News of Friends of Grasslands

Supporting native grassy ecosystems **May-June2009**

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Program

SAT 2 MAY 9am-4pm **FOG-ANU Fenner School Working Bee at Stirling Ridge**. Tools and a barbeque lunch will be provided. Enquiries: Jamie Pittock (jamie.pittock@anu.edu.au or on 0407 265 131). For more information, see article by Jamie on page 2.

5 MAY 9am **FOG on Radio 2XX** Geoff Robertson is a regular talker on FOG matters on the *Radio Landcare Program*, which goes to air each Tuesday morning at 9am. He is next scheduled to appear on 5 May. Radio 2XX may be found in Canberra on FM98.3.

SAT 9 MAY 10am to 3.30 pm **FOG/K2C/STGE CMN Visit to Bunhybee Grassland** FOG is joining up with Kosciuszko to Coast and the Southern Tablelands Grassy Ecosystems Conservation Management Network to visit Bunhybee, near Braidwood. This is an excellent natural temperate grassland/snow gum woodland and there will be a lot to see even in May, as our grassland experts will be able to show you. The plan is to meet at the Braidwood Bakery (where you can buy lunch) at 9.30am and then travel to Bunhybee. To get there from Braidwood, travel south across the Kings Highway and follow the directions to the Cooma Rd. Travel along the Cooma Rd until the Jerrabatgulla Ck crossing. Turn right after the creek into Jerrabatgulla Rd. The property is a few kilometres on left, just before Harts Lane. You will need to bring your own everything as there are no facilities at the property. Mary Appleby will bring hot water for tea and coffee. For further details contact Janet Russell on 6251 8949 or activities@fog.org.au.

SAT 20 JUNE 1.00pm to 4.15pm **Touring Gungahlin's grasslands and woodlands sites.** Gungahlin has many grassland and woodland sites, including the two large woodland reserves: Mulligans Flat and Goorooyaroo, and the three large grassland reserves: Mulangarri, Gungaderra and Crace. Maps in ACT's grassland and woodland strategies reveal many more lesser known sites. The tour will focus on the smaller sites and visit two or three sites, possibly more, depending on the interest. It will finish about 3.45pm to visit a coffee house in Gungahlin to warm up. Let Tony know if you are coming and what sites may interest you. We will provide more detail closer to the date. Tony's contact details are 6161 9430 or tony.lawson@fog.org.au.

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News Roundup

Stirling Ridge working bee
Jamie Pittock

On Saturday 2 May, the FOG - Fenner School Group will hold its next grassy ecosystem restoration day from 9am to 4pm, including barbeque.

This is a really nice site - home to the endangered button wrinkle wort - and the main problem is woody weeds like blackberry, Cootamundra wattle and other exotic trees. There is also some hand weeding of some blue periwinkle required. We will meet across Alexandrina Drive from the Canberra Yacht Club (car park on Mariner Place), Yarralumla. This is also by the lake-side bike track. See: http://www.canberrayachtclub.com.au/find_us.htm.

To register contact me (jamie.pittock@anu.edu.au or 0407 265 131). Please bring old, long sleeved clothing, a water bottle and sun protection. Let me know if you are willing to lead a weeding team, help set up monitoring points, or run the registration or barbeque.

Thanks to all those who turned out for the Yarramundi Reach event.

Yarramundi Reach working bee
Jamie Pittock

2 APRIL After a welcome to country by Ngambri elder Shane Mortimer and an introduction to the site by Sarah Sharp, thirty volunteers (Fenner School, Friends of Grasslands and others) took to the weeds of Yarramundi Reach grasslands with all manner of implements of destruction. Guided by local grasslands and also bush regeneration experts, some twelve cubic metres of blackberry, pines, Cootamundra wattle and feral eucalypts were removed from the site, and many more weeds were dispatched in situ. One focus was weeding an endangered remnant of a wet poa grassland community. Monitoring lines were also established to enable us to measure progress in coming years. The work finished with a barbeque courtesy of a grateful National Capital Authority. Gary Rake, the Chief Executive of the National Capital Authority, wrote to me to say: "What a fantastic outcome! Please pass on my thanks to all participating FOG members and associates."

FOG-Fenner School Group volunteers removing some of the 12 cubic metres of weeds at Yarramundi Reach.

Those who missed out on such therapeutic elimination of our bushland invaders should not be sad, as you can join the next working bee at Stirling Ridge, Yarralumla, on Saturday 2 May (see details on this page)

The FOG - Fenner School Group has recently been formed by Jamie Pittock to engage ANU students and others, under FOG's auspices, and in in collaboration with the National Capital Authority, to work on two important remnant grassy ecosystem sites as a restoration project. The sites are the natural temperate (themeda) grassland at Yarramundi Reach and box woodland at Stirling Ridge.

Updating email addresses
Tony Lawson, e-Bulletin editor

When I sent out the latest e-Bulletin, I was disappointed how many emails bounced because the addresses were no longer valid. If you want to receive the e-Bulletin or any other FOG email messages then it is important that you keep us informed of any changes to your address.

Please let our Membership Officer, Margaret Ning, know at membership@fog.org.au if you change your membership details.

FOG e-Bulletin

The FOG e-Bulletin contains the latest information on FOG happenings and more. It contains no pictures so that 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 let Margaret know of address changes.

The moth with great personality

13 MARCH 2009. Nyssa Skilton published the following article titled Moth's a puzzling case *in The Sunday Times. The photo was taken by Kate Leigh.*

HOW THE golden sun moth survives is an astonishing feat. The critically endangered moth lives for just two or three days after breaking free of its cocoon. In its small window of existence, the purpose of the moth is to mate and keep the population alive. The moth has no mouth or gut and it will eventually die of starvation. Rather than waste time feeding, it lays as many eggs as possible.

Now a University of Canberra entomologist has uncovered a phenomenon that casts doubt on the future of the golden sun moth. Anett Richter, with the help of 40 Friends of Grasslands volunteers across Canberra, has discovered there are more male moths than females. ''Based on our analysis, it's estimated that the sex ratio is 60 per cent males to 40 per cent females,'' Ms Richter said. ''In theory it should be approximately one to one . . . We don't know why at the moment.'' Male moths are relatively easy to identify during flight. Their wings are dull brown compared with the bright orange underwings of the female moths.

But pupal cases can reflect a much more accurate number of males and females as the environment does not have the same influence on them. Unlike the female pupal cases, the male ones have two tiny bumps at the base, discernible only under a microscope.

Ms Richter examined more than 500 pupal cases. The moth larvae can live for up to two years in the soil before cocooning themselves in these pupal casings. Ms Richter said temperature changes, pressure for food or high predation rate in the soil might influence the moth's sex ratio.

The golden sun moth is found in various sites across Canberra, including York Park in State Circle and the native grasslands at Majura. The moth was once common and widespread throughout south-east Australia, but it has become one of Australia's most endangered insects.

This year, WWF Australia listed the moth in its top 10 Aussie battlers list of endangered species that needed urgent funds to survive. ''This little moth has a great personality,'' Ms Richter said. ''I have always wondered how the moths can survive in this climatically extreme ecosystem.'' Moths fly during the hottest part of the day between late October and mid-January. Ms Richter said she had worked in the moths' native temperate grassland habitats during their flying time and it could become extremely hot.

"The moths don't mind it – they need the high temperatures,'' she said. ''If you look at the dry hard soil and the pupal cases, then you wonder how a little moth can emerge out of this soil that must feel like a rock. The moths can do it easily.'' She said more research was needed to shed more light on the moths' biology and ecology to secure their survival.

A highly successful project
Sarah Hnatiuk

The moth counting and pupal case collection was completed in December and January. Each of the 37 volunteers spent an average of 22 hours on the project.

In response to a questionnaire, most of the volunteers said they enjoyed their involvement with the project and would like to participate again next year. The biggest problem was that volunteers needed to do their counts in warm, fairly calm conditions, but November, when most moths were expected to be flying, was cold and windy. This made it hard for volunteers to match the time they had available for counting with suitable counting conditions. Moths were seen from November to January but, possibly because of the weather, there were fewer than in previous years. They were found at some sites where they had not previously been recorded, and vice versa.

Sixty percent of the pupal cases collected were from male moths and forty percent from females. It had been expected that the sex ratio would be 50:50. The project received some media coverage through press releases by University of Canberra and WWF e.g. articles in the Canberra Times and Herald Sun.

A 'wrap up' session was held in mid February for volunteers and other interested people at CSIRO's Discovery Centre. Anett Richter described some of the preliminary results from her analysis of the data collected and we discussed ways of improving procedures for future monitoring. The main difficulty volunteers identified was with the vegetation survey at their monitoring plots.

A final report on the project is being prepared for WWF and the coordinating group of Geoff, Sarah, Will Osborne and Anett are starting to plan for next season's count, should it go ahead. This group met with Jo Harding from the Natural Resource Management Council. She indicated that the ACT Government will include GSM monitoring in their application for Caring for Our Country funds. All in all, it's been a successful project.

President's report

For some unaccountable reason (a senior's moment) the section on advocacy did not appear in the President's report included in the previous issue. It read:

In 2008, a huge amount was achieved on the advocacy front. There is a separate report on this to the AGM. Some achievements include: making nineteen submissions, wins on some issues (e.g. Molongo, ACT Grassland Inquiry), having our input sought by others, and being highly regarded by the Chief Minister and many other decision makers. Our advocacy workshop in 2008 and the creation of an advocacy group have greatly assisted FOG to develop our strategies. However, we need to consolidate this work.

Far South Coast CMN
Grasscover

The Far South Coast CMN newsletter comes out on a regularly basis and is always full of interesting snippets. The latest issue, Jan/Feb 09, is no exception.

The lead article introduces the concept of how restoring native fungi below the surface as well as native vegetation above ground can greatly assist in the success of revegetation projects. "Healthy natural ecosystems throughout Australia have a greater diversity of native fungi than degraded or revegetating ecosystems. A three year study surveying woodlands in Western Australia identified 10 native fungi in revegetated areas compared to more than 100 fungi in nearby woodland remnants. No native fungi were observed in cleared agricultural lands". The article refers readers to CSIRO' s FungiBank web site: www.fungibank.csiro.au. Check out this site which contains much information about how to identify, collect and establish fungi. It will get you thinking. Should we be introducing fungi to our native grassland gardens?

The newsletter contains many interesting articles on vegetation restoration, especially riparian vegetation. The CMN also owns a remote camera which it lends its members to record night and daytime animals on their properties. Some interesting recordings!

Environmental law
Grasscover

An excellent booklet came into my hands recently. It is titled *Rural Landholder's Guide to Environmental Law in NSW (second edition),* published by the Environmental Defenders Office in NSW. It is current as at 16 September 2008 and sets out the legal rights and obligations of landowners and managers, as well as providing many useful contact numbers, etc. It has easy to read chapters on vegetation management, protected animals and plants, fire management, water management, construction and other developments, pollution, agricultural chemicals, crops and live stock, mining and quarrying, heritage protection, conservation on private land, and trading and offsets. A great reference document.

The copy I picked up was free. To obtain copies contact the Environmental Defenders Office, Sydney (02) 9262 6989, Northern Rivers 1300 369 791 or www.edo.org.au/edonsw.

Insect decline

A recent Google Groups "NatChat" item posted an item on insect decline, some of which is quoted below. While the plight of mammals and birds commands the world's attention, insects are quietly but rapidly disappearing.

Since 1968 the agricultural research station at Rothamsted in Hertfordshire has maintained a substantial network of moth traps around the country (at about 80 sites) to which the insects are attracted at night by a light bulb. Types and numbers caught are carefully noted, and with long-term records for no fewer than 337 species of larger moths over four decades, this is one of the biggest sets of animal population data in the world. Analysis in 2003 showed more than 200 species had declined, and nearly 70 by more than 50 per cent. Species once well-known and abundant were tumbling: the magpie moth had declined by 69 per cent, the cinnabar moth by 83 per cent and the strikingly handsome garden tiger moth by no less than 89 per cent.

It is the same story with butterflies. Thanks to another impeccably-kept set of long-term data, from the Butterfly Monitoring Scheme run by the charity Butterfly Conservation and the Centre for Ecology and Hydrology, we know that seven out of 10 of Britain's 58 species have declined in the past 30 years, some by amounts so large they are on the road to extinction. Bumblebees are also declining. Of the 25 species traditionally native to Britain, three have gone extinct.

Source: http://www.independent.co.uk:80/environment/nature/insecticide-an-ecological-disaster-that-will-affect-us-all-1019520.html.

Birds-in-Backyards
Sybil Free

FOG members should check out this site. Birds Australia has partnered with the Australian Museum to set up and maintain the Birds-in Backyards program of on-line resources and educational outreach activities. The site includes a bird identification facility - there are currently 343 birds described. These are concentrated on east coast species as the program started in NSW. It is now being expanded by Birds Australia around Australia. As this happens, birds in the new areas of activities are being added, and eventually, no doubt, all Australian birds will be listed .This excellent facility - it won a Eureka award last year. It may be accessed at http://www.birdsinbackyards.net/finder/.

Editor: This is truly an excellent site, and is great just to browse. It is a great example of model in environmental education.

Wednesday April 8, 2009 The MONARO post

Scottsdale to Colinton railway walk

Walkers emerge from the railway tunnel.

Organisers Lauren Van Dyke and Geoff Robertson, FOG president.

By Lisa Ashurst

Sunday April 5 saw a good turn-out for the Scottsdale to Colinton Railway walk which was organised by the Kosciuszko to Coast (K2C) and Friends of Grasslands (FOG) groups to take in the stunning landscape and learn more about the various native grasses, some of which are unique to the Monaro region, that exist through this area.

Organised by Lauren Van Dyke, facilitator for K2C and Geoff Robertson, President of FOG, it was a unique opportunity to visit the Reserve and to learn more about its history and the native vegetation that has been preserved on the property.

Following a 9am start, walkers were ferried by car from Bredbo to the Scottsdale Reserve, which was purchased by the Bushland Heritage Group in 2006, where they accessed the railway line and began the leisurely walk through the picturesque countryside.

Along the way, walkers were introduced to some of the rarer native grass species and learned more about their habitat.

One of the highlights of the walk was the historic railway tunnel on the Scottsdale Reserve.

The tunnel was opened in 1887 and remained in use until the line closed in 1997. Originally, the line ran from Bombala to Goulburn.

Walkers arrived at Bumbalong Road just on lunchtime and several opted to follow on to Ingelara Property to lunch beside the lake after which, another shorter walk to the railway concluded the excursion.

Railway walk
Lauren van Dyke

You will be pleased to know nobody was hit by the train as 41 FOG and K2C walkers meandered along the tracks from Scottsdale to Colinton on Sunday 5 April. After the main leg, about 12 people headed onto the Ingelara Biodynamic Farm where we were treated with coffee, cake and chai tea. That got us going again through the regenerating yellow box and back onto the railway easement. Thanks to everyone for participating and making the day memorable.

Monaro Post photo

The unidentified person in photo is Rainer Rehwinkel, who with Lauren, Geoff and Mary Appleby led the walk.

FOG website

The FOG website (www.fog.org.au) is now well established and attracts 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.

STEP happenings

Much is happening with Southern Tablelands and Ecosystems Park (STEP), which FOG and the Australian Native Plant Society initiated some years ago.

On 15 March there was the highly successful tree planting event where many STEP members and supporters, including many high profile Canberra and conservation personalities (including Rainer Rehwinkel—photo), commenced

the planting of twelve different local eucalyptus species at Block 100, STEP's plot at the Canberra International Arboretum and Garden. Chief Minister, Jon Stanhope, was one of the tree planters, and is signalling strong support for STEP. A large contingent from Evatt Primary School became eager tree planters. Bernadette O'Leary and Margaret Ning planted trees on behalf of FOG.

To continue the tree planting and general preparation of the site, there are regular Thursday and Saturday working bees. For more information about the working bees, contact Lanie and David Shorthouse (6247 5816 or djshorthouse@apex.co-m.au, Thursdays) or Cathy Robertson (limestone@grapevine.com.au, Saturdays).

Information about STEP may be found in its regular newsletter and/or website www.step.asn.

Pink tailed worm lizard

The following was a letter from Anna See, published in the Cooleman Ridge Park Care Group (ACT) for January 2009. Anna is a member of that group.

For the past month I have been watching and helping contractors with rock clearing and fire control. The sites where they have been working are Urambi Hills, Cooleman Ridge and Tuggeranong Hill. Basically they are removing rocks from behind houses in order to make a clear passage for a grass mower to run over. They are also removing dead/dangerous trees and trimming low branches. This is part of a fire control plan.

Unfortunately these areas are home to the pink tailed worm lizard, a threatened species. My role is to watch out for these lizards and relocate any that we find. I have also managed to rescue a small bird's nest and numerous bearded dragons and marbled geckos. The damaged areas are then topped up with soil and seeded with native grass seed such as kangaroo grass.

Cooleman Ridge is by far the most diverse area out of the three sites. The many native plants certainly seem to be agreeing with our native fauna. Well done Cooleman Ridge Park Care Group!

I managed to replant some of the disturbed grasses and lomandras, while some of the rocks were moved to other areas to create new habitat. I really hope the area recovers and the seeds take hold so that soon the Ridge will be back to its beautiful self.

A sweetener for grasses

26 FEB THE LAND In an article titled *a sugar hit for microbes helps: native, grasses,* Rebecca Lines-Kelly (NSW DPI Extension Coordinator, Wollongbar) reported on Suzanne Prober's and Ian Lunt's findings that feeding sugar to soil micro-organisms helps native grasses establish.

Previous research had established that remnants invaded by annual weeds had high soil nitrate levels. Areas with mainly native grasses had low nitrate levels. Suzanne and Ian concluded that low soil nitrate levels would encourage native grasses to establish. On a Young property they added sugar and kangaroo grass to the soil and found that the annual weeds were greatly reduced which allowed the kangaroo grass to establish.

Sugar is a carbon molecule which feeds microorganisms. In the trial, the sugar stimulated the microbes' growth so much they began feeding on nitrate from the soil, leaving very little for the weeds to use. The effect of the "sugar hit" lasted only three months, but in that time, the kangaroo grass seed established easily. Three years later the grass had formed such a dense sward few weeds were able to grow. Even when the grass was burnt or mown, weed growth remained low due to the extremely low soil nitrate levels.

These results are so encouraging, a new seven year research project is now investigating a range of non-chemical methods to re-establish native grasses on large weed infested sites in southern NSW. The methods include re-seeding, crash grazing, burning, and adding sugar. The project will also compare the effectiveness of different combinations of native grasses for preventing weed growth. Two demonstration sites will be established on travelling stock reserves near Albury and Gerogery.

Read more about the research at http://www.anbg.gov.au/ anpc/kangaroo-grass17(1).htmI and http://www.sciencealert.com. au/news/20081710-18303.html.

Draft ACT kangaroo plan

The ACT government has released its draft kangaroo management plan. Comments are due on 11 May. See http://www.tams.act.gov.au/__data/assets/pdf_file/0010/142867/Draft_ACT_Kangaroo_Management_Plan.pdf

OCCGR working bee
Jim Williamson

EASTER SATURDAY 11 APRIL Seven hardy souls spent several hours weeding at Old Cooma Common Grassland Reserve (OCCGR) on Easter Saturday. The aim of the working bee was to complement previous work undertaken on the 45 hectare area by FOG members and Cooma Monaro Shire Council (CMSC) spray contractors. This, and future work, will enhance the success of planned weed control grazing trials to be held on OCCGR later this year following fencing and provision of stock watering facilities.

As a result of invitations emailed to FOG members to attend the working bee, Bob and June, David and Sherri, Jim and Trish, and Margaret met at the top of Radio Hill on OCCGR at about 9.30am. Together they cut, sprayed and chipped a variety of weeds, including African lovegrass, St Johns wort, lambs ear, sweet briar, hawthorn and serrated tussock.

The main focus was on lambs ear and regenerating sweet briar. Thanks to the dry season, there were fewer mature lambs ear seed stalks than in previous years, and Trish was able to collect the mature stalks from around ten hectares of the area. Lambs ear rosettes were plentiful, and an area of approximately three hectares to the west and north of the radio tower was spot sprayed during the day by Jim and Margaret. A large number of sweet briars were cut and daubed over the western side of the hill by Bob, June, David and Sherri. Some St Johns wort and African lovegrass were also sprayed.

Lunch, paid for by FOG, was enjoyed in the park at Cooma. Around 3pm, work ceased due to encroaching rain and a trip to the Cooma Landfill ensured that the seeds and other rubbish collected from the common would not cause any problems to the area in the future. Around 4pm a thunderstorm provided a brief but welcome drenching to the town and the common. It will be interesting to see if this drenching affected the spraying undertaken during the latter part of the day, but we feel it probably would not have affected it too much.

Photo: The Lone Sprayer (Margaret spraying on OCCGR).

All in all, it was a very satisfying day, even though only a small area of the common was covered. Much more needs to be done, particularly with the St Johns wort and the African lovegrass. CMSC contractors will soon undertake some additional spraying of the African lovegrass, using funds obtained from the NSW Government, but this will not cover the entire infested area. A couple of dedicated FOG members intend spraying the entire area for St Johns wort in December 09/January 10, in an effort to eradicate this plant from OCCGR over the long term. This will be undertaken using a combination of boom spraying and spot spraying using vehicles, 4WD motorbikes and backpack sprays. Anyone wishing to assist with this exercise should contact Margaret Ning for details.

Over coffee in the local café following the day's work, it was suggested that the next working bee could be held over a weekend, provided we could find some cheap accommodation in Cooma (maybe Margaret and Geoff's in Nimmitabel – only 45 minutes away). This would allow two days of work to be undertaken and the opportunity for a bit of socialising in the evening. What do members think of this idea? Would it encourage more members to attend? Let Margaret know your thoughts.

Festival of the Forests
Janet Russell

15 MARCH At the Festival, I staffed the booth which had been allocated to FOG on the event terrace at the Arboretum. We had the FOG posters on display, with the most prominent one showing off the beautiful selection of flowers that grow in grasslands. This seemed to catch many peoples' eyes, as for two hours the traffic to the tent was continuous and I gave away nearly all the literature I had with me. Between Tony Lawson, who came to do the shift after me, and me we sold all six copies of *Grassland Flora* that we had with us. The people there were obviously interested in plants, which can be compared to other fetes and fairs where the interest of the public is of a more general nature. It was a glorious day with sunshine and blue skies and the view from the event terrace was a magnificent panorama looking south over the lake. A pleasant few hours well spent as far as FOG was concerned.

Continued from page 8 - ACT lowland native grasslands

- strategically protecting lowland native grassland and progressing appropriate developments;
- using adaptive management to guide land management so that sites in good condition (40%) are maintained, and those in a critical condition (20%) or approaching a critical condition (40%) are restored;
- assessing the ecological values of a range of sites; and
- conducting an annual community and stakeholder lowland native grassland forum to, among other things, coordinate research, monitoring and data collection, and raise awareness.

FOG advocacy

Naarilla Hirsch

In February FOG provided comments on the **Tidbinbilla, new management plan discussion paper**. FOG has a particular concern with the suggestion of zoning, and of developments in the valley floor that greatly impact on the landscape. Zoning lowland as 'urban' in Canberra planning, has resulted in native grasslands in valley floors being destroyed, as native vegetation in valleys floors is typically natural temperate grasslands, a threatened ecological community. On the lower slopes box woodland, also a threatened ecological community, has been destroyed. Any developments should be located and designed in such a way as to minimise impact. On those occasions where a patch of natural vegetation may need to be cleared, the guiding principle should be no net loss of native vegetation. In the long term, the plan should be to return valley floors to function as natural temperate grasslands. FOG values the historic role of Tidbinbilla in providing good access to wet and dry sclerophyll forests close to Canberra, and providing families with the opportunity to see a variety of native fauna. In FOG's view any additional developments that might be contemplated should not be at the expense of the traditional uses of Tidbinbilla (such as the enjoyable short and longer walks in the reserve), nor should they compromise those uses.

In March FOG made a submission on the EPBC referred **infrastructure upgrade and construction at Canberra Airport**. FOG expressed concerns about the continuing loss and fragmentation of natural temperate grassland (NTG) that is occurring at Canberra Airport. The additional area offered as an offset under this proposal was relatively small, and specifics on how this might be restored to a reasonable conservation level were lacking. In the past, FOG has asked that developments at the airport should comply with principles of no net-loss. While the proposed conservation area goes part way to meeting this principle, the proposed offsets do not fully compensate for the destruction of NTG at the airport that will occur with this development.

FOG also made a submission on the EPBC referred **North Weston residential development**. FOG considered that it would be helpful if some further work was undertaken to establish the presence or absence of the pink tailed worm lizard on the site. The proposed measures to avoid or reduce impacts to this remnant vegetation during construction appeared adequate, but the remnant vegetation needed to be managed in the long term to maintain conservation values.

Copies of FOG submissions are included on its website.

ACT Lowland Native Grassland
Naarilla Hirsch

The ACT Commissioner for the Environment and Sustainability has released her Report on ACT Lowland Native Grassland Investigation. The full report is extensive (277 pages and 32 recommendations) and can be found at www.environmentcommissioner.act.gov.au. It covers relevant legislation and policy, management arrangements and issues, future land use and development, corridors and connectivity and communication between stakeholders.

The Commissioner found that, of the Territory's 49 lowland grassland sites, 40 percent are in good condition, 40 percent are approaching a critical threshold, and 20 percent are in a critical condition. The threatening processes that have caused the demise of the grassland sites include weeds, inappropriate mowing regimes, and overgrazing by stock, eastern grey kangaroos and rabbits. The prolonged drought has exacerbated the effect of these processes. The Commissioner notes that most grassland sites are fragmented, with limited connectivity. They pose land management challenges due to their location and proximity to urban areas, and conservation challenges due to being prime potential development sites.

The Commissioner considers that the current review of the Nature Conservation ACT 1908 (ACT) should ensure that lowland native grassland are protected by the Conservator of Flora and Fauna, that ACT Government planning and nature conservation legislation is streamlined, and that innovative mechanisms (e.g. conservation leases, voluntary agreements, bio-banking and offsets) to protect lowland native grasslands are investigated and progressed.

The most urgent recommendations of the report are to improve the ecological condition of sites that are in a critical condition or approaching this state, by reducing current threatening processes of weed invasion, inappropriate mowing and overgrazing by stock, rabbits and kangaroos as a matter of urgency; and immediately enforce the provisions and conditions in the land management agreement, which is a part of the rural lease for 'Cookanalla'.

Other recommendations include:

- strengthening the EPBC Act to protect sites more effectively;
- establishing memoranda of understanding between the ACT Government and relevant land managers to meet conservation requirements;
- establishing a formal monitoring, assessment and auditing process aimed at ensuring conditions in land management agreements achieve the desired ecological results;
- giving priority to weed management and implementing appropriate mowing practices as part of routine work programs;
- expansion of some existing reserves to include areas of lowland native grassland and planning a Majura Valley Reserve;
- defining the long-term land use for lowland native grassland sites, while

Continued on page 7

Cultivation Corner:

Blue devil - *Janet Russell*

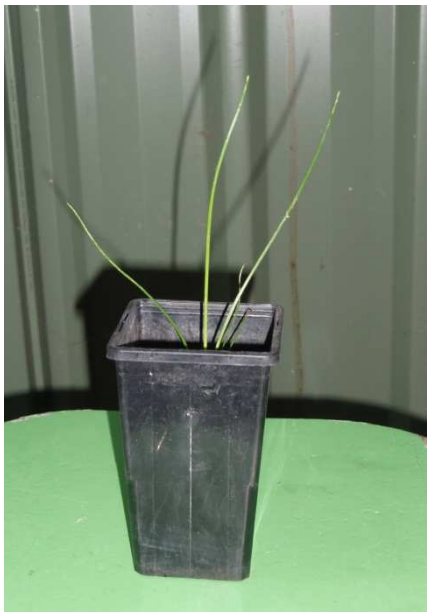
On a very pleasant November day last year Ingrid Adler conducted a workshop which focussed mainly on growing plants from seed. Ingrid was generous in sharing both her time and her considerable expertise as a horticulturist developed over many years. Ingrid supplied all the propagating materials and also the majority of seeds. She gave us recipes for propagating, and seed raising mixes and other useful information.

I held off writing of our experiences because there is many a slip between sowing seeds and having a plant that survives to the potting up stage and beyond. Katie did not have much luck with most of hers although she did use her own seed to successfully produce plenty of *Poa gunnii* and *Poa labillardieri* which she was very pleased with. Sarah and I had good results with blue devils (*Eryngium rostratum*) and native flax (*Linum marginale*). For the spear grass, *Austrostipa densiflora*, and yellow burr daisy (*Calotis lappulacea*), Sarah managed to produce 14 and 12, respectively. Unfortunately I managed only one spear grass and two yellow burr daisies. For the rest, they were either single specimens that propagated or there were none. No one managed to propagate any digger's speedwell (*Derwentia perfoliata*).

I would like to focus on blue devil because interestingly some knowledgeable people could not recognise them as blue devil at the early stage of their growth. I consulted with Sarah and she thought that they looked like small bulbine lilies and I could identify with that – I had described them as grass-like. I had watched them germinate and they initially had two tiny dicotyledonous leaves so I knew they were not from either of those families. I decided to ask Warren Saunders and sent him a photo as I knew that he grew them. He confirmed that that was what they were.

In Lamp and Collett's *Weeds in Australia* (published 1976) blue devils (*E. rostratum)* were identified as originating from temperate South America. I do not know when they were rehabilitated but they now appear to be universally accepted as native to Australia. Wrigley & Fagg identify them as being suitable rockery plants which are frost resistant (to minus seven degrees in times of normal rainfall). I always like to check what Cunningham et al have to say in Plants of Western New South Wales and they say that they only appear in numbers after flooding rains have receded, which suggests that they would benefit from a good wet season. I have seen them once en masse in a damp spot on a track near Mulligan's Flat and they certainly were eye-catching. Interestingly they are not seen as a suitable forage food but it looks to me as though they would make nice sweet green pick in the first few months after germination. As they are a member of the *Apiaceae* family which includes the carrot, you would think that they would not be too distasteful.

I wonder now how many blue devil seedlings I might have passed in the bush in complete ignorance of what they were – now I will at least recognise them if one day they germinate out in our garden.



Photos supplied by Janet: blue devil in the field and a blue devil seedling.

Young Volunteers Help at Hall Cemetery

Kay and Leon Pietsch

An enthusiastic group of young people were introduced to the grassy woodland of Hall Cemetery last December. A squad of Year 9 students from Francis Xavier College elected to assist with FOG's management work at the cemetery as part of their end of year activities.

After reading about FOG activities on our website, Janet Cartwright, the College volunteer program coordinator, contacted Margaret Ning to see if some of her College students could help out. Seeing a great opportunity to spread the word and get some extra labour, Geoff Robertson put together a program with Andy and Janet Russell and Kay Pietsch.

On 10 December, nearly twenty students and two staff members arrived at the cemetery gate ready for action. While they had morning tea provided by FOG, Kay introduced them to the location, the aims of FOG and the day's activities.

The students were divided into three groups and rotated through three activities, each with some educational and some labour content.

Geoff led the lignotuber removal activity. The students rose to the challenge of grubbing out the lignotubers in the hard ground, and they manage to clear a large area around the headstones. More than one pair of blistered hands required bandaging!

In the second rotation, students cut down briars and hawthorn bushes, with Janet, Kay and Leon daubing the fresh cuts. Janet explained how the poison works and the importance of daubing immediately after cutting. There were quite a few scratched arms, legs and torsos, and by the end of the day the laneway into the cemetery was briar and hawthorn free and the cuttings loaded onto Leon's ute for removal.

Andy and Margaret Ning demonstrated plot analysis and explained why it is important. In practising this technique, the students got a feel for scientific activity in the field, and had a bit of a rest from grubbing and pruning.

After lunch, the three groups all did a woodland site assessment using a prepared worksheet. This introduced them to a more macro perspective of the environment compared to the plot analysis.

Despite their injuries, which may even have been badges of honour to some, the young people remained enthusiastic for the full four hours they spent with us. When their coordinator, Janet, visited them during the day, she was impressed with the program FOG had put together and the students' response to it. They enjoyed the opportunity to learn in the field and contribute to the community at the same time.

Front page: students from St Francis Xavier School, undertaking a plot analysis with Andy and ligno tuber removal. This page, assembling and finishing - Leon on truck.

Hawkweed Quest *Margaret Ning*

On Tuesday 6 January six people, led by Keith McDougall of the NSW Department of Environment and Climate Change (DECC), travelled in two cars up to Round Mountain hut between Cabramurra and Khancoban, north of Mt Jagungal, in Kosciuszko National Park. Our main mission was to look for the orange hawkweed (*Hieracium aurantiacum)* which has become an extremely threatening weed in a small area of the park, but with the potential to overrun a huge part of our alpine ecosystems. We know this from the New Zealand experience, and are in a position to learn from it and prevent it happening in our own backyard.

On arrival at the hut we set up our six tents on the grass. We used the shelter of the hut to heat/prepare our food, and ate outside. Keith's catering was A1 and mealtimes were really looked forward to. Talk about chilli surprise! Chilli salsa, chilli salami, chilli olives, chilli chocolate ……. A nearby stream cooled our beers, provided fresh drinking water and was even the bathing site for a couple of the group. Rain threatened on a couple of occasions but generally stayed away, but unfortunately the march flies and mosquitoes did not. Insect repellent was well used.

After setting up camp on the Tuesday, Keith took us to a known site for the Hawkweed in order to check out the site as well as introduce us to the plant. It took a while for me to feel confident about its identification as there were a few other daisy family members around which clouded the issue. A picris species and a craspedia species were both able to muddy the waters, depending what growing stage they were at. We managed to discover a few plants lurking in the woodland that had escaped the sprayers.

Known hawkweed infestations are visited by DECC spray teams twice a week during the summer flowering season which can extend to many months per year depending on the weather. The sprayers I met were an enthusiastic, conscientious team who were able to fight their quarry with 4WD quick spray units or pursue it down gullies and into wooded areas with back packs.

On the Wednesday we travelled to an area not far from the 'orientation' spot and spread out in order to effectively cover it all. By the end of the day, we had successfully located a handful of the hawkweed, including a single plant in a surprisingly, and very worryingly, obscure place quite a distance from the original population. The prize for the find of the day, however, went to one of our group who discovered a spot within a thick group of eucalypts containing around 40 plants of the weed!!! The sprayers were immediately notified and were expected on the scene imminently! Late on the second day, the more energetic amongst us, i.e. all except me, climbed Round Mountain, basically because it was there, I think.

On our third day, Keith promised us that the main 'work' was over and that we would have some fun. He set four tasks for the day. First we were to search for *Diuris ochroma*, for which there was a fifty year old record near Happy Jacks. We accomplished this task within an hour of arriving at the site. Next we were taken to a site where numerous mountain plum-pine (*Podocarpus lawrencei)* grew and were given the task of collecting handfuls of its fruit for Keith to take back for examination to see if they were being eaten by mountain pygmy possums or merely bush rats. The way to tell which species is eating the fruits is whether they are split lengthways or crossways! Unfortunately, to the best of our ability, none of us thought that any of our fruits had been within a bull's roar of a mountain pygmy possum. Our third stop was a quarry in the Happy Jacks area where a very rare, as yet unidentified, small weed had been sighted in the past. We had no luck with this one. Finally, we were to look for an alpine grass which grows in sphagnum bogs, and for which there was another very old record. We had no luck with this task either.

What a wonderful three days! Just driving from one site to the next gave us stunning views of alpine grasslands, enticing drainage lines, though always with some disappointing weed encounters thrown in for good measure. We were travelling in closed areas of Kosciuszko NP and it was my introduction to Kosciuszko huts. Over the three days we passed through the alpine village of Cabramurra twice, which gave us a welcome opportunity to have contact with the outside world and supplement our supplies.

Perhaps FOG members could offer to help DECC with its hawkweed search next January? Let me know if you think this is a good idea. After all, not many views can surpass the distant sight of Mt Jagungal from the pit loo at the Round Mountain hut!

A Lovely Weeping Grass Lawn

Helen Bayes

I established a weeping grass lawn *(Microlaena stipoides)* about 2 years ago, under two huge, very old Blakely's red gum trees in O'Connor (Canberra). The lawn is hardy, good looking, copes well with endless gum leaves and bark, and stays greener than exotic lawns.

The site had been scraped clean by the ACT Housing folk before the house was sold. Then I had done a lot of renovations including new sewers, so the ground had been very disturbed, and depleted.

We first spread generous quantities of gypsum and blood-and-bone over the entire area. Then we dug over deeply with a strong fork, and broke up the lumps. After that hard work, we left it to rest for a couple of weeks and then raked it level.

I had done quite a lot of research on the best native grasses for a lawn-like effect, and the only one recommended seems to be weeping grass. There's quite lot of info on the web. The fact that it is naturally found in ACT was an added plus for me. I obtained the seed from a rural supplier in Bungendore. It was expensive! But I'm glad I stuck with the plan.

It was autumn and a good time to spread the seed. We sprinkled it fairly generously, and covered it with an even (not deep) layer of chopped lucerne (in huge bags from a garden centre). I watered it most days and there was some rain. Of course, like all seeds, this is the danger period – all that work and the little sprouts die of thirst!

The grass became visible through the lucerne in two weeks, a bit patchy, but it all caught up and before long I had a green sward.

We mowed in early summer, by which time it was quite tall and beginning to develop seedheads. It has a nice graceful form with drooping flower stems. The areas in constant shade were lusher and greener, but the rest was still doing fine. – green and thickening up.

Now it seems necessary to mow occasionally. This summer, the good rains made it grow really fast. We have not watered it at all this summer and it is still greenish.

The gums have recovered well too. They were really sick with lerps, after drought, neglect, loss of topsoil and root disturbance. I called a tree expert in and the dead branches were judiciously taken out. Then they injected the soil with something that would reduce the lerps infestation, and improve the root function. It was expensive too, but has worked a treat. The trees are truly magnificent now.

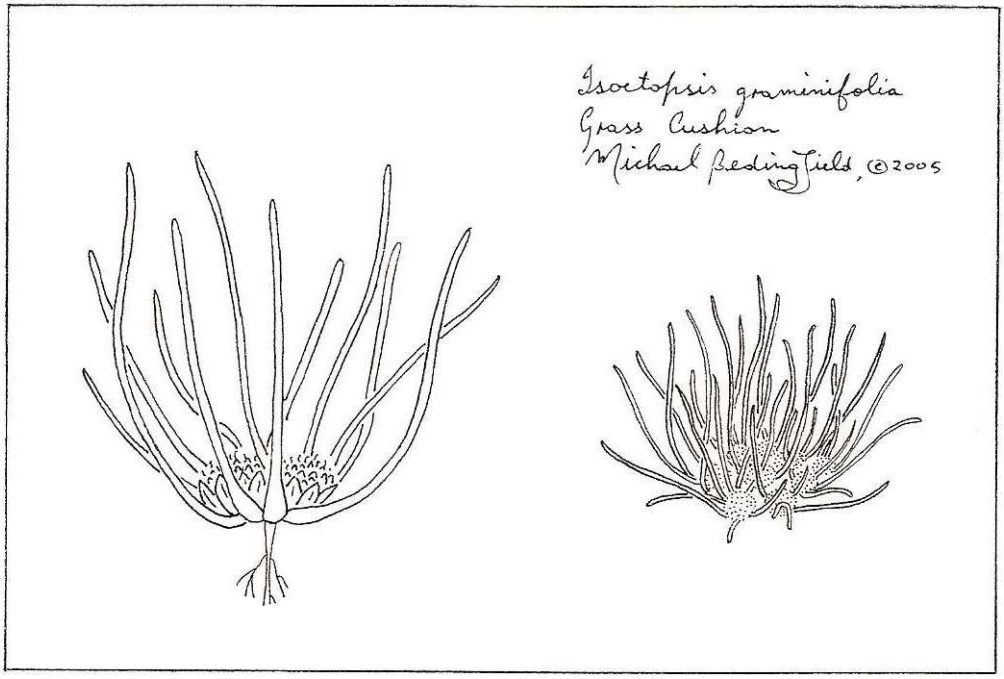
You are welcome to peek over my hedge if you like: 1 Way Street , O'Connor. My e-mail is baymor@cyberone.com.au.

Grass cushion (Isoetopsis graminifolia)
A tiny daisy that is worth a closer look

Michael Bedingfield

When the climate is dry, the winter cold, and the soils shallow, such is our lot on the Southern Tablelands, the plants can be small or growth slowly. When you add that much of the landscape is brown or grey during half the year, then people from other places may look upon our native flora with apathy or even disdain. Last year I was talking to a neighbour who was planning to leave Canberra. She had grown up in Fiji, and was used to the vivid greenery and lush abundant growth of the tropics. As we looked out towards the brown-green hills of southern Tuggeranong she said emphatically "It's just so boring!" It would have been hard to convince her that if she were to look more closely at those rolling hills she would find such a rich diversity of life that she would be surprised or even amazed. Those of us who love our local natural environment find it ever interesting and discover that, indeed, among that variety of life there are many small things which can be fascinating or beautiful.

A subject we can examine from this viewpoint is the grass cushion. This plant is very easily missed because of its small size and its resemblance to a tiny tuft of green grass that is just beginning to make its way in the world. One needs to look quite carefully to see the flowers, which grow just a few millimetres above the level of the soil, clustered among the tuft of erect leaves. To add to the camouflage, the flowers are pale greenish in colour. Under the best conditions, the maximum height of the leaves is about five cm, and they are up to 2 mm wide. However, in the ACT the plants are usually smaller than this, and are often about two cm or less in height.



The plant is a short lived annual, growing and flowering in winter and spring, disappearing with the onset of summer. It grows in grasslands or grassy woodlands, preferring areas with shorter forms of grass, coming up in the spaces between the tussocks. It can also colonize soil which is bare and stony. Though widespread, it is uncommon in our region. It tolerates a variety of climates, occurring on the tablelands, slopes and plains of NSW, and in all Australian states, but in the more southern portion of the continent.

The botanical name for the grass cushion is *Isoetopsis graminifolia*, which is pronounced i-so-ee-TOP-sis gram-in-i-FOH-lee-a. The accompanying drawing shows the plant at normal size on the right, as well as an enlarged specimen.

Perhaps this little daisy is not as beautiful as some of the other members of its large and extended family, but you have to admit it's kind of cute. *Isoetopsis graminifolia* - the grass cushion - only to be seen by those adventurous folk who make the effort and take a closer look.

General enquiries: Geoff (02 6241 4065), Janet (02 6251 8949), or info@fog.org.au.
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Friends of Grasslands newsletter

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

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

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

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

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

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