



News of Friends of Grasslands

Supporting native grassy ecosystems

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January & February 2024

Activities

Work Parties

Sat 7 Jan 9-12:30pm Gurubung
Dhaura / Attunga Point
Sat 17 Feb 9-12:30pm Scrivener's
hut. Register: [Jamie Pittock](#)

Activities

Late January: Tasmanian
Grasslands. Contact:
margaret.ning@fog.org.au

Snakes Alive: Mon 8 to Sun 14 Jan

*Join us for live displays, feeding
and handling of snakes, lizards,
frogs, turtles and more this
summer. Choose your two hour
session and book online [Snakes
Alive! | Australian National
Botanic Gardens](#)
(parksaustralia.gov.au).
Airconditioned comfort!*

From the President ...

Will 2024 be the year of grasslands?

I start with heartfelt thanks to all the members who have volunteered to lead events, run work parties, helped with our communications, served on our Committee, wrote submissions, gave donations and contributed in other ways to Friends of Grasslands' work in 2023. The myriad of activities that our organisation undertakes is truly impressive and relies on you. Thank you for your contributions.

FOG has had considerable successes during 2023. Among others, our advocacy has helped nudge the ACT Government to: adopt a planning system that may better protect remnant habitat, rejuvenate the weed management program, and identify corridors across Canberra to restore and link remnant habitat.

Now, 2024 looks like being a crucial year for the conservation of grassy ecosystems in south eastern Australia. Among the issues and opportunities arising:

- **New South Wales:**

A change of government in 2023 brings commitments to new biodiversity measures. On the 24th August 2023, Minister for the Environment Penny Sharpe said that "The Minns Government will [...] deliver on our election commitments to fix the Biodiversity Offset Scheme, strengthen environmental protections and stop runaway land clearing." Delivering on these promises in 2024 will require a particular focus on grassy ecosystems as they are among the most neglected and hardest to conserve biota in the state.

In mid-2024, FOG will hold a workshop with government and non-government organisations to identify lessons learnt from past and current proactive grassy ecosystem conservation programs in the South East Highlands bioregion. We aim to identify opportunities to accelerate conservation outcomes. Interested FOG members should contact me to discuss participation.

- **Australian Capital Territory:**

Having made big policy commitments last year to protect remnants habitats, and restore and link them, this year is the time to deliver on ground conservation. The inexplicable reluctance of the government to formally reserve key remnants of grassy ecosystems by expanding Canberra Nature Park needs to be addressed to protect sites like the Limestone Avenue grassland. A Territory election due by October 2024 is an opportunity for our political leaders to demonstrate their commitments to biodiversity conservation.

- **The Commonwealth Government:**

Commonwealth Minister for the Environment, Tanya Plibersek, has made some big promises. The government adopted the Convention on Biological Diversity's Global Biodiversity Framework that has a target of conserving 30% of representation areas of ecosystems by 2030, and restoring a further 30% of their area. The Minister has also committed to preventing species extinctions. Significant action is required in 2024 if these important objectives are to be achieved in grassy ecosystems in the SE Highlands Bioregion in the ACT and NSW.

Minister Plibersek can demonstrate serious intent in 2024 by rejecting two proposed developments that would significantly degrade grasslands biota in Canberra. She has the opportunity to reject the old, flawed approval for Canberra Airport Group's proposed northern road, that would bisect one of the last populations of the critically endangered Canberra Grassland Earless Dragon. She can also reject Defence Housing Australia's proposal to develop residences on one of the best remaining habitats at North Lawson.

More systematically, implementation of the new Nature Repair Act will begin. If successful, this could potentially channel funds to conserve threatened biota, including grassy ecosystems. Further, the Minister intends to reform federal environmental laws to regulate developments that impact nationally significant flora and fauna, and to foster conservation programs. These laws are crucial for conserving grassy ecosystems. Consequently, in 2024 Friends of Grasslands' work will be crucial to advancing the conservation of grassy ecosystems. Please consider if you have a friend or family member who would like to join our efforts. And again, thank you for your support for our mission.

Finally, FOG's Annual General Meeting is scheduled for March. Please discuss with me if you would be willing and able to contribute to our Committee. At the AGM, amendments to our constitution will be considered to bring us in line with the ACT Government's newly recommended model rules for community organisations.

See you in our grasslands!

Jamie Pittock, President, 0407 265 131

ACT kangaroo management plan review

Sarah Sharp

Currently Professor Sarah Legge, (Wildlife Conservation) Charles Darwin University, who has close links with the ANU and University of Queensland and who is a biodiversity councillor, is conducting a review, at the request of the ACT Conservator, to prepare an independent scientific review of the Plan, as required under the Nature Conservation Act. She is obtaining input from stakeholders and in December held a series of consultations, one of which Michael Mulvaney and Geoff Robertson attended on Monday 4 December.

Prior to the meeting she circulated a number of probing questions. Those who attended the particular consultation were generally well known to each other and felt relaxed to express their views freely. The consultation began with a round table in which each attendee gave their perspective. A common concern was the organised opposition to the cull by people who lacked an understanding of its importance for ecological and humane reasons.

Those at the consultation supported the cull, its scientific basis, its process, its method of estimating kangaroo numbers and population growth, its ongoing monitoring, its adaptive management, research priorities, effectiveness, and so on. However, they believed that those organising the cull, instead of acting secretly, should make greater efforts to explain the plan to community volunteers involved in the management of Canberra nature reserves and to the community more generally. This would assist to keep the general community support for the cull high. Those who attended the meeting were very impressed by the way Sarah conducted the meeting and the exchange of views that it facilitated. For readers not familiar with this subject, the cull is conducted for sound ecological and humane reasons and is conducted humanely. Currently, fertility trialling is taking place so that cull numbers may be reduced.

Advocacy report

Sarah Sharp

Submissions

Draft National Recovery Plan for Four Grassland Earless Dragons (Tympanocryptis spp.) of Southeast Australia: The need for action plans for each of the four Tympanocryptis species was stressed, together with provision of adequate resources to undertake actions and reports of progress to be provided to stakeholders, land owners and community.

Key values for Namadgi National Park Management Plan: The request was to identify the three most important, significant, unique and irreplaceable values. These were biodiversity, natural landforms and landscape and first Nations connection to Country.

Macnamara Estate Stage 2, DA 202342111: The proposed residential development raises no concerns for us about loss of grassy ecosystems or mature habitat trees. We recommended that opportunities be taken to enhance the natural woodland environment that once existed across the landscape through plantings where appropriate.

Sullivans Creek re-naturalisation plan: The naturalisation plan was supported, through the application of Water Sensitive Urban Design principles, in the built up areas. Outside the built up areas we urge full consideration of rehabilitation with natural ecosystem elements to ensure they are compatible with a biodiversity network.

Draft Amendment 96, Changes to the Monaro Highway Alignment: Concern was expressed that while the first DA was supported in 2020, the amendments in this proposal will involve loss of grassy woodland, potential habitat for threatened species, loss of mature native trees and increase fragmentation. The nomination for heritage listing for Travelling Stock Reserves includes one in Hume that may potentially be impacted. These matters were not addressed adequately in the DA. We recommended that the DA be revised to reduce or remove those impacts, or at least ensure that mitigation measures are put in place to reduce impact, including no entry to the TSR and a draft plan for the mitigation measures be circulated for comment to key stakeholders.

Have your say on Agriculture, Land and Emissions Discussion Paper (Commonwealth): Although reference is made to 'Biodiversity as part of the solution', both the Paper and the Australian Government's current Australian Carbon Credit Unit Scheme are too carbon-focussed, at the expense of biodiversity. Reference is made to promote afforestation, but this is not appropriate in places where the natural landscape is grassland or open woodland. We stressed that better outcomes overall, including carbon outcomes, would be achieved by giving greater consideration of landscape-scale, ecologically-informed land management on both farm and non-farm land. Finalised submissions are available from advocacy@fog.org.au.

Other advocacy issues

- *Inquiry into the Territory Plan and associated documents, December 2023:* FOG attended the hearing. The submission will be available shortly and placed on the website.
- *Biodiversity Network:* a government/community working group has been established to further the elements of the network: protection and ecological management across all tenures.
- *Canberra Northern Road:* a Conservation Council/FOG group is continuing to advocate against fragmentation of the population of Grassland Earless Dragon.
- *ACT Elections, 2024:* FOG and other groups through the Biodiversity Working Group are collating issues in preparation for the election. Input from FOG members is invited (advocacy@fog.org.au).

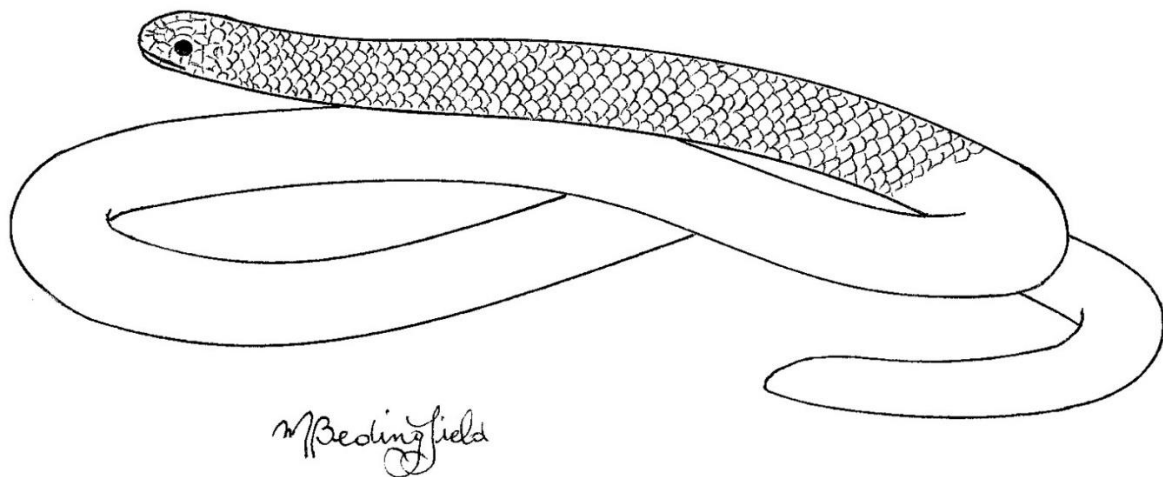
Pink-tailed Worm-lizard

A legless lizard with a secretive underground life-style

Michael Bedingfield

The Pink-tailed Worm-lizard is very rare and is a declared vulnerable species, belonging to the family Pygopodidae. Like others in the family it lacks the forelimbs of other lizards and its hind limbs have been reduced to small inconspicuous stunted flaps. It is also called the Pink-tailed Legless Lizard and has the scientific name of *Aprasia parapulchella*. The colouring on the upper side of the body is mostly grey, grey-brown or brown. The head and nape are dark brown to

black. The underside is whitish and the tail varies from pink to reddish-brown, giving it a worm-like appearance. It is quite small and slender, the head is blunt, the tail is rounded and it has no external ear openings. The references give different measures for the maximum length, nearly half of which is the tail. The ACT government's Action Plan describes it as being up to about 24 cm. It is listed as vulnerable in the ACT, NSW and nationally.



The members of the family Pygopodidae are called Pygopodids, which means “flap-footed”. This refers to the inconspicuous scaly hind legs which are located adjacent to the vent. Members of this family occur only in Australia and New Guinea and are called legless lizards. There are a number of qualities that are present for all the legless lizards. The tongue is broad, not forked like a snake, and is a key feature that distinguishes a Pink-tailed Worm-lizard from a baby snake. It lays eggs, usually two to a clutch. The body looks quite uniform to the casual observer so the tail refers to that part of the body behind the inconspicuous flaps and vent. In many species the tail is much longer than the head and body combined. Like geckoes and many skinks, these animals are able to shed part of their tail as a defensive strategy. They also shed their scaly skin as they grow. Many species are also able to vocalize, and individuals can make a variety of tiny squeaks when they interact with each other or are handled by people.

The Pink-tailed Worm-lizard has an unusual lifestyle for a reptile. It spends most of its time in the burrows of small black ant nests that have been created in soil underneath rocks. Despite its underground habits it does travel and can move freely across land. It is a dietary specialist feeding mainly on the ants' eggs and larvae in these nests. Termites are also eaten but less often. It is rarely seen, making it a difficult subject to study and understand. It is usually found by searching under rocks, but even when a known population exists they are still hard to find. Although some specimens in the ACT have been found in autumn and winter, most have been found during spring.

Prior to European settlement the Pink-tailed Worm-lizard was distributed widely but patchily across south-eastern Australia, mainly on the western slopes of the Great Dividing Range in NSW and into central Victoria. Its preferred habitat is landscapes that have outcroppings of lightly embedded surface rocks. It is generally found in

Natural Temperate Grassland, but it is also found in Grassy Woodlands and Secondary Grasslands. The ground cover is usually native vegetation of native grasses and forbs with low levels of disturbance. But its natural habitat has been changed a great deal since European settlement. This is mainly through agriculture, especially where the native groundcover is destroyed. So now the distribution is sparse and fragmented into small separated populations. In the ACT they are scattered in a variety of places including along the Molonglo and Murrumbidgee River Corridors and on a number of the hills and ridges nature reserves.

Very little is known about the reproductive cycle of this reptile. Gravid females have been seen in late November and December. It is most likely that the eggs are laid inside the ant nests. It is believed that hatching occurs in mid to late summer. Juveniles reach maturity at three or four years, which indicates they are long-lived but there are no estimates of age.

The main threats to the future of this species are further degradation, fragmentation or loss of its

specialised habitat, and the ACT Government's Action Plan deals with this in great detail. It intends to try to expand and protect these areas and ensure they are well managed. It also includes improving connectivity between existing habitat patches. There are also efforts to do regular monitoring of the species and research into its behaviour and lifecycle, etc.

My simple drawing of the Pink-tailed Worm-lizard shows its long slender body, scale pattern and tiny mouth. Its eyes have no eyelids and are covered with a transparent scale. It uses its tongue to keep them clean. With the measures in place and the continuing research it seems we are on the right track to ensure the survival of this unusual creature.

Main references:

https://www.environment.act.gov.au/_data/assets/pdf_file/0008/1068281/Pink-tailed-Worm-lizard-Aprasia-parapulchella.pdf

<https://www.environment.gov.au/biodiversity/threatened/species/pubs/1665-conservation-advice-01102015.pdf>

Reptiles & Frogs of the Australian Capital Territory, Ross Bennett, National Parks Association of the ACT Inc., 2011

Gininderry scrape and Hall Cemetery

John Fitz Gerald

Monitoring of the Grassland sown in the Ginninderry Scrape

Since 2020, FOG has worked with the Ginninderry Conservation Trust on assessing this project. The task involves monitoring two scrape plots and an external control plot, plus ten transects across the scrape. This year Margaret Ning and I assisted staff and volunteers from GCT on 23 October and 02 November. Analysis of results and report updating is under way. The grassland continues to mature with reasonable diversity and good open-tussock structure, but invasive species are always needing to be managed.

Hall Cemetery work mornings

This year, dates of 21 October and 18 November were selected. These were in the dry part of our local spring so our volunteers had no need to worry about wet feet. Small teams battled away with weed control in the cemetery woodland on both days, concentrating on areas in the back block of woodland where we've made quite a difference to the vegetation over the years. A range of introduced grasses such as Phalaris and Fog were competing with expanses of *Microlaena* and *Carex*, so some of the effort went into beating seed production from them. Also the persistent *Galium aparine* needed attention, but we possibly were a little late as seed had formed - pulled stems were piled high on dead shrub branches to accelerate drying in the hope that we could beat new seed-maturing. As a positive, our work on various thistles has paid off, and these needed little action this year. Thanks to all who volunteered.

In our October visit, recent mowing was plain across some areas of grassland in the cemetery core though not in areas where Leek Orchids have been mapped. Consequently much of the usual grassland diversity of spring forb did not flower (or set seed) this summer. Even in unmown areas, flowering was not extensive, probably related to the dry spring. One notable exception was *Thelymitra* sp. which flowered particularly well though briefly in late October in some of the core grassland.

Small seeds surviving fires: a close-up

John Fitz Gerald

In July-August's edition of FOG news I described on page 8 the resprouting that followed an ecological burn at Yarramundi Grassland on the shores of Lake Burley Griffin. I mentioned in that article areas of mass germination of some weedy species around the grassland, however the species I listed then were perennials so perhaps I had recorded regrowth from pre-existing plants. I doubt that but cannot prove otherwise.

In recent months I've taken the opportunity to keep watching the area but mostly for annual species which would need to regenerate from seed, given the burn was in mid-April. I'm disappointed to report that there are many species, and a surprising number of these have small seeds. I'll use thickness in the smallest dimension being below 0.5 mm as my benchmark of 'small'. I also expect that such small seeds are unlikely to germinate from deep in a soil seedbank.



An example of small seeds collected at Yarramundi this spring is *Myosotis discolor*, a tiny introduced herb that has come up thickly and flowered in patches which I would describe as thoroughly burnt. The shiny seeds in my image are around 1 mm in size but each seed is flattened so thinner than 0.5 mm.

Temperatures from burning and seed persistence are a complex topic which I'll come to further on. Before that I'd like to list some other invasives, all annuals and many ranked as moderate priority in Downey's 2022 alien-plant analysis, that I'd hoped to

be mostly or completely suppressed by April's burning. In no particular order, they are: *Petrorhagia nanteuli*, *Silene gallica*, *Vulpia* spp., *Centaurium*, *Trifoliums* (especially *arvense* and *glomeratum*), *Sonchus* spp., *Lactuca serriola*, amongst others.

Germination of *Trifoliums*, *Sonchus* and *Lactuca* is concentrated in a grove of *Eucalyptus viminalis* planted about 50 years ago. I know the fire team focused on removing strings of bark hanging from these trees so they made sure the area burned hot and afterwards needed to do a lot of walking through and hosing around to dampen thoroughly. I suspect that all this firefighting disturbance would have given seeds buried deeply enough to avoid being 'cooked', opportunities to be carried to the top of the cooled soil. I'm also finding areas of thick Eucalyptus germination in the ash beds under the mature trees. In a different place I'd be delighted by this but unfortunately it creates a major job in the near future in thinning these to avoid a forest growing in the middle of the best remnants of the Natural Temperate Grasslands of Yarramundi. Anyway, enough said about the Eucalypt woodland.

The areas of grassland were burnt with almost no intervention, no vehicle passage, no hosing, and little foot traffic. They have not been subject to human disturbance in the subsequent 7-8 months - no digging of weeds and again little foot traffic. There are few digging animals (no rabbits, maybe one or two hares), and birds are mostly small, such as quails. So there has been no soil turnover following fire, nor significant soil wash in the dry spring that we just experienced. Also in my opinion the burn of moderate intensity through the grassland was relatively complete, with little or no unburnt litter remaining. How then did these annual seeds (*Myosotis*, *Petrorhagia*, *Vulpia*, etc) avoid being sterilized, particularly as they are dominantly small and some have little seed coat?

Patterns of 'cooking' temperature and time must be very complex across the footprint of a burn and probably at all spatial scales. I can only speculate that some small seeds just happen to have rested in spots in the soil seedbank where they survive. Where the weeds have come up in patches, such favourable 'spots' must have been as large as a few metres in diameter. I'd be delighted to hear from readers who know about fire ecology to tell me if I'm on the right or wrong track!

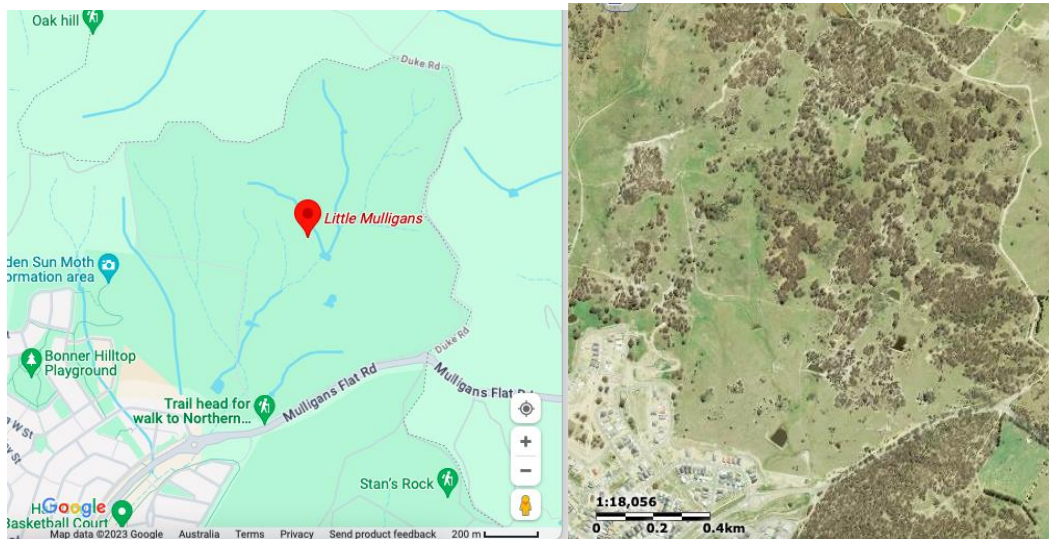
The *Myosotis* image was recorded at the National Seed Bank of the Australian National Botanic Gardens. It can be reproduced freely if attributed and linked to the Creative Commons licence CC BY. The scale bar in it represents 0.5 mm.

Little Mulligans activity

Margaret Ning

Saturday 4 November 2023. On a pleasantly cool and overcast Saturday afternoon, eight FOG members assembled for a switcheroo FOG activity at Little Mulligans, which is on the northern side of Mulligans Flat Rd, where that road nears the ACT/NSW border. Julia Raine introduced us to the site which is part of Mulligans Flat Nature Reserve. The western section was originally an offset and has a marked Golden Sun Moth walking track, and the Canberra Centenary trail follows the reserve boundary and then the ACT/NSW border to Hall.

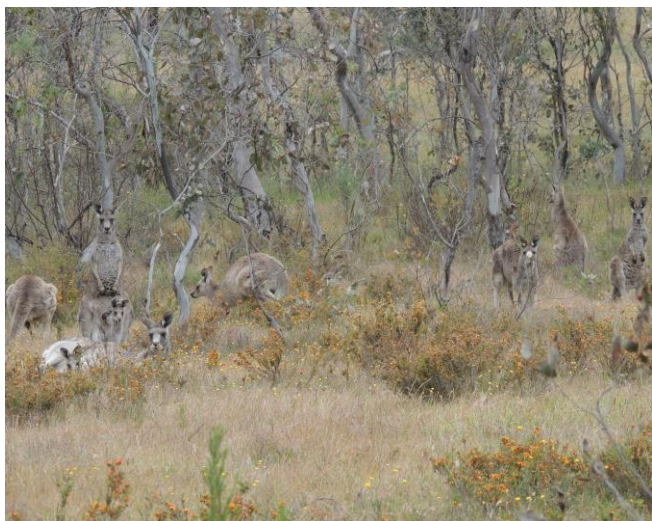
Julia noted the area's cultural significance, the [Aboriginal stone quarry](#) at Little Mulligans and [Yeddung Dhaura](#) to the south west in Forde. The two maps below are similarly scaled and Google Maps, on the left, shows where Little Mulligans is, and SixMaps on the right shows the vegetation included within it.



The area is easy walking for as many kilometres as you wish to walk, and is a mix of open grassland and grassy woodland. We looped around to the north east, hugging the boundary, and were immediately in an extensive area of flowering Scaly Buttons (*Leptorhynchos squamatus*) (Photo left: Julia Raine).

Other flowering grassland forbs welcoming us amongst the *Leptorhynchos* were Annual Daisy (*Triptodiscus pygmaeus*), Narrow-leaved New Holland Daisy (*Vittadinia muelleri*), Billy Buttons (*Craspedia variabilis*) and Common Everlasting (*Chrysocephalum apiculatum*). In the next grassy area we added Slender Speedwell (*Veronica gracilis*), Sweet Hounds Tongue (*Hackelia suaveolens*), Small St John's Wort (*Hypericum gramineum*), Common Woodruff (*Asperula conferta*), Bluebell (*Wahlenbergia* sp.), Curved Rice-flower (*Pimelea curvilifora*) and finally Golden Lily (*Bulbine bulbosa*) as we neared a woodland area.

We passed dams, one dry and one half filled, and in a wetland area we saw Swamp Isotome (*Isotoma fluviatilis*) flowering, and in a dam the sedge Flat Spike-sedge (*Eleocharis plana*) which caused a ripple of excitement because it wasn't plain old Common Spike-rush (*E. acuta*).



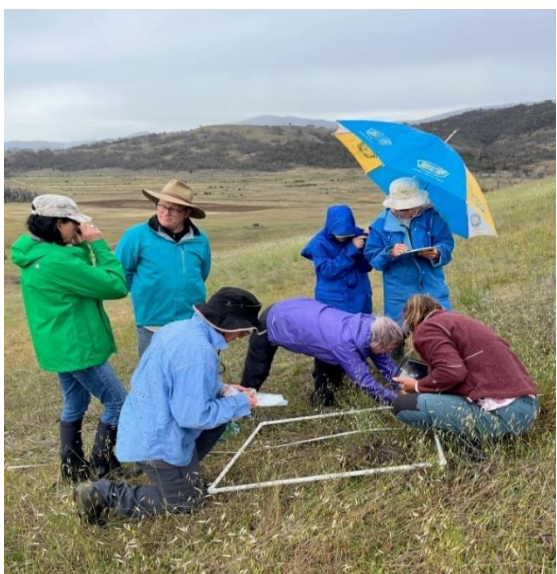
Walking through a couple of woodland areas, the flowering included Ivy Goodenia (*Goodenia hederacea*), Bush Pea (*Pultenea procumbens*), Parrot-pea (*Dillwynia sp.*), Clustered Everlasting (*Chrysocephalum semipapposum*), Sticky Everlasting (*Xerochrysum viscosum*), Violet Kunzea (*Kunzea parvifolia*), Grey Guinea-flower (*Hibbertia obtusifolia*) and *Cassinia sp.* A rather large mob of roos (70 or so) were lounging around in the wooded areas (photo left: Michael Bedingfield).

We had missed the flowering of Yam Daisy (*Microseris walteri*), Sundew (*Drosera hookeri*) and Early Nancy (*Wurmbea dioica*), but could see evidence that the latter in particular had had a good year. Little Mulligans is a gem of a place where the grass was still green, and the weeds have basically not yet arrived. We saw a smattering of St Johns Wort, some Serrated Tussock, blackberry in a few places and even some *Potentilla*, but it was a pleasure to wander around amid the aforementioned colour on a perfect walking day.

Scottsdale Monitoring Report

Linda Spinaze – Coordinator, FOG volunteers for Scottsdale monitoring

Thursday 9 November 2023. At the beginning of the day we wondered whether this was such a good idea. The weather forecast had included showers in the Bredbo region, although only two days previously those showers were promising only 1mm of rain, but by Thursday morning that had grown to 15mm. However, we decided to push on because organising another date within a reasonable timeframe at this time of year was too hard.



So seven FOG volunteers gathered at Scottsdale, near Bredbo, at the earlier hour of 9.00am, and (as planned) we had finished our coffees and briefings from the experienced Scottsdale botanists, and were in the 4WD vehicles, heading for our sites, at 9.35am. While we enjoyed our coffee, we learnt that we would be performing a new monitoring technique from senior Bush Heritage botanist, David Tierny, and Scottsdale botanical expert Kim Jarvis.

The aim is now to monitor the condition and response of the vegetation to Bush Heritage's land management. Specific methods have been developed by BHA senior ecologists and comprise commonly used methods to document the structure and composition of the vegetation at ground, midstorey, and canopy level. Different components are repeated at different

intervals, e.g. ground layer measurements are done frequently whereas the canopy measurements only need to be repeated every five years.

At the first site we shared the monitoring and learning. It did take a full 2 1/2 hours to cover all the monitoring criteria that were needed. That left us just enough time to set up the next two sites, and then retreat to the woolshed for an excellent lunch, which Bush Heritage kindly provided.

After lunch, we split into our two groups again, and managed to complete a further three sites. The monitoring was more complicated than previously, with more parameters needing to be assessed, so it took a much longer time than I expected. It was 5.00pm as we headed back to the woolshed, feeling pleased with ourselves with a job well done.

Fortunately for us, apart from some slight sprinkles, the rain held off, and as we returned to Canberra, we admired the high scudding clouds in the late afternoon light.

Launch of ACT Weeds Manual

Vera Kurz - Friends of Tuggeranong Hill ParkCare Group

At the end of October we launched the *ACT Weeds Manual*, a resource by and for environmental volunteers in the ACT, at the Jerrabomberra Wetlands ranger office. The launch was organised by Tenzin Phuntsho from the wonderful team at the ACT Government's Parks and Conservation (PCS) Volunteer Programs section, with people from across the spectrum of volunteer groups, PCS and Southern ACT Catchment Group (SACTCG) in attendance.



The manual was around a year in the making, and is designed to be a hands-on practical one-stop resource for identifying and treating weeds in the reserves and urban open spaces of Canberra.

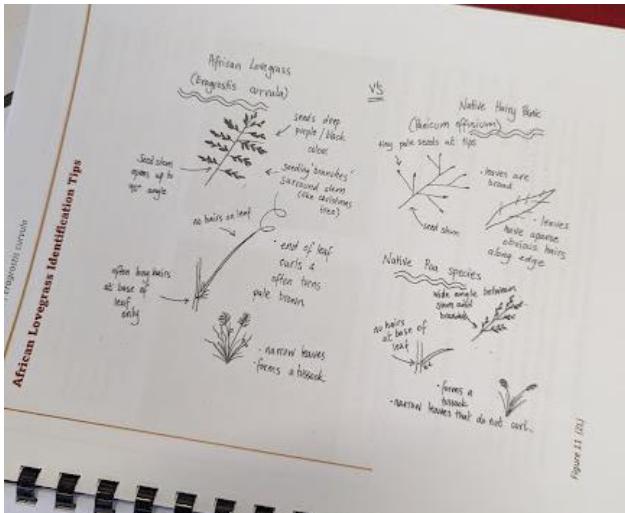
As a co-convenor of the re-formed Friends of Tuggeranong Hill Park Care group a few years ago, this was something I wanted. I would often be looking up the various resources and sending questions to the 'brains trust' within the park care community, to ensure that what we were doing was evidence based best practice as approved by the land manager and making the absolute best use of our efforts.

The resources available were very useful, and the expertise within PCS and the volunteering community is incredible, so I thought it would be good to combine this into a manual which new and existing volunteers could turn to for the latest and most reliable information, to identify, prioritise and treat weeds in their patch.

To that end I approached the Volunteer Programs team within PCS and SACTCG, who were both very supportive of the idea. Interest was sought from the community, and a group of about 20 people then went over several drafts, adding weed suggestions, checking individual weed profiles, discussing principles and techniques and supplying photos. Weed ratings and priorities were also taken from the PCS Invasive Plants Control Plan 2020-25.

This process did not just contribute to making the manual relevant and informative, I also found it very rewarding. It is lovely to work together on a project with such enthusiasm. I cannot thank this group enough for their efforts in creating the manual. During this time Tenzin, Zohara Lucas from SACTCG, and I met numerous times to develop a plan and timeline and work out who we would consult with. Not only did

Tenzin facilitate support for the manual, but he also took on the task of gathering and organising all the needed photos for the manual.



Zohara provided professional expertise, undertook research, and helped with the writing. She also created all the fabulous drawings, which people have already started using and found to be extremely useful (see her adjacent drawing of African Lovegrass key identification features).

Once we had a pretty good draft we went to the Biosecurity Team within ACT Government, Transport Canberra and City Services (TCCS) and to representatives from Friends of Grasslands (FoG). Their advice on herbicide use, weed priorities and treatment methods was incorporated, as was up to date information about PCS and TCCS policies regarding tool use and allowed herbicides. From

there members of the group thoroughly checked all plant names (Rosemary Purdie), herbicide prescriptions (Warren Bond) and general editing (Margy Burn).

From the start I was always clear that this should be a digital publication, so that it could be updated regularly to reflect changing priorities and remain accurate. SACTCG were willing to host the manual on their website, but we weren't sure how to pay for the graphic design. We applied for, and were so fortunate to receive a grassy ecosystem grant of \$1500 from FoG to support the graphic design and conversion of the manual into the beautiful and accessible document it now is. SACTCG also received a grant via the ACT Environment Grants Program 2022-2023. The whole manual is accessible via SACTCG's website (<https://sactcg.org.au/act-weeds-manual/>), linked (*) on the [Park Care Hub](#), the [Volunteer Portal for TCCS volunteers](#) and the latest [ACT Invasive Plants Control Plan](#).



It is in PDF format, with the intention that volunteers can easily download and print individual weed profiles as they wish. The preference is for users to access the latest version via the website rather than printing out the whole document, both to save paper and so that they are using the most up to date version. Volunteers who undertook user testing of the manual during the development phase were able to check it on their phones out in the field. Links to the manual will also go on into the resources made available to PCS and TCCS volunteers through their respective online portals.

In terms of review, the plan is to undertake formal updates every two years, and to gather comments and feedback via an online form on the SACTCG website attached to the Weeds Manual. Thanks to all the people who contributed to this project so generously, and to FoG for their support. I hope it will be a useful resource to assist the fabulous work which so many volunteers undertake right across ACT's precious natural estate and possibly in surrounding areas of

NSW. Photos with thanks from Maree Wright, Landcare ACT Communications. (1) [Park Care Hub - https://app.betterimpact.com/PublicOrganization/7baf50be-3b65-4dd3-bc53-04307685cfdb](https://app.betterimpact.com/PublicOrganization/7baf50be-3b65-4dd3-bc53-04307685cfdb). (2) [Volunteer Portal for TCCS volunteers -- https://app.betterimpact.com/PublicOrganization/39d8c74b-da74-4602-bef9-a97c42ae0e70/1](https://app.betterimpact.com/PublicOrganization/39d8c74b-da74-4602-bef9-a97c42ae0e70/1); (3) [ACT Invasive Plants Control Plan – to access the latest plan, previous plans, and other useful info on reporting and identifying weeds go to https://www.environment.act.gov.au/parks-conservation/plants-and-animals/biosecurity/invasive-plants](https://www.environment.act.gov.au/parks-conservation/plants-and-animals/biosecurity/invasive-plants)

Armidale adventures

Margaret Ning

26 to 30 October 2023. FOG's recent trip to Armidale was planned as a long overdue get-together with Alice, a FOG member who left the ACT around three years ago, and who has been working in the Armidale area ever since. Geoff, Emily and I drove to Ebor via the coast route and Waterfall Way on Thursday 26 October, and (the older) two of us checked in for two nights at the Ebor pub, while the young ones camped in nearby New England National Park (NP). Rain was forecast for the next day, but given how desperately dry the area was we could scarcely begrudge any of that.

We awoke to rain which continued intermittently for the whole of Friday. The campers in our party were wet and cold, but we all warmed up as we began exploring Cathedral Rock NP with its gorgeous granite formations. The flora was very similar to the Nimmitabel area, albeit a bit closer to the escarpment, with wetter area species like Ivy Goodenia (*Goodenia hederacea*), Coral Fern (*Gleichenia* sp.) and Saw-sedge (*Gahnia* sp.), Yellow Flag (*Xyris* sp.), and I saw Purple Fireweed (*Arrhenechthites mixtus*) for the first time in years.

Dodging the drizzle, and firing up the car heaters to dry us out between stops, we decided it was too wet for botanising so we headed back down Waterfall Way. Our first stop was the Dorrigo Rainforest Centre with its rather special experiences of a 'sky walk' with a rather misty outlook, and a longer downhill walk which was cut short by yet more rain.

At Bellingen we had a very late lunch beside the river, pooling our picnic resources, and then we visited a bookshop. Soon it was back to Ebor again, and another great pub dinner. We had a 9am start on Saturday, travelled past a disturbing amount of dieback, chatted back and forth on the walkie talkies, and listened to Alice's running commentary on the different veg communities we passed by.

We headed for Warra National Park, about 70kms north of Armidale. At a creek crossing we found



familiar looking species, but with a Blady Grass (*Imperata cylindrica*) understorey. And then we passed through an extensive Australian Indigo (*Indigofera australis*) midstorey, then an Acacia midstorey, and many more granite formations. At another stop there were axe-grinding grooves, and then a black-flowered threatened species of Grevillea, the Toothbrush Grevillea (*Grevillea scortechinii* subsp. *Sarmentosa*, photo above by Deane Smith), and Globe-pea (*Sphaerolobium minus*). Our lunch spot was by the stunningly picturesque Sarah River. The NP tracks were excellent but strictly 4WD territory, as we drove through what was Clarence River catchment. By now I was willing to concede that the area contained more granite boulders than Nimmitabel.



Outside the NP we stopped at a wettish patch, and walking around we found a single mauve *Diuris* sp. aff. *alba* (Northern Tablelands) photo on previous page by Deane Smith, a yellow *Diuris abbreviata*, lots of *Craspedia variabilis*, and a large number of sun orchids. At a much drier stop, there was still *Craspedia* and the black-flowered *Grevillea* again, an old sun orchid, and an echidna! There was also a yellow Hoary Sunray (*Leucochrysum albicans* subsp. *albicans*) and many Conesticks (*Petrophile* sp.).



Our last stop for the day was Little Llangothlin Lake (photo above by Deane Smith), a Ramsar listed wetland which, when full, covers an area of around 400 ha, and which was still fairly full. We could see myriad water bird species with the naked eye, but Alice and Deane had the luxury of a bird scope and binoculars, so we were able to take a closer look and successfully resolve what the blobs in the distance were.

On Sunday we visited 'Ent Haven' a 65 acre property 25kms south of Armidale. It was a threatened ecological community, with patches of Snow Gum, Mountain Gum, Ribbon Gum, and Black Sallee. It had a very grassy Kangaroo Grass (*Themeda*) understorey, wonderful ground cover, and an agreement with Biodiversity Conservation Trust.

We wandered through Austral Toadflax (*Thesium australe*), which I hadn't seen for around 20 years, (photo head of next column) and other interesting sightings included Dwarf Milkwort (*Polygala japonica*), Austral Trefoil (*Lotus australis*), Australian Anchor Plant (*Discaria pubescens*), Tick



Indigo (*Indigofera adesmiifolia*), Narrow Plantain (*Plantago gaudichaudii*), a *Lespedeza* species and a *Mentha* species.

The owner Ben had recorded around 90 species, mostly native, during monitoring of 400m2 plots. Towards the dam, we saw signs of turtle nesting, and a snake skin. The property's weeds included Ox eye daisy (*Leucanthemum vulgare*) and Wild Carrot (*Daucus carota*), on which Ben, the property owner, focuses his weed control efforts. Interestingly we saw three different colours of termite mound on the property which were determined by the soil type/geology at the site.

Dangars Falls, on the western edge of Oxley Wild Rivers National Park was close by, so we went there for lunch and made that our last stop for the day. It was an incredible drop, but not a drop of water was passing over the actual falls!! As I said earlier, the whole area was very dry and one proposed property visit was cancelled due to that. In the time we were there, we drove past many dams that were less than half full. We travelled home on Monday on slightly different roads, but mostly still via the coastal route.

A huge thank you to Alice and Deane for putting together such a wide-ranging program, especially in the face of the dry conditions. Dodging rain and a bushfire enabled us to basically complete all they had lined up for us. Geoff and I felt very looked-after by the three other members of our party, including Emily who also helped with the driving.

Wet times – dry times (photo left by Geoff Robertson, photo right by Deane Smith)



Young Area Visit

Margaret Ning

Sat 7 October 2023. Eight FOG members headed north for our ‘Young area’ visit. Some carpooled from Murrumbateman, and some travelled separately, but we all stayed in touch and arrived on time at the agreed meeting place on the eastern boundary of Dananbilla Nature Reserve (DNR).

Just before we arrived at the meeting place, a pair of cockatiels flew over, which immediately had us on the lookout for anything else that we don’t see in the normal course of events. Our host at Dananbilla was Ranger Susie Jackson. Once again FOG was really privileged to gain access to a special place and be shown some reserve highlights by rangers who are incredibly committed to their job. Susie and Ranger Andrew Moore have worked at Dananbilla for around 20 years, and Susie shared with us the background and history behind the establishment of the reserve. (see web address at the bottom of this write up.) The spot where we met Susie was essentially a bit of a buffer to the reserve, with wide open expanses of formerly (heavily) grazed and fertilized land.

Driving in, we were treated to lots of *Xerochrysum viscosum*, initially a lone *Bulbine bulbosa*, *Leptorhynchos squamatus*, *Stackhousia monogyna*, *Burchardia umbellata*, and *Asperula conferta*. Alighting at our first stop, we found ourselves in the middle of a sea of *Bulbine*, *Triptilodiscus pygmaeus*, *Luzula* and spent *Wurmbea dioica*. Essentially Susie said we were seeing the early ‘yellow’ phase of the season, and she said the ‘purple’ (pink?) phase would be next.

In one area we passed through, the *Calocephalus citreus* was powering along and we had a discussion as to the likelihood of it taking over, as it certainly had responded to a period of earlier disturbance. *Cassinia sifton* was becoming a problem in some places apparently.

At our next spot, Andy alighted from the vehicle and immediately said 'we've been here before', and I soon realised it was indeed a familiar spot from our last trip to DNR. We went looking for the *Discaria pubescens* I remembered from last time, and eventually found a group of 15 flowering *Discaria* with a lone 'almost-flowering' *Thelymitra* nearby. The grasses at the site included a lot of *Sorghum leiocladum* and some *Aristida*.

Next we found it impossible to cross a creek swollen by the rain that fell a couple days earlier, so we turned around and headed for our planned lunch spot. There was evidence of the earlier rain all around us as springs were flowing and there was seepage. In addition to the creek being up from only the day before, we passed some *Leptospermum* and *Carex appressa* that were obviously in a seepage area given how high in the landscape they were growing.

We also remembered our lunch spot from our previous visit. It was shady (it was a 20 degree day after all), with a lovely grassy area for sitting, and a beautiful rocky waterfall backdrop with a small amount still flowing. It looked extremely picturesque and enticed David and Jiyan to take a closer look after lunch, We marvelled at the various sights around us, which Susie enhanced with anecdotes of what she had seen there over the years. We also noticed a wildlife camera and assumed it was a motion sensor camera, but were told that it was a sound camera (for picking up bird calls basically), which they had sited at the most enticing place they could find. Interestingly they have found that there is too much bird activity at the site and it becomes difficult to distinguish one call from another on occasions. I am not sure what the solution to that was.

We left DNR after we finished lunch, and wended our way across some western-heading roads till we reached the western end of Quamby Rd, a bit more than 20kms NW of Young. Our leader for the day, David Johnson, had done some surveys along Quamby and Monteagle stockroutes earlier this year, and our plan was to head back to Canberra on those roads and check out the spring vegetation along them. The whole of Quamby Rd is a travelling stock route (TSR).

The first stop was very weed free. We saw *Linum marginale*, *Wahlenbergia luteola*, *Goodenia pinnatifida*, *Convolvulus erubescens* (which is what we used to think was the Bindweed we have in Canberra), flowering *Austrostipa* spp., *Anthosachne scabra*, and an *Acacia decurrens* presumably within its correct range. The second spot was one of David's survey sites that had since been burned as part of a burning experiment, and we found the remains of our mystery plant there, but we are none the wiser as to its name as there was absolutely no sign of any spring growth, just last year's remains. So the mystery remains. Perhaps CNM will solve that one for us one day?

At the third stop we saw a chocolate lily that had a flower stalk but still a while to go until it actually flowered. There was *Linum* there too, but it was a little early for a lot of flowering. Further along there was a dam with a red 'wash' across its surface which we wanted to check, assuming it was an *Azolla* species. It turned out to be *Myriophyllum verrucosum* instead, which we don't often see.

Then we decided to finish our day at Monteagle Cemetery which used to be a stunning jewel of a native grassland. While we saw a smattering of *Bulbines*, dribs of native plantains, *Glycine tabacina* and *Stackhousia*, and a couple of patches of *Pimelea curviflora* and *Leptorhynchos*, the *Themeda* sward was totally overgrown and basically smothering everything around it. There were also small (still finite) patches of St Johns Wort and Wild Oats which needed attention! And to top it off, Trevor spotted a couple of Bridal Creeper in one part of the cemetery.

Trevor took every opportunity to take pictures, as he told us that Canberra Nature Map had very little from the Dananbilla area, so everything would be posted to it. A site for DNR has appeared on CNM and there are around 100 of Trevor's sightings up there already.

<https://canberra.naturemapr.org/locations/sightings/14181>

We had travelled in convoy through Dananbilla and along the TSR using the walkie talkies to our advantage whenever we needed to communicate. Forewarned is forearmed when it comes to some tracks or even to exciting sightings. We travelled home following our long and enjoyable day, still trying to keep our convoy together, but gave up after Young.

The three images below are by Trevor Preston (they were seen on the day). Upper left: *Pleurosorus rutifolius*, Blanket Fern; upper right *Scutellaria humilis*, Dwarf Skullcap; below: *Myriophyllum verrucosum*, Red Water-milfoil.



Huge thank yous to Rangers Susie and Andrew who were incredibly proactive in planning and carrying out this activity. For more information on Dananbilla Nature Reserve, see the [Dananbilla Management Plan](#).

Tinderry Mountains Visit

Margaret Ning, Kris Nash, Brigitta Wimmer, & Linda Spinaze

Saturday 18 November 2023. On FOG's return visit to the mighty Tinderries in November, joining with Michelago and other Landcare Group members, we pretty much followed the routes taken on our earlier visit there on 20 May 2023 (see Jul-Aug issue). Our hosts, Markus and Julie, do a magnificent job of maintaining their tracks so that they are clearly delineated and easy to traverse.

Markus gave us a safety briefing, noting the rocks, falling trees, snakes and the occasional Jack Jumper and Bull ants' nests. This was followed by an introduction to the property, including the recent discovery of Key's Matchstick Grasshopper, their reptile, bird, mammal and insect lists, told us how this year's spring flowering was 'confused', told us about their healthy breeding population of lyrebirds, and offered anyone in the group a \$50 spotters fee for a koala sighting! The latter have been heard on the property, and captured on their many wildlife cameras, but not yet sighted in person!

We visited five key stops on the morning leg, four of these also being magnificent lookouts. Below is Andrew Zelnik's latest GPS record of this leg, our main walks on the day, with the first two being on the southern side of Tinderry Road, and then the longer loop third walk on the northern side.



First up was a bit of a single file scramble to the south to a southern and western-facing lookout, through initially thick, healthy and heathy understorey with a large patch of Costin's Wattle *Acacia costiniana* (which is not often seen) and flowering Spiked Mint-

bush *Prostanthera phyllicifolia*. Lookout views were stunning with a nearly 100km horizon.

This was followed by another short wander to the edge of a hanging swamp (eastern most GPS points) where a mass flowering of Spidery Tea-tree *Leptospermum arachnoides* (photo by Kris Nash below) was occurring with swarms of Plague Soldier Beetles and various Jewel Beetles. The area had already dried out a lot since our earlier visit.



And then we returned to our starting area, crossed to the north side of Tinderry Road, and began a longish loop walk uphill from the gate, and ultimately back to the parked cars. This track covers around a kilometre and a half with at least three lookout spots - the first facing south-west, then a north-and-west one looking into their steep central gully, and then a west-facing one where cabins will be placed. The main wide rocky track had recently been slashed, so was the easiest going, but the side tracks to each lookout point involved a little bit of rock hopping and log evasion, and timely stops as new flowering species needed discussion and identification.

Markus showed us their water stations, mainly for ground-happy birds, overseen by cameras, and recounted a few anecdotes about the species seen – over 40 bird species from thornbills to wedge-tailed eagles, as well as reptiles from small lizards to large skinks to much larger snakes and Rosenberg Monitors nearby. This loop was in taller forest, and accordingly offered us a generally shadier environment, which was welcome as the day was beginning to warm up.

Next was a short drive and then walk to the ‘Met Station’ area, which was within a distinctly different part on the eastern side of the property, dominated by grassy Snow Gum woodland, with its own different and diverse suite of flora, such as the rarely encountered *Plantago antarctica*, and the locally endemic daisy-bush *Olearia montana* (photo below by Linda Spinaze). Those of us who hadn’t already had lunch, took the opportunity to partake.



The many conversations weren’t only on the subject of plant ID. The different veg types were discussed, along with the number of endemic threatened species. So many different conversations! We still don’t know whether one of the several orchid species observed was Large-spotted Sun Orchid *Thelymitra juncifolia* (photo at head of next column by Linda Spinaze), which is suspected because its spots are bigger than Spotted Sun Orchid *T. ixioides*.

What an excellent day we had! Our walks were conducted with the aroma of Peppermints permeating everything. We were armed with a composite plant list from the Australian Native Plant Society of approximately 170 species gleaned over nine visits between December 1998 and March 2023. On the day, we ticked off just under 100 of those species and added around 30 more. A handful of attendees contributed very enthusiastically to these updates and additions. It was a large group, and it was great to catch up with people we knew from the wider area.

The Tinderries’ wonderfully huge impressive granite ‘superstructure’ and lookout platforms were well able



to compete with the granite boulders seen on our recent Armidale visit.



Olearia montana at it’s peak. Photo Marcus Buchhorn

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