



# AABR NEWS

Australian Association of Bush Regenerators

*working with natural processes*

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## AABR events 2017

AABR is planning an exciting calendar of events.

Mark the dates in your diary. Further information to come.

**Tuesday 22<sup>nd</sup> to Thurs 24<sup>th</sup> August. Broken Hill NSW**

### **A three day field trip to the internationally significant Broken Hill Regeneration Reserves.**

A variety of activities is being arranged including visits to local restoration sites and an awards dinner on the evening of the 24th. It is hoped other events will include an exhibition on project history, art and movie events and a heritage tour.

For more information visit the event website

<http://www.aabr.org.au/event/broken-hill-field-trip-and-restoration-awards/>

or contact Tein at [president@aabr.org.au](mailto:president@aabr.org.au)



### **Friday 22<sup>nd</sup> September, Blackheath (Blue Mountains NSW)**

#### **Wasteland to Wetland, Popes Glen**

Restoring a weedy, willow-infested creekline subject to urban stormwater pressures to a functioning wetland ecosystem in the Upper Blue Mountains. Join members of the Popes Glen Bushcare group to hear how they did it and what they learnt along the way.

For more information contact Louise on [membership@aabr.org.au](mailto:membership@aabr.org.au) or 0407 068 688

### **Saturday October 28<sup>th</sup>, Lake Macquarie NSW**

#### **The Fern & The Burn, Coal Point,**

This field trip will highlight the transformation that is underway in Stansfield Reserve at Coal Point after the medium-high intensity environmental burn of 6/4/16. Half of the *Asparagus aethiopicus* infested reserve was burnt and is now undergoing a native regeneration explosion. See how the local group is trialling different techniques to manage the asparagus fern regrowth.

A presentation will also be given on the 6-year Environmental Trust project, Threatened Species Last Stand on the Coal Point Peninsula.

For more information contact Suzanne on [admin@aabr.org.au](mailto:admin@aabr.org.au) or 0438 596 741

**For other events, see Page 16**

# President's Perspective

## AABR's Broken Hill field trip and award dinner!

The Albert Morris Ecological Restoration Award is supported by AABR, the Society for Ecological Restoration Australasia (SERA), the Australian Network for Plant Conservation (ANPC) and GreeningAustralia (GA).

To inaugurate this award, the Partners and Broken Hill stakeholders are organising a very special, once-in-a-lifetime 3-day program of activities (22-24 Aug) – rounded off by an awards dinner. This event will celebrate the 80th anniversary of the commencement of fencing of the Regeneration Reserves, one of the very earliest ecological restoration projects in the world. The project was conceived and led by amateur botanist Albert Morris, with implementation and evaluation assisted by many organisations and individuals, particularly Albert's wife Margaret Morris. (See articles on pages 4 to 8 in this newsletter.)

AABR and the local Broken Hill community have been working for some months to make this a very special event. Activities over the three days will include guided heritage and botanical walks in the Reserves, hands on bush regeneration activities, an art exhibit, movie sessions, and a heritage exhibition. There will be free time for people to explore the many interesting things to do in the local area – and those travelling independently can stay in Broken Hill for as long as they wish.

**FIELD TRIP QUESTIONNAIRE.** We are asking anyone interested in joining the field trip – whether taking your own car, the train or seeking a seat on our hired minibuses – to complete a small [questionnaire](#) about your preferences by May 15th. This is so that we can book the buses and accommodation as soon as possible – and let the locals know how many might be coming. Then we will open up bookings on Eventbrite for the dinner, field events and organised mini bus tours, with some information on accommodation and weather etc. .

NOTE: THE QUESTIONNAIRE IS NOT A BOOKING BUT WE ARE SEEKING PRELIMINARY INFORMATION ABOUT YOUR POSSIBLE ATTENDANCE.

The drive to and from Broken Hill will take two days from Sydney or Melbourne but only one day from Adelaide. A limited number of Sydney participants will be treated to an inspiring field trip at the Nyngan waterponding project – as Nyngan will be the overnight stop on the outward journey.

Note: Any sponsors willing to have their name associated with the Broken Hill field trips, workshop and award are most welcome to email me at [president@aabr.org.au](mailto:president@aabr.org.au) - see sponsorship opportunities page on the last page (electronic newsletter only).

Tein McDonald.

President AABR

## Happy Birthday regenTV



The first year of the regenTV project was celebrated with the submission of the annual report to the Environmental Trust.

As with all anniversaries it provided an opportunity to reflect on the year's achievements.

The AABR website had a makeover and regenTV was prominent within this new design. As the public face of AABR and a primary vehicle for information for bush regenerators, the new look website is mobile phone friendly and easily navigable for AABR's stakeholders.

Professional videos, 23 of them, and three sets of quality learning resources (covering the themes of seed and plant production areas, appropriate approaches to restoration and reference ecosystems) were developed. These link to the National Restoration Standards. They also provide educational institutions and life long learners with access to case studies, tools and techniques and current thinking in the bush regeneration profession.

The highly successful AABR Forum in 2016, provided an opportunity to launch the National Restoration Standards and regenTV to over 300 participants. The 30th Anniversary Dinner celebrated 30 years of the bush regeneration industry and recognised a cohort of pioneering people.

The final year one addition to the regenTV collection was uploaded and it is an inspiring case study of a subtropical rainforest remnant in the Big Scrub area, Rocky Creek Dam, which is well on the way to full recovery. Brett Weissel chronicles Rous Water's restoration project that utilised innovative mechanical techniques to achieve successional regeneration. The project is illustrated by a very impressive recovery wheel.

Year two of the three-year regenTV project will see another 14 videos produced and another set of learning resources developed. It will also be a time of listening to your feedback on the materials. A 1-minute survey has been added to each of the video pages to gather your thoughts.

For more information email Suzanne at [education@aabr.org.au](mailto:education@aabr.org.au)

### Welcome to new AABR Members

John Edwards  
Margaret Hardwick  
Marion Lugg

#### Local Government etc.

Shellharbour City Council  
Central Coast Council  
Central West Environment  
and Waterways Alliance

# The Benefits of Bush Jobs

Advertise a job or your business, or find a job through AABR.

AABR's website is a Bush Jobs magnet with 22% (17,000) of the site's pageviews heading towards this employment resource.

The Bush Jobs page has been set up to assist bush regeneration companies and consultants, councils and government departments find quality workers across Australia. It is available to all organisations involved in bushland management. A large and ever increasing list of eager bush regenerators from around Australia receive instant email notification of every Bush Job listed.

If you're looking to employ a bush regenerator, looking for work as a bush regenerator or a business undertaking bush regeneration work as a consultant, plant provider or contractor AABR's website is the go-to resource with over 1 million visits a year.

To advertise a position, go to <http://www.aabr.org.au/employers-advertise-bush-jobs/>

Are you looking for work and would like to get an email when new jobs are being advertised? Go to <http://www.aabr.org.au/job-seekers-subscribe/>

One of the reasons AABR's advertising arrangements are so effective is because of the link to industry accreditation. To advertise professional services the Principal, Owner or Manager/ Director of the business must be a financial AABR member with AABR accreditation as a practicing bush regenerator. This criterion is a formidable filter that provides a quality assurance of the products and services being offered.

To advertise your business, go to <http://www.aabr.org.au/do/business-directory/advertise-your-business/>

Advertising with AABR also supports the organisation that is supporting the industry. Funds generated through advertising go to providing services to AABR members such as the ongoing development of the website, hosting field trips, coordinating the accreditation process and the production of this newsletter.

## AABR's Broken Hill visit

### Are you interested in coming?

AABR has set up an event page on our website with more information. <http://www.aabr.org.au/event/broken-hill-field-trip-and-restoration-awards/>

**Questionnaire:** To help our planning a questionnaire has been set up to find out who might come, how they will get there and what activities they may want to take part in.

Go to <https://www.surveymonkey.com/r/3Z3F6W5>

### Assistance needed

Do you want to assist the committee with organising the event or sharing driving of the minibus (in exchange for a discount)? Please email Tein on [president@aabr.org.au](mailto:president@aabr.org.au)

### Are you a keen botanist?

Anyone with skills in recognizing semi-arid and arid zone plants is particularly encouraged to join the trip as there will be an opportunity to do a follow up flora survey, nearly 80 years after the first flora survey in 1939

# AABR Accreditation – Is it for you?

accreditation

əkredɪ'teɪʃ(ə)n/

a noun meaning

*the action or process of officially recognizing someone as having a particular status or being qualified to perform a particular activity.*

*"the accreditation of professionals"*

How do you turn your regeneration passion into a profession? Get accredited! AABR Bush Regeneration Accreditation is industry acknowledgement that you are competent in the field of bush regeneration. In employment terms it can provide the point of difference that highlights not only your expertise but also that you have gone through a process to have your skills evaluated by industry experts.

The accreditation process is a commitment to your professional development. It is an opportunity to reflect on the projects you've undertaken and acknowledges that along the way the bushland has taught you a thing or two like;

- how to recognize the problems and processes of degradation
- what the habitat requirements are of both plants and animals
- the names of natives and weeds and what they look like throughout their life
- the most efficient ways of safely and effectively removing weedy invaders and how herbicide can assist.

AABR accreditation also shows an understanding of the legacy of the Bradley sisters' principles of maximizing natural regeneration by;

- working from areas of higher resilience to those of lower resilience
- matching the area of primary treatment to the site's capacity to respond and the follow-up resources available and
- using intervention techniques that maximize natural recovery processes.

Possessing AABR Accreditation says you're ready to work as a competent team member, you are aware of safety and have the skills to communicate about the site, the work you're undertaking and ideas and concepts behind your decisions.

The accreditation process is outlined on AABR's website <http://www.aabr.org.au/about-aabr/accreditation/>.

There is currently no waiting list and so it's a good time for our experienced accreditors to evaluate your application. There are two pathways to accreditation to accommodate those with and without formal qualifications. The accreditation fee is \$30 and renewed annually.

Whether you are beginning your career in bush regeneration and want to show your competence or you have spent a lifetime learning from the bush and want a memento of your efforts, the AABR Accreditation process is highly satisfying, personally rewarding and a well regarded industry credential.

# How do the Broken Hill Regeneration Reserves stand up as an Ecological Restoration project?

Tein McDonald  
President AABR

The Broken Hill Regeneration Reserves project, conceived and led by Broken Hill botanist Albert Morris in the 1930s, is among the very first ecological restoration projects in the world.

An AABR delegation made a visit to Broken Hill in late February 2017 to see for ourselves whether the project is a bona fide and high quality ecological restoration project.

Relying heavily on local botanists Anne Evers and Lindy Molesworth, the AABR team sought to understand the degree to which the vegetation now dominating the Regeneration Reserves represents a healthy example of the ecosystems of their kind in the local area.

What were the prior ecosystems? While the goal of the project was to reinstate local ecosystems, few if any undamaged reference ecosystems remain in the area because most have been affected by a history of timber getting, grazing, rabbits and weeds. Botanical descriptions and observations of surrounding areas however, allows us to piece together a picture of what healthy local ecosystems should look like. (Box 1)

**Condition in the 1930s?** The Regeneration Areas were created in 1937 (from part of the town Common), to create an area of

revegetation 'one mile wide' around the town. From all accounts, the area at the time had been largely denuded of all vegetation. The denudation had been the result of the combined effect of drought, browsing by rabbits, timber cutting for domestic and mine uses, and overgrazing by livestock – denudation that led to further degradation from wind erosion.

**What did we find?** In our brief introduction to the Regeneration Reserves we were able to see all the 13 regeneration reserves and look in more detail of Reserves 1a and 9 with the help of local botanists Anne Evers and Lindy Molesworth.

Generally speaking there was extensive shrub cover of all the typical genera in all reserves, with a diversity of subshrubs. There were many herbaceous species evident but, because it was in a dormant phase, we found far fewer of the ephemeral herbaceous species than were formally recorded by Margaret Morris during a 'good season' in 1939. But we did find more shrubs species than the earlier studies – shrubs that were present in densities and levels of cover that appear, in the view of our botanists, to be typical of healthier examples of local ecosystems. Cryptogamic crusts were well formed on some of the older soils that did not have recent disturbance histories and the level of banding in the reserves was convincingly natural. In all reserves, however, there was evidence of well-established ephemeral herbaceous exotics on the ground, legacies of the grazing history of the sites and the region and species that are likely to be bare-ground opportunists. Higher weed loads and lower native loads were evident in Reserves 5-8.

All in all, although we have not yet seen the sites in a 'good season' similar to 1939 (and we are sure to see a lot of weed as well as native after rain), the reserves contained vegetation



Part of the Broken Hill regeneration reserves photographed by AABR in 2017, showing typical cover of native shrubs, with mulga (*Acacia aneura*) dominating the rocky rises and Chenopodaceae shrubs dominating the lower flats. Photo: S Meier

**Box 1. Healthy ecosystems in the Broken Hill areas** would typically have different species reflecting the contours of moisture and soil gradients. Instead of Eucalypts, the tallest stratum is dominated by acacias on the ridges, particularly mulga (*Acacia aneura*), accompanied by a range of other acacias, sennas (*Senna* spp.) and subshrubs such as *Sida* spp. and *Solanum* spp.. Chenopod shrubs (represented by many genera) dominate the lower flats. A diverse range of herbaceous ground covers occur throughout in 'good' seasons but die back during dry seasons. Some eucalypts occur along watercourses, particularly the local variant of river red gum (*Eucalyptus camaldulensis*) and taller shrubs *Myoporum* (*Myoporum montanum*) and *Santalum* spp., occur where conditions allow.

Healthy semi-arid and arid ecosystems would typically include a relatively high component of unvegetated ground compared to higher rainfall areas, with more intact soils having well developed cryptogamic crusts.



Reserve 9 contained many semi-arid and arid zone plants (and fauna tracks and traces) that interested the visitors. A number of dedicated locals were able to fill us in on not only botany but the fascinating history of the Broken Hill story. Photo: S. Meier

communities that had a high similarity to the more healthy vegetation of the local district.

**What explains the good results?** The fact that native vegetation communities had developed and persisted over the last 80 years rather than declined is a testament to the fact that the technical approach chosen for the restoration - to utilize natural regeneration to the extent possible - was well matched to the situation.

Although tree planting was something that Albert Morris espoused and carried out with great success in the town, his recommended approach for the regeneration areas was that fencing alone be the main approach used, with direct seeding and planting to be confined to any areas devoid of topsoil. This recommendation was based on Albert's ability to 'read' the signs of potential for regeneration of drought-adapted flora despite the disappearance of above ground vegetation. While he had been preaching the benefits of fencing alone for over a decade by that time, the results of the 1936 trials in 'Plantation

No 1' (where extensive natural regeneration occurred among the plantings) gave him the ammunition he needed to gain the support of others. (See other articles in this newsletter.) This inspiration, and the support of the approach by Margaret Morris, the Barrier Field Naturalists Club, the mines (particularly Zinc Corp) and townsfolk, led to the reinstatement of what is likely to be a highly species diverse and genetically diverse outcome - with typical banding of species matching the topographic subtleties of the sites.

In conclusion - while there have been some amenity plantings around the edges of the Reserves (and some within) - we can say that the core Broken Hill Regeneration Reserves can be recognised as an authentic ecological restoration project and can be celebrated as possibly the world's earliest documented example of a deliberate natural regeneration approach. Importantly, however, the project is also likely to be one of the three very earliest examples in the modern world that focused on bringing back an area's local native vegetation to counter a growing appreciation of ecosystem loss<sup>1</sup>. All such early pioneer projects of the 1930s are highly significant as they mark the beginning of what was then a radical new direction for land managers - ecological restoration - that has now become a mainstream activity.

**What next?** We are itching to have another look at the Broken Hill Regeneration Reserves (particularly Reserves 1a and 9) during the spring field trip in August, when hopefully there will be more herbaceous species present. We are keen to find any amateur (or even professional) botanists familiar with arid and semi-arid vegetation who might like to offer their services to help with a thorough floristic survey of these two areas. The data gained from such a survey will contribute towards a more thorough evaluation of the progress of the Regeneration Reserves that will be submitted for publication in a peer reviewed journal.

**Endnote 1** The earliest ecological restoration project we know of is an Australian rainforest restoration project initiated by Ambrose Crawford in Alstonville NSW in 1935, that AABR will celebrate in 2018.

**Endnote 2** This article is a summary of a more detailed evaluation to be published by AABR later in 2017.

# AABR explores Broken Hill

## Louise Brodie and the AABR 'reccie' team

A major event for AABR in 2017 will be the presentation of the Albert Morris Award for Ecological Restoration, and a festival of associated activities in Broken Hill in August.

Six AABR members travelled to Broken Hill at the end of February for a 'reccie' in preparation for the event. The team comprised Tein McDonald, Jane Gye, Louise Brodie, Lyndal Sullivan, Scott Meier and Virginia Bear. All had a long-standing interest in the site with Virginia doing the filming of 'The Regen' (as the reserve system surrounding the town is known) and of our activities. In the background AABR member Peter Ardill has done a lot of archival research.

We wanted to find the original areas where restoration took place in 1939 to counter severe erosion and sand drift, and see how they were faring. (See Peter Ardill's article this issue on the Broken Hill Regeneration Reserves.)

We also wanted to know how important the concept of natural regeneration had been back then. How would the project fit within our current idea of assisted natural regeneration? Some reports described propagation and planting as being a major

activity for parts of Broken Hill, especially as Albert Morris was a great promoter of tree planting in the streets and parks. But we knew Albert Morris also had a keen understanding of natural regeneration processes in arid landscapes, and his intent had been to fence the reserves to foster natural regeneration. We hoped that the archives, local knowledge, and the reserves themselves would provide the clues we needed.

Of course the other major aim of the visit was to meet with locals who valued the reserves and discuss how we could organise an event which would be interesting to everyone and be of benefit to the local community.

Tein and Lilian Pearce, who is doing a PhD on the restoration from a social science angle through the Fenner School of Environment at ANU, arranged a one-day workshop about the proposed award. Lilian's work was invaluable in that she had been in contact with people in Broken Hill and was able to assist in arranging for their attendance, facilitate the workshop and draw out these key local stakeholders' knowledge of the 'past, present and future' of the Regen areas.

It was wonderful to have so many people make us feel so welcome. We met people from the Council (who manage the reserves), Landcare, Office of Environment and Heritage officers

working with heritage (including indigenous heritage), National Parks, local botanists, local artists, filmmakers, the National Trust, Barrier Field Naturalists and other interested people. (Local Wilyakali custodian Maureen O'Donnell had to send apologies but remains keen to provide traditional owner advice.) We were taken to interesting parts of the reserves, were able to learn some of the plants on the reserves and a bit about the management of the areas. There was a lot of talking and learning about the areas for us (who were all from the coast/Blue Mountains!).

We had exciting times in the archives at the local library, where the Barrier Field Naturalists Club had sent a lot of their material. We found photos, plant lists and descriptions of the regeneration areas. We were delighted to find meticulously kept club minutes in Albert Morris's elegant handwriting, and it was an emotional moment when a new writer took over in 1939 and noted the group's concern about Albert's sudden illness, and then, shortly after, their sadness at his untimely death.

The hefty stack of minutes covering the next 75 years provided some consolation, reminding us how the Field Nats continued to thrive, and others built on the solid foundations "Uncle Bert" had laid out.

Comparing a map of the 1939 reserves (found in *The Greening of the Hill* by Horace Webber) with a current map from council helped us locate the sites.

After visiting the reserves, we were thrilled to find and read that planting in the reserves was minimal – except in one area that preceded the reserves (Plantation No. 1) and in areas where trees had been planted for amenity. By far the bulk of the revegetation was natural regeneration, as Albert Morris had anticipated. Considering the 'before' photos showed bare ground, this was an amazing result.

The team had a few little queries to solve. Where was Berry's Hill? This was labelled in one of the 1939 photos, but no-one seemed to know where it was. The bare landscape was devoid of landmarks. The archives threw up a report by Albert's wife Margaret describing the reserves, and lo and behold, Reserve 4 was described as containing Berry's Hill.

A second was identifying Plantation No. 1. This was described and photographed as being the original area where Albert had wanted to demonstrate that revegetation would be successful. In this area he did a lot of planting to make sure of success. But what occurred was that many native species regenerated, proving his theory that regeneration would happen with fencing. Because this site was so important in the trialling of regen, we searched in the approximate location but could not align the old photos with any current landmark. Suddenly Scott spied a little



Albert Morris (Photo: Barrier Field Naturalists Club collection)

row of conifers, identical to the row in the photos. Sure enough this helped us align the photos. We had been looking at the area from the street, where as the original photo had been taken from the mining offices, now closed and inaccessible behind a big locked gate. Interestingly the plantings in the 'plantation' had not done as well as the regeneration. Many trees remained but some had died. However the native understorey and shrubs that had regenerated were thriving.

Overall, some of the regeneration reserves were in great condition and had a great diversity of local native species which had regenerated naturally and had good soil crusts of cryptogams. (See article by Tein McDonald this issue). Some reserves did not show such a diversity, but we didn't know enough about their history to understand why, although the locals referred to one as having been used as a camp for camels and cameleers (you could still see the roofing materials and hearths!) and two other locations were identified as sites where there were rubbish tips .

Some of us were able to stay at the Art Exchange, a non-profit organisation to support the progress of art and artists, and which is a stakeholder in our project. Local filmmaker Bruce Green from the Art Exchange has made a video about the upcoming AABR event.

[https://www.youtube.com/watch?v=FwA0RsO\\_8IU](https://www.youtube.com/watch?v=FwA0RsO_8IU)



A photo taken in October 1936 shows the sites of the regeneration reserves being severely degraded. (Photo: Barrier Field Naturalists Club collection)  
February 2017 shows how natural regeneration has resulted in the restoration of the area. (Photo: L. Brodie)

# Albert Morris and the Broken Hill regeneration project: perspectives

Peter Ardill, AABR

Many AABR members will be familiar with the City of Broken Hill regeneration scheme, which involved the pioneering establishment of a series of natural regeneration reserves.

These were initially known as *paddocks* and then *the regeneration area*, and were established around the City boundaries, commencing before the Second World War of 1939-45. Albert Morris, a local mining company chief assayer possessed of expert knowledge of the climate, geology, soils, flora and fauna and ecology of the semi-arid saltbush and mulga landscapes of western NSW, is rightly credited with being the prime initiator of the scheme.

The regeneration reserves still exist and operate effectively today, encircling the City and covering the vulnerable local soils with a protective layer of natural vegetation. Broken Hill City Council provides ongoing maintenance services in the form of fencing, weeding and track work.

Every project has broader perspectives and narratives that shape and form the particular, and in this short article I would like to briefly describe some of the significant social and natural environment factors that were operating at the time of the creation of the Broken Hill reserves.

## The need for regeneration

Why did the landscape require regenerating? In 1900 vegetation stripping caused by commercial overstocking and rabbits in plague proportions was acknowledged as a significant contributing factor to the severity of sandstorms in western

NSW. By 1930 the lands surrounding *The Silver City* had been devastated by a combination of two main factors: natural resource exploitation by the mining and pastoral industries and timber felling and collecting to satisfy urban population needs for cooking and heating fuel. Tree clearing, overstocking and feral animal infestation had reduced vast tracts of previously vegetated and stable soil to drifting sand dunes.

The problem was not just a regional one. Erosion, dust storms and fear of permanent desertification of vast tracts of land were major environmental issues of the period c1920-50 in the USA and Australia. There was deep concern that whole cities and towns would be suffocated by sand.

All levels of government in Australia were involved with investigating the problem. In NSW, the State Government of Bertram Stevens established a Soil Erosion Committee in 1935, which toured the State and took evidence on local conditions. The report of the Committee resulted in the passing of the *Soil Conservation Act 1938 (NSW)*, which led to the creation of the NSW Soil Conservation Service. The Second World War intervened, and the Service really only started extensive and systematic regional work after the end of the War, establishing a series of soil research centres and offices around NSW. Slowly, the problem of landscape degradation was addressed and attempts were made to remediate the land. This remediation process continues today.

## People and knowledge

A second broad perspective relating to the development of the Broken Hill Regeneration Reserves was the involvement of a wide range of knowledgeable players who positively influenced the development and implementation of the scheme. They were supported by a strong conservation organisation, the Barrier Field Naturalists Club (BFN).

Albert Morris possessed an impressive knowledge of the local flora and fauna, and was nationally and internationally known as



A Broken Hill dust storm, New South Wales, 15 December 1907 (Photo: National Library of Australia, Box PIC/15747 #PIC/15747)

a botanist. He sought to understand the workings of the arid but very complex landscape that he saw around him by engaging, when not at his demanding paid job, in countless hours of field trips and botanical studies with like-minded colleagues.

Dr William MacGillivray, a Broken Hill medical practitioner and an outstanding Australian ornithologist, was also an excellent botanist and student of the natural landscapes of western NSW. After the death of *Dr Mac*, as he was fondly known, in 1933, his son Dr Ian MacGillivray and Edmund Dow, both good amateur botanists and conservationists, also contributed to the local pool of natural ecology knowledge. Margaret Morris was another competent Broken Hill amateur botanist and played an active role in scientifically validating the flora regeneration within the reserves and promoting their social benefits. All of these outstanding individuals were members of the Barrier Field Naturalists Club.

The Barrier Field Naturalists Club (BFN), formed in 1920, provided a strong conservation platform for the ongoing efforts of these notable individuals to restore the landscape around Broken Hill. Public meetings, lectures, field trips, advocacy and networking focused on the preservation of the natural environment were all engaged in by the BFN members, and the establishment of the Broken Hill Regeneration Reserves was consistently supported. Clarence Chadwick and May Harding, amongst others, advocated strongly for the study and maintenance of the reserves. The Club still operates today and has generously presented its records to the Charles Rasp Library, Broken Hill, to be used as a public archive.

#### **Institutional support**

Finally, local government, the mining industry and pastoralists also played a role in the establishment of the reserves. The shifting sands of *The Silver City* represented a threat to the existence of all three entities.

From the outset, the Broken Hill City Council supported the creation of the regeneration reserves, both administratively and financially, and that support continues today. The Mine Managers' Association of Broken Hill, representing the three



Broken Hill Zinc Corporation 1907 (Photo: State Library of South Australia B54756/14)

major mining companies in Broken Hill, provided effective administrative, political and financial support when the reserves were created and subsequently. Two Zinc Corporation employees, AJ (Jim) Keast, manager, and Maurice Mawby, metallurgist and BFN member, particularly provided a supportive administrative framework for Albert's work. The Western Districts Pastoralists' Association formally declared its opposition to the destruction of green timber stands in western NSW, supporting the efforts of the BFN to curtail this activity.

I have outlined three of the background factors that contributed to the successful implementation of the Broken Hill regeneration scheme, an early example of its kind in the world. All projects are subject to setbacks, disruptions and even tragedies, and the Broken Hill project was no exception. Sadly, the tragedy of this project was the premature death of Albert in 1939 at the age of 52, from illness. He did live long enough to see his vision broadly implemented, and he knew that it would be a success. His knowledge of and passion for the landscapes of western NSW had guaranteed this success.

(This short article is based on a more detailed and referenced paper to be published by AABR later in 2017).

### ***Exciting news about the Barrier Field Naturalists Club***

Formed in 1920, the Barrier Field Naturalists club is the second oldest Field Nats Club in Australia. Thanks to the foresight of Albert Morris and his colleagues, the BFN was behind the regeneration zone around the city to combat the ferocious dust storms and sand drift. This was one of the earliest ecological restoration projects in the world and the first to focus principally on natural regeneration. Other achievements of the Field Nats club include having Mutawintji made firstly into a reserve, then into a National Park. Their lobbying was also instrumental in the 'Central Reserve' as it was known, being turned into Sturt National Park.

In recent years membership had dwindled, despite the committee's valiant efforts. The energy required to continue the good cause was starting to take its toll on the dedicated but elderly committee, and no replacements could be found. So they felt they had no option but to dissolve the club. The formal wind-up process commenced, and the meeting held in March 2017 was to be the last. Two committee members (Sandra Walden and June Baetge) came to the AABR workshop and explained the situation. It was a sombre note in what was a very positive day.

But the plight of the 97 year old association struck a chord with many. Like-minded associations such as Landcare Broken Hill and the Barrier Rangers bushwalking group got networking, and the local newspaper ran an article. A large group of supporters turned up for the meeting, keen to see the continued growth of such a valuable community association. The decision to close was reversed and a new committee elected.

It was a close call but in the end the Broken Hill community thought it unimaginable that the club, founded by none other than Albert and Margaret Morris, Dr W. McGillivray and some very dedicated pioneers, could disappear so close to its centenary.

What a difference a day makes, as the song goes! The Barrier Field Naturalists would like to thank all those who rallied to the cause and threw their support behind the club to keep it a thriving local initiative.

If you would like to know more about their great work, join in a field trip, or simply lend your support to the association, please contact the club Secretary, James Bourne, by email at [jambourne@gmail.com](mailto:jambourne@gmail.com) or by phone: 0408 995 985

For more on BFNC watch the video <https://www.travelin.com.au/articles/Barrier-Field-Naturalists-Club-03462>

# Nature Conservation Council's 2017 Bushfire Conference



Fire, Fauna & Ferals:  
from backyards to bush



Image: Tobias Hayashi

**30-31 May, Conference: NSW Teachers Federation Conference Centre, Sydney**

**1 June, Field Day: North Head fire, restoration and fauna projects**

The Nature Conservation Council of NSW presents their 11th Biennial Bushfire Conference.

This conference will explore how fire management can support ecological values across the landscape: from our backyards through to the bushland interface and beyond. Building on themes from previous conferences we will continue to showcase on-ground fire and restoration projects and Aboriginal burning initiatives.

#### Four Key Conference Themes

- buildings and backyards for people, plants and animals – risk, resilience and adaptation.
- using fire for restoration.
- fire and fauna - what has been learnt about the interactions of fire, fauna and habitat
- fire, weeds and ferals - how can the interactions of fire, weeds and feral animal species be managed most effectively.

#### Speakers Include:

- Associate Professor Alan York, University of Melbourne - managing fire for fauna conservation
- Professor Ross Bradstock, University of Wollongong - rethinking how we manage the Asset Protection Zone
- Justin Leonard, CSIRO - supporting community adaptation to fire
- Lloyd Van Der Wallen, NSW Rural Fire Service - update on Bush Fire Environmental Assessment Code
- Professor Chris Dickman, University of Sydney - fire and feral animals.

#### Conference Field Day

A day in the field at North Head, walking over project sites, seeing restoration and regeneration in and how fire influences the management of threatened species.

#### Further information:

[bushfireconf2017@nature.org.au](mailto:bushfireconf2017@nature.org.au) or call Michelle Rose on 02 9516 0359

## Queensland Herbarium Seminars

The Queensland Herbarium hosts free public seminars at the Mt Coot-tha Botanic Gardens at Toowong. Held once a month on every second Monday from noon until 1pm in the FM Bailey conference room in the Herbarium building. You don't need to register, just turn up on the day.

Future Seminars are:

**15 May 2017** Grass pollen aerobiology and human health impact

**12 June 2017** Fairies at the bottom of the catchment: A history of Fairy Bower, the lost National Park of the lower Fitzroy

**10 July 2017** Drones, mine rehabilitation and burning buffel grass

**14 August 2017** Grazing and erosion risks

**11 September 2017** Species-area Relationships in Fragmented Landscapes - Identifying Thresholds for Incorporation into Conservation Planning and Land Management

**9 October 2017** La Música de las Flores - Botanical connections in music from Schubert to Robert Plant

**13 November 2017** Large and old, with a big butt – the demographics of habitat trees in Queensland's forests and woodlands

## Plant Identification Workshops with Van Klaphake, July and August

Many AABR members have attended Van Klaphake's plant identification workshops.

Van is hosting a series of workshops in July and August in the Sydney region. All workshops run over two days.

The workshops include

- Manuals
- Specimens to work with, and
- A field excursion

The workshops and costs are as follows:

Eucalypts of the Sydney Region - \$150

Rainforest and Wet Schlerophyll Trees and Shrubs - \$130

Grasses - \$130

Sedges and Rushes - \$130

For more information, enquiries and prices for group bookings phone 02 9602 8589.

# Plant Sure

## *an environmentally friendly approach to selecting ornamental plants*

We should all want to make sure that our ornamental plants do not become the next new weed. Soon, people seeking to buy and use ornamental plants will be able to have confidence that this can be achieved.

The Plant Sure project is about providing sound information to allow people to make more informed decisions regarding their plant purchases. The intention is that more people will want to make sure that the ornamental plants they use do not become the next new weed. People seeking to buy and use plants will be able to have improved confidence that this can be achieved.

The Plant Sure project will help to identify and reduce high risk (weedy) ornamental plants from being grown, supplied, sold or installed in NSW through a voluntary accreditation or certification scheme, underpinned by an effective plant assessment tool.

The NSW Environmental Trust has provided \$1 million to develop the scheme over the next 5 years. The initial Phase 1 component will involve scoping for a suitable assessment tool, or components to develop such, and investigate the suitability of either an accreditation or certification scheme to deliver the program. Phase 1 is critical as it will determine the direction for the project and will take around 6 months.

A consortium led by the Nursery & Garden Industry of NSW & ACT with representatives from industry (Australian Institute of Horticulture) and government (NSW Office of Environment and Heritage and NSW Department of Primary Industries) will work with researchers and industry professionals to develop the scheme. Additional key project supporters and advisors will include staff from the Botanic Gardens & Centennial Parklands, Local Government NSW, NSW Weed Officers Association, Local Land Services, Australian Association of Bushland Regenerators and the Invasive Species Council.

As we all know, invasive plants (weeds) are a significant threat to biodiversity and the environment: around 5% of the 25,360 plants introduced into Australia for ornamental purposes have become environmental weeds. This project aims to prevent future environmental impacts from weeds by reducing the availability of high risk (weedy) ornamental plants from supply and trade in NSW.

A 'national ready' and 'sector ready' voluntary accreditation or certification scheme (Scheme) will be developed to engage relevant industries in promoting environmentally safe plants and remove or avoid using plants that pose an environmental weed risk. The Scheme will be underpinned by a robust plant assessment and categorisation process that will provide confidence for industry and consumers that their plant choices are safe for the environment.

The Scheme will include education and training components to elicit long-term attitudinal and behavioural change in ornamental plant suppliers and consumers, and increase community knowledge and awareness of environmental weed issues.

Plant Sure project partners are keen to work with the community and all green-life industry groups that have an interest in the responsible use of ornamental plants, to ensure the plant assessment process and the Scheme are relevant, user-friendly and available to everyone. Please contact us if you are interested in being involved!

For further information, please contact

Des Boorman, Project Manager

Nursery & Garden Industry of NSW & ACT

[des.boorman@ngina.com.au](mailto:des.boorman@ngina.com.au)

Mobile: 0427 775 086

## *Korinderie Ridge Bush Regen Week - Jul 31 - Aug 4 2017*

Have you ever joined in on a bush regen holiday? The 14th annual Korinderie regen week is one of the growing number on offer throughout Australia – with this one being held annually on a private Multiple Occupancy bushland property **adjacent to north Bundjalung National Park, NSW**. The idea is that a small group of like-minded people join with the property's residents for a week to remove lantana from the property's conservation areas, which is most of the 200 ha property. In exchange the community provides delicious meals, bushland camp sites and opportunities for afternoon sightseeing or relaxing, followed by great food and campfire conversation.

Lantana is a serious threat to the integrity of the extensive spotted-gum/ironbark forest of the ranges adjoining Bundjalung National Park, which are home to a range of threatened arboreal mammals including phascogale and squirrel gliders. The combined effort of community members and volunteers has completed the majority of the primary work at Korinderie sites over the last 13 years but primary work is still needed in some fertile gullies and there is always plenty of follow up to do.

About half those who book have been before, and the other half are newcomers. Any regulars or newcomers interested in

booking or receiving further written information, please phone Tein or Graeme on 02 6682 2885 or email on [teinm@ozemail.com.au](mailto:teinm@ozemail.com.au) – and check out the [Korinderie website \(http://korinderie.org.au/environment/regenad/past-years-regen-weeks/\)](http://korinderie.org.au/environment/regenad/past-years-regen-weeks/) for an updated gallery of photos of past years' events.



Regen at Korinderie Ridge

Photo:T.McDonald

# New video celebrating the values of South Lawson Park

Peter Ardill

South Lawson Park Bushcare

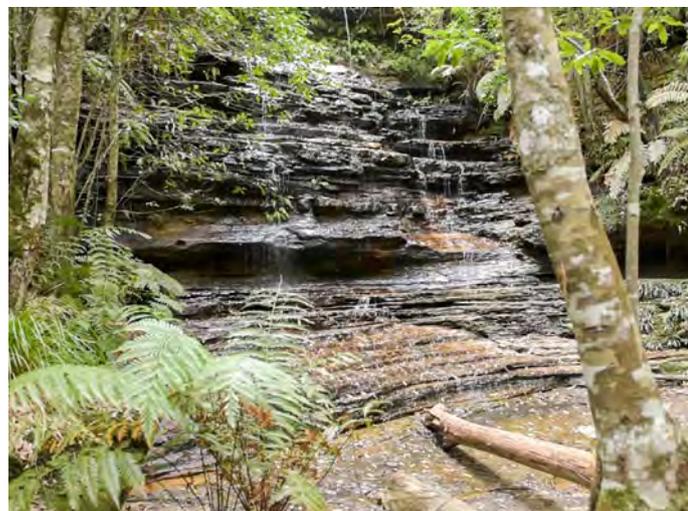
The South Lawson Park Bushcare group at Lawson in the Blue Mountains of NSW, around 100 kms west of Sydney, celebrated 20 years of bushcare in 2016.

Their recently released commemorative film takes a look at the ethical values that urban fringed patches of bushland possess and how a coordinated bushcare and streamwatch approach to regeneration planning optimises and validates volunteer bushcare activities.

Lawson Creek is a significant Blue Mountains catchment and eventually discharges into the Hawkesbury-Nepean river system, via the Blue Mountains National Park and World Heritage Area. Weed invasion, pollution and high sediment flows are common occurrences. As with most bushland parks in the Blue Mountains, South Lawson Park is located near the ridgetop, and these impacts can have severe downstream effects if not managed. With the guidance of Blue Mountains City Council Bushcare Officers (the first, in 1995, being AABR's Virginia Bear), these adverse impacts have been reduced.

The bushcare group has a two stage approach to managing the urban impacts. The bushcare activities address the weed problem, and the flora of the riparian area has been enhanced with both planting and natural regeneration techniques. Streamwatch monitoring, supported by the Australian Museum and Blue Mountains City Council, provides measurable, standardised data on water quality and macroinvertebrate life. Oxygen, phosphate, salinity, pH and turbidity levels are tested on a monthly basis. Testing for macroinvertebrate life is done on an annual basis.

These two activities obviously complement each other: bushcare helps to provide a stable base of native flora and soil stability which enhances water quality and the streamwatch results can



Waterfall. South Lawson Park.

indicate problems with flora depletion and land management. Streamwatch results also reflect the effectiveness of the bushcare approach: reasonable results are generally indicative of good bushland and catchment management, particularly in the context of stressed bushland remnants.

Maintaining the urban reaches of Lawson Creek catchment in a reasonable environmental condition will always be an ongoing battle. The consolation is that this buffer zone of bushland,



South Lawson bushland

although damaged in many ways, is being supported and improved, assisting with the preservation of the more pristine bushland and riparian tracts further downstream.

The film is produced by Peter Ardill (an AABR member) and Vera Hong, and directed by Vera Hong of Seconds Minutes Hours Productions. This professionally crafted film portrays the complexity of the Lawson Creek catchment, including the waterfalls, swamps and rich flora diversity. The aerial scenes are stunning. The life, knowledge and beauty intrinsic to this bushland area are celebrated with the Blue Mountains as the backdrop.

**The eight minute film may be viewed at <https://vimeo.com/verahong/south-lawson-bushcare> with the star performer being our beautiful bushland.**

The film was produced with support from Greater Sydney Local Land Services with funding from the Australian Government's National Landcare Program, and also with support from Blue Mountains City Council. Thanks to Seconds Minutes Hours Productions for their generosity with time and skill.

The bushcare group's website is available at [www.southlawsonpark.bushcarebluemountains.org.au](http://www.southlawsonpark.bushcarebluemountains.org.au)

For further information on Australian Museum Streamwatch visit [www.streamwatch.org.au](http://www.streamwatch.org.au)

Details for Blue Mountains City Council bushcare may be viewed at [www.bushcarebluemountains.org.au](http://www.bushcarebluemountains.org.au)

Photos: Vera Hong, Seconds Minutes Hours Productions

# Pioneers' Lunch 2017

On March 6th, around 50 'Pioneer' bush regenerators got together to talk about old times, and their experiences in Bush Regeneration.

Attendees included professionals, volunteers, educators and others who all had a role to play in the early days of the bush regeneration industry during the 1970s and 1980s.

Love of bush regeneration came through. Twenty five of the forty pioneer regenerators present are still regenerating

Everyone had some stories to tell of early regeneration work

**Ralph Hawkins:** At Blackwood Sanctuary [Pennant Hills, Sydney]: My memories are of Joan Bradley and Velvet the kelpie looking over our site that had horizontal honeysuckle and vertical privet - it's now a *Doodia aspera* patch.

**Janet Fairlie-Cuninghame:** I have early memories with Joan Bradley. Some people got into trouble for 'overclearing'.

The bush is our evolutionary time capsule of all the processes that have happened on that spot...this is a concept we need to explore and treasure.

**Penny Black:** In 1987 I started working in the bat colony [Gordon, Sydney] with Nancy [Pallin], just working near her and the group... they had such wonderful knowledge and books to share. A memory at Illeroy Avenue, Gordon stands out, of Margaret Beavis - she always talked with her hands and one day she was holding a regen knife when she got in to a conversation with a policewoman, whose response was 'drop the knife!'. It took a while for Margaret to realise the woman was serious. Margaret was a consummate regenerator who taught us a lot, chatted about so many important issues and encouraged everyone.

**Gerda Cohen:** I remember Margaret Beavis discovering some jumping ants. I've never seen a woman stripping so quickly.

**Tein:** You don't just learn regen, you learn so much wisdom, concern for the world.

**Heather Cooper and Toni MacKay:** We were going to a meeting at Willoughby Council [in Sydney]. They wanted to build a tennis court near some bushland, and we heard about the Bradley sisters, so we went to join their group. Joan Bradley said 'We only have experienced people - we can't have you', so I said then we'll do it anyway! We were the first non-Mosman people, pioneers in Lane Cove. Castlecrag was well represented too.

**Tein McDonald:** While it may have been something we were passionate about, now it's a profession with recognised methods of managing bushland. Bush regeneration is a commitment, a commitment to follow up, not many people have that endurance.

**Noela Kirkwood-Jones:** Bush regeneration saved my life - it was a privilege to work with the Bradley sisters a couple of days a week with the National Trust. It was a happy part of my life, many relationships formed including meeting my husband!

**Nan Goodsell:** I'm the oldest grandchild of a botanist and have always been interested in plants. I worked in the museum job with baskets from indigenous cultures. Later I went into bush regeneration, and then when I retired from that I made my own baskets from native plants. I love the plants. Plants have been my life and bush regeneration makes you appreciate them.

**Mary-Lou Lewis:** I learnt from so many people who had so much experience.

**Gerda Cohen and Jeni Porter:** We worked with the animals. We had a joey that we brought to bush regen so it could get a feel for the bush. We took turns jumping around with the joey in a rucksack. When you care for the animals the nature of bush regeneration changes. I now have wallabies mowing my back yard and the neighbours have put up a fence to keep them out.

**Georgina San Roque:** I'd like to acknowledge Robin Buchanan I was in her class. I'd also like us to remember Charles Boyd, who worked at Balls Head at North Sydney, first in the team and then as a volunteer. Prior to doing bush regeneration he was a ballet dancer with the Ballet Rambert and then worked as a ranger with the Flora panel (which eventually became part of National Parks).



Some of the group attending the lunch. March 2017.

At the back: Marylou Lewis, John Burke, Nan Goodsell, John Diamond, Sheila Walkerden, Sheila Woods, Judith Stanley, Judith Barry, Noel Rosten

In the middle two rows: Jane Gye, Bridget Dowsett, Louise Brodie, a bit of Nancy Pallin, Jan Allen, Jen Porter, Heather Stolle, Janet Fairlie-Cuninghame, Toni McKay, Penny Black, Toni Stevenson, Tein McDonald, Jenny Roxburgh, Leonie Parker, a tiny bit of Pat Bell, Lynne Springett, Georgina San Roque, Rae Rosten

In the front: Gerda Cohen, Bill Jones, Noela Jones, Pat Pike, Jenny Lewis, Carol Bentley

Photo: S Pritchard

# Is it called Scrub itch or red mite? Just call it irritating!

Chigger mites or red mites or scrub itch mites are one of the many annoyances experienced by those working in bushland.

Rose Trelibs from Red Rock on the north coast of NSW, describes her first encounter.

*When I first moved here a few years ago I thought I was coming to paradise, only to find that I was getting attacked by the invisible insect world. Had we done the right thing?*

*In a hot and humid November while painting the verandah ceiling, I first became aware of a severe irritation in the groin area. The intensity of the itch, drove me to check it immediately. I was greeted with a row of red hives along the elastic leg line. The itch would come and go and was aggravated by contact with clothing brushing over it. The next morning several more hives had appeared, mainly round the bra line, under the armpits and any other pressure point. These hives seemed to have tiny holes in the top. Over the course of the next few days more hives appeared.*

*The overwhelming problem was not the itch so much as what could be causing these pink lumps. No one seemed to know and browsing the internet had brought little joy. By this time, I had determined that I would not be going out into the bush just in case. Having consulted with my neighbour, a local pharmacist, who thought I might have bedbugs (as they were known to be on the rise in Australia and I had been staying in a motel a few days before), I thought I had better wash in very hot water all the clothes I had been wearing over the last few days. While some of the original hives were starting to subside after 4 or 5 days, new ones were still appearing, albeit fewer of them. So I eventually concluded that a trip to the doctor might solve the mystery.*

*Upon close examination of the hives, he declared that they looked a bit like flea bites, but otherwise was at a loss. He suggested we flea-bomb the house to at least eliminate one possibility. So we did. No fleas of course. A little later I found someone else in our neighbourhood, who was also suffering from intense itching and equally frustrated. He had discovered that the only way to get relief was to have a shower in as hot a water as you could stand.*

*This was the trigger. It dawned on me that these bites were coming from the bush. Another intense internet search revealed 'Chiggers or Red Mites', which gave symptoms just like mine.*

Chigger mites belong to the family Trombiculidae and it is the larval stage that can cause irritation to humans as they feed on human skin. (The adult and nymph stages of the mites pose no concern). The larval mites are impossible to see as they are tiny — less than 0.2 mm long. They tend to be light coloured if unfed and have a yellowish to dark colouring after feeding.

The parasite is located as far south as the Dorrigo Plateau and northwards along the Queensland coast into New Guinea. North of Cairns and into New Guinea, the parasite carries Scrub Typhus, a potentially life threatening complication of the bite. To date, no one bitten south of Townsville has suffered this problem.

The mite is active in the summer months in all rainforest areas, particularly above the 300m altitude, as rain is more frequent during this period. They breed in warm humid weather.

Eggs are laid in the soil and, on hatching, the larvae climb up grass or other low vegetation. When an animal, including man,

brushes past the plant the larvae drop and, if successful, land on fur or clothing whence they scramble to secluded areas or high perspiration zones.



## What can you do?

### Protection

Chiggers prefer to bite areas where the skin is soft and they often congregate under clothing where it is tight against skin (e.g. around the waist or underwear), as well as around the ankles and lower legs. Typically, humans are bitten at sites where the mite can get entry: the collar line, belt line and tops of the socks. The favoured sites are the armpits, pelvic region and lower legs.

- The most effective strategy against chiggers is to avoid known areas of activity. But this is often not possible for those working in these areas. However DO NOT SIT on the ground on these sites
- Use personal insect repellents such as Aerogard. Those containing DEET work well as they are toxic to chiggers. Citronella Oil or Tea Tree Oil, can be effective. The liquids must be applied to the skin at places where the mite can gain access. Spray your gloves, socks, leg and arm cuffs and boots - even your hat each time you go into the grass or bush. On sites where mites are prevalent, you may need to spray several times a day.
- Clothing impregnated with permethrin, provides excellent protection against chiggers. Be sure you include socks!
- Chiggers do not burrow into the skin. After being in known areas of chigger activity, taking hot soapy baths or showers to remove attached and unattached mites is effective. Place clothing in a hot dryer to kill any mites present.

### Treatment

The mite secretes a saliva which dissolves the upper layers of skin - the resulting fluid being sucked up. This process produces a very itchy, angry, red lump with the mite continuing the process for several days. The chiggers do not burrow into human skin, although there may be localised swelling that looks like they have embedded

Itching, or abrasion, can cause secondary infection, or possibly it causes the mite to relocate to another site and the process recommences. After a few days of feeding, the larva drops off.

- The irritation associated with bites can be soothed with an anti-itch medication, such as crotamiton or using a topical cream such as a cortico-steroid or calamine lotion.
- You can use Ascabiol, an over-the-counter lotion which will kill the mite, (as will dabbing with kerosene, petrol or alcohol, but these fluids might produce their own reactions).
- Severe reactions may need to be treated with antihistamines. Scrub typhus is potentially fatal without proper treatment, but it can be effectively treated with antibiotics after seeking medical advice.

This information has been put together by Louise Brodie from a number of sources with input from the AABR committee and Rose Trelibs

# ANPC Projects



Participants brainstorming at the Australian Native Seed Industry Review workshop. Photo: Martin Driver

## ANPC survey on the Australian native seed industry - update

The Australian Network for Plant Conservation (ANPC) undertook an Australian native seed industry survey in October 2016. The survey was taken prior to a seed industry workshop on 18 November, as part of the 11th Australasian Plant Conservation Conference in Melbourne.

Due to popular demand, the survey recently re-opened. Anyone who is interested in completing the survey, and missed out last year, please email ANPC Project Manager, Martin Driver at [projects@anpc.asn.au](mailto:projects@anpc.asn.au) and he will send you the survey link.

Australian seed collectors, growers/sellers/suppliers, purchasers/distributors and other interested parties are invited to participate in this survey on the status of the Australian native seed industry. **Closing date is COB 28 April 2017.**

Read more about the survey and workshop outcomes at <http://anpc.asn.au/APCC11/workshop>

## Bring Back the Banksias

The ANPC's 'Bring Back the Banksias' project aims to assist in improving the conservation status of Silver Banksia (*Banksia marginata*) in Victoria and south-western NSW where it has undergone considerable decline.

Stage 1 of this project, supported by the Norman Wettenhall Foundation, was recently completed. The location and distribution of known relict or remnant populations of this iconic species have been collated and documented, assisted by the distribution and completion of a questionnaire. This information is being used to select sites/populations for future genetic research that will help guide seed collection strategies for the establishment of Seed Production Areas and future field restoration works.

Six workshops have been held with in excess of 190 participants.



Lake Bolac workshop on 24 Feb 2017.

Photo: Martin Driver



Immature Silver Banksia (*Banksia marginata*) Photo: Wikipedia

The most recent workshop was held at Lake Bolac on 24 February 2017, in conjunction with Glenelg Hopkins Catchment Management Authority and the Friends of the Forgotten Woodlands. It outlined what has been happening recently with regards to Silver Banksia research, mapping, genetics and seed orchards - for example Dr Adam Miller (Deakin University) reported on his preliminary findings on the genetic structure of the scattered populations of Silver Banksia on the Victorian Volcanic Plains.

For more information and to download the report on the Lake Bolac workshop go to <http://anpc.asn.au/banksias>. Further funding is now being sought for Stage 2 of the project.

### ANPC - The Australian Network for Plant Conservation

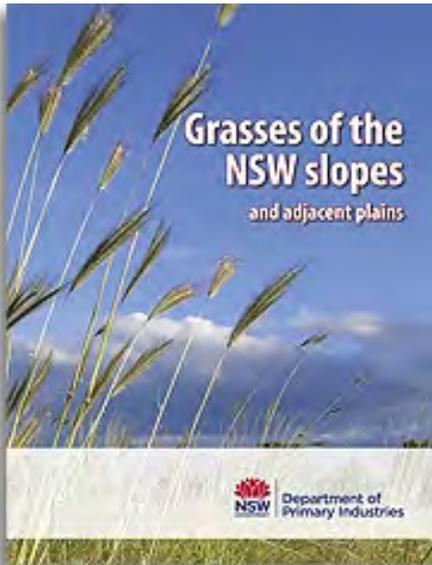
ANPC is a not-for-profit organisation - an incorporated body governed by a constitution.

The mission of the ANPC is to "Promote and develop plant conservation in Australia".

For more information visit <http://www.anpc.asn.au/>

# Books:

Three useful books on grasses have been published by the NSW Department of Primary Industries.



## **Grasses of the NSW slopes and adjacent plains** **Harry Rose (2016)**

On the NSW Slopes there are more than 450 species of native and introduced grasses. They are of major importance to farming and grazing industries, regional biodiversity and provide food and habitat for many native animals.

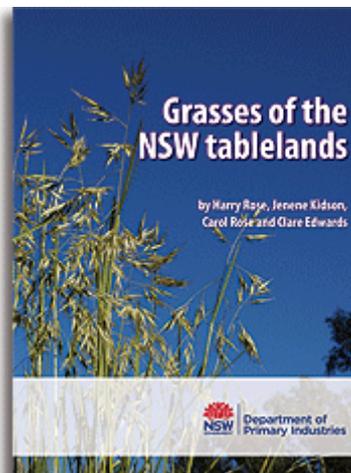
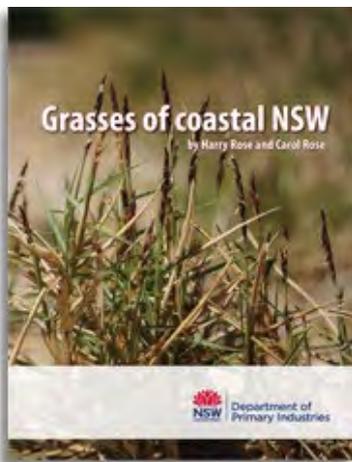
*Grasses of the NSW slopes and adjacent plains* provides an easy reference guide to the common grasses, so they can be recognised and managed appropriately. The book does not seek to cover all grasses in the area, but concentrates on the more widespread and common species which were recorded during surveys of the area

Published in 2016, it is available for \$25 as a hard copy and also available as a ebook from <http://www.tocal.nsw.edu.au/publications/list/field-crops-and-pastures/grasses-of-the-nsw-slopes>

## **Grasses of coastal NSW**

**by Harry Rose and Carol Rose**

First published in 2012 and revised in 2016. 184 full colour pages



## **Grasses of the NSW tablelands**

**Harry Rose and Others (2013)**

Both these books are easy to use references, including the methods of identifying species. Beautiful colour photographs for each species. Notes on appearance and management. .

They are available for \$20 for a hard copy and also available as an ebook

<http://www.tocal.nsw.edu.au/publications> and look under Field Crops and Pastures

## **The Complete Field Guide to Butterflies of Australia**

This second edition of this award-winning book is a fully updated guide to all butterfly species on Australia's mainland and remote islands.

Written by one of Australia's leading lepidopterists, the book is stunningly illustrated with colour photographs, many of which are new, of each of the 435 currently recognised species. There is also a distribution map and flight chart for each species on the Australian mainland, together with information on similar species, variation, behaviour, habitat, status and larval food plants. The introduction to the book covers adult structure, higher classification, distribution and habitats, as well as life cycle and behaviour. A new chapter on collecting and preserving butterflies is included. There is also an updated checklist of all species, a glossary, a bibliography and indexes of common and scientific names.

- Completely new edition
- Incorporates major changes to the higher classification and taxa order
- Includes new and reclassified species
- Includes new and updated photos.

Published by CSIRO Publishing. Paperback | April 2016 | \$ 49.95 . 400 pages

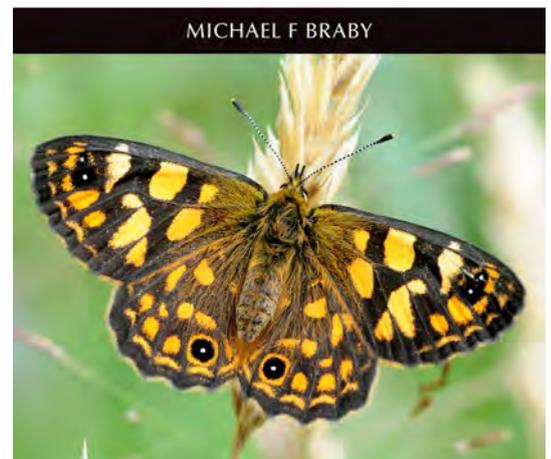
There are also ePDF and ePUB versions published by CSIRO Publishing and Available from eRetailers.

See more at: <http://www.publish.csiro.au/book/7223/#sthash.o5wf1jng.dpuf>



THE COMPLETE FIELD GUIDE TO  
**BUTTERFLIES**  
OF AUSTRALIA  
SECOND EDITION

MICHAEL F BRABY



# What's happening

**Wednesday 24th May and  
Thursday 25th May 2017**

## Aboriginal Cultural Burning Forum & Demonstration

Forum keynote speakers

Victor Steffensen, from Mulong, Cape York  
Oliver Costello, Firesticks Initiative, NSW

**WHERE:** Museum of Fire, Penrith NSW

**BOOKING:** <https://gslls.wufoo.eu/forms/xps979z0nokfd/>

**Contact:** Den Barber, Land Services Officer,  
Aboriginal Communities on 02 4724 2142  
Email: [den.barber@lls.nsw.gov.au](mailto:den.barber@lls.nsw.gov.au)

**Tuesday 30th and  
Wednesday 31st May 2017**

**Field Trip on Thursday 1st June**

## Fire, Fauna and Ferals: from backyards to bush

Nature Conservation Council's 2017  
Bushfire Conference

This multi-disciplinary conference will explore  
how fire management can support ecological  
values across the landscape: from our backyards  
through to the bushland interface and beyond.

**WHERE:** Teachers Federation Conference Centre,  
37 Reservoir Street, Surry Hills, New South Wales,  
Australia, 2010

**BOOKING:** For more details and registration  
<https://www.o-tix.com/event/bushfireconf2017>

**Contact:** Michelle Rose on email [mrose@nature.org.au](mailto:mrose@nature.org.au) or phone 02 9516 0359

**Friday 9th June 2017**

## Conference: Biodiversity Across the Borders

Restoration Challenges for the 21st  
Century

Aims to communicate new ecological research  
Speakers include Emeritus Professor Sam Lake,  
Monash University.

Dr Tein McDonald, SERA

Associate Professor Philip Gibbons, ANU

Professor Don Driscoll, Deakin University

**WHERE:** Mt. Helen campus of the Federation  
University Australia, Ballarat, Victoria

**BOOKING:** For more details and registration go to  
<https://federation.edu.au/faculties-and-schools/faculty-of-science-and-technology/research/conferences/biodiversity-across-the-borders>

**Wednesday 25 to Friday  
27 October 2017**

## NSW Landcare and Local Land Services Conference

The NSW Landcare and Local Land Services  
Conference is a biannual event charged with  
showcasing the best in partnership, landcare and  
natural resource management. The conference  
invites community, industry and government  
to come together to network and share their  
successes.

**WHERE:** Albury NSW

**For more information**

<http://www.landcare.nsw.gov.au/news/2017-nsw-landcare-and-local-land-services-conference-bound-for->

albury-in-october

**Sunday 26th November to  
Friday 1st December 2017**

## Putting ecology to work

The joint conference of the Ecological  
Society of Australia and the New Zealand  
Ecological Society

The Ecological Society of Australia and the New Zealand  
Ecological Society are delighted to announce EcoTAS  
2017, the sixth joint meeting organised by the two  
societies.

EcoTAS 2017 promises an exciting programme of  
plenary speakers, symposia, workshops and social  
events. The theme of EcoTAS 2017, 'Putting ecology to  
work', is a call to focus on how ecological science can  
contribute to the economy, society, culture and public  
policy, as well as to the health of the environment and  
quality of life.

**WHERE:** Cypress Lakes Conference Centre in the Hunter  
Valley in NSW

**For more details:** <http://ecotas2017.org.au/>

## Friends of Grasslands

For a whole swag of interesting  
events, check out the FoG calendar.

Friends of Grasslands is a community group  
dedicated to conservation of natural temperate  
grassy ecosystems in south-eastern Australia. FoG  
advocates, educates and advises on matters to do  
with the conservation of grassy ecosystems, and  
carries out surveys and other on-ground work.  
FoG is based in Canberra and holds a number of  
events and activities

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



## Australian Association of Bush Regenerators

### President

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

### Treasurer

Suzanne Pritchard [admin@aabr.org.au](mailto:admin@aabr.org.au)

### Membership Officer

Louise Brodie [membership@aabr.org.au](mailto:membership@aabr.org.au)

### Secretary

Jane Gye [secretary@aabr.org.au](mailto:secretary@aabr.org.au)

### Website advertising

Mitra Gusheh [advertise@aabr.org.au](mailto:advertise@aabr.org.au)

### Committee members

Elisabeth Dark, Scott Meier, Melanie  
Ledgett, Ben Ford, Matthew Pearson,  
Agata Mitchell, Andrew McGahey.

### Northeast NSW/Southeast QLD subcommittee

Mike Delaney 02 6621 9588  
[miked@envite.org.au](mailto:miked@envite.org.au)

### Coffs Harbour subcommittee

Lindy Davis 0448 651 239 or 02 6654  
5313

### 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 January, April,  
July, and November.

**AABR C/O Total Environment Centre  
P.O. Box K61 Haymarket NSW 1240  
0407 002 921**

**[www.aabr.org.au](http://www.aabr.org.au)  
[enquiries@aabr.org.au](mailto:enquiries@aabr.org.au)**

ABN: 33 053 528 029 ARBN: 059 120 802

### Membership fees

Individuals \$30 (unwaged \$15)

Organisations (*does not confer membership to individuals in  
the organisation*)

- business (< 5 staff) \$120
- business (5-20 staff) \$300
- business (> 20 staff) \$480

Government \$60

Not for profit \$30 (*or \$0 with newsletter exchange*)

### 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*

The indigenous arid shrublands around Broken Hill quickly regenerated once the reserves were destocked and fenced.

1936 1938

help make history



sponsor the inaugural

# Albert Morris Award and documentary

Ecological restoration practitioners, land managers and community members will gather in Broken Hill in late August 2017 to celebrate one of the world's first ecological restoration projects: the Broken Hill Regeneration Reserves, commenced in 1937 (view a short promo here).

*The Albert Morris Ecological Restoration Award is poised to become a major Australian environmental award*

The three-day inaugural event will attract a large amount of publicity, with bus loads of restoration practitioners coming from Australian cities to learn about this outstanding pioneering project. A festival of celebrations and educational activities is being organised by partners in Broken Hill.

Key events will be a forum and awards dinner hosted by three of Australia's leading ecological restoration organisations, Australian Association of Bush regenerators (AABR), Australian Network for Plant Conservation (ANPC), and Society for Ecological Restoration Australasia (SERA). Greening Australia (GA) is also on board as a collaborating supporter.

We have also commenced work on a short film (or series of shorts) about the regeneration reserves, their history, and what they mean to us today—we are still deciding how far to take it.



Australian Network for Plant Conservation Inc



*But we can't do it alone! We are calling for sponsors to help us make this a roaring success*



come on board

get in touch

Albert Morris Award Committee chair [info@albertmorrisaward.org](mailto:info@albertmorrisaward.org)  
Secretary 0458 565 654

Platinum sponsor	Co-badge the awards dinner. Sponsorship will be announced at the dinner. Logo will be on all promotion and the documentary as platinum sponsor.	\$3000
Gold sponsor	Sponsorship will be announced at the dinner. Logo will be on all promotion and the documentary as gold sponsor.	\$2000
Silver sponsor	Logo will be on all promotion and the documentary as silver sponsor.	\$1000
Bronze sponsor	Logo will be on all promotion and the documentary as bronze sponsor.	\$500

**... or do you have even grander ideas? Oh—most definitely call us! We could create a category just for you!**