



# AABR NEWS

Australian Association of Bush Regenerators

*working with natural processes*

## AABR Walks and Talks

**Nº 125**  
**June**  
**2015**

### **Restoring the Byron Bay Clay Heath EEC NSW Far North Coast**

**Saturday 11<sup>th</sup> July 2015**

Ecological consultant Andy Baker will lead a walk through this fragile Endangered Ecological Community and discuss the extensive restoration works including use of fire.

Numbers are limited but Andy is offering to do both a morning (9am-11am) and an afternoon walk (1pm-3pm).

RSVP for details to [andybaker@wildsite.com.au](mailto:andybaker@wildsite.com.au) or call 0422 736 351

### **Following the foreshore:**

### **A guided walk around Wallis Lake restoration sites on NSW mid-north coast**

**Friday 24<sup>th</sup> July 2015**

Join AABR member Melanie Ledgett for a morning tour of wetland and saltmarsh sites that fringe the western shore of Wallis Lake on the NSW mid-north coast. View sites where years of active bush regeneration have assisted healthy communities to emerge from impenetrable lantana and senna infestations. Walk finishes at the scenic Coomba Aquatic Club with a BBQ lunch. Meet 9.30 am at Burraneer Road, Rose Point. See AABR website for further location details

RSVP to [secretary@aabr.org.au](mailto:secretary@aabr.org.au) or for more information ring Melanie on 0424 625 238



### **Plant Id workshops with Van Klaphake**

**Eucalypts Sydney  
18-19 July**

**Grasses, Newcastle  
3 and 4 July**

**See page 2 for details**

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# President's Perspective

Winter time again and some breathing space from weed, enabling some catching up on other activities...er like grant applications, accreditation applications and plans for future field trips and conferences!

**Video platform.** As reported in the last newsletter, AABR submitted an expression of interest for a 3-year grant from the NSW Environmental Trust to support the full development of our video platform. (This platform is currently only in pilot form, with only a small number of bush regeneration-relevant conference presentations uploaded to date.) The hopeful news is that our Environmental Trust application has been selected (as one of 29 EOIs from 176 submitted) to now submit a full application. We are now working on our full application – so keep your fingers crossed that our application is competitive with the other worthy projects!

**AABR's 30<sup>th</sup> Birthday - calling for ideas.** We have enough projects to keep us busy for a while but perhaps the main *new* project we are starting to think about is AABR's 30th Birthday next year. This of course provides another opportunity for the organisation to meet with its members and strengthen our

relationships within the bush regeneration industry and with the broader ecological restoration industry.

*We are calling for ideas from our members about how we should best celebrate this important milestone.*

Ideas received so far include a photography competition, a fundraising dinner with a great speaker and a symposium that considers how well the underpinning principles of regen have travelled over the decades.

A symposium would provide an opportunity to showcase results at long-standing sites and consider the role of regen in future restoration. Such an event could also help us consolidate efforts to involve contractors, convey the importance of accreditation and promote the SERA Standards which should be ready by early 2015.

**Put your thinking caps on and email your ideas to** [secretary@aabr.org.au](mailto:secretary@aabr.org.au)

Tein McDonald.  
President AABR

## Thanks Paul!

Paul Ibbetson who has been AABR's longstanding Treasurer has handed over the reins to Kirsten Vine.

Paul took on the position officially in January 2001 and has seen the finances of AABR grow with the growth in membership and activity and has dealt with the role with his usual sense of humour. Paul has also been an active committee member arranging many walks and talks, being on the OHS committee and he did research on the unions bush regenerators could apply to for membership.

Thanks to Paul for his contribution.

## Welcome to new AABR Members

Rachael Buzio	Nicholas Little
Daniel Cleaver	Ulrike Schnabel
John Hewson	Da Hoon Song

**Company:** Envirosure

### AABR Accreditation

Congratulations to Danial Foster who has received AABR Accreditation since the last newsletter.

## Sat 18 & Sun 19 July Eucalypts of the Sydney Region with Van Klaphake

Time: 8:45 am to 4:00 pm

Place: The C.E.C.A.L. Hall at 15 Clarke Street, Earlwood, Sydney. Nearest railway station is Bardwell Park & buses 423, 471, 499 pass nearby.

Cost: \$165 per person, \$155 for AABR members. This includes the cost of the manual.

Payment must be made in full to secure a place on the course.

AABR contact person is Neridah Davies,

[ndavies101@gmail.com](mailto:ndavies101@gmail.com) 0420 363 396

<http://www.aabr.org.au/event-july-18-and-19-eucalypts-of-the-sydney-region-with-van-klaphake/>

## Van Klaphake's Native & Exotic Grass Identification Workshop Fri 3rd & Sat 4th July - Newcastle

The workshop will run over 2 days, from 9am-4pm each day. The venue is the Newcastle Community Arts Centre, 246 Parry St, right next door to TIN (Trees in Newcastle)

Cost is \$160/person.

Bookings are preferably taken through the online booking system. For more details and bookings see TIN's event page <http://www.treesinnewcastle.org.au/page19198/Events--News.aspx?newsID=10512>

If you can't book online please contact the TIN office by phone 02 4969 1500 or email [enquiries@treesinnewcastle.org.au](mailto:enquiries@treesinnewcastle.org.au)

The event is being co-hosted by Trees In Newcastle (TIN) and the Australian Association of Bush Regenerators (AABR)

## AABR has a new postal address and new Bank Account

Please note the **mailing address for AABR.**

AABR C/O Total Environment Centre  
P.O. Box K61, Haymarket NSW 1240

**AABR also has a new Bank Account.**

**Please use the following details for all payments.**

**ANZ Bank: BSB: 012209**

**Acct No: 338123665**

# SERA Standards Roundtable

## Scott Meier, AABR

Along with Jen Ford, I was privileged to be able to represent AABR at the Society for Ecological Restoration Australasia (SERA) 'National Standards for Ecological Restoration in Australia' roundtable during the 25-26<sup>th</sup> March 2015 at the National Botanic Gardens, Canberra.

Approximately 30 participants attended - including SERA Board members, resource people and standards partners. Organisations represented included the Australian Network for Plant Conservation, Australian Institute of Landscape Architects, Australian Seedbank Partnership, AABR, Greening Australia, The Nature Conservancy, Indigenous Flora and Fauna Association, Wetland Care Australia, Trust for Nature Victoria, Australian Bush Heritage, CSIRO, Australian National University, Murray Darling Wetlands Working Group, Federal Department of the Environment and the Atlas of Living Australia.

The second draft of the standards was largely penned by Tein McDonald and Justin Johnson (SERA) and was provided prior to the workshop. The draft gave focus to detailed discussion. Careful time-keeping and a strict schedule saw all of the issues canvassed, often with vigorous debate.

Some of the issues included: target audience; reference ecosystems; seed supply and genetics; the spectrum of restoration; applicability to differing biomes; planning; documenting and monitoring.

From a personal perspective I see great benefit to AABR's involvement in the development of these standards and the discussion at large. The definition of restoration has vastly different meaning throughout the natural resource management sector and it is very important to be informed regarding differing practice and to be able to impart the vast legacy of restoration outcomes - including those of AABR members.

The practice of developing these standards is in and of itself a communicative tool. It is not necessarily the case that the concepts understood by a bush regenerator are understood by other restorative practitioners or managers. The opposite also applies; i.e we can also be unaware of the concepts underpinning the work of others. Hence this sharing of ideas is mutually beneficial.

The process of drawing together a wide range of partners operating across a spectrum from simple 'rehabilitation' through to complex 'restoration', means that the final product is more likely owned, adopted and imparted to an even wider network of interested parties. In addition, the fact that the standards are being developed by peers within the industry and the broader restoration movement, may mean they will be adopted by many who might not respond to a government guideline.

Bush Regeneration, as I see it, has been a step by step development of a grass roots nature, with a tremendous volunteer base. Without this massive and continuous volunteer involvement our industry would not be nearly as developed. This SERA project is also largely due to volunteer efforts, by those with tremendous understanding and depth of field practice.



Above: Representatives from seven Restoration NGOs meet at the National Botanic Gardens in late March 2015 to workshop the SERA restoration standards. Present were reps of AABR, ANPC, GA, the Australian Seed Bank Partnership (ASBP), The Nature Conservancy (TNC) and Trust for Nature (TFN) Vic as well as seven board members and two advisory research bodies (CSIRO, ANU) and resource people from the Atlas of Living Australia.

The development of the complete SERA standards package from concept to website is a costly exercise, with the bulk of the work falling to a few. The SERA board have developed a business case that is available on request to any supporter. It outlines the costs and a timeline for the development of the SERA national standards.

The AABR committee has supported the development of these standards with a contribution of \$2,000 on behalf of the AABR membership as the standards are a key industry development initiative. Without further financial contribution the full product may not be able to be developed. I encourage financial contribution, especially by businesses involved in this industry. This contribution would function as sponsorship, duly acknowledged on the end product and would greatly needed to support this important tool and contribute to an initiative that goes to the hear of our industry and the sustainability of the planet on which we live.



# Australian Botanic Garden, Mt Annan

## AABR Walk and Talk

**Elisabeth Dark (AABR)**

**with contributions by Dr Peter Cuneo (ABGMA),  
Meron Wilson (Hornsby Council) and Wendy  
Wright (BioDesign and Associates)**

Although The Australian Botanic Garden, Mount Annan (ABGMA) began in 1988 as a Bicentennial project, I had heard of the Australian PlantBank but until recently hadn't seen it. I had visited ABGMA before, but hadn't visited it for perhaps 10 years. In summary a lot has changed since then, with PlantBank now established as a purpose-built scientific research facility, the remnant EEC Cumberland Plain Woodland on site is thriving under a regular maintenance program and the expanses of aggressive African olive are being steadily reduced under a new well-planned strategy.

On AABR's field trip on the 13th March 2015 to the site in south-west Sydney, our extremely knowledgeable guides from the ABGMA were Dr Peter Cuneo (Manager – Natural Heritage), Jordan Scott (Snr Horticulturist, Natural Areas) and Gavin Phillips (Horticulturist, Natural Areas).

## PlantBank

PlantBank is a significant partner and contributor to the Millennium Seed Bank Project, headed by the UK's Kew Gardens. Located in West Sussex UK, the Millennium Seed Bank Project is a global seed conservation project that has successfully banked over 13% of the world's wild plant species. The project has an ambitious target of saving 25% of those species with bankable seeds by 2020 (75,000 species). The PlantBank team conducts a NSW state-wide seed collecting program and duplicates some collections to the MSB at West Sussex.

The building cost \$19.8m of which the NSW state government contributed \$15.5m and the corporate sector/donors \$4.4m. The project began in 2011 and the building was opened in October 2013.

The building itself is designed to be in harmony with the surrounding landscape and incorporates several sustainability features including energy reduction through cooling air flow from the labyrinth below the main section. Inside, its design allows the public to walk along a wide corridor to view scientists and lab staff at work, read interpretive signage about the project, follow the 'journey of the seed' and investigate static displays. It is a welcoming approach to an important scientific endeavour.

We went behind the glass to speak with the chief seed collector Richard Johnstone who explained key issues in seed storage and processing. These include ones we would be aware of, such as locating target plant species, being there at the right time and

labelling of seed. But also others which are key to maintaining a successful large scale and long term collection – including cleaning of seed (efficient separation of seed from chaff using an item of equipment from Holland), maintenance of optimum temperature and humidity levels to ensure maximum seed life (200+ years for hard seed, ~10 years for lighter seed types), and seed viability testing. Richard was trained in seed conservation at Kew, and his collection activities are assisted by local specialists for some species eg north coast rainforest.

Seed is stored in three ways depending on the specific species: cool room, freezer room and cryostorage (-193c). The seed vault is fire proof for 4 hours, in case of a catastrophic bushfire. In addition tissue culture is used for storage of species hard to propagate from seed (eg *Persoonia*) and tropical species with the growing material kept in glass jars for a few weeks then cut up and reused. Germination trials to test the viability of seed in storage use agar solution in petri dishes, incubated at 20c. Seed for just 44% of NSW species has been collected so far, and 47% of NSW threatened species, so there is quite a way still to go.

## PlantBank environs

The immediate environs function as an aesthetically attractive living laboratory announcing PlantBank's purpose and connecting to the core bushland beyond. A series of triangular beds feature a simplified landscape as a transition zone showcasing dense horticultural plantings of both common and rare Cumberland Plain Woodland (CPW) species including *Themeda triandra*, *Goodenia hederacaea* and *Pimelea spicata*. Interpretive signage is present for non botanists.

Landscape design was by 360 Degrees and was completed approximately 13 months ago. The hard shale soil continues to present some challenges. Trees (*Eucalyptus crebra*) have been planted in holes cut into shale. It will be interesting to see if they grow into healthy trees.

An interesting feature is the sandstone lichen-bed showpiece constructed from old stone and damaged sculptures sourced from the Royal Botanic Gardens in Sydney and placed to form a mosaic. The sandstone blocks, after being painted with a 'propagation' mixture of spores combined with buttermilk and spirulina, and kept moist by a sprinkler system, are beginning to show patches of mosses and lichens.

## Seed orchard

Not far from the PlantBank building, a grass seed production area has been established in the last 12 months, funded by an Environmental Trust two-year grant and with the technical assistance of project partners Greening Australia and Cumberland Plain Seeds (Tim Berryman), both known for expertise in propagating and establishing native grassland. Prior to planting, the soil was tested. The area was sprayed with selective herbicide Fusilade®, scalped (50-100mm from top), then gypsum and compost added to the soil and ripped in.

Four CPW species are being propagated within a rabbit-proof fence. *Microlaena stipoides*, *Dichelachne micrantha* and *Chloris truncata* were planted at a rate of 9/m<sup>2</sup>; *Poa labillardieri* at 5/m<sup>2</sup>. Other CPW grasses being grown nearby include *Capillipedium parviflorum* (scented-top grass), *Cymbopogon refractus*, *Themeda triandra* and *Sorghum leiocladum* (wild sorghum). All are growing vigorously.

Seed is being mechanically collected by a height adjustable 'grass grabber' which can be attached to a quad bike to cover large areas. The height-adjustable feature is important in enabling capture of the target species while avoiding weed grasses (pigeon grass, paspalum) which may be present. So far, in the first season, over 15 million viable native grass seeds have been harvested from this 1500 sq metre area. Large amounts of *Chloris truncata* seed have been harvested, and is self-seeding after less than a year; 4 kilos of *Microlaena stipoides* seed have been harvested.



The Group outside the PlantBank building with its locally native vegetation landscaping. Photo: Jane Gye

## Vegetation communities of ABGMA

Cumberland Plain Woodland is the dominant vegetation type in western Sydney but its extent has been greatly reduced and impacted by the spread of urban development. It is characterised by a canopy of *Eucalyptus tereticornis*, *E. moluccana* and *E. crebra* with a grassy understorey. The ground layer is diverse with up to five fern species and 25 grass species. The vegetation at Mt Annan currently ranges from intact remnant woodland to a monoculture of African olive. There are also elements of Western Sydney Dry Rainforest present on site. Remnant vegetation is being managed using AABR-recognised best practice methods.

## Rehabilitation of African olive areas

African olive was present on the site but exploded after the removal of cattle from ABGMA when the site was obtained by the Royal Botanic Gardens, Sydney in 1988. Bush regeneration and African olive control was initially focused on high value woodland remnants, but by 1998 African olive had dramatically spread and formed dense forests along the ABGMA eastern ridge and Mount Annan. This prompted a search for effective strategies for eradicating African olive. Work to clear them began in 2009 with an offset grant from Endeavour Energy. Early attempts of poisoning in situ were found to create problems years later when the dead trunks fell and made site access impossible, so that the areas became overgrown with secondary weeds. See AABR News issue 110 (October 2011) for an account of various treatment strategies used on site.

The current method in dense olive forest areas uses heavy machinery called a tritter which mulches whole trees down to ground level, can process two hectares of dense olive a day and eliminates WHS issues. The mulch machine goes over the site twice to get the mulch size down to a max of 300mm. This costs up to \$10,000 per ha. Follow up management is essential, with regular mowing/spraying/slashing of annuals and olive regrowth, though olive seed is viable in the soil for only 21/2 years.

After lunch we were taken to see a current site of African olive rehabilitation on the east side of Mt Annan.

The Garden is now trialing a reseeded project to revegetate the cleared areas. Strips across the contours are prepared by machine; mulched olives are turned over together with the top centimetres of the soil, and a mix of grass seeds, compost and sand (5:3 compost:sand) is spread manually. Seed batches have been viability-tested at PlantBank, and a minimum sowing density of 150 viable seeds/m<sup>2</sup> has been achieved in these seeded strips, which hopefully will translate to six plants / m<sup>2</sup> established over several years. This was only done a week prior to our visit so too early to see any growth. The strips are 2m wide and 8m apart. When the first strips of grass have been established then strips between the first ones will be prepared and seeded, so eventually increasing the grassy ground layer. The idea is to work from the base up. Planted strips are treated with

selective herbicide twice a year to control emerging olives and broadleaf weeds.

The seed production area is a vital component of this project, as it provides an additional bulk supply of suitable grass seed of local provenance. The availability of wild-harvested seed would otherwise be a limiting factor in the amount of revegetation that can be carried out.

African olive islands retained to date in treated areas will be progressively removed. Surveys have revealed that they do not function as habitat. Regenerators working on site have reported an absence of bird life in African olive generally.

## Results of rehabilitation

To date it has cost \$500,000 to clear 40 hectares of olive and maintain good areas. Is this expensive? The alternative is probably to do nothing and that would be a disastrous decision, given approx 40 ha of dense olive forest remain. We hope the eradication program can be sustained.

The revegetation project does not aim to reinstate CPW in all its diversity. But once native grasses are reestablished, it will be interesting to monitor site changes over the long term. Cleared areas retain at least some resilience with the soil profile unchanged. The disturbance caused by the olive removal and resulting baring of ground is proving sufficient to trigger germination of the seedbank of various understorey species including *Clerodendrum tomentosum*, *Bursaria spinosa* and *Acacia* Sp. Seed rain from eucalypts can be expected to result in establishment of some canopy. This has implications for future site management as slashing/mowing, the most cost effective method for managing the grassland, will prevent regenerating plant growth. Perhaps islands of regeneration will be excluded from mowing, so that mosaics of CPW will be established?

## A Note on African and European Olives

*Olea* spp. are becoming increasingly naturalised and invasive worldwide, and are now considered to be 'next generation' woody weeds in countries such as Australia. At present the two *Olea europaea* subspecies have invaded different areas

within Australia, with African olive mainly found in warm temperate to tropical areas eg. eastern NSW, and European olive found in areas with a typical Mediterranean climate eg. South Australia.

African and European olive do hybridise, and with continued expansion of European olive cultivation throughout NSW there is further potential for hybridisation between these two subspecies which is likely to produce smaller fruits which have a higher potential for bird-mediated dispersal.

Left: Peter explaining to group the process of native grass seeding of field site previously covered in dense olive growth. Strips on the hill are ready for seeding. Photo: Jane Gye



# The Moggill Creek Catchment Group in West Brisbane

**Bryan Hacker, Landcare Adviser  
Moggill Creek Catchment Group**

Brisbane is a large and sprawling city, reputedly with the highest level of biodiversity of any of Australia's capitals. However, the population is growing rapidly which is putting pressure on wildlife and ecosystems.

In the west of Brisbane the catchment of Moggill Creek, including its tributaries, covers about 57.6 km<sup>2</sup>, the creek entering the Brisbane River not far from Kenmore Village, now a busy shopping centre. Forty years ago Kenmore was a sleepy village, land use to the west a mixture of banana and pawpaw farms, dairy farms and, nearer to Kenmore, acreage properties, the higher ridges were intact eucalypt forest. Since then farming has almost disappeared, giving way to so-called 'lifestyle' blocks, the steep hillsides, once farmed, reverting to lantana or *Acacia* spp. However, the catchment still includes more bushland than any other suburb in Brisbane, ranging from small pockets of riparian rainforest and dry vine forest to eucalypt woodlands.

The Moggill Creek Catchment Group (MCCG) was founded in 1997 to work with the Brisbane City Council (BCC) towards the implementation of the actions recommended in the Catchment Management Plan published by BCC in June 1997. Since that time the group has grown to have a membership of more than 500 and spread its wings to:

- work with private landholders, providing advice and free local native plants to members,
- work with BCC's Habitat Brisbane, restoring native vegetation on public land,
- publish a quarterly eight-page newsletter focussing on environmental issues,
- run an annual 'Kids Day' at our environment centre,
- run a popular photographic competition in Kenmore,
- organise an annual platypus survey,
- run a creek health monitoring program, and many other activities.



Much of the Moggill Creek catchment in west Brisbane is well-vegetated.  
Photo: Bryan Hacker



Left: Cat's claw once well established can totally destroy native vegetation  
Photo: Adrian Webb

A current focus of the group is to target invasive vine weeds, particularly cat's claw (*Dolichandra unguis-cati*), now a Weed of National Significance. This vine, with its pretty yellow flowers, was introduced from South America as an ornamental, and is now a major threat to native forest ecosystems in SE Queensland and north eastern NSW. Unfortunately there is no requirement

to remove it from inner city gardens in Brisbane. It climbs and smothers nearby vegetation, seeds prolifically, produces underground tubers which can be as big as a pumpkin and it suckers from an extended root system. Killing the visible, above ground part of a cat's claw plant is not enough, even if done repeatedly. It will regrow after each assault, fuelled from a string of tubers which are often very large and may be more than a metre underground.

Recommended control is in three stages; first cutting and poisoning stems climbing trees, to prevent flowering; secondly spraying ground cover infestations with glyphosate (other chemicals also recommended) and thirdly any required follow-up. As a group we have taken every opportunity to target this weed that we can. Approaches have been to:

- as far as possible map the local distribution of cat's claw and prioritise actions,
- fund control of key infestations of cat's claw in our catchment through the South East Queensland Catchments Coastal Resilience program,
- advise and help landholders aiming to target cat's claw,
- encourage landholders to apply for grants available to members of the BCC Wildlife Conservation Partnership program to seek help for cat's claw control,
- provide relevant information to landholders at the local Brookfield Show,
- provide help to Biosecurity Queensland in releasing biocontrol agents
- look into opportunities for Green Army input .

We believe that our approach, working with the local Council as well as State and Commonwealth government institutions as opportunities arise, is a good way to go. The challenge is going to be to keep up the momentum. We have made good progress but our enemy has almost limitless resources.

For more information about the Moggill Creek Catchment Group, check [www.moggillcreek.org](http://www.moggillcreek.org) .

# Regeneration at Brush Farm Park

**Mritunjay Singh**  
Bush regenerator

**Brush Farm Park is around eight hectares of bushland situated in Eastwood, in the north west of Sydney. A group of long-standing volunteers has been working diligently to restore the bushland for the past 30 years or so. Work by professional regenerators has helped their efforts.**

Brush Farm is one of only two natural areas within the Sydney Basin hinterland where coastal warm temperate dry rainforest exists, the other being Browns Field in Wahroonga. Although Brush Farm park was extensively cleared in the early 1800s (Britton, 2004) as clearly seen in the aerial photo taken in 1943 (Department of Lands). The site now has native vegetation predominantly existing in sheltered gullies and slopes. The assemblage of native species resembles that present on diatremes consisting of volcanic breccias/basalt located on the central coast hinterland (DECCW 2009).

The vegetation of the park includes Blue Gum High Forest (BGHF) and Sydney Turpentine Ironbark Forest on the higher slopes, both of which are endangered ecological communities. In total, there are 146 species of plants which have been identified to date. The abiotic factors such as south facing aspect, Wiannamatta Shale soils; topography of the main gully with gentle slopes, 1000 mm average annual rainfall, 28° max and 5° min average temperature together with remaining remnant species suggest that prior to clearing, the park would have had the BGHF ecological community and rare gully rainforest. (Benson & Howell, 1994; Oculus, 1999; Kubiak, 2005)

Aerial photos in 1943 from the Department of Lands Six Viewer, suggest that factors such as cattle grazing and agriculture after European settlement followed by urbanisation, meant the area underwent considerable vegetation clearance, had increased high nutrient stormwater runoff, modified fire regime, accelerated soil erosion and loss of valuable indigenous land management knowledge. This resulted in a loss of the vegetation of the Brush Farm Park, and subsequent invasion of dense woody weeds such as camphor laurel (*Cinnamomum camphora*) and large leaf privet (*Ligustrum lucidum*).



Above: Brush Farm Park today showing bushland which is being restored

## Volunteer work

In the late 1970s volunteers commenced working in the park, to address things such as illegal dumping and weed infestation which had been occurring for many years.

People used to regularly come after dark to dump rubbish, which included old and wrecked cars and construction and building materials. The local volunteers removed and repurposed mountains and mountains of rubbish which was also found deep in the gully. The volunteer team of approximately six people worked almost every Saturday to remove the rubbish from the park. It took almost twenty years for the team to remove the rubbish from the corner of Lawson Street and Brush Road (north west of the site) to the corner of Brush Road and Denman Street (south west of the site). They continued doing similar work throughout other parts of the park. Approximately 30 wrecked cars were removed from the east side of the park. In addition, big drums of tar were taken out manually.

Their endeavours not only helped to tidy the park, but also improved the quality of the bush over the period of 33 years. Volunteers were involved both with the hands-on field work together with educating and getting the support of public and private stakeholders. Collaborative efforts by the volunteer group and other stakeholders resulted in the reconstruction of two creeks being from the corner of Lawson Street and Brush Road and towards the corner of Marsden Road and Miller Avenue flowing north to south. Basalt rocks were brought in to construct the creeks and terracing was carried out along the creeks and other steep slopes to stabilise the soil.

The removal of rubbish and creek construction complemented the weed control and bush regeneration in the park. Volunteers created quadrats of 1 m<sup>2</sup> area to monitor the presence of weed seedlings. They discovered > 140 seedlings of large leaf privet per m<sup>2</sup> in some areas. Exotic species to be controlled included large leaf privet (*Ligustrum lucidum*), small leaf privet (*Ligustrum sinense*), camphor laurel (*Cinnamomum camphora*), Mickey Mouse plant (*Ochna serrulata*), African olive (*Olea europaea* ssp. *cuspidata*) and radiata pines (*Pinus radiata*). Big trees such as large leaf privet were felled as a priority to stop them flowering. This was followed by treating smaller size large leaf privet trees, at a rate of roughly forty trees per day. Volunteers encouraged pioneer colonising native species such as sweet pittosporum



Above: Brush Farm Park 1943, showing extent of clearing.

(*Pittosporum undulatum*), giant water vine (*Cissus hypoglauca*), kangaroo apple (*Solanum* sp.) and gum vine (*Aphanopetalum resinolum*) to increase the mid-storey and canopy cover and help shade and outcompete the perennial and annual weeds which are prevalent colonisers after the removal of woody weeds. Generally native peach (*Trema aspera*), kangaroo apple (*Solanum* sp) and sandpaper fig (*Ficus coronata*) were the first species to establish after primary works had been undertaken. Cheese trees (*Glochidion ferdinandi*) regenerated at the park more rapidly compared to the other parks located close to the Brush Farm Park, and many species of ferns regenerated although this took a while after the woody weed control. This provided the opportunity to translocate and spread the ferns in the other parts of the park. The volunteers felt that colonisation of these native trees and vines would provide the microclimate for other native rainforest species. The volunteers adapted bush regeneration strategies, for example, they did weeding from top to bottom and vice versa where it was appropriate. The volunteers also maintained the tracks and used the track to benefit the rainforest by spreading mulch on the tracks to add soil. They also created piles of weeds in the park to add soil carbon, not wasting time or energy relocating green waste.

Volunteers collected seed from within the reserve and also parks nearby such as Darvall Park. Over the last three decades, volunteers have collected buckets and buckets of seeds and dispersed them around, plugging them into areas of bare soil and continuing to enhance the resilience especially in the more degraded patches. The volunteers also preferred to use minimal herbicide application. They believe that one should not only care for bush but also care for all aspects of biodiversity and the environment by minimising the spraying regime.

Interestingly, when the volunteers started work in the early 1980's bush regeneration was relatively new and knowledge was not easily accessible. They trialled different techniques with the input of experienced people who were in the industry. Today, after 33 years, the site has no major issues as it has been consistently worked and maintained. Many volunteers have been involved and some of them are still here looking after the park. The long standing volunteers know the entire site like the back of their hand and are an ideal guide to all who are directly and indirectly connected with bush regeneration.

## Contract bush regeneration

Bush-it is grateful for the opportunity to undertake restoration works at one of Sydney's most iconic and unique reserves. The success of bush regeneration at Brush Farm Park is thanks to the persistent and ongoing efforts of Bushcare volunteers who have adopted very efficient and effective restoration techniques. In the 1980s the site was heavily infested with woody weeds covering more than 90% of the site, in particular large leaf privet, with an array of exotic vines including Madeira vine (*Anredera cordifolia*) and morning glory (*Ipomoea indica*) along the perimeter.

Remarkable changes have occurred over the last 30 years with woody weeds now covering less than 1% of the site. Not only has there been a drastic reduction in the cover abundance of exotic species but native species richness has increased significantly with over 150 species present.

Unlike many open forest reserves in the Sydney Basin restoring and facilitating the establishment of rainforest communities requires an in depth understanding of succession and the function of pioneer and secondary stage species. The restoration strategies have been somewhat controversial however the results speak for themselves as not only is floristic diversity high, the reserve is high quality habitat attracting a large diversity of small

passerine birds, ring tailed possums. Powerful owls regularly roost amongst the gullies.

There are several reasons why this reserve has improved significantly in condition, these are:

1. A clear vision of achieving a resilient (excellent condition) rainforest ecosystem in the long term with a focus on enhancing species richness and cover abundance. Exotic species are being just treated as an obstacle to overcome.
2. Persistent and consistent hard work by resilient Bushcare volunteers mostly, way above the average.
3. Implementing efficient restoration strategies that are not dependent on the ongoing use of herbicides, with an emphasis on bolstering competition. Prioritising works based on current conditions, greatest threat/risk and leveraging manual effort.
4. Continuously enhancing resilience and competition by spreading propagule material consistently over time including seeds, trans/planting seedlings as canopy cover closes over.
5. Hand weeding exotic grasses only in areas where native species are present and will quickly replace cover, in particular *Ehrharta erecta* has not been sprayed and has significantly reduced in cover abundance due to changes in canopy cover and facilitating competition of ferns and groundcovers in the gullies.
6. Increasing the amount of carbon by consistently introducing mulch and composting all vegetative material on site.
7. A commitment by the land manager to support volunteers and implement best practice techniques.

## References:

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Above: Restored bushland at Brush Farm Park (Photos Bush-it)

# Scheyville National Park

## AABR Walk and Talk

**On Saturday 18th April 2015, AABR members and friends met at Scheyville National Park to hear about and see the rehabilitation trials being carried out in the park on the use of fire for rehabilitation of altered native grasslands and integrated weed control.**

Jonathan Sanders, NPWS Area Manager, began the visit with a presentation on the park and noted that there is no-one alive today who knows what the vegetation of the Cumberland Plain looked like prior to European settlement.

Scheyville National Park (SNP) is around 45 kilometres NW of Sydney on the Cumberland Plain. The Cumberland Plain has shale soils and is home to a number of endangered ecological communities such as Cumberland Plain Woodland (CPW) largely due to clearing of this flat land for agriculture. Scheyville National Park is the largest park on this shale system. There are other areas at what is known as the ADI site (now Wianamatta Regional Park), and defence land at Orchard Hills. (should we thank our defence forces for the fact that these areas were not cleared of native vegetation!) Otherwise there are a lot of small remnants suffering pressure from housing and which need to be managed to get to a high quality.

We have little idea of past disturbance on these lands such as fire or drought frequencies. We tend to make judgments on what we can see now, so that our accent is on trees.

Weed invasion means that recovery also has to take account of weeds.

The programs at SNP are looking at practical solutions and need to incorporate adaptive management.

### Habitat

CPW has no big trees – generally five trees/hectare. SNP is around 100 ha and only has six old trees. Most of the trees are regrowth from the 1950s. It is estimated that 1.8% of the 500 trees have hollows. Hollows also continue to be lost at an alarming rate, and there is a huge time lag until existing trees get to have hollows forming. There are 93 hollow-dependent fauna

species native to the Cumberland Plain.

One project has been hollow augmentation, with the constructed 'hollows' varying from simple to complex. Where there are no trees, bat boxes for example are put onto poles. Trials are showing these boxes are



Above: Who lives at Number 131? Bat boxes at Scheyville National Park. (Photo L. Brodie)

successful with an increase in use by microbats.

Another habitat issue has been the lack of logs, due removal for firewood. Logs are especially important habitat components as

CPW does not have rocks and the logs provide ground habitat.

Common mammals which would be found in the area included bush rats which were last seen about 25 years ago, but are now not found in western Sydney as there is no shelter. In Mulgoa Nature Reserve, in co-operation with a land developer, felled trees from the development site were placed into the reserve using a helicopter.

### Seed sources

Another challenge for the Cumberland Plain is the lack of native seeds. Work by Greening Australia through the development of seed orchards and seed banks means that seed for more than 80 different groundcover species is available.

Seeding trials are now being done on areas which are scalped to remove nutrients and African love grass.

### Community support

NPWS have worked on gaining the support of the community, and of adaptive management. It has been important to do work in bite size chunks to ensure success and to share the stories, eg the presence of feathertail gliders on the park.

Also it has been important to not let conditions trick people into thinking that areas are beyond help or are second rate. Another story is the koalas which from time to time cross the river to come to western Sydney.

### Restoring Cumberland Plain Woodland, since July 2009. Is it working?

CPW – we have drawings and descriptions of what it was like at the time of European settlement. We will not see it restored in our lifetimes, but it will be there for our great great grandchildren.

Work has been undertaken to see how the use of fire affected native species composition. This is joint project between NPWS, NSW Nature Conservation Council, the University of Western Sydney and AABR. An analysis was undertaken to compare areas which were pasture, young regeneration, old regeneration and



Treatment trials. (Photo L. Brodie)

# Contractors Meeting

## facilitated by AABR

Tim Baker, AABR Committee

AABR in conjunction with the Northern Sydney Institute of TAFE, convened a contractor meeting in late February 2015 to engage and help inform principals and key staff members about recent changes in Conservation Land Management training packages under the *Smart and Skilled* program, provide an update on the development of the ecological restoration standard by SERA and hear from an insurance provider about the benefits of having specific group based insurance.

Taking into consideration the lack of notice given to the majority of you and that it's always challenging to find time out of a busy schedule, there was a great turnout with those present representing over 60% of the on-ground practitioners undertaking ecological restoration works in the Sydney basin. We greatly appreciate all of you who made the time to attend and be a part of the discussion together with those that contributed financially towards the development of the SERA standard.

Overall participants were incredibly generous with sharing their views, knowledge and providing valuable feedback and insights about how AABR can continue to facilitate improvement within the industry. For those of you that were unable to attend, we are keen to hear from you about any constructive ideas or suggestions in relation to the topics discussed and ways AABR can engage with you into the future. In order to support contractors like yourself, through the dissemination of key information and relative areas of interest we are currently scoping the idea of developing a 'contractor hub' on our website. This is potentially a place where you can post contract related questions and queries, share common information with others and access contractor related documents and links that may be applicable. If this sounds like something that would benefit you by all means let us know what think would be valuable.

AABR is cognisant that contractors play a vital role in ensuring the industry continues to foster best practise techniques and qualified practitioners are able to seek viable employment in the coming years, we are committed to sharing with you any information and/or opportunity that are beneficial for all and will help ensure as whole we continuously improve.

Please contact the AABR Secretary or President for more information.

[secretary@aabr.org.au](mailto:secretary@aabr.org.au); [president@aabr.org.au](mailto:president@aabr.org.au)

**Fire:** In SNP there has been no fire at least since 1950. With lack of fire *Bursaria spinosa* grows. The small leaves of this species create fine fuel. Grass is also crowded out. This creates a less fire prone system which is hard to burn. Low humidity and high temperatures are required..

*Thanks to Jonathan for an informative and interesting visit and the excellent morning tea.*

remnant bushland. With revegetation there were changes but the species composition were not moving towards the attributes of remnant vegetation. In the revegetated area there were 23 species, but only three of these were found in the remnant.

So there are barriers to moving towards the composition of the remnant vegetation. These include the depauperate seed bank.

Also in the germination and establishment phase plants need soil nitrogen. When areas are burnt there is good regeneration. Weed invasion also occurs which builds up soil N and there is not enough soil carbon for soil microbes. Work has been done by Suzanne Prober et al ([www.csu.edu.au/herbarium/woodlandweb/online-articles/sweet-end/to/weeds](http://www.csu.edu.au/herbarium/woodlandweb/online-articles/sweet-end/to/weeds)) on the increasing carbon through the addition of sugar. After this, fire is used with the resulting in the regeneration of native species and also huge weed growth. Burning 3-4 years later results in the lessening of weeds. However this does not work with African love grass.

SNP is former agricultural land and has been used for orchards, has been grazed and ploughed and also some prevention of the regeneration of woodland. There has been pre and post fire surveys. Fire lessened the shift between grassy and woodland. Fire has resulted in less exotics and more natives

There are also rainfall effects, for example a decline in native species was noted due to dry periods.

So the two drivers for native species are fire and rainfall

With fire, natives start to crowd out weeds except ALG which loves fire. The Rural Fire Service have a recommended fire interval in the these systems of 7 years. However it is thought 2-3 years might be better

### In the field:

**Treating Olives.** Originally there were large olive trees and several medium sized ones surrounded by hundreds of seedlings. Seedlings are removed and adults treated by cut and paint using Round-up®. But the result varied with the person doing the painting when Round-up® was used. Changed to a Garlon®/diesel mix using drilling and filling – this is proving to be more effective.



Reshooting olives and bridal creeper are then seen together with a lot of native groundcovers.

We were introduced to the 'Tree Popper' (Photo on left) – a tool which can pull out recalcitrant small plants such as olives.

**Bell miners.** These birds are found naturally on the margin of between rainforests and eucalypt forests. They live in the eucalypts and nest in the rainforest understory. They eat psyllids and their sugary secretions (lerps) but stop other birds eating the psyllids which results in a high population of the psyllids and Bell Miner Associated dieback (BMAD). The Olives mimic an understory in the CPW while in the north of NSW lantana has taken on this role. With the removal of olives this has changed and now there is a subcanopy of *Acacia* sp.

# NPWS Environmental Rehabilitation Forum

Mark Cachia

AABR Committee Member

On the 24<sup>th</sup> and 25<sup>th</sup> March 2015, NSW National Parks & Wildlife Service (NPWS) held an Environmental Rehabilitation Forum at Port Macquarie. I was fortunate to be able to attend as the representative from AABR. The purpose of the forum was to inform a strategic approach to rehabilitation in NPWS. The forum was to ensure that the knowledge in the field is communicated across different sections of national parks and to inform management of the best methods to improve the efficiency and effectiveness of NPWS rehabilitation programs.

The forum commenced with a Welcome to Country by Uncle Bill O'Brien from the Birpai Aboriginal Land Council. The first topic was presented by Dr Jann Williams, an adjunct Professor of the University of Western Australia (UWA) and Managing Director of NRM Insights. Her talk covered the importance of adaptive management and her recommendations on the best methods for environmental rehabilitation moving into the future. Large-scale rehabilitation projects seemed quite important. This created discussion and thought on the necessity of adaptive management in rehabilitation practices and importance of creating success in large-scale restoration outcomes. This includes the rehabilitation work on the Eastern Ranges and in SW Western Australia. The importance of collaboration was also mentioned.

Three rehabilitation case studies were presented from different National Parks around the state to show what has been achieved and learnt from these projects. They were: Rehabilitation of former Snowy Mountains Scheme sites presented by Liz McPhee of the Landforms and Rehabilitation Team Kosciuszko National Park, Tomago Wetlands tidal flow restoration presented by Doug Beckers and Deon van Rensburg of the NPWS Lower Hunter Area, and rehabilitating ex-commercial plantation forests in Bongil Bongil National Park, presented by Martin Smith of the NPWS Coffs Harbour Area.

From listening to these case studies I quickly learnt that their term rehabilitation, is essentially what we term ecological restoration. More specific terms such as reconstruction or assisted regeneration are not used as many of the sites are too large-scale or too multi-faceted for one specific approach. During the Snowy-hydro presentation it was clear that this was a very large-scale project restoring about 350 sites throughout the Snowy Mountains, ranging from relatively intact grasslands to scree slopes completely devoid of native vegetation or soil. They are working at the forefront of reconstruction and fabrication principles, which I could foresee being very useful in mine rehabilitation in the future, if not used already. They have had some amazing results with habitat creation and augmentation as well as creating a stable system on what is still a heavily degraded landscape.

The Tomago Wetlands Project (in the Hunter Wetlands NP near Newcastle), was not so much about direct interference with the wetland system but restoring historical flows to the area and watching the land restore itself. This presentation focussed on the challenges of funding a \$32 million project and

communication both with stakeholders and of the results. It was mentioned that it doesn't matter who publishes the results - in this case it was Fisheries NSW (part of the Department of Primary Industries) due to the leaching of acid sulphate soil affecting the prawn and fishing industries. The need for vision and community support was also highlighted. Even if funding stops after only a year or two, having active community members and groups supporting your project ensure it doesn't disappear. The project utilised the latest wetland management technology such as the use of 'smart-gates' and other moveable barriers to control water flow.

The Bongil Bongil National Park project is about the restoration of abandoned commercial plantation forests to improve the biodiversity and habitat values of these areas. This highlighted the challenges of weed control in rehabilitation to ensure the most efficient method of both weed removal and native species recruitment. There was scope for experimentation in this project as the sites were part of two separate PhDs, one focussed on areas infested by *Lantana camara* (Lantana) and the other in areas infested by *Paspalum mandiocanum* (Broad-leaf Paspalum). This project highlighted the importance of timing in weed control and the necessity of a multi-tool approach— in this case logging, burning and primary weed control to both open up the dense monotypic canopy of plantation forestry *Eucalyptus sp.* and stimulate what native seed was present in the soil.



Work in a Blackbutt (*Eucalyptus pilularis*) plantation site location within Bongil Bongil NP has seen the understory change from lantana in 2007 (above) to a diversity of native species in 2015 (below), with continued logging, burning and many rounds of weed control (Photos OEH)



After a short break, attendees worked in seven different groups to discuss "What are your key needs in relation to environmental rehabilitation?" which was essentially about what NPWS needs from their department (Office of Environment and Heritage OEH) and vice-versa to inform a strategic NPWS approach to landscape rehabilitation.

The main points to come out of this discussion were:

- Funding reliability and predicting funding for the future
- Know where to prioritise and how
- Rehabilitation needs to be a part of culture and core processes
- Long term vision needed
- Monitoring consistency and guidelines
- Triage
- Need network hub?
- Connectivity between and within OEH and NPWS
- A tenure neutral approach

Lunch was provided which gave great opportunities for networking and discussion. Although there was very little opportunity for promoting AABR there was interest from a number of groups there especially the policy department in joining up as a member. Many people there knew of AABR and The Society for Ecological Restoration Australia (SERA) was mentioned by Jann who was the guest speaker in the morning of the first day.

During lunch, Jonathan Sanders of the Western Sydney Region of NPWS discussed the Cumberland Plain Woodland Project and their successes with restoring areas infested by *Eragrostis curvula* (African Love Grass) and *Olea europea* var. *cuspidata* (African Olive). The use of slash and burn techniques along with follow-up worked really well, however trials are still being undertaken for African Love Grass as there is still a quick response after burning, requiring intense follow-up including manual and chemical controls. (See Page 10 and 11 of this newsletter for a write-up of these projects)

After lunch, there was another Round Table discussion, this time requiring us to group our needs into themes and then prioritise those themes and needs. During this discussion it became clear the themes were difficult to separate.

Highest priorities consisted of:

- Strategic visions and strategic opportunistic visions to take advantage of sudden government funding or particular projects such as 2 million trees
- Importance of adaptive management
- Importance of good internal communication
- Good sharing of resources and knowledge between teams and locations

On the following day, 25<sup>th</sup> March 2015, the group went on a field trip to Sea Acres National Park during which we had a walk around the subtropical rainforest and attended presentations on three rehabilitation projects with more fauna focus. The first talk was hosted by National Parks Staff from the Macleay Area, presented by Penny Kendall. This talk focussed on the rehabilitation of the Macleay valley, specifically the wetlands near Clybucca. As in the Hunter Wetlands the project involved restoring more natural flooding regimes to control the acid sulphate soils with great result. This project included compensatory planting funded by industry. This project also initiated discussions of carbon capture and estimating carbon savings for different ecosystems as a further way to fund rehabilitation projects (through the Commonwealth Emissions Reduction Scheme).

The second presentation from the Landforms and Rehabilitation team was about the importance of fauna habitat in the Snowy Mountains as part of a project near Tumut. This focussed on both the surprise find of Mountain Pygmy Possums at the edge of scree slopes on disturbed sites, and the need to house Corroboree Frogs in a controlled environment away from humans and chytrid fungus. The former was solved with the addition of new habitat and alteration of the original rehabilitation scheme allowing a buffer zone for the possums. In the Corroboree Frog Project, with numerous stakeholders and experts in the field, an enclosure that is isolated and has a water purifying system to filter out Chytrid Fungus was proposed. These enclosures were successfully created and will house these frog populations for up to 30 years.

The final presentation from the NPWS Landforms and Rehabilitation team and the Environmental Water and Floodplains team, detailed the water management techniques in the Murray-Darling Basin. There was reduced extent of flooding and a deterioration of native vegetation before the plans were put in place, due to the number of man-made structures such as weirs, dams and diversion banks. Now that the plans have been written and are being implemented, wet years can be utilised to restore natural flows to the system. In between the wet years the management, restoration and removal of necessary infrastructure is undertaken over the Barmah-Millewah wetland area. These included manually operated regulators and flood gates which means that opportunities are used for more natural water flow to ensure that higher water flows for biodiversity can occur.

Our final field trip site was to the Macquarie Nature Reserve, which is not only a reserve undergoing regeneration but one of the world's best Koala Hospitals. This land, once owned by settler John Flynn is an important wildlife corridor in what is becoming a fragmented landscape. Here, Amanda Smith from Manning-Hastings Area of NPWS explained that the challenges on this site included control of exotic species such as *Lantana camara* and *Cinnamomum camphora*, while still retaining important heritage tree specimens where appropriate.

The next talk was by Mike Dodkin, who has played a major role in NPWS environmental rehabilitation over the past 30-40 years on the North Coast of NSW. He said it has been interesting if not ironic seeing areas that once were unsuccessfully blockaded to prevent sand mining, which are now being protected and restored post-sandmining 20 years later. Adaptive management and being opportunistic were once again mentioned as important qualities for land managers to have. I found it quite interesting to hear of the history of national parks and how it all started and developed into a well-respected part of the State

government in NSW and around Australia.

I would like to thank AABR for the opportunity to attend the forum which was most interesting. I found it very impressive hearing of all the projects that are occurring through NPWS, enabling the rehabilitation of many rare and threatened ecosystems and organisms.

Left: Sub tropical rainforest at Sea Acres, Port Macquarie (Photo: Mark Cachia)



# Bullies of The Bush

## Now listed as a Key Threatening Process in NSW

Lynn Rees, Coffs Harbour AABR Branch

**The Noisy Miner (*Manorina melanocephala*) was recently listed as a Key Threatening Process, under the NSW Threatened Species Conservation Act (1995), as Aggressive exclusion of birds from woodland and forest habitat by abundant Noisy Miners *Manorina melanocephala*.**

The natural habitat for this ubiquitous bird ranges from Tasmania to far north Queensland in woodlands and open forests along the east coast of Australia. In undisturbed bushland they appear in relatively low densities of 0.01 - 0.05 birds per hectare.

Like the Magpie, the Noisy Miner has benefited from European settlement, favouring disturbed edges and lightly timbered open areas. Now they can be found in densities of up to ten birds per hectare along the east coast.

The Scientific Determination describes Noisy Minors as a "reverse keystone species" and a "despotic, high-impact species" controlling avian structure at a landscape scale. This is pretty heavy language for one of our native species.

In NSW the reporting rate for Noisy Minors by Bird Atlas surveys increased by 15% between 1977 and 2002. They now dominate in small or remnant bushland areas

throughout much of south eastern Australia and can penetrate up to 300 metres from the edges of larger patches of bushland.

A common sight and sound to bush regenerators in this fragmented landscape is groups of Noisy Minors aggressively excluding other bird species from the area. Forming large complex colonies, they cooperate in most activities including territory defence and breeding. These bullies aggressively attack and drive away all other birds of the same size and smaller.

Clearing of understory, frequent fire and land clearing are key culprits to the rise of the Noisy Miner. Today the presence of Noisy Minors is strongly correlated with low bird abundance and diversity, more so than any other disturbance factors including remnant size, degree of isolation and habitat structure.

We can help to reduce these unnaturally high populations through habitat modification, by increasing abundance and diversity of understory species, joining remnants through corridors, reducing weeds, particularly grasses and a reduction in fire frequency.

To review the determination follow this link: <http://www.environment.nsw.gov.au/resources/threatenedspecies/FDNoisiminerKTP.pdf>

# Opening of Wianamatta Regional Park

AABR recently partnered with the NSW National Parks and Wildlife Service at the official opening of Wianamatta Regional Park in Western Sydney.

Wianamatta Regional Park is part of the former 'ADI site' — Commonwealth-owned Australian Defence Industries. It is the first time this part of the park at Ropes Crossing has been opened to the public in more than 50 years. This park was created in March 2008, and in March 2015, 237 hectares of land was transferred from Lend Lease to the National Parks and Wildlife Service. The land transfer increased the size of the park to just over 300 hectares.

Wianamatta Regional Park is located on the Cumberland Plain on shale derived soils. Past use of the site included farming and timber cutting. From the outbreak of WWII to the late 1980s the site housed an explosions and munitions filing factory.

However, stands of Cumberland Plain vegetation were retained on the site and these have regenerated to a remarkable extent over the last decade and a half. The site supports endangered Cumberland Plain vegetation communities, including Alluvial Woodland, Shale Plains Woodland, Shale/Gravel Transition Forest and Cooks River/Castlereagh Ironbark Forest. Threatened animal species in the park include the Cumberland Land Snail, Broad-nosed Bat and Speckled Warbler.

In 2002 the St Mary's Development Agreement between the NSW Government and Lend Lease earmarked the land as a future reserve. When complete Wianamatta Regional Park will be 900 hectares, making it the largest regional park in Sydney.

Further parts of Wianamatta Regional Park will be opened later this year.

Thank you to AABR members Helen Worall, Bill Jones, Noela Jones, Bill McCarthy and Chris Brogan who ran the weeds information stall and spoke to many local residents. Ku-ring-gai Council provided the materials for the stall.

The Park entrance is at the corner of Mainwaring Street and Donovan Circuit Ropes Crossing in Western Sydney.

For more information go to: <http://www.environment.nsw.gov.au/parkmanagement/wianamatta-regional.htm>



AABR's stall and display with Noela, Bill Helen and Bill  
Photo: Effy Alexakis Photowrite, courtesy of OEH.

# Ticks Typhus

Spencer Shaw

Just when I thought it was safe to go back in the bush, I've come across another nasty tick born disease recently when one of the Brush Turkey contracting team was afflicted with Tick Typhus (alias Queensland tick typhus/Australian tick typhus). This disease is caused by a diverse group of bacteria known as Rickettsiae. From a brief bit of research this disease has been around for a long time, but in nearly 20 years of Bush Regeneration work this is first case I've seen and it would also appear that is uncommon enough in the wider population that diagnosis by the medical profession might not be as quick as it should be, which is problematic given that the disease is potentially fatal! On the plus side, once diagnosis is made, a treatment with antibiotics is very effective and rapid - in the case of the bush regenerator in question he was playing fiddle a few days later for St Patricks Day!

Signs to watch out for include the general conditions of fevers, rashes, but it appears the giveaway for this condition (if present) is a very dark scab on the head of the tick bite site (see photo).

The photo (courtesy M. Krogh) shows the bite site approx eight days after the tick was removed.

For more detailed information see NSW Health Typhus fact sheet: <http://www.health.nsw.gov.au/Infectious/factsheets/Factsheets/typhus.PDF>



When you read some of these fact sheets, you could be forgiven for thinking what a dangerous place the bush is and you'd need your head read to work in it...but I'd rather take my chances with a tick in the bush than in peak hour traffic any day. However hopefully this article raises the profile of this disease and steers you or other bush regenerators down the path to quick diagnosis and treatment if you are unlucky enough to contract it.

## Bush regeneration working holiday at 'Korinderie Ridge'

3-7<sup>th</sup> Aug 2015

**Anyone wishing to join in with like-minded people for 5 days of healthy, relaxing fun is welcome to register for the 12<sup>th</sup> annual Korinderie 'bush regen week'.**

Korinderie Ridge is a co-operatively owned and run residential / bushland property adjacent to Bundjalung National Park on the north coast of NSW. Its residents provide delicious meals, bushland camp sites and opportunities for afternoon sightseeing (or just relaxing) in exchange for help removing Lantana in Korinderie's conservation areas each morning.

After 11 years, the results are really showing, with most of the 200 ha property now treated. Last year 19 visitors and 14 community members joined in the work (if you include the kids), contributing a total of 525 hours to the project. While last year's work was all new primary, the work in 2015 is likely to be a mix of follow up in already treated areas plus some new work, pushing into the remaining Lantana on the property.

Pictured L to R: Residents Alex O'Reilly and Jesse Moore and regular regen week visitors, Brian Stanley and Craig Robbins, relax during a break on the Lantana. (Photo: T McDonald)



Anyone interested in booking in or just receiving further information, please phone Tein or Graeme on 02 6682 2885 or email on [teinm@ozemail.com.au](mailto:teinm@ozemail.com.au). (Camping facilities include a solar shower, compost loo and a spacious community shelter - but participants will need their own tent, sleeping mat and sleeping bag etc.).

# What's happening

## 12th - 15th October 2015

18th NSW Weeds Conference in 2015

Weeds - The Future, Innovation & Adaptation

**Where:** Cooma NSW  
Cooma-Monaro Shire Council  
81 Commissioner St, COOMA, NSW 2630  
Ph: 02 6455 1921  
E-Mail: [weedsconference@visitcooma.com.au](mailto:weedsconference@visitcooma.com.au)  
<http://www.weedscooma.com.au>

## Tuesday 1st to Thursday 3rd September 2015

The 2015 NSW Landcare Conference

Location: Turners Vineyard Orange.

The theme of the conference is From the Ground Up - Celebrating international year of soil.

The event will also host the 2015 NSW Landcare Muster and 2015 NSW Landcare Awards presentation ceremony.

The organisers have set out a call to the public for recommendations on speakers and workshops and has set up an online survey for responses.

For more information:

Liz Davis Phone: 6363 7872

<http://centraltablelands.ils.nsw.gov.au/resource-hub/events/2015/nsw-landcare-conference>

## AABR Walk and Talk

### Thursday 5 November 2015 10am-1pm

Restoration of Cumberland Plain Grassy Groundcover

Location: Western Sydney/ UWS Richmond – Hawkesbury Campus

Put this date in your diaries for a first hand view and expert account of the processes around restoring grassy groundcover communities.

Dr Paul Gibson-Roy, Chief Restoration Ecologist with Greening Australia will lead a tour of a 10 ha restoration site and seed production area linked to a Federally funded program that aims to restore 40 ha of grassy woodland. He will discuss the various techniques used and challenges faced in trying to restore species-rich communities.

## 14-16 March 2016

National Seed Science Forum

**Where:** SW of Sydney. Australian Botanic Garden, Mount Annan

The Forum will be a rare opportunity to bring together leading botanical and agricultural institutions, seed scientists, and conservation and restoration experts to share ideas that showcase the importance of seed science to the future of plant conservation and food security in Australia.

An exciting programme of local and international experts is planned, speaking on seed conservation, storage, preservation and germination.

email: [info@seedpartnership.org.au](mailto:info@seedpartnership.org.au) to register for Forum announcements.

[www.seedpartnership.org.au](http://www.seedpartnership.org.au)

### What is happening in your area? What is happening on your site?

AABR is always looking for contributions from members to share knowledge and opportunities.

Send us information of events in your area or a write-up and photos of what is happening on your sites.

Ideas for other stories are always welcome.

Drop us a line [newsletter@aabr.org.au](mailto:newsletter@aabr.org.au)



#### President

Tein McDonald, [president@aabr.org.au](mailto:president@aabr.org.au)

**Treasurer:** Paul Ibbetson/Kirsten Vine

#### Membership Officer

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#### Committee members

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#### Northeast NSW/Southeast QLD subcommittee

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## Australian Association of Bush Regenerators

#### The Australian Association of Bush Regenerators Inc (AABR)

was incorporated in NSW in 1986, and has several hundred members from all over Australia. AABR is pronounced 'arbor'.

Our aim is to promote the study and practice of ecological restoration, and encourage effective management of natural areas.

**All interested people and organisations are welcome to join.** AABR members include bush regeneration professionals, volunteers, natural area managers, landowners, policy makers, contractors, consultants, nursery people, local, state and commonwealth government officers—and lots of people who just love the bush and want to see it conserved.

**AABR also offers accreditation** for experienced practitioners.

**AABR News** is usually published in March, June, September and December.

**AABR C/O Total Environment Centre**  
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ABN: 33 053 528 029 ARBN: 059 120 802

#### Membership fees

Individuals	\$30 (unwaged \$15)
Organisations ( <i>does not confer membership to individuals in that organisation</i> )	
• Business (less than 5 staff)	\$120
• Business (more than 5-20 staff)	\$300
• Business (More than 20 staff)	\$480
Government	\$60
Not for profit	\$30 ( <i>or \$0 with newsletter exchange</i> )
Students	free offer to 30 June 2015

#### Benefits of Membership:

- discount admission to all AABR events
- four newsletters per year
- increased job opportunities
- discount subscription to the journal Ecological Management & Restoration
- opportunities to network with others involved in natural area restoration
- helping AABR to be a strong and effective force to promote natural area restoration, and support the industry.

#### Newsletter contributions and comments are welcome

Contact Louise Brodie [newsletter@aabr.org.au](mailto:newsletter@aabr.org.au) 0407 068 688

*Opinions expressed in this newsletter are not necessarily those of AABR*