News of Friends of Grasslands

Supporting native grassy ecosystems

July-August 2002

JULY-AUGUST 2002 PROGRAM

Saturday July 27, 2pm - ACT grassland sites This year the annual FOG outing to sites in the Grassland Action Plan will be to Sites 36 and 37. We are to meet at 2pm at the southern end of Jerrabomberra Ave, just before the end of the Avenue, outside the entrance to Callum Brae. We will spend 60 to 90 minutes there before going to Woden, which is on the Monaro Highway, directly to the south of Callum Brae. There will be a short drive between the properties.

18 August, 2.00pm-4:30pm Grassy ecosystem update at Mugga Mugga The update will include a series of reports on vegetation mapping in the Southern Tablelands, the Management Kit for Grassy Ecosystems and the implications of the recent listing of White Box Yellow Box Blakely's Redgum in NSW. Speakers will include Sarah Sharp and Rainer Rehwinkel.

Wal Whalley at the book launch of Grasses of New South Wales. *Wal is one of the three authors and also our host for the New England trip Photo opposite: Christine Jones, well know to Newsletter readers and also host for New England trip. Story page 9.*

Ted Edwards, captured talking on his favourite animals, moths and butterflies. Ted was one of the three speakers at the insect workshop held at Mugga Mugga on 1 June. The story is found on page 2.

Saturday 10 August 10am - Old Cooma Common sign installation We'll check/verify that gates are in place and locked, erect reserve signs and hopefully do some follow-up control of Briar and Hawthorn by cut and paint method. Maybe also some back-pack spraying of new suckers/germinants, and generally putting Margaret's new equipment through its paces. We'll have lunch and a yarn and enjoy the occasion! Please inundate Margaret with offers to join us for this activity.

SEPTEMBER AND BEYOND

21-22 September - South Coast trip Let's see what those coast headland grasslands look like at the end of September.

4-7 October - Cootamundra/Tumut visits

26 October, 2pm - a top grassy woodland at Gundaroo.

9-10 November - Jackie Miles' inland coastal sites - Jackie's program will start at a leisurely pace in the Bemboka-Candelo area on the Saturday, staying at Tathra Saturday night, driving down the coast to Eden, heading inland to cemeteries at Towamba, Rocky Hall and Wyndham, and leaving the valley via Cathcart & Bombala. Each day will stand on its own, and accommodation at Geoff's and Margaret's at Nimmitabel on the Friday night is available.

November - Tinderries walk and a grassland on the way.

December - Smokers Flat in Namadgi NP.

STOP PRESS: The ACT Government has decided to go ahead with the development of East O'Malley. thus destroying an area of high conservation Yellow Box Red Gum Woodland, a threatened ecological community. This is extremely disappointing given Simon Corbell's various commitments before and since the ACT elections.

NEWS ROUNDUP

Insect workshop

Around 30 people attended this workshop conducted at Mugga on 1 June. Roger Farrow provided an overview of the insects and related classes found in grasslands. One approach to classification was functional; there are Herbivores, Predators, Omnivores, Parasites, Fungivores and others, Pollen Feeders and Gall Formers. This could be set against the evolutionary classification system. Many orders are represented in grasslands. Whatever your taste, what followed was a tour de force of grassland fauna, from the tiny Springtails that inhabit decaying vegetation, to Cockroaches, Praying Mantis, Grasshoppers, Thrips, Bugs and Beetles. A huge variety of creatures passed by, and as Roger pointed out, he hadn't considered the other arthropods that might be present, such as Mites, Spiders, Scorpions and others.

Kim Pullen provided a local focus, using the Golden Sun Moth and Keys Matchstick Grasshopper as examples. He examined the various methods of collecting these little beasts and the care that needed to be taken in collecting and handling them to ensure that they reached a collection.

Ted Edwards began with a lesson on sampling techniques and spoke about identification in one order, Moths and Butterflies. He said larvae can only be identified to family in this country, and unreliably at that. Australia has 11,000 described species in the order, and it is estimated that there are between 20,000 and 30,000 species in Australia. He said there are hundreds of species in any grassland. Grassland moths can range from 5mm to 10cm in wingspan. There has never been a comprehensive biodiversity survey of the moths in any area or ecosystem in Australia and it is likely that all the different grassland types in the Southern Tablelands would have moths confined to that type of grassland. The only possible exception could be the Themeda grasslands, but we simply don't know enough about them to say.

The day concluded with demonstrations by Kim and Ted of selected sampling techniques. *Contact Margaret Ning for copies of the workshop papers.*

New Guinea montane grassland
Alan Ford

On 27 April Geoff Hope gave us a stimulating and entertaining view of his research in the mountains of New Guinea. He concluded the talk by showing us one mountain which still needed to be surveyed.

His slides showed the situation at various places and at various heights, but the really important issues had been clarified by the grind of collecting the core samples and doing the pollen and other analysis on which our knowledge of the past rests.

It became clear as Geoff explained that not only did the vegetation categories change in response to natural factors but that human induced change was also a feature of the landscape record. Vast changes in the height at which forest had grown could be contrasted with small-scale human interventions through the use of fire that had changed the vegetation from one valley to the next. In turn, this could be contrasted with the retreat of the ice in recent times and the bare ground that was left behind.

Articles in this issue:

This was a fascinating glimpse of our near neighbour to the north. What does the evidence of a complete change in the vegetation structure in some places around 12,000BP tell us about the use of fire by humans and the reasons behind the burn? That is saying nothing about the bewildering array of plant life on show-orchids that look like bushes, and trees that appear to be the ancestors of our Callitris pine, to say nothing of the presence of our favourite grass, Themeda.

Hanging up their lenses

Millie Nicholls and Ann Prescott recently reported on Grassecol that NHT funding for the WWF Temperate Grasslands in the Mid-North project in South Australia has come to an end. They have been working in the Mid-North part time under a NHT grant for the past five years - promoting native grasses, native grasslands, grassy woodlands and the latest trends in sustainable native pastures.

The aims of the project were to: increase knowledge and awareness of temperate native grassland conservation and appropriate grazing management; promote the protection of significant grassland remnants; build the capacity of regional organisations to conserve grasslands in the longer term; and document and promote the successful methods used to promote grasslands in the Mid-North so that they may be replicated in other regions.

They reported on a long litany of achievements, including attending 56 field days and workshops, and presenting 60 talks, 32 training sessions and 12 rural show displays. They conducted around 120 property visits and participated in over 70 media opportunities including articles in newspapers and journals, radio interviews and TV spots. They also participated in 20 school activities involving 300 participants. Over 50 new grassland sites were identified by the project. They also produced and distributed six fact sheets, prepared self-help guides on assessing the quality of grassy ecosystems. They also assisted with the preparation of numerous and varied grant application schemes.

FOG wishes to acknowledge their outstanding work for grassy ecosystem conservation and also their direct contribution to us. We hope that they will somehow continue their involvement.

A grass specialist called Rose
Geoff Robertson

Following on the FOG New England trip (see the special article on page 9), Margaret and I had arranged to meet Carol Rose, Extension Agronomist, NSW Agriculture, Kempsey, on 27 May. We 'found' Carol through the *Stipa Newsletter* where she had written an article on North Coast native grasses. Our first stop was 'Illalong', Russell Yerbury's property at Clybucca, north of Kempsey. Russell showed us grassland that were both different and amazing.

When Russell acquired his property approximately ten years ago, 300 acres were bare ground, poisoned by acid scald resulting from the area being drained, and iron in the soil combining with oxygen in the air to form sulfuric acid. Russell hit on a simple method of reversing the drainage so that most of the area is now covered with several inches of water, acid formation has ceased and the acid level in the soil has fallen, while native Water Couch *(Paspalum distichum)* has regenerated pro-

viding excellent cattle pasture. Apart from production, the large stretches of water and many water birds were a treat.

We also visited the property of Grace Gill at Mungay Creek where there was a little cattle grazing, and also native grass, tree and forb regeneration. We were delighted to roam around on a warm autumn day finding some familiar and not so familiar plants. Throughout the day we were able to compare experiences with Carol who is one of a few native grass specialists in NSW Agriculture.

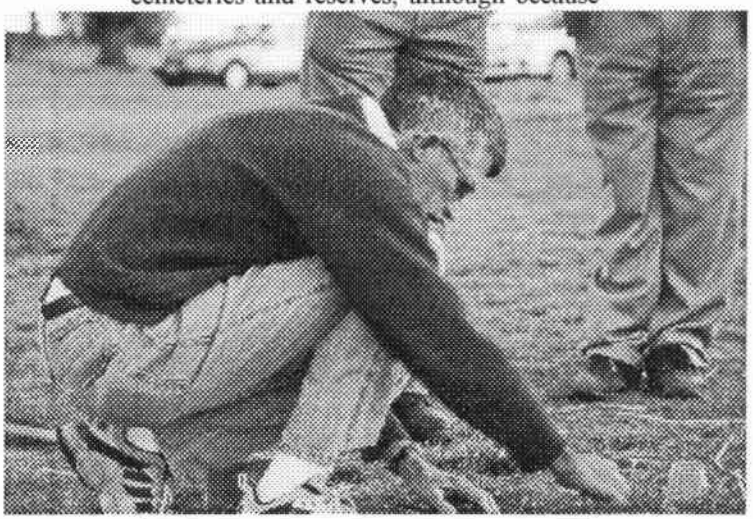
The remainder of our trip around Port Macquarie was also delightful, and, through happy circumstance and friends and relatives knowing our interests, we saw many natural remnants and wonders.

Box Woodland listed in NSW
Grasscover Reporter

In March 2002, the White Box Yellow Box Blakely's Red Gum Grassy Woodland was declared as an endangered ecological community under the Threatened Species Conservation Act, ie the community is likely to become extinct unless the circumstances and factors threatening its survival or evolutionary development cease to operate. It is important to note the approach taken in this listing is far more inclusive than the approach taken in the ACT where Yellow Box Red Gum have been declared an endangered ecological community. FOG hopes that the ACT Government in reviewing Action Plan 10 will strive for consistency with the NSW approach.

This community is found on relatively fertile soils on the tablelands and western slopes of NSW, although it also occurs elsewhere. It is defined to include woodlands where one of the three tree species White Box *(Eucalyptus albens)*, Yellow Box *(Eucalyptus melliodora)* or Blakely's Red Gum *(Eucalyptus blakelyi)* is present in varying proportions and combinations. It recognised that grass and herbaceous species generally characterise the ground layer. In some locations, the tree overstorey may be absent as a result of past clearing or thinning and at these locations only an understorey may be present (secondary grasslands). Shrubs are generally sparse or absent, though they may be locally common.

The community has been drastically reduced in area and in some regions it is now less than one percent of its pre-European area. In the South Western Slopes and Southern Tablelands of NSW it is estimated at less than four percent. The condition of remnants ranges from relatively good to highly degraded, an example being paddock remnants with weedy understorey and only a few hardy natives left. A number of less degraded remnants have survived in travelling stock reserves, cemeteries and reserves, although because of past and present management practices, understorey species composition may differ between the two land uses. Some remnants of the community may consist of only an intact overstorey or an intact understorey, but may still have high conservation value due to the flora and fauna they support. Other sites may be important faunal habitat, have significant occurrences of particular species, form part of corridors or have the potential for recovery. The conservation value of remnants may be independent of remnant size. These remnants contain fauna and plant species of conservation significance.



Kim Pullen at the Insect Workshop held on 1 June at Mugga Mugga, showing how to look for insects in the soil litter, illustrating one of many places that participants can look for insects. Kim provided a local focus.

Disturbed remnants are still considered to form part of the community, including remnants where the vegetation, either understorey, overstorey or both, would, under appropriate management, respond to assisted natural regeneration, such as where the natural soil and associated seed bank are still at least partially intact. The community is poorly represented in conservation reserves.

New Labor Government in ACT
Groundcover

Under the new ACT Labor Government there has been a flurry of papers and consultations and certainly some positive outcomes. It has announced a review of Action Plans 1 (Natural Temperate Grasslands) and 10 (Yellow Box Red Gum Grassy Woodland), which will pick up the protection of "secondary grasslands" and hopefully will develop a strategy for protecting lower quality sites with an emphasis on overall connectivity and restoration. The decision to keep Watson woodland recognises the importance of keeping and restoring lower quality endangered community sites. Environment ACT has been undertaking surveys as part of the review.

The fate of many key grassy sites still hangs in the balance. We recently received a scare over the future of East O'Malley. The Government sent a signal that residential development would proceed, but following a lobbying flurry it now appears that the situation is on hold temporarily. Lawson has been postponed due to some rethinking by the Commonwealth Government. The Preliminary Assessment on North Gungahlin is behind earlier announced plans. Planning is proceeding on East Gungahlin where some redrawing of conservation boundaries is occurring. However, we are not being shown maps and it is likely large areas of reasonable quality remnants will be proposed for development.

FOG is concerned that the fragmented approach of previous governments continues. We are also concerned that ACT governments are somewhat over zealous in clearing remnants and we endorse the views put forward by Michael Mulvaney in an excellent article *Let's keep ACT in front on remnant woodlands* (Canberra Times 4 April). An article elsewhere in this newsletter sets out your committee's view on nature conservation in Canberra.

Draft Variation Plans continue to emerge from Planning and Land Management (PALM). FOG is interested in three. DV 175 on industrial land use policy continues to designate sites containing threatened species and communities for possible industrial development. DV 200 on residen-

tial land use policy may provide an opportunity to offer some comments about promoting biodiversity within the urban setting. DV 196 on Tuggeranong Homestead raises some issues on development and the links between European Settlement, Aboriginal occupation and nature conservation.

Monaro wind-up

David Eddy recently reported on Grassecol that, in April, he finished his three-year NHT funded project enhancing conservation of grasslands on private land on the Monaro. This established 12 conservation management agreements over 1596 hectares of good native grassland. Another 1320 hectares are managed by the same landholders but not directly affected by the on-ground works funding paid out. A further 1042 hectares on private land was visited but no funding assistance was sought and thus no agreements entered into, but all owners were interested in the conservation management of their grasslands. He also reported that he is in the final throws of a 20-page A4 full colour booklet on managing native grasslands, which should be printed by the end of June. It will be a freebie. David is about to begin a new one-year project to establish the Monaro Grasslands Conservation Management Network under NSW Environmental Trust funding. This will collect as many good grassland areas and their managers as possible, on all land tenures, into a cooperative and communicative group to progress grassland conservation on the Monaro.

Monaro Aboriginal plant knowledge

NSW National Parks and Wildlife Services' *Kosciuszko Today,* Summer 2001/2 included an article on Rod Mason, an Aboriginal with family connections to the Monaro and South Coast of NSW. Rod has been working with Mike Young, the compiler of *The Aboriginal People of the Monaro,* to provide information for a database on Aboriginal knowledge of plants of the Monaro. Rod has an extraordinary depth of knowledge, passed down through his family, about the Monaro and South Coast. The article gives many examples of how Aboriginals considered plants, and gives a charming illustration of using plants to create bird and insect toys. FOG is exploring ways to catch up with Mike and Rod, and in our next issue, we plan to publish a major article on the Monaro people.

Good photo Rosemary

A wonderful photo of Rosemary Blemings, President of Canberra Field Naturalists, Secretary of Australian Native Plant Society, FOG committee member, and all around get-it-done if no one else will do it person, appeared in Canberra Times 13 April under the title of weeding brings extra reward - good one Rosemary.

"Undesirables" hiding in understorey
Rob Gregory

Heywood Park is home to the last remaining remnant stand of Grey Box *(Eucalyptus microcarpa)* on the Adelaide Plains. The trees are showing signs of stress, resulting from the current management practices of maintaining the current open lawn nature of the park. It is believed that soil compaction around the trees is the main stress factor.

To redress the matter, Unley City Council hired consultants to create a design to protect the ailing trees and maintain the openness of the park. They recommended 'halo planting', that is planting endemic 'Black Forest' shrubs, grasses and ground covers, no more than 800mm high from the base of the trees to the canopy edge. This would enhance biodiversity and stop compaction on the main root zone. The soils would also benefit through the associated effects of the native grasses and ground covers.

Wanted a volunteer:
FOG would like to bring its photo album, press clippings and some other records up to date. These are used in various situations to illustrate FOG's activities and provide wonderful reference material. Contact Geoff Robertson if interested.

A large and very vocal section of the community opposed the plantings, claiming they would severely compromise the 'openness' of their park and provide a place for 'undesirables' to hide in. A long battle ensued but the opposition group won. Hence there will be no halo planting, no 'black forest' revegetation and the trees will continue to suffer.

A typical Grey Box Woodland community would normally contain up to 100 different plant species. Heywood Park currently only contains around a dozen endemic species. On a brighter note, at Beamount Common in Burnside, an adjoining Council to Unley, an understorey revegetation scheme has been undertaken in one section of the park, which has received mostly favourable comments from surrounding residents and users. Many grasses have been used and it looks fantastic. For more information, contact Andrew Crompton, Burnside Biodiversity Officer, acrompton@burnside.sa.gov.au.

Genetics in grasslands

On 1 May CSIRO put out a statement on patching up the native 'gene pool' describing a project examining the genetic viability of remnant NSW grasslands and WA heathlands. Dr Andrew Young, senior research scientist at CSIRO Plant Industry, is focusing on the fact that many remnant grasslands in Australia remain in small isolated patches. This exposes the plants to a range of genetic threats and makes them more vulnerable to extinction as their 'gene pool' is limited to the plants living in that patch. Problems like inbreeding and genetic erosion can therefore occur, reducing the plants' ability to adapt. Andrew and his colleagues have been researching the genetic viability of endangered plant populations in remnant vegetation since 1996 with the aim of improving management practices to better conserve them.

FOG members may recall that part of the funding we received for the Monaro Golden Daisy project at Old Cooma Common (Radio Hill) was to fund genetic analysis of known populations of the Monaro Golden Daisy. That analysis showed that the population of the Daisy at Old Cooma Common was the most genetically diverse of any other known population. Andrew stated that the new project builds on existing research on endangered plants to encompass common species. Previous research has shown that genetic issues underpin a lot of the other changes

that occur in remnant plant populations. For example, loss of genetic variation in native herbs is reducing their ability to set seed. Despite there being a loss in genetic diversity in small vegetation patches there is some good news. Problems arising from a lack of genetic diversity are 'treatable'. By doing a detailed biological assessment – such as the one planned in this project – it will be possible to identify factors that influence population viability.

This project will look at the key genetic factors that affect the long-term survival of six ecologically different plant species within grasslands in NSW and heathlands in WA. Based on data on these species and previous research, management guidelines for remnant vegetation in these two ecosystems will be developed. The six plant species selected for the study were chosen to represent a number of broad classes of plants, ie what is found out about these six species may be applied to similar species throughout eastern and western Australia. Conserving grasslands and heathlands is important as they represent habitat for native plants and animals.

Andrew stated that it is important to conserve the local genetic diversity of plants, which may be unique to that patch. This is useful as plants that are well adapted to local conditions can be used to assist with local native plant revegetation projects. Andrew stated that through this project we shall not only develop management guidelines for different species to ensure their conservation, but we can recommend where to target conservation efforts. This will ensure our conservation efforts are based on the best available knowledge and are better value for money.

This project is a collaborative effort between CSIRO Plant Industry and Conservation and Land Management (WA), as part of the Native Vegetation Research and Development Program managed by Land and Water Australia. For more information, contact Dr Andrew Young (02) 6246 5318 or Sophie Clayton (02) 6246 5139, 0418 626 860, sophie.clayton@csiro.au.

Namadgi Management Plan

17 May FOG made a submission on the new Plan of Management for Namadgi National Park. It stressed the themes of good management and restoration of our ecosystems and species, especially those in decline, the need for proper ecological surveys to underpin this work, adequate staff levels and training, and supporting Aboriginal involvement. Copies of all FOG submissions are available from our Secretary, Ros Wallace.

Australian Museum

The work of FOG and Michael Bedingfield on Conder 4A was on display at the Australian Museum in Sydney over the month of June. This was part of the regular biodiversity display at the museum and was associated with other individuals and groups, and coordinated by Cath Moore for the Greens - congratulations Michael.

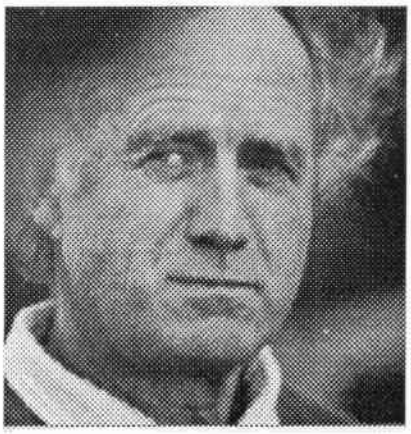


Photo of Michael Bedingfield

US Farm Bill has an upside

The *Australian Farm Journal* 20 May reported on the creation of the Grassland Reserve Program (GRP) in the recently signed US farm bill. This resulted from the National Cattlemen's Beef Assn. (NCBA) and the Nature Conservancy continuing a partnership started two years ago to conceive, create and develop a program to conserve native grasslands. NCBA and the Nature Conservancy said the program will help check further loss of grasslands to incompatible development such as suburban sprawl.

Under GRP, ranchers and other private grassland owners who enrol in the program will agree to rental contracts of 10, 15, 20 or 30 years or to 30-year permanent easements on their land, prohibiting development and other activities incompatible with conserving grassland ecosystems. In return, landowners will receive annual payments for short-term contracts, or either a one-time payment, or up to 10 annual payments for the easements. The farm bill authorises two million acres to be enrolled in the program.

Both organisations share a commitment to keep working landscapes, including ranches, intact to conserve ecosystems and the animals and plants the ecosystems support and to ensure strong, viable rural economies. They consider the legislation is forward-looking and provides an important, incentive-based tool to keep large grassland landscapes and the species they support intact. GRP has no regulations restricting grazing and permits private sources such as ranching land trusts to hold easements.

Important land purchases

Natural Heritage, the Natural Heritage Trust journal, Autumn 2002, reported on various Trust for Nature Victoria activities. These included purchasing a small grassland area at Naringaningalook in the Riverina, purchase of 478 hectares of Plains Grassy Woodlands ecosystem dominated by Forest Red Gum, in East Gippsland, and other activities in buying land for resale with appropriate covenants or arranging of long-term covenants.

The journal also reported on government purchase of Oolambeyan, a 22,000 hectare property on the Hay Plains in western NSW which will provide habitat for the Plains Wanderer and other rare birds

David Eddy Super grass

The following Profile article written by Jenny Cullen appeared in the Friday Magazine, a supplement to the Land, May 2002. It described David Eddy as "super grass". More impressive was the large photo by Gary Schafer of David haunching in the grass at Mulligan's Flat.

Bush walking in Sydney's Kuringai-Chase as a 13-year-old city kid gave David Eddy a life-long love of the land and a fascination with its flora and fauna. Today, at 38, with a degree in biology and an advanced diploma in farm management, David is helping lead the battle to save Australia's fast diminishing grasslands.

As the World Wildlife Fund's Monaro Grasslands liaison officer in Canberra, David studies the vital role of grasslands and works closely with farmers, public land managers and land owners to develop strategies to manage and preserve them. Of the temperate grasslands which covered most of Australia 200 years ago, only about one per cent remain, their destruction the result of indiscriminate land clearing and the wide use of imported pasture grasses and fertilisers.

"Most people today recognise the importance of woodland ecosystems, but not the critical role played by grasslands," David

says. One of the few remaining virtually untouched areas of native grasslands is in the Monaro, the high plateau that stretches from the Snowy Mountains of New South Wales to the Southern Ranges on the Victorian border. It is here that David studies native vegetation, explores possibilities for the commercial distribution of native grassland seeds, and ways in which native grasses can he used for rural properties, home lawns and backyards.

"For decades it's been popular to believe that imported pasture grasses are more productive, rnore digestible and have a higher nutritional value than our own native grasses," says David. "But what we're finding is that while that might apply to some of our grasses, others are not only as equally productive and digestible as any of the imports, but they have the added advantage of being drought and saline tolerant and costing nothing to plant and maintain."

David's focus is rarely off the Monaro. "Photography is my hobby," he says, "along with bush walking and cross-country skiing." His shots of the region's plants and wildflowers feature in the World Wildlife Fund's 2002 Calendar. And where does he ski? The Monaro, of course.

Conservation of Ecological Communities
Aristida

I attended this workshop conducted by the Australian Network for Plant Conservation at Mt Annan Botanic Garden on 30 April 2002. The workshop themes can be summarised from three of the papers.

Rainer Rehwinkel spoke around the themes of management, rehabilitation and community participation. While his subject related to the endangered communities of White Box/Yellow Box/Red Gum Grassy Woodland and the Natural Temperate Grasslands of the Southern Tablelands his talk provided a summary of what followed during the day - the common themes of present day conservation. He spoke about isolated remnants existing within a matrix of agricultural and peri-urban land uses. These have become the threatening processes of agricultural development and infrastructure development, to which should be added weeds of various types. He referred to the changing ideas on management regimes as our knowledge grew. He said that there needed to be appropriate "rehabilitation", and care needed to be exercised in any on-ground work. He also outlined Conservation Management Networks as a model for involving the community in effective conservation.

Peter Cuneo spoke from the perspective of his involvement in developing the yet to be released Recovery Plan for the Cumberland Plain Woodland. This mosaic of ecological communities covering a huge area of western Sydney, is now isolated small fragments except for one or two larger areas. The Recovery Plan is concerned with a whole of landscape approach across a region. He pointed to threats consisting of land clearing and subsequent fragmentation, grazing and mowing, water pollution, weed invasion, inappropriate fire regimes, recreation and dumping. The fragments were to be reconnected using the concept of "core" areas, a surrounding zone of lesser value as "support for core" and "linkages" (what might be termed corridors), which would need to be rehabilitated.

Robert Kooyman spoke about his experience in attempting to preserve what is left of the Big Scrub. This project looks at the impact of severe area reduction, isolation and fragmentation on a range of species. He spoke of the need for us, in planning habitat rehabilitation, to confront the many 'issues of concern'. Principal among these is the need to identify and reactivate as many components (species) and processes (interactions) as are required to facilitate the natural regenerative processes of the "original" landscape. In developing techniques for rainforest habitat rehabilitation (his area of concern) he asked what should the explicit goals of habitat restoration/ rehabilitation be, and how these affect the development of techniques for habitat rehabilitation. He noted that, in the end, the ultimate techniques for rainforest habitat rehabilitation will all imitate nature and be context sensitive. He concluded by pointing to some of the mistakes of the past and the conundrums that we face in ensuring that we rid ourselves of weeds while restoring habitat to maintain existing biodiversity.

Conder 9 BMX track
Michael Bedingfield

In late April damage was found done to the Conder 9 grassy woodland site which has been reserved because of the high quality flora present. A well-developed BMX track was built in the preceding weeks causing some disturbance. The event was reported to Environment ACT which has since done some remedial work. A similar, though less damaging,event happened last year to the nearby Conder 4A moratorium site. Consequently FOG has written to the Government (5 June), requesting that appropriate signage be provided at both sites, and suggesting that a BMX facility be provided in the local area to prevent repetition of the problem.

One of the many drawings by Roger Farrow at the Insect Workshop

Vegetation Investment Project
Aristida

A number of FOG members attended the Vegetation Investment Project (VIP) Workshop conducted by Greening Australia on 17 May 2002. The workshop examined progress on the VIP to date. It included scientists and participants, the latter contributing to changing the landscape with the aim of bringing back the birds.

It was interesting that one speaker asked the question "why birds?", and answered it by saying that they were valued, they could be the subject of rapid surveys, they were known to be declining and they could be surveyed at paddock and property level.

The workshop became a defence of the framework underlying the VIP, the Focal Species Approach, which is under attack elsewhere at the present time. The approach is threat-based and is designed to address the goal of no further loss of species. One speaker noted that it is a protocol for over-cleared landscapes, not a land conservation process.

The workshop was briefed on the land protected in both the VIP North and VIP South projects. It should be noted that there are a number of avenues which now provide assistance to farmers wishing to protect elements of native vegetation on their properties, and this has to be taken into account in reviewing the VIP.

Key elements of the approach include links (linear habitat) in the landscape which serve as stepping stones and shelter belts

and the need to revitalise landscapes by creating a 'messy understorey'. This does raise questions as to how the links are connected and the quality of the 'revitalisation'.

It was pointed out that there are a number of threats in landscapes (habitat loss, habitat isolation and habitat simplification, weeds, predators, nutrients and other issues) that need to be taken into account. These are relevant factors when it comes to the question of the most sensitive species in the landscape.

One speaker noted that there were some obvious qualifications to be made (in relation to the Focal Species Approach) in that it did not cover all threats, it was limited to birds only, it was at the patch/paddock scale, it was one approach and there was the question of grasslands, but it was a starting point.

Ginninderra Peppercress

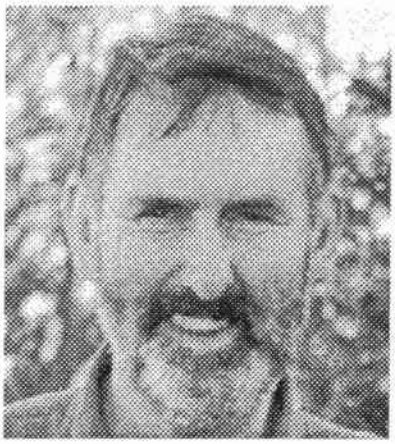
The March 2002 issue of *Danthonia* carries an article and photo on the Ginninderra Peppercress *(Lepidium ginninderrense)* which FOG members saw on their last visit to the Belconnen Naval Station. From a small unidentified plant discovered in 1993, there are now 2000 plants, but this is the only known population despite extensive searching. The only other record was in Reid, ACT in 1952, but that population seems to no longer exist, though we understand that Super Sleuth Dave Mallinson is still looking for a second site.

Australia's Virtual Herbarium (AVH)

The March 2002 issue of *Danthonia* carries an article on the AVH which is now on line. You can find further information CHAN website at http://www.chan.gov.au/avh.html.

AUSTRALIA'S GRASSLANDS: THEIR STATUS AND FUTURE FOR GRAZING PART II - DRIVERS OF DE-INTENSIFICATION

Ken Hodgkinson



Background

There is no single driver of de-intensification but rather a complex of economic, social and ecological factors that vary spatially and temporally. Some drivers come from the public while others come from pastoralists themselves. The major drivers (in my view) are below.

Narrowing price:cost ratios

Australia exports about eighty percent of the primary products derived from grasslands. There have been persistent low prices during the last decade for these products because of excess production over demand in Europe and the USA.

As a consequence, the profitability of pastoral businesses has steadily declined over recent decades. About thirty percent of pastoral businesses now have negative farm cash income brought on by increasing costs of production and persistent low prices, especially for meat and wool. Business debt and infrastructure replacement costs are rising across pastoral Australia. At the same time wheat and other crops are modestly profitable and more arable land is being cropped.

Although the overall picture is dismal, some pastoralists are highly profitable by adopting new practices and products arising from research and development. This is achieved by increasing gross income rather than by reducing costs.

Low international prices for meat and fibre will continue because of excess production. Australia, as a major exporter of meat and wool, has no choice but to strive for more efficient production and to seek niche markets. Options for product type and quality are much greater for agricultural grasslands than rangelands. However, even in rangelands there is scope to supply young domestic livestock for fattening in agricultural grasslands and/or to supply live sheep and beef animals to specific niche markets in the Middle East and Indonesia. An optimistic view for Australian rangelands is that they might provide a marginal surplus in livestock products.

Narrowing price:cost ratios are affecting the profitability of all pastoral businesses and the "rangeland" grasslands (Mitchell and semi-arid wooded) are as severely affected as the agricultural grasslands. However, the scope for alternative land uses and intensification is much lower in the rangelands. Typically, pastoralists who speak at forums about the problem say they cannot further reduce costs or change their style of management.

Rising water tables and salinity

Rising ground water and the salt it may carry, is a burgeoning problem in agricultural grasslands. More than 2.5 million hectares of agricultural land are now salt affected; water quality, agricultural production, infrastructure and biodiversity are all impacted. About $130 million in pastoral production is lost each year along with $700 million decline each year in the capital value of pastoral land.

A recent salinity audit by the Murray-Darling Basin Commission revealed alarming trends. A fourfold increase in salt-affected land is predicted over the next three to four decades. Up to 15 million hectares are vulnerable. Stream salinity will steadily increase, with water at the mouth of the Murray River exceeding the 800 EC threshold for acceptable drinking water quality in the next 50-100 years.

The problem salt has been "blown in" from the Indian Ocean over millions of years and because Australia is a dry continent, the salt has not been flushed out by rainfall but it has been redistributed over eons by wind and water to form deposits. Salt-bearing soils

are extensive, and salt deposits in the landscape can now be mapped to a depth of 150m using airborne electromagnetic detection systems. Using this technology will allow water and salt delivery targets to be set at property, catchment and regional scales. Pastoralists will soon be able to contemplate a market in salinity and infiltration credits and be able to target remedial management.

However the current consensus is that dryland salinity will not be arrested quickly. The social and economic opportunities for changed land use, and long-term commitment to developing a consistent framework for assessment, implementation and monitoring, is some way off.

Salinity and management for local, intermediate and regional ground water flow systems, require varying levels of government involvement including a range of policies, differing emphasis on land use changes, a number of incentives and regulations and monitoring activities.

It is now conceded that the best management practices in agricultural grasslands systems cannot reduce current leakage rates to anything approaching those under native vegetation. There is an urgent need for substantial de-intensification of grassland in the higher rainfall parts of the Basin and widespread enlargement of remnant vegetation to significantly reduce leakage. Return to native vegetation in most parts of the Basin would be highly desirable but is unlikely without large and ongoing incentives from governments. Extensive planting of deep-rooted perennial forages such as lucerne (*Medicago sativa*) and phalaris (*Phalaris aquatica*), in combination with strategic planting of forest patches, would also substantially ameliorate the problem.

New institutional arrangements, planning and evaluation approaches, and policy development and implementation programs that empower local and regional communities, are urgently required. Without these, further substantial de-intensification of the agricultural grasslands will occur.

Nutrient and chemical leakage from farms

Application of fertiliser, especially phosphates, raises the nutrient levels in streams and rivers, draining catchments where intense agriculture is practiced. Naturally acid soils, and those with increased acidity, have a low ability to "hold" certain nutrients. Chemicals used in weed and animal pest management are of concern to public health and biodiversity when they enter the food chain.

Means of reducing leakage of nutrients from intensely managed cultured pastures are being developed. A field study in the high rainfall zone of south-eastern agricultural grassland ecosystems showed that losses of nutrients and water were substantial from existing pastures. However, by replacing the annual pastures with perennial grass and legume pastures and applying lime on the strongly acid soils, there were substantial benefits in terms of livestock production, improved soil quality, enhanced water use and hence less surface run-off and deep drainage.

Although scientists have been aware of the problem for over two decades, research to monitor the problem and find solutions has been inadequate and poorly focussed. Reduction in the application of fertiliser to agricultural grasslands, due to narrow price:cost ratios, has delayed development of environmental problems but nutrient leakage remains a "sleeping-giant".

Biodiversity conservation

The general community is becoming increasingly aware through newspaper articles, school education and TV and radio programs, of the large number of flora and fauna species that have become extinct in the last 200 years because of livestock grazing. There is a long list of threatened species.

Governments at all levels are adopting the view that Australia has, and still is, under-investing in management of biodiversity, and that the whole community needs to contribute to the solution. Increasingly, biodiversity is recognised as a goal that is just as important as economic development.

Australia's flora and fauna, because of geographical isolation of the continent, comprises 80 percent endemic species. About 80 plant species are now presumed extinct and most of these have been lost from agricultural grassland ecosystems. Of greater concern is a further 840 species that are categorised as threatened, that is, either endangered or vulnerable in grazed landscapes.

It is now understood that formal reserves of National Parks and other conservation areas are inadequate to meet Australia's biodiversity conservation goals, and improved "off-reserve" conservation is essential to arrest biodiversity loss. Only 49 percent of threatened species have some of their populations within proclaimed reserves set aside from the grazing of domestic livestock. Of these only 13.7 percent are 'adequately reserved'.

The strength of the biodiversity driver is growing, as knowledge improves about the impact of grazing on biodiversity. For example, it is now known that in rangeland grasslands large changes have occurred in the abundance of plant and animal species along grazing gradients out from permanent water points. Between 19 and 46 percent of species in six major fauna and flora taxonomic groups decreased in abundance close to water to become locally extinct where water points were close together.

With this emerging knowledge of the impact of grazing on biodiversity in the least disturbed of Australia's grasslands, it is apparent that vegetation removal from and the grazing of, agricultural grassland ecosystems have been major drivers of diminished biodiversity. There is now a growing awareness of the need to evaluate all grassland regions in terms of the trade-offs between the relative importance to Australia of livestock production versus conservation status. Pastoralists typically consider they can satisfy the needs of their family, bank manager and land productivity most of the time but it is very difficult to prevent further loss of biodiversity.

"Clean and green" certification and organic produce

Increasingly, pastoral people are seeking certification for their products and landscapes. Typically, the criteria include pollution-free production, maintenance of biodiversity, and efficient energy use. Rangeland grazing is the most efficient system producing about 42 energy units for each unit of energy input. For agricultural grasslands the energy output is much lower (about 10).

Consumers pay a premium for the least efficiently produced and most environment-damaging products. More people seeking "clean and green" certification for the products they buy should reverse this in the near future. Whether customers will pay more for "certified" products is problematic but with smart marketing, even this is possible in a world where environmental and ecological concerns grow to dominate national and international affairs.

In addition to "certification" or other forms of "eco-labelling", the branding of produce on a regional basis, so called "regional branding", may give a market edge over competitors. This could be assisted by the biophysical, economic, social and biodiversity indicators now being developed and applied to regions of Australian grasslands through the National Land and Water Resources Audit.

The way conservation and environmental matters are managed throughout Australia will affect the value of 'clean and green' certification. Although leverage from Aboriginal people managing the large arid hummock grasslands with fire in traditional ways may be small, it is reasonable to assume this would be effective, along with other images, in marketing Australia as a country that cares for its natural environment and its people.

Whilst it is possible to produce pastoral products that meet "clean and green" certification standards from agricultural grasslands it would be easier to do so from the rangelands.

Excessive grazing pressures

Across the grazed grasslands of Australia there are individual pastoral properties where grazing pressures have been excessive. Potential forage production has declined and signs of landscape dysfunction, such as soil erosion, weed ingress and perennial grass loss is evident. The semi-arid wooded grasslands have probably lost more of their productive potential through excessive grazing than any other grassland. The processes involved and remedial managements required are well understood but restoration is problematic where critical ecological thresholds are incessantly crossed.

In agricultural grasslands, pastoralists are very concerned about pasture decline from poor grazing regimes. They think that better grazing management will maintain a desirable species composition, but many believe that drought may over-ride their capacity to maintain desirable species composition. It seems there is inadequate knowledge for managing the grazing regimes of agricultural grasslands to achieve desired botanical compositions to meet production and conservation goals.

Photo by Ken Hodgkinson: Stipa Confrence group on a Mudgee farm inspecting a salt-pan area. Measurement shows two meters of water table pressure at the site. Salinity is one of the drivers of de-intensification.

NEW ENGLAND IN LATE AUTUMN

Groundcover Reporter

The twenty-fourth, fifth and sixth of May witnessed southern and northern NSW FOG members assemble in Armidale for the launch of Grasses of New South Wales, *Third edition, and a workshop and tour of New England grassy ecosystem sites. This excellent happening was organised by Wal Whalley. Despite being at the end of autumn, we had great weather and an absolutely wonderful time.*

Friday

The program kicked off in the Taxonomy Laboratory, Botany Department, University of New England where the southern FOG contingent of Ian Anderson, Margaret Ning, Rainer Rehwinkel, and Geoff Robertson were welcomed by hosts, Wal Whalley and Christine Jones, both well known to many FOG newsletter readers and Jodie Reseigh (a grassland PhD student). At that time we were introduced to Wal's co-authors of *Grasses of New South Wales,* Surrey Jacobs and Dorothy Wheeler. Jenny Liney, the curator at Eurobodalla Gardens herbarium and Wal's sister, and her husband John were also present. Christine, Jenny and Wal are also FOG members. Two more southern FOG members joined us later in the day, Ken Hodgkinson, whose grassland article appears in this issue, and Di Chambers.

A full program had been organised by Wal and from the start we knew we were in for a treat. He had arranged for the laboratory benches to be covered with grass specimens, so that our curiosity and interest were immediately aroused.

Those who have had the pleasure of listening to Wal speak were again delighted. He talked about the Northern Tablelands' grasslands and understorey of grassy woodlands. Wal commented that while the Northern Tablelands and Southern Tablelands had much in common, there were also important differences, which we were to observe during our field trips. Like the Monaro, the Northern Tablelands seems to have no consistent rain pattern, and plant growth responds to whatever rain comes. The smart graziers attempt to manage their vegetation and not their animals. Soils were the second big factor and like the Southern Tablelands there were mosaics of basalt, granite and sedimentary soils - Wal presented us with a geological map. Temperature inversion is also a factor with grasslands common on valley floors and woodlands higher up-slope. Forests and swamps were also common, as were granite outcrops allowing extra plant niches. It had been observed that there was little difference in herbaceous floristics on the different soils, although there were few shrubs on basalt soils. A number of changes occurred with settlement resulting in the removal of Aboriginal fire management, hanging swamps (caused by introduction of cattle), and small marsupials' soil disturbance. In Wal's view, shrubs were now also less common.

Wal presented us with two diagrams. The first postulated evolution, since settlement, of four types of grasslands, lower elevation (Northern Slopes) coarse and fine textured soils, and higher elevation (Northern Tablelands) coarse and fine textured soils, choosing time periods, pre-1840, 1840 to 1900, 1900-1950 and

post 1950. His second diagram took this analysis further by showing us a model of different types of grasslands and their response to heavy grazing, increased soil fertility, fire, 'improper grazing', and drought. He left us with much to ponder.

Christine spoke on regenerative grassland management and was equally provoking. She illustrated how we are losing soils, by slicing up an apple. I was struck by her statement that one ton of organic matter above the soil surface is represented by fifty tons of organic matter below the surface. She produced her now famous photos and drawings of grass biomass above and below the surface to argue the need to graze grasses harshly followed by recovery to bring about mulching below the surface. Neither constant nor no grazing produces satisfactory outcomes, in her view.

Jodie Reseigh, a PhD student press-ganged, but not unwillingly, by Wal to join us for our trip.

Regenerating grasslands means rebuilding soils and rebuilding soils means heavy disturbance followed by resting. Disturbance, in the form of mesofauna (eg bettongs and bandicoots) turning over soils and recycling nutrients, from eaten plant material and insects, was once widespread and intensive and is now absent. These animals also maintained grassland by eating tree seedlings. Christine argued strongly against the use of fire as so much vegetation, required to make humus and nutrients, goes up in smoke. She was equally opposed to tree planting as a form of salinity control as this approach was based upon erroneous assumptions.

Christine's presentation was followed by a short talk by Rainer on what was happening in the Southern Tablelands. Geoff also gave a brief talk on FOG's objectives, outlining how its thinking and activities are evolving. We were then joined by Jeremy Bruhl, Director of the NCW Beadle Herbarium, who took us on a tour of the Herbarium and Botany facilities, yet another exciting feature of a wonderful day. But the excitement did not stop there. Both before and after lunch we were treated to visits to two grassy ecosystem sites, one at the University and the other part of a large open space in Armidale. Both had a variety of plants to excite us and different management regimes to provoke discussion about restoration. At the second site, there was a discussion of use of fire as this site is traditionally used by local youths who practiced their fire lighting skills. Thanks to Wal, at most sites visited we were handed a plant list which added to our ready understanding.

The book launch of *Grasses of New South Wales* took place on the Microlaena Lawn outside the Botany Building. The lawn was in tip-top condition and I am told withstood some pretty heavy traffic. So FOG, why aren't you promoting the use of Microlaena on top of Parliament House? The lawn certainly stood up well to the crowd of fifty people who attended the book launch. Apart from getting *Grasses* at a discount not to mention the wine and food, we found out about important information (gossip) not in the book, so our attendance was truly rewarded. Why were there three authors? Apparently, Surrey was regarded as the taxonomist expert, Dorothy as the expert illustrator, and Wal the Page Maker expert. Joking aside, we felt it was a great privilege to hear the many kind words said about the three authors and to hear from two of them. These are three giants in Australian ecology and all there congratulated them on their excellence. *Grasses* is a superbly illustrated book, a must for any serious grassland ecologists, and extremely reasonably priced. Surrey joined us for the Saturday, an added bonus. Dorothy told your reporter that she regretted that she was unable to join us over the next two days but greatly admired the work of FOG - I thought our readers would want to hear this.

Saturday

The grassy tourist and their hosts got together in the Pembroke Caravan Park on the Saturday morning to sort out cars before beginning Wal's mystery tour. He explained that the areas west of Armidale had received no rain and hence the trip would be eastward bound. He press-ganged Christine and Jodie, to our delight, to join us for the two days, although they did not seem to need much convincing despite their otherwise heavy workload. The FOG travellers (Di, Geoff, Ian, Jenny, Ken, Margaret and Rainer) found places in the cars. Surrey Jacobs was able to join us for the day and by day's end had accomplished his task of finding some specimens he had set out to find on the trip. Like so many people on the trip, it was great to unravel his life history and views on a range of issues and particularly taxonomy. He quickly settled any issue on grass identification that day. Carol Rose from NSW Agriculture, Kempsey, who had also been one of Wal's students and who is now one of the two native grass field specialists in the Department also joined us for the Saturday.

Our first stop was Jarradene a 3300 acre property owned by Shane Andrews and his family, although only 600 acres are grazed. He and his wife both earned off-farm income to support his farming enterprise, although after losing money for many years due to drought, the property has started to turn a profit but, according to Shane, a much larger property would be required to support a family. He also works part time for Greening Australia. He grazes cattle on somewhat poor shale and sedimentary soils. Fine wool sheep would be a better option, but he dislikes giving the intensive care required by sheep and dingoes are a problem, as most of the property is outside the Dingo Fence. Shane is a 'convert' to 'holistic management', after attending the appropriate courses, although he had modified the overall approach to allow a degree of flexibility depending on conditions at the time. He now has about 40 paddocks, some 'improved pasture', but much is native grasses. He keeps his herd congregated, moves them to a paddock for a short period to allow the vegetation to be heavily grazed and then allows a long time for recovery - his approach was given a big tick by Christine and Wal. For the best biodiversity outcome, he believes that any single paddock can be grazed at any time of year. He manages the grass and not the cattle (so he not adverse to selling cattle) to get the best results and he aims to have sufficient feed to get through to spring. If the rains do not come in spring he might resort to hand feeding.

Moving around the paddocks we were impressed by the diversity of grass and other species and soil building. Shane boasted about his having Quolls, Brushtail Wallabies, Bandicoots, Pythons, Go-

annas, Jacky Winter, and *Sporobulus elongatus*. We were delighted to be entertained by two Sugar Gliders that one of the group disturbed. They actually put on a gliding display. We also saw much evidence of Bandicoot digging.

Early in the proceedings, Geoff, being a bit of a mathematician, had worked out that there were 2500 acres unaccounted for and so we asked about the gap. "You will see" - part of the mystery tour. Finally we were shown that the missing acres comprised a 600 m deep gorge and Shane's boundary was actually on the other side of the gorge. While he had been to the bottom of the gorge a few times he had never seen the far boundary. Later, exploring the edges of the gorge, we were delighted by the landscapes and a number of the plants we saw there, including an orchid for Margaret.

Then it was lunch at the Wollomombi Falls, on a different part of the gorge system, a marvellous area where there were many walks available and places to explore if we had more time. There was evidence of Lyrebird activity to ponder but much of the group spent time comparing notes and discussing their different views. The afternoon consisted of many quick visits to sites. The first pause was at Wollomombi Travelling Stock Reserve where we explored patches of woodlands and grasslands, with several plant species of interest, and discussed soil formation and other matters we could observe.

The book launch of Grasses of New South Wales *took place on the Microlaena Lawn outside the Botany Building. Apologies for incompleteness.*

We next stopped along the roadside at Wallamumbi Station where despite huge amounts of money being spent on introducing exotic pasture the property has now reverted largely to a Mircolaena pasture. A little way off the road was a small enclosure which we visited and to our surprise the enclosure protected a small area of trees surrounded by Phalaris. However, we were hurried off by the owner who seemed a little concerned by fifteen people checking out the enclosure. According to Wal, Wallamumbi was one of a group of Wright properties on which a loss of some $35m had occurred.

A little further down the road we stopped at Maiden Creek to observe an example of a rested paddock, although we soon discovered it had not been completely rested. There were a number of subtle patch changes taking place in this paddock and several interesting species whose identification was quickly resolved by Surrey. The landscape was magnificent. As the sun was starting to get low, and many hues of gold, fawn, and light brown were present, while the more distant hills were well tree-covered. The creek meandered through the shallow area at the bottom of the hill. It certainly looked like a grassland, and according to Jodie there was much debate about whether true grasslands had existed in this region.

At the edge of the basalt soil, we arrived at Doughboy Mountain, a different and successful Wright Property. Not only was it getting late in the day but the air was colder and Wal pointed out that while we spent most of the day at 1000 m, we had now reach 1200 m. We were in another world, this time a grassy forest including some old Banksia trees. There was the suggestion, based on pollen samples, that Banksia once may have been far more extensive - were grassy ecosystems a very recent phenomenon? Did this support Wal's contention that pre-settlement the vegetation was more shrubby? Just before leaving the site, we discovered a single orchid in fruit - what species was it? Our final site for the day was a public area outside the Wongwibinda Public Hall. It was a mix of remnant and weedy areas, with patches of Ammobium in flower, and needed "some quick heavy grazing and trampling" according to our hosts, who thought that crusty soils re sulted from wrong management, not compacting by animals. Of some interest was the delapidated cement cricket pitch where Geoff chanced his arm bowling.

Sunday

On Sunday morning, a slightly smaller crowd (Saturday's less Jenny, Rose and Surrey) gathered at the caravan park. It was a very cold morning and we rugged up well. We set off for three sites. The first was on the Armidale-Grafton Travelling Stock Route. It was another grassy woodland with patches of shrubs. Like many places visited, some patches were in reasonable nick and some were very weedy. It was also time for another potted natural history lesson from Wal who showed us part of a large paddock recovering from dieback. The dieback had occurred around 1971-78 but suppressed seedlings had survived, to grow quickly starting about 1983 and now comprised a very thickly wooded area.

Our second site was Gara Travelling Stock Reserve, a largish area, bisected by a picturesque creek that make its way through some lovely rock formations. One side was somewhat more grazed than the other but both had a lot to offer in terms of plant diversity. It was pleasant walking around and looking at the various vegetation communities and listening to Wal, Christine and Jodie as they contributed to our understanding. Some unusual sightings for a grassy ecosystem were a Sacred Kingfisher, who seemed to be undisturbed by our presence, and a startled Moorhen who came out of hiding and quickly sought cover in some reeds. Rainer was delighted to find a 2 m high x 1 m wide Australian Anchor Plant *(Discaria pubescens)* - this was the only sighting of this plant on the trip. Christine thought it looked a little sickly, but we were able to point out that it was a plant where large parts seem to just die, while the remainder remained green and healthy.

While returning to the cars, we travelled again along the creek passing through Chris Sweeny Hole (Christine's favourite family observing that the sun had come out, suggested that the sighting of a reptile would really top off the day. Seconds later, there was a reptile, or the remains of one, being the eaten out shell of a tortoise lying on its back. It was as if the nymphs were exercising their sense of humour. Then Margaret said "there's a snake" and she and Geoff followed by Christine tried to get a closer look. We agreed that the black snake was not a Black Snake, but our Herps contacts later suggested that it was likely to have been a Copperhead. Anyway, sighting a snake on 26 May in New England would have to be somewhat unusual.

Our final stop was Ruth and Steve Tremont's 40 acre property called 'Tatibah'. As we waited on the roadside before driving up to the house we noticed great drifts of hail, leftover from the previous night; suddenly we were reminded of the cold. Ruth took the group for a tour while Steve did the baby-sitting. They acquired the property some eight and a half years ago. There was no evidence of pasture improvement at the time, the property had been flogged, there was little ground cover, several serious erosion areas, and a number of dead sheep were lying around. The country was described as 'poor man's country'. The little house on the property when they acquired it had housed a family of nine children. Ruth and Steve had removed grazing, built a new house and slowly the land seemed to be recovering. The property was now well grassed but large areas of grass were considered too short, the result Ruth considered was due to overgrazing by kangaroos (a mob of around seventy over one hundred acres). They had also used soil left over from their new house site to fill in erosion gullies. While Christine considered that soil building still had a long way to go, the plant species list was impressive with 28 native grass species, 21 other monocots (including four orchids), 17 legumes, 43 other herbs, and 14 trees and shrubs. None had been introduced. Margaret, as is her way, added some new species to the list. Ruth had identified 106 bird species, including several threatened species. Tatibah demonstrated that land can be recovered for habitat, even if the process is slow. Ruth is the co-author of *Managing Farm Bushland, A Field Manual for the Northern Tablelands of New South Wales,* published by WWF.

Then it was back to the caravan park to say our goodbyes and to start on our several trips home. What had we learnt? Each centre of learning about grassy ecosystems starts at a difference place, literally and metaphorically, and faces complexity and struggle as people attempt to get their minds around issues. Each centre develops a framework, methodology and a degree of comfort but also a realisation that its understanding needs further validation and is incomplete. Also within the ranks there will be dissent from what the centre generally accepts. Different centres getting together is like a culture shock, each learning so much that is new, having its assumptions challenged, and then trying to formulate a new synthesis. The excitement is underpinned by a desire to learn and a commitment to natural heritage. Hospitality is freely and generously given. We from the Southern Tablelands were both deeply impressed by and very grateful to our northern hosts and hope to return the favour sometime soon. Likewise our Northern Tablelands FOG members were glad of the interest and support for their efforts in grassy ecosystem ecology.

STRATEGIC PLANNING FOR CANBERRA NATURE CONSERVATION

Geoff Robertson

The new ACT Labor Government has made a number of comments about taking a more strategic approach to planning and conservation which we welcome. FOG understands that much work is being done within Government to thrash out this policy. However, we are not optimistic about the chances of success because there are still many signs of fragmentation in approach and "business as usual". While we applaud what has been achieved in many areas of conservation in the ACT, we believe a fundamental rethink is necessary. We suggest that the ACT has an opportunity to show national leadership in reversing the continued destruction of our ecosystems and species and integrating biodiversity with broader nature conservation outcomes. The FOG Committee recently endorsed the following statement.

ACT governments have many runs on the board regarding conservation and planning. However, current government policies on planning, conservation and environmental management should be strengthened to bring about a greater degree of vision, integration, resources, public leadership and consultation, and accountability. Statements proposing both a review of Action Plans 1 and 10 and a more strategic and integrated approach to the management of Canberra Nature Park and Open Spaces, are welcomed.

1. Any new policy on integrated management needs to recognise that:
2. Our natural ecosystems are under threat with the consequent loss of our unique landscapes and a host of plant and animal species;
3. Sustainable activity must be based on suitable regional catchment management, water and salinity policies which in turn require naturally functioning ecosystems;
4. Efforts to manage the Canberra landscapes have not been totally successful, for example serious problems remain with feral animals and weed control, revegetation practices are not always appropriate, and government staff, contractors and community groups involved in managing our landscapes, are not always provided with adequate training and resources;
5. Strategic planning and management are needed for new areas set aside for conservation as well as existing areas of Canberra Nature Park and Open Spaces, based on a long-term vision to enhance Canberra Nature Park and Open Spaces as a mosaic of naturally functioning grasslands, woodlands and open forests;
6. A new environmental culture (a change in mind-set) needs to be imbued at all levels of Government; and
7. The ACT Government needs to show leadership to explain this vision to its staff and the community, to redirect existing resources and add new resources, to strengthen community involvement, to provide the necessary training, and to encourage greater public accountability.

While not wishing to be definitive about the policy outcomes or the process of formulating policy, the following tasks might be considered (we know some are already underway):

1. Establish some type of panel, bringing together various government agency staff, experts, business people, landowners and community representatives to be openly informed about available information and asked to make recommendations on how nature conservation and development aspirations should be joined;
2. Review Action Plans 1 and 10 to overcome existing inadequacies and to present a clearer set of strategies for recovering our threatened ecosystems and their suite of plants and animals;
3. Publish a strategic plan to provide (a) maps showing plans for the long-term restoration of Canberra's landscapes, linking remnants in Canberra Nature Park and Open Spaces, rural and other public leasehold land, and where possible private land; (b) broad protocols, including vegetation guidelines, governing ecosystem restoration; (c) ecosystem restoration strategies underscoring the management activities of government staff, contractors and community volunteers; (d) commitments to address weed and feral animal problems; (e) recommendations on targeting people of all ages to create a greater understanding of and a desire to care for our local natural environment; and (f) discussion of possible spin-offs (eg tourism); and
4. Create an ecosystem conservation/restoration unit to assist in formulating these tasks, to bring together people with technical hands-on and people skills in restoration, and to initiate and supervise restoration work by leveraging the effort across government staff, contractors and volunteers, using the latest scientific research and adaptive management principles.

A personal postscript: The FOG committee has been concerned for some time that ACT Governments fail to take a strong regional approach despite protestations to the contrary. We believe that urban development and conservation around the ACT need proper integration and planning, as part of a vision for the region. Given the limited supply of land in the ACT, the ACT and NSW Governments should start planning Canberra's future suburbs and conservation areas outside the ACT, picking up the principles of the ACT and Sub-region Planning Strategy. *After all, jurisdictions elsewhere, such as those around Washington DC, have faced and met this challenge. We would welcome any comment on the above statement as we lobby government about future nature conservation.*

GRASSLAND WOOD SORREL

Michael Bedingfield

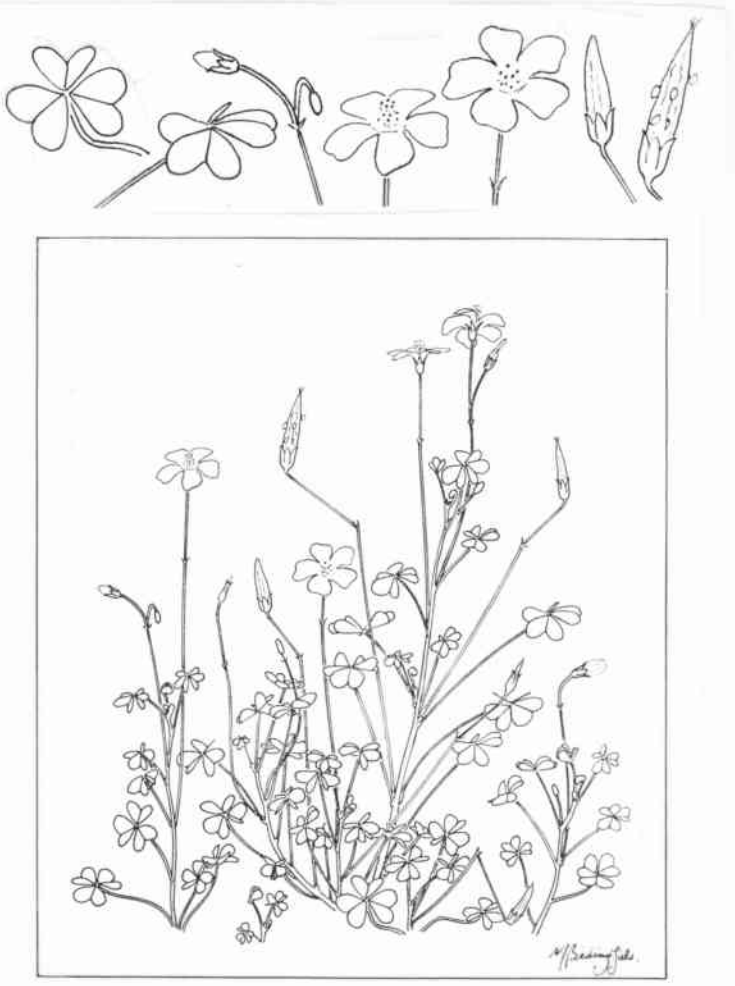
The Grassland Wood Sorrel (*Oxalis perennans*) is common and widespread in the Canberra region and also occurs elsewhere in Australia. It is the native Oxalis species most common in local grasslands, though it is hard to distinguish from other Oxalis species both native and exotic. It is tolerant of disturbance and persists in degraded areas.

The leaves are clover-like (trifoliate), having three heart-shaped leaflets. Unlike clover leaves the leaflets are usually folded in the middle.

The plant has a stout perennial taproot, and responds well to rain, growing in a tufted or creeping manner up to 20 cm. It may be small and inconspicuous too, and like many of our grassland plants, it is most easily noticed when it is flowering, which it can do during all but the coldest times of the year, producing five-petalled yellow flowers up to 25 mm across.

The fruit is a capsule up to 25 mm long and 4 mm wide, pointed at the top. The seeds are small, about 1 to 1.5 mm across. As the fruit matures, slits develop along its length. Sometimes the seeds are visible through the slits or even protruding out of the slits. If the fruit is handled at this time the seeds will be flung with surprising energy in all directions for several feet.

The meaning of the botanical name: *Oxalis* (*oxys* - acid, sour, sharp and *alis* - saltiness, refer to the leaf taste) *perennans* (perennial). The boxed drawing shown is at half size, with the flowers, fruit and leaves shown separately at full size. The Grassland Wood Sorrel, an interesting and occasional splash of colour in the micro-wilderness of the plant world.



Oxalis perennans
Grassland Wood-sorrel
Size: x 1/2
© Michael Bedingfield, 1998

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

Supporting native grassy ecosystems

Address: PO Box 987, Civic Square ACT 2608

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

Your committee:

Geoff Robertson	President	6241 4065 (h & fax)	margaretning@primus.com.au
Michael Treanor	Vice President	-	micwin@bigpond.com
Ros Wallace	Secretary	-	ros.wallace@mdbc.gov.au
Alan Ford	Treasurer	-	alford@cyberone.com.au
Rosemary Blemings	Committee	6258 4724	roseble@tpg.com.au
Di Chambers	Committee	-	di.chambers@abs.gov.au
David Eddy	Committee	6242 8484 (w) 6242 0639 (fax)	deddy@ozemail.com.au
Richard Langdale-smith	Committee	-	langdalesmith@bigpond.com
Kate Nielsen	Committee	6286 8525 (h)	kate.nielsen@abs.gov.au
Margaret Ning	Committee	6252 7374 (w) 6241 4065 (h & fax)	margaretning@primus.com.au margaret.ning@abs.gov.au
Kim Pullen	Committee	6246 4263 (w)	kimp@ento.csiro.au
Warren Saunders	Committee	-	warrenganter@bigpond.com
Benjamin Whitworth	Committee	-	benjamin.whitworth@brs.gov.au
Susan Winder	Committee		susan.winder@ea.gov.au
Dierk von Behrens	Committee	6254 1763 (h)	dierk.von.behrens@immi.gov.au

FRIENDS OF GRASSLANDS NEWSLETTER

You have read this far, so we must have kept your interest. If you are not a member of Friends of Grasslands why not subscribe to the newsletter? It comes out six times a year and contains a lot of information on native grassland issues.

You can get the newsletter by joining Friends of Grasslands. 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 group, or actively interested in grassland 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, plant identification, etc. and so take a more active interest in our activities. Most activities are free and we also try to arrange transport (or car pool) to activities.

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

HOW TO JOIN FRIENDS OF GRASSLANDS

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

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

We look forward to hearing from you.

Friends of Grasslands Inc
PO Box 987
Civic Square ACT 2608