



AABR NEWS

Australian Association of Bush Regenerators

working with natural processes

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AABR events in 2018

AABR is in the process of planning the event calendar for 2018.

Keep an eye out for more details which will be given in the next newsletter (April 2018) and in the occasional email updates.

Planned events 2018 - details to be confirmed

Flame weeding demonstration/event.

Artarmon Reserve, Sydney

In autumn after the fire season

Once the fire season is over, we'll be blazing a trail and heading to Artarmon to hear from contractors and council staff about incorporating flame weeding into integrated weed management.

Learn the pros and cons of this technique for weed control and promotion of native regeneration.

A two-day trip to the Big Scrub in north east NSW.

Late September

In late September as part of the SERA conference, *Striving for Restoration Excellence* a two day pre-conference field trip will take delegates to a range of sites in northern NSW's Big Scrub, hosted by SERA, AABR and Big Scrub Landcare (2016 Australian winner of the SERA award for restoration excellence). Participants will be able to visit Australia's oldest restoration project (initiated by Ambrose Crawford at Lumley Park, Alstonville, in 1935) as well as the historic Victoria Park and Rocky Creek Dam sites. Tour leaders will emphasise the strategic plans for this outstanding landscape scale, long term project involving landholders and agencies. Dates, itinerary and costs to be announced closer to the time.

Enquiries for the above events, email secretary@aabr.org.au

Want to host an event. See page 2 for details.



Photo: Big Scrub Landcare

President's Perspective

Welcome to a running start to 2018. The committee has wasted no time in getting on with some fresh projects and reviewing or continuing with others:

Accredited practitioners list. One of the Committee's new projects is that all of those AABR-accredited bush regenerators who choose to, will be listed on the AABR website. This list will not be professional advertising as such. Rather, it will be simply a list of those accredited (along with their region and whether or not they are available for work or prepared to mentor volunteer bush regenerators). No contact details will be provided but anyone seeking workers can ask admin@aabr.org.au for a message to be sent to the listed person.

We would love each accredited person to reply to our email inviting you to be listed so that we can show off the size of this group and encourage others to apply for accreditations. It would also be great if you gave some thought as to whether you might be interested in **mentoring** someone in need of further field experience in order to qualify for accreditation themselves. This sort of mentoring is particularly important for early career bush regenerators who want to get a firm foundation in plant recognition, resilience assessment and treatment techniques.

New RegenTV videos. Another brilliant batch of videos has been uploaded to RegenTV and more will be uploaded soon. These recent listings are really worth watching and include some world class restoration projects such as Alan Featherstone Watson's inspiring presentation on the Restoration of Scotland's Caledonian forests and others that contribute substantially to AABR's continuing education program. *See page 12 and 13.*

Launch of 2nd Edition of National Standards at Parliament House, Canberra. Since last newsletter AABR participated in the formal launch of the revised Standards on the 30th November - see the video clip of the event on <http://seraustoralasia.com/>. Senator Ruston officiated, representing the Prime Minister which was a wonderful coup and has raised the profile of the Standards across Australia.

Conferences and field trips. Watch out in the next couple of months for notifications of field trips and conferences. In particular, the AABR committee is collaborating with SERA on a field trip to the Big Scrub restoration sites in northern NSW as a pre-conference field trip for the SERA conference in September 2018. We encourage readers to submit proposals for sessions at the SERA conference - proposals being due on February 18th (see back page of this newsletter - <https://www.sera2018.org/>)

Have you linked to the AABR facebook site yet? AABR often shares news among members and friends through our facebook page, <https://www.facebook.com/AusBushRegenerators/> which is a lively source of information members and friends come across. Oftentimes the post is so hot off the press it doesn't make the newsletters, so keep your eye out!

For example, AABR recently passed on news of a unique ecotourism opportunity to visit Lord Howe Island and witness the world class ecological restoration work being carried out. This includes the elimination of rats so that the proposed reintroduction of the Lord Howe Island Stick Insect can go ahead. More information on some great seven day packages can be found at <http://www.lordhoweisland.info/sustainability/conservation/>

Regeneration Policy brief. We are also delighted to provide a link to a recent policy brief on Natural Regeneration in Restoration prepared by a consortium including SER. (See <http://www.ser.org/news/379634/>) Considering the lack of attention to this subject by international organisations this is a long overdue initiative. Some of the main collaborators presented papers at the Brazil SER conference in 2017 demonstrating the value of intentional regeneration as a method for large scale ecosystem recovery. It is fair to say that this policy brief represents a great step forward for ecological restoration.

Wishing all AABR members, friends and families a wonderful 2018.

Tein McDonald.
President AABR

Field Trips For 2018

AABR is seeking expressions of interest for field trips in 2018.

The purpose of AABR field trips is to allow AABR members and friends to learn about site management and the use of bush regeneration techniques in different areas.

The benefits of those hosting a visit include having an interested audience and also the following:

- filming by the regenTV crew for inclusion on AABR's website
- meeting a project deliverable for sharing the project outcomes
- gathering project partners together to see the outcomes of your work
- sharing a new technique
- garnering the expertise of the brains-trust that gathers at these events
- networking with fellow contractors, council staff and AABR members.

If this something that would interest you, send an email to education@aabr.org.au with a brief outline and proposed time.

You would organise the site visit and explanatory expertise. AABR coordinates the promotion (with you) and bookings and filming.

Welcome to new AABR Members

Melissa Coulton
lestyn Hoskin
Robert McDonald
Matteo Volonté
Nicoletta Volonté

Congratulations on Accreditation

Nicole Beutel
Benjamin Jones
Jesse Vandenbosch

Business

Able Landscaping Pty Ltd

Aspiring to achieve AABR accreditation?

Bush regeneration is a fulfilling and satisfying endeavor. Having your skills and experience recognised more broadly can be both personally satisfying and also an asset to your employer, your employment prospects or your community group.

AABR Accreditation is generally accepted as recognition of a person's competency as a bush regenerator through a combination of training and field experience. As such it is highly regarded by employers and by people wishing to engage contractors. Contractors can also promote their business based on how many of their bush regeneration staff are AABR accredited practitioners.

If you are a trained and experienced bush regenerator but are not yet AABR accredited, it is definitely worth your while to go to the accreditation section of the AABR website (<http://www.aabr.org.au/about-aabr/accreditation/>) to check out whether you would like to apply.

There are two pathways – standard and non-standard – depending on your qualification and your supervised bush regeneration field experience. Non-standard applicants generally need an individually tailored assessment either over the phone or in the field.

Contractors find that it is an advantage to have the skills of their teams recognised by an independent body such as AABR. So why not encourage your qualified and experienced staff to become accredited! Accreditation is a personal recognition for those employees.

Would you like to share your expertise? AABR is seeking people interested in being a mentor.

AABR is looking for mentors to support people wishing to apply for accreditation but lacking supervised hours by an accredited practitioner.

The role would involve assisting an AABR member to gain experience and understanding of the on-ground implementation of the AABR competencies required for accreditation

If you would like to be a mentor please contact Suzanne 0407 002 921 admin@aabr.org.au to discuss further.

Evaluating AABR's regenTV resources

Suzanne Pritchard
AABR Education Officer

The AABR *regenTV* project is formally titled '*Ecological Restoration Case Studies- Online videos for Learners*' - as such it is an education project and the funding agency, the NSW Environmental Trust, likes to know if anyone is any the wiser from watching the videos.

Over the past year a group of interested practitioners assisted the *regenTV* project by viewing some of the videos and afterwards answering some questions to see if their understanding on the topic of reference ecosystems was improved by the videos. There were three short surveys that had to be completed, one before the videos were watched, one after watching the videos and one six months later.

Of the 26 interested people who registered to participate in the evaluation, 10 got as far as the first two surveys and four people made it to the finish line and answered the final survey. The persistent four received a free one year AABR membership and one lucky participant, drawn from a hat by my dear old dad, received a \$50 gift voucher at CSIRO's bookshop.



Some of the participants commented:

- Great resource & hope you can keep adding to it in the future. I'd be watching several of the videos more than once :-)
- Great Stuff!
- The target audience seems to be people in the industry. The information is very technical. I think it would be beneficial to increase community capacity by targeting some resources for beginners with very basic information of bush regeneration techniques and methods.

Would you like to assist the regenTV project and participate in the Year 2 Evaluation Survey?

The *regenTV* project is looking for a new set of interested recruits to evaluate the learning resources. The evaluation will follow the same format as outlined above, ie:

Three surveys, 1-2 hours of your time to watch the videos and answer some questions.

If you complete all three surveys you will receive a free one year AABR membership and go into the draw for a gift voucher.

If you are interested in participating please contact Suzanne, AABR's Education Officer at education@aabr.org.au .

Have you watched one of the regenTV videos? We'd love to know what you thought about it. At the end of each of the webpages that holds the video there is a link to a short survey that provides an opportunity for you to give feedback on the video. We know that the videos have been watched 2400 times and we are keen to know what you thought about them.

From Wasteland to Wetland: Popes Glen AABR walk and talk

Meron Wilson

Popes Glen at Blackheath in the Blue Mountains west of Sydney was the site of a visit by AABR members and friends on the 22nd September 2017. The informative walk through the site was hosted by the Popes Glen Bushcare Group and was well organised by the group's indefatigable coordinator, Alan Lane.

We met in the Blackheath caravan park grounds for a briefing before setting out in two groups. One was led by Alan and Blue Mountains City Council Bushcare Officer Stephanie Chew, the other by volunteer Paul Vale and Council Operations Coordinator Eric Mahoney. We stopped at predetermined discussion points along the way to view the progress of the work and photos of what the site looked like before work started in 2002.

Popes Glen Bushland Reserve extends about 50m either side of Popes Glen Creek, from close to the centre of Blackheath to about 2km downstream, where it is contiguous with the Blue Mountains National Park. The focus of the visit was the formerly badly degraded and weed-infested silt flat at the headwaters of Popes Glen Creek that the Bushcare Group has converted into a healthy functioning wetland ecosystem with endangered ecological community status. It stands testament to the success of employing adaptive management ('learning by doing') practices, with the ability to change methodology as work progresses.

The beginning of the story is a familiar one in outline if not detail. For decades the roads surrounding the catchment were unsealed and in every storm, the urban runoff washed road base into the creek. Over time, the head of the valley floor filled up with silt, which became colonised by weeds. Some of these were serious business, such as the forest of multi-trunked *Salix fragilis* (crack willow) that can re-sprout from any piece left lying on the ground, and large numbers of thirty metre tall *Pinus radiata* (radiata pine – named informally by regenerators as *Pinus obnoxious*).

Bush regeneration on the site

In 1990, a group of locals led by Alan decided to tackle a fifty-metre long infestation of *Ilex aquifolium* (English holly) growing on the creek banks. Two years later, when Blue Mountains City Council created its Bushcare Network, they became Popes Glen Bushcare Group. With practical support from Council, over the next ten years the group worked the entire length of the bushland reserve down to the National Park boundary, controlling a number of pesky weeds such as *Pinus radiata* (radiata pine), *Ulex europaeus* (gorse), *Genista monspessulana* (cape broom), *Lonicera japonica* (Japanese honeysuckle), *Rubus fruticosus* (blackberry) and *Crocsmia x crocosmiiflora* (montbretia).



Above: The hand held photo shows the site immediately after willow removal. The view today of the site shows healthy growth of *Callicoma serratifolia*.



Left: The remains of the crack willow indicate the size of the weed trees.

Below: On the site, debris piles have been left and have become very popular bird habitat, with over fifty-five species, including small birds, visiting the site. Complementary planting to provide habitat for when the piles have broken down has been undertaken.

By 2002, weed species were in decline and the group was inspired to set its sights on the seemingly impossible: rehabilitate the silt flats which were being stabilised by the shallow but extensive root systems of a forest of willows.

There was a lot of carefully documented experimentation using trial and error before they hit on the best way to do things. The group observed that willow roots took at least a year to lose their integrity after the plant was poisoned. This gave time for planted native trees, shrubs and sedges to establish after the trees were poisoned. Large rigid mesh guards were needed to protect some species from predation by wallabies when young. Indigenous plant species such as *Gahnia sieberiana*, *Leptospermum lanigerum*, *Lomandra longifolia* and *Blechnum nudum* were chosen to replace the willows, because of their roots. Plants of these species were placed where they were likely to self-propagate, stabilise the silt flats and creek banks and reduce the erosive impact of stormwater.

The volunteers used the frilling method to kill the willows. Each tree with its multiple trunks - many nearly horizontal - needed up to 200 cuts. Hard work! Later the task was taken on by contractors employed under a NSW Environmental Trust grant. Using chainsaws and pressurised herbicide pumps they could achieve in fifteen minutes what had taken a pair of volunteers ninety minutes.

When the canopy of willows was removed, *Ranunculus repens* (creeping buttercup) quickly spread out of control in the new light-filled conditions. Despair! It was then discovered that it didn't like having its roots permanently in water. It could be controlled by changing water levels. Phew!

Dealing with Stormwater flows

To help reduce the intensity of stormwater surges in the creek and to capture some of the silt, the group decided to build a weir and divert part of the peak flow into a sedimentation pond. A succession of apparently robust weirs was built - and all demolished by stormwater! Eventually professionals were called in and a stable structure of submerged coir logs, fastened deep into the stream bed and protected by notched railway sleepers, was put in place.

Overflow from the sedimentation pond is dispersed across the silt flat by way of a chain of detention basins constructed with a thirty centimetre drop between each one. Wetland sedges (*Carex gaudichaudiana*, *Eleocharis sphacolata*) quickly



colonised the area and *Carex fascicularis* appeared later. The swamp health is monitored by extensive water testing and by sampling the stygofauna (crustaceans, snails, insects, etc., that live underground).

At the lower end of the site, the silt flat ended abruptly in a three-metre drop which was very vulnerable to erosion and potential collapse. Nearby willows had to be replaced very strategically to avoid destabilising this headwall, resulting in upstream erosion. To stabilise the headwall permanently, a carefully designed structure was built of large hardwood timbers, with the causeway and spillway stabilised using about 20 tonnes of rocks (all brought in using machinery rolled in on logs).

All the woody debris from killing and felling the willows and other large weeds has been kept on site, with much of it repurposed into structures such as detention basins and creek bank barriers to control and disperse storm surge waters. Elsewhere on the site, debris piles have become very popular bird habitat, with fifty-five species including red breasted finches, superb fairy wrens and eastern whipbirds visiting the site. To support their populations after the piles break down, an intensive planting program was undertaken and three dense thickets of complex bush are currently growing into valuable bird habitat.

The longevity and effectiveness of the Popes Glen group, combined with their scientific approach to documenting their



Above: Eric Mahoney from Council talks about the headwall.

project, were factors in winning a grant of \$233,000 from the Environmental Trust of NSW. This will enable the group to complete this very ambitious and demanding 16-year project, with completion expected at the end of 2018.

Our group was treated to morning tea and were impressed with the organisation that the group and council had undertaken to make our visit a great day for us.

Below: The channel feeding into the sediment pond. Eric talks about water levels.

Below right shows plantings on the S-bends. Soil depth was taken into account when selecting species to be used.



More information

For more information about the work of this inspiring group, visit their website: <http://popesglen.bushcarebluemountains.org.au>

If you would like to read about their project in detail, download free the Decades of Healing book at <http://dl.bookfunnel.com/i3nt7ev9v9>. The book has detailed information about the project and many photos to illustrate the work carried out. (This book was reviewed in AABR Newsletter 130.)

If you are in the Blackheath area a visit to Popes Glen Wetland is recommended. You are likely to pass locals who now enjoy this wonderful addition to their bushland walks.

Keep an eye on regenTV (<http://www.aabr.org.au/regentv/>) for a future video on the project.



Above: the bushcare group building a detention cell using woody willow debris, as mentioned in the article.

Below: the same location 5 months later, showing rapid regrowth of sedges *Carex gaudichaudiana* and *Eleocharis sphacolata*, already almost completely hiding the structure.



Above photos: Popes Glen Bushcare .
Other photos: Meron Wilson and Heather Stolle

The Fern & Burn AABR Walk and Talk

Suzanne Pritchard

On the 28th October 2017 a dozen bush regenerators attended the AABR site visit co-hosted by The Coal Point Progress Association to explore the transition of Stansfield Reserve from an asparagus fern field to a biodiverse bit of bush. Coal Point is situated on Lake Macquarie about three hours north of Sydney, NSW. The reserve is owned by Lake Macquarie City Council and management and work carried out by the local landcare group - the Coal Point Progress Association landcare group. In a few instances contractors have carried out work in the reserve associated with the Threatened Species Last Stand on the Coal Point Peninsula project.

The group was able to view a movie which gave the background to how the burn carried out on the 6th April 2016 came to be. See the movie (<https://youtu.be/Mix40sDwL3k>). The group then wandered around the perimeter of the site and saw how the woody weeds in the eastern section of the reserve have continued to thrive as the fire intensity was low, and the areas which refused to ignite as the soil moisture content was too high. Mickey Mouse plant (*Ochna serrulata*) is the new super invader in this section, another garden escape with a very deep root system.

At the crest of the hill the containment line was obvious with the abundant asparagus fern waving its fronds on one side of the track which wasn't burnt and on the other side not a frond to be seen - greatly aided by the post fire treatment of any surviving asparagus fern with 100% glyphosate.



The group walking through the post-burn area of the reserve.
Photo: Sharyn Ryan- Hancock



The group looking at the display and reading information presented by the Coal Point Progress Association.
Photo: Sharyn Ryan- Hancock

The fire intensity varied across the site from low on the edges to high in the central section. Some asparagus plants survived the fire, generally being those plants that had protection from the fire as they were near rocks, trunks or logs. In the area where the fire intensity was highest, the survival rate was lowest. Landcarers are only now just starting to see seedlings sprout from the recent rains.

The dead, thick asparagus mats were spongy underfoot and easily examined and bags of recently extracted asparagus fern crowns were considered. Interestingly the new growth appeared to be coming from deep in the mats, where protection from the heat was afforded.



The expertise of the bush regenerators, some of whom had worked on the site prior to the burn, assisted in developing a greater understanding of the transformation that is underway. The hop bush (*Dodonea triquetra*) forest, which was not present before the burn, will provide a short lived mid-storey

lasting about 6 years and then making way for the more longer lived species. The abundant wattles will also grow and be replaced within the decade.

The group shared their insights on how to best ensure that the gains made from the burn were optimised. The advice to the local landcarers was not to venture into any areas that had not been burnt, as tempting as it may be to tackle the lantana and privet around the edges. The best bang for the bushy-buck will be by focusing on the assisted regeneration of burnt area.

Many thanks to all those who attended the AABR field day and shared their knowledge and to the Progress Association for hosting the visit.

This Fern and Burn project has been assisted by the New South Wales Government through its Environmental Trust

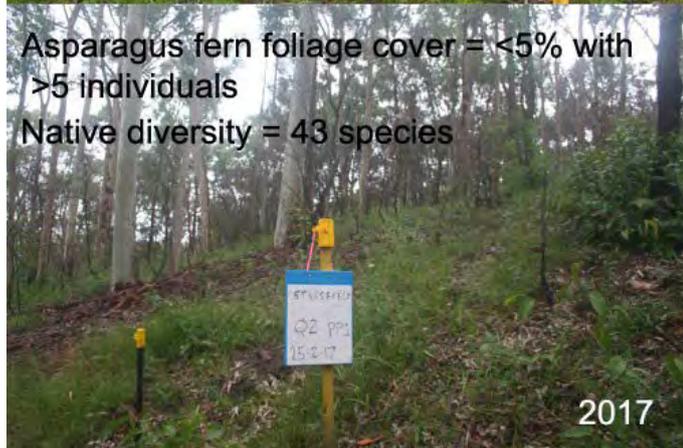


Monitoring using before and after photos.

Most notable is the heavy groundlayer of asparagus fern, being replaced by diverse native species after the burn and follow-up regeneration.

The photos below left detail the species and cover present before the burn and two years after the burn.

Photos: Suzanne Pritchard



A piece of bush regeneration history

Brigid Dowsett

Thanks to AABR for the invitation to include a brief article to mark the closing of the Lane Cove Bush Regenerators Co-operative Ltd after almost 25 years of operating and 'bringing back the bush'. The author was fortunate to be part of the Co-op for over 22 years.

Lane Cove in Sydney was the first council to offer employment to bush regeneration contractors. Bradley & May started working in Lane Cove reserves in 1978, firstly in Warraroon where there had been an extensive fire some months earlier. Their work methods overall had already been proven to be cost-efficient as well as effective and the results of the team's meticulous post-burn weeding were testament to this. When Bradley & May closed down with Toni May's retirement (Joan Bradley died in May 1982), many of the people who had been working with them over the years had no wish to retire yet. They were keen to continue dedicating time, passion and persistence to rehabilitating local bushland based on the techniques developed collaboratively and with adherence to the three general principles for natural regeneration, so well articulated by the Bradley sisters. These were:

- work outwards from good bush towards areas of weed;
- make minimal disturbance, both above and below ground;
- do not overclear and let native plant regeneration dictate the rate of weed removal.

The Lane Cove Bush Regenerators Co-operative Ltd came into being on 22 December 1992 as a Trading Society under the *Co-operatives Act 1923*. The Co-op's stated aim was "to maintain, conserve and improve Urban Australian Bushland and to provide employment for members and others in Bush Regeneration work". It was the first not-for-profit workers' co-operative of its kind in the Sydney basin and it commenced with a group of eight committed people - Margaret Andresen, Ruth Butt, Maralyn Lawson, Helen McNamara, Jill Pain, Sheila Walkerden, Richard Waterfield and Peter Winkworth. There were many others, like Norma Stuart, who were there at the start and remain champions for their local bushland today.

The Co-op was to be managed largely through a flat structure but Richard Waterfield was invited to become the manager as it was felt he had the requisite skills, including the invaluable ability to calm any troubled waters. He also became adept at providing alternative bushland-related words for the traditional Christmas carols we sang with gusto at end-of-year parties!

Work began in early 1993 following the Co-op's success with tenders for contracts with Lane Cove Council - first at Warraroon, Batten and Hartman Hill reserves and at Gore Creek a year later. Over time many more sites became available to the Co-op, providing the opportunity to extend our capacity and expertise, including in saltmarsh communities and wetlands rehabilitation. Working within ecologically endangered communities was particularly rewarding, including the time spent safeguarding the *Hygrocybae* in Lane Cove Bushland Park.

Over the years, the Co-op continued to fill a niche within the expanding field of bush regeneration practitioners. We maintained our contracts with

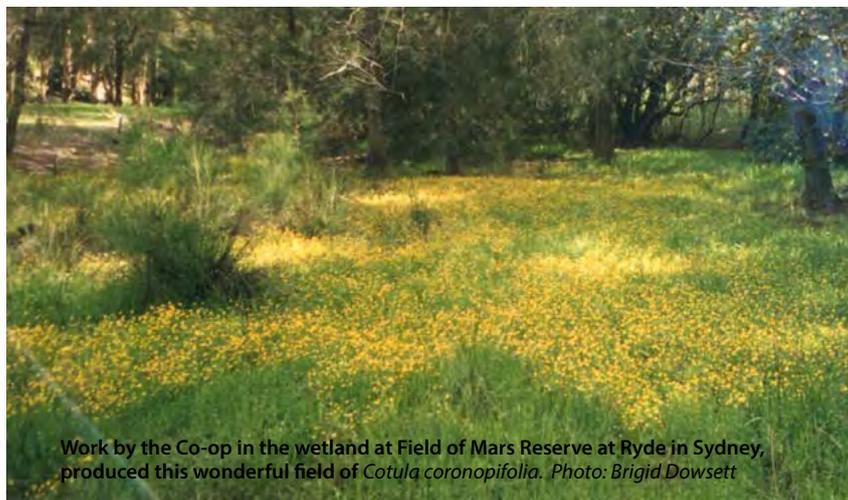


Lane Cove Co-op carol singing some years ago Photo: Ellie Johnston

Lane Cove and worked in many other local government areas in northern Sydney, including Ku-ring-gai, Hunters Hill, Willoughby, Ryde and Hornsby. We also had a wide range of sites within Lane Cove National Park. There was rarely a shortage of keen TAFE qualified regenerators as work expanded and the Co-op grew in experience and expertise. Training in both plant identification and proven methodology was rigorous and ongoing. One-year contracts were the norm at the start, with tendering required annually. Later on, the 3-year contracts were much welcomed for the opportunity for longer term detailed planning and greater certainty.

Winding up was a hard decision to make but we can all be proud of our achievements. Our reserves are in the hands of others now. We feel satisfied that we are leaving them resilient and in good order. Co-op members will continue to contribute their skills in a voluntary capacity. With urban bushland under ever increasing pressure from development, advocacy and support for retaining and regenerating our remnant bushland is more vital than ever.

Read more about the early days of bush regeneration in an article by Robin Buchanan in *AABR Newsletter no 96, February 2007* - found at <http://www.aabr.org.au/learn/publications-presentations/aabr-newsletters/>



Work by the Co-op in the wetland at Field of Mars Reserve at Ryde in Sydney, produced this wonderful field of *Cotula coronopifolia*. Photo: Brigid Dowsett

Look where bush regeneration can lead you

Jane Lemann
Mount Gibraltar Landcare and Bushcare

A Bowral trachyte boulder is now at the National Rock Garden in Canberra.

On Monday 1 November 2017 a ten ton boulder of Mount Gibraltar Microsyenite was transported to the National Rock Garden in Canberra. This was supported by the Veolia Mulwara Trust.

The Mount Gibraltar Landcare and Bushcare group have promoted this project with enormous pleasure in achieving acknowledgement of the importance of this stone in our National Heritage.

The Wingecarribee Shire Council agreed to donate the boulder. It was chosen from those remaining in the now closed quarries by the volunteer geologists who have established the new National Rock Garden near the Arboretum in Canberra. There, our rock will be displayed to the public beside other spectacular rocks of national importance.

This rock was formed 180 million years ago as a volcanic intrusion, and exposed by massive erosion. It cooled in such a way that it formed tiny particles which made the rock dense and strong and able to be beautifully polished. It was quarried on Mount Gibraltar in the Southern Highlands of NSW for 100 years and marketed as Bowral Trachyte. Being so strong it was used for kerb and guttering, and for dimension stone in well known buildings in Sydney such as: the Garden Island Sea Walls, the Equity Life Building at 350 George Street, the Commonwealth Bank and other banks in Martin Place, the Queen Victoria Building, the Town Hall, the Art Gallery of NSW, the Sydney GPO, Central Station, the Perpetual Life Building, the Herald Building and Pyrmont Bridge. Other buildings outside Sydney where this stone was used are Byron Bay and Norah Heads lighthouses, Australia House in London, the National Library and Treasury Building in Canberra, the Bowral Court House, Hawkesbury River Bridge and Hampden Bridge in Kangaroo Valley. It was used for ceremonial stones such as the Federation Stone in Centennial

The National Rock Garden

Australia's geology has been a major source of our economic prosperity for over two hundred years. However, geology is more than just mining and resources, it underlies the landscapes, history and culture of our nation. The National Rock Garden will be a tribute to this geological legacy, displaying rock specimens from across the continent in a single location in the nation's capital city, Canberra.

There will be more than one hundred spectacular rock specimens on display, carefully chosen to tell interesting stories about Australia's geological heritage.

The National Rock Garden is located near the western end of Lake Burley Griffin and is accessed from Lady Denman Drive. It is adjacent to the Lindsay Pryor National Arboretum on the shores of Lake Burley Griffin and close to the National Arboretum.

The NRG site was gazetted as a National Monument in April 2011. www.nationalrockgarden.org.au

Park Sydney, the Foundation Stone of Canberra, many war memorials and plinths for numerous statues, and crushed as ballast for the Great Southern Railway Line. It was even carved into a magnificent clock now in the Sydney Town Hall collection.

The quarry men and stone masons who worked this hard, strong stone were skilled and tough and deserve our admiration and respect.

The NSW Heritage Council has listed the Mount Gibraltar Quarries Complex as a significant site. The source of this magnificent stone can be visited in the Mount Gibraltar Heritage Reserve, Bowral.

For further information visit www.wsc.nsw.gov.au/mount-gibraltar-reserve or the National Rock Garden site (see box).



Photos: Jane Lemann



Too hot to go outside – stay in and settle down to binge watch *regenTV*

Boxed set not available, but easy access online! Here Louise and Virginia review two new offerings.

Creating Waterponds to tackle the drought clay pans on the landscape

This video makes you feel you were there! Join the curious and lively group of AABR members and friends, who stopped off at Nyngan in north west NSW, on their way to the AABR event in Broken Hill in Sept 2017.

In this video Ray Thompson, from the Central West Local Land Services, treated the group to a talk and site visit so they could learn about the waterponding technique for repairing certain degraded and eroded landscapes.

In some locations in the rangelands with sandy loam duplex soils, the topsoil has been lost due to a number of factors including overgrazing. The areas become subjected to erosive forces of wind and water with a clay crust forming on the exposed subsoil preventing the growth of vegetation.

Waterponding is a proven soil conservation technique to stabilise and revegetate this severely scalded claypan country. The video shows how the method has evolved, the planning and building of the waterponds today, and the transformation into vegetated and functional landscapes.

The soils that Ray has worked extensively with in the Marra district, north of Nyngan are of the Bugwah soil landscape. However the technique is applicable, and being used effectively, in many other areas of the Australian rangelands as well as overseas.

Although much of the land is to be used for production, many native species regenerate. An example where waterponding is on land managed for solely conservation is Toorale National Park on the Darling River near Bourke NSW, which was a grazing property until purchased by NSW National Parks and Wildlife Service in 2008

Great to see such success stories!

Right: Vegetation establishing on water ponded area.

Photo: Stills from the video

30 cm of Sandy Loam top soil lost



The Australian Network for Plant Conservation (ANPC) Translocation Information Day

A successful Threatened Plants Translocation Information Day was held on the 1st August 2017, at the Royal Botanic Garden Sydney. It was organised by the Australian Network for Plant Conservation (ANPC) and the Threatened Species Recovery Hub (TSR Hub), with support from the NSW Office of Environment and Heritage and the Royal Botanic Garden Sydney.

The day, *Plants Going Places*, attracted a capacity audience of 80 people demonstrating a huge interest in plant translocation. Attendees included threatened species project coordinators, environmental consultants, local government officers, NGOs, NRM organisations, bushcare volunteers and community members who were involved, or had an interest, in policy and/or the implementation of planned translocations.

Local and national experts held a range of presentations on provenance, orchids, the science of translocation, monitoring,

licensing, policy and numerous case studies including *Asterolasia buxifolia*, *Fontainea oraria*, *Persoonia pauciflora* and *Wollemia nobilis*.

Presentation slides and audio files are available for download at http://anpc.asn.au/workshops/translocation_sydney

Participants at the Threatened Plants Translocation Information Day, August 2017.

Photo: Jo Lynch



Restoring the Caledonian Forest

This *regenTV* video is a marvellous tale of destruction and rebuilding with our engaging story teller, Alan Watson Featherstone, taking us on this journey. I (Louise) have spent time on and off in Scotland, and found it was easy to fall in love with the hills of heather. But over time my understanding of what had shaped the landscape increased and I got to know that a few centuries ago much of the area was covered with forest.

In his Scottish brogue, Alan tells the story of discovering that these apparently natural landscapes were actually highly altered, and needed help to recover. He realised that if he wanted the landscapes restored he was going to have to initiate it himself. So started a journey to gain knowledge and assist the recovery of the forest, setting up a charity called Trees for Life. He learnt of the principles used by the Bradley sisters in Australia, and adapted them to the recovery of the Caledonian Forest.

Not only has the vegetation started on the path to recovery, but Alan also tells us about positive trophic cascades and rewilding projects, and how these are helping to complete the functioning of the ecosystem.

His closing words acknowledge the effect on humans of being involved in such projects which reflects the increasing knowledge of the importance of the wild in human well being.

A must for everyone to view.

<http://www.aabr.org.au/portfolio-items/restoring-the-caledonian-forest-in-scotland-alan-watson-featherstone-era-conference-keynote-2016/>



1989

Dead Scots pines in a dying forest in Glen Affric, before the area was fenced for regeneration in 1990.



2015

The same area in September 2015, with naturally-regenerated Scots pines, after 25 years of protection.

Restoration provides an opportunity for each of us to make a positive difference in the world



We can draw inspiration from our connection with Nature, and bring the care of our hearts to a 'labour of love' that can accelerate the healing of the land and the restoration of healthy ecosystems.



Vegetation recovery sometimes seems miraculous



7 years after protecting a lone eared willow seedling with this fence, bluebells (*Hyacinthoides non-scripta*) began flowering there, at least 23 km. from the next closest plants.



Trophic cascades

In the *regenTV* video on the Restoration of the Caledonian Forest, Alan Watson Featherstone talks about trophic cascades. Many of you may have seen the video showing this phenomenon after the reintroduction of wolves into Yellowstone National Park in the United States. It is well-worth watching and explains what trophic cascades are and how unanticipated positive changes can occur.

Watch the video called *How Wolves Change Rivers*

<https://www.youtube.com/watch?v=ysa5OBhXz->

Acknowledgements

Photos: Stills from the video based on slides supplied by Alan Watson Featherstone.

This presentation was the closing keynote address at the joint New Zealand Ecological Society (NZES) and Society for Ecological Restoration Australasia (SERA) Conference in Hamilton, New Zealand in 2016

The talk was specially repeated to Tein McDonald for *regenTV*

The videos *Restoring the Caledonian Forest* and *Creating Waterponds to tackle the drought clay pans on the landscape* were recorded by Tein McDonald and edited by Virginia Bear of Little Gecko Media

Broken Hill visit - other activities

The AABR site visit to Broken Hill in September 2017 included a number of activities. Those on the trip and locals were able to participate in these. In the previous AABR Newsletter (No 134) bush regeneration and weed control activities were described. The leaders of other activities have summarised those below.

PLANT SURVEY of REGEN AREA 1a

This was hosted by local botanists, Ann Evers and Lindy Molesworth with around 24 people participating, including locals and visitors. The group included expert botanists who added to the scientific value of the exercise especially in confirming plant identifications in the reference collection and on the surveys.

The group was divided into 6 sub-groups with each collecting about 50-60 specimens in different sectors of the reserve. Analysis of the data is not complete yet but given there is considerable overlap in plants from the six sectors it probably indicates that 70-80 recognisable species were present in Reserve 1a at the time of the survey - an encouraging result given the survey occurred during an extremely dry period.

A prepared plant list of plants most likely to be encountered was useful as it speeded up plant recording. The specimen labels worked well and filing specimens in plastic sleeves held in a ring binder worked effectively.

Due to very dry conditions some of the herbs that had emerged were so stunted and lacking flowers that they couldn't be accurately identified. Many of the grasses too were lacking flower/seed heads so this limited the ID of grasses to only a few very distinctive species. In a wetter season the number of annuals is likely to be significantly higher.

The time frame was a little short for the size of the area to be surveyed, however part of the role of the survey was felt to be educational as the identification characteristics of different local species was explained. If it had rained prior to the survey, there would have been far more species to record and more time would have been required to complete the job!

The methodology worked well and has provided a useful strategy for ongoing monitoring within the regen area.



Above: Plant identification group. Photo V Bear

Right: Circular quadrat set up, spreading soil slurry, watering and recording. Photo: L Brodie

SOIL SLURRY WORKSHOPS

Hosted by Louise Brodie from AABR and Miles Clothier from Broken Hill Fields Naturalists.

Around eight people, both locals and visitors, participated in the two sessions on consecutive days, which were held in different locations.

Working with soils slurries was a first for everyone, so the leaders had some reading to do prior to the day. Soil crusts are found in the semi arid grazing areas of NSW (~ 40% of the state) and also parts of the eastern slopes and are even in the Sydney basin. They are composed of small organisms, (cryptogams). Lichens, mosses and liverworts and cyanobacteria (blue-green algae), green algae and fungi are involved.

Our aim was to 'transplant' the crusts, ie take some of the soil crusts from a site, make them into a slurry and spread this onto a site where there were no soil crusts present. We had been fortunate to get some previous advice on methodology from Angela Chilton, a PhD candidate at UNSW.

Day 1 was spent identifying the host site and harvesting some soil crusts for making into the slurry and also to identify the receiving site.

Of course most of the first hour of our session was spent talking about soil crusts and what formed them. We explored and found different sorts and photographed them, poured water on them to see what happened and just spent time looking at where they were prevalent and where they were absent.

Finally to work: The area of soil crust to harvest was calculated - the group walked far and wide and took samples where we thought this would have minimal impacts on the donor site.

Overnight the slurry was mixed and left sitting in buckets.

Day 2 we went to the receiving site. The group walked over the site to ascertain exactly where to put our quadrants. We chose two nearby but different locations - one was quite a disturbed sandy area with little vegetation cover. The second had quite good native vegetation cover with a lot of Ward's weed (a local weed), but seemingly no soil crusts. A control area was set up at each location.

The team measured out the quadrats by creating circles of 0.98m radius. Basic data and GPS readings were taken for each quadrat. Teamwork meant we then watered the sites, and spread the slurry most efficiently.

Some follow-up watering will be carried out in a limited fashion.

The sessions were great fun with great waterplay, great teamwork and great learning.



BUSH WALK IN THE REGENERATION RESERVES

Lead by Wayne Lovis from Broken Hill Landcare, this was another popular activity with around 44 people of which there were a lot of locals.

The walk was a social gathering of like minded people enjoying an outing in the Regen. Many of the people from 'away' were interested in the different type of plants that grew in this part of the Regen.



Above: Collecting soil crust to make the slurry to transfer to a receiving site.

Right: Bushwalk.

Photos: V Bear



LIVING DESERT TOUR

The tour was provided free by Broken Hill City Council and guided by Darryl Ford from Council, with Jane Gye being AABRs representative.

The tour was very popular with around 23 people attending.

The Living Desert Reserve of 2400 hectares is a major tourist attraction. It is in the Barrier Ranges and is around 9 km north of Broken Hill. The reserve contains the 180 hectare Living Desert Flora and Fauna Sanctuary. It has a predator-proof fence, and contains flora native to the area and fauna.

Within the reserve is also the Sculpture Site. There are 12 sandstone artworks on a hilltop within the centre of the reserve which were completed in 1993 by artists from around the world.

People really enjoyed the expansive views over the landscape and the dramatic sculptures in this spectacular setting. The second stop was a visit to the historic Aboriginal cooking site and interpretive display with a botanical walk. Darryl gave a good summary of the background to the sculpture park, and the Aboriginal history and biodiversity of the area.

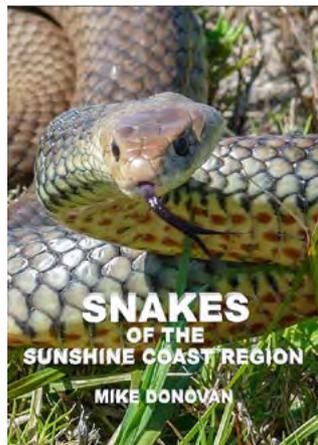
Books: Snakes of the Sunshine Coast Region

Mike Donovan

A photographic guide to the Snakes of the Sunshine Coast Region

This is an identification book, but not a scientific publication. The guide is A5 size 220x148mm and 123 pages with over 136 full colour photographs of every species including legless and snake like lizards that you would be likely to encounter on the Sunshine Coast including the marine species. Information includes descriptions, habitat and behaviour for every terrestrial snake species. There are simple keys in the form of a flow chart for ease of identification and a section towards the end of the book with the latest information on treatment in the unlikely event of an envenomation.

\$2.50 from every copy purchased will be donated to Australian Wildlife Conservancy which will aid in the preservation of important or ecologically significant tracts of land and native wildlife located within their boundaries. Available from : <http://www.reptilesinfocus.com.au/> Cost: \$25



Crowd Funding for Fungi for Land – Guide for Land Managers

Dr Sapphire McMullan-fisher and Roz Hart of Fun Fungi Ecology are working on a guide for land managers. One of the steps is to seek crowd funding. They have put together the following information.

It has become increasingly apparent that people are interested in managing their land for all biodiversity including fungi. However there is no single place to send people to for further detail and reference. We really need a handbook and online tools to support this interest in fungi ecology so people can take meaningful action.

We propose to put together a practical guide that is easy to read with information adapted to our landscapes. The first stage of this project is to gather funds from as many groups and individuals as possible. We need \$60,000 in pledges before July 2018 to fund the synthesis of ideas and to write the text.

We may need a crowd-funding campaign so are looking for people who are willing to be advocates during the campaign (likely from mid-April through to mid-June 2018). We hope people and groups will consider joining us at this early pivotal stage. Our goal is to receive enough pledges to start writing the book.

If you are interested, contact Roz (details below)

Fun Fungi Ecology, PO Box 967, Merlynston VIC 3050
<https://www.funfungiecolgy.com/fungi-for-land/>

- Roz Hart: roz@funfungiecolgy.com
- Dr Sapphire McMullan-Fisher: ffunecol@gmail.com

What's happening

**Sunday 9th to
Wednesday 12th
September 2018**

21st Australasian Weeds Conference

The Weed Society of New South Wales Inc., on behalf of the Council of Australasian Weed Societies Inc., will be hosting the 21st Australasian Weeds Conference in the popular Sydney beach side suburb of Manly from 9 - 12 September 2018.

This biennial conference carries on a long tradition of bringing the weed management community together to discuss new developments and share information about cutting-edge and best weed management practices.

The conference attracts over 250 delegates from across Australasia and globally. Delegates will come together to network with peers, engage with industry sponsors, listen and participate in presentations and field trips on a variety of topics including;

- New technologies in weed management.
- Biological, mechanical, and chemical weed control and research.
- Herbicide resistance.
- Weeds of crops and pastures.
- Environmental weeds and Weeds of National Significance.

February 1st, 2018 - Abstracts close and Registrations Open

WHERE: Novotel Sydney Manly Pacific
NSW Australia

More information: www.21awc.org.au

**Tuesday 25th - Friday
28th September 2018**

The Society for Ecological Restoration Australasia (SERA) Conference 2018

STRIVING FOR RESTORATION EXCELLENCE

SERA is dedicated to providing education, specialised training, and networking opportunities for ecological and environmental professionals. SERA provides an interactive forum for those involved in ecological restoration to share their experiences and research results concerning large-scale ecosystem restoration on both national and international levels.

The proposed themes for SERA 2018 are focused around four pillars:

- Principles and Practice
- Biomes
- Impact
- Specialist Disciplines

Proposal submissions due 18th February 2018

WHERE: University of Queensland, Brisbane, Australia

For more details: <https://www.sera2018.org/>



**Monday 12th November -
Friday 16th November 2018**

12th Australasian Plant Conservation Conference (APCC12) 2018

The ANPC is delighted to announce that APCC12 will be hosted by the Centre for Australian National Biodiversity Research (CANBR) at CSIRO, and will be held at CSIRO Discovery at the Black Mountain Science and Innovation Park, Canberra.

ANPC conferences and forums provide:

- presentations on the latest findings relevant to plant conservation and native vegetation rehabilitation.
- practical workshops on ecologically sound techniques.
- field trips demonstrating plant conservation in action.
- social activities to enhance networking.

More details on APCC12 will be provided in the near future, so stay tuned!

ANPC members receive discounts on the conference registration fees!

<http://www.anpc.asn.au/conferences/2018>

Friends of Grasslands

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

Friends of Grasslands is a community group dedicated to the 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/



Australian Association of Bush Regenerators

President

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Secretary

Jane Gye secretary@aabr.org.au

Website advertising

Mitra Gusheh advertise@aabr.org.au

Committee members

Scott Meier, Ben Ford, Matthew Pearson, Agata Mitchell.

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.

Membership fees

Individuals	\$30 (unwaged \$15)
Organisations (<i>does not confer membership to individuals in the organisation</i>)	
• 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.

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Newsletter contributions and comments are welcome

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Opinions expressed in this newsletter are not necessarily those of AABR