our hosts, we took a long walk around this fascinating property, through various grasslands, woodlands and forests, and then along the chain of ponds. Over the years some 200 species of native plants have been recorded, including 13 lilies and 19 orchids. We saw many forbs including yam daisy, austral bugle, fringe lily, scaly buttons, austral sunray, caladenia and greenhood orchids, and many pea species.

Sue stated that the property was previously a sheep grazing property and there had been a single pasture improvement event on some of the property 35 years ago. Sue showed us their efforts at erosion control where they have been repairing areas of erosion associated with salt scalds and restoring soil condition.

While too cold for reptiles, Sue showed us some photos they had taken of Dwyer's snake (see photo on cover page) and Burton's legless lizard.

Thanks Sue, Jon, Rainer and organiser Linda Spinaze for the day.

A Stirling job *Grasscover*

5 DEC FOG-Fenner Group organiser, Jamie Pittock, is very pleased with FOG's involvement at Stir-

ling Ridge. On that Saturday twelve volunteers attended a working bee at the large box woodland site and again made a remarkable impression. This was the third activity at the site in spring, and the fourth for 2009.

A number of reports have now appeared in the newsletter about this highly active group, initiated by Jamie and actively supported by FOG. There have been a series of meetings with the National Capital Authority (NCA), who is the land manager for this large site as well as Yarramundi Reach, a large kangaroo grass grassland on the shores of Lake Burley Griffin, where the FOG-Fenner Group has held two working bees in



2009. The NCA is a happy partner in the work which aims to eliminate weeds at these two large sites and restore degraded landscapes. NCA, consistent with FOG's advice, put management plans in place and undertook some of the more machinery intensive work, e.g. mowing the Yarramundi site. It has also provided funds to FOG to buy equipment and herbicide, and to pay for training and lunches for volunteers – here Jamie has proved himself as a caterer.

On 17 October the bulk of the group attacked the woody weeds, by cutting and daubing, behind Alexandra Drive across from the Yacht Club and by lunchtime there was a more sparse woodland, with a good structure. In the meantime, Sarah Sharp set up a monitoring plot for ongoing reference, while others attacked outlying herbaceous weeds

with spray packs. Jamie prepared a superb lunch, and then it was back to woodland thinning, herbiciding and establishing monitoring plots. At clean up time, the equipment was thoroughly cleaned to be in good working order for next time.

On 21 November, Adam Muyt, who for many years has been committed to the preservation and management of grassy woodland remnants and is very familiar with Stirling Ridge and a regular at the working bees, led a walk at this spectacular woodland site. Adam pointed out the endangered button wrinklewort strutting its stuff. He provided a thorough but simple understanding of the woodlands, the plants, and their best management.

It was a very hot day which limited the numbers at this event somewhat – nine people attended. The group was intrigued to come across rocks that had purportedly been brought in and arranged by some white witches.

On 5 December the bulk of the working group, growing in confidence, again attacked the woody weeds, particularly Cootamundra wattle and other exotics, again transforming part of the woodland into a less crowded but delightful bushland. Others with spray packs again attached herbaceous weeds, particularly patches of Chilean needlegrass, St John's wort and isolated African love grass plants, and yet another team did some mopping up of woody weeds. The before and after comparisons were very impressive. Again, Jamie put on a superb lunch.

Generous donations

Staff at Biosis donated \$925 to FOG and another member \$100 to FOG in recent months. Many others have also donated smaller amounts. This certainly helps FOG with its many activities, subsidizing on-ground work and workshops, and keeps our costs to a minimum. The committee would like to acknowledge these donations and thank our generous supporters.

Botanic gardens visits

SAT 24 OCT FOG members visited two of Canberra botanic gardens. In the morning, nine FOG members (some seen in photo) visited the Canberra region woodlands gardens at the Australian National Botanic Gardens (ANBG). It has a great collection of local native grasses and forbs and clusters of shrubs. In spring it is an ideal place to view some of the region's rare native plants.

Many local beauties were in flower. The group was particularly delighted to see two very rare plants, the Yass daisy (*Ammobium craspedioides*) and small purple pea (*Swainsona recta*).

Geoff Robertson mentioned some of the problems the ANBG experienced in establishing some species at the site, and illustrated the niches that species prefer. Heather Sweet who works at the ANBG provided many stories about some of the plants and their history at the site. The garden is the first garden in the region to focus on local grassy ecosystem plants. Now many gardens follow its example. Thanks to Heather for arranging the visit.

Following lunch at the ANBG cafe, the group visited the Canberra International Arboretum and Gardens (CIAG) to see at firsthand what the Southern Tablelands Ecosystems Park (STEP) had been up to. Before visiting Block 100, the group visited several blocks beside the old cork forest to look at remnant grassland and woodland vegetation which CIAG is keen to restore.

Eighteen people were welcomed to Block 100 by Cathy Robertson and

David Shorthouse (photo next page) who explained the landscaping and various planting that had taken place. Geoff explained the approach to weeding that STEP was undertaking and described some of the local native vegetation that was reappearing on the site naturally.



Visit to the Lagoons

4 NOV Margaret Ning and Geoff Robertson attended the morning biodiversity farm walk, organised by Binalong Landcare, at the Lagoons farm, to assist with plant identification. The Lagoons is a large farm, 60ha of which has been signed up under the Lachlan and Murrumbidgee CMA's project on grassy box woodland. Owner, Mike Middleton, explained that the 60ha, which had not been fertilised for eighteen years, were considered a valuable remnant of box woodland, and his application to receive stewardship payments, under a competitive arrangement, had been accepted. Under the fifteen year agreement the area had been fenced, and while grazing was permitted, none had happened since the beginning of the drought.

He demonstrated the monitoring method. Then everyone gladly participated in looking at and identifying the many woodland herbs, especially milkmaids and fringe lilies, that were in full display on the day.

Raising the bar

Grasscover

As readers will observe from Naarilla Hirsch's regular reports, FOG is

very active on the advocacy front, keeping abreast of grassy ecosystem issues and making submissions. But advocacy also involves talking to stakeholders, giving presentations on advocacy issues when situations present themselves, and doing the legwork, either literally or metaphorically. The advocacy group, which consist of six active FOG members, has been busy on many fronts.

As a follow up to the Report on Canberra's grasslands by the Commissioner for Sustainability and the Environment, the group wrote to Chief Minister, Jon Stanhope, and Minister for the Environment, Simon Corbell, making a number of practical suggestions in support of the grassland review. Naarilla and Geoff Robertson met Simon Corbell on 17 December and found a receptive listener and someone prepared to follow up a number of matters raised with him.

That same evening, Geoff was one of four speakers at the Conservation Council's forum on the Molongo development, which has featured many times in the newsletter. Geoff focused on the biodiversity issues associated with the development, and offered some practical suggestions for preserving our woodland and grasslands, the *Casuarina cunninghamiana* community, and the pink-tailed worm lizard habitat. He also highlighted his opposition to the proposed Molongo Dam and its drowning of functioning landscapes, vegetation communities, biodiversity and habitat.

The advocacy group has also been visiting Canberra grassland sites to be better informed about each site as an underpinning for its work on Canberra grasslands. This has involved three half day visits over the months of October, November and December.

A more complete report on these activities will be included in the next newsletter.

FOG-STEP working bee

31 OCT A FOG-Southern Tablelands Ecosystems Park (STEP) working bee was well patronized, with many non-FOG members in attendance. Twelve local eucalyptus species are planned for this section of STEP and many trees

were planted on the day. Since last autumn STEP has been landscaping and planting trees and

grasses at its site on Block 100 at the

Canberra International Arboretum

and Gardens (CIAG). David Shorthouse (pictured) is one of the driving forces behind STEP working bees.

STEP is now moving ahead to establish a regional botanic garden and ecosystem recovery centre at the CIAG site, with the emphasis on planting species that are indigenous to our local vegetation communities. It is also creating habitat opportunities for indigenous fauna.

Old Cooma Common

14 NOV The FOG Old Cooma Common (OCC) Group held its second working bee for 2009, and despite the heat, over 30C, the various teams got on with the many tasks at hand. There were three teams cutting and daubing regenerating woody weeds (June and Bob, Stephanie and David, and Warren on his own). Coral and Max operated with spray packs, while Jim beetled around on his bike and Margaret operated from her new Hilux. They hit a number of weeds, including St John's wort.

The group adjourned into town for

lunch, funded by FOG. Instead of immediately returning to the Common after lunch, six members of the group visited June's and Bob's spectacular grassland property. Later Margaret and Jim returned to OCC to finish the job in the cooler hours.

This activity marked a first for an OCC working bee. It was the first time that the majority of volunteers were from Cooma.

Scottsdale monitoring

28 OCT Five FOG members met at Scottsdale to undertake the African lovegrass (ALG) monitoring at the five different monitoring sites, with different grazing regimes. This was the fourth occasion on which the monitoring has been undertaken. This is part of ten year monitoring program to detect changes in the composition of these ALG sites. More recently, the group was approached by Bush Heritage, the owner of

Scottsdale, to start a somewhat different monitor program at some other sites at Scottsdale. The new sites are areas where either ALG is invading native grassland, possibly secondary grassland, sites, or sites where native grasslands are recovering, or there is a standoff. A monitoring program is being introduced with FOG's assistance and expertise to determine what the state of play is. This was the first opportunity for FOG to undertake this monitoring at well – this involves an extra nine sites. Linda Spinaze is coordinating FOG's work on this and Sarah Sharp is actively involving in the monitoring design. We will keep readers updated.

Michael Bedingfield's garden

28 NOV About fifteen people attended the FOG's Conservation and Cultivation Group's visit to Michael Bedingfield's garden in Conder. Michael has been experimenting with recreating a grassy ecosystem home garden and has a variety of grasses and flowering plants growing in a semi-wild or natural state in sections of his garden. There are also a few flowering plants that do well in a

typical garden bed, as well as some local shrubs and trees. Some interesting patches of lawn are a mosaic of native grasses and forbs that survive mowing and grow alongside the introduced grasses. Unfortunately, due to the hot dry spell that preceded the visit, many plants were browned off – Michael had specially watered some plants so that he would have specimens to show on the day. As a special treat, Michael also displayed his many drawings and photographs of local flora. All enjoyed the afternoon tea, chat and information that Michael imparted.

Kangaroo grass trials

Kosciuszko to Coast (K2C) has launched its kangaroo grass project in which it hopes to reestablish kangaroo grass on thirty properties in the K2C area, which has been recently extended. Farmers willing to participate should agree to plant and monitor the establishment of the grass and in return will be given free seed. This has received a fair amount of publicity in the Cooma-Monaro Express.

For those interested in this project please contact the K2C facilitator at www.k2c.org.au.

ID workshops a success

10 and 11 NOV Reports to hand suggest that the grassy ecosystem plant identification workshops organized by the Australian Network for Plant Conservation, and supported and assisted by FOG and others were very successful. Fifty people attended the grass identification workshop and 47 the workshop covering daisies, lilies, orchids, wattles and eucalyptus.

The workshops were held at the Australian National Botanic Gardens with field trips nearby. Attendees came largely from staff from Catchment Management Authorities and DEWHA and volunteers from community groups. Knowledge of local grassy ecosystem plants is growing – pardon the pun. To find out about future ANPC plans, contact: phone 02 6250 9509 or email anpc@anpc.asn.au.



Visit to Jerangle

18 OCT Tanya and Greg welcomed a FOG contingent to their lovely Jerangle property (see photo) to identify their native plants. Despite the hot day, the plant ID experts, led by Margaret Ning, quickly started compiling a list which accumulated quickly.

The property was originally part of a sheep station. The previous owner had informed Tanya and Greg that when he bought the land, ten years earlier, it was grazed bare. It has probably been 'pasture improved' because there are still remnants of phalaris and clover in small patches.

The property contains remnant natural temperate grassland, grassy woodland and grassy and shrubby forest remnants. The recently acquired property has quite a few weeds and plans to deal with these have yet to be formulated.

Hall Cemetery

7 NOV Six FOG members attended a Hall Cemetery working bee. As the Hall leek orchid was flowering, its habitat was avoided on the day. Teams started work on the northern woodland area, cutting and daubing, while others did some mopping up work at the south woodland. Hall Cemetery near the northern border of the ACT is a pleasant place at any time. This year it had an early flowering. FOG's efforts to remove woody weeds and eucalyptus regeneration which is threatening the orchid population is rewarding work. Thanks Andy Russell and team!

Pest animal info pack

Congratulations to the Molonglo Catchment Group for the release of their *Pest animal information pack* which has excellent information on

legislation and general matters relating to pest animal control and a number of fact sheets on pest animals, such as rabbits, domestic dogs and cats, deer, foxes, goats and pigs, and their control. The 'what you can do' sections of the fact sheet provide positive steps that individuals can undertake to contribute to reducing the impact of pest animals. Contact the Molonglo Catchment Coordinator (02 6299 2110 or coordinator@molonglocatchment.org.au) to arrange for a copy of the kit.



Kangaroo culling

Geoff Robertson

FOG has supported the Limestone Plains Group's advocacy efforts to reduce kangaroo numbers at some grassland sites where overgrazing has reduced the habitat for threatened reptile species. We have been most concerned about the drastic drop in numbers of grassland earless dragon, although we are optimistic that numbers may be recovering.

The eastern grey kangaroo (EGK) is a magnificent creature of our grassy ecosystems and it is always a delight to observe in healthy numbers at healthy sites. However, because of ecological imbalances, EGK numbers in certain areas are too high and this creates problems both for vegetation management and the kangaroos possibly unnecessarily starving.

Not all FOG members support this view and recently we received a letter reminding us of this. Unfortunately, it was too long to publish.

FOG advocacy

Naarilla Hirsch

The following is a summary of FOG's submissions in September (not included in last newsletter), October and November. The full texts of submissions may be found on FOG's website www.fog.org.au.

September submissions

FOG was asked to comment on the reconsideration of the Bonner stage 4 land release. In response, FOG indicated that it continued to have concerns about this development, as the new proposal merely excluded the environmentally sensitive area from current consideration but noted that a further proposal will be submitted for it in the future. FOG repeated its proposal in its initial submission that ecological assessments in the entire area (including the future suburbs of Jacka and Moncrieff) should be completed before any trade-offs in areas of endangered communities and species are made. Other management issues raised in FOG's initial response were also not addressed in the new development proposal.

The NSW Native Vegetation Act 2003 is being reviewed, and public comments were sought. FOG submitted that the objectives of the Act are still highly valid but suggested adding to the Act an additional objective: to build ecosystem resilience by strategies such as improving connectivity of existing remnant patches and addressing stressors on native vegetation such as altered fire regimes and invasion by weeds and pests. FOG considered that urban as well as rural areas should be included under the Act, and that exemptions for driveways, fences and house sites should not apply to new rural residential developments, but only to agricultural activity. Enforcement of the Act has correctly been directed towards addressing illegal clearing, but FOG's view was that the long term success of incentive and offset measures also requires active auditing and compliance enforcement.

Continued next page.

October submission

The Commonwealth asked for public comment on the Environmental Impact Statement for the proposed Murrumbidgee to Goolong water transfer pipeline and associated works under the EPBC Act. FOG's response was similar to that provided to the ACT Government on the same project, concentrating on grassland issues along the pipeline route. The last newsletter contains the details.

November submissions

The Commonwealth asked for public comment on the proposed Clarrie Hermes Drive extension under the EPBC Act. As well as providing similar comments to those provided to the ACT Government on the same project, FOG also commented on details of the proposed biodiversity offsets, which were not available earlier. These appear to be tree planting and subsequent watering in a degraded area for a couple of years. FOG's view is that offsets should replace like with like, i.e. result in no net loss. While FOG supports tree planting and maintenance, such activities in themselves may not be considered an offset unless understorey is also replaced and the area returned to a level of biodiversity comparable to what is being lost. FOG suggested that a better option would be a significant contribution to a fund to be used to facilitate something like a bush regeneration team to plan and oversee the restoration and maintenance of the site.

The Lachlan, Central West, Border Rivers-Gwydir and Southern Rivers Catchment Management Authorities asked for comment on their draft Policy for Management Techniques – Pasture Cropping, No Till Cropping, Water Spreading and Contour Furrowing that involve Minor Clearing of Native Vegetation. The draft Policy applies to clearing native groundcover that is below 90% of benchmark native species richness for

the vegetation type. It considers that the circumstances in which minor clearing of native groundcover is likely to improve the condition of native vegetation or prevent the degradation of native vegetation includes the maximum area being 500 hectares or 20% of the extent of the native groundcover on the property, whichever is the lesser. In responding to this, FOG recognised that the policy to plant into native pasture without destroying the native component has its merits, but recommended that a significantly lower benchmark, for example 50%, be used. Other concerns were that any disturbance to the soil is very likely to result in an increase in the weed germination in a site and the reduction in competitive ability of native herbaceous species. It can also be difficult to identify accurately some native and exotic herbaceous species, and many grassland sites are variable in species abundance and diversity across the landscape. This variability needs to be taken into account in determining the amount to be cleared

The proposed Edwin Land Parkway stage 2 runs from Jerrabomberra east to Karabar in Queanbeyan through some box gum woodland and derived grassland, and also a population of the hoary sunray (*Leucochrysum albicans* var *tricolor* – a threatened species). FOG responded to the Commonwealth's request for public comment on this proposal with support for its measures to avoid or minimise the impacts of the development and the proposed revegetation of much of the road corridor with native species. As elsewhere, FOG is concerned about further fragmentation of native grassland and grassy woodland areas, particularly as fragmentation has already occurred in the area and further nearby developments are possible in the future. FOG also suggested that the offset proposals should be enhanced by adding the Hoover Rd offset to Queanbeyan Nature Reserve to ensure its protection in the long term.

The ACT Planning and Land Authority released the Lawson South Planning Study and associated draft variation to the Territory Plan for public comment. In its response, FOG supported the establishment and maintenance of at least a 30m buffer zone along the northern edge of Lawson South to protect the endangered ecological communities and conservation listed species in the high value grassland on the Commonwealth-Belconnen-Naval Transmitting Station (BNTS) site. A particular concern of FOG's was that the study mentions little in the way of offsets, particularly for the substantial area of native ecosystems that would be lost, so we proposed that the principle of no-net-loss of native vegetation in general, and in particular no-net-loss of woodlands, habitat for the golden sun moth and striped legless lizard, be adopted. Remaining areas of woodland and grassland, and sizeable areas of other open space should be conserved and enhanced to create suitable areas of woodland and grassland habitat for a range of species, including threatened species. To the maximum extent possible, as both the moth and lizard will only move slowly into adjacent habitat, new areas need to be connected with existing habitat. Along with several other comments, FOG suggested particular areas in the proposed development were particularly suited to revegetation.

FOG has continued its close interest in matters at Lawson by proving a submission on the Lawson South Planning Study: draft variation no 299. FOG generally supported the proposed development, especially as it combines high density housing and therefore will have less imprint on the land, with sensible open space provisions, and as it provides for a broad buffer between the urban development and what is to be extensive grassland reserves in North Lawson (the Commonwealth-Belconnen Naval Transmitting Station site). FOG was concerned that

Continued next page, column three.

Cultivation corner:

Winners and losers- Janet Russell

The very hot spell of weather in spring this year played havoc with the flowering times of many of our plants. Some flowers came and went extremely quickly. Lanky goodenia (*Goodenia elongata*), that is growing in a pot was one of these but it is now having a surprising second flowering and is a cheerful addition to the garden.

The late winter and spring rains resulted in germination of two chamomile sunray seedlings (*Rhodanthe anthemoides*). One was in the goodenia pot and the other in a garden bed, both in protected spots. Initially we treated sunrays as precious but after having planted one two years ago in our woodland garden and watching it survive, I have decided that they are more hardy than I thought. A paper daisy (*Xerochrysum bracteatum*) seedling had also appeared in the pot so I transplanted them both, together with some of the suckering goodenia, in the woodland garden which faces west and gets the late afternoon sun. The plants survived and the goodenia flowered even though by then the flowers of the source plant in the pot had withered under the hot sun.

It is interesting to note the difference between the plants that germinate in the courtyard garden protected from the west by the fence and the woodland garden with its steep sloping exposed westerly aspect. The paper daisies germinate prolifically in the protected garden and the leaves are often wide and look almost succulent. Few of these daisies naturally germinate outside the fence and those that I plant seem to struggle. The sticky everlasting, however, with its narrow leaves germinates relatively easily outside and the numbers are increasing each year.

The blue devils (*Eryngium rostratum*) are struggling in the garden showing no signs of flowering. As

Sticky everlasting (right) and hoary sunray (below).

many of these grassland species develop tuberous roots to allow them to survive during hard times, I am convinced that for maximum survival rates, it is better not to plant some of them out too soon but wait until they are bigger and have a better-developed root system.

We have 32 hoary sunrays (*Leucochrysum albicans*) which germinated on our gravelly car-parking spot close to the road. Thirteen of these are currently flowering and almost all of them are the yellow form. The likely parents of these are six or so white forms and one yellow. I was told that they do hybridise, and if that is the case, the yellow is the dominant form. We bought three tri-colour forms which we planted in a different spot and the three offspring (which have germinated in a more sensible place near them) are of the same tri-colour form. I am so pleased as they are much the prettiest of the forms.



We have watched some plants frizzle and die, some perennials behave like annuals, and waited in vain for some to flower hoping that the hot weather would moderate soon. Spasmodic sprinklings of rain worked wonders



with just enough cooler weather to aid survival. We have had enough wins this time to keep us gardening.

FOG advocacy cont.

the planning study mentioned little in the way of offsets, particularly for the substantial area of native ecosystems that would be lost, and proposed that the principle of no-net-loss of native vegetation in general and in particular no-net-loss of woodlands, habitat for golden sun moth and native habitat of striped legless lizard be adopted. Remaining areas of woodland and grassland, and sizeable areas of other open space should be conserved and enhanced to create suitable areas of woodland and grassland habitat for a range of species, including threatened species. FOG listed some areas that it believes are particularly suited to revegetation using indigenous trees, shrubs and herbaceous species characteristic of natural grasslands and yellow box - red gum grassy woodlands to enhance woodland habitat on the higher hillslopes and grassland habitat on the lower hillslopes above Lake Ginninderra. We also considered that further threatened species surveys should be undertaken to provide further data for these species (as recommended in the Ecological Assessment), before planning for the new suburb and discussion of offsets is finalized, as the results may affect both planning and offsets.

Working bee – 14 November

Old Cooma Common Grassland Reserve (Radio Hill) Jim Williamson

This is a reprint of an article that appeared in the Cooma Monaro Express on (date)

Are you interested in native grasslands? Do you know that you have one of the best examples right on your doorstep? Can you spare a few hours to participate in a Working Bee at Old Cooma Common Grassland Reserve (OCCGR) on Saturday, 14 November?

OCCGR is the steep, treeless, 45 hectare basalt rise with the radio towers on top, between Polo Flat Industrial area and Cooma township. Cooma's dominant landmark, it consists mainly of poa tussock (*Poa sieberiana*) and kangaroo grass (*Themeda australis*), but also has good stands of wallaby grass (*Austrodanthonia* spp.) and corkscrew grass (*Stipa scabra*). However, for those prepared to look, it is a secret refuge for some beautiful and rare wildflowers.

It is one of only a handful of sites where the Monaro golden daisy (*Rutidosia leiolepis*), Hoary Sunray Hoary Sunray (*Leucochrysum albicans* var. *tricolor*) and Australian Anchor Plant (*Discaria pubescens*) exist together. It is an excellent example of what the natural temperate grasslands of Monaro probably looked like prior to European settlement.



Monaro golden daisy

plies, this daisy would once have been a familiar sight on the grassy plains of the Monaro.

The vulnerable Monaro golden daisy, with its conspicuous bright yellow flower heads, is found in only a handful of populations on the Monaro. As its name im-



Hoary sunray

The endangered hoary sunray, a spectacular everlasting daisy, has flower-heads of bright yellow centres surrounded by white florets giv-

ing an appearance not unlike a poached egg. This plant is now only found in areas which have remained largely intact since pre European settlement such as road reserves and other areas not subject to disturbance.



The rare Australian anchor plant, once common in all eastern states, is now endangered in Tasmania, vulnerable in Victoria, extremely rare in NSW and thought to be extinct in Queensland.

Australian Anchor Plant

It is a spiny, almost leafless shrub which can grow up to about 2m high, but is usually considerably lower. The opposite spines, each 1-4cm long, are a distinctive feature of the plant, and are formed in an "anchor-like" arrangement. The flowers are tiny (3mm diameter), white, and sweet smelling, sitting on 1cm stalks rising from the base of the spines.

This amazing plant can live for over 30 years but, sadly, has never been observed to regenerate in the wild. It is this apparent inability of the seed to germinate naturally which is believed to be the main reason for its dangerously declining numbers.

Like most of Australia, OCCGR has progressively been invaded by exotic weeds, many of which now pose a serious threat to the endangered and threatened native species existing on the area.

Friends of Grasslands (FOG), a non-profit association run by volunteers with an interest in conserving important native grasslands, have been managing OCCGR in conjunction with Cooma-Monaro Shire Council since 1998. Work is currently under way seeking approval to allow tightly controlled grazing in the near future in an attempt to improve conservation outcomes such as weed control and the re-establishment of fragile native flora and fauna. If approved, the activity will be closely monitored to gauge the effect this activity has on the area.

The Working Bee to be held on Saturday, 14 November, is part of the overall plan to improve the conservation outcomes of the area and will make a significant difference to the levels of weed infestation. The more participants we have on the day, the more weed control we can

undertake and the better the chances are of the native flora returning to more sustainable levels.

If you are able to participate in the working bee, you will be making a difference to the future of one of Cooma's iconic landscapes. No experience is necessary, only a willingness to participate in the day's activities, including: chipping weeds with a hoe, cutting seed heads with secateurs, spraying using knapsacks, cutting and daubing woody weeds and hand pulling weeds. Be sure to wear sturdy footwear and bring along some gloves and a hat.

Weeds to be targeted in this working bee include St John's wort, serrated tussock, sweet briar, African box-thorn, Scotch thistle and great mullein/Aaron's rod. If you would like to join the working bee, contact Margaret Ning on 0427 788 304, or email margaret-ning@iprimus.com.au for further details. Alternatively, you can turn up on the day at 9.30am at OCCGR, near the brick Telstra building on top of the hill.



Weed spraying at OCCGR 2009

FOG's preferred approach to mitigation of works' impacts

John Fitz Gerald

The Advocacy Group is regularly compiling submissions on behalf of FOG in response to proposals for a wide range of development activities in our region which are usually at the early stages of planning or variation to existing plans. As these developments often border or go through quality grassy ecosystems, mitigation of the impact of these development works is an important part of grassy ecosystem conservation. It was recognised some time ago that an efficient way of driving towards the best environmental outcomes was to have prepared a set of "standard words" which could quickly be used as the basis for comprehensive yet consistent submissions from FOG to various levels of government planning agencies. Bernadette O'Leary was responsible for preparation of the standard which has now been adopted by the Advocacy Group.

A full copy of the mitigation principles being advocated can be obtained from the Advocacy Convener, Naarilla Hirsch. A summary of key aspects is presented here for members' information.

The approach is divided into four parts.

Prevention of Impact: Initially, clear statements are needed in the form of binding contracts specifying the scope of mitigation work, management processes and techniques proposed. These must be based on earlier high quality site evaluations by recognised ecologists. The chain of responsibility within the works team must be highly developed, and possibly supplemented by external oversight. The outcome will be improved by informing and training works personnel about grassy ecosystems and their management. Make it clear that habitat sites can never be fully restored if damaged, so any

disturbance must be minimised, preferably prevented. A series of practical approaches (fencing, runoff and spoil protection, etc.) known to be effective from past experience must be implemented. Prevention of disturbance and weed spread is of prime importance. Adjacent protection zones must be secure before construction commences.

Rehabilitation: Disturbed areas must be reinstated sensitively and appropriately. Management plans are required to anticipate impact well beyond the end of construction (e.g. foot traffic, pets, dumping) and to incorporate sustainable long-term solutions (e.g. buffer zones, fire prevention strategies).

Offsets: This approach is a "last resort" but at times can be required, although it has to be made to work effectively. FOG advocates a series of offsetting principles including: no threatened-species destruction; no net loss and preferably net gain; must be like for like; and new concessions, not restatements, of previous agreement. The advocacy group is working on developing these principles further while awaiting declaration of local policy, and will include them in a future newsletter.

Other: Salvaging or relocating plants and animals has a high risk of failure and is not proven for conservation. Ongoing management agreements should specify details of implementation and compliance monitoring. Conservation advice and management solutions should ideally be integrated across various functions and all levels of governments involved in the project.

Eight grassland associations found in Southern Tablelands grasslands

In FOG, we often talk about different grassland associations. Now we have something more definitive to say, thanks to research undertaken by Rainer Rehwinkel who confirmed that there eight clearly discernible grassland associations in our Natural Temperate Grasslands of the Southern Tablelands and the ACT.

This is a brief summary of Rainer's paper of each of the associations (see the reference, below article). The reference to Benson is to John Benson's earlier classification of Southern Tablelands grasslands.

Group 1. Sub-montane moist grassland

Rainer recognises this as a new association. It is dominated by snow

grass (*Poa sieberiana*), kangaroo grass (*Themeda australis*), tufted daisy

(*Brachycome scapigera*), woodruff (*Asperula* spp.)

and pale everlasting (*Helichrysum rutidolepis*). It is a sub-montane moist tussock grassland found in the southern Shoalhaven valley, the outer fringes of the Monaro and southern ACT. It

mostly occurs on soils derived from colluvium or alluvium and to a much lesser

extent on granite or basalt, largely on foot-slopes and flats, but to a lesser extent on mid-slopes and upper-slopes. Species unique to this association are *Cotula alpina*, *Diplarrena moraea*, *Diuris monticola*, *Pelargonium* sp.1, *Prasophyllum wilkinsoniorum* and *Tasmania* sp. Good examples in NSW may be found in the Nunnock Swamp area and in the upper catchment of the Shoalhaven River at Gundillion Cemetery, while in the ACT good examples may be found at Bradleys Creek, Kennedys Rd, Orrorral Valley and Sam's Fire Trail.

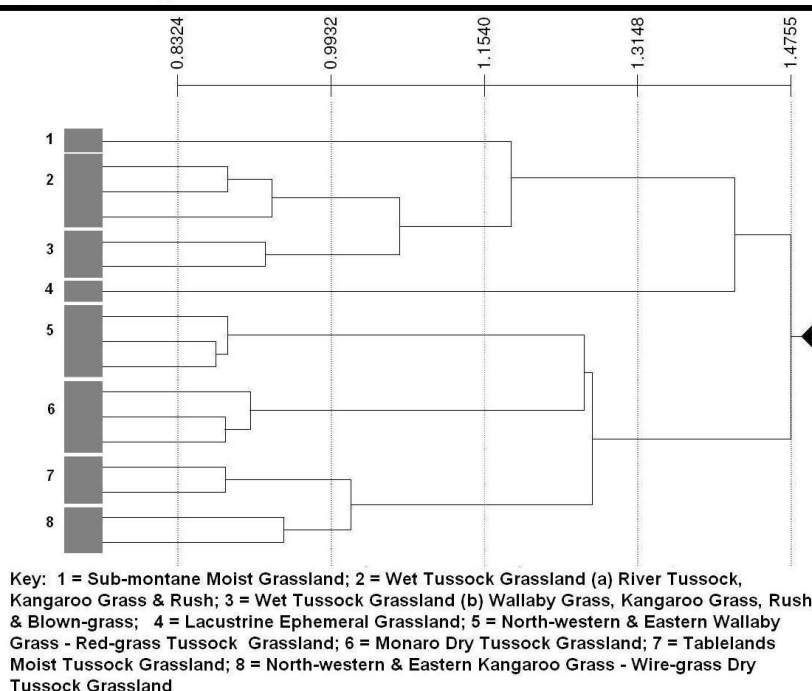
Group 2. Wet Tussock Grassland (River Tussock/ Kangaroo Grass/ Rush)

This is Benson's Community 8. The dominant species are river tussock (*Poa labillardieri*), kangaroo grass, and rush (*Juncus* spp.), while sub-dominant species include a number of other grasses and forbs. It is mostly found on colluvium and alluvium, and occasionally on sedimentary and granite soils. It is mostly found in drainage lines and on flats and foot-slopes but sometimes on mid-slopes. It occurs in the north-western and eastern parts of the Southern Tablelands, and in the south-western region near Rosewood. Good examples may be found in grasslands at Reedy Creek TSR, Logans TSR and Rosewood TSR, Wet Lagoon and Mulligans Flat.

Figure 1. The eight Natural Temperate Grassland associations

Fusion Type: Flexible UPGMA Beta = -0.10
On Association: Kulczynski Rows Created on: 14:19, May 12, 2009

Row Fusion Dendrogram



Group 3. Wet Tussock Grassland (Wallaby Grass/ Kangaroo Grass/Rush/Blown Grass)

This is an intergrade between Benson's Communities 2 and 8. The dominant species of this widespread community are wallaby grasses (*Austrodanthonia* spp.), kangaroo grass, rush and a blown grass (*Agrostis* spp.). Some unique species of this group are *Eryngium vesiculosum*, *Lilaeopsis polyantha*, *Mentha diemenica*, *Spiranthes australis* and *Utricularia dichotoma*.

Group 4. Lacustrine Ephemeral Grassland

This is another newly recognised association. The dominant species are a blown grass, curly sedge (*Carex bichenoviana*), round-leafed wilsonia (*Wilsonia rotundifolia*), fan-flower mudwort (*Selliera radicans*) and a rush. This is an ephemeral tussock grassland of the lacustrine deposits of Lake George and Lake Bathurst, and is confined to the beds of those two lakes. Unique species to this community are *Einadia trigonos* and *W. rotundifolia*. The Lake George bed can be accessed from Lake Road, near Bungendore.

Group 5. North-western & Eastern Wallaby Grass - Red-grass Tussock Grassland

This combines Benson's Communities 1 and 5. The dominant species are wallaby grasses, red-grass (*Bothriochloa macra*), tall speargrass (*Austrostipa bigeniculata*), common everlasting daisy (*Chrysocephalum apiculatum*), kangaroo grass, and mat-rushes (*Lomandra* spp. - *bracteata* or *filiformis*). This widespread tussock grassland occurs on moist or dry sites in the north-western and eastern Southern Tablelands mostly on soils derived from sediments, colluvium or alluvium, sometimes on granite and rarely on basalt. It occurs largely on flats, foot-slopes and mid-slopes. Good examples may be found at Queanbeyan Nature Reserve, O'Keefes TSR, Six Mile TSR, Days Hill Reserve at Bungendore, and grasslands at Evatt and Campbell Park in the ACT. Unique species are *Lepidium hyssopifolium*, *Ptilotis* sp., *Xerochrysum viscosum* and *Zornia dactylocarpa*.

Group 6. Monaro Dry Tussock Grassland

This association has combined Benson's Communities 3a, 3b and 4. This widespread association is dominated by snow grass, wallaby grasses, kangaroo grass, corkscrew grass (*Austrostipa scabra*), sheep's burr (*Acaena ovina*) and woodruff (*Apserula conferta*). Examples occur at Ravensworth, Top Hut, and Dartmoor TSRs. This community has many unique species: *Ammobium alatum*, *Asplenium flabellifolium*, *Australopyrum pectinatum*, *Bossiaea foliosa*, *Dichondra* sp.A, *Diuris semilunulata*, *Dodonaea procumbens*, *Dodonaea viscosa*, *Oreomyrrhis argentea*, *Rutidosia leirolepis*, *Stellaria multiflora*, *Swainsona behriana* and *Swainsona sericea*. Good examples occur at Steves TSR, Yaouk Nature Reserve, Round Plain TSR, Gundary TSR, Collector TSR, Gundaroo Common, Turallo Nature Reserve and Tarengo TSR. According to Rainer, two sub-groups may be discerned.

Group 7. Tablelands Moist Tussock Grassland

This corresponds with Benson's Community 2. It is dominated by kangaroo grass, wallaby grass, snow grass, common everlasting daisy and scaly buttons. It occurs mostly on soils derived from sediments, colluvium and alluvium, and sometimes on granite and basalt soils, largely on flats, lower-slopes and mid-slopes

through the Southern Tablelands. This community is widespread on moist sites in the north-western and eastern sub-regions of the Southern Tablelands, and in moist sites in the outer rim of the Monaro sub-region. It also occurs in the south-western region near Tumbarumba. Good examples of this community are found in many TSRs such as Round Plain, Steves, Gundary, Cowpers Creek, Millers, Collector, O'Keefes, Gilberts Creek, Back Creek, Reedy Creek, Tarengo, Bedulluck and Mundaroo, at Beloko and Rosewood Cemeteries, Turallo and Yaouk nature reserves and at Gundaroo Common. Species unique to this grassland include: *Brachycome diversifolia*, *Prasophyllum petilum*, *Pratia purpurascens*, *Sebaea ovata* and *Swainsona recta*

Group 8 North-western & Eastern Kangaroo Grass - Wire-grass Dry Tussock Grassland

This is another newly recognised association. The dominant species are kangaroo grass, purple wire-grass (*Aristida ramosa*), mat-rush species, wallaby grasses and common everlasting. The community is largely confined to shallow and skeletal sedimentary and granite soils, mostly on flats, mid-slopes and upper-slopes and occurs on dry and sometimes steeply sloping sites in the north-western and eastern sub-regions of the Southern Tablelands. Good examples may be seen at Gundary TSR, Yass Gorge and Hattons Reserve. Species unique to this community are: *Acacia brownii*, *Allocasuarina littoralis*, *Boerhavia dominii*, *Calytrix tetragona*, *Dodonaea boroniifolia*, *Eutaxia diffusa*, *Helichrysum scorpioides*, *Imperata cylindrica*, *Indigofera adesmiifolia*, *Jacksonia scoparia*, *Scutellaria humilis*, *Sida corrugata*, *Thysanotus patersonii* and *Westringia eremicola*.

A more detailed paper is available from Rainer (rainer.rehwinkel@environment.nsw.gov.au). This provides more background information and species lists for each of the communities.

FOG Membership To join or renew

FOG membership entitles you to receive our newsletter and e-Bulletin, to attend FOG's many and diverse activities, and much more.

The cost is small: \$20 for individuals and families, \$5 for students/concessions and \$50 for organisations. Membership is due on 1 January each year.

Membership forms are available on our website: www.fog.org.au and you may pay by cheque or electronically.

While donations are not tax deductible, they are always very welcome.

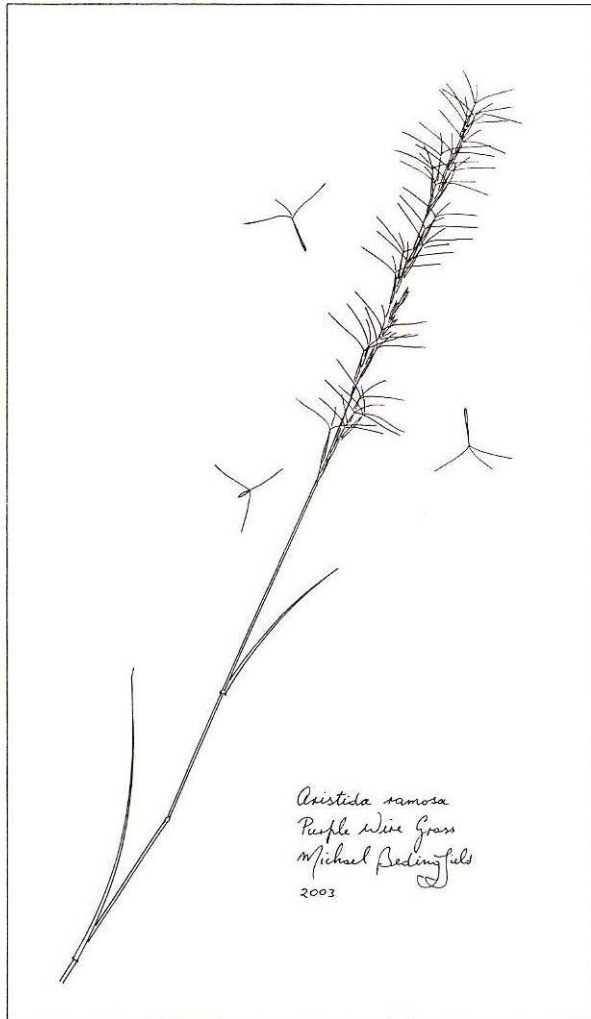
For inquiries contact Margaret Ning on 02 6241 4065 or membership@fog.org.au

Purple wire grass -

a common grass with an important role in our complex grassy ecosystems

Michael Bedingfield

There are several wiregrass species that occur on the Southern Tablelands, but the most common is purple wiregrass. It is a widespread species, and so it is also known by other common names, including kerosene grass, cane wiregrass, cane speargrass, and three-awn grass. The botanical name is *Aristida ramosa*. “*Aristida*” comes from the Greek and means “having awns”, and “*ramosa*” is from Latin and means “with many branches”. The *Aristida* genus has about 300 species worldwide, with about 54 occurring in Australia. They grow in temperate and subtropical regions, usually in low rainfall areas with poor soils.



Purple wiregrass is a perennial plant, producing a medium to large wiry tussock, with numerous branched flower/seed stems or culms. It flowers and sets seed in the warmer months. The culms are slender, with a purplish colour mixed with the green in the growing season. Very little leaf material is produced, and the leaves themselves are stiff, narrow and usually rolled. They are one to three mm wide and up to 15 cm long, but usually shorter than that. The seeds have a sharp point and a characteristic three awns. The plant is highly drought tolerant and copes with frost. In ungrazed areas the stiff seed stems of the tussocks persist over the cooler months though the seeds have departed and its colour has faded. It tends to occur scattered among other native grasses, or in small clumps, but occasionally it can dominate a large area. The normal habitat is grasslands or woodlands, and it occurs widely across NSW, as well as in Qld, Vic, SA, and WA.

From an agricultural point of view, purple wiregrass is not highly regarded, because it is relatively unpalatable and low in nutritional value. Also, the sharp-pointed seeds can penetrate the skin of animals and contaminate wool (not to mention socks!) However, it can be useful to farmers in times of drought.

Despite its drawbacks, it does have value from a naturalist viewpoint. In the Tuggeranong Hill Nature Reserve there is an area of over ten hectares where purple wiregrass is the dominant grass. This is a high value *yellow box - red gum grassy woodland* which supports over 150 species of native plants, including other grasses, orchids, lilies, forbs, rushes, sedges, shrubs and trees. Of further interest is recent research on *natu-*

ral temperate grasslands, which has a number of different types of grassland within their definition. This research has so far recognized eight different major grassy vegetation associations in our region. One of these is a newly recognised grouping: the *wiregrass dry tussock grassland*. It is described in the article starting on page 11 of this newsletter.

Wiregrass dry tussock grassland is found on shallow or very poor soils, on riparian or upper slopes, in the north-western and eastern sub-regions of the Southern Tablelands. The dominant species are purple wiregrass, kangaroo grass, lomandra species, wallaby grasses and common everlasting daisies. It would take a lot of space to describe all of the other seven grassland associations. But each has its own unique combination of dominant plant species, as well as its particular geology, land formations and regional distribution.

Whoever would have thought that grasslands could be so complicated? Nonetheless, that's how it is, and purple wiregrass is in the thick of it all. The drawing shows the seed-head of the plant, with a few loose seeds, at about half of normal size.

FOG groups and projects

Activities organises FOG field trips, talks, workshops, on-ground works, support to other groups, property visits, and the FOG calendar. Inquiries: activities2@fog.org.au.

Advocacy prepares submissions and advocates for grassy ecosystem issues. It holds occasional meetings and workshops. Inquiries: advocacy@fog.org.au.

African love grass (ALG) monitoring holds monitoring days at the Bush Heritage property at Scottsdale. Inquiries: linda.spinaze@fog.org.au.

Committee & correspondence The Committee organises, coordinates and monitors FOG activities. Members are Geoff Robertson (Pres.), Isobel Crawford (Vice Pres), Al Gabb (Sec.), Sandra Hand (Treas), Kim Pullen (Imm. Past Pres), David Eddy, Stephen Horn, Tony Lawson, Bernadette O'Leary, Margaret Ning, Sarah Sharp, and Benjamin Whitworth. Andy Russell is public officer. Inquiries/correspondence: committee@fog.org.au. Postal address: FOG, PO Box 987, Civic Square, ACT 2608.

Communication produces *News of Friends of Grasslands* and *FOG e-Bulletin*. Inquiries: geoff.robertson@fog.org.au (newsletter), and tony.lawson@fog.org.au (e-Bulletin).

Cultivation and Conservation encourages growing of local grasses and wild flowers to learn about their horticulture and ecology, and produces *Cultivation Corner*. Inquiries: janet2.russell@fog.org.au.

FOG ANU Fenner School, with the National Capital Authority, holds regular working bees at Yarramundi Reach (grasslands) and Stirling Ridge (woodlands). Inquiries: jamie.pittock@fog.org.au.

Financial matters, excluding membership, contact sandra.hand@fog.org.au or Sandra on 02 4846 1096.

Grassland Flora FOG is now responsible for sales of *Grassland Flora*. Inquiries: booksales@fog.org.au.

General inquiries Contact info@fog.org.au, Geoff Robertson (6241 4065) or Janet Russell (6251 8949).

Golden sun moth In 2008-09, FOG conducted a major survey of GSM in Canberra region. Inquiries: geoff.robertson@fog.org.au.

Hall Cemetery, with ACT Government, holds regular working bees to protect the Hall leek orchid and generally restore the site. Inquiries: andy.russell@fog.org.au.

Media spokesperson Geoff Robertson (6241 4065). FOG is a regular contributor on Radio Landcare, Tues 9-10am on (2XX, Canberra 98.3FM).

Membership and newsletter despatch See Membership box (page 12). Newsletter despatch is fourth Tuesday of Feb, Apr, June, Aug, Oct. To help, contact margaret.ning@fog.org.au.

Old Cooma Common (OCC) with Cooma Monaro Shire Council manages the OCC Grassland Reserve. Working bees are held twice yearly. Inquiries: margaret.ning@fog.org.au or david.eddy@fog.org.au.

Southern Tablelands Ecosystems Park (STEP) FOG helped establish STEP (at Canberra's International Arboretum), a regional botanic gardens and recovery centre to showcase local ecosystems, especially native grasses and forbs. Inquiries: limestone@grapevine.com.au.

Woodland Flora is planning the production of *Woodland Flora*, the sequel of the popular *Grassland Flora*. Inquiries: sarah.sharp@fog.org.au.

Website (www.fog.org.au) full of FOG information, back issues of *News of Friends of Grasslands*, and program details. Inquiries: webmanager@fog.org.au.