News of Friends of Grasslands

Supporting native grassy ecosystems

September-October 2003

Program

Saturday 20 September, 9am to 4pm - Cryptogam workshop, Mugga Mugga, Symonston David Eldridge. This will be both a special and informative workshop. See advertisement on page 2.

Sat 11 October, 2pm - 'Woden' property, Tuggeranong We visited this property in winter last year and thought it looked like a great place to visit in a good season. Drive south on the Monaro Highway from Fyshwick till you see a sign saying 'traffic lights 450m' - turn right across the median strip and the north-bound lane of the highway onto the ramp straight ahead - we'll meet there. (If you get to Hume, you've gone too far!)

Sunday 19 October, 10am to 1 pm - Picaree Hill Flora Survey. FOG is organising a flora survey as its contribution to the Picaree Hill Conservation Project. If you have plant identification skills or wish to learn them contact Margaret before 19 October. We need to know if you can participate to ensure the survey's success and for catering purposes. A background item to this activity was included on page 3 of the July-August Newsletter.

Saturday 8 November, 2pm - Royalla A FOG member has a great patch of grassy woodland, including some interesting orchids, in this new development. We'll meet at the Royalla Estate turnoff.

26, 27 and 28 November - Third Native Grasses Conference, Cooma See news item, page 2 and brochure enclosed.

Saturday 29 November - Packers Swamp (Tantwangalo NP) Contact Margaret for details.

13 to 14 December - SubAlpine grassland/wetland weekend Kylie Durant will show us Micalong and Tarcutta Swamps and McPhersons and Tomneys Plains. Talk to Margaret about accommodation or just join us for one day.

7 to 8 January - Tasmania Midlands Grasslands Tour - FOG is finally organising a two day trip to see Tasmanian grasslands with Louise Gilfedder as our guide. For more information talk to Margaret.

And also...

8 to 10 December - Ecological Society of Australia (ECA) Annual Conference. The ECA Annual Conference will be held at the University of New England, Armidale and will include symposia, an open forum of contributed papers and poster session, postgraduate course, social events and post-conference excursions. Conference information can be accessed at the web site, or telephone 02 6773 2539 and e-mail: jreseigh@metz.une.edu.au.

In this issue

The habitat for this orchid will be destroyed at South Bruce - story page 4. Photo by John Robertson

News Roundup

FOG wins ACT Bushcare Award
Groundcover

On 21 August FOG was awarded the ACT Landcare award for Bushcare Nature Conservation which is awarded to a community organisation, a group or a person for excellence and innovation in implementing nature conservation activities on land outside formal parks and reserves. Part 1 of an extract from FOG's application is included on page 9.

However, the story gets better. Rosemary Blemings was the 2003 winner of the Individual Landcare Award. Rosemary has featured prominently in recent FOG newsletters following her winning the ACT Volunteer of the Year Award for Conservation, as FOG's nomination.

FOG members featured in other awards such as Anne I'ons for Community Award presented to Cooleman Ridge, Mt Taylor and Farrer Ridge Parkcare groups, and Jenny Horsfield for the Southern Catchment Group. Both Anne and Jenny have contributed to past FOG newsletters.

Another winner in the Education Program was Lanyon High School where Michael Bedingfield has been assisting with native grass collection and plant identification.

At the Awards the themes of grassy ecosystems and restoration were prominent. Congratulations all.

Stipa and FOG Conference

In the issue we are including the brochure for *The Third Native Grasses Conference; Sustainability and Beyond,* 26 to 28 November, 2003, Cooma. As those of you who have been to previous Stipa Conferences will know, these conferences are excellent value, and, on this occasion FOG is co-sponsoring the conference, so it is important that FOG members pull out their cheque books and support this effort.

A browse through the program shows a lot of activities to choose from. The bus tour will show the delights of Monaro grasslands, and speakers on the bus will bring out how conservation and production can work hand in hand. The program is tightly packed with a host of good presenters and they will bring you the state of the art thinking on the Wentworth Group, regional landscape management, on-farm conservation in productive systems, knowing your plants, enhancing functionality, sustaining biodiversity in regional landscapes, and bringing it together. John Williams (see article on politics, not science, on page 5) will open the conference. There is also a cocktail party and a dinner. ACT Chief Minister, Jon Stanhope MLA, will be giving the after dinner speech.

Costs have been kept down as far as possible; in fact all presenters are donating their services free. The bus trip is being subsidised by the South East Catchment Management Board and so only costs $10. The conference fee includes a published copy of the papers and poster abstracts. You can choose what you will and will not attend. The discount of $10 for Stipa members also applies to FOG members. While Christine Mcrae can ably answer your questions, Margaret Ning or I are also happy to assist (see back page for contact details).

Cryptogam Workshop
With David Eldridge
Saturday 20 September, 9am to 4pm
Mugga Mugga

Non-vascular plants are common components of grasslands where they form crusts on the soil called a biological or cryptogamic crust and play a vital role in ecosystems. They stabilise soils against wind and water, regulate the flow of water, produce nitrogen and organic carbon, and provide protection for young plants and habitat for fauna.

They are susceptible to trampling, disturbance and fire and as such are good bio-indicators.

David is the author of *A practical guide to Soil Lichens and Bryophytes of Australia's Dry Country*. In this one-day hands-on workshop, you are guaranteed both new knowledge and enjoyment. However, David warns that people interested in plants might find that interest surpassed.

You need to book for this workshop and there will be a small fee to cover catering and venue hire.

Contact Margaret - phone and e-mail details on back page if you wish to participate.

Water ecology in grassy ecosystems

On 9 August some 28 people turned up to North Amaroo to learn about water ecology in grassy ecosystems. Ross Wissing, a recent arrival in Canberra and a FOG member, took us to a spot on the western arm of Ginninderra Creek where he started to illustrate now well scientifically-established Water Watch measurements. This started with everyone taking part in a habitat survey which rates bank and verge vegetation, in-stream cover, bank erosion and stability, and riffles, pools and bends. Next Ross took us through a series of chemical tests for Ph, conductivity, turbidity, temperature, dissolved oxygen and phosphorus. Finally, we sampled for water macro invertebrates.

The results showed that the stream habitat rating was fair, the chemical results were good probably because we were in the top of a catchment, and the macro invertebrates were fair showing that better indicator species had gone. While this provided a thorough understanding of the methods and their evaluation, and there were many questions, it meant that many had to leave before we undertook the walk along the creek to look at the water in the broader grassy landscape.

During the walk along the creek, Ross pointed out how to evaluate the stream health and various water structures in the landscape. There was a lot of discussion about how one might attempt to restore the stream's health and bring back a healthier water landscape. Again, Ross fielded many questions. He also took us to a holding pond on the site and said that while this achieved certain outcomes it was an example of what not to do. The holding pond had rather steep sides and its poor design would fail to create habitat or to provide the best defence against run-off of poor quality water.

The site is an area of open space in North Amaroo and is currently being grazed by cattle to see how cattle graz-

ing can be used as a sustainable management tool. Unfortunately, the cattle have free access to the creek and they and some active children are doing a lot of damage, including erosion.

The site was also chosen for this activity as this is the site that the Southern Tablelands Ecosystems Park (STEP) is discussing with the Government to establish STEP. The intention would be to use one part of the site to establish a regional botanic garden with an emphasis on the fauna and flora of the Southern Tablelands, and to restore and enhance the rest of the site to illustrate the region's ecosystems. The site is particularly attractive, containing elements of wetlands, grasslands, grassy woodlands, dry forest, and several rocky outcrops. It is important to keep and enhance the landscape features and particularly create habitat for frogs, reptiles, and birds.

The FOG water in grassy ecosystems activity was held at Amaroo at the site STEP hopes it will acquire for a botanic garden and a restoration project. The western arm of Ginninderra Creek is in the centre of photo. There is a remnant Yellow Box Red Gum community on the right, a grassland in the centre and a Broad-leaf Peppermint remnant and plantation on the background hill. Photo provided by Jean Geue.

Ross Wissing started his career as a grassland ecologist and has since moved into water ecology. He now works for Environment Australia where he is responsible for coordinating the Water Watch Program which has 60,000 Water Watchers across Australia. Thanks Ross, for an informative workshop and laying the basis for plans to restore the waterscapes of the site.

Journey through Sikkim
Alan Ford

On Saturday May 28 Roger Farrow took us on a marvellous journey through Sikkim that he and Christine had completed. They missed the odd spectacular view of Kachenjunga (and got close to one of Everest) but more than made up for it with others of Pandin, to say nothing of the plant life.

Rhododendrons galore, whole hillsides of the plants, Daphne, and as for the roadside orchids, as common as dust and in flower to boot. They went from a blizzard one day, through the deciduous forests to the sub-tropical forests in a few days. We missed the real grasslands, which were higher up, because they had to turn back in the face of an approaching blizzard.

One lasting slide stands like a colossus, the red cedar, a beautiful tree in any country and probably closely related to ours.

Roger didn't spare us from photos of erosion and over grazing. We certainly gained the impression that while Sikkim is not under too much pressure, surrounding areas certainly are, despite the best efforts of the Indian government to protect certain places through the establishment and management of the National Park.

Sikkim grasslands in spring - an unattained goal
Margaret Ning

By the time Roger had finished showing us his Sikkim slides on a Saturday afternoon in late June, I was starting to feel damp myself, having watched the intrepid trekkers go up hill and down dale in generally misty and dank conditions for a period of 17 days. Roger told us that it was generally possible to assume that on some mornings at least, trekking would take place in clear weather, but by mid afternoon, the mist and clouds would inevitably close in.

Sikkim, nestled between the kingdoms of Bhutan and Nepal and now a state of India, was the scene of Roger Farrow's and Christine Kendrick's Himalayan adventure in April this year. Their aim had been to see Sikkim's flora in spring, even though they knew the prevailing spring conditions would always include very changeable weather. Sikkim's grasslands were only one of the vegetation communities that Roger and Christine had come to see.

Roger introduced us to these communities in a diagram showing their progression as they went up in altitude: first the lowland sub-tropical rain forest up to 2000 metres; temperate deciduous and evergreen forest from 2000 to 3000m; coniferous and rhododendron forests from about 3 to 4000m which also contain secondary grassland in cleared forest; and finally rhododendron shrubland and alpine meadows above 4000m. At all levels the trees were festooned with mosses due to the abundant fog and moisture.

The presentation was in two parts: first a trek along the Singalila ridge separating India and Sikkin from Nepal where on just one day they got the promised views of Kanchenjunga and Everest. Then after a toy train ride in Darjeeling they drove into Sikkim for a trek to Samithi Lake at the base of Kachenjunga.

The fir forests of the Singalila ridge have been excessively cleared for grazing by yaks. These areas suffered from erosion, as well as what appeared to be excessive grazing. Efforts were being made to enclose the grasslands from the yaks and replant trees. Roger's most colourful slides included rhododendrons, magnolias, daphne, orchids, and many kinds of trees including red cedar. He also showed us Primulas and Iris in the grasslands although he said the main display would be later in summer.

On the second trek, after four days of walking, Roger and Christine finally reached their camp in a glaciated valley above the tree line. The next morning they woke to find the whole region covered in about 10 cm of fresh snow which had fallen overnight with blizzard conditions developing in the distance. They reached Samithi Lake

where they were supposed to camp and ascend the Guich-La pass (5000m) for views of Kanchenjunga (8600m). Unfortunately, the blizzard closed in forcing their party to descend and return.

Ironically on their return drive to Darjeeling they had perfect views of the mountains.

Once again, Mugga Mugga was a cosy, comfortable winter venue, complete with fire and (FOG-provided) refreshments. Thanks Roger and Christine for a most enjoyable winter's afternoon!

Lowland Woodland Strategy
Geoff Robertson

In the last issue of the newsletter I wrote an article on the ACT draft lowland woodland strategy. On 31 July, FOG made a submission on the strategy, commending the authors for breaking new ground and for the high quality of research. In the time running up to the submission, many FOG members and others had discussed the draft strategy, played a major role in the drafting of the Conservation Council's submission and made individual submissions.

Some particular aspects, which the FOG submission mentioned, were the inclusion of all woodlands and secondary grasslands within the strategy, the more extensive mapping of woodlands and natural temperate grasslands and the clarity and transparency of the methodology. The submission said that definitions of woodlands adopted allow the user to choose alternative definitions best suited to his or her needs. The maps generally are very powerful tools. FOG commended the key objectives, goals and priority tasks set out in the draft strategy, and stressed the need to include ACT sites in the already established grassy ecosystems conservation management network. FOG also welcomed the statements in the draft strategy on restoration, and the community consultation process that accompanied the preparation of the draft strategy and contributed to the outcome. FOG believes that much of what it has been advocating is recognised in the draft strategy.

However, one strong concern that many people expressed was that the draft strategy, while providing a better overall framework, possibly has not advanced our thinking and actions on how best to recover the related woodland fauna and flora species. This is clearly something to which greater attention is required.

FOG's submission made a number of particular suggestions to strengthen the strategy. Particularly important, as advocated by the Conservation Council, FOG's submission stressed the need to establish a register of woodland remnants and specify the management arrangements for each remnant parcel.

Since the release of the draft strategy, the FOG submission noted that we have been pleased with the Government's decision to reserve Gooroo and Callum Brae (although we note that certain boundary issues are still to be resolved) and related decisions on strengthening resources and management. However, equally, we were disappointed by its decision that quality woodland areas at East O'Malley, Forde and Bonner will be developed.

McLeod Report
Geoff Robertson

The long-awaited *Inquiry into the operational response to the January 2003 bushfires in the ACT,* prepared by Rod McLeod, was released on 1 August. So many decisions have been suspended awaiting the outcome of this report, because Canberra residents and policy makers need to know the facts before fire recovery and so many other plans can be put in place. But now that the cornerstone report is out we might expect many other reports and decisions to follow quickly.

As most readers will know, on Saturday 18 January, bushfires which had been to the west and south-west of Canberra for more than a week, reached the city causing widespread damage to rural properties, parks and forests, houses and urban infrastructure, estimated at approximately $300m. Tragically, four people died and 500 houses were lost. Canberra's perception about nature has changed forever and in my view this may be a very positive thing. On the whole the McLeod report appears to have been sensible and cautious in its findings, not overstating the facts. Generally the Canberra community has likewise been sensible throughout the process, despite having to deal with real angst and mourning.

In summarising its findings, the report states "that the fires, started by lighting strikes, MIGHT [my emphasis] have been contained had they been attacked more aggressively in the 24 or so hours after they broke out... Once the fires gained a hold they proved extremely difficult to contain or suppress. Indeed, the fires on 18 January were accurately described as 'unstoppable'." (page iii).

A central issue is that of fuel reduction and the report says much about the pros and cons (pages 84-87) and stresses the need to have "an understanding of and the sensitivity to the potential for damage to natural ecosystems" (page vi). On page 90 it states "this Inquiry did not reach a conclusion about the level of fuel-reduction burning that should be pursued in the ACT in future. The Inquiry is, however, of the view that, as a long-term strategy, something more substantial than the present program is warranted in those areas that were unaffected by the 2003 fires... The Inquiry is confident that more fuel-reduction burning would have helped the authorities contain the fires that resulted from the lightning strikes on 8 January 2003. It is less confident, however, that extensive fuel-reduction burning would have had a significant impact on fire behaviour on 17 and 18 January."

A key problem that remains is knowing what the impact of fire on biodiversity is. Obviously, fire is essential for biodiversity, but too much or too little, too hot or too cool, too frequent or insufficiently frequent, can have adverse effects. In addition, different types of fire will have different effects on particular communities and species. The report implicitly points out how inadequate our knowledge of fire and biodiversity is. I am concerned that future fire management may not sufficiently address biodiversity issues. As a precaution, in my view, there needs to be patch-burning experiments focussed on the impacts of fire on particular communities and species. Some of the current post-fire monitoring may assist.

The report recommends that public land managers should be given primary responsibility for initial response to fires breaking out on the land they manage and should be given additional people and equipment resources to achieve better fire management (pages vi and vii). Dedicated access is also important. On the whole, this seems sensible, provided that the land managers are focused on optimising biodiversity and fire management outcomes.

One issue that now seems obvious is the relationship between land use and fire. Natural grasslands and woodlands, and for that matter certain types of farming and land use, are less problematic when it comes to fire risk. Fire spotting over long distances "is more

likely to occur where trees are closely packed, as in dense forest or in plantations" (pages 225-6). Perhaps this is just another reason for us to be regenerating our woodlands and grasslands!

The report is almost essential reading for anyone who wishes to understand what will influence Government and community thinking in future. It is important that groups such as ours have a clear understanding of the report's findings and our response to those findings, especially as they relate to biodiversity management and planning. The report's brief history of the Canberra fires and the day by day description of the 2003 fire should also assist our understanding of fire.

Mt Stranger
Alan Ford

FOG paid a visit to this Canberra Urban Parks and Places managed land in Tuggeranong on the sunny afternoon of Saturday 26 July. This site, which is not far from the Murrumbidgee, faces south and is probably a secondary grassland. I actually discovered it while doing a walk in the area with one of the local walking groups.

FOG folk rugged up while visiting a delightful secondary grassland on Mt Stranger.

In spring it is a Blue Devil (*Eryngium rostratum*) grassland, but it is surrounded by fields of African Love Grass (*Eragrostis curvula*) and its long term future must be in doubt. Michael Bedingfield has recorded around 120 native species on the site, including Austral Toad Flax (*Thesium australe).* The site had been burnt in the January 2003 bushfire and we couldn't find the plant on this occasion.

However, after we had looked west to the snow on the mountains we looked around to find a number of plants in flower; a Blue Devil, Curved Riceflower (*Pimelea curviflora*), one Common Woodruff (*Asperula conferta*), Yellow Buttons (*Chrysocephalum apiculatum*) and one Scaly Buttons (*Leptorhynchos squamatus*).

An amazing little remnant well worth a visit in spring!!! However, its long-term management is a real problem. The tendency to solve that problem by putting cattle on it for a short time is the current practice, but whether that will simply help the Love Grass is but one of a list of management issues.

Politics not science is driving decisions

James Nason (Land 24 July) reports that Australia's most senior environmental scientist, John Williams, CSIRO Land and Water Division, and member of the Wentworth Group, is alarmed at the lack of scientific evidence underpinning government decisions on environmental decisions such as salinity. John Williams stated that political pressure on West Australian farmers to drain paddocks as a short-term response to salinity was a prime example of poor science at work. Draining paddocks changed the biogeochemistry of soil to an oxidised environment which resulted in highly acidic soils in the longer term.

Nor was planting trees a short-term silver-bullet solution. Long-term restoration of landscapes require gradual introduction of grass and shrub species to create the appropriate micro-climate for each new species to prosper. Skipping any of those stages to move directly back into woodlands was not a responsible strategy.

Solving issues such as salinity would only occur when governments and community worked with the best information possible. One problem in using science to deal with sensitive vegetation and water management issues was that ultimately there was a point where existing knowledge could not provide the answers. John Williams will be opening speaker at the Stipa/FOG Native Grasses Conference.

Kosciuszko to bounce back

The Canberra Times reports 3 June that NPWS scientist, Dr Ken Green, reports that early indications are there was unlikely to be any real loss in biodiversity in Kosciuszko. "In other words, all the species we recorded in the park 12 months ago, from flies and grasshoppers to mammals, birds and reptiles appear to be present and some are clearly breeding. Certainly many perished in the fires and numbers have decreased but the breath of species diversity appears to be much the same as it was before the fires." The article reports that fifteen scientists recently undertook to replicate last year's "biodiversity blitz", which was "an intense methodological 48-hour survey of the park's biodiversity". Among the finds was a new population of Mountain Pygmy Possum.

Wildfires in the ACT 2003
Alan Ford

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

The Report notes that, generally, the flora is showing regeneration in all but the most severely burnt areas. In the latter, much of the canopy cover may not be replaced until the seedlings mature. The type and degree of response showed marked differences between species; from those with almost completely restored canopy such as Kurrajong, to those showing only the very first signs of shoots, such as Snow Gum. Habitats for most mammals, reptiles, frogs and birds were considerably altered by the severity and extent of the fires. The initial impact of the fires caused an apparent marked reduction in population sizes of most fauna species in these areas. Recovery, if it occurs, is obviously going to take some time.

Bruce retirement complex
Geoff Robertson

I visited the site for the proposed retirement village complex in South Bruce (ACT) on a lovely Sunday morning (20 July) and spoke to Erica Lejins (President) and John Robertson (Committee member) of the South Bruce Residents Group. The site was largely previously occupied by a disability hostel. However part of the proposed site is an area of natural remnant forest, described by Environment ACT as Open Forest - Stringybark, Scribbly Gum and Red Spotted Gum over shrub and native grasses. This remnant was previously managed as part of Canberra Nature Park, but because it is in the Canberra Plan as land to be developed, it has now become part of the development proposal.

The Bruce Retirement Complex, which has been in the news, is being developed, according to the Group, by Calvary Hospital and Bovis Lendlease. Various proposals have been put forward to provide a combination of nursing home beds and (Independent Living Units (ILUs). The latter are essentially

Tiger Orchid found at the site proposed for retirement complex. Photo by John Robertson.

town houses. According to John, the numbers proposed have varied over time. Initially it was 64/64 (ie nursing home beds/ILUs). That has since varied in various drafts (96/70, 96/84, 64/80). The Group supports the complex and would like something like a ratio of 96/50. The larger the number of ILUs, given current design thinking, the more encroachment there would be on the remnant.

The remnant serves two important functions. It has high flora diversity and serves as part of a corridor linking Bruce Ridge to Gossen Hill. As the corridor is not particularly wide, any encroachment will diminish it. Local bird-watching residents and COG members, have compiled an impressive bird list for an area just adjacent to the corridor. It includes three raptors, four robins, White-headed Pigeon and many other uncommon birds. Sitting in John's place, I was delighted by a flock of Double Barred Finches, which are regular visitors to his garden.

The residents have been doing their homework and have identified 88 indigenous plants in the remnants and photographed many. Amongst the many orchids were Pink Finger *(Caladenia carnea),* varying in colour from pink to white, Donkey and Tiger Orchids *(Diuris maculata and D. sulphurea),* Wax-lip Orchid *(Glossodia major),* Common Onion Orchid *(Microtis unifolia),* and Spotted and Slender Sun Orchids *(Thelymitra ixioides and T. pauciflora).* Other flora treasures are a different form of Clustered Everlasting *(Chrysocephalum apiculatum),* Billy Buttons *(Craspedia variabilis),* Pale Sundew *(Drosera peltata),* Pale and Button Everlasting *(Helichrysum rutidolepis and H. scorpioides),* Grass

Haydon Drive is the main road running across the middle of the picture. The proposed site is the small cleared area below Haydon Drive on the right of the wooded hills, Gossen Hill. The site will encroach on the corridor. Photo supplied by John Robertson.

Triggerplant *(Stylidium graminifolium),* Fringe-lily *(Thysanotus patersonii),* Twining Fringe-lily *(T. tuberosus),* Austral Sunray *(Triptilodiscus pygmeaus),* Early Nancy *(Wurmbea dioica),* Ploughshare Wattle *(Acacia gunnii),* and Mountain Grevillea *(Grevillea alpina).*

I asked myself why such a rich diversity in so small an area? The answer I think is that this is a grassy forest and there are signs, from the presence of scattered Yellow Box and Red Gums, that it previously joined a Yellow Box Red Gum Woodland. Part of the area where the rich diversity occurs may be a small secondary grassland. Possibly being an ecotone, it may in fact have a higher diversity than an equivalent area of the adjoining Canberra Nature Park. For more information contact Erica 6251 6525.

After we left the remnant, Erica and John showed me around Gossen Hill. Since it was my first visit, and I was in the company of people who knew the area well, it was a treat, but that is another story. I would highly recommend the area to FOG members.

Sedges of the Sydney-Blue Mountains Region

Margaret Ning

Introduction

Over the weekend of 10-11 May, I attended a sedge and rush recognition workshop at Agnes Banks on the outskirts of Sydney. The other approximately twenty participants were Bushcare people from the Sydney Region and the presenter was someone I had wanted to meet for a long time, Van Klaphake. Van is a self taught expert on sedges and rushes who is acknowledged in Les Robinson's Field Guide to the Native Plants of Sydney for his help with sedges and rushes, grasses, Eucalyptus and ferns. He and I have had a few phone conversations over the last few years but I had never met him.

I was hopeful that the course material wouldn't be too alien to me (it being of the Sydney Blue Mountains Region) and that I would finally get the opportunity to make some inroads into sedge and rush ID. No longer would " I'm going to make a big effort on sedges next year" be my catchcry.

Day One

Van introduced the subject matter. Ninety to ninety-five percent of sedge and rush species grow in wet areas and as a group they are of no economic interest (ie as crops or for grazing). He explained how important they were, given that they are closely associated with water quality, keeping water courses stable, including erosion prevention.

Van's tools for the workshop included two large wall charts with some basic botanical terms and drawings to enable us to keep pace with his teachings, and two tables full of freshly cut specimens for us to identify over the two days. It is much easier to get an idea of what 'distichous' means when an example is sketched before you, and it is easy to illustrate a botanical point if an example of it is before your eyes!

Van introduced us to his key. Essentially he combines his own line drawings with a textual key and he stresses that it's best not to get too bogged down with the text but to refer to the pictures very quickly to verify choices. He also advised us to use the key and drawings to eliminate species. We quickly progressed to Van's carefully gathered specimens and became more closely acquainted with his key.

The key initially uses distinguishing features such as whether plants have a number of leaf sheaths down the stem, whether stem sheaths are open or closed, and whether the fruit is a soft capsule or a harder nut. Once families have been distinguished, different features came into play. Sometimes tribes or groups needed to be distinguished.

Distinguishing features may include:

- Juncus - presence or otherwise of leaves, whether stems are flat, terete or hollow, with or without septa, continuous pith, stem thickness
- Restionaceae - different male and female inflorescences, stems branched or unbranched, stems flattened or terete
- Cyperaceae - the shape of the spikelet

Stopping sometimes to examine something more closely, for example, if one can split the fruit it's sufficiently soft to be a Juncus, as opposed to Scirpean where the fruit looks similar but would be too hard to compress, we proceeded through the specimens at a reasonable pace. There was always an appropriate specimen on hand to illustrate a particular aspect of Van's key.

Day Two

The day began with a bit of an overview to put things in context. Some (sometimes Sydney-based) generalisations included

- Juncus and Restionaceae are found on clay soils, disturbed sandstone with high nutrients
- Scirpeae (including the genera Schoenus, Baumea, Lepidosperma and Gahnia) is found on undisturbed sandstone
- Juncus is really a green very small-flowered lily with six tepals, which can be used to distinguish it from Cyperaceae for example, which has a variable number of overlapping glumes, more like a grass
- Restionaceae is basically a southern hemisphere family, a poor soil-type group often growing in swampy areas, and the open bracts on their stems distinguish it from all other sedges with the exception of Caustis (though the latter has closed bracts so it is easy to separate).

Also on the second day, Van invited us to show him any sedge or rush specimens that we had brought along for him to identify. This was the best opportunity for me to discuss sedges from my own patch and I was pleased to be able to add a new name to our species list for Nimmitabel, viz *Lepidosperma gunnii*.

Some other useful information imparted on Day 2 included the steps to follow when collecting good quality plant specimens.

- Use a plastic bag with a little moisture in it (an atomiser and a ziplock are ideal, or blow in the bag before sealing)
- Try to dry specimens quickly for the best chance of a 'green' collection as there is a naturally occurring chemical in plants which is only activated when the plant is picked, and ceases to function when the plant is dry. This chemical (phenene?) destroys the colour. So, put specimens into a plant press immediately, between cardboard tied up with a slightly stretchy cord, and use sunshine in summer and a fire in winter to accelerate the drying process
- Get a 'typical' specimen - and you may like to scan or colour photocopy your specimen to preserve its original appearance
- Record the locality, the date, the person who found it, the type of community (eg whether it's a disturbed/undisturbed site, soil type, a wet or dry area, name of any other plants you are sure about that are growing with it etc)
- Bend the specimen with A4 size in mind, or newspaper size, spread them nicely, use 3M clear tape or a craft glue which Van says dries clear and lasts for years
- Store in 4-ring A4 folders

Tips/cautionary advice/unnecessary complications!!!!

- Old Juncaceae start to look like Cyperaceae
- Hybridisation occurs
- Pith samples, stem diameters and stem hardness should be taken from the middle of the stem
- How to determine whether a Juncus has leaves or not? Some Juncus have stems which look like leaves to the uninitiated, but which are really flower stems which have not as yet developed a flowerhead - these stems have a sheath only at their base, whereas proper Juncus leaves will split off a Juncus stem.

Conclusion

So, my thanks go to Van for taking me out of my comfort zone and introducing me to some flora outside my normal 'patches'. His wry sense of humour helped to establish a very comfortable atmosphere at the workshop and he often used it to illustrate aspects of his long close association with sedges. Van has a casual laidback style which participants obviously responded well to.

Because Van's key was designed to cover the sedges and rushes of Sydney and the Blue Mountains, I don't know whether it will be very helpful at Nimmitabel, or even in the Canberra Region, but I am keen to find out. I shall just have to be extremely mindful that some, or even much, of the information presented at the workshop was obviously only applicable to the sedges and rushes of the Sydney Region, but, that aside, I had a most enjoyable time and learnt ample new information to make my trip to Sydney worthwhile.

In addition to his sedge and rush key, Van has also written one for the grasses of the Sydney and Blue Mountains Region. He is also happy to identify sedge and rush specimens for a small fee of $4. If anyone would like his contact details, please give me a call.

Willow Problem along the Yass River

John Betts, Yass Area Network of Landcare Groups

There is no doubt a well-grown weeping willow is a graceful tree and when reflected in a pool of water is a very aesthetically pleasing sight. The leaves of the willow tree are a nourishing fodder for livestock in times of drought and their roots tend to hold the banks of the streams together, preventing erosion.

Farmers began settlement of the Yass River Valley in the 1840s and in the villages of Gundaroo and Yass were established servicing the relatively large properties in the valley where many sheep and cattle were run. During this time, weeping and basket willows were planted along the waterways. The system remained stable as major run off during rain events caused the rivers to flood, clearing out debris within the river, keeping the channel clear and free flowing.

Willows growing in and along the head of the Yass River. There are many areas a great deal worse than this. Photos supplied by John Betts.

However, about twenty years ago, a major change started to take place in the land use in the catchment of the Yass River. People who worked in developing Canberra were looking for a rural environment in which to build their homes surrounded by a few hectares of space. The upper catchment of the Yass River, particularly around Geary's Gap, Wamboyne, and Gundaroo and Murrumbateman was rezoned by local councils into small acreage blocks.

Everyone is entitled to a reliable water supply for stock and domestic use, and for irrigated field crops. This factor has led to a massive rise in farm dams in the upper catchment. For example, eight thousand dams have gone in during the past ten years. These dams have acted as flood mitigation on flash floods within the river and tributaries, and this factor has led to major water problems in the Yass River. Because of the lack of flood events in the river, the millions of willows that were already there began to choke the river by growing across the bed of the river, as a natural result of the branches falling off the parent tree and striking in the shallow bed of the river.

This situation has become steadily worse over recent years, until large stretches of the river are now blocked. Sadly, this has caused other problems as well. An expert of willow trees, Kurt Cremer, who recently inspected the river, has done considerable work into the effects on running streams caused by willows. He has estimated that one kilometre of river lined by willows each side, will transpire 6,300,000 litres of water out of the river during the ninety days of summer. It is estimated that the Yass River has forty-five kilometres of river between Yass and Gundaroo, plus side tributaries that are heavily infested.

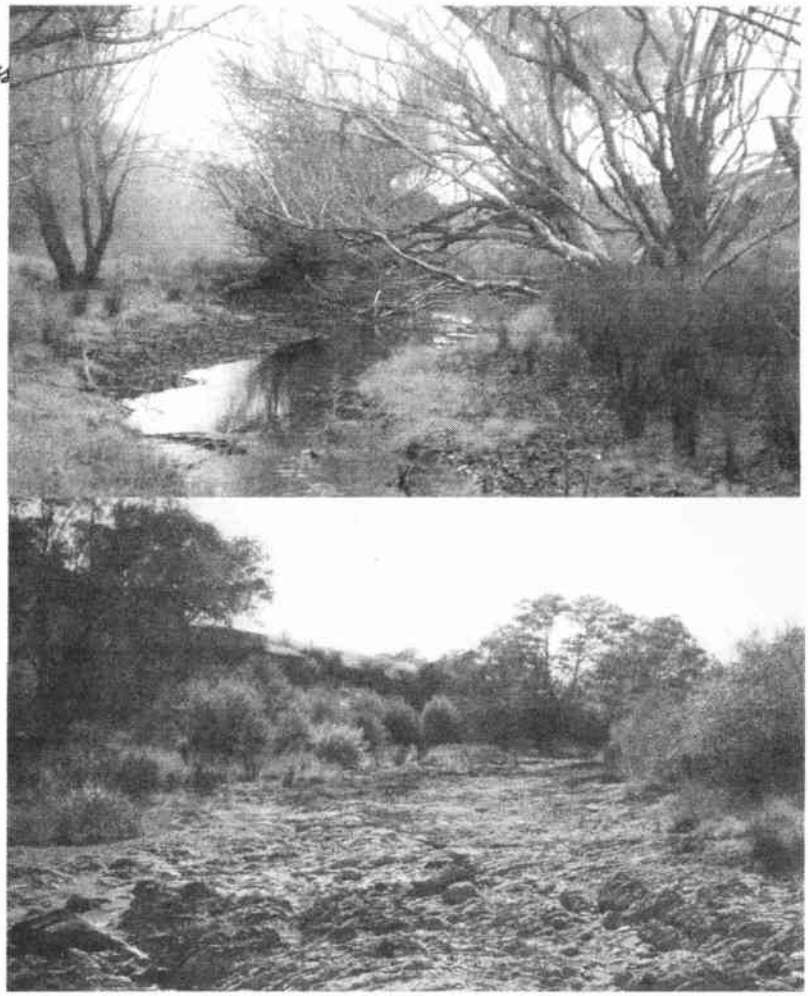
Another new problem caused by willows in the river is that the excessive leaf fall in autumn caused the water quality to deteriorate taking the oxygen out of the water with damaging effects to the aquatic life in the river. Yet another effect on water quality in the river caused by the lack of good flows is the fact that what flows that are in the river are coming from ground water (springs) that are carrying high salt loads that have originated from the rock sediment in the surrounding countryside.

All these effects have resulted in very serious water quality problems in the Yass River and for the town of Yass whose

supply comes from the weir upstream of Yass. What can be done about it? Here are some suggestions:

- A public awareness campaign for all those living within the catchment of the problems.
- The elimination of other varieties of "rogue" male willows, eg Black Willow, that cross with the female weeping willow to provide seedling hybrids that spread very readily and self sow in the sand bars and adjacent areas in the higher reaches of the river.
- The poisoning and removal of the majority of the willows along and in the river, and planting of replacement vegetation such as river oaks, bottlebrush, and red gums to encourage biodiversity.
- Non-wasteful use of water within the catchment.
- General good practices in the catchment.
- Approach government at various levels for funding and in-kind assistance for repairing the river and water flows.
- Commence programs throughout landcare with the assistance of government agencies to work together in attacking and rectifying the problems.

It is obvious that the clearing-up of the river and enhancing water quality and river flows and generally improving the biodiversity of the river will take time and large sums of money and a great deal of human endeavour. However, I am confident it can be done and moves are already afoot to make a start in achieving our goals, and with community support we shall achieve together.



Top: Yass River downstream from Yass. Up to six months in most years the river is dry, due to willow infestation, over water use in Yass and environs, and the myriad of dams in the upper catchment of the river. Bottom: Yass River at "Cowridge" (John Betts' property) Black Range Road, Yass (below Yass), December 2001.

Blowing our own trumpet: Part 1

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

An overall plan, including goals and an action timetable

FOG was founded in late 1994 to focus on the recovery of natural temperate grasslands of the Southern Tablelands of NSW and ACT, a threatened ecological community. Subsequently, it expanded its focus to encompass all grassy ecosystems, particularly Yellow Box Red Gum Grassy Woodlands, another threatened community. It has continued to evolve to include all ecosystems that intergrade with grassy ecosystems across south-east Australia.

It has a set of goals and a framework within which it considers its actions. It published a vision statement, *Strategic planning for Canberra nature conservation,* in its July-August 2002 Newsletter. That has become a focus for lobbying, public education and conservation endeavours for the Southern Tablelands.

FOG's newsletter is published six times yearly and provides details of its varied program, research and education, visits to remnants, networking and other activities. We have run several major workshops and are participating with Stipa Native Grasses Association in its next conference in Cooma which should attract around 200 people.

The FOG committee meets monthly. Over the years it has run workshops for the committee on strategic planning which have assisted in determining its vision, setting objectives, and to planning its activities, both lobbying and public education. Each year it determines its policies and its varied program to reach as many members as possible.

FOG has attempted through its research and activities to push out the envelope on grassy ecosystem recovery and to integrate work on threatened species and communities with other environmental, economic and social objectives.

Partnerships and networking with other groups is another goal which is actively pursued to spread information and skills relating to the conservation of grassy ecosystems. Currently most members of FOG are also members of other

community groups or agencies. For example, FOG pursues close links with the Conservation Council for the South East Region and Canberra, and the Australian Native Plants Society (ANPS) Canberra Region.

FOG has arranged visits to other regions where there are grassy ecosystems, both to create networks there and to exchange learning and experience. FOG is a frequent visitor to all parts of the Southern Tablelands and the Alps. In NSW it has visited the western slopes, the central western slopes, the north and south coast, the Hay Plain, and New England. Similarly it has visited areas around Clare in SA and the Alps and the western district of Victoria.

Following the *Strategic planning for Canberra nature conservation* statement, it obtained assistance from Environment ACT, NSW National Parks and Wildlife Service and ANPS to conduct a workshop on how to move the initiative forward. That has since led to the creation of the Southern Tablelands Ecosystems Park that has a threefold purpose. This includes creating a regional botanic garden focusing on the ecosystems of the Southern Tablelands, the creation of an education program, and the creation of an ecosystem recovery centre to draw together the knowledge and skills to facilitate the identification, protection, conservation management, and restoration of the region's natural ecosystems.

New Grassland Nature Reserves

Reprinted from Austral Bugle Vol.1 no. 2

In March 2003, the NSW Government announced the gazettal of two native grassland remnants as nature reserves. Now officially named Kuma Nature Reserve and Turallo Nature Reserve, these areas located within the Southern Tablelands contain excellent examples of grassy ecosystems.

Kuma Nature Reserve, previously part of the privately owned property known as *Rockview,* is located south-east of Cooma on the Nimmitabel road. It contains a good example of the Natural Temperate Grasslands typical of the basalt plains of the Monaro region. The Poa Tussock community on the site is in excellent condition, with good structural qualities that contribute to the diverse reptile fauna found there. Nine reptile species have been recorded on this site, including three threatened species; the endangered Grassland Earless Dragon (*Tympanocryptis pinguicolla*), the vulnerable Striped Legless Lizard (*Delma impar*) and the Little Whip Snake (*Suta flagellum*), also vulnerable. This is quite significant, as none of these threatened reptiles are known from any other reserve in NSW.

Regionally restricted or uncommon plants recorded at Kuma NR include the Silky Swainson-pea (*Swainsona sericea*), the Notched Swainson-pea (*S. monticola*) and the Hoary Sunray (*Leucochrysum albicans*).

Although the site has limited scope for recreation, access for education and research purposes will be encouraged. Community involvement in the management of the reserve has already been engaged. A steering committee has been established and a Plan of Management is in process.

Turallo Nature Reserve is located on the Hoskinstown Road, south of Bungendore. This site has a very high floristic diversity. The grassland is punctuated by huge old Candlebarks (*Eucalyptus rubida*) that provide hollows for nesting birds.

In spring the purple Chocolate Lilies (*Dichopogon fimbriatus*) fill the air with a chocolate aroma. Golden Moth Orchids (*Diuris chryseopsis*) vie with Creamy Candles (*Stackhousia monogyna*), Chamomile Burr-daisies (*Calotis anthemoides*) and Early Nancies (*Wurmbea dioica).* In summer the pretty pink Australian Bindweed (*Convolvulus erubescens*) and the spiky Blue Devil (*Eryngium rostratum*) feature, but the true colour of summer is yellow with Scaly Buttons (*Leptorhynchos squamatus*), Lemon Beautyheads (*Calocephalus citreus*) and Common Everlasting (*Chrysocephalum apiculatum)* dominating the show. As autumn turns to winter the colour is russet brown, edged with pink, as the Kangaroo Grass (*Themeda australis*) takes on its winter hue.

A third exciting acquisition for the National Parks Estate is an area of land known as 'Mountain Top' in the Tantawangalo forest. This 162ha inholding in the South East Forest National Park was purchased by its last owners, Bob and June Wilkinson, as a strategic location for forest campaign activity during the South East Forest Campaign. Since then the property has been managed for its natural values. The land contains a Basalt Cap Grassland in the upper catchment of Solomons Creek, a major tributary of Tantawangalo Creek.

The contact people for these areas are as follows:

Kuma NR - Ranger Steve Wright, Snowy Mountains Region, Ph: (02) 64505577

Turallo NR - Rangers Susie Jackson & Andrew Moore, Queanbeyan Region, Ph: (02) 62980310

South East Forest NP - Area Manager Franz Peters, Far South Coast Region, Ph: (02) 6458 4080.

The Basalt Cap Grassland found here is one of few remaining relatively undisturbed in this area. This Poa Tussock dominated, intermittently boggy grassland is a blaze of colour when the Trigger-plants (*Stylidium graminifolium*) flower. This grassland is the type locality for a previously undescribed orchid species that was first discovered by Rainer Rehwinkel on his initial site visit. This species has since been described and named by CSIRO orchid specialist David Jones, as *Prasophyllum wilkinsoniorum* in honour of Bob and June Wilkinson.

These grassland reserves and their managers at NPWS have been registered on the Southern Tablelands Grassy Ecosystems CMN.

Grey Guinea Flower -

Does Money grow on trees ... or shrubs?

Michael Bedingfield

The peak flowering time for the Grey Guinea Flower is October - November, though it can flower at other times, producing bright yellow circles of 5 petals, up to 30 mm across, reminding the earlier generations of the golden guinea of that era. The petals have wavy edges with the tips having two rounded lobes. The foliage is a greyish green and explains the remainder of the plant's common name.

This small shrub grows to 30 cm tall and is quite common in the Canberra hills, occurring in grassy woodlands and open forests of the district. It is widespread throughout southern NSW and Victoria, being somewhat resilient to disturbance, and can persist in areas cleared of trees for pasture.

The scientific name for the plant is *Hibbertia obtusifolia*. The genus name "*Hibbertia*" is after George Hibbert (d. 1838), a merchant from London who was a patron of botany. He owned a private botanic garden in Chelsea and imported Australian plants. "*Obtusifolia*" comes from the shape of the leaves, which are blunt-pointed.

Locally the *Hibbertia* genus is also represented by the less common *H. riparia* (Hairy Guinea Flower), which is a smaller plant, with smaller flowers and narrow, hairy leaves and which prefers damper areas. Present as well is *H. calycina* (Lesser Guinea Flower), which is a larger plant, growing to 40 cm, with narrow, non-furry leaves, and flowers less than 20 mm across.

The framed drawing shows the top end of a branch of the Grey Guinea Flower at half size. A flower, flower bud and leaves are shown separately at normal size.

The Grey Guinea Flower - an expression of nature's wealth with splashes of gold in our woodlands each spring.

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

Supporting native grassy ecosystems

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Friends of Grasslands Newsletter

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

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

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

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

How to join Friends of Grasslands

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

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

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