News of Friends of Grasslands

Supporting native grassy ecosystems

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January & February 2022

Work Parties

Budjan Galindji (Franklin Grassland)
Jan 26, Feb 2 & 23
Wednesdays 9-11am
Register: Margaret.ning@fog.org.au

National Lands
Jan 16; 8.30 – 1pm
State Circle
Feb 20; 8:30 – 1pm
Gurubang Dharu / Stirling Park
Register: jamie.pittock@fog.org.au

The latest updates are found on our website at Calendar

Visit our website -
http://fog.org.au/

Welcome new members!

Honor McGregor,NSW
Margaret Mahoney
Kyle Stimpson

Pink tailed worm lizard at Gininnderry – photo Alex Kirk

From the President …

In the past few weeks, I've had the pleasure of seeing FOG's work to conserve threatened grassland habitats from Adaminaby to Yarralumla, but this has prompted me to ask how our society can do a better job of conserving our nationally endangered flora and fauna.

Near Adaminaby, FOG has leased a 15 hectare travelling stock reserve that is habitat for the grassland earless dragon. I joined the dynamic duo leading FOG's efforts, June Wilkinson and Marg Ning, and four other volunteers to weed the site. The site was a riot of colour, with every conceivable forb and many bush peas in bloom, and contrasted dramatically with nearby exotic pastures. Six hours of hand weeding, chipping and spraying saw the worst of the weeds removed.

Earlier this year, FOG was faced with the terrible dilemma of whether to bid for another half a dozen travelling stock reserves on the Monaro that South East Local Land Services were considering leasing out. These modest little areas of public land have exceptional biodiversity conservation values, but how is it that a country as rich as Australia is renting out its flora and fauna jewels? And why should it be left to volunteers in community organisations like FOG to care for nationally endangered species like the grassland earless dragon on public land?

On a nearby roadside we visited one of the last populations of the endangered Monaro golden daisy. Squeezed on a 3 metre wide and 5 metre long strip between the asphalt and an over grazed paddock, weedy grasses were beginning to grow up between the surviving daisies. These populations could be readily conserved, for instance, by spending a day carefully wiping herbicide on the weeds between the daisies. But who is going to undertake this simple, vital, unfunded task?

Two weeks earlier, FOG Secretary Sarah Sharp and I did a whistle stop tour of high conservation value remnants of grasslands that are currently not reserved but are prioritised in the ACT Government's conservation action plan. We drove from Yarralumla to Monash to Fyshwick looking for priority sites where FOG could direct some ACT Government funding for weed control. We were pleased to find that nearly every site has been earmarked for conservation, for example, as an urban park or development offset site. I'm excited that three of these sites will benefit from weed control by Christmas.

However, I was alarmed that every ACT grassland site had significant weed infestations after our two wet years, with African lovegrass, blackberry and St John's wort amongst the most prolific. At one ACT site, a population of the endangered button wrinklewort on a roadside was also threatened by weeds. Canberra is the richest city in the nation, with the highest level of education, and has a government with policies to conserve such threatened species. Yet, whose job is it to spend half a day weeding at this roadside?

Nearly twenty-five years ago as manager of the national Threatened Species Network, I administered the distribution of half a million dollars of grants to

community groups to conserve threatened species. Government rules limited use of the funding to buy things like fences. In retrospect I think this was an error. We should have been funding people. How much better off would the Monaro golden daisy be if a local farmer and field naturalist was funded a day a week to be its champion and facilitate on-ground conservation?

As a nation, if we are to keep the Monaro golden daisy and the button wrinklewort, we need to find better ways for governments to raise funds and allocate them to people to implement on-ground conservation. FOG has a vital role to play in advocating for these systematic reforms, and in the meantime, doing our best to conserve grassland flora and fauna. The volunteer work that June, Marg and Sarah are doing as part of FOG is vital for demonstrating how to effectively conserve our threatened flora and fauna.

Jamie

A Vision for FOG

Friends of Grasslands have agreed to adopt a new vision, together with clarified goals and the rationale behind the vision. This goes beyond our existing statement, 'Supporting grassy ecosystems', as it aims to enunciate what FOG does and what its members stand for – as the place from which we advocate, and that frames and guides our work, statements and actions.

Many thanks to those members who provided well-considered suggestions. The outcome is all the better for that.

Healthy, biodiverse, and connected remnant native grassy ecosystems to support life on Earth.

FOG will achieve this vision by:

- Acting to halt the decline of native grassy ecosystems, and their biodiversity and achieve the maximum level of recovery possible.
- Promoting and facilitating protection of the biodiversity of grassy ecosystems within and across the landscape.
- Recognising the need for community stewardship of these ecosystems, thereby continuing the cultural care provided by the Aboriginal peoples for millennia.
- Respecting the views and knowledge of all stakeholders and working with them to achieve our vision.
- Facilitating implementation of best practice management and encourage development of methods to improve conservation through hands-on application, research, education, strategic planning and monitoring.
- Advocating for effective environmental laws, enforcement mechanisms, planning and management underpin protection and conservation of native grassy ecosystems.

Rationale

Native ecosystems and their biodiversity have intrinsic value.
Resilient native ecosystems are vital to our physical well-being through the provision of ecosystem services.
Human connections and interaction with nature and biodiversity are vital to our mental well-being.
The cultural traditions of Aboriginal peoples underpin our unique native habitats and guide the principles and implementation of sustainable and conservative use of our grassy ecosystems within the broader landscape.
Biodiversity cannot be sustained in isolated remnants.

Advocacy Report

Naarilla Hirsch

October

Under the EPBC Act, where required, every species and ecological community listed as threatened will have a conservation advice. Some will also have a recovery plan. The Commonwealth is reviewing the need for a recovery plan as well as a conservation advice for a number of listed species and ecological communities, and asked for the community's views. FOG disagreed with the proposal to remove the need for a recovery plan for Natural Temperate Grasslands of the South Eastern Highlands on the basis that it was now listed as critically endangered and because it is continually being subjected to high development pressure that can be regulated under the EPBC Act. We suggested that the recently developed ACT Native Grassland Conservation Strategy and Action Plans might be an effective way to update the recovery plan for this ecological community quickly. FOG suggested the same for other species which it disagreed with re the removal of a recovery plan: Striped legless lizard (*Delmar impar*), Golden Sun Moth (*Synemon plana*), and Tarengo Leek Orchid (*Prasophyllum petilum*). FOG also disagreed with the removal of the recovery plan for the Kiandra Greenhood (*Pterostylis oreophila*).

The NSW Government released the Kosciuszko wild horse management plan for comment. In its submission, FOG called on the NSW Government to:

1. Repeal the *Kosciuszko Wild Horse Heritage Act 2018* and manage feral horses under the *National Parks and Wildlife Act 1974;*
2. Eliminate feral horse populations from high conservation value areas, including: a) habitats of threatened ecological communities and species; b) all designated wilderness areas, and c) areas of cultural significance for the Traditional Owners;
3. Reduce the population in the plan period to fewer than 600 feral horses;
4. Adopt a more humane approach to feral horse control by reducing the population more quickly than the six years proposed and by using aerial shooting

Particular areas of concern covered in our submission included: the large extent (32%) of the Park in which horses would be retained (including in areas with very high conservation values); the concentration of the horses in grassland areas (with impacts on not just the ecological communities that are listed as threatened, but also other unique communities that are at present more common); and the lack of information about how areas outside the exclusion zones will be monitored for horse damage

November

The Commonwealth released an Exposure Draft for Unleased Land Ordinances relating to national lands in the ACT. Based on its on-ground experience at conservation sites on national lands, FOG asked that the examples under the *Damage* section include a fence, sign, and rocks or soil. In our experience these are commonly damaged or removed assets, and that there be provision to directly fine offenders (since a hollow bearing tree cut down for firewood cannot be replaced with a new tree for many years). Other issues raised include off-road vehicle accessing national lands, landing of hot air balloons on national lands of conservation values, and the lighting of camp and picnic fires.

December

FOG made a brief comment on the development application for a new underground optic fibre cable between Tennant Street and Pialligo Avenue in Fyshwick. FOG supported the recommendations of the ACT's Conservator for Flora and Fauna, particularly in relation to weed management. It suggested that the minimum 18 month maintenance period to ensure native ground cover establishment and weed control be amended to at least two growing seasons or alternatively two years.

The full text of these submissions appears on our website

Key's matchstick, *Keyacris scurra*

A flightless grasshopper that is active in the cooler months

Michael Bedingfield

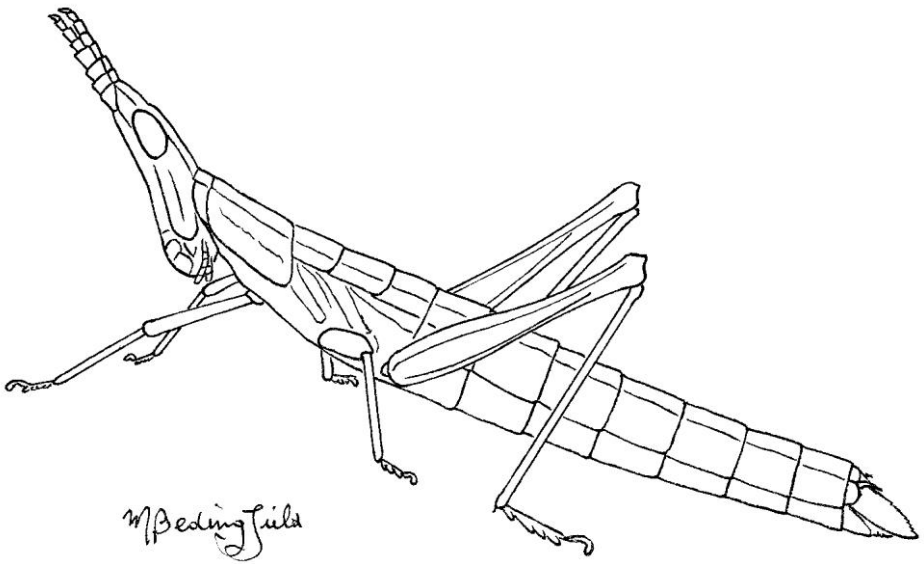
Unlike most of their kind, Key's Matchstick Grasshoppers are active through our cold winters. They have a strictly annual lifecycle for each generation, beginning with the eggs hatching in the summer months of December and January. They grow throughout the remainder of summer and autumn. Most males become mature adults by May but the females develop more slowly. Females go through the winter as nymphs, becoming adult in time for mating in spring. Soon after mating the eggs are laid in the soil, and the parents die. The cycle is completed but begins again a few months later in summer. This is quite a different life cycle to most grasshoppers, which prefer the warmer months for growth and breeding and are dormant during the winter.

The female Key's Matchstick Grasshoppers grow up to about 25 mm, with the males being smaller at about 18 mm. The most common colouring is shades of brown, but they may also be green. They have odd-looking segmented antennae which are wide at the base and taper to be narrow at the top. I have provided a drawing and a photo, which shows their slender shape and slanted face. A very similar looking local grasshopper is the Giant Green Slant-face *Acrida conica* during its nymph stage when it is wingless.

Keyacris scurra is the scientific name of the Key's Matchstick Grasshopper and it belongs to the subfamily Morabinae for Matchstick grasshoppers. This subfamily is endemic to Australia and all species are flightless with an elongated stick-like appearance. So our subject has no wings, and being flightless it cannot move around the landscape as freely as other grasshoppers. The preferred habitats are natural grasslands and grassy woodlands, but much of these have been lost since European settlement in Australia. What remains is very fragmented and scattered and this has been the cause of their decline. The species was once very common but has been listed as endangered by the NSW Threatened Species Scientific Committee. One of the references given is its Conservation Assessment.

Colonies of Key's Matchstick Grasshoppers tend to be small. With their regular annual life cycle, in which all members of a local population follow a similar pattern, plus their fragmented habitat and limited ability to migrate, if an unfortunate disturbance event occurs, it can cause them to become extinct there. Such events could be a grass fire, drought, overgrazing, pasture improvement, pesticide application or mowing at a time when they are active. If this happens the population can't recover naturally. But there is hope that translocation may be possible to reintroduce them to suitable locations.

These grasshoppers occur where various grasses are present but have a preference for Kangaroo Grass *Themeda triandra*. They like to shelter in grass tussocks that protect them from predators, which are mainly birds, as well as the heat of summer and the cold of winter. Their main food is from the daisy family especially the Common Everlasting Daisy *Chrysocephalum apiculatum* but they are also fond of *Acaena* species such as Sheep's Burr *Acaena ovina*. Despite these preferences they are known to eat a variety of other plants. During winter they come out to feed intermittently when the weather is warm enough. They are distributed sparsely in south-eastern NSW away from the coast. There were concerns that they were extinct in Victoria but they have been rediscovered in some small remnants.



A recovery plan is being prepared for *Keyacris scurra* and there is great interest in knowing more about this endangered species. They are mainly found in places that have had minimal

grazing or other disturbance, such as in travelling stock reserves, old cemeteries, nature reserves and railway easements. There have been records of them in the ACT in 2021 at Mulligan's Flat, to the north-east of Kambah Pool, near Mount Clear and at Hall. I was also pleased to find that the population recorded by Kim Pullen at Tuggeranong Hill in 1999/2000 is still present.

You can become a citizen scientist by contributing records of any sightings to Canberra Nature Map. They are small, well camouflaged and hard to see. The method advised by researchers is to walk slowly through suitable feeding habitat during the warm part of the day when the temperature is above about 10 °C. Watch for any jumping hoppers being disturbed at your feet. If you have an interest in doing this then I wish you the best of luck.

References:

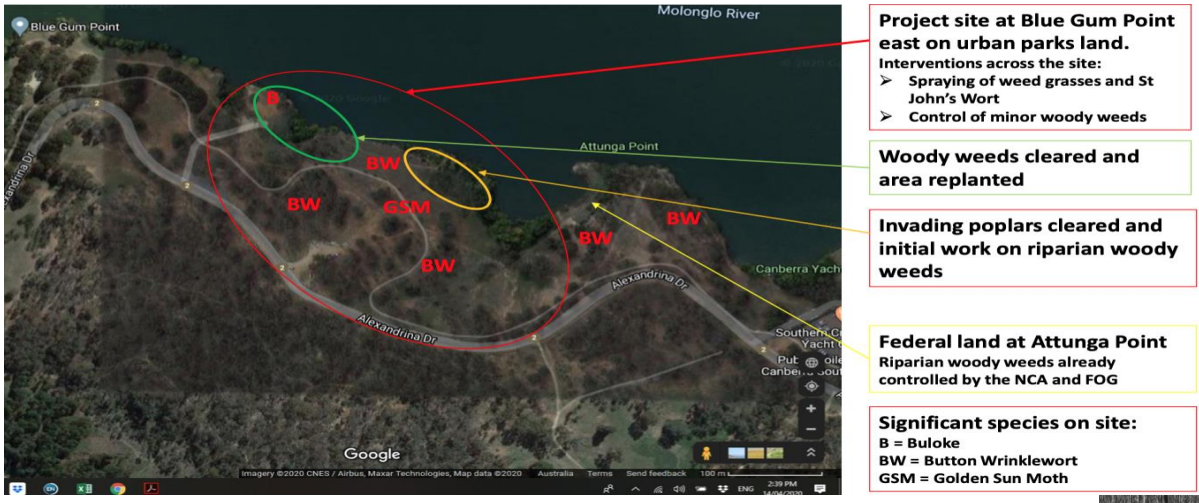
https://www.environment.nsw.gov.au/resources/threatenedspecies/determinations/CAMKeysMatchstickGrasshopperESPD.pdf

https://pursuit.unimelb.edu.au/articles/rediscovering-a-lost-species

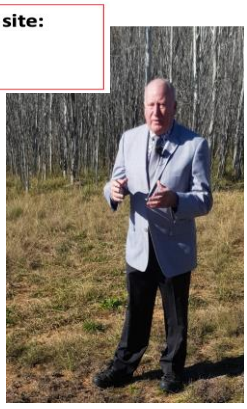
FOG's Blue Gum Point Project Grant is Completed

On 2 Nov, FOG's project leader Jamie Pittock acquitted FOG's *FY21 FOG Blue Gum Point environment grant*. The grant of $20,856 was made to FOG for work on Transport Canberra & City Services (TCCS) land at Blue Gum Point on the south side of Lake Burley Griffin. The area abuts National Capital Authority land of Attunga Point. In addition the project team organised in-kind work valued at $13,231.

The area is significant as it contains a mix of natural temperate grassland (or possibly secondary grassland) and Yellow Box Red Gum grassy woodland. Importantly, threatened species of Button Wrinklewort and Golden Sun Moth are present as well as a rare remnant population of Buloke *(Allocasuarina luehmannii)*. However, the key aim of the project has been to remove a portion of woody weeds (actually trees) along the shore of Lake Burley Griffin.



The project involved removing up to half these woody weeds, especially along the southern shore of Lake Burley Griffin; spraying weeds, particularly African Lovegrass, Chilean Needlegrass, Blackberry and St John's Wort; planting River Oak *(Casuarina cunninghamiana)* and indigenous shrubs and ground-cover species on disturbed land; supplementary planting of Buloke; surveying Button Wrinklewort populations and recording them on Canberra Nature Map; liaising with TCCS to restrict mowing and to restrict illegal driver access to the lake's edge, which has resulted in natural regeneration of 250 eucalyptus trees; and removing rubbish. Professional weeders were employed to remove trees and spray weeds .



Minister Gentlemen announcing ACT Environment Grants in front of invading poplars at Blue Gum Point (24 Jul 2020).

Volunteers undertook a variety of tasks and demonstrated a high level of skill and commitment. Three voluntary work parties were organised and in total 45 people attended. 240 plants were planted in an area of 8.5ha, while 10ha of weeds were treated. Support from EPSDD (especially Mary Bonet - Jobs for Canberra) and TCCS staff (especially Allan McLean, Jayne Roberts and Jody Friend)

was crucial to the project and greatly appreciated. Through this assistance, FOG boosted its planned in-kind work by 50%.

The project recorded the number and hours of volunteers' time (these will be reported in FOG's 2021 Annual Report) and mapped weed-control outcomes onto the ACT Government's Field Maps platform. Flora and fauna sightings were recorded onto Canberra Nature Map and issues requiring TCCS intervention were reported to Fix My Street and to relevant staff. FOG reported outcomes through its newsletter.

Despite rain and COVID, and some necessary work-arounds, the project was highly successful. FOG has applied for another grant to continue the removal of woody weeds. The images below demonstrate some aspects of the project. For the complete report, readers may contact jamie.Pittock@fog.org.au.

A Work for Canberra crew clearing invading poplars on the right and volunteers removing trees on the left (Oct 2020).

An area of cleared poplars (Oct 2020)

Poplars felled by Work for Canberra crew and FOG volunteers (Dec 2020)

Weed control and revegetation in a gully east of Blue Gum Point

Riparian woody weed and blackberry control in progress (March 2021) and some of 250 woodland trees regenerating after agreement with TCCS on changed mowing procedures.

Assessment of condition of grassland sites outside the reserve system

Project undertaken by ANU Fenner School students, spring 2021

Sarah Sharp

Professor Phil Gibbons runs an undergraduate unit at ANU that requires students to undertake a real world project. The objective is for them to undertake the project as a consultant to the proponents of the project. Friends of Grasslands developed a project to assess the condition of natural temperate grassland sites that occur outside the reserve system and consider how best a protected area network could be applied in the ACT to these sites. This project was designed to assist FOG and the Conservation Council in lobbying government to achieve better management and protection of native grassland (and woodland) sites outside the reserve system. We were also motivated by the opportunity for environmental students to be learning more about our threatened ecosystems and the complexity of conserving them within a modified landscape. Others provide buffers to areas of higher value, e.g. minimising weed infestation and a fire mitigation area.

Fifteen students working in three groups chose to undertake the project and Jamie Pittock and I supervised the projects. Each group had five natural temperate grassland sites to review in terms of condition and issues, and to recommend

how they could be better protected. The project was initially set up to centre around a site visit with volunteers from FOG present to help identify key attributes including the dominant species and connectivity, as well as issues, including invasive weeds and general site disturbance. However, COVID lockdown began the night before we were going to meet to discuss how to undertake the project. As a result, the project was revised so the students could work in isolation and undertake the project without visiting the sites.

Given the difficulties they faced, I was very impressed by the students' interest and quality of their reports. They undertook extensive research, and, given the majority had probably never visited such sites before, presented a very professional consideration of the issues at individual sites based on available reports, publications and from aerial images. The students presented their results in a zoom seminar, which members of FOG as well as government representatives attended.

The students provided management recommendations for individual sites, connectivity options and options for protection, at the site and across the landscape. Key recommendations were to incorporate remnants into neighbouring reserves where possible, to restore corridors of native vegetation, provide signposting and fence off areas, consult with and provide information to local residents and to investigate possibilities for modifying legislation to classify remnants as conservation areas, to form a protected area network.

We are following up the information provided by the students by lobbying (successfully in the short term) by organising some useful weed control in a number of these sites, and in the long term will follow up options for developing strategic site management plans that include fire management, weed management and education and lobbying for better management of these off reserve remnants. Importantly FOG and the Conservation Council are preparing a submission to get support for other sites to be identified through legislation as conservation areas. We hope that an outcome will be that a project officer be engaged to work with all relevant government agencies and private leasees, providing advice and lobbying for conservation management to be undertaken, and to work with other stakeholders to improve education and communication, so that these sites retain their conservation values.

Undertaking the project in lockdown created a significant challenge to the students, but they achieved excellent results and are to be commended for their work. We are grateful for their input and their generosity in making their reports available to FOG for further investigation of achieving better management and protection of our critically endangered remnants.

Comments from participants

Jack Vernon - Personally I found it to be a hugely valuable learning opportunity, even if we didn't manage to do any field work. Working with ACTmapi and reading reports and creating a finished report was challenging, but the skills learned as a part of this project were definitely useful and hopefully applicable later on down the road! Especially wonderful to meet and know some faces in the field!

Rachel Stuckey - The group that I was a part of studied natural temperate grassland sites in North-West Canberra for FOG. Originally, this project was one that could be completed by conducting field surveys and having a walkthrough of the area with FOG however, since the project started at the beginning of Canberra's lockdown, the project became a desktop study. This was still a valuable experience as I was able to utilise resources such as ACTMapi, Canberra Nature Mapr and Atlas of Living Australia which I hadn't used previously and proved to be extremely useful. This was unlike any other project I had completed, however I quite enjoyed analysing the maps over different years and synthesising information from a variety of sources to develop recommendations for the various sites as well as recommend how to incorporate our sites into a protected area network. While I did miss the field work, I feel as though it developed and enhanced my ability to adapt to an online project which is now something that can happen in any future role in a COVID context. I also enjoyed the aspect of having real world clients and it was rewarding to see how our work could be utilised in the future and assist FOG. I am very appreciative of the opportunity, and I look forward to keeping up to date with FOG in the future!

This is a typical image used by the students to assess condition when not being able to visit the sites due to Lockdown. The brown area is dominated by native grasses, and the image shows the bare areas and weeds along the edges of the site.

FOG Grassy Ecosystem Grants 2021

Andrew Zelnik, Supported Projects Sub-committee

FOG's committee has agreed to Supported Projects group's recommendations (summarised p18 of previous newsletter) to award seven grants 2021 valued at $9792, funded from FOG's public fund (so keep your donations flowing) and FOG's Publications reserves. Here are details of six with one still being finalised. Of grants awarded previously, one 2019 and three 2020 grants are yet to be acquitted.

Grassland Signage, Monash ACT, $1500. Southern ACT Catchment Group (SACTCG) is an umbrella not-for-profit organisation that supports 26 community member groups and rural landholders in the Southern ACT area. This sloping Natural Temperate Grassland (NTG) site in the ACT suburb of Monash is one of the few remaining intact grassland sites within the southern urban ACT catchment. Although in the ACT Government's highest Conservation Significance Category and a listed grassland under the Commonwealth EPBC Act it is not in the reserve system. It is relatively small in area, the majority of high quality with an excellent array of grasses (*Themeda triandra* dominant), and adjoins a wetland home to a wide variety water and other native birds. It is a relatively unknown site and currently it has no signage. Feedback from the community indicates a lack of understanding of why the area isn't being developed, mown, or planted with trees. There is also damage in one area on the site from local recreational use for motorbiking and downhill biking. The proposed signage is to inform the local community of the grassland's values and conservation significance, and will be part of a first step by SACTCG to encourage and support the development of a care group for this grassland site, and the adjoining wetlands. FOG will also be assisting with compilation of a plant list, signage design, and some initial community engagement and management advice.

Drought effect on microbe homeostasis in soils of native grass species grown in monocultures and mixtures, Richmond NSW, $792. This is part final year PhD research, investigating soil nutrient management and microbial ecology in twelve key grassland pasture species in Australia, involving analysis of total carbon(C), and nitrogen (N) in soil (representing microbe substrates) associated with two native grassland species (wallaby and kangaroo grass grown in monocultures and mixtures) exposed to six months of drought treatment in the field. The aim is to use this data to determine microbial stoichiometric (quantitative chemical mix) response to changes in soil nutrient availability to further understand the microbial nutrient cycling in soils associated with native grassland species under climate stress and how they adapt. This will be done using soil samples from the Pasture and Climate Extreme (PACE) experimental field site located at Hawkesbury Institute for the Environment on the Hawkesbury Campus of Western Sydney University (WSU). Total C, N, and phosphorus (P) of the microbial biomass in the 132 soil samples will be analysed. FOG's grant will contribute to analysing total C and N from all sources in the collected samples. The results and findings will be published in a peer reviewed journal and presented in a conference.

Will fungi help grasses under a hotter future climate? Wollongong NSW, $1500. This project is part of PhD research at the University of Wollongong (UoW) looking at the role of arbuscular mycorrhizal fungi (AMF) in helping plants cope with heat waves where water stress is high. This project will initially undertake a laboratory experiment to inform how grassland species may use AMF to adapt and respond to heatwaves. Using ecological, genetic and physiological measurements, it aims to further understanding of ecosystem responses to climate change relevant stress events. This project will use six local native grass species with varying photosynthetic pathways (C3 and C4) *Poa labillardierei, Anthosachne scabra, Microlaena stipoides, Chloris truncata, Bothriochloa macra* and *Themeda triandra*. FOG's grant will contribute to the genetic analysis costs for the first experiment which will be critical to future experimental approaches in the field and in the lab. The results and findings will be published in a peer reviewed journal and presented in a conference.

Can below ground inocula boost grassland restoration? Richmond NSW, $1500. This is part final year PhD research on soil invertebrate distribution and evolution. Landscape degradation has detrimental effects on soil biota from decomposers to microbial grazers and predators which are an integral part of soil functional processes, including nutrient cycling and moisture retention, underlying ecosystem functioning. This project proposes to test whether or not soil biological inoculation can help promote *Microlaenia stipoides* and *Themeda triandra* dominated native grassland restoration focussing on indicators of soil health. It will involve applying soil microbial and faunal inocula to treatment plots of native grassland that have been actively "restored" with topsoil removal and seeding. These will be compared with an equal number of treatments: (a) restored sites without inoculum treatment, (b) degraded unrestored plots, and (c) reference high quality sites in a national park (also sources for the soil biological inocula). Soil sample faunal extraction and ID from all treatments will be performed using DNA sequencing. FOG's grant will contribute to project

costs for soil sample collection, and chemical, microbial enzyme, and soil fauna DNA sequencing analyses. The results and findings will be published in a peer reviewed journal.

Revision and reprinting Grasses brochure & install individual grass planting signs, STEP site, Molonglo Valley, ACT, $1500. Southern Tablelands Ecosystem Park (STEP) is a regional native botanic garden for southern tablelands of NSW and the ACT located in Forest 20 at the National Arboretum Canberra (NAC). FOG helped found STEP and has a continuing interest in it. It is run by a volunteer community group of the same name working in partnership with NAC to provide an educational, conservation and recreational resource for the local community and interstate and international visitors. It was a successful recipient in our first round of grants launched in 2017. This was for the production of a native grasses brochure, in our first round of grants launched in 2017. This current grant will contribute to revision and printing of their Grasses brochure, purchase of new metal signs for native grass plantings to replace current temporary signage and to provide for future grass plantings, and design and printing of a large Corflute sign for the area.

Enhancing the native grassy woodlands of Mundulla Common, Mundulla SA, $1500. Located 11km southwest of Bordertown, Mundulla Common (43 ha) surrounds and adjoins the eastern, southern, and western edges of Mundulla township. Immediately to the north is Moot-Yang Gunya Swamp (60 ha). These areas are Crown Land under the control of Tatiara District Council working in partnership with the local community based Mundulla Common Working Group. Mundulla Common is comprised of the nationally listed endangered Grey Box (*Eucalyptus microcarpa*) Woodland (17.8 ha), Blue Gum (*E. leucoxylon* subsp. *pruinosa*) Woodland (15 ha), and River Red Gum Woodland (9.9ha). It is a significant remnant of multiple remnant native vegetation communities in a highly cleared and modified agricultural landscape e.g. in SA Grey Box woodland is estimated only at 3% of its original extent compared to 10-15% nationally. The Common is also habitat to native fauna species state listed as rare (Common Brushtail Possum, Sugar Glider) and vulnerable (Bush-stone Curlew). FOG's grant to Tatiara District Council is for a combination of targeted mechanical and chemical control of weeds, considered best undertaken by an experienced local contractor to undertake in priority locations within the Grey Box Woodland and River Red Gum areas as identified in their 2018-2028 operations plan.

Grassland Visitors Education & Viewing Garden (GVEVG), Barton ACT, $1500. The Australian Centre for Christianity and Culture (ACC&C) and Charles Sturt University (CSU) Canberra Campus together with St Mark's National Theological Centre are wanting create a GVEVG on the edge of St Mark's Grassland. At almost 3 hectares this is the only remnant Natural Temperate Grassland (NTG) within central Canberra and is one of the few remaining sites in the ACT with the threatened Button Wrinklewort. FOG has visited it many times and has an ongoing interest in it. Like Monash Grassland (see above) it rates in the ACT Government's highest Conservation Significance Category but is not part of its formal reserve system. The purpose of the proposed GVEVG would be to provide a meditative space for the approximately 4,000 annual visitors and to potentially educate many of them as to the inherent conservation values and significance of the grassland, and its stewardship by ACC&C and St Mark's. Visitors typically include public servants, on-site event attendees, religious and non-religious organisations, and school and university students. There are potentially three parts to the design process: design brief and concept; development of the design; and documentation for landscaping. If it proceeds, FOG's grant offer would be to assist with engagement of a landscape architect to prepare the initial design brief and concept plan.

STOP PRESS

7 Dec. John Fitz Gerald and Lesley Harland, as a couple, won both the ACT Volunteer of the Year Award and the Canberra's Choice Award.

Not surprisingly, John said "Lesley and I were both honoured and amazed to win the the awards, especially the Canberra's Choice Award" (which is given on the basis of votes entered by the public). They thanked their nominator and all who voted for them. However, it is not surprising to the rest of us that they won. Well deserved and congratulations. Not only are you winners, but the many organisations you promote (FOG amongst them) also get the recognition.

Going bush, wildflowers, Ettrema Gorge grand canyon, fire, a golden sickle, pure water

Klaus Hueneke

I've spent three days being exposed to a big Aussie bush reality. I saw, and still got a whiff of, the evidence of the lethal coastal fire of 2019/20 that started down near Bega and went right up to the backyards of Moss Vale and Robertson, a distance of perhaps 200 kms. It took out most of the Deua, Budawangs and Morton National Parks including the grand canyon of Ettrema Gorge where I've just been - one of the biggest contiguous south-east forest fires ever.

But in that down-to-earth primal Australian response, I found a rich, almost riotous abundance of flowering plants of all kinds, sizes, shapes and colours. I could not walk without squashing something. Most striking were the Flannel Flowers which to me are the closest thing in Oz to the Edelweiss. There was a widespread waist-high tea tree shrub with purple flowers and a rarer, taller one with white-pink flowers. And yet there was almost no topsoil and no humus. Sometimes the flowers were in the barest of cracks in the ground. It all seemed due to a moisture laden spring and, of course, that nutritious layer of ash.

Fire kills but also begets life. Life begets fire and on it goes.

The nursery here told me the taller one was *Leptospernum rotundifolium* so I got some tube stock for the garden.

Trouble is as I struggled and strafed through a giant spider web of sticks and charred trunks I got charcoal on everything - clothes, pack, legs, hands and even face at times. I became the charcoal man. The ghost who walked.

It's sandstone country, great big slabs and dollops of it, some of it like the chin of Jabba the Hutt, the gangster in Star Wars, but 1000 times bigger. Its weathered, be-lichened surface is great for climbing over, around and into. But slow going if you really want to travel far. Okay for me who likes the detail, the things in the cracks.' That's where the light gets in.'

I found a small overhang where I boiled up, rested, pondered, chanted and spoke to mother earth. I became quite emotional as I spoke into a deep resonating hollow above my head. I told her how sorry I was that we had messed up real bad. I thought I heard a groan and a murmur coming back from deep inside. Or was that the wind.

I enjoyed the height, looking into crowns instead of up. I couldn't see any nests. I heard a brown treecreeper and some lyrebirds in a gully but saw no magpies, currawongs or crows. In the evening a distant jackass cackling. About nine pm an owl that sounded like more-poke, more-poke., more-poke. The smoke from the fire kept the flies and mozzies at bay.

Down below I found a spring with the clearest, purest water in the world. Guaranteed. Two wide-of-girth ferns – an arm's length in diameter - marked the spot. They had survived the fire but not the smaller ones close by. I went back for the bow saw and cleared a fallen tree crown to make it more accessible. Below it I cooled off – very quickly I might add – in a tiled-with-moss cleft a bit bigger than an adult bathtub. There was elemental joy in drinking the bath water.

On the first night out I was up pre-dawn having a leak when lo and behold I saw an upsidedown bright and golden sickle hanging above the still dark western horizon. It was the last of the waning moon being lit by a rising sun that to me was still below the eastern horizon. The birds were wide awake, quite cacophonous. Nature at its most dazzling. A first event for me – I needed Patricia to help me work out what I had seen.

Every so often I thought I was on arid plateaux in Central Australia, in the canyons of the Blue Mountains and in the wildflowers of South-West WA, all at the same time. There was no need to go there, it's all at Ettrema.

I was at The Jumps on the Tolwong Road which comes off the Braidwood Road from Nerriga. It's about 7km in on a good dirt road. It would be 1 ½ hours (120 km) from Jamberoo and is 2 ½ kms from here. We could maybe go there when we meet at Jamberoo at Xmas. Or another time.

I went, in part, as homage to a bushwalk in 1969 with Caroline down into Jones Creek and Ettrema Creek via some steel ladders and much bush bashing and rock scrambling. It was rugged then and is out of the question now. But then one doesn't really need to go that far. Wilderness can be within a stone's throw. I can show you one day……

P.S. Sorry no photos, camera no power, just imagine.

Following up weeding tips

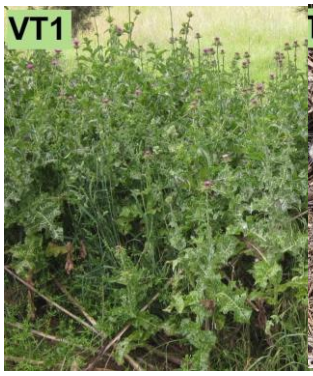
John Fitz Gerald & Margaret Ning

John Fitz Gerald is unable to bring microscope images back to you yet, but he and Margaret Ning have combined to followup on a few topics from the Weeds Forum via Zoom 29 Jul 2021. They have gathered the following items for a picture story with John's camera. They hope they interest you.

1. **Highly invasive grass weeds.** During the Zoom, we reminded people of the risks from Chilean Needle Grass, Serrated Tussock and African Lovegrass. All three of these species were flowering fully in Canberra in mid-November, so please waste no time in controlling any high-priority areas on your lands to reduce the seed set. If possible, take away seed heads. The three accompanying pictures of grasses in flower are labelled CNG, ST and ALG.

2. **Slash then spot spray.** During the zoom, we recommended this approach to deal with some persistent species, with the advantage of lower herbicide use and lower overspray damage. The accompanying image, labelled PA, shows two trimmed tussocks of Phalaris with only the front plant treated with glyphosate and looking convincingly dead.

3. **Daisy flower heads** - should they be removed? From a dense patch of Variegated Thistle, VT1 shows standing plants with abundant flowers; stems were subsequently slashed at ground level and most of the large flowers and buds were taken away. A few heads were deliberately left on site, some attached to the pile of green stems, and some clipped onto the ground. Image VT2 taken one month later in warm wet weather shows some flowers did set seed, and some seed looked dark and full. Cleaning this up was a quite messy process - much easier to bag all heads in the first place.



4. **Egg-leaf or Oblong Spurge**. Some parks and reserves in Canberra have significant areas of flowering Spurge this spring as reported by many sightings on both Canberra Nature Map and iNaturalist. A web search doesn't reveal this species being a particularly invasive problem elsewhere in Australia, but it certainly has become so locally. Each plant produces a group of flowering stems and many hundreds of seeds, so the potential of this species to join the list of transformative weeds is high. Conspicuous yellow Spurge flowers in early October are shown in image OS1 and some green globose seeds capsules are shown in OS2 - capsules contain up to 3 smooth brown seeds 2mm long.

However, take care when working with this plant - see item "Safety alert - Euphorbia plants" elsewhere.

Recent FoG Events

Visit to Ballyhooly

Sat 27 Nov, early morning 14 FOG members and friends assembled at Ballyhooly, a 437 ha property near Bungendore. The ground was very wet due to recent rains and there was discussion about the threatening rain - the weather was extremely overcast. We were met by owners Helga and David who have managed the property for conservation since 2008, and it has had no stock since then. They took this decisions after a visit by Ian Fraser who pointed out the high quality vegetation present and suggested the removal of grazing.

Initially the group passed through a low ridge of spectacular Brittle Gum Dry Forest where the ground storey was dominated by red-anther wallaby grass. The nature of this particular grass is that the ground between its tussocks is often bare allowing other flowering plants to thrive. We saw many examples of fringe-lilies, orchids and pea species. Red-anther wallaby grass is eye catching

Morning tea stop

because of the red (or orange) anthers. For those unfamiliar with grasses and flowering plants more generally, the anther is part of the male reproductive system stamen of a flower. It appears atop the long tube called the filament. It is grainy as it produces and bears the pollen grains. The pollen grains when they transfer to the stigma, the part of the female reproductive system to reach the ovary, allow fertilisation for reproduction to start.

While in the forest, the sudden cries of a loud screeching bird startled one of our number. Turning around he noticed he had almost stepped on a young kookaburra hidden in the grass. The group gave the youngster a wide berth - the parents were nearby and when a young is threatened, they are known to attack humans. Meredith, nevertheless captured its image - a cute fellow!

We then descended into an open grassy-box woodland where the ground vegetation comprised a different suite of native grasses ad forbs. Eye catching was the yellow form of hoary sunrays, many species of daisies and spur velleia. Trigger plants were beginning to flower. As it turned out, the weather was perfect.

Fledgling kookaburra - Meredith

Thank you Helga and David for the latest opportunity to visit your spectacular property, and this time it must have been close to its absolute best.

Update on Budjan Galindji

Budjan Galindji is now the official name of Franklin Grasslands. The name refers to a waterbird, and was suggested by Ngunnawal folk after a sighting of Latham's snipe which visits there annually. Also it has been announced that the landscape plan has been finalised, although FOG understands that the actual layout will take account of suggestions that have been made by FOG. Signs have recently been erected - see poster image. As you will notice, they are already out of date - never mind. The seed gardens are growing with many more plantings now responding well to the rain.

Hot spot visit - Dryandra St woodland

Naarilla Hirsch

I've driven down Dryandra St many times and never realised what a gem I was passing until FOG's visit to Dryandra Woodlands on 30 October. FOG was joined by the Friends of Dryandra Woodlands and the walk was led by Jamie Pittock and Con Boekel.

Orchids have extended their range into road reserve area – I saw the green comb spider orchid (*Caladenia sp aff tentaculata*) and the tiger orchid (*Diuris sulphurea*). Lilies included Bulbines and the small vanilla lily (*Arthropodium minus*). There were lovely displays of *Dianella revoluta,*

Stylidium graminifolium, Xerochrysum viscosum, and various pea flowers, and *Leptospermum* in the understorey. On the way out I enjoyed some more open areas of *Austrostipa* and *Austrodanthonia* along with the wildflowers.

(L_R) Green comb spider orchid (Caladenia sp aff tentaculata), Dianella revoluta, Goodenia hederacea & Anthropodium minus

Walking along the track, the work being done by the Friends group to control erosion was evident. At the end of the track we came to the site of the old Parks depot, which is the focus of considerable restoration work by the group. While the area around the little pond on the drainage is still quite bare, some *Juncus remotifolius* plants were starting to colonise the water's edge and we heard a frog calling from the pond. Further on we could see plantings to rehabilitate the depot site itself. Species in these plantings are restricted to three Eucalyptus

species, no mid-storey plants and local ground-storey species due to bushfire management requirements (the woodland is on the western side of the suburb). As well as the usual problem with weeds and rabbits, another issue the Friends group is managing is the use of the area by mountain bikes.

Unfortunately I was unable to do the last part of the walk to the other end of the woodland – a treat for a later date.

Ginninderry scrape monitoring

18 Oct. Six members of Friends of Grasslands joined three Ginninderry Conservation Trust project officers to monitor the revegetating 'scrape and sow' area where 24 native grass and forb species had been sown in April 2020. We had nice weather and it was dry. We found around 20 of the native species sown, as well as some that had not been sown. Sadly though, there were about 25 exotic species, despite the staff's best efforts at weeding. *Leucochrysum albicans* and *Rhodanthe anthemoides* were flowering, but it was a little too early for most of the others. The bands of jute matting placed on the scrape initially, have successfully minimised rapid water runoff.

In addition to the two monitoring plots inside the fenced scrape, we added a 400 square metre plot in the paddock vegetation outside the scrape, essentially to become a control for the project's scraped and sown plots. Our monitoring took around five hours, including our lunch break. At the end of it, as a reward, we were treated to a drive through the conservation area with views over the Murrumbidgee, and sightings of cascading Rock Bulbine (*Bulbine glauca*) and Australian anchor plant (*Discaria pubescens*). The finale was a stop-off in a rocky area, where Rachel showed us two Pink-tailed Worm-lizards.

FOG thanks the Ginninderry Conservation Trust for the generous donation it has made to FOG. This will be used to support one or more of FOG's projects.

Monitoring at Ginninderry Scape – photo Sarah Hnatiuk

Gossan Hill Nature Reserve

Rainer Rehwinkel

16 Oct. FOG held its first post-lockdown outing at Gossan Hill Nature Reserve.

Highlights of the trip included the various orchids (Diuris, Glossodia and Caladenia species), Silky Parrot-peas *(Dillwynia sericea)*, and a patch of Hoary Sunrays *(Leucochrysum albicans)* that opened up with a yellow blush. Additionally, there were Kangaroo-apples *(Solanum linearifolium)*, Murrnong *(Microseris walteri)*, Nodding Blue Lilies *(Stypandra glauca)* and a couple of lingering Birch Pomaderris *(Pomaderris betulina)*.

Gossan Hill is dominated by Dry Sclerophyll Forest, similar to that at Black Mountain and Aranda Bushland, with Scribbly Gum *(Eucalyptus rossii)* and Red Stringybark *(E. macrorrhyncha)* the most common tree species on the ridgetops. There are some large Yellow Box (*E. melliodora)* and Blakely's Red Gum *(E. blakelyi)* on the lower slopes.

A large part of the reserve's higher ground is clear of trees, and here is found the "gossan", the iron-rich rocks, that the reserve is named for.

Photo - Andy Russel

Mt Fairy Buttercup Doubletails in profusion!

Margaret Ning

On Monday 1 November, a small FOG hot spot group of five travelled to Mt Fairy for our third visit to the site in six years. On the first visit in 2015, we were wowed by its diversity, which included four Diuris species, of which the most special was a population of Buttercup Doubletail, *Diuris aequalis.* The site is 850m above sea level at its highest point.

This season, the owners, Anne and Owen, contacted FOG to say that DPIE had just been out to the property to tag a handful of orchids for monitoring (now in protective stainless steel enclosures,) and a total of 210 orchids were recorded. A few more have flowered since that visit!! Amazing.

The exclosure cages are essentially there to monitor the impact of herbivory. DPIE has found that quite a proportion of the orchids get eaten (by kangaroos, wallabies, wombats) and that fenced protection is a great way to keep them safe while they are in flower.

Photos by Brigitta

Scottsdale Monitoring 2021

Linda Spinaze

FOG has been sending a group of volunteers to monitor at Scottsdale since 2008. This year, due to rain, we had to postpone our scheduled day, but luckily we chose a perfect day (16 Nov) as a replacement a week or so later. This year the monitoring team consisted of Margaret Ning, Geoff Robertson, Sarah Hnatiuk, Andrew Zelnik, Brigitta Wimmer, Jenny Horsfield, Terrylea Reynolds, Tim Collins, Rhodanthe Collins and Linda Spinaze.

We started the day with a welcome and information session from Phil (Scottsdale manager) and Brett (Scottsdale ecologist). They explained that the various methods of controlling African Lovegrass on Scottsdale were finally seeing some success, and although ALG is still very much in evidence, there are no longer huge, thick paddocks of it. Various methods of control have been used, including differing spray regimes, the most successful of which has been the low-concentration flupropanate which is tolerated by the native forbs. Other methods have been scrape-and-sow, and they are now using more slashing to reduce the amount of spraying.

We discussed the reasons for Bush Heritage's decision to purchase Scottsdale 15 years ago. Geoff explained that at the time BH wanted to select a natural temperate grassland property that needed restoring. Its choice led to the formation of Kosciuszko to Coast and helped form the concept of a large property linking the mountains to coastal areas, encouraging the establishment of corridors to allow natural migration of species during climate change. Additionally at that time most Bush Heritage properties were distant from large population hubs, and a more accessible flag-ship was good for promotion. And more interestingly, the decision to buy a property with a large part infested with ALG was an opportunity to scientifically develop methods of control on a large scale.

Phil mentioned the problems of feral animals (pigs and deers mainly) but the team were thrilled to discover 2 koalas recently on the property. Apparently koalas are relatively common on the eastern side of the Monaro Highway, but not on the western side, for no clear reason

Scottsdale is a busy property, with many volunteers registering on a daily basis. Some volunteers on the day we were there, were spraying, others were looking after the nursery, and others were doing other jobs that I didn't ask about!

However, now to report on our work there on 16 Nov. Brett, the Scottsdale ecologist, has devised a new monitoring program since FOG has now completed 4 years monitoring the effects of aerial spraying on ALG near the front entrance.

The monitoring that we undertook this time was aimed at locating exactly where on the property the high/low value areas are, so that management decisions can be made with better information.

This year, we examined 6 plots, 50m x 20m. We had to find and identify all species of plants (weeds included) , and after we had found as many species as we thought we could find, we worked out the abundance of each species. This is a bit tricky for inexperienced folk, but we had Marg and Tim who are more experienced in this to help our two groups. The plots were spread along the eastern portion of Scottsdale, and were varied in vegetation, although there were some species common to all of them. After we had finished, we were able to drive through beautiful grassy woodlands with views of the mountains to the west, before heading back to the shearing shed.

On the way back we passed the scraped patch where the earth had been removed by huge machinery by 4cm more than 5 years ago, and re-seeded with local native forbs and grasses. Some of the forbs have done so well that they have now "escaped" from the patch and were colonising the bank outside the enclosure. Although this is a successful way of re-vegetating weedy areas, it is hugely expensive and not practical for large areas, so Scottsdale has not repeated the experiment. Nevertheless, they are very happy with the escapees!

Thanks to everyone who contributed to the day, especially Brett and Phil who made us feel so welcome. We enjoyed a scrumptious lunch, courtesy of Scottsdale. We hope that next year is similarly successful.

Photos by Andrew and Linda.

Top Hut Saturdays 30 Oct & 4 Dec

FOG organised two successful work parties at Top Hut Travelling Stock Reserve, Dry Plain, since our last issue. FOG has a five year lease on the reserve and is responsible for its maintenance. This is one of the best natural temperate grassland remnants on the Monaro, and appears on the cover of *Grassland Flora*.

On 30 Oct, five of the eleven volunteers repaired an approximate 15m gap in the northern fence in the north portion of the TSR. Our fencing team did a great job. The remainder undertook weeding in the southern portion of the TSR. It was one of those rare occasions at Top Hut when the weather was perfect, so that was enjoyed by all.

Andrew Z, as usual with camera in hand has provided us with before, during and after images of the fencing. However, the highlight for Andrew was this little fellow in the last image - yes amongst the TSR's many treasures is Osborne's grassland earless dragon.

On 4 Dec, seven volunteers found their way to Top Hut and while it was meant to be a leisurely day the team really got stuck into removing many weeds mostly by removing seed heads and pulling out plants given that recent rains had made that easy.

Jamie Pittock posted on facebook "Spent the day as President of Friends of Grasslands with a crack team weeding a gorgeous 15 ha remnant in full bloom near Adaminaby. This grassland travelling stock reserve is such important habitat that FOG has leased it from the NSW Government (tax deductible donations please via http://www.fog.org.au/donations.htm). Many more TSRs that are home to threatened biodiversity need similar0 conservation care if species like the Monaro Golden Daisy, pictured, are to survive."

His images shown here; Geoff and Libby with bags of seed heads, some of the amazing flowering that was all around us, and a nearby roadside stop to see Monaro Golden Daisy.

News Roundup

Barton Highway update

In late September FOG announced that it supported the Onerwal Land Council, Ginninderra Catchment Group and Yass Area Network of landcare groups (YAN) in calling for a review of the proposed Barton Highway alignment from the ACT border towards Murrumbateman, a distance of about 8km.

Under threat are Aboriginal heritage sites and remnant Box Gum Grassy Woodland. A significant area of critically endangered woodland would be destroyed in and around the Hall TSR and at other roadside places along the highway. Members of each of the organisations mentioned, concerned about aspects of the highway duplication, formed a group to lobby for alternative options. This group contacted the Barton Highway Upgrade Alliance in May 2021 and has since passed on comments, objections and alternative plans.

A Canberra Times article by Toby Vue (July 25, page 2) shows Wally Bell and John Connelly next to a cultural ring tree alongside Hall TSR. They and others present at the inspection, including Ken Hodgkinson, Sandy Lolicato, Sonya Duus (YAN's coordinator), Bob Richardson (local Hall resident) and John Fitz Gerald briefed the media.

A petition is one of the actions arising from the campaign. FOG has urged its members to sign the petition put online by Ginninderra Catchment Group, and to spread its message - readers can still do so. The petition may be found here.

According to John Connelly, "lobbying efforts to get changes made to the road alignment have been very hard work. At our very first meeting they stated 'we can make no changes to the road design'. However persistence may have paid off with some indication that they may be prepared to make changes. The involvement of the EDO and reports from a respected Aboriginal Archaeological consultant probably made the difference.

As of 29 Nov 2021 the Barton Highway Upgrade Alliance has agreed to temporarily suspend work so that further negotiations can take place. The lobby group is hoping that changes can be made to the road alignment to preserve the Aboriginal Heritage trees and to avoid clearing of remnant vegetation." For further inquiries and information readers may contact John at percyconnelly@yahoo.com.

Boot scrub stations

ACT Parks has installed boot scrub stations at some popular entrances to Namadgi National Park for walkers to clean their boots before entering the park. It is a reminder that walking shoes can potentially carry seeds and pathogens into the park. Walkers are being urged "If you come across one, make sure to do the Namadgi shuffle: twist, shade, slide and scrub your shoes clean. You'll be doing your native plants a huge favour." Most of the cleaning is done by the stiff brush fixed onto the grille in the ground and the dirt and any seeds hopefully drop into a container underneath it.

Walkers will find boot scrape stations at the Trail heads to Stockyard Spur, Square Rock, Gibraltar Falls, Mount Tennant, Booroomba Rock, Legoland and Settler Tracks.

Steve Taylor was interviewed on ABC radio on 27 Nov and provided further background. He stated that the scrapes will assist to stop seeds of highly invasive species such as ALG, CNG and SJW from being carried out of Canberra suburbs into Namadgi, particularly areas recovering after fire. The choice of the seven tracks was of those which had remote and single entry points (trailheads). Many other trails had multiple places for people to join their route. However, it wasn't practical to put out multiple scrub stations. The scrapes align Namadgi with adjoining Alpine National Parks.

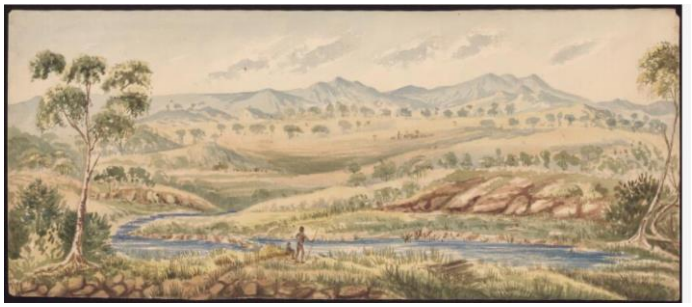
Canberra by Robert Hoddle

Robert Hoddle (1794-1881), a surveyor and artist, arrived in NSW in 1828 and was appointed assistant surveyor under Surveyor-General John Oxley, worked for 12 years in what was later Queensland, and then NSW, where he surveyed the sites of future towns like Berrima,

Goulburn and Nelligen as well as Bell's Line of Road in the Blue Mountains. He is best known as the surveyor general of the Port Phillip District (Victoria) 1837-53 and is most famously known for the plan of Melbourne (the Hoddle Grid). He was also an accomplished artist and depicted scenes of the Port Phillip region and New South Wales.

Hoddle was one of the earliest-known European artists to depict views of what would become Canberra about 1832, where he extensively surveyed.

Images: Ginninginderry Plains (Ginninderry) (https://nla.gov.au/nla.obj-137038759/view). Second image also Ginninderry (https://nla.gov.au/nla.obj-135214961/view). The final, a view from Limestone Hill called Campbell's Hill - presumably Mount Majura (https://nla.gov.au/nla.obj-136984548/view).



Online session on "Native grasslands" by Colin Seis.

This is short write up of Colin's talk presented Wed 13 Oct 2021 to the monthly Bellarine Landcare Group meeting with online visitors from FOG, Upper Barwon Landcare Network and Connecting Country (Castlemaine and area Landcare). Reprinted from the Oct-Nov 2021 issue of the Grasslands Interest Group, Bellarine Landcare Group. Readers will learn much by using the links.

Colin Seis is a sheep farmer in Winona, NSW. Colin helped pioneer a system of farming called pasture cropping, by which a cash crop, often a cereal, is no-till drilled into a perennial warm season pasture, when the pasture is in its dormant phase. The cereal crop emerges and grows, and then as temperatures rise, can be cropped, allowing the warm season perennials to regenerate, providing a living understorey. Colin then grazes the warm season pasture, getting two crops from the same acre, fostering diversity and a carbon rich underground.

From a conventional farming background with heavy use of superphosphate, Colin's journey to pasture cropping began with a disaster, when a bushfire destroyed nearly the entire farm. Faced with bankruptcy, he couldn't afford herbicides or fertilisers, and so explored ways of bringing back native grasses in abundance. These grasses kept wanting to come back anyway. Over time Colin and a neighbour evolved and refined his system of pasture cropping.

Despite cynics, scientists and researchers who were more interested in proving that this wouldn't work, a few people, such as Dr Christine Jones (Soil science), understood and supported what Colin was trying to achieve. His website (winona.net.au) has more information on his property. 'Soils for life' has 2 case studies, ' Winona: A case study in resilience 'at: soilsforlife.org.au/case-studies/.

At the BLG online forum, Colin shared his journey with an emphasis on native grasslands. A copy of Colin's presentation is available – contact Sophie if you would like a copy.

Here is the link to the recording of the session: You'll need the passcode which is: F^cM#k68.

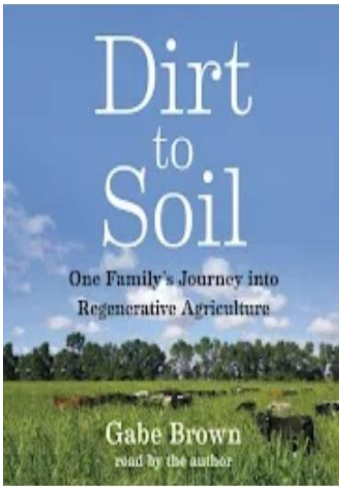
Cool cultural burns - Sue Ross

In an ABC *Off Track* podcast Ann Jones, program host, and Joshua Hodges, fire ecologist, volunteer firefighter and former Canberran, discuss the multiple and varied benefits of cultural burns on critically endangered temperate grasslands https://www.abc.net.au/radionational/programs/offtrack/fire-ecology-joshua-hodges/13623372. These benefits include improved germination, species diversity, biomass removal, and asset risk management as well as the resulting spiritual and community building. Joshua's studies contribute to his PhD thesis, being finalised, on the essential nature of fire and fire cues (smoke) on revegetation/regeneration. They also discuss various other aspects of grasslands 'importance such as carbon sinks.

A book on regenerative agriculture

For those interested in finding out more, this book is a good read. It describes Gabe Brown family's journey into regenerative agriculture. Colin Seis's story is one of the case studies given in the book.

After a sequence of crop failures, Gabe Brown started making changes to the way he farmed, resulting in a range of innovative solutions that transforms lifeless dirt into healthy topsoil, restores the health of ecosystems, and still makes a profit from a family farm.



The book illustrates what can be achieved by following sound ecological principles and using common sense and imagination.

Lawson Grasslands

Following Defence Housing Australia's renewed housing estate proposal at Lawson north, the Conservation Council, FOG and Ginninderra Catchment Group released a briefing paper and made a submission urging DHA to withdraw the proposal. Helen Oakey (Executive Director, ConCouncil) and Professor Jamie Pittock (President, FOG) were both interviewed on ABC radio to explain the ecological values of Lawson north and to question why DHA needs such a large estate when it only proposes to house 150 defence families at Lawson.

While the new proposal reduces the footprint and number of houses (down from 570 to 416 dwellings), the area of natural temperate grasslands (and habitat for threatened grassland species) to go, remains unchanged. The development breaks the connectivity between the western and eastern edges of the grasslands, and creates an extensive and unacceptable border that impacts on the remainder of the grasslands (also see June 2020 proposal). DHA ran a limited "have your say", to which a number of people made submissions opposing the development.

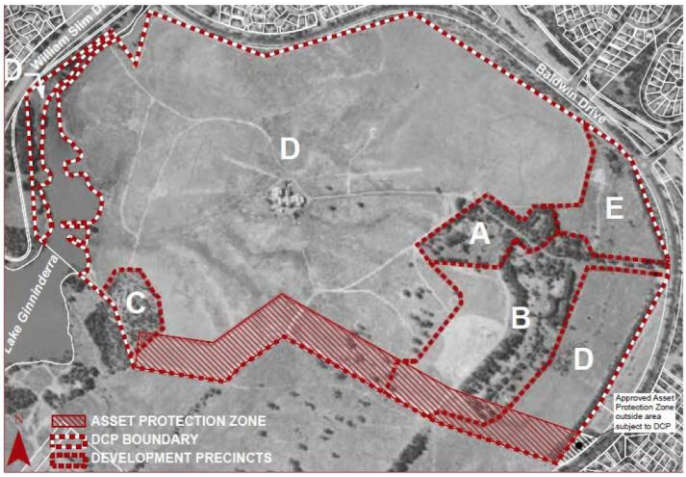
The Master Plan for Lawson North. Image: DHA.

Fig 1 shows the DHA 2020 proposal and Fig 2 the DHA 2021 proposal. Fig 3 shows National Capital Authority, Development Control Plan (Published Feb 2013) stating that areas A & B could be purposed residential, while the remainder should be retained for nature and cultural conservation.

Revised master plan 2021

You may still support the ConCouncil of the ACT's campaign to reserve Lawson grassland.

The next step for DHA is to seek Department of Environment approval under the Environment Protection and Biodiversity Conservation Act. The Department will allow for a ten working day period for submissions. FOG will alert its members when that occurs.



Visit to Monash Grasslands - Janet Russell

The Southern ACT Catchment Group (SACTCG) applied for and has been granted one of FOG's grassy ecosystems 'grants recently. Andrew Zelnik and I went to meet two members of the group, Correa Driscoll and Fiona Spier who showed us over the site. The Group is using the grant money to design and install a sign to explain to the local community and other interested residents from the broader Southern Canberra area, what Natural Temperate Grassland is, and why these rare grasslands are important.

The grassland, which is north of Isabella Pond, is a small high-quality grassland dominated by *Themeda triandra*, Kangaroo Grass. As we approached from the road, the

rusty gold sward of spent Kangaroo Grass dominated the view. As the land sloped away and the party made their way through the grasslands the weedier disturbed areas to the south were revealed. These are challenging areas and will need some serious attention when the weather conditions are right.

An initial foray by Andrew revealed several forbs, including *Wahlenbergia luteola*, Yellowish Bluebell, *Eryngium ovinum*, Blue Devil, *Convolvulus angustissimus* subsp. *angustissimus*, Australian Bindweed, *Leptorhynchos squamatus*, Scaly Buttons, and many *Stackhousia monogyna*, Creamy Candles. There were also two sub-shrubs, *Cryptandra amara*, Bitter Cryptandra, and *Pultenaea procumbens* found.

If you are interested in visiting the site or are local, currently on Canberra Nature Map, the area is shown as part of Isabella Pond. You can see the number of sightings there are of all species in the area (613 have been recorded with 361 photographs). It is a biodiversity hot spot.

Thanks to Andrew for help with the photo and identification of the species listed. The site was too steep and uneven for me to negotiate.

Safety alert - Euphorbia plants

The ACT govt (TCCS) has issued a Health and safety advisory on euphorbia plants. Commonly known as spurges and milkweed) they are common garden plants that are becoming more frequent on roadsides, reserves, and other open space areas in the ACT. Euphorbia has a white milky sap that causes skin irritation and caustic effects when it comes into the contact with the skin. In contact with mucous membranes (eyes, nose, mouth), the milky sap can produce extremely painful inflammation. Exposure to recently cut plants can also cause breathing difficulties. Hence special care is needed if weeding, mowing, slashing, etc. Additional information can be obtained via the Safety and Wellbeing team on TCCS.Safety@act.com.au or 6207 9059.

South East LLS NRM Plan workshops - Geoff Robertson

Recently I attended a South East LLS NRM Plan workshop. It was one of six workshops organised in "local areas", including Palerang, Goulburn, Yass, Monaro, South Coast and Far South Coast. Following the workshops, SE LLS has produced a draft plan and asked participants for comment. It was keen to have community input into the process. The South East priority regional themes and actions of the report are collaboration, connectivity, biosecurity, ground cover and aquatic assets. The themes and actions are tabulated for each area. Finally there is a section on NRM customers.

I participated to ensure that the NRM plan reflected the values and actions that I consider important. Unlike many documents, there is an assumption that terms (such as NRM, NRM framework and connectivity) are understood by readers. I found this somewhat troublesome, but on closer inspection I found all the items that I thought should be in such a plan were mentioned. I was happy to find solid references to "grasslands", "Aboriginal cultural values in the landscape", "biodiversity", "community engagement and management", "vegetation communities" and so on. I was very pleased to see the statement "Support to community groups implementing projects, encouraging neighbours to work together for shared outcomes, encouraging community initiatives to collect information on the condition of local environments, including on TSRs (such as landholder monitoring of biodiversity values, pest animals, weeds and other threats)". So I conclude that the values and actions dear to us, concerned with biodiversity and aboriginal values" are well understood.

Groups that manage land for conservation are currently included in "landcare and Bushcare and other community groups" within the broader heading of "hobby farmers". Maybe in the next iteration of the plan, assuming this sector has grown, they will earn greater recognition.

If anyone would like to find out more, you may contact marien.stark@lls.nsw.gov.au.

Murderer was the real victim? Geoff Robertson

In an edited extract from her book (SMH, 28 May 2021), Kate Holden asks the question "An environmental worker was shot dead: so why do locals say the murderer was the real victim? This is the story of the shooting of an environment officer by a landowner who'd repeatedly – and illegally – cleared his properties,

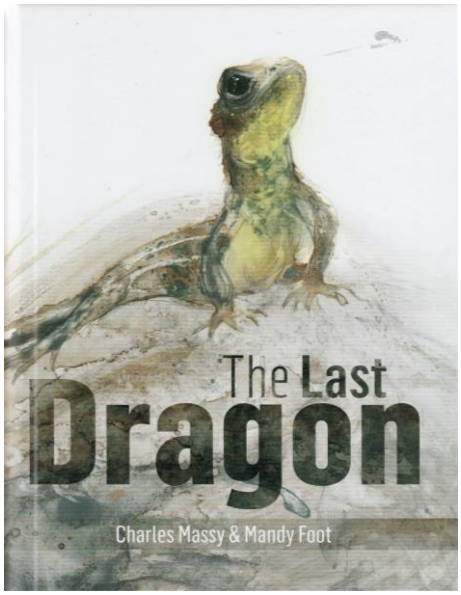
underlining the often bitter gulf between rural development and wildlife preservation." The event took place in July 2014 in NSW when Glen Turner, an OEH Officer, was shot and killed by Ian Turnbull. The extract is from *The Winter Road: A Story of Legacy, Land and a Killing at Croppa Creek* (Black Inc., $33).

When I read the extract, which may be found here, I was reminded of this horrific story of the killing of a conscientious OEH officer attempting to enforce vegetation clearing laws. Not only is the incident deeply disturbing, but it shows the depth of feeling of some in the community who oppose land clearing law enforcement. The incident also led to a retreat of law enforcement on land clearing. It is good that Kate Holden reminds us of this event and of the many brave people who take risks attempting to protect nature.

The Last Dragon by Charlie Massy

Beneath the western mountains, on the open plains of the high Monaro where the skies are blue and big, there lived a little dragon lizard. Timpo is the smartest, best-disguised lizard in Narrawallee, the Big Grass Country. Wolfie the spider is his good friend, and they embark on a journey to discover if Timpo is indeed the last dragon left in the valley.

The Last Dragon is illustrated by Mandy Foot and is written by prominent agricultural and conservation figure Charles Massy. This is his first children's book. He drew inspiration for the story from his own backyard – Severn Park is home to a population of Monaro



Grassland Earless Dragons. At the end of the book Charlie has put material about the dragons' biology and also some interesting info by Keith Hancock on how grazing destroyed Monaro grasslands in only one to two decades.

The publishers say it's suitable for ages 4+, but we believe it will be enjoyed by all ages. It is available at Dymocks, the National Library bookshop (either in-person or online at https://bookshop.nla.gov.au) or at all good bookshops. RRP $19.99.

Kosciuszko Wild Horse Management Plan

The 2021 Kosciuszko National Park Wild Horse Heritage Management Plan has been finalised and was released on 12 Nov. According to Reclaim Kosci,

> "4,066 public submissions were reviewed and the plan finalised within just three weeks - a testament to what is achievable within Government with the right resources.
>
> Today's result is a step forwards for the campaign and for Kosciuszko.
>
> The final plan is largely the same as the draft plan, with a few minor changes, including the expansion of the horse removal zones to protect the Cooleman and Yarrangobilly limestone areas.
>
> We remain deeply disappointed regarding the retention of feral horses in one third of the park. This locks in damage to the Byadbo and Pilot wilderness areas in the park's south, threats to the Jagungal wilderness area, wetlands such as the vast Currango peat wetlands in the north and critical habitat of threatened species such as the northern corroboree frog, stocky galaxias and the lovable broad-toothed rat.
>
> However, the new plan will reduce the horse population from ~14,000 to 3,000 over just five years. Given the slow removal rates over the past 20 years, if achieved, this would be a significant improvement for horse control in the park.
>
> To help achieve these aspirations, the new plan equips the NSW National Parks and Wildlife Service (NPWS) with new tools to manage feral horses, including ground shooting."

You can read the final plan here, as well as a summary of the public responses. And our media release here.

We in FOG consider this assessment is spot on. A major step forward has been achieved, but the outcome is far less than desirable. FOG's submission may be found at FOG horse submission, and a summary appears in Naarilla's Advocacy report in this newsletter.

We also consider that June Wilkinson's appearance on Landline (see pp 18 & 19 of previous newsletter issue) and the work that she and others did to lobby for early release of the plan was an important element in getting the long withheld draft plan released for comment.

Hand lenses available

FOG has purchased a small quantity of 10X hand lenses which of course are wonderful for magnifying the tiny plants and flowers we come across on our travels.

If you are interested in purchasing one for $10, pls let me know. I assume I can link up conveniently with purchasers to hand them over, as the price does not include a delivery fee. Contact: margaretning1@gmail.com

Donations

FOG makes small grants to researchers, educators and on-ground projects such as FoG's TSR Project. You can make a tax-deductible donation to the FOG Public Fund:

Direct debit: BSB 633 000, A/c 15343960 (Bendigo Bank). Please include your name and advise our Treasurer treasurer@fog.org.au

Or Cheque: payable to 'Friends of Grasslands Public Fund', mailed to Treasurer, Friends of Grasslands Inc., PO Box 440, Jamison Centre, ACT 2614. Include your name and postal address.

Note: if you would like your donation to go to the TSR project please indicate this when you make your donation. A receipt for tax purposes will be sent to you.

Contact us

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Membership to join or renew, inquiries: membership@fog.org.au

Events & work parties: Calendar. To attend an event, register with event organiser.

Book sales: Order forms: Grassland & Woodland Floras. Inquiries: booksales@fog.org.au.

Small grassy ecosystem grants: Latest on grants. Inquiries: supportedprojects@fog.org.au

News of Friends of Grasslands: Latest & past issues. To submit articles & news items newsletter@fog.org.au

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