



July–August 2016

## FOG activities & workparties coming up

### FOG mid-winter talks and afternoon tea

Saturday 16 July, 2–5 pm

It's on again! FOG's annual afternoon of fascinating talks with 'slides', followed by networking with afternoon tea in hand. This pleasant afternoon activity will be at Mugga Mugga Environmental Education Centre, 129 Narrabundah Lane, Symonston, ACT.

One of our two guest speakers is Dr Kate Auty, the new ACT Commissioner for Sustainability and the Environment. Kate will speak about her Victorian experience in relation to grasslands and grassy woodland conservation. She will connect this with grassland conservation issues in the ACT, with a particular focus on the findings of the *2015 State of the Environment Report*.

We shall also hear from John Blay, author and explorer, who will tell us about the Bundian Way, the ancient Indigenous track between the Eden area and Mt Kosciuszko. He will have copies of his book *On Track: Searching out the Bundian Way* (NewSouth Publishing, 2015) available.

A delicious afternoon tea is part of these annual mid-winter gatherings. As usual, the stove will be alight and the room should be cosy. Parking is plentiful. The Mugga Mugga gateway and bumpy drive are on the north side of Narrabundah Lane, Symonston (there may be a FOG sign there), opposite the Therapeutic Goods Administration gate.

**Be sure to register** for this afternoon of interest and good cheer, with [Paul.Archer@fog.org.au](mailto:Paul.Archer@fog.org.au), by **Friday 15 July**, for reasons of catering and numbers of chairs.

### Two grassland-related activities *this week* and *on this coming weekend* – last weekend of June

#### 'Grassy Woodlands' photo exhibition, ends on 25 June

Carolyn Young's PhD art exhibition is called 'Grassy Woodlands', and includes both still-lives and landscapes. The exhibition is open **until 25 June, on Tuesday–Friday 10.30 am–5 pm, Saturday 12–5 pm**, at the School of Art Main Gallery, ANU, intersection of Ellery Cres & Liversidge Street, Acton, ACT.

#### Opportunity to reintroduce forbs to ACT grasslands

FOG members are invited to join in sessions planting forbs to restore four grassland sites, *this weekend, 25 and 26 June*, in ACT. The sessions start at **9 am** and **1.30 pm** both days, in four different locations around the Ginninderra Creek catchment. See page 11 for more details on the project. The organiser, Ginninderra Catchment Group, is a member of FOG. Note that they also hope to form a new landcare or grasslands support group to maintain this interesting project into the future. You may be interested?

### Workparty to continue the progress at Stirling Park

*This Sunday 26 June, 9.30 am start*

Everyone is invited to help in the FOG and Yarralumla Residents Group workparty at Stirling Park (part of the National Lands) this weekend. Note the later start – a concession to the morning frosts.

We will meet on the top of the ridge near the water tank. For those coming by car, it is best to park in the open area behind the Danish and Norwegian embassies, off Fitzgerald St, Yarralumla, and walk up the short track onto the ridge. Remember to wear outdoor gear suitable for gardening and to bring drinking water. Of course, morning tea will be provided.

**Please email** [pmcghie@optusnet.com.au](mailto:pmcghie@optusnet.com.au) (not Jamie Pittock) if you intend to come to this workparty, so we can supply the right quantities of tools and tea.

The next workparty will be on Sunday 28 August, at 9:30 am.



Some of the 19-strong team who turned up on Sunday 29 May at Stirling Park relaxing over a well-earned morning tea. In the course of the morning, 40 acacias, bursaria and eucalypts were planted, a range of woody weeds and other unwelcome exotics were cut and daubed, and two bulging sacks of litter were collected.

*Photo and caption: Peter McGhie.*

*Note that the planned visit to 'Scottsdale', near Bredbo, on 5 June was cancelled because of heavy rain. It is being rescheduled for a weekend in late October.*

## More FOG activities & workparties coming up

### 3–4 September, visit to NSW South Coast grasslands

The first weekend in September we shall visit several grassland sites of interest in the Moruya/Dalmeny area of the South Coast. The visit is being arranged for us by long-time FOG member and local botanist Jenny Liney and a number of her colleagues. We may see the outcomes of annual burning trials on *Themeda* grassland on three headlands, which have been underway and monitored since 2012. The headland grasslands are unique and function in a different way from those in the Southern Tablelands and Monaro. We may also go to Glenduart – a riverine grassy woodland old cemetery. This is a managed Council Reserve but with a much less hands-on approach than the *Themeda* projects.

The *Themeda* projects won a national environmental award in May. The *Narooma News*, 11 May, reports that Eurobodalla Shire Council won the planning and management category of the 2016 Australian Coastal Awards, for its *Themeda* grasslands project at Dalmeny. The article says: 'Council introduced annual burning of the headlands between Kianga and Dalmeny three years ago, following the ancient practice of local Aboriginal people to destroy weeds and reinvigorate the native themeda grasses using fire. ... The judges also noted that it has helped to influence NSW coastal policy reform in relation to legislation covering environment protection. The nominated project has been an inspiration for several other NSW councils who are working with local indigenous communities to apply the methodology.'

*You are advised to plan ahead to book suitable accommodation.*

Here is Margaret Ning's suggestion for accommodation:  
Riverbreeze Tourist Park, 9 Princes Hwy, Moruya NSW 2537,  
Ph: 02 4474 2370, Email: [riverbreeze@scoastnet.com.au](mailto:riverbreeze@scoastnet.com.au). Even if we don't all stay here, this is likely to be the meeting and start point each morning.

To register, please email [activities@fog.org.au](mailto:activities@fog.org.au), so we can send you any further details about the trip. Also, Jenny Liney is providing species lists for the sites, which can be emailed to you if you ask.



Yass gorge in September 2015. *Photo: John Fitz Gerald.*

### Free lunches for FOG stars! 8–9 October

Remember to keep the 8–9 October weekend free to join the FOG excursion to grassy cemeteries in central NSW at Morongla, Koorawatha, Woodstock, Lyndhurst & Neville.

We are hoping for a big crowd for this trip, and some of us may become film stars.

This will be a FOG trip with a difference, thanks to the generosity of the Central Tablelands Local Land Services in Orange. They have offered to provide lunches for the group for the two days, and hope to join us on the visit to film footage for short educational videos and fact sheets describing the grassland species to be found in the region.

Our main objective is to explore the grassy landscapes, and the filming will not interfere with that. On the contrary, the video team hopes to record members of the group in action spotting species. Some of us may be willing to be interviewed on the spot. If there are botanical 'authorities' in the group, the videos may also record some segments on plant identification.

To register interest now, please email [activities@fog.org.au](mailto:activities@fog.org.au). Full details of the trip will be available nearer the time.

### Visit to Yass Gorge, mid-September

Friends of Yass Gorge (FOYG) have invited FOG to visit and be shown around the gorge, one weekend day in mid-September, around a year since FOYG was launched. (That event was outlined in *News of FOG* November–December 2015 by John Fitz Gerald.)

Once the date is finalised, we shall meet at Flat Rock Crossing – the ford crossing between the bridge and the Yass dam wall. To find it, coming from Canberra, drive down the main street (Comur St), past the lights, and turn right at the Rossi Street roundabout. Then left into Church Street and along the river to Ford Street and the crossing. The small park on the right marks the beginning of the Gorge walks (one of them is suitable for wheelchairs). Travel time is ~45 minutes from Dickson. FOYG hopes FOG people can help assess the Natural Temperate Grassland in the Gorge and recommend further work to be carried out.

To register for this visit, email [ann.milligan@fog.org.au](mailto:ann.milligan@fog.org.au).

### October visit to urban grassy woodland at Conder ACT, with Michael Bedingfield

On **Tuesday** late afternoon **18 October, at 4.45 pm**, we shall meet our guide Michael Bedingfield for a walk around the grassy woodland at Conder, in Tuggeranong.

The area has history, having been formerly intended for housing. More details next newsletter. If you want to register already, please email [ann.milligan@fog.org.au](mailto:ann.milligan@fog.org.au).



## News from the FOG Committee

### Welcome to FOG!

We warmly welcome these recent new members of Friends of Grasslands Inc.:

Ken Simons, Carwoola NSW;  
Canberra Environment Centre; and  
Nicola Barnes, South Australia Dept of Environment, Water & Natural Resources.

### Diary of committee members' involvement representing FOG in regional natural resources management activities, late April to late June 2016

#### Meetings

- Bush on the Boundary West Belconnen, 6 April and 4 May 2016 (Barbara)
- Biodiversity Working Group meetings 27 April, 25 May (Sarah, Tony)
- Canberra Nature Park Management Plan briefing 26 May (Tony)
- CSIRO Field Station discussion on site 6 June (Sarah, John, Tony, Ann)
- CSIRO Field Station workshop, 27 June (Sarah, John, Tony)

#### Events, workshops etc.

- Radio Landcare interview (Kim, Sarah, Ann)
- NCA Planning meeting 2 May (Sarah, John, Jamie, Peter McGhie)
- Briefing held at Conservation Council on West Belconnen Strategic Assessment, 11 May 2016 (Barbara, Sarah)
- Launch of Roger Farrow's book, 13 May (Geoff, Kim, Margaret, Kat, Ann)
- Biodiversity Offsets Forum (Conservation Council) 26 May (Tony, Naarilla)
- World Environment Day dinner, 4 June (Margaret, Sarah, Paul, Andrew)

#### Workparties

- Old Cooma Common and Polo Flat Monaro Golden Daisy survey and mapping, mid May (Margaret with David Eddy)
- Stirling Park Reconciliation planting, 28 May (John)
- Stirling Park, 1 May, 29 May (Peter McGhie, Jamie)

#### Activities

- Landscape Function Analysis demo by David Tongway, 16 May (Sarah, John, Margaret, Geoff, Kat, Ann)
- *Scottsdale visit on 5 June cancelled because of extreme rain* (Margaret)

#### Newsletter and ebulletin

- Newsletter preparation (Ann)
- Newsletter distribution, 27 April (Kat, Sarah, Leon, Ann)
- Ebulletin distribution, 25 May (Ann)

#### Advocacy

See separate advocacy report for submission details (Naarilla and advocacy team).

### Books available from [booksales@fog.org.au](mailto:booksales@fog.org.au)

- *Grassland Flora, a field guide for the Southern Tablelands (NSW & ACT)*. Eddy, Mallinson, Rehwinkel & Sharp, 2011.
- *Woodland Flora, a field guide for the Southern Tablelands (NSW & ACT)*. Sharp, Rehwinkel, Mallinson & Eddy, 2015.
- *Restoring Disturbed Landscapes: Putting principles into practice*. Tongway & Ludwig, 2011.
- *Land of Sweeping Plains: Managing and restoring the native grasslands of south-eastern Australia*. Williams, Marshall & Morgan, 2015. (4 copies only)

### Report on progress in the OCCGR project

Margaret Ning reports that she and David Eddy inspected the grassland project sites near Old Cooma Common Grassland Reserve (OCCGR) in mid May, and found many plants of Monaro Golden Daisy on ridges in the Crown Land site to the north (top half of long grey/red outlined area on map, east of houses). They also found a large area of St Johns Wort that looked as if it has been eaten off, probably by the cattle, but is still spreading vigorously underground via its rhizomes. David observes that the Monaro Golden Daisy is more widespread at this Crown Land site than at the OCCGR (lower half of long grey/red outline) and the Rifle Range site (triangle grey/red outline at south of map). This site possibly has less *Verbascum* and *Bugloss* on it, and possibly more native forbs. Cattle grazing is keeping the structure open. The Green Army has cut and daubed briars on the Crown Land site (as well as OCCGR), but the lower areas and some of the higher areas of the site are heavily infested by African Lovegrass.

As foreshadowed in *News of FOG* (March–April) our grant has paid for careful spraying of African Lovegrass in areas of these sites where there is Monaro Golden Daisy. Elsewhere the Lovegrass has grown very well, and FOG is grateful that Brett Jones, Noxious Weeds Manager for Snowy Monaro Regional Council, intends to budget for as much money as possible to spray it to protect our investment.



Cooma Common & Polo Flat (Google map). Red outlines (dark grey on printout) by Margaret Ning.

## FOG advocacy

*Naarilla Hirsch*

### April

1. The ACT Government sought community views on its 'Renewing Tuggeranong: Tuggeranong's next generation suburb' proposal. Part of the area impacted by this development proposal is native woodland and grassy woodland, albeit with exotic species in much of the understorey. FOG asked that the environmental values of the whole area and potential impacts on the Murrumbidgee River corridor be assessed before further work is undertaken on this development proposal.

### May

2. The Ellerton Drive extension in Queanbeyan is being assessed under the EPBC Act. FOG provided the same comments as it did in March, since the documentation was the same.

### June

3. FOG provided comments to the National Capital Authority concerning its Bushfire Operations Plan (BOP) 2016–2018. FOG is fully supportive of the BOP's program, even knowing its main objective is Fuel Management, since timing and consistency of the burns program should improve the environmental qualities of grassy places. The planned Spring burns in grassland areas need to be completed as early as possible to avoid impacts on early-flowering forbs – burns should be rotated through seasons to promote species diversity by allowing recovery. FOG asked that the environmental downside (weed dispersal) of the extensive slashing program for fuel reduction be effectively mitigated.

4. For a few years, FOG Advocacy group members have been involved in consultations concerning future developments in West Belconnen. The Strategic Assessment for this area was recently released for comment. FOG considered the approach taken with the proposed urban development at West Belconnen to be a leading model for environmentally sound development in the ACT. While much will depend on detailed development proposals, at this stage it appears that the proposal should maintain environmental values for the site as well as deliver a very desirable place in which to live. FOG asked for clarity about the West Belconnen Conservation Corridor (WBCC) boundary, and supported the proposal to establish an independently funded Environmental Management Trust (EMT) to manage the WBCC, as well as other activities such as the proposed ongoing monitoring and reporting.

Offsets are a major concern with this future development. In terms of the urban development itself, FOG supported the approach taken to mitigate and avoid adverse effects on the environmental values of the site generally and on Matters of National Environmental Significance in particular (e.g. passing the sewer tunnel beneath Pink-tailed Worm-lizard habitat). The continuity provided by the Wallaroo Road offset and its proximity to the Dunlop Grassland Nature Reserve will enable a more strategic approach to implementing existing commitments to enhancing connectivity between the Dunlop Grassland Reserve and the Jarramlee offset area. However, access to the development includes an extension of Ginninderra Drive which will impact on an existing offset. FOG stated its strong view that in future, offset areas should be regarded as 'no go' areas, while accepting that this is the best outcome from an overall environmental perspective.

The full text of FOG submissions appears on our website.

## Biodiversity Offsets Forum

*Naarilla Hirsch*

As part of its environmental exchange program, the Conservation Council held a forum on biodiversity offsets in May.

The new Commissioner for Sustainability and the Environment, Dr Kate Auty, summarised the offsets section in the *ACT State of the Environment Report 2015*. Issues she raised included how conservation gain should be defined; how can indirect offsets be 10% of the total offset if there is no direct offset (the maximum allowable indirect offset under the Commonwealth's EPBC Act); issues of monitoring, compliance and enforceability (e.g. offsets being a weak tool for managing sites of conservation value).

She was followed by Dr Phil Gibbons from ANU's Fenner School of Environment and Society. Phil asked how we know if we are improving or maintaining the conservation status of our endangered species and communities. From the limited data available, he drew an alarming picture of the loss that is occurring. He made several suggestions with regard to the ACT Government's offset policy. These included a register to contain key data from initial assessments, and annual reports; use of a standard template when monitoring offset sites; and assessing outcomes at the program/species level rather than the site level. His view was that no offset program has been shown to achieve no net loss and that we need to deal with the drivers of change that are impacting on our conservation areas.

The next presentations were from ACT Government staff: Kathryn Tracy (Nature Conservation Policy, ACT Environment & Planning Directorate) and Clare McInnes (Environmental Offsets Planning Co-ordinator, ACT Parks & Conservation Service). The ACT Government will be reviewing the effectiveness of its offsets policy in four years and is working to ensure that data will be available for this review. Clare provided an update on progress to date with three offset areas: the Pinnacle, Throsby and Kinlyside.

The forum concluded with a presentation from the Conservation Council director, Larry O'Loughlin. He presented ten governance principles he thought important, including a publicly available offsets register; baseline data for the development and offset sites; appropriate resourcing in perpetuity; annual monitoring of independent reviews and public reporting of offset outcomes; and community involvement in monitoring and assessing priorities.

In all it was an interesting and informative forum, giving an idea of how far we have come and the difficulties still to be resolved if offsets are to deliver their promise.

## Reports and articles

### ***Insects of South-Eastern Australia: An ecological and behavioural guide*** by Roger Farrow Geoff Robertson



*This new book by Dr Roger Farrow, a FOG member and well-known entomologist, was launched on Friday 13 May at the Australian National Botanic Gardens, by Geoff Robertson. In a speech touching on Traditional Indigenous respect for 'nature...who is our teacher' and on Roger's achievements, Geoff gave an appreciative book review, most of which is reproduced here. Roger also gave the large audience some humorous insights to his life and how this book came about.*

I think that Roger was very ambitious to write a guide to insects of south-eastern Australia, given that insects are numerous and so varied in taxonomy, behaviour and ecology.

His efforts have resulted in a superb and informative book. I think it is a highly successful field guide, because with the book in hand one can check the ecological niches Roger describes and find and identify the insects resident there.

Roger has deep knowledge of his subject and an ability to communicate that knowledge easily. His use of scientific terms is well judged and not over done. I found the book well structured, easy to read and the numerous stories exciting.

The book is divided into two parts. Part I is an introduction to insects and the main vegetation communities in which they may be found. It includes descriptions and classifications of insects, and insect life cycles, feeding strategies, behaviour and habitats.

The section on feeding strategies classifies insects by their behaviour and categorises them as plant feeders, predators, blood feeders, parasitoids, decomposers and non-feeding and perching insects.

In Part II Roger takes the reader by the hand and describes the insects that may be found in each of the ecological niches. For example plant feeders are sub-divided into eucalyptus feeders, acacia feeders, other plant feeders, fungivores and flower visitors. In turn, eucalyptus feeders are divided into leaf and shoot feeders; sap feeders on leaves; stem-surface feeders; trunk surface feeders and other inhabitants; insects that live under eucalyptus bark; and wood borers. In the category of leaf and shoot feeders, Roger includes beetles, beetle larvae, moth caterpillars and sawfly larvae. For beetles that eat eucalyptus leaves Roger provides descriptions and includes some 37 photos of individual species, including scarab, Christmas, chafers, many types of leaf beetles, and weevils. For any ecological niche we now have a good chance of being able to name the genus or species of the insects we find.

Roger has made skilful use of text boxes that allow the reader to learn many curious and interesting facts about insects. There are 12 boxes in total and they include topics such as attraction to light, nocturnal life, sound production, camouflage, defences, mimicry, migration, swarming, and rare and threatened insects. As you read these boxes, you might well imagine you are listening to a David Attenborough description – his style and 'voice' are not dissimilar to Roger's.

There is excellent and extensive use of photos. The photos are high quality and when one considers that it is not easy to capture good photos of insects, this is an amazing achievement. All photos are accompanied by highly informative and often extensive text which greatly adds to their value.

This book provides a major advance in our knowledge of insects, particularly in this region. It also sets a high standard as a scientific work. The appendices include a taxonomic classification of genera included in the book, a glossary, an informative reference and further reading list, and common name and scientific name indexes. The book should lay the



Top: Geoff and Roger with ANPS member Murray Dadds. Below: Roger with Kim Pullen.  
Photos: Lucinda Royston



foundation for greater citizen science of insects. It will enable many enthusiastic naturalists to commence to produce site species lists. Roger and Kim Pullen are already working to facilitate the creation of segments within Canberra Nature Map to allow the recording of insects.

#### **Nomination for 2016 Whitley Awards**

CSIRO Publishing (through Amelia Rockliff) has nominated *Insects of South-Eastern Australia* for the 2016 Whitley Awards. These awards are hosted by the Royal Zoological Society of NSW and are presented for outstanding publications that contain a significant amount of information relating to the fauna of the Australasian region. As well, certificates are awarded in categories such as Field Guide, Conservation Zoology, Taxonomic Zoology, Popular Zoology, and Natural History. I look forward to hearing the Whitley Award decision later this year.

Farrow R. (2016) *Insects of South-Eastern Australia: An ecological and behavioural guide*. 304 pp. From CSIRO Publishing and the Botanical Bookshop, ANBG.



## Reading the landscape: Landscape Function Analysis activity, 16 May, The Pinnacle Nature Reserve

There was plenty of interest in the Landscape Function Analysis (LFA) activity led by David Tongway AM, a long-time member of FOG, on 16 May. David had prepared a demonstration to show us how various types of groundcover affect water movement through the landscape, or in other words, how the landscape functions as a 'biophysical system'.

Around 28 people from the community, science/academia, NSW local government and ACT Government attended the afternoon activity. Friends of the Pinnacle were represented, as was FOG. The weather was perfect for the exercise: mild and sunny.

David had set out, assessed and analysed landscape function along a laid-out 50 m tape. Starting trackside and running downslope towards a formerly eroding gully, the tape traversed six landscape patches: a dense *Phalaris* grass sward, then progressively sparser grass with leaf litter, bare soil with litter, bare crusted soil, and dense tree litter under the canopy of an old eucalypt. David's handout showed the extent of each of the types of landscape patch along this tape on this slope, and also the values for 11 indicators of soil surface processes within each patch and inter-patch. The indicators represent interactions between rainfall, live vegetation, bare soil and organic matter decomposition.

A second handout ('Soil surface assessment criteria') showed how to derive each indicator. This useful standalone describes the 'nature, meaning and scope of each surface feature, together with a classification procedure'.

To make an actual calculation of LFA, the indicator data needs to be keyed into an LFA spreadsheet. For our transect, David had done this, and the first handout gave us the resulting calculated values for three indices of 'soil health' – namely, stability, infiltration, and nutrient cycling – for each of the landscape patches.

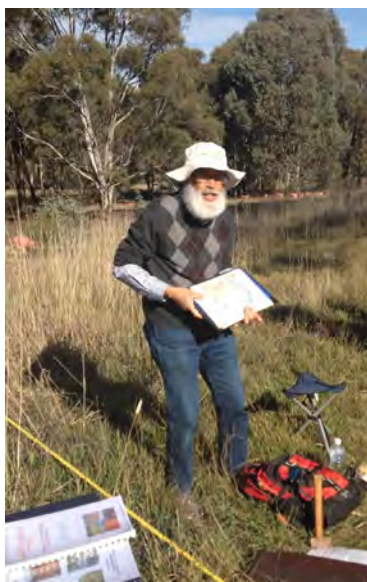
Finally, David demonstrated the 'slake' test, with chunks of soil from the bare sections of the transect. Put into a small container of water, these clods disintegrated immediately into a slurry of separate soil particles. By contrast, a similar clod, dug up where the surface soil was dark with fine organic matter, kept its shape in water without apparently losing any of its soil particles.

Throughout the afternoon David fielded many questions from this very engaged group. We were all pleased to have become more aware of factors affecting landscape function and soil erosion. Thank you David!

The LFA spreadsheet and all the necessary files (and the day's handouts) are available via FOG (email [ann.milligan@fog.org.au](mailto:ann.milligan@fog.org.au)).

David's book, *Restoring Disturbed Landscapes: Putting principles into practice*, by DJ Tongway & JA Ludwig (2011), Island Press, was on sale at the activity and remains available for sale via [booksales@fog.org.au](mailto:booksales@fog.org.au) and at FOG events such as on Saturday afternoon 16 July.

Chapter 11 of *Restoring Disturbed Landscapes* describes a comprehensive restoration project applied on steep slopes in an ACT nature reserve. The chapter outlines the whole project, including its careful preplanning, and shows how LFA was an integral part of the process.



Top: David describing the properties of landscapes (with illustrations like powerpoint slides prepared for outdoor use).

Below left: Trackside end of the tape – the dense grass sward.

Right: Gully end of the tape – bare soil and litter.

Photos top and left: Geoff Robertson. Right: Ann Milligan.

In mid May, the *Journal of Environmental Management and Restoration* (vol. 17 no. 2) published a conversation between its Editor Tien McDonald and David Tongway: 'Understanding the less visible components for the "wise management of our lands": Interview with David Tongway'.

In this article (which is available online for a small cost at doi [10.1111/emr.12211](https://doi.org/10.1111/emr.12211)). David describes how he came to devise Landscape Function Analysis, and its wide applicability.

## Natural Temperate Grassland of the South Eastern Highlands: now a critically endangered community

Sarah Sharp

*As Naarilla Hirsch wrote in the May–June News of FOG, **Natural Temperate Grassland in our region is now listed as ‘critically endangered’** under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), instead of ‘endangered’ as was previously the case. This article summarises the Approved Conservation Advice for the Natural Temperate Grassland of the South Eastern Highlands ecological community, as presented online at <http://www.environment.gov.au/cgi-bin/sprat/public/publicshowcommunity.pl?id=152&status=Critically+Endangered>. All the information included below is fully referenced in the Conservation Advice.*

As of 6 April 2016, Natural Temperate Grassland in this region is now listed as Natural Temperate Grassland of the South Eastern Highlands ecological community (NTG-SEH). It was formerly listed as Natural Temperate Grassland of the Southern Tablelands of NSW and the Australian Capital Territory (NTG-ST) ecological community, in 2000. (Underlines are for emphasis only.)

### Why revise the listing?

Since 2000 when the NTG-ST community was listed, research and extensive surveys across the region have improved understanding of the distribution and abundance of grassland species, and of the condition of the NTG community across its range. That in turn has led to the decision to list the community as critically endangered.

In summary, relative to NTG-ST, the new knowledge has resulted in these changes in the listing for NTG-SEH:

- the same grassland community is found over a wider range of altitude, landscapes and soils;
- the types of grasslands that occur within the region are better identified; and
- quantitative criteria are included, for use in identifying whether a patch of grassland is part of the listed community or not.

In practice, raising grasslands’ status from ‘endangered’ to ‘critically endangered’ makes little difference to how the community is protected – but it better reflects the precarious state of grasslands and means that stronger arguments can be applied against destruction or degradation of sites.

### Altitude, topography, soils

Natural Temperate Grassland of the South Eastern Highlands (NTG-SEH) occurs at altitudes up to approximately 1200 m above sea level (masl) in and around the South Eastern Highlands. It can also occur as low as 250 masl in some parts of its distribution. This is a wider altitudinal range than the previous listing (NTG-ST).

NTG-SEH also occurs in the Oberon, Taralga, Crookwell and Orange areas of NSW. Several sites of the ecological community have been identified in the East Gippsland part of the South Eastern Highlands Bioregion in Victoria, and other isolated remnants occur in Victoria, particularly in parts of the South Eastern Highlands Bioregion to the west of the Victorian Alps.

The ecological community is found in a wide range of topographic positions and on soils derived from a variety of substrates. In the South Eastern Highlands, patches of NTG-SEH are scattered widely in the Monaro region and on the Canberra, Bungendore, Gundry

The former listing (NTG-ST, from 2000) is still relevant to EPBC Act Part 9 and Part 10 environment approvals made before 6 April 2016, the date of the updated listing.

The 2000 listing has been removed from the list of threatened ecological communities online.



NTG-SEH at Jerrabomberra West Nature Reserve, ACT in 2007; an example of Association 5 (see below). *Photo: Sarah Sharp.*

and Yass plains that are subject to cold air drainage. Small areas of NTG-SEH can be found in frost hollows, low-lying flats and drainage depressions, and on exposed west- or north-facing hills.

Recognition that NTG-SEH occurs in some sites that are not subject to very low winter temperatures has extended its distribution within the region. A sub-type of the ecological community develops on the dry plains resulting from long-term drying due to drought of the ephemeral wetlands on Lake George, Lake Bathurst and Rowes Lagoon (Association 4, below). Another sub-type occurs on exposed north and north-western slopes with extremely shallow rocky soils (Association 8, below).

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## Natural Temperate Grassland of the South Eastern Highlands continued

### Vegetation characteristics

NTG-SEH is a naturally treeless or sparsely treed community typically dominated by native perennial tussock grasses. Canopies of trees and shrubs may cover up to 10% of the ground area.

The native perennial tussock grasses typically are up to 1.0 m in height, when present. There is usually also a lower stratum of shorter perennial and annual grasses and forbs growing between the taller tussocks, and there may be a third discontinuous stratum of even smaller forbs, grasses and cryptogams. Sedges and rushes may also occur, particularly in seasonally wet areas.

The ecological community does not always have a typical composition and structure, however. Variations can be the result of natural site factors (e.g. drainage patterns, soil characteristics), and human impacts on the area (e.g. agricultural production). These variations have recently been classified into eight different vegetation types ('associations'). These associations are only defined for NTG-SEH in NSW and the ACT, but areas of the ecological community in Victoria are also likely to match some of these descriptions.

1. Sub-montane Moist Tussock Grassland of the South Eastern Highlands Bioregion;
2. River Tussock – Kangaroo Grass – Rush Wet Tussock Grassland of Foothills, Drainage Lines and Flats of the South Eastern Highlands Bioregion;
3. Wallaby-grass – Kangaroo Grass – Rush Tussock Grassland of Seasonally Wet Sites of the South Eastern Highlands Bioregion;
4. Lacustrine Grass – Forbland of the South Eastern Highlands Bioregion (the ephemeral lake grassland communities);
5. Wallaby-grass – Tall Speargrass – Common Everlasting Tussock Grassland of the South Eastern Highlands Bioregion;
6. Dry Tussock Grassland of the Monaro in the South Eastern Highlands Bioregion;
7. Kangaroo Grass – Wallaby-grass – Snow-grass Moist Tussock Grassland of the South Eastern Highlands Bioregion;
8. Kangaroo Grass – Purple Wire-grass – Wattle Mat-rush Dry Tussock Grassland in the Southern Tablelands Region of the South Eastern Highlands Bioregion.

Associations 2, 3, 5 and 6 include the five grassland associations described in the ACT Government's Grassland Conservation Strategy (2005); and Association 8 includes the Dry Rocky Grassland described in Sharp (2014).

### Species – flora

Although grasses dominate the associations, these vegetation types also include a range of other native herbaceous species, with many other grass-like species and forbs.



NTG-SEH at Rows Lagoon, an ephemeral lake near Collector NSW: an example of Association 4. *Photo: Sarah Sharp.*



NTG-SEH in the Lower Molonglo River Nature Reserve ACT, containing high quality Pink-tailed Worm-lizard habitat: an example of Association 8. *Photo: Sarah Sharp.*

The most dominant or co-dominant grass species of NTG-SEH are:

- Kangaroo Grass (*Themeda triandra* syn. *T. australis*),
- Snowgrass (*Poa sieberiana*),
- River Tussock Grass (*Poa labillardierei*),
- Knead Speargrass (*Austrostipa bigeniculata*),
- Slender Speargrass (*Austrostipa scabra*),
- Red Grass (*Bothriochloa macra*),
- Wallaby grasses (*Rytidosperma* spp. syn. *Austroanthonia* spp.),
- Blown grasses (*Lachnagrostis* spp.).

...continued next page



## Natural Temperate Grassland of the South Eastern Highlands continued

Where post-settlement-induced disturbance has been limited, grasslands generally support a diverse and abundant range of non-grass species, including daisies, lilies, orchids, peas and other forb species from many other families.

In disturbed sites, the native forb species are usually much reduced, and generally include only those species with a high tolerance to disturbance, often those that are largely unpalatable to stock. Many species have become extinct in grasslands or are declared threatened under Commonwealth, NSW, ACT or Victorian legislation.

Regardless of disturbance, there may be sparse trees, shrubs or sub-shrubs, as mentioned above.

### Species – fauna

Fauna specialists of grassy ecosystems include:

- Key's Matchstick Grasshopper (*Keyacris scurra*),
- Canberra Raspy Cricket (*Cooraboorama canberrae*),
- Golden Sun Moth (*Synemon plana*) (threatened: Commonwealth, ACT, NSW & Victoria),
- Pink-tailed Worm-lizard (*Aprasia parapulchella*) (threatened: Commonwealth, ACT, NSW & Victoria),
- Striped Legless Lizard (*Delma impar*) (threatened: Commonwealth, ACT, NSW & Victoria),
- Grassland Earless Dragon (*Tympanocryptis pinguicolla*) (threatened: Commonwealth, ACT, NSW & Victoria),
- Little Whip-snake (*Suta flagellum*) (threatened: NSW legislation).

### Threshold values for native grassland to be classified as NTG-SEH

Not all patches of native grassland meet the referral, assessment and compliance provisions for the ecological community as listed in the EPBC Act. To cross the threshold, the patch must have the following characteristics.

It must be over 0.1 ha in size (e.g. 20 m x 50 m), and within the defined region and altitude, and apparently naturally treeless or sparsely treed, and it must meet criterion A or B:

- A: it contains a foliage cover of more than 50% *Themeda triandra* (Kangaroo Grass) or *Poa labillardierei* (River Tussock) – or *Carex bichenoviana* (Plains Sedge) if the patch is an ephemeral wetland;

- B: it contains a greater percentage cover of native plants (including annual and perennial species but not cryptogams) than of perennial exotic species (including weeds),

AND

in favourable sampling times (generally spring and early summer, and in non-drought affected seasons) it has:

- at least 8 non-grass native species, or
- at least 2 indicator species, or
- a floristic value score of at least 5;

OR

at other sampling times it has:

- at least 4 non-grass native species, or
- at least 1 indicator species, or
- a floristic value score of at least 3.

A list of 'indicator species' is at the Indicator Species page, <http://www.environment.gov.au/biodiversity/threatened/communities/pubs/152-indicator-species-list.pdf>. For the method of measuring the floristic value score see Rehwinkel (2015).

It can be difficult to determine if a site is natural grassland, or 'derived' grassland – that is, cleared grassy woodland with no remaining trees. Such a site should be considered NTG-SEH if it otherwise meets the characteristics listed briefly above.

The conservation advice for the community includes more detailed information on identifying whether a patch of grassland meets the criteria as the critically endangered community. See: <http://www.environment.gov.au/biodiversity/threatened/communities/pubs/152-conservation-advice.pdf>.

### References

- ACT Government (2005). *A Vision Splendid of the Grassy Plains Extended*. ACT Lowland Native Grassland Conservation Strategy. Action Plan No. 28. Environment ACT, Canberra.
- Rehwinkel R. (2015). A revised Floristic Value Scoring Method to assess grassland condition. In: Field Sites and Talks, 'Jerrabomberra Grassland Reserves', at <http://www.fog.org.au/forum2014.htm>
- Sharp S. (2014). Incidence of a previously unidentified Natural Temperate Grassland type in the Lower Molonglo Valley and possibly elsewhere in ACT. *News of Friends of Grasslands*, July–August 2014, pp. 7–8. <http://fog.org.au/Newsletters/2014-07newsletter.pdf>

## Plants and Fungi of South Western New South Wales, by Betty Wood

If you are travelling in western NSW, this app, *Plants and Fungi of South Western New South Wales*, authored by long time FOG member, Betty Wood, will be useful.

The app has just been released for free download, for Android, iPad, and iPhone. It helps in the identification of plants and fungi. It is designed for anyone who has an interest in finding out about the plants and fungi of south-western New South Wales and the surrounding areas.

The app includes about 1100 Fact Sheets, accompanied by over 3000 images. Even if you are not interested in using the characters in the key to find out what a plant is, the Fact Sheets, which can be seen by swiping to the right from the Key page, have plenty of attractive pictures.

The key covers the area from a point a few kilometres north and east of Mungo National Park, south to the

River Murray, and west to the South Australian border. Most of the plants and fungi in Kinchega National Park, eastern South Australia, and north-western Victoria, are thus included.

The app is easy to download from either the Apple or the Android platform, via this link to the announcement of its release:

[http://www.lucidcentral.org/mail/2016/April/index.html#mobile\\_apps](http://www.lucidcentral.org/mail/2016/April/index.html#mobile_apps)

## New weeds updates

from Sarah Sharp and Rosemary Blemings

Jenny Conolly is happy to be contacted about any new weeds or strange plants in the ACT: [jenny.conolly@act.gov.au](mailto:jenny.conolly@act.gov.au)

### Coolatai Grass

Coolatai Grass *Hyparrhenia hirta* has been identified on the Monaro Highway, south of Canberra, by Jenny Conolly and Steve Taylor, the ACT Government weeds officers. See the three photos at right.

Coolatai Grass is highly invasive and is capable of outcompeting African Lovegrass. It is a tussock-forming perennial grass, tolerant to drought, fire and herbicides. It is also one of the few perennial grasses capable of invading undisturbed natural ecosystems and is a major threat to natural biodiversity in stock routes, nature reserves and national parks.

#### Distinguishing features

Coolatai grass is a summer-active perennial growing to 1.5 m. It produces short rhizomes that form a dense grass tussock. Its greyish-green leaves turn orange-red in winter, particularly after frost. The leaves are harsh to touch. Leaf sheaths are usually hairless and keeled. The leaf blade is flat and 2–3 mm wide with the ligule 2–3 mm long and minutely toothed. The seedhead is a 'false panicle' consisting of paired racemes with 5–8 awns per raceme. The paired racemes are up to 35 mm long and arise from 3–8 cm long flower bracts. Half the flowers are male and therefore sterile.

#### What to do if you see Coolatai Grass

- Do not pick or disturb plants.
- Take a close-up photograph of the plants.
- Take a grid reference or GPS point (note datum). Draw a map, recording the nearest access point, trail, walking track or creek. Your accurate information is vital to guide ACT Parks and Conservation Service staff to the site to destroy the plants.
- Mark the site with flagging tape or other colourful material placed close to the plants.
- Report all sightings to [InvasiveWeeds@act.gov.au](mailto:InvasiveWeeds@act.gov.au) or phone: 13 22 81.

### Moth vine found near Kippax Creek

Jenny Conolly has confirmed a finding of Moth Vine (*Araujia sericifera*) near a Gross Pollutant Trap on Kippax Creek in May (photo at right). The creek flows into Ginninderra Creek which is a tributary of the Murrumbidgee River. Moth Vine seeds may be travelling those paths.



Top three photos: Coolatai Grass *Hyparrhenia hirta* beside the Monaro Highway.

Below: Moth vine *Araujia sericifera* found in Latham.

#### Papers & video of 18th NSW Weeds conference

Geoff Robertson reports that the papers presented at the 18th Weeds Conference can now be downloaded from <https://www.cooma.nsw.gov.au/DocumentCenter/View/2076/>.

The paper by Margaret Ning and Geoff starts on page 146.

There's also an amazing time lapse of the entire conference, from set up to pull down, online at [https://youtu.be/VY\\_DKfxDyM](https://youtu.be/VY_DKfxDyM)



## Restoring grasslands in the Ginninderra catchment

Based on information from Karissa Preuss and Ken Hodgkinson (Ginninderra Catchment Group)

The north-west corner of the ACT and the adjacent part of NSW – which lie in the Ginninderra Creek catchment – contain numerous patches of remnant Natural Temperate Grassland (NTG). You can find it on road verges, in urban open space and reserves, and on rural land.

In view of the endangered (now critically endangered) status of NTG, the Ginninderra Catchment Group (GCG) has set itself the goal of restoring and expanding the catchment's native grasslands. Their aim is to stop these remnant NTG patches from shrinking or disappearing, by tackling key threats to this ecological community: namely, weed invasion, clearing for urbanisation, and failure to make prescribed burns. The ACT part of Ginninderra catchment includes the urban areas and open space of Gungahlin, Belconnen, Gold Creek and Hall, and several nature reserves including Kinlyside and Mulligans Flat. The NSW part, Wallaroo and greater Hall, is largely rural land and lifestyle blocks. The proposed Riverview/West Belconnen urban development will be in the catchment on both sides of the border.

Ten years ago, the GCG initiated a 'Grassland Restoration' project to test potential methods that would be practicable for restoring the ecological condition of remnant patches of NTG, so helping to safeguard them from loss. Dr Ken Hodgkinson (an honorary CSIRO researcher and FOG member), working as a member of the North Belconnen Landcare Group, set up trial plots between Croke Place and the Lake Ginninderra dam wall in Evatt ACT. FOG visited these plots in February this year (see *News of FOG* March–April). Ken also spoke about this trial at the FOG forum in 2014 (Hodgkinson 2014).

The results at Evatt have given a clear indication that some types of management can improve grassland condition and build up the native forb and grass components. In the relatively degraded NTG of the Croke Place plots, forb and grass species that had not been evident when the trial began have appeared and are growing well in plots burnt regularly in the autumn, but not in spring-burnt, mowed or control treatments.

### Expanding the trial in 2016

In April 2016, after three years of planning and development, a follow-on grassland restoration project was begun at 15 sites in the Ginninderra Catchment. This expansion is designed to test the applicability of the Croke Place study results to other areas of degraded native grasslands in the ACT. It will also evaluate the success or otherwise of reintroducing – by planting and/or sowing – species that have become locally extinct. The extra sites are: at a property on Wallaroo Rd in NSW; and in ACT at Umbagog (Latham), at CSIRO Field Station, at the corner of Barton Highway and William Slim Drive (near the old Palmerville estate from the early 1800s), at Gungaharra Creek beside the Barton Highway (Kaleen), further sites at Croke Place (Evatt), at Giralang, and at Gubur Dhaura (Gungahlin).

Burns undertaken at the sites throughout the catchment in April this year were a major milestone in GCG's grassland restoration project, and received media attention (*Canberra Times*; ABC TV news; CSIRO).

The study is rigorously designed to statistically demonstrate the significance of the responses especially after autumn burning, based on measures of species richness or diversity ('the floristic response') over time. These responses will provide answers to the question:

### Please come and plant, to help in restoring native grasslands

You are invited to join in planting sessions **this coming weekend, Saturday 25 June, and Sunday 26 June**. The aim is to build up the forbs component of the grassland trial plots in this restoration project.

Species to be planted include: *Bulbine bulbosa*, *Chrysocephalum apiculatum*, *Craspedia variabilis*, *Dichopogon fimbriatus*, *Microseris lanceolata*.

**Saturday 9 am**, Kaleen plots. Meet beside the Barton Highway, opposite Bellenden St, Crace.

**Saturday 1.30 pm**, Evatt plots. Meet at the carpark in Croke Place, Evatt.

**Sunday 9 am**, Latham plots. Meet at the Umbagog District Park carpark, off Florey Drive. Fire trial plots are located just downstream of the footbridge, on the north-western side of the creek.

**Sunday 1.30 pm**, CSIRO Field Station plots. Meet on Wallaroo Road, just past Hall Cemetery.

**Please register, with Karissa Preuss:**  
email [landcare@ginninderralandcare.org.au](mailto:landcare@ginninderralandcare.org.au)  
or phone 6278 3309 (office hours).

.....  
If you would like to join a Grasslands of Ginninderra landcare group, please contact Karissa, as above.

*And*

if you know of other patches of NTG in the Ginninderra catchment, Karissa would love to hear from you. For an overview of remnant native vegetation across the catchment, see <http://www.ginninderralandcare.org.au/node/376>.



*Dichopogon fimbriatus* Chocolate Lily, one of the species to be reintroduced to the GCG grassland project plots in late June. Photo: David Wong, GCG.

...continued next page

## Restoring grasslands in the Ginninderra catchment continued

'Where can the "biggest-bang-for-the-buck" be gained from autumn burning, in urban Canberra and also in the Natural Temperate Grasslands of the South Eastern Highlands?'. A baseline survey of plant species present has already been made at the plots, and monitoring each spring, starting 2016, will track the way the NTG responds (or not) to the various restoration methods. Plant identification workshops will be run to guide rural landholders and volunteers wanting to help at this task.

This is a long-term project and, as in April this year, some plots will be burnt in autumn, either every 2 years or every 4 years, for biomass removal and to stimulate regeneration of native forbs and grasses. In addition to burning, the project includes plant reintroductions; volunteers have the opportunity to be involved (see box on page 11 above). Malanggang Traditional Aboriginal Landcare Group, a GCG member group, has had preliminary involvement in the project. There are plans to further integrate Aboriginal knowledge into the plant reintroduction trials and the fire trials, and to perhaps produce harvestable bush foods such as Yam Daisies in these grassland patches.

### Acknowledgements

The Ginninderra Catchment Group (GCG) is a community-based NRM organisation that coordinates community environmental management in the north-west ACT region. GCG also supports the catchment's 15 Landcare and ParkCare groups as well as Waterwatch and the ACT and Region Frogwatch Program.

For the project outlined here, the GCG gratefully acknowledges the partnership of the ACT Government and CSIRO, and the expertise and willingness contributed by Rural Fire Service volunteers to complete the 2016 autumn burns. ACT Government agencies involved include: ACT Environment & Planning Directorate (especially Conservation & Planning), ACT Parks & Conservation Service (particularly the Fire Unit), ACT Rural Fire Service, and ACT Territory & Municipal Services (Place Management).

The project has received financial support from the ACT Government and from the Federal Government – recently via the National Landcare Program. So far, catchment volunteers have donated time worth considerably more than \$15,000, and the project has also benefited by more than an estimated \$6000-worth of Rural Fire Service volunteers' time.

### References

ABC TV News: <http://www.abc.net.au/news/2016-06-01/trial-by-fire-on-native-grasslands/7467028>

Canberra Times: <http://www.canberratimes.com.au/act-news/trials-show-autumn-burns-best-way-to-regenerate-precious-grasslands-in-the-act-20160601-gp8xrx.html>

CSIRO: <http://ginninderraproject.com.au/firing-up-grassland-restoration-at-ginninderra>

Hodgkinson K. (2014) Management of grassland floristic diversity. [www.fog.org.au/forum2014.htm](http://www.fog.org.au/forum2014.htm).



The neat rectangle and sharp edges of this just-burnt plot show how well this burning is controlled. This kind of control is needed if the autumn burn management method is to be adopted to restore species richness in urban grassy patches.



Spaces (but not bare ground) between grass tussocks in a just-burnt plot. The spectacles give a scale.

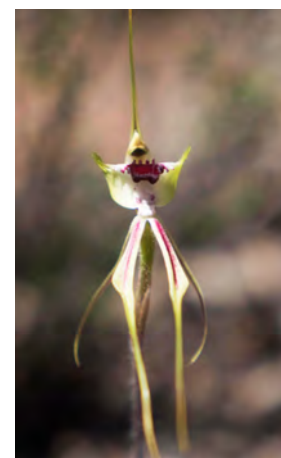
## Ginninderra Falls area is rich in biodiversity!

The Ginninderra Catchment Group (GCG) has completed a survey of some of the biodiversity of the Ginninderra Falls area. Ginninderra Falls is on Ginninderra Creek, slightly upstream of its junction with the Murrumbidgee River, in NSW close to the ACT border.

This area has spectacular ecological, landscape and geological features not seen elsewhere in the ACT region, including a number of rare and threatened species.

The area's important cultural heritage, natural heritage and aesthetic values have been largely forgotten by the broader community because of the falls being closed to the public since 2004. However, the Riverview urban development will be close by, and GCG is working with Riverview in an attempt to protect the area.

*Arachnorchis atroviridis* Thin-clubbed Mantis Orchid at Ginninderra Falls, 2016. Photo: David Wong, GCG.





## Nineawn Grass *Enneapogon nigricans*

John Fitz Gerald



*Enneapogon nigricans* is a small grass that has grown vigorously in 2016 in the Southern Tablelands. This species seems to prefer thin gravelly soils in sites where competition is low, so is easy to spot. In the image of the plant (above right), seed heads are 20–30 mm long and are mostly green but a few have matured as indicated by white spiky awns.

The micrograph of two individual spikelets (above left), with a white scale bar indicating a length of 2 mm, reveals that each mature floret carries 9 beautifully bristled awns, giving the obvious common name of Nineawn Grass. Three florets are linked together in each spikelet, with only the lowest and largest lemma being fertile. The lower halves of the lemmas are covered in fine hairs, seen best in the spikelet to the right.

The micrograph below left shows 9 plump seeds and the black scale bar indicates 1 mm.

The micrographs were taken at the Seedbank of the Australian National Botanic Gardens and are ©ANBG.

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## News about events and activities organised by other groups

### ***‘Experience counts – New National Restoration Standards reflect 30 years of repairing Australian Nature’***

Thursday 21 July. A day of invited speakers to mark the NSW launch of the National Standards for the Practice of Ecological Restoration in Australia. Surry Hills, NSW.

**Register at:** Eventbrite > Experience counts AABR forum

### ***Greening Australia ‘World Environment Day planting’***

Rescheduled to Sunday 28 August, Bredbo Travelling Stock Reserve, NSW. **Details:** <http://actlandcare.org.au/node/2421/>.

**RSVP essential:** [cbr.admin@greeningaustralia.org.au](mailto:cbr.admin@greeningaustralia.org.au), or phone 6253 3035.

### ***20th Australasian Weeds Conference***

11–15 September, Pan Pacific hotel, Perth. Topics include: herbicide resistance, environmental weeds, legislation, regulation & policy, and more. **See:** <http://www.20awc.org.au/>

### ***‘Collaborative communities: Landcare in action’***

2016 National Landcare Conference, 21–23 September, Melbourne, celebrating 30 years of landcare in Victoria.

<http://cdn.connectingcountry.org.au/press/wp-content/uploads/2016/04/20165558/abstracts-call.pdf>

### ***‘New approaches to plant conservation challenges in the modern world’***

14–18 November, 11th Australasian Plant Conservation Conference, Royal Botanic Gardens Victoria. **For abstracts and earlybird registration:** <http://anpc.asn.au/conferences/2016>.

### ***‘Managing your land for the future – Resilience & Adaptation for climate change’: UMCCC forum in March 2016***

The speakers’ presentations from the UMCCC forum held on 18–19 March at Murrumbateman and Jerrabomberra, NSW, are now available online at <http://umccc.org.au/node/2410/>

## *Rytidosperma longifolium* Longleaf Wallaby Grass: please don't pamper me!

Jenny Liney

Wallaby grasses (*Rytidosperma* species) occur in all the temperate states of Australia.

Southern Hemisphere *Danthonias* and their relatives belong to ancient Gondwana plant associations. They occur in Australia, New Zealand, South America and South Africa.

The seed heads of wallaby grasses, when viewed from a distance, look softly fluffy, and most attractive with the sun shining through. The fluffy look comes from white hairs on the 'bracts' enclosing the seed (the spikelet); the hairs are arranged in a particular fashion for each species. The top of the hairy 'bract' (the botanical name is lemma) is divided into two pointy bits, and between them is a twisted spear, or awn.

Wallaby grasses are very important components of natural pastures in temperate areas of the country as they retain green digestible leaves even in dry times. Some species also have horticultural potential.

The group has a long and complicated nomenclatural history. *Danthonia* is a grass genus from the Northern Hemisphere (named after Etienne Danthoine, a French botanist of the late 18th century), so when the first settlers came here, they assumed the wallaby grasses they saw to be of the same genus, and accordingly gave them the same name.

However, later botanists could see that this is not the case, so after much debate, and several invalid names, most of the Southern Hemisphere *Danthonias* had a prefix added; thus *Austrodanthonia* species.

In 2010 though, a group of botanists published a paper 'A generic classification of the Danthioideae' (i.e. grasses having the same basic characteristics), which transferred most grasses belonging to the Danthioideae into the genus *Rytidosperma*, an earlier name that had lapsed into obscurity. This name was based on the features of a single specimen that turned out to be infested with seed-eating insect larvae.

*Rytido* comes from the Greek *rhytidosis*, or *rytidosis*, meaning wrinkled, while *sperma*, of course, refers to the seed. Thus *Rytidosperma* means wrinkled seeds. But the seed is not wrinkled, so how could this be?

It appears that the insect larva in the seed head had a wrinkled back, and this larva was mistaken for the seed. (It happened a long time ago.) The rules of botanical nomenclature state that a name given, although it may seem a bit weird, is a valid name, and must continue to be used, except in certain circumstances when it may be declared invalid or illegal and another name chosen.

*Rytidosperma longifolium*, Longleaf Wallaby Grass, was first named *Danthonia longifolia* in 1810 by Robert Brown. In our corner of the country (south coastal NSW), it is one of the reliable stalwarts, flowering year after year in the most inhospitable situations, like the top of dry stony roadside embankments, parched rocky



Left and above: Mature inflorescence of *Rytidosperma longifolium*; and a spikelet; photos by Jackie Miles.  
Top: Spikelet of *Rytidosperma longifolium*, by Helen Moore.

outcrops and sandy soils, as well as more fertile places, and occasionally damp depressions. It does not like lime, fertilisers, or the proximity of introduced species, and thrives on neglect, mostly preferring poor infertile soil.

*Rytidosperma longifolium* has a tussocky growth habit, with long grey green leaves that become inrolled and curled with age. Its main attractions are the 'fluffy' seedheads and its hardiness. It therefore should be grown more widely than it is in man-made situations.

... And after all that, I couldn't find out why the settlers gave the name 'wallaby grasses'!

Jenny Liney is Curator of the Wallace Herbarium at the Eurobodalla Regional Botanic Gardens, Batemans Bay, NSW, and a long-time member of FOG.

This is an edited version of an article previously published in the newsletter of the SE Group, Australian Plants Society.



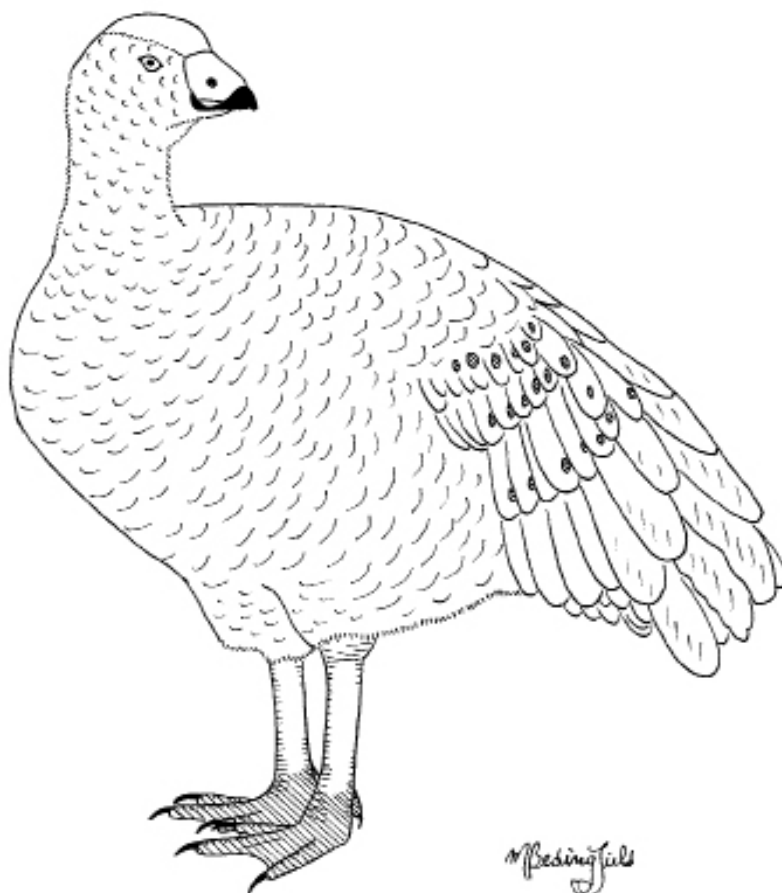
## The Cape Barren Goose, a unique bird and a distant recovery story

Michael Bedingfield

On the windswept islands off the southern coast of the Australian continent there is a growing population of Cape Barren Geese. Their range spreads from Bass Strait to the Recherche Archipelago of Western Australia. They are a large bird, 75 to 100 cm from bill to tail, with the males being slightly larger. They are mostly grey in colour, with a whitish crown, pink legs and black feet. There are dark grey spots and patches of black on their wings. Most of their upper bill is covered by an unusually large yellow-green 'cere' which is the waxy fleshy membrane surrounding the nostrils on their beaks. They are a grazing bird, spending most of their time on the ground. They feed on the grasses and herbs around them, especially Coast Tussock-grass *Poa poiformis*, which is the common tussock grass on the islands where they live. They also eat other grasses, such as spear grasses and pasture grasses, clover and other succulent plants. They can drink brackish water so are able to stay on the islands all year round. Their voice is a deep grunt or honk, and the male also has a harsh monosyllabic call: 'ark ark ark'. They are generally quiet on the ground except when alarmed, but are very vocal in flight.

Nesting and breeding occur in autumn, with couples building a down-covered nest on the ground among the tussocks in their grassy habitat. A territory is established, which they defend noisily and aggressively against other geese. Any intruding animals are attacked fiercely. The nesting pairs are monogamous, forming life-long bonds. Domestic duties are shared, and when the young hatch they begin wandering about foraging with their parents. They grow quickly, taking advantage of the green flush that comes with the wet weather during the cooler months in that region. The young birds are able to fly by the end of spring, after which they leave their parents and join the flocks of non-breeding geese. By early summer the islands' grasses begin to dry out. So the non-breeding flocks migrate to larger islands or the nearby mainland, feeding in open grassy areas there, including farmland. Mating pairs remain on the smaller breeding islands where there is generally sufficient food for them. The nomadic flocks return to those islands when the autumn rains begin but usually don't start breeding until they are three years old.

Life was much more difficult for these birds in the past and the species is still considered vulnerable. With the arrival of European settlers they were seen as a source of food and as a nuisance to agriculture. The seal industry used some of their breeding islands to work from and caused great losses to the population. By the 1950s the



numbers were so low that the species was in jeopardy and extinction was considered possible. Since then the direction of events has changed and it is now a protected species. In 1970 the Tasmanian National Parks and Wildlife Service was formed (currently called Parks & Wildlife Service, Tasmania). One of the Service's priorities is the study and maintenance of this species. This has meant the establishment of refuges and reserves but also includes making sure that it does not become a problem for farmers. The other southern states have similar programs. Although the population is small compared to those of other geese around the world, it is steadily increasing and the habitat is secure.

The Cape Barren Goose goes by the name *Cereopsis novaehollandiae*. It is the only species in this genus, the name coming from the large cere, and is endemic to Australia. The Western Australian population is considered to be a subspecies, *C. n. grisea*, and has slightly different habits to those I have described above. The common name comes from Cape Barren Island, which is where European explorers first saw the bird. I did the drawing from photos I took at the National Zoo and Aquarium.

In the movie *The Sound of Music*, one of Maria's favourite things is 'wild geese that fly with the moon on their wings'. A flock of geese flying high in the sky on a moonlit night is not something we see in the Canberra region. But it is an inspiring and romantic image seen by nature lovers in other parts of the world.

### References:

*Readers Digest Complete Book of Australian Birds* (1976, many authors);  
<http://www.parks.tas.gov.au/file.aspx?id=6420>;  
<http://www.birdsinbackyards.net/species/Cereopsis-novaehollandiae>

## Contacts for FOG groups and projects

Refer to the website, [www.fog.org.au](http://www.fog.org.au), for more information

### Friends of Grasslands Inc.

**General inquiries:** [info@fog.org.au](mailto:info@fog.org.au)

or Kim Pullen (mob: 0400 447 958)

**Advocacy:** [advocacy@fog.org.au](mailto:advocacy@fog.org.au)

**Committee & correspondence:** PO Box 440, Jamison Centre  
ACT 2614, or [committee2@fog.org.au](mailto:committee2@fog.org.au)

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**Membership:** [membership@fog.org.au](mailto:membership@fog.org.au)

**Newsletters & e-bulletins:** sent out in alternate months  
through the year. Contributions are welcome, to  
[newsletter@fog.org.au](mailto:newsletter@fog.org.au) or [ebulletin@fog.org.au](mailto:ebulletin@fog.org.au)

**Website, [www.fog.org.au](http://www.fog.org.au):** [webmanager@fog.org.au](mailto:webmanager@fog.org.au)

### Promoting wider knowledge of grassy landscapes

**Publications:** *Woodland Flora*, *Grassland Flora* & other sales  
(order forms at the website), [booksales@fog.org.au](mailto:booksales@fog.org.au)

**Monitoring:** at Scottsdale, near Bredbo, NSW  
[linda.spinaze@fog.org.au](mailto:linda.spinaze@fog.org.au)

#### On-ground work:

*Hall Cemetery*, ACT [john.fitzgerald@fog.org.au](mailto:john.fitzgerald@fog.org.au)

*Yarramundi Reach & Stirling Park* [jamie.pittock@fog.org.au](mailto:jamie.pittock@fog.org.au)

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**Media contact:** Kim Pullen (mob: 0400 447 958)

### FOG activities & workparties late June – late September

Date	Activity	Contact
Sun 26 June	Stirling Park – workparty	<a href="mailto:pmcghie@optusnet.com.au">pmcghie@optusnet.com.au</a>
Sat 16 July	Annual afternoon mid- winter talks and tea	<a href="mailto:paul.archer@fog.org.au">paul.archer@fog.org.au</a>
Sun 28 August	Stirling Park – workparty	<a href="mailto:pmcghie@optusnet.com.au">pmcghie@optusnet.com.au</a>
3–4 September	Visit to NSW S. Coast	<a href="mailto:activities@fog.org.au">activities@fog.org.au</a>
Mid-late September	Visit to Yass Gorge	<a href="mailto:ann.milligan@fog.org.au">ann.milligan@fog.org.au</a>
25 September	Stirling Park – workparty	<a href="mailto:pmcghie@optusnet.com.au">pmcghie@optusnet.com.au</a>
25 September	Yarramundi Reach – workparty	<a href="mailto:john.fitzgerald@fog.org.au">john.fitzgerald@fog.org.au</a>

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FOG activities and workparties

Two grassland-related activities *this week and weekend*  
News from the FOG Committee:

- Welcome to new members
  - Diary of committee members representing FOG
  - Report on progress in the OCCGR project
  - Books available at [booksales@fog.org.au](mailto:booksales@fog.org.au)
  - FOG Advocacy, *Naarilla Hirsch*
  - Biodiversity Offsets Forum, *Naarilla Hirsch*
- Reports and articles:
- *Insects of SE Australia*, Review by Geoff Robertson
  - Reading the landscape: LFA activity, 16 May
  - Natural Temperate Grassland of the SE Highlands: now a critically endangered community, *Sarah Sharp*
  - *Plants & Fungi of South Western NSW*, Betty Wood
  - New weeds updates, *Sarah Sharp*, *Rosemary Blemings*
  - Restoring grasslands in the Ginninderra catchment, with *Karissa Preuss* and *Ken Hodgkinson*
  - Ginninderra Falls area is rich in biodiversity
  - Nineawn Grass *Enneapogon nigricans*, *John Fitz Gerald*
  - Longleaf Wallaby Grass, *Jenny Liney*
  - The Cape Barren Goose, *Michael Bedingfield*

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