Kosciuszko2Coast
LANDHOLDERS - LINKS - LANDSCAPES

Issue No 15 September 2013

Groundcover Newsletter

K2C – building the resilience, extent and connectedness of natural vegetation

Welcome Spring 2013

Rainer Rehwinkel — Chair, K2C Executive

In tune with the seasonal weather, this is a time of change for K2C.

Geoff Robertson has stepped down as President and my first job is to thank him for his outstanding contribution in the role of K2C President. Geoff has been instrumental in driving several of K2C's recent successful projects including the *Myer - K2C Grasslands Project* and the *Indigenous Traditional Land Management Project*.

At the same time K2C can announce that we have received NSW funding for a new project, *Landscape Links for Small Bush Birds.* Lauren, our inaugural but soon to be departing facilitator received this from the NSW Minister for the Environment, the Hon. Robyn Parker, in Sydney.

Our recent K2C Partners' Forum was well attended and, with a facilitator, we focused on discussing strategic directions so that we now have a draft two-page strategy for fine-tuning by the K2C Executive.

From the Partner Project reports, we have collected and adapted a number of interesting pieces for you. Some of these require extensive collaboration such as those agencies, groups and individuals involved in the revegetation of Mcleods Creek, the Seed Bank project at Greening Australia and the Scottsdale restoration program.

Elsewhere, it is clearly visible that teamwork and expert knowledge gained by communities over many years has contributed to landmark work such as the ACT *Report on Gungahlin's biodiversity values*, the Wildlife Land Trust, and Friends of Grasslands' grassland restoration work.

This is true for all the partner and K2C activities. Our next forum will be on connectivity.
Stay connected!

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THE GREAT EASTERN RANGES
connecting people...connecting nature

K2C is a partner in the Great Eastern Ranges Initiative

K2C Chair's Report

This is my first report to K2C Partners and Members as Chair. This is a time of change for K2C, for a number of reasons and a very exciting and extremely busy time at that.

Geoff Robertson, K2C President steps down

My first and very pleasant duty is to acknowledge the work of my immediate predecessor, Geoff Robertson, for his outstanding contribution in the role of K2C President. Geoff had held the position since K2C's early days, soon after the formation of the Partnership.

A lot of the excellent governance arrangements that have guided the K2C Partnership since then have been a direct result of Geoff's diligence and drive. He, along with Tony Robinson, K2C Treasurer, have put K2C firmly in the black financially. The establishment of K2C Inc., another initiative of both Geoff and Tony, now means that K2C is an independent agency, able to bid for and manage its funds and, soon, hopefully, also able to accept donations. I also acknowledge Geoff's role as inaugural Chair of K2C Inc.

Geoff has been instrumental in driving several of K2C's recent successful projects. His expert hand at writing grant proposals has seen K2C past the particularly lean time of a few years ago, to now being a very dynamic organisation. Chief amongst Geoff's achievements has been the success in gaining significant funding from the Myer Foundation to run the *K2C-Myer Grassland Project*. This project has now engaged with many partners to develop several initiatives.

Geoff also initiated two extremely innovative projects that have engaged landholders with Indigenous culture, namely the *Traditional Land Management Project* and the *Adopting Traditional Values in the Community Project.* Both of these projects have been extremely well received in the community. Geoff was also instrumental in developing the Murrumbidgee Landscape Connectivity Project and worked tirelessly to develop the K2C Species Atlas in association with the Atlas of Living Australia (ALA.

Geoff, who has also been a member of, and in some cases a leader of many conservation organisations since the mid-1990s, decided to step down following a health scare. I am sure that I can say on behalf of the K2C Partnership, that we appreciate the tremendous effort that Geoff has put into K2C over the years and we wish him well for the future. Needless to say, he has left two very big shoes to fill!

Geoff Robertson being presented with his collage of service to K2C with (L to R) John Fitz Gerald (Friends of Grasslands), Rainer Rehwinkel (NSW Department of Environment and Heritage - OEH), Lauren Van Dyke (K2C Facilitator), David Eddy (K2C), Geoff, Peter Saunders (Bush Heritage), Tony Robinson(Upper Murrumbidgee Landcare Committee), Mike Thompson (visiting from Gulaga NP Board), Tom Baker (Molonglo Catchment Group) and Donna Hazell (Southern Rivers Catchment Management Authority).

Rainer Rehwinkel — Chair, K2C Executive

K2C News

New K2C project funds announced —

Landscape Links for Small Bush Birds

On the evening of 28 August, the K2C Facilitator, Lauren and myself attended a cocktail function in Sydney in celebration of projects that successfully received funding under the 2013-14 Great Eastern Ranges Initiative grants program. The Hon. Robyn Parker MP, the Minister of the Environment and Heritage announced a number of successful projects, including one bid by K2C – *Landscape Links for Small Bush Birds*.

This project's focus will be in the core of the K2C region, between Queanbeyan and Cooma, which contains the heavily cleared valleys of the Murrumbidgee and Molonglo rivers, where land is modified and connectivity of woodland remnants is reduced. The region is a vulnerable bird hot-spot, with populations of the vulnerable species Hooded, Scarlet and Flame Robins and Diamond Firetail present. Many other resident altitudinal and north-south migratory species are also present.

The Diamond Firetail female (*Stagonopleura guttata*) Images by Helen Fallow, OEH

The Diamond Firetail male (*Stagonopleura guttata*)

Scarlet Robin (*Petroica boodang*), image by David Cook, COG

Flame Robin *(Petroica* phoenicea) Image by Helen Fallow, COG

We will fund the erection of exclosures in grazed paddocks in over-cleared sections of the valleys with the aim of creating 'stepping stones'. Each exclosure will be planted with local eucalypts and shrubs. Long-term monitoring by Greening Australia has shown significant increases in the use of plantings by woodland birds in our region. The strategically placed enclosures will act as:

a. stepping stones for connectivity across the landscape;
b. feeding sites
    - finches will benefit from reduced grazing and extra seed from seeding grasses;
    - Insectivores (e.g. robins) will benefit from the shrubs, and
    - ultimately, nectarivores will benefit from the nectar resources in the eucalypts);
c. breeding sites
    e.g. finches and thornbills need shrubby habitat for nesting, but rely on open grassy sites for foraging.
d. shade and shelter for stock and increased landscape amenity.

The exclosures will increase connectivity in the highly modified landscapes of the region, and in turn, enhance connectivity in the wider GER corridor, particularly as some species are north-south migrants that use the wider GER region in their movements. The workshop will enable participating landholders and others to gain an appreciation of the region's bird species and the importance of connectivity.

The project meets two targets in the K2C Conservation Action Plan, namely 'small bush birds' and 'woodlands'. Increasing 'stepping stone' connectivity will enhance habitat for a number of threatened and declining bird species that have been identified as declining due to a number of causes, including degradation of habitat, fragmentation and isolation.

A connectivity workshop will be held for the community, with presentations by bird and connectivity experts. Project sites will be monitored by photo points and will provide a focus for species monitoring in future years, with data being collated in the K2C - ALA Species Atlas.

Rainer Rehwinkel

K2C Projects in Snapshot

Monaro Landscape Connectivity (MLC) Project

Lauren Van Dyke

This terrific project is now formally complete with all reporting requirements finalised and lodged. The aim of the project was to improve the condition, extent and connectivity of patches of native vegetation across the Monaro region in the Murrumbidgee catchment.

The MLC project was an initiative of three local organisations: Kosciuszko 2 Coast (K2C), Murrumbidgee Catchment Management Authority (CMA) and Murrumbidgee Landcare incorporated (MLi). Funding was secured through the Australian Government Caring for our Country program with further in-kind support from the NSW Office of Environment and Heritage (OEH).

K2C is very proud that Rod Mason won the 2013 Murrumbidgee Catchment Management Authority Landcare Indigenous Award.

K2C nominated Rod for the award and is very pleased that the MCMA have recognised the extensive land management efforts Rod has contributed over decades in this region.

Rod Mason, winner of the 2013 MCMA Landcare Indigenous Award.

Tony Robinson, Lauren Van Dyke, Sam Shannon, Rainer Rehwinkel, Felicity Collins, Absent: Nicole Mayer, Ted Wolfe, Rod Mason & Geoff Robertson

Here are some of the highlights -

- Over 80 landholders engaged directly in the project and received a property visit from the MLC team.
- Fifteen landholders signed up for funding under a formal MCMA Property Vegetation Plan.
- Fifty landholders received a one-on-one interpretation of Traditional Land Management Practices (TLMP) by Traditional Land Manager, Rod Mason specific to the land holders property
- Three properties received a cool patch burn under Rod's guidance.
- Three landholders have agreed to apply special management to high value vegetation with fences.
- Thirty five landholders are receiving a comprehensive species list prepared by Rainer Rehwinkel as part of the OEH support for the project.
- Twenty nine landholders attended one of the five MLC workshops that were held across the region.
- Six PlaceStories were produced and published. Please take a look at these great productions — http://placestories.com/folks/MLCproject

The best news of course is that over 440 hectares of endangered Box-Gum Woodland and Natural Temperate Grassland have been protected as a result of the MLC project.

Ingelara, near Michelago
Image: Still from Sam Shannon PlaceStory

Ecalpsekul
Image: Still from Sam Shannon PlaceStory

Deepwater, via Cooma
Image: Still from Sam Shannon PlaceStory

Traditional Land Management Practices (TLMP) Project

Lauren Van Dyke

The TLMP project, funded by a Murrumbidgee Catchment Management Authority (MCMA) Community Partnerships grant, has received an extension until the end of November 2013.

We are very grateful to the MCMA for this extension as we are still in the process of updating the draft booklet—*Reintroducing Traditional Land Management Practices.* This 37 page booklet covers all aspects of traditional land management as described by our Traditional Land Manager, Rod Mason. It also includes information about the trialling of these practices on local properties.

During the cooler months we engaged a number of interested landholders to trial TLMP practices that involved the use of cool burning as a tool — to enhance, protect and provide nutrients to flora and fauna.

We discovered that each of these trials was of great interest not only to the landholder who agreed to host the trial but to others including neighbours and so we turned each event into a workshop. This was a brilliant way to engage many people and the more people around a patch burn the better.

We look forward to publishing the booklet so that more people can learn about these trials and other Indigenous practices that Rod has kindly imparted to us.

Starting the burn with Rod Mason,
Image: Lauren Van Dyke

Finishing the burn, Rod Mason, centre,
Image: Lauren Van Dyke

The assumptions underlying the Project are

- An understanding of Traditional Land Management Practices will provide insights into our current understanding of landscape function and biodiversity.
- Adoption of Traditional Practices will improve biodiversity and farming outcomes.
- The project is therefore aimed at the Custodians of Country, farmers, reserve managers, and anyone actively involved in land management.
- The success of adopting Traditional Land Management Practices can be measured scientifically, and it is hoped that ecologists might start to consider how this may be done.

Rod believes that a sign of a poorly functioning system is the excessive build up dead plant material or litter. Grasslands and the understoreys of grassy woodlands, if not adequately grazed and/or burnt, dry off and become rank — becoming less palatable. Removing dead material, pruning and fire singeing will stimulate new growth. Properly functioning forest floors or garden patches team with invertebrate life, the bottom of the food chain. Fresh growth will also attract the larger animals to feed on it.

Adopting Indigenous Values in the Community Project

Lauren Van Dyke

Adopting Indigenous Values in the Community is funded by the Murrumbidgee Catchment Management Authority—Community Partnerships grant and will conclude at the end of November 2013. There were a number of outcomes for this project:

1. The establishment of indigenous food / fibre / medicinal gardens in six primary schools across the Monaro. These schools have now been engaged and the gardens will be planted in early Spring.
2. While planting, Rod Mason our Traditional Land Manager will delight the students with his landscape interpretations and have the children make some toys out of seed cones and leaves.
3. Resources and other information that will be easily accessible web sites.

Resources will include information on:

- Food / fibre / medicinal plants located in the K2C region.
- Aboriginal sites deemed important to Rod Mason and Ngarigo People across the Monaro.
- Connective Aboriginal walking trails via Tuross Falls and web links to the Bundian Way.

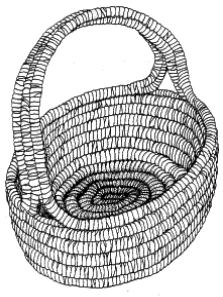
Recommended plant species and their uses included:

Silver Wattle (*Acacia dealbata)*	seeds are crushed and used for making bread or roasted as caffeine-free coffee substitute
Spiny-headed Mat-rush (*Lomandra longifolia)*	seeds are used as rice and are considered a high-energy super-food; bases of leaves are eaten fresh
Yam Daisy (*Microseris lanceolata)*	tubers are dug up and used as staple food, like potato
Chocolate Lily (*Dichopogon* spp.)	chocolate scented flowers are used as medicinal tea for blood purification; tubers are eaten
Small-leaved Clematis (*Clematis microphylla)*	flowers are soaked in water and taken for head-aches
Native Hempbush (*Gynatrix pulchella)*	bark is stripped off and used as string
Snowy Mountain Plum (*Pimelea pauciflora)*	sweet berries are eaten raw as a source of energy; bark is used for string and nets
Smooth Flax-lily (*Dianella longifolia)*	leaves are stripped down to make baskets and berries used as food
Blue Flax-lily (*Dianella tasmanica)*	leaves are stripped down to make baskets and berries used as food
Black-anthered Flax-lily (*Dianella revolute)*	leaves are stripped down to make baskets and berries used as food
Shiny Cassinia (*Cassinia longifolia)*	sticky leaves are rolled into a ball and applied to cuts
Native Geranium (*Geranium* spp.)	leaves, flowers and tubers are eaten and leaves applied to burns or blisters
Australian Bindweed (*Convolvulus angustissimus)*	tubers are eaten
Native Flax (*Linum marginale)*	seeds are eaten
Selfheal (*Prunella vulgaris)*	leaves are used as a poultice for wounds

Yam daisy (*Microseris lanceolata*) illustrated

Microseris lanceolata

Spiny-headed Mat-rush *Lomandra longfolia subs. longfolia*



The tough leaves are used for weaving and basket-making

See http://plantnet.rbgsyd.nsw.gov.au/

K2C Projects in Snapshot

Myer Foundation – K2C Grasslands Project

Kathryn Wells

One year into the K2C grasslands project and good progress is being made towards the listing of a network of grassland demonstration sites across the K2C region. The K2C Grasslands Project is one of four complementary grasslands projects being funded by the Myer Foundation.

The other Myer Foundation projects include publications and a mobile phone application from the University of Melbourne, planning and development issues for biodiversity on the urban fringe from RMIT, and exploring grassland management values from the Royal Botanic Gardens (RBG) Melbourne. All of these projects will engage and interact with the other. Geoff Robertson will report in the next edition on a visit to K2C by Karen Reid to hear case studies for the University of Melbourne grasslands manual. A seminar on the *Typologies of Grassland Management* with findings from interviews with 45 grassland managers will be presented by Dave Kendal from RBG to K2C in Queanbeyan on 8 October as part of a discussion about shared experiences.

Public Demonstration sites

Thirty public grasslands sites in the K2C region have been recommended by the Grasslands reference advisory specialist support (GRASS) group as demonstration sites. The grassland sites range in size and across a wide geographic area with a diverse range of management issues. The sites selected include travelling stock reserves on the Monaro, the Adaminaby Golf Course, Nimmitabel, Old Cooma and Bibbenluke Commons via Cooma, a number of Nature Reserves including: Kuma, Turallo via Bungendore, Yaouk and Mcleods Creek (see article this edition, p. 11) and Queanbeyan as well as the large public grasslands in the ACT: Jerrabomberra, Jarramlee, Dunlop and smaller sites such as Yarramundi Reach and St Marks, Barton.

The purpose in listing these demonstration sites is to both promote them through a database, with site descriptions and management history on the web, and also, inspire community engagement. The aim is to share information so that other grassland managers and the public can learn from the management issues.

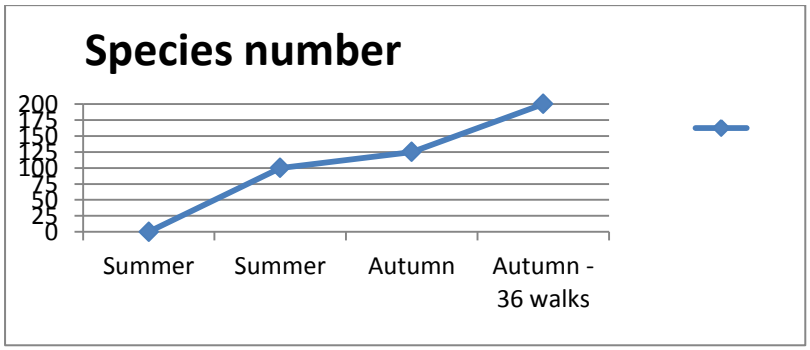
Design of a data base for public grassland sites

A spreadsheet with the 30 public grasslands sites for the K2C region, populated by GRASS group members was presented to the Atlas of Living Australia (ALA) as a preliminary exercise to defining a database and loading the data in to their system. In addition to suiting the needs of K2C, the data structure appears suitable for the Myer funded phone application project being developed by the University of Melbourne in conjunction with Ecolink. The design appears to support a wide range of reporting mechanisms. The data base will link users to species lists, trials and monitoring data available on other data bases, such as ALA and NSW Bionet.

Research, trials and monitoring options for private land holders

The 16 August meeting of the GRASS group was a forum led by Sue McIntyre from CSIRO Ecoservices to discuss research, trials and monitoring that might benefit private land holders and encourage them to list their grasslands sites on the data base. Other key speakers were David Eddy, Alison Elvin and Owen Whittaker.

Sue McIntyre noted that monitoring can extend across a range of practices: memory, aerial photographs, satellite images, diary entries and logs, photo points, surveys of species, soil and water analysis as well as other experiments. However Sue's advice was that it was important to be realistic and match your monitoring aims to your resources, skills and available time. This is different from long term research which may require analysis over long periods of time. Monitoring can inform research.



Indicative figurative diagram of the number of species identified over 36 walks

Monitoring thoughts

- Use experimental design principles
- Don't forget replicates and controls
- Note seasonal variations as they can produce different numbers
- The number of times you do a species list, for example, increases the amount of species identified

Other speakers at the Forum included David Taylor from the ANBG talking about the seed production trials and research project with Greening Australia (GA) and CSIRO (See GA report on p. 19). Lauren Van Dyke presented information about cool mosaic burning trials with Rod Mason, Ngarigo Elder on properties between Cooma and Michelago (discussed in this edition on p. 5). Sarah Sharp noted her monitoring manual with Lori Gould in 2010 has been revised in 2013 for Molonglo Catchment Group to develop a program specifically for community members to undertake condition monitoring. GA had a Fact Sheet on Monitoring & Evaluation.

Research and data from The Monaro

David Eddy reminded the meeting about the Purple Patch program, a SRCMA incentive program established in 2006, to assist Monaro landholders in implementing grazing management strategies for their grasslands. Whilst land-holders had entered into 10 year management agreements, it was estimated that it would take 20 years to see change. To date, four years of data had been collected.

Reference was made to Josh Dorrough, an ecologist and previous research scientist with CSIRO Ecosystem Sciences, who had done some analysis of data from the Monaro. Dorrough's research analysis in 2012 suggests that there is growing evidence that low-input grazing systems, that incorporate significant pasture recovery periods and lack fertilizer application, can be compatible with their maintenance and can be profitable. Josh had worked with a number of land-holders.
See http://www.naturalregen.com.au/wp-content/uploads/2012/05/gsc_2010.pdf
Proceedings of the 25th Annual Conference of The Grassland Society of NSW

Native grass seed production for broad acre farming

The adoption of suitable technology for commercial seed production and broad acre establishment of native grasses has developed, alongside some research papers from CSIRO, since 2005. Natural Capital, based in Gundaroo, owned by Alison Elvin with partner Owen Whittaker, undertakes environmental consulting as well as large scale revegetation projects for civil works and catchment authorities in the K2C region. They also work with private land holders and are currently running trials with direct-seeding native grasses.

Natural Capital
'They have developed, improved and proven a methodology using a stepped process, to achieve the establishment of native grasses.

Their approach seeks to mimic the natural capacity of native grasses to produce seed.'

They believe that it takes much cumulative wealth and knowledge to successfully revegetate. This is based on and feeds into the monitoring process, especially knowledge about: species, ground cover issues, volume, weediness, wet summers and dry summers (which dramatically affect the results), seed dormancy, financial resources, and quality assurance.

Aerial photographs and satellite images, which can show the extent of natural grasslands and the remaining extant areas, have been one of the quickest and most sure ways used by Natural Capital to raise awareness amongst landholders. The meeting noted it would be interesting to do return aerial photographs.

Monitoring as a management tool

Overall it was noted; previous research, monitoring and trials have led to large-scale successful revegetation projects. Monitoring can be seen as an effective management tool for private land holders to show changes or increases in floristic or fauna diversity, improved outcomes in productivity or conservation and, increases in biodiversity, forbs and native cover - whether managing for conservation or agricultural practices. Related trials in pasture cropping (zero till sowing of crops into perennial pasture), to address dry land salinity, waterlogging and soil acidification suggests this increases species richness in grasslands but research data is needed.

At the subsequent GRASS group meeting on 20 September, it was agreed that discussions be held with Josh Dorrough and David Eddy, Southern Rivers CMA, Greening Australia, Lauren Van Dyke and Rod Mason, ACT Natural Resource Management and Natural Capital to look at potential synergies for monitoring and seeking demonstration sites for the data base required by the Myer Foundation project.

Reports and feedback

Glossy Black-Cockatoo project

Tony Robinson, Project Coordinator

As part of the K2C Glossy Black-Cockatoo project, about 6,250 Drooping She-oaks (*Allocasuarina verticilata)*, propagated by Greening Australia (GA) Capital Region, were planted during the autumn on 25 properties along the Murrumbidgee, Queanbeyan and Molonglo River catchments by June 2013.

Property owners signed GA agreements for 2,420 trees to be planted in July 2013 and the remainder will be direct seeded in spring. The model of GA working with Landcare and other local NRM organisations to get trees in the ground worked extremely well. The recording of plantings of *Allocasuarinas* and sightings of Glossy Black-Cockatoos *(Calyptorhynchus lathami)* will be done on the ALA website as part of K2C Places Portal.

Glossy Black-Cockatoo
(Calyptorhynchus lathami)
Image: Stuart Harris

Glossy Black-Cockatoos sighted at Barnet Estate

A couple of months back the ABC Canberra edition of the 7.30 Report ran a story on a project designed to improve the habitat of the Glossy Black-Cockatoo. I learned that the Glossy Black-Cockatoo fed and nested in a particular tree and that this tree, for various reasons, was becoming rarer. It follows, that if its habitat is reduced, the Glossy Black could become endangered….

So, this morning on my walk I heard the tell-tale clicking of a big bird feeding in casuarinas adjacent to my property. Gradually I saw the black outline of the bird and watched till it moved and sure enough, the red tail flashed into view! I couldn't see another but the bush was very thick. We've also got our annual Yellow Tailed Black-Cockatoo conference near us and I counted approximately 60 in the sky last couple of days!
Jane Keaney

K2C partnered with USLC to host a biannual Biodiversity and Farming Fair in Braidwood 2012

Upper Shoalhaven Landcare Council support for K2C

The Upper Shoalhaven Landcare Council would like to express our warm gratitute to you and the Kosciuszko to Coast team for your support and assistance over the 2012-13 year with our 'Biodiversity for Carbon and Corridors' Project. We feel very luck y to be working in an area where there is a reginoal body looking at broader connectivity issues and seeking to do innovative and progressive work to helpfurther the vision of connectivity in our landscape.

In particular, we have benefitted from your project management skills and the corporate knowledge gathered among our staff and partner organisations. These connections are invaluable, and constitute the human connectivity that make landscape sale outcomes possible.

K2C's partnership on the delivery of the Biodiversity and Farming Fair in Braidwodd in November 2012 was particularly fruitful with many new connections and collaborations being developed. This significantly broadened our audience and their interest in the day. Subsequent communications,particularly discussion of our contriution to your Atlas of Living Australia portal, development of future mapping projects and access to current reginal data, have easily benefitted our project well beyond that indicated by your …in-kind contribution…..

Felicity Sturgiss, Program Manager, Biodiversity for Carbon and Corridors Project
On behalf of: Colin Mclean, Chairperson, USLC; Ben Gleeson, Secretary, USLC, Martin Royds, Treasurer, USLC

The ALA team at the Fair, 2012
Image: Kathryn Wells

Koala Monitoring Tent with Audrey Kutzner
Image: Kathryn Wells

Men at the Rural Fire Services Tent
Image: Kathryn Wells

Partner News

Mcleods Creek Nature Reserve Restoration Program

Susannah Power

Great progress has been made in restoring and improving Mcleods Creek Nature Reserve near Gundaroo by staff from various agencies, along with community volunteers. The collaborators in this project, known as the *Mcleods Creek Box-Gum Woodland Restoration Committee*, was established in June 2011 and resolved to undertake the restoration of partially cleared areas of the reserve.

A set of guidelines was needed to direct this process and a committee for this purpose was established with representatives from:

- NSW Office of Environment and Heritage (OEH)
- ACT Government
- Australian National Botanic Gardens (ANBG)
- Greening Australia (GA)
- CSIRO
- local residents and neighbours of the reserve and
- volunteers from Friends of Grasslands.

Detailed guidelines have now been prepared for the restoration of vegetation at Mcleods Creek NR; these identify the objectives and aims of the project, the methods to be employed, and specific guidelines for the identified vegetation zones within the reserve.

Hoary Sunray (*Leucochrysum albicans)* Image: OEH

Blue Devil (*Eryngium rostratum*) Image: Kathryn Wells

Mcleods Creek Nature Reserve - well worth protecting

Mcleods Creek NR (221 ha) was gazetted in August 2010, after determining its conservation value in a comprehensive regional assessment process for public lands in the Goulburn region. A 165 ha section of the reserve was cleared for agriculture many years prior to its acquisition, leaving clusters of trees or isolated paddock trees over a secondary grassland.

The vegetation:

- Over the majority of the cleared section of the reserve is Box-Gum Woodland - the White Box Yellow Box Blakely's Red Gum Woodland listed as a threatened ecological community under both NSW and Commonwealth legislation.
- The reserve also contains a small area of Natural Temperate Grassland EEC (3 ha), listed under the Commonwealth Act.
- The balance of the reserve (56 ha) comprises a mosaic of dry forest and open woodland communities.

Threatened species known to occur within the reserve include Hoary Sunray (*Leucochrysum albicans*), several woodland bird species and the endangered Golden Sun Moth (*Synemon plana*).

In July 2012, funding was received from the *Find It and Fix It* program, an internal NSW National Parks and Wildlife Service (NPWS) funding source, to conduct stage 1 of the restoration program. Planting will commence in Autumn, 2014. Further funding grants have been applied for to complete the restoration program throughout the remainder of the reserve. The NPWS is working in partnership with the Australian National Botanic Gardens (ANBG) to complete stage 1, which involves seed collection and plant propagation for planting tubestock in a 29 ha area in the lower lying north-western section of the reserve.

Volunteers including David Taylor (ANBG) planting aromatic Peppercress at Mcleods Creek Nature Reserve, April 2013

Present indicative distribution map of Aromatic Peppercress (*Lepidium hyssopifolium)*. Source: SPRAT Profile

McLeods Creek — A new haven for the threatened Aromatic or Basalt Peppercress

In April 2012, the endangered Aromatic Peppercress (*Lepidium hyssopifolium)* was translocated into Mcleods Creek NR, with the aim of establishing an additional population.

The Aromatic Peppercress is an erect perennial herb growing to 50 cm tall, and is known to occur at only few sites in NSW. Aromatic Peppercress is thought to have been once widespread in eastern Australia, but its habitat has been extensively altered by clearing, cropping, fertilising and planting introduced pasture species, and the plants appear to be particularly vulnerable to rabbit browsing. Plantings such as this may be critical to its survival.

In April 2012, 360 plants were translocated into 4 fenced plots in woodland and forest locations within the reserve. Twenty staff and volunteers worked in rain, hail, a chill breeze and very occasional sunshine, and completed the task in one morning, even though two days had been allocated.

Current estimates suggest that the woodland plots have a 50% survival rate, and the forest plots have a 20% survival rate. Quantitative analysis will be conducted in Spring 2013. A further 35 Aromatic peppercress plants were planted in an additional woodland plot in July 2013, to augment the original plantings from 2012.

Extremely rare Large-fruited Groundsel now in residence

The Large-fruited Groundsel (*Senecio macrocarpus),* sometimes known as Large-fruit Fireweed was propagated in the ANBG nursery from plants that were originally discovered growing near the reserve. The two remaining parent plants are the only plants of the species known to exist naturally in New South Wales.

The Large-fruited Groundsel is a small perennial plant endemic to south-eastern Australia, where it occurs in South Australia and Victoria, and formerly in Tasmania. Nationally, major threats to the species include habitat disturbance and destruction, weed invasion and competition. The species is listed as Vulnerable under the Commonwealth *Environment Protection and Biodiversity Conservation (EPBC) Act* 1999. See SPRAT Profile.

Large-fruited Groundsel (*Senecio macrocarpus)* Image from SA Government

In July 2013, seven plants propagated by ANBG were planted in two fenced plots at Mcleods Creek NR, with the aim to establish a new population as insurance against the species' disappearance. Seed has also been conserved in the ANBG National Seed Bank. There is a national recovery plan for the Large-fruit Fireweed

Once grazed-out grassland plants are back

Seeds of several other forb species were also introduced into the fenced woodland and forest plots. Species chosen are grassland forbs that are not currently in the reserve or uncommon there due to the previous grazing pressure.

These species include:

- Sheep's Burr (*Acaena ovina*),
- Native Flax (*Lignum marginale*),
- Blue Devil (*Eryngium rostratum*),
- Variable Plantain (*Plantago varia*),
- Scrambled Eggs (*Goodenia pinnatifida*),
- Sticky Everlasting (*Xerochrysum viscosum*),
- Yellow Burr-daisy (*Calotis lappulacea*).

Scrambled Eggs (*Goodenia pinnatifida*)
Image Kathryn Wells

A native plant controlled for the good of the grassland

In June 2013, contractors spot-sprayed Sifton-bush (*Cassinia arcuata*) in the northern, lower lying sections of the reserve. Sifton-bush is a local native species that acts as a coloniser of disturbed areas. However, concerns regarding the invasion potential of this species needed to be addressed. It was also thought that if the Sifton-bush was left to proliferate at the reserve, the objectives of the program in relation to restoring woodland at natural densities, and retaining diverse, open grassy patches, could not be met.

Susannah Power is the reserve's ranger from the Queanbeyan Area
National Parks and Wildlife Service, Office of Environment and Heritage

Scottsdale celebrates Biodiversity month

As part of Biodiversity Month 2013, Bush Heritage and Greening Australia hosted a community planting at the Scottsdale Reserve near Bredbo on 8 September. The planting is part of a plan to rehabilitate our nationally endangered Box-Gum Grassy Woodlands. Scottsdale is also home to a remnant of Australia's last ice age, the Silver-leaved Gum (*Eucalyptus pulverulenta*). See threatened species profile.

'There are some large areas at Scottsdale with fairly fertile soil, where we hope to regenerate woodlands substantially cleared elsewhere,' says Sandy Gilmore, Bush Heritage ecologist.

Peter Saunders, Manager of Scottsdale noted that 'Volunteers have clocked up more than 300 working days helping with revegetation, tackling weeds and feral animals, carrying out survey work, looking after infrastructure, mapping and closing rabbit warrens, and more. The majority are locals who care deeply about their patch of bush, but they also come from further afield'.

Scottsdale is within the traditional lands of the Ngunawal people. It is also part of a trade route with the neighbouring Yuin people, and home to the Ngunawal clan totem, the Platypus (Mulagun).
http://www.bushheritage.org.au/our_reserves/state_new_south_wales/scottsdale

Scottsdale volunteers, image courtesy of Scottsdale

Scottsdale plantings, Image: Kathryn Wells

Partner News

The extent and significance of Gungahlin's biodiversity values

Michael Mulvaney

In August 2013, the outcome of a strategic assessment by the Australian Capital Territory (ACT) Government has led to: the creation of Kenny Nature Reserve (160 hectares), which hosts Striped Legless Lizard and Box Gum Woodland); Goorooyaroo nature reserves, which includes Superb Parrot habitat, Golden Sun Moth and Box-Gum Woodland; Kinlyside Nature Reserve (201 hectares), which contains Box-Gum Woodland, Golden Sun Moth and Pink-Tail Worm Lizard and an addition of 120 hectares to the north-western Hills, Ridges and Buffer zone from the urban areas of Taylor and Jacka.

The Strategic Assessment under Part 10 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) was commenced in October 2012 by the ACT and Commonwealth governments. This was published as a *Consultation Draft for Gungahlin's Biodiversity Plan* in March 2013. This was based on the *Extent and Significance of Gungahlin's Biodiversity Values*, published in March 2012 by Michael Mulvaney. Below is the Executive Summary of the Technical Report.* [see p. 9]

The Gungahlin area occupies the north-eastern part of the ACT, bounded by the Federal and Barton highways and the ACT/NSW border. Gungahlin retains relatively large native grassland and lowland woodland remnants. These are vegetation types that have been extensively cleared in the ACT and more so in surrounding regions of New South Wales.

The lowland woodlands are important habitat of the Superb Parrot, while the grasslands provide significant habitat for the Striped Legless Lizard and Golden Sun Moth. Horse Park Wetland is recognised as being of national importance, and is habitat for Latham's Snipe and several regionally uncommon plant species.

Goorooyarroo woodlands, Image: Kathryn Wells

Goorooyarroo grasslands, Image: Kathryn Wells

This report refers to box – gum grassy woodlands and native grasslands that are listed as threatened ecological communities under both Commonwealth legislation (*Environment Protection and Biodiversity Conservation Act 1999*) (EPBC Act) and ACT legislation (*Nature Conservation Act 1980*) (NC Act).

Similarly, it refers to a range of flora and fauna species that are listed under one or both of these Acts. The report gives particular attention to matters of 'national environmental significance', as defined in the *EPBC Act*. Under the Act, threatened species and ecological communities (that are not extinct) may be listed in a range of categories from 'conservation dependant' to 'critically endangered' (Australian Government 2011a).

Within Gungahlin, there are 1875 hectares (ha) of White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grasslands (Box–Gum Woodland), which is listed as critically endangered under the *EPBC Act*. This equates to 23% of the total extent of the box – gum woodland in the ACT listed under the *EPBC Act*.

Sixty-two per cent of the remaining woodland in Gungahlin listed under the Act is reserved (October 2011). The woodlands within Gungahlin are some of the biggest, best connected and most diverse patches of this vegetation type remaining across the former distribution of the community in south-eastern Australia.

The woodlands that comprise Goorooyarroo and Mulligans Flat nature reserves to the north of Bonner form the largest patch remaining in the ACT. In the context of the distribution of the remaining Box–Gum Woodland, these woodlands are a key area for maintaining functioning woodland systems due to their connectivity, size and diversity.

The area is also a research site of international importance. There are about 180 ha of Natural Temperate Grassland and a further 166 ha of closely associated native pasture (that has the capacity to regenerate to Natural Temperate Grassland) remaining in Gungahlin. Natural Temperate Grassland is listed as an endangered ecological community in the ACT (NC Act) as well as in the Southern Tablelands of NSW (EPBC Act).

Gungahlin contains about 18% of the total remaining area of Natural Temperate Grassland in the ACT. About 90% of the remaining area of this grassland in Gungahlin is reserved (October 2011) and no areas are currently proposed for development.

Five plant species listed under the *EPBC Act* occur in Gungahlin and all known occurrences are within areas subject to conservation management. In a regional context, the grasslands and woodlands in Gungahlin are of high floristic value and support many regionally rare plant species. Mulligans Flat, East Bonner, Mulanggari Grassland Reserve, Crace Nature Reserve, grassland within the National Transmission Station (Crace), north-west Taylor, parts of Kinlyside and the secondary grassland within Moncrieff are of particular floristic value.

Nest Tree, Throsby Ridge
Image: Chris Davey

Throsby ridge and the adjoining reserves is one of the major known breeding areas for the vulnerable Superb Parrot (*EPBC Act, NC Act*) in the ACT. There has been a rapid and recent rise in the number of Superb Parrots visiting the ACT. If this trend continues it is likely that the northern and eastern Throsby areas will become increasingly important. The protection of this major breeding habitat is important for the long-term viability of the species in the ACT region.

Recent surveys have located large and widespread populations of the vulnerable Striped Legless Lizard (*EPBC Act, NC Act*) in Natural Temperate Grassland, exotic tussock grassland which had formerly been native grassland of varying quality, and open woodland adjoining grassland. Gungahlin contains about 60% of the known habitat of the Striped Legless Lizard in the ACT, but probably supports a greater proportion of the ACT population, as the density of the species in Gungahlin has been found to be relatively high in comparison to the density in the Majura and Jerrabomberra valleys.

The critically endangered/endangered Golden Sun Moth (*EPBC Act/NC Act*) is known from 22 locations within Gungahlin, which is about one-third of the known locations in the ACT. It is difficult to determine relative population sizes at each of the locations. Nevertheless, it is apparent that there are significant populations within existing or proposed conservation areas (such as North Throsby, Goorooyarroo, Mulligans Flat and Crace), but that moderate to large populations also occur within the proposed Moncrieff, South Throsby and Taylor development areas.

Most of the records of regionally uncommon bird, mammal, frog and reptile species are from within existing reserves. The key to maintaining Gungahlin's biodiversity and conservation values is to protect and maintain the large patches of woodland and native grassland and enhance their connectivity and functioning.

Michael Mulvaney is part of the Conservation Planning and Research, Natural Policy Branch, Environment and Sustainable Development, ACT Government

Partner News

Local Native Groundcover Challenge at ACT sites

Friends of Grasslands

Greening Australia Capital Region is establishing trial plantings at ten sites in a Local Native Groundcover Challenge coordinated by Nicki Taws. Three of these sites have been selected in lands managed by the National Capital Authority near places where FOG has been removing woody and grassy weeds on the NCA's behalf. One key aspect of the project is to involve local community.

Billy Buttons
(Craspedia variabilis)

Chocolate Lily
(*Dichopogon fimbriatus)*

Button Wrinklewort (*Rutidosis leptorrhynchoides*)

Grass Triggerplant
(*Stylidium graminifolium)*

Images: Kathryn Wells

Stirling Park plantings on two sites

Yarralumla residents and volunteers from FOG helped two plantings in Stirling Park on 30 June and 1 August. One site was in open woodland where Chilean Needle Grass has been sprayed out by contractors engaged by FOG with ACT funds for WONS management, the other in clear mown space on the southern edge of the Park. These plantings will be monitored to assess both survival rates and the growth of new plants via natural seed dispersal into nearby control areas.

Yarramundi Reach

The third NCA site at Yarramundi Reach was planted on 26 August thanks to volunteers from Southern Tablelands Ecosystem Park and FOG.

Plants included:

- Common Everlasting or yellow buttons *(Chrysocephalums,* both *apiculatum* and *semipapposum),*
- Button Everlasting *Coronidium scorpiodes,*
- Blue Devil *(Eryngium ovinum),*
- Hoary Sunray *Leucochrysum albicans,*
- Bulbine Lily *(Bulbine bulbosa),*
- Grass Triggerplant (*Stylidium graminifolium),*
- Yam Daisy (*Microseris lanceolata),*
- Billy Buttons *(Craspedia variabilis),*
- Chocolate Lily (*Dichopogon fimbriatus)* and
- several native grass species.

FOG volunteers planting out, June 2013
Image: John Fitz Gerald

** ACT Government Strategic Assessment Reports for *Gungahlin's Biodiversity Values,* from p.8.
Full Technical Report is available at
http://www.environment.act.gov.au/__data/assets/pdf_file/0007/258019/Gungahlin_Biodiversity_KF-MM_final_version.pdf
Consultation Draft for Gungahlin's Biodiversity Plan is available at
http://www.economicdevelopment.act.gov.au/__data/assets/pdf_file/0019/432082/Biodiversity-Plan.pdf
Final EPBC documents and approval are at
http://www.economicdevelopment.act.gov.au/community_engagement/Recent_Activities/gungahlin

Partner News

Southern Rivers CMA launches new Catchment Action Plan

Donna Hazell from SRCMA gave a presentation to the K2C Executive on their plans for completing the identification of priority areas for connectivity. Below are some extracts and details from the SDR CMA CAP.

During 2012-13 Southern Rivers CMA upgraded the Southern Rivers Catchment Action Plan (CAP). The upgraded CAP, referred to as CAP 2023, was approved by the NSW Minister for Primary Industries and Minister for Small Business on 2 April 2013.

CAP 2023 will set the direction and framework for managing natural resources in the Southern Rivers region for the period 2013-23. The NSW Government has set clear expectations for improved regional service delivery across the State. CAP 2023 will define the NRM service priorities for the Southern Rivers region.

The plan was built upon extensive community consultation across the region involving workshops and online forums and discussions during 2012 with local communities, Indigenous communities, landholders, farmers and representatives from business, industry and government. What became increasingly clear through the process of upgrading the CAP is the important part that the natural environment plays in underpinning the social and economic wellbeing of the people across the region.

The CMA will continue to work towards building effective working relationships with local communities under CAP 2023 as the organisation transitions to the new South East Local Land Services (LLS). From 1 January 2014 LLS will link productive primary industries to sustainable catchment management. It will bring together the services provided by CMAs, agricultural advisory services within Agriculture NSW and Livestock Health and Pest Authorities (LHPA)

This upgraded CAP for Southern Rivers will play a critical role in planning natural resource management so that Local Land Services can continue with the building of healthy and resilient regional communities. During the first year of CAP 2023 implementation, a detailed and rigorous knowledge strategy that includes monitoring, evaluating, reporting, innovations and research components will be developed.

CAP 2023 key outcomes and goals

- **sustainable communities,**
- **profitable industries and**
- **resilient landscapes**.

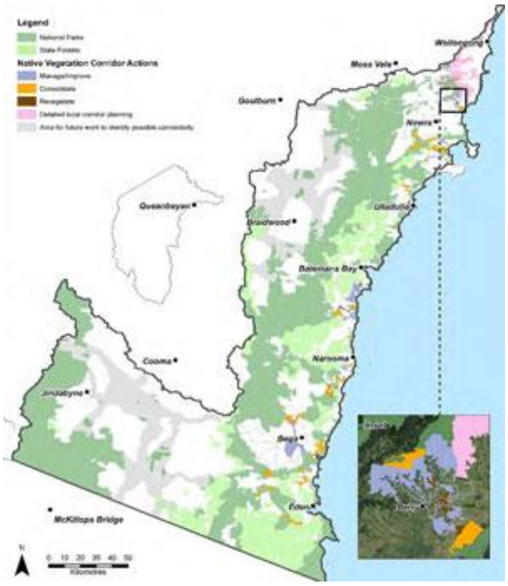
The plan is defined by three pillars:

Pillar 1 - People
Goal: sustainable economies and community wellbeing.

Pillar 2 - Governance
Goal: adaptive management and devolved decision making.

Pillar 3 - Natural resources
Goal: diverse, healthy, connected, productive natural environments.

Connectivity – a key element of habitat dynamics
Connectivity is the degree to which land or water allows movement of plants and animals and the operation of ecological processes between different areas of habitat.



This map displays priority areas for action to improve native vegetation connectivity, noting the green areas as being parks and forests, purple for management, orange to consolidate, brown to revegetate, pink for detailed corridor planning and grey areas are for future work to identify possible connectivity. More work is needed to map Tablelands.

Below are some of the key goals of the CAP set against the framework of the three key outcomes
Each objective will have a target, strategies to implement and priorities for action and investment.

See SR CMA CAP: <http://www.southern.cma.nsw.gov.au/news_publications-plans_strategies.php>

Pillar 1 People - Goal: Sustainable economies and community wellbeing

Objective: Local industries dependent on natural resources are profitable and sustainable

Strategies to implement:	**Priorities for action and investment**
• Support business performance within natural resource dependent industries • Maintain and improve the natural resource assets that support local industries • Support a broader industry base in local economies and communities	• Grazing, dairy, aquaculture, fishing and horticulture industries • Aboriginal enterprises • Grazing, dairy, aquaculture, fishing, horticulture and tourism industries • Food production and distribution systems • Nature-based tourism • Industries that reduce dependency on external resources, particularly fossil fuels • Carbon sequestration industries

Objective: Communities are resilient, with a sense of wellbeing and connection

Target: By 2023, communities are supported to increase their capacity to contribute to natural resource management and social wellbeing

Strategies to implement:	**Priorities for action and investment:**
• Build and support industry and community networks and promote the cultural and Southern Rivers region	• Aboriginal, small farm and recreation groups • Nature-based tourism • Landcare volunteers, primary producers, nature-based tourism, recreational users, Aboriginal people, youth and corporations • People's connection to the land and sea • Aboriginal cultural heritage • Diversity of values and aspirations

Pillar 1: People – strategies and priorities - Grazing landscapes

Transitional State	**Management Actions** **Transitional to Desired**	**Desired State**
• Emergence of competitive perennial weeds • >30% bare ground • Low or sporadic financial returns • Increased annual weed cover • Limited plant recovery from grazing • No medium term plan to manage change in markets, climate or environment	• Peer support / social networks / grazing champions • Adaptation /diversification support • Financial and business management advice • Promote best management practice examples that consider ecosystem services and production • True costs of food production conveyed to the consumer	• Balance between production and conservation that supports sustainable profitable enterprise • Land contributing to ecosystem services above and below ground • Land managed within capability • Weeds managed to minimise impacts to productivity and biodiversity • Economic returns • Adaptable and flexible farm plan in place • Functional succession plan • Engaged, motivated farmer

Pillar 2: Adaptive management and devolved decision making

CAP 2023 aims to establish adaptive management practices and governance structures that will enable effective decision making on the use and care of the region's natural resources at a variety of scales. Devolved decision making aims to ensure that management decisions are made at the appropriate scale and with the appropriate stakeholders.

Pillar 3: Diverse, healthy, connected and productive natural environments

CAP 2023 includes specific strategies to:	**Vegetation in a desired state is characterised by:**
• improve soil condition in rural lands • manage naturally fragile soils • protect priority assets from land degradation • maintain and improve the extent and condition of priority habitats • maintain and improve habitats that support connectivity priorities • integrate production and conservation goals into primary production systems • maintain and improve the condition of priority marine, estuary and freshwater assets • implement practices that contribute to the maintenance or improvement of water quality • implement equitable sharing of water between people and the environment.	• ecological communities and populations able to persist in the medium to long term, with sufficient population size, genetic diversity and distribution to recover from shock events such as disease and wildfire • richness in plant species and variability in vegetation structure appropriate to the vegetation community • provision of a range of ecosystem services • minimal impact from invasive species and diseases • a diversity of fauna species supported • the provision of key habitats such as hollows, fallen logs, rocks • occurs within a landscape with sufficient connectivity across the landscape to enable species to move between areas of habitat and a shift in species distribution • the expression of full diversity of ecological communities • Aboriginal cultural connection with plants and animals is widely acknowledged and celebrated.

Partner News

Videos released for grassland restoration seed bank project

Greening Australia

Five videos are now up on the web showcasing a Grassland Restoration Project funded through Caring for Our Country. These videos track progress since the start of the project with a bit more filming to come.

All project partners hope the videos will generate much interest and inspire others to help build native ground cover seed reserves for future revegetation and restoration works across grasslands and woodlands. The seed produced will be used to restore threatened grassland sites in the ACT region.
https://www.facebook.com/pages/Greening-Australia-Capital-Region/450302131650827?ref=hl

Seed production partnership for ACT

Greening Australia Capital Region is partnering with:

- Australian National Botanic Gardens (ANBG),
- CSIRO and
- the Centre for Australian National Biodiversity Research

to restore threatened grassland sites in the ACT.

http://www.youtube.com/watch?v=LOwUgXIJKiA&list=UUYmM0tybGodOejvWuoP5RPg&index=2

The grassland restoration project is being developed through a partnership of the Australian National Botanic Gardens (ANBG), Greening Australia and CSIRO. The project will benefit from the horticultural experience of ANBG as well as its 50 years of seed collections, the genetic science at CSIRO and the dissemination network of Greening Australia. The focus of the project is developing highly productive seed plantings.

Paul Gibson-Roy from Greening Australia believes that the data suggests we can restore complex forb populations. The use of seed production projects become important for a number of reasons as, there is often not much seed left in the landscape and also, seed production can help with seed quality.

Seed quality is important for restoration projects. Seed quality can be affected by loss of genetic diversity. A CSIRO conservation restoration geneticist has looked at grassland species and showed genetic diversity might be lost if species and provenance are not identified and kept separate, otherwise seeds might end up as sterile. In this project, Linda Broadhurst, CSIRO is looking at improving the genetics of rare and common species. She Is documenting and analysing the loss of genetic diversity as it affects low seed sets. It is hoped that there will be improvements in genetic diversity in this seed production project.

Tom North is the Seedbank Manager at the ANBG and he believes that if you don't know the quality of your seed then, you are wasting your time as you don't know what you are sowing, and this affects production.

A workshop in May 2013 was attended by local government councils, private land holders and environmental scientists to discuss and show how to set up local seed banks to help sustain local populations through revegetation. The workshop noted that grasslands are severely depleted and the idea is not to put too much pressure on the remaining grasslands by harvesting. You can supplement native seed production by taking a small number of seeds and grow these to develop seed banks.

In early September, students from Western NSW TAFE and Central west Landcare members visited the two seed production areas located at Greening Australia and the ANBG. The production area at Greening Australia is popular with visitors.

Bindi Vanzella, Greening Australia

Associate Member News

Wildlife Land Trust memberships

Humane Society International's private land conservation network

The Wildlife Land Trust (WLT), Humane Society International's private land conservation network, is a Kosciuszko 2 Coast associate member with an increasingly active presence in the region. A total of 26 sanctuaries covering 4,000 hectares within the conservation corridor are members of the Wildlife Land Trust, amounting to more than 10% of the total WLT sanctuary and hectare count nationally.

Being a very inclusive program, these sanctuaries range from smaller household blocks of a couple of hectares through to large and highly biodiverse covenanted properties. Of the 26 privately owned WLT properties in the K2C region a significant proportion are also members of other conservation programs - 375 hectares are under five Wildlife Refuge agreements with the NSW Office of Environment and Heritage (OEH), while six sanctuaries amounting to approximately 2600 hectares are permanently protected through OEH Conservation Agreements.

Aside from the usual benefits of WLT membership such as free property signage and a dedicated sanctuary profile on the WLT website, signing your land up to the WLT renders NSW landholders eligible for level 3 of the annual WLT partnered Private Land Conservation Grants program.

This means that solely through WLT membership you can apply for up to $2,000 in funding for projects such as organising an environmentally educational event or hosting a conservation working bee on your land. Furthermore, a recent arrangement with OEH has resulted in the WLT now being able to assess, and where appropriate, fast track any covenanting arrangements you may be considering.

Warriwillah

Warriwillah, the only WLT sanctuary owned by Humane Society International of the current Australian membership of 222 refuges, is also in the K2C area. Located on the Murrumbidgee River side of Michelago, this 120 hectare property is protected in-perpetuity by a Voluntary Conservation Agreement with NSW OEH. Vegetation is typically open forest and woodland dominated by Apple Box, Black Cypress-pine, Yellow Box and Broad-leaved Peppermint. A Wedge-tailed Eagle nests among the apple box vegetation at the top of the cliffs. The range of habitats support a diversity of bird species including the:

- Yellow-tailed Black-Cockatoo,
- Dollar bird,
- Sacred Kingfisher, and
- a breeding pair of Peregrine Falcons.

Warriwillah, image supplied by Evan Quartermain

WLT Director Michael Kennedy and Program Manager Evan Quartermain at Warriwillah

The Australian Wildlife Land Trust : (Facebook: www.facebook.com/wltau, Twitter: www.twitter.com/wlt_au)
The program is voluntary, completely free of charge, and has no effect on the legal standing of your property.
Warriwillah: http://www.wildlifelandtrust.org.au/index.php/sanctuaries/new-south-wales/63-warriwillah
Head to the above links to apply for membership or learn more. (www.wildlifelandtrust.org.au).
Contact Program Manager Evan Quartermain on 1800 333 737 or at evan@hsi.org.au.

A new Stick Insect to NSW and the local region

Roger Farrow

Most stick insects inhabit the canopy of trees and shrubs feeding on the leaves of broadleaved plants and they rarely descend to the ground. Their eggs fall in the litter and the newly hatch nymphs immediately climb back into the canopy where they spend the rest of their lives.

In Australia there is one group of stick insects belonging to the sub-family *Lonchodinae* which live in grassland feeding on different grass species. They are extremely thin, wingless and with very long legs and vary in body length from 30 mm (Males) to 120 mm (females). Six species in the genus *Denhama* have been described in Australia between 1859 and 1918 and are listed by Paul Brock and Jack Hasenpusch in their book: *The complete field guide to Stick and Leaf Insects of Australia* (CSIRO Publishing 2009).

Most specimens of *Denhama* have been collected in northern Australia from widely separated locations and are very few in number compared with the canopy-living stick insects. None have been collected in New South Wales and Victoria but a few specimens are known from South Australia. The type species, *D. aussa*, is labelled Denham (WA) and this name was given to the genus by Werner in 1912, but this may be a false location according to Paul Brock at the Natural History Museum in London.

In February, a group from the local Australia Native Plant Society, was visiting a local nature reserve to catalogue the plants present when I found a curious stick insect in short grass which I photographed. It was wingless and extremely slender and I thought it could have been a nymph which had fallen out of a tree. Later on the walk a member of our group found a pair of mating stick insects in a short grass area, straw-coloured in appearance with a dorsal stripe in the female and very well camouflaged. I realised that previously I had been looking at was a male and that these were indeed grass-living species, which I duly photographed.

The grassy vegetation consisted of: patches of *Joycea* tussocks, especially at lower elevations, more open areas of *Austrodanthonia* sp and miscellaneous forbs, where the stick insects were seen, possibly because they were more visible there. So it is not certain if there are stick insects sheltering and feeding in the *Joycea* tussocks.

Comparing my images with those in the field guide; the only possibility was a species of *Denhama,* although there were no records from NSW. Paul Brock was sent my images and immediately replied that this was indeed a new record of *Denhama* and probably a new species and that he would like a specimen to examine when he visited Canberra in August. I returned a few days later to check the grassy areas outside the reserve with the object of collecting a male and female for reference and description but I failed to find any more individuals and none were seen inside the reserve where collecting requires a permit. It would also be useful to keep a pair in captivity in order to obtain some eggs which also have diagnostic identification features.

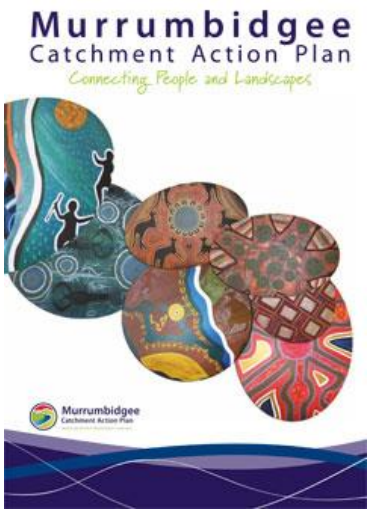
These stick insects are extremely well camouflaged and difficult to detect in the field which may account for some of their rarity in collections. However if they are confined to particular vegetation patches in grassy box woodland as this brief study suggests then we have another animal that is dependent on the conservation of this endangered plant association and the ecosystem it supports.

The first male *Denhama* encountered. Length 45mm
Image: Roger Farrow and Australia Native Plant Society

The mating pair. Female length 60 mm.
Image: Roger Farrow and Australia Native Plant Society

Partner Portal

The Murrumbidgee Catchment Action Plan (CAP 2013) approved



The Murrumbidgee CAP was officially approved by the Minister for Primary Industries Katrina Hodgkinson in April 2013. The Murrumbidgee CAP has been upgraded as a response to new knowledge, evolving policy and community values, and emerging issues such as climate change. The Murrumbidgee CMA worked closely with community members, stakeholders and government agencies throughout 2012 and 2013 to develop the plan.
http://www.murrumbidgee.cma.nsw.gov.au/downloads/Next_Gen_CAP/Murrumbidgee_CAP2013_DOCUMENT_lowres.pdf

Murrumbidgee Catchment Management Authority open for project funding

Murrumbidgee Catchment Management Authority (CMA) is encouraging land holders to submit Expressions of Interest (EOI) for funding to improve productivity on the land whilst protecting the natural environment.
Activities offered in this Expression of Interest round include the establishment of drought lot feeding facilities, subdivisional fencing for improved grazing management, alternative stock water supply provisions and boxthorn control in rangeland grazing areas.
Expressions of Interest (EOIs) close 5pm, Friday 25 October 2013.

Local landcare Group – Yass Area Network of Landcare Groups (YAN)
YAN Strategic Workshop 26 October 2013, 10am to 3pm

YAN is having a Strategic Planning Workshop. YAN has invited three outstanding Landcare Groups to show us how they have hurdled problems and galvanized community resources. The forward plans and benefits they have made for themselves are truly inspirational. All local Landcare groups and their members are invited to participate.
http://www.yan.org.au/planning_workshop_-_26oct13_50.html

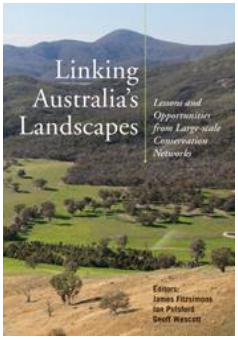
Nature Conservation Trust of NSW –
Caladenia Ridge, a wildlife sanctuary, near Albury for sale

The Nature Conservation Trust sells prime rural properties in southern NSW and near the Australian Capital Territory, including bush blocks, sustainable farms and large agricultural holdings. Each NCT rural property is sold with a conservation land covenant attached to ensure that the land, which has a high conservation value, is legally protected in perpetuity. Caladenia Ridge is 110-hectare rural property just 9 km from the heart of Albury that is also a wildlife sanctuary for rare birds and native Australian trees and flowers.
http://nct.org.au/rural-land-for-sale/southern-nsw-region/caladenia-ridge.html#.UjQahp1-9Ms

Upper Murrumbidgee Catchment Coordinating Committee
Unearthing Wetlands of the Upper Murrumbidgee…Fact Sheet, available

Wetlands are now recognised as important assets in the rural landscape. Their multiple values and functions provide many environmental services for rural landholders and for the catchment. This fact sheet is designed to assist rural landholders to identify and manage wetlands in the upper Murrumbidgee catchment.
http://www.umccc.org.au/files/Wetlands%20Factsheet.pdf

Great Eastern Ranges – new book on landscape scale change
Linking Australia's Landscapes - Lessons and Opportunities from Large-scale Conservation Networks



Ian Pulsford who led the establishment of the Great Eastern Ranges Initiative is one of three lead authors, along with James Fitzsimons, The Nature Conservancy (TNC) and Geoff Wescott, Deakin University who have edited *Linking Australia's Landscapes*. This book draws out lessons from a variety of established and new connectivity conservation initiatives from around Australia, and is complemented by international examples. Chapters are written by leaders in the field of establishing and operating connectivity networks, as well as key ecological and social scientists and experts in governance. A paperback edition was published in **June 2013.** http://www.publish.csiro.au/pid/6898.htm

Partner Portal

Grass is Greener website is launched

www.grassisgreener.org.au

The Grass is Greener website is a collaboration between ACTEW Water and Greening Australia. This is a place to share stories of improved land management and to see what's happening on the other side of the fence.

You can discover some of the steps that landholders in our region are taking to increase productivity, protect their stock, increase property value, reduce erosion, increase water quality and bring birds back.

Ecolinc Science and Technology Innovations Centre launches Flora Fauna Field Guide app

The flora and fauna of the Western Volcanic Plains, Victoria, Australia is unique with many species endemic to ecosystems within this bioregion. Over 160 animals and over 250 plant species are comprehensively described, most with multiple images taken within the natural habitat of the species.

As part of the Myer Foundation – K2C Grasslands project, the app's geographical scope will be extended to south-eastern Australia, expanding the species list, and including GPS-linked guides to a number of specific grasslands. These will feed into a QR-code based grasslands signage program. Watch this space!

See the iTunes preview is https://itunes.apple.com/us/app/biodiversity-western-volcanic/id653258339?ls=1&mt=8.
The content of the field guide app will also be available via the web (this is still in beta): http://bwvp.ecolinc.vic.edu.au/

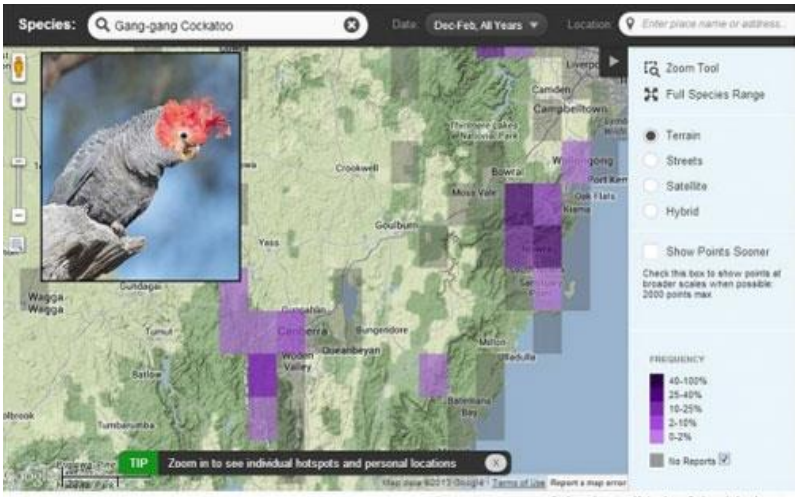
Project BioD launches QuestaBird Adventure Game App development on Pozible

Project BioD is developing a mobile game in which players -- mostly kids, but adults too! -- are rewarded for seeking out and observing birds from around the Canberra/ACT region. The idea is to educate young people about biodiversity, get kids on their feet, outdoors and learning to enjoy (and conserve) our native birds and their habitats.

The game is called QuestaBird. It follows the 'adventure game' model that young people are accustomed to playing online -- with quests, maps, equipment, gold, supplies, life-points, special powers, and all the other goodies and challenges that make adventure gaming so much fun. The key difference is that the quests on QuestaBird involve seeking out, identifying and recording birds in the ACT region.

http://www.pozible.com/project/32948

Visit Pozible to support the project



Data courtesy of the Cornell Lab of Ornithology

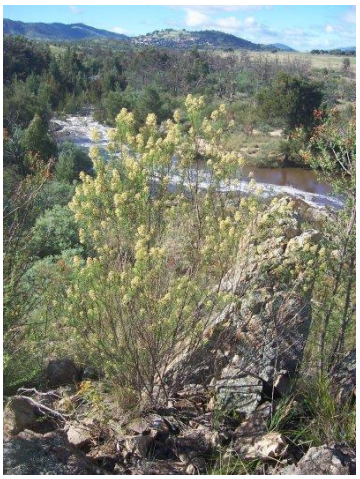
Using real, dynamic data from the Canberra Ornithological Group (COG) and the Atlas of Living Australia (ALA), the game rewards players for spotting and identifying birds, with the levels of reward varying depending on the rarity level of the bird sighted.

The game is also designed to be scalable (100 players or 100,000) and to produce verified, scientifically useful data. All data collected is vetted by verified experts and submitted to both the ALA and the Cornell Lab of Ornithology, using the international Darwin Core Standard (DwC). In this way, we not only educate kids about birds, but we have more eyes on the ground to help us record and protect our precious biodiversity. We can even use the quests in the game to help map areas on which data is sparse, or more information is needed.

Ultimately, the goal is for QuestaBird to start our kids on a lifelong quest to better understand and value the amazing diversity of life around us, because - the game is fun, and the adventure is real.

Forthcoming Events

Parkcarers of Southern Murrumbidgee (POSM) – Monthly Activities



19 October, 23 November, 14 December

POSM are a small, informal, enthusiastic parkcare group who take care of an area on the Murrumbidgee River, from Point Hut Crossing to Pine Island, including part of Barney's Hill.

This month they will be planting. Volunteers will focus on how it is important to plant species in the best location to enhance their growth and survival. Some species prefer rocky soils on slopes, some prefer being closer to the river, or need protection from the hardest frosts.

Contact Lauren on 0478 222238, or email debkellock@yahoo.com.au

ANPS Australian Native Plant Sale

Sunday 19 October 8.30am - 2pm

Australian National Botanic Gardens

The Australian Native Plant Society holds plant sales twice a year for members and the public in March and October. There are over 600 different species, forms and cultivars for sale. These include plants not normally available at nurseries and other retail outlets, as well as many plants which grow locally. **Southern Car Park**

A list of plants expected to be for sale will be available before the sale. Small numbers of additional species will be available. You may send a request e-mail for the list for the next sale on the ANPS website. Please bring bags and boxes to take home your plants.

$5.00 - $8.00 each plus a 1% surcharge on credit card

Stirling Park walk

Sunday 27 October, from 2 pm

See the beautiful golden-yellow Button Wrinklewort daisy in flower (pictured), and admire the results of well-targeted weeding and other management practices in this patch of remnant native woodland in the heart of Canberra.

Please register with Jamie Pittock via jamie.pittock@fog.org.au .

ACT Centenary Bioblitz for Black Mountain NR

25-27 October

Black Mountain Nature Reserve and CSIRO Discovery Centre

The ACT Centenary Bioblitz will bring together scientists, naturalists and members of the public to record a snapshot of the region's biodiversity in a short period of time. It's citizen science in action!

Visit www.csiro.au/bioblitz or visit the Bioblitz Eventbrite page.

CONTACT Molonglo Project Coordinator: Rachel Marks Email: projects@molonglocatchment.org.au Phone: 02 6299 2119

Potential of Native Grasses – Eighth National Stipa Native Grasslands Conference

5 – 8 November 2013

Murray Bridge Town Hall, Murray Bridge, SA

Keynote speaker: Professor Bill Gammage on *The Untapped Potential of Native Grasses.*

https://sites.google.com/site/nationalgrasslandsconference/

Notice Board

Casual and volunteer positions

Casual staff wanted for monitoring kangaroo grazing

The Conservation Research unit of ESDD is currently looking for casual staff to assist with the collection of data pertaining to the impacts of kangaroo grazing on local biodiversity. In particular, we are looking for individuals with a sound knowledge of, and ability to identify, local flora – especially grasses. Depending on staff availabilities, work is expected to continue from now until the end of summer. Individuals will work either individually or (more commonly) as part of a small team to complete survey work. An ability to drive a manual vehicle is also highly preferable, as is a minimum availability of 2-3 days per week.

Contact: Don Fletcher (don.fletcher@act.gov.au), Melissa Snape, Assistant Ecologist | Conservation Research, Environment and Sustainable Development Directorate, ACT Government w +61 2 6205 0001 m +61 418 693 723 Mail Parks and Conservation Depot | 66-68 Grimwade St | Mitchell ACT

Golden Sun Moth Translocation Research: volunteers needed

The ACT Government and University of Canberra are seeking volunteers to help with research into translocating the Golden Sun Moth. Volunteers are needed to help monitor the emergence of adults from October to January to ascertain whether the translocation has been successful. The monitoring site is near the National Arboretum in Canberra. Volunteer for a week, a month or for the duration of the project! No experience is necessary. Training will be provided.
Contact: Dr Bill Sea (University of Canberra) 6201 2280 bill.sea@canberra.edu.au , or Clare McInnes (ACT Parks and Conservation Service) 6205 4680 clare.mcinnes@act.gov.au.

Molonglo Catchment Group, Waterwatch volunteers wanted

The MCG is looking for enthusiastic people or groups including students, scouts, land managers, land carers ... anyone, to be trained and equipped to take regular water quality measurements. If you live close to the lower end of a creek or stream (or can travel to one easily) and would like to assist with wet and dirty knowledge gathering, let us know of your interest. Contact Rachel Marks Molonglo Waterwatch Coordinator.

Member accolades

K2C Executive members recognized for their work as ACT Landcare volunteers

John Fitz Gerald and Glenys Patulny recognised by ACT Government Awards

- Dr John Fitz Gerald, along with Dr Ken Hodgkinson, won the ACT Government Quiet Achiever Award for their work on grasslands and woodlands.
- Glenys Patulny won the ACT Government Environment Community Support Award. Ms Patulny has been a significant supporter of Landcare in the ACT since 1996.

The ACT Minister for the Environment and Sustainable Development, Mr Corbell said

> It was a privilege for me to help recognise these volunteers today, who have all put in long hours to improve and protect our natural environment. ACT Landcare volunteers put in more than 10,000 hours of unpaid work each year, and there is always a need for more people to put up their hands to pitch in.

http://www.cmd.act.gov.au/open_government/inform/act_government_media_releases/corbell/2013/awards-for-local-landcare-achievements

Tours and field trips

Bundidgerry field trip, Sunday 13 October

Bundidgerry is east of Murrumbateman. It has outstanding grassy woodland which is being managed for its biodiversity with support from the Biodiversity Fund for the Landcare Linking Biodiversity project This outing will be held in conjunction with the Murrumbateman Landcare Group. Register with margaret.ning@fog.org.au.

Murumbung Yurung Murra Cultural Tours – Experience Ngunnawal Country, monthly

Experience Ngunnawal Country with an Aboriginal Ranger and gain an insight into the cultural landscape of the region. Discover why Ngunnawal people and neighbouring nations have gathered here for tens of thousands of years for ceremony, marriage, seasonal foods, trade and lore. Every month, and on demand throughout 2013, minimum numbers required for some tours.
Visit the Murumbung Yurung Murra Cultural Tours page on the TAMS website.

K2C Planning Updates

K2C strategic planning

Recently, as an initiative of Tony Robinson, we held a Strategic Planning Forum. This was felt necessary for a number of reasons. It was felt that with a new leadership team, and because the K2C Partnership's Memorandum of Understanding is due for review in October this year, and also because of a number of other emerging issues, it was timely to do a little navel gazing.

We engaged the services of Mr Mark Butz (MEIANZ, ILPM, CToPF), principal of *Futures by Design*, to facilitate the Forum, held on 11 July 2013. I am pleased to report that the Forum was extremely well attended by representatives of almost all of the K2C partners. Mark guided the attendees through a thoughtful process, and a smaller group met the following day to refine the outcome of the larger group session.

Mark has since developed a draft two-page strategy, which he delivered to the last K2C Executive committee meeting. This is undergoing further review by the committee. I would like to thank all the participants that made this exercise a valuable one, and also thank Mark for his expert guidance through the process.

K2C Facilitator – Lauren Van Dyke departing

Many will not yet know that the inaugural K2C Facilitator has also decided to move on. Lauren Van Dyke has been a tremendous boon to the K2C Partnership. Lauren's delightfully engaging manner, her huge capacity for learning about our wonderful K2C region, her expert organisational skills and her brimming enthusiasm and passion for the K2C cause will be very sorely missed, I'm sure, both by the Executive Partnership team and by K2C people on the ground.

Lauren receiving her gift from the Hon. Robyn Parker

Lauren hopes to spend more time getting her hands dirty on her partner's farm at Bredbo, and I'm sure she will have more time for her family as well. It is somewhat premature, as Lauren is not due to leave until the end of September, but I know all who have met Lauren will join me in wishing her a very happy and successful future, no matter what path she may follow.

Lauren was recognised for her services to the Great Eastern Ranges Initiative by the NSW Minister for Environment and Heritage, the Hon. Robyn Parker.

Future of K2C – succession and support

As hard as it will be, we now have to think of replacing Lauren. The K2C Executive called for expressions of interest. A number of candidates will be interviewed for the position of K2C Facilitator. More in the next issue.

Thanks to the superb ground-work that people like Geoff Roberston and Lauren Van Dyke have laid down, and the continuation of support and just plain hard work by people, including Tony Robinson, Tom Baker, John Fitz Gerald, Peter Saunders, Rod Mason, David Eddy, David Hilhorst, Donna Hazell, Felicity Sturgiss, Matt De Jongh, Leanna Moerkerken, Felicity Collins, Kathryn Wells and many, many others, not least of which, all the landholders participating in the K2C on-ground projects, I believe K2C's future is looking good. The continuing and valuable support of Rob Dunn and Gary Howling of the Great Eastern Ranges is acknowledged.

K2C Atlas launch soon

I am looking forward to announce the launch of the K2C Species Atlas, a project being worked on, quietly and persistently and very much behind the scenes, by Lauren, Kathryn, Geoff and ALA's Peter Brenton.

Next Partners Forum –15 November – Connectivity

My aim is to strengthen the partnership by adhering to the K2C Memorandum of Understanding and the Draft Strategic Plan. Our next K2C Partners Forum has a strong connectivity science focus.
Till next issue, stay connected!

Rainer Rehwinkel - Chair, K2C Executive

Kosciuszko to Coast Partnership

Aims: Conserve, Connect and Recover

■ grasslands ■ woodlands ■ riparian areas and wetlands ■ small bush birds
■ arboreal mammals ■ rare forest communities and species

K2C and Partner Services

■ management advice and options ■ funding through targeted projects
■ conservation instruments: agreements and incentives,
wildlife refuges and property vegetation plans
■ plant identification ■ field days and forums ■ newsletter

K2C Projects

■ Indigenous traditional land management practice ■ Grasslands
■ Glossy Black-Cockatoos ■ Grassland Earless Dragon
■ Monaro Landscape Connectivity ■ K2C Species Atlas

K2C Partners

K2C is a partnership of 11 organisations including government agencies and non-government groups.
If you are a land manager and are looking for incentives or advice on native vegetation in the K2C region then contact us or our K2C Partners:

ACT Government - Parks, Conservation and Lands – www.tams.act.gov.au
Bush Heritage Australia – www.bushheritage.org.au
Office of Environment and Heritage – www.environment.nsw.gov.au
Friends of Grasslands – www.fog.org.au
Greening Australia Capital Region – www.greeningaustralia.org.au/community/capital-region
Molonglo Catchment Group – www.molonglocatchment.com.au
Murrumbidgee Catchment Management Authority – www.murrumbidgee.cma.nsw.gov.au
Nature Conservation Trust of NSW – www.naturetrust.org.au
Southern Rivers Catchment Management Authority – www.southern.cma.nsw.gov.au
Upper Murrumbidgee Landcare Committee – www.umlc.org.au
Upper Murrumbidgee Catchment Coordinating Committee – www.umccc.org.au

K2C is a proud regional partner in the **Great Eastern Ranges Initiative** - www.greateasternranges.org.au

Contacts

To enquire about K2C, its projects, this newsletter or how to become involved, including volunteering activities, then, please contact us:

email facilitator@k2c.org.au
address: 229 Mt Livingstone Road, Michelago, NSW 2620

Editorial

Species names follow the style and convention recommended by Council of Heads of Australasian Herbaria at Australia's Virtual Herbarium
http://www.anbg.gov.au/chah/avh/help/names/index.html
All other text convention follows the AGIMO, *Style Manual*
Copy deadline is from four to a minimum of two weeks out from seasonal publishing date.

Groundcover Newsletter Spring edition 2013
Newsletter Editor **Kathryn Wells**

K2C – building the resilience, extent and connectedness of natural vegetation

www.k2c.org.au