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Australian Association of Bush Regenerators

working with natural processes

AABR's Post-fire Videos

FIrst Aid for Burned Bushland (FABB)

AABR has now produced three videos in our series of six on Post-fire regeneration



Assisting regeneration after fire: why it's so important.

Funded by The Foundation for National Parks & Wildlife



Foundation for National Parks & Wildlife



Assessing priorities for post-fire bush regeneration

Funded by NSW South East Local Land Services



Another three are in production,

They can be viewed on AABR's website https://www.aabr.org.au/regentv/or AABR's regenTV YouTube channel http://www.youtube.com/c/regenTV



Minimise disturbance when walking and weeding

Funded by NSW
South East Local
Land Services

President's Perspective

AABR has been very productive since last newsletter as projects continue to roll around and be invented. Membership is growing, as is AABR accreditation and AABR'S reach to stakeholders continues to grow through our range of programs.

AABR's National constitution. The National committee has been investigating constitutional change to provide the most appropriate basis for the development of state branches. We are currently seeking legal advice with a view to having a revised constitution to put before the members at this year's AGM, which will be an online teleconference due to continuing COVID19 restrictions.

Members will be aware that AABR 'went national' in 2012 and the committee (which includes members from NSW, Vic, Qld and SA) focuses solely on national issues. While AABR is still registered in NSW, the only state branch in existence is Victoria – but we hope one day that members may seek to form branches in other states including NSW and Queensland (or regions therein). Hence we are seeking advice on the most appropriate registration arrangements to enable such branches that will be part of a truly National AABR, as well as allow us to gain Tax Deductible Gift Recipient status. (This may or may not involve a change of registration as well as a change of constitution.)

AABR's post-fire bush regeneration program has been accelerating, with stronger partnerships developing with other non-profit organisations involved (including Landcare, WWF and Conservation Volunteers Australia). AABR's three First Aid for Burned Bushland videos on youtube are being viewed at a high rate - and are a fantastic tribute to AABR's sponsors, the work and artistry of videographer Virginia Bear and the knowledge and skills of the volunteers who contributed. More work in this program (including three more videos in the series) is moving ahead in this area to try to optimise the chances of first aid for

burned bushland getting to where it is needed on the ground. Indeed, groups are starting to spring into action in September and October throughout all fire-affected regions although necessarily constrained in terms of numbers (see pages 4 – 7). Please keep up your interest in volunteering for assisting recovery after fire by regularly visiting the AABR post-fire bush regeneration facebook group and also keeping tables on AABR's 'Sites in need' locator map.

Review of CLM Training package. This national review is all but complete and AABR thanks the dozen or so members of the VET working group who contributed substantial input into AABR's submissions and consultation workshops. The updated and new units and qualifications have been substantially improved so that they are consistent with the National Restoration Standards and we believe they are capable of playing a pivotal role in the future of conservation and land management nationally. The revised qualifications will be described as the Certificate or Diploma in Conservation and Ecosystem Management and our specialised stream will be called Ecological Restoration.

Economic stimulus package for Conservation and Land management sector. Last but not least, recent polling, conducted by Dynata and commissioned by the National Landcare Network, found that 74% of Australians agree that economic stimulus funding should be used to help communities and the environment recover from the bushfires and drought. See AABRs facebook page for more info. We all need to email our local members and federal ministers to increase pressure on the state and federal governments to create temporary jobs to alleviate the social effects of unemployment while carrying out much needed environmental work.

Tein McDonald President, AABR

Welcome to new AABR Members

Saoirse Aherne George Anderson Adam Barber Rhiannon Beaton Patrick Berry Neil Blake **Dominic Bowd** Sarah Branton Malcolm Brown Donna Carman James Clarke Charlie Clarke Petra Clarke Clive Cox Sandie Czarka Samuel Davies Angela Dunn Melinda Eygelshoven Nathan Fell

Anne Fitzsimmons

Joshua Freeman

Sophie Gebauer Jeffrey Gibbs Sophie Golding Bianca Golding Steve Goldsworthy Olivia Gourley Max Grant Joseph Guthrie Sharnicka Hampson Leigh Hardingham Suzanne Hayman-Fox Sarah Hnatiuk Ruth Hodson Larissa Kabakov Mary Larkin Jacky Lawes Andrew & Trinth Lawson Thomas Learmonth Timothy Lever Rowan McCabe Michael McClellan Stuart McDonald

Lawson Moses-Morgan Natalie Nawrotzky Bronwyn Neeson **Darius Ottignon** Mark Ottignon Lucy Patterson Will Pearce Veronica Penna Susannah Pereboeff Carla Perkins Vinesh Prasad Louise Reincastle Darryn Reynolds Judit Roland Alan Rondeau Jeanne Scott Kallista Sears Sophie Small Samantha Strong **Greg Taylor**

Patrick McLennan

William Moran

Martina Taylor Alison Tran Kiera Turner **Chris Vassos** Angela Viney Lauren Walker Nicolas Walker Madeline Walsh Cassandra Williams Hanady Woodhouse

Businesses Banksia Environmental Services New Era Total **Cumberland Plain** Regeneration **Otway Greening** Australian Native Plant

Nursery

Practical Ecology Pty Ltd

Agencies

Lane Cove Council

Organisations

Barrier Field Naturalists Club Inc Australian Forests and

Climate Alliance

Congratulations on Accreditation

Phil Caddis Melinda Eygelshoven Jill Steverson Petra Holland Lawson Moses-Morgan

Max Grant **Christopher Spraggon**

Gess Flynn

AABR Videos in production

AABR would like to thank the sponsors below whose support will mean the series of FABB videos can be completed.

Videos in production

- · Disposing of weed thinking about habitat for fauna
- Get good at recognising natives and weeds at a very small stage
- The six main techniques used after fire











AABR In Victoria

AABR Vic celebrated their first anniversary by holding a Zoom meeting on the 30th July 2020 to elect the committee for the next twelve months.

The committee celebrated their successful push for members which has seen around 100 members from Victoria welcomed to AABR.

The Committee comprises

- Rob Scott Chair
- Alex Moodie Secretary
- Committee Members: Mark Adams, Steve Llewellyn, Jane Pammer, Sharon Mason, Natalie Simms, Craig McGrath and Alan Noy - Committee

For more information contact

Rob Scott robscott@naturelinks.com.au or phone 0412 865 027





Online Webinar



Hosted by: the North East Bioregional Network (Tas) with support from Highways and Byways and Landcare Tasmania.

When: Monday 28 September 2020, 5pm to 7pm AEST

Where: The webinar will be held via zoom and is a free event, but registration is necessary.

There has never been a more urgent need to restore damaged ecosystems. Forests, grasslands, heathlands, wetlands, savannahs, and other terrestrial as well as marine ecosystems are all in dire need of restoration.

The United Nations Decade on Ecosystem Restoration unites the world behind a common goal: preventing, halting and reversing the degradation of ecosystems worldwide. This Decade is a catalyst for unifying and practical action around the principle of respect and affection for our unique and precious natural world.

Join Christine Milne A.O. Master of Ceremonies with international and Australian speakers to learn about how they are applying the principles of ecosystem restoration and how these bright spots in early leadership can be scaled for global impact.

The event will be recorded, but we strongly encourage you to join in live and be part of the restoration collaboration.

Speakers

- MC Christine Milne A.O
- Todd Dudley, North East Bioregional Network Ecological restoration projects in NE Tasmania
- Peter Stronach, Landcare Tasmania Community ecological restoration projects across Tasmania
- Keith Bradby, Gondwana Link Ecological restoration projects in Gondwana Link
- Dr. Anita Wild, Ecologist working on Lake Pedder Restoration report - Findings of report assessing the restoration of Lake Pedder Tasmania
- James Aronson, EcoHealth Network The connections between human health and ecosystem health and restoration. James Aronson serves as a senior scientist with Missouri Botanical Garden's Center for Conservation and Sustainable Development and is a co-founder and Steering Committee member of the EcoHealth Network.
- Dr. Tein McDonald, Society for Ecological Restoration Australasia (SERA) and Australian Association for Bush Regenerators (AABR) - The content and importance of the SER Standards for the Practice of Ecological Restoration in Australia document
- Gary Howling, Great Eastern Ranges Ecological restoration projects in the Great Eastern Ranges
- Paddy Woodworth, Author of Our Once and Future Planet
 A global perspective on ecological restoration in the 21st century
- Mark Bachman, Nature Glenelg Trust Ecological restoration projects being undertaken or facilitated by Nature Glenelg Trust

Register: https://www.landcaretas.org.au/1225/un_decade_of_ecosystem_restoration_webinar?recruiter_id=1225

Contact: Todd Dudley, telopea_tas@yahoo.com.au (03) 6376 1049



Crowdy Bay National Park The volunteer groups attack weed issues in force

Tom Clarke AABR and Sue Baker NPA

Three days of volunteer effort at Crowdy Bay National Park managed to cover some good ground work focussed on helping natural regeneration around Kylie's Beach.

A group of volunteer regenerators organised by Tom via AABR have been working at Crowdy Head National Park. Recently the group worked over the course of three days (Thursday 13th to Saturday 15th August) comprising an aggregate crew of over

It was good to have a few visitors attending and helping out and it is hoped that these people can find the time to come again soon. We certainly did enjoy your company and enthusiasm for the work and trust that you found Crowdy Bay NP and surrounding area a great place to visit.

images of the visits have been placed on the 'Post-fire bush regeneration' facebook page.

For more information on how you can join the group, contact Tom Clarke thomas.clarke7@bigpond.com



Detailed sweeps for *Acacia saligna* seedlings amongst lots of native regeneration near Kylie's Beach campground. All Photos: Tom Clarke

12 volunteers. The group achieved some great outcomes for the fire-affected bushland around Kylie's Beach.

The first day we concentrated on chasing woody weeds behind the dunes at the northern end of the park and marking infestations of glory lily *Gloriosa superba*. A spraying effort will take place soon on this difficult invader.

The next two days were spent at Kylie's Beach where a massive recruitment of *Acacia saligna* golden wreath wattle seedlings were dealt with in a small but resilient patch adjacent to the camp ground, morning glory was chased over ground behind the dunes and a section of riparian zone was swept for some of the usual suspects. This wattle is native to WA, but weedy in other states.

Chasing morning glory along the riparian zone at the back of Kylie's Beach. August 2020

Sue Baker, NPA Mid North Coast Branch, Bush Regeneration Project Officer, adds "I am extremely grateful to have AABR member Tom Clarke working with us. His expertise and guidance have been invaluable. Thanks to his ingenious technique of attaching foam pads to tongs and spraying the pads with glyphosate, then wiping every leaf upwards from the base with the pads working front and back at the same time, we have demolished several large patches of Watsonia that have been an issue for us for decades. Got a Watsonia issue? Sounds laborious but this is definitely the way to go.

Progress on the burnt littoral rainforest at Kylie's Beach has been slow but steady. We have the huge challenge ahead of a steep, rocky slope covered in crofton weed and other nasties.



Scottsdale Reserve Post-fire recovery on a Bush Heritage Australia Property

David Meggitt and Tein McDonald, AABR

Through AABR's work in matching volunteers to bushland sites in need of urgent post-fire attention, work has been carried out on Scottsdale Reserve near Bredbo in the Monaro region south of Canberra.

Fire in February 2020 impacted on the reserve with about 70% of the 1328 hectare reserve being burnt. The reserve protects endangered grassy box woodlands and temperate grasslands. Around 80% of Scottsdale's native grasslands were affected and more than 50% of the reserve's woodlands burnt at a very high intensity.

Prior to the fire, the property had been the subject of extensive restoration works over many years by Bush Heritage staff and volunteers.

The sites were previously dominated by African love grass and treatment involved aerial spraying with flupropanate at a rate that did not kill the extant native grasses or forbs. Kill rates of African love grass, and gradual recovery by natives was very good before the fire.

The extensive fire has not been all bad for the grasslands with a heartening response of natives. There has been vigorous resprouting of the native grasses and forbs, plus germination of a wide range of forbs including the threatened species button wrinklewort (*Rutidosis leptorrhynchoides*) and silky swainsonpea (*Swainsona sericea*) as well as the more common native Convolvulus, native St John's wort, goodenia and glycine.

Naturally, weeds have also resprouted and germinated – including



Above: Parts of Scottsdale and the surrounding area were burnt with great intensity, and regeneration has been slow. (Photo: V Bear, Little Gecko)

On the steep slopes heavy rain after the fire has resulted in some erosion. Alot of the material carried by the rain was loose rock, sand, ash and soot etc which filled pools in the river to the detriment of platypus.

Until recently there was insufficient rain after the fire to trigger regneration. Some trees that did resprout had that regrowth die off from lack of rain. But recent rain has triggered some promising responses and groundcovers and acacia were noted regenerating where moisture collected.

one variety of African love grass known to not be susceptible to the low dose herbicide and a litany of the usual culprits, vipers bugloss, the weedy St John's wort and yellow catsear.

Fortunately six AABR volunteers recruited by AABR's program for post-fire work came to the rescue. Repeated visits were made before the COVID-19 restrictions came into force and volunteers managed to hand weed good areas of the button wrinklewort and to spot-spray 11 ha of grassland using glyphosate. Since COVID restrictions have eased, volunteers have managed to also spot spray these 11ha with broad-leaf selective herbicide.



Work at Scottsdale.

Above: The site for careful spot-spraying of weeds. Photo: D Meggitt **Below:** Identifying native plants regenerating in the burnt areas. Photo: V Bear, Little Gecko



Future Work

Repeat visits will need to be made to help secure the non-weedy recovery of these grasslands. The following dates have been set for two visits, the first from 15 to 17 September to work a new site in the badly burnt 'high country' part of the reserve. The second planned visit, to do follow-up on the 11 ha worked earlier this year, will be from 20 to 22 October.

Work will incude sensitive knapsack spot spraying, weed surveying, photography and handweeding.

With both visits volunteers are asked to travel to Scottsdale on the preceding Monday and return home on the Friday. Anyone wishing to join these great volunteering events is asked to contact David Meggitt davidmeggitt@optusnet.com.au as soon as possible as places are limited. Due to the COVID-19 restrictions, both visits will involve camping on site with self-catering and unfortunately, may have to be cancelled at short notice if the situation worsens.

Northern NSW -post-fire sites

Sites severely affected and in urgent need of treatment

Tein McDonald, AABR President

Over recent months AABR has been looking out for sites that have been severely fire-affected – both in national parks, other reserves and private property. Here are a few examples and some insights into what is happening with regeneration on the sites.

Assessors were particularly interested to see whether sites had been pushed beyond their recovery thresholds - which would be an entirely new world in bush regeneration. Many sites have certainly experienced severe impacts that have killed many individual plants and in some cases shifted composition to a different assemblage of natives. Some sites show an increase in acacias at the expense of eucalypts, and a thinning of eucalypts. In others, there is an increase in density of all woody species including eucalypts, and assessment will be needed to identify if further fire may be needed to reinstate conditions for a more typical biodiversity. In all cases, however, a wide range of weeds compromise the recovery.

Tooloom National Park, northern NSW.



Photo 1. Approx 8 months after fire but before treatment. Sclerophyll forest previously with a lantana domination of the understorey, and BMAD (Bell Miner Associated Dieback). Extreme fire killed the lantana but triggered dense inkweed that appeared to create a closed canopy. (Photo Hamish Cobbett, Bush Regeneration Services)

As you can see from the 'before' treatment photo above – this site at Tooloom NP had dense cover of inkweed (*Phytolacca incana*) in the understorey. Some will advocate that inkweed is not a concern after fire as it is short-lived and acts in a similar way to the native rainforest colonisers. This is consoling, especially in rainforest. However, the Tooloom site photographed is sclerophyll and the former canopy of eucalypts was compromised by BMAD (Bell miner associated dieback), before the fire. As a result the eucalypts at this site have been severely affected and most trees are not resprouting. Therefore it was judged important for the site's bush regeneration team to treat the inkweed using a combination of careful 'overspraying' and spot-spraying.

Site inspection soon after treatment show that eucalyptus seedlings or root suckers are present only in very sparse

distribution across the site – but many other natives are plentiful (see photos below). This reinforces the wisdom of treating the site to allow all those young eucalypts to develop, along with a diversity of native ground covers and other species. Now the diversity of native species will be able to flower, seed and recharge the future soil seed bank, with less inkweed recharging the seed bank. This will allow a healthier fire response next time the site burns



Photo 2 (above) and 3 (below): Dying ink weed after 'over-spraying, revealing natives underneath. In the background you can see the remaining untreated inkweed cover. (Photo T. McDonald AABR)





Above: Native species are seen to be thriving. (Photo T. McDonald AABR)



Dairy Flat, Upper Richmond River, Kyogle

Thirteen experienced regenerators worked over the August 8-9 weekend to kick start post-fire bush regeneration works at three riparian sites on private property in the upper reaches of the Richmond River near Kyogle. Emma Stone, Landcare Coordinator with the Border Ranges-Richmond Valley Landcare Network, arranged for free accommodation and food for the group and a great time was had by all.

The sites were previously a mix of sclerophyll and rainforest elements and for a long period it looked like there would be a need for planting along the banks. Weed was prolific, including Madeira vine (Andredera cordifolia) on one site and cat's claw (Dolichandra unguis-cati) on others - along with a plethora of common post fire weeds. However a few months after the fire and subsequent good rains, it had become clear that natives were regenerating and the approach was to treat weed and native vines suppressing native regeneration occurring after last year's severe wildfires. The visiting regenerators identified many rainforest species resprouting from root suckers and even seedlings. The group observed that as the site is huge (7km of riverbank) and has rainforest recovery potential, focus would need to be confined to high priority weeds rather than all weeds. Hence many non-native Solanum spp. were left and priority was given to cutting back native vines and treating the high-threat vines such as madiera vine and cat's claw creeper. Substantially more work is needed so anyone interested is encouraged to contact Emma: landcare.support@brrvln.org.au or AABR at bushfire-response@aabr.org.au



The Dairy Flat Site. Cat's claw and native vines up trees in riparian zone post-fire.



Volunteers pulling down regrowth catsclaw after fire, and laying it on the ground for later spraying.

List of plants along 100 metre length (approx.) of a severely burnt Richmond River private property near Dairy Flat, NW of Kyogle NSW on Sun 9th August:

- Suckering or resprouting natives: Sclerophyll: Eucalyptus sp., Black teatree and River Oak - Rainforest: Koda, Trema, Kamala, Whalebone, Sandpaper Fig, Celerywood, Syzigium Sp., White Euodia, Bollywood, Native Frangipani, Jackwood, Cheese tree, Green Tamarind, Cordyline sp., Three Veined Laurel, Mock Olive (Notelaea), Red Ash.
- Native Seedlings: Red Cedar, Trema, Bleeding heart, Silky Oak
- Suckering weeds: Lantana, Senna, Wild tobacco
- Native vine weeds (in need of control to enable other natives to come through): Smilax, Slender Grape, Forest Bindweed, Round-leaf vine, Native Yam, Snake vine,
- Vine Weeds: Ipomoea, Mothvine
- Other weed seedlings: Senna, Ink weed, Black Nightshade plus numerous others.

Busby's Flat, Northern NSW

The Travelling Stock Reserve (TSR) that follows Busby's Creek in northern NSW, contained a mature gallery rainforest until the Busby's Flat/Rappville fire torched it in early Oct 2019. The fire severely affected the rainforest trees. Although sclerophyll trees started to regenerate the site became quickly overrun by cat's claw creeper that blanketed the bare ground. The Casino Boolangle Land Council had undertaken primary work on cat's claw there last year with funding from Crown Lands via North Coast Local Land Services, to release mature trees that were being over topped, but follow up funding was not available.

Some funding was obtained for the Land Council team to continue with some follow up work post-fire – focusing on weeds that will prevent future rainforest colonisation and compromise the trees. This meant a focus on cat's claw. Much of the early cat's claw work has been successful but the funding has been insufficient to meet the scale of the challenge. When AABR visited in early August 2020, the sclerophyll regeneration was going well, but not the rainforest. The weed and native regeneration across the site means that it is now becoming difficult to treat the cat's claw as it is hidden in amongst other plants. This illustrates the importance of getting in early if we are to make a difference. Substantial help is needed for this site

now and over at least the next five years, to pull down and spot spray cat's claw. Contact AABR at bushfire-response@aabr. org.au

Photos right:

Top: Busby's FlatFeb 2020 five months post-fire

Bottom:

Regeneration 10 months post-fire showing further growth Busby's Flat August 2020

Photos T. McDonald AABR





A tale of Two Seasons: Part 2 Bushland Regeneration in 'New England'

Kate Boyd

This is the second part of Kate's story covering two seasons of bush regeneration at a site in the New England area of NSW. The first part dealt with the effects of severe drought in 2019. This part talks about the changes with the rain arriving.

August 2020: After the wet season.

Summer had started two months early in 2019. October's record heat waves and November's plain heat vaporised the odd storm as did December's record breakers. Smoke from unstoppable distant fires rolled in. Everyone was deeply worried.

Then we received the most wonderful present just before Christmas – rain – 44 mm in Armidale! This was followed after each few days of sunshine, by a few more wet days throughout January 2020 - our wettest for 16 years (total 202mm) and February (171 – also nearly double average) and March (59 – average).

I belatedly repaired minor earthworks in an Armidale revegetation area in the rain, wondering why I'd not done this before, knowing droughts can be broken by floods.

In Uralla, fitness enthusiasts had trodden their own informal track straight up the steepest part of Mt Mutton – for water to use its energy going straight down the fastest, most erosive way!
Bushcare volunteers created cross-drains from small logs and stones from the site. This worked well enough since we didn't get a flood, just brief storms and beautiful rain.

The soil microbes and plants responded phenomenally – with 'spring' in late summer. In our grassy woodlands and derived grasslands, seeds germinated, grasses, forbs, shrubs and trees grew new leaves, and hardy little herbs bloomed. I speculated that the drought might have released nutrients as well as creating spaces for germination. Stressed trees took a little longer to pop epicormic shoots out of those branches or trunks that had not died. Some of the subshrubs that characterise high quality woodland remnants started to bloom. Rarely seen native grasses were noticed.

However, with all that rain, there were places where weeds went gangbusters. African love grass, paspalum and others took off in their usual places.

We got back to careful spot-spraying in some places, but faced a conundrum in others: how to maximise the ability of the natives to outcompete the weeds, using these amazing seasonal conditions? We wanted all the natives to expand and set seed, not be set back by us. In some places we just used sickles and bags to remove flower stalks or seed heads, and/or left the weeds and natives to fight it out.

Where weeds that I'd not previously noticed appeared – like nodding thistle (*Carduus nutans*) in Uralla's Racecourse Lagoon - they got priority for removal before seeding. I faced the issue of not knowing what those seedlings I'd never seen before would turn out to be (great that AABR has a seedling identification project).

As long-term volunteer, Celia Smith, said of one of the sections we have been working on for years "I can really see it coming good now". Native grasses self-seeded where we'd previously weeded and eucalypt seedlings germinated near where some planted ones had died and elsewhere. There are areas where few weeds appeared or where weeds did not do as well as the natives. This includes much of the woodland patches that got unplanned cool burns.





Left: Diverting water off route up Mt Mutton, Uralla NSW. Above: Repairing mini contour bank in rain. Drummond Park Photos: K Boyd

We collected a little of the seed from species we believe can be well used in future.

Then COVID-19 stopped our volunteer groups for 2 to 4 months. Bags of weed seeds appeared in my green bin for our Council's top-quality composting – a few keen individuals had needed a 'breather' or two during their walks! But Paspalum went viral in part of one reserve, seeding heavily. It would have done so even without our COVID lock down as we had not been working on any plan to stop it. Now we need a plan to hinder these grass weeds and building resilience of the native grass and herb layer over the next few years.

In June 2020, I laughed at the rampant vetch weeds (*Vicia hirsute, V. sativa* ssp. *nigra*) that had



Noogoora burr seedling showing one of the two oval seedling leaves. Photo: Kate Boyd



Spring flowers appearing in summer after drought and then good rains.

Drummond Park Photo: Kate Boyd

germinated so much later than usual, too late to flower in autumn - I thought they were annuals that would die in the winter and had wasted their seedbank! But they grew even more during winter and are now preparing to flower prolifically to complete their life cycle. Just as well we have a few new volunteers to help pull vetch plants up.

What lasting effects has the drought had? Many eucalyptus trees died particularly on rocky hills but we also lost some in deeper soil. They ran out of water so their trunks and even their lignotubers died. Others reshot from the trunk and branches or their base. Some trees regrew a normal healthy crown. I don't know what effect the reduced tree numbers is having on invertebrate and vertebrate wildlife populations but expect it will be a significant long-lasting effect. The little eucalypt seedlings will take several decades to grow as big. We are marking them with stakes to reduce risks of trampling.

The second spring of 2020 has started early and will be terrific. Large numbers of chocolate lilies have appeared in some of Uralla's roadside reserves – one of the species that missed out on flowering when rain came too late for them last summer. Some of the species that seeded in autumn may flower again more prolifically. And the long-standing volunteers are being joined by a few new faces springing into bushcare.

Have you read Part 1? See Newsletter 144 on dealing with drought.

Inquiry into Ecosystem Decline in Victoria

by the Victorian Government

The submission closing date is 31 August 2020.

For information go to

 $https://www.parliament.vic.gov.au/epc-lc/inquiry/995 \ . \\$

The enquiry was an initiative of the Greens and this link provides tips on formulating a submission https://greens.org.au/vic/extinction/make-a-submission .

Terms of Reference

On 30 October 2019 the Legislative Council agreed to the following motion:

That this House requires the Environment and Planning Committee to inquire into, consider and report, within 12 months, on the decline of Victoria's ecosystems and measures to restore habitats and populations of threatened and endangered species, including but not limited to —

- (a) the extent of the decline of Victoria's biodiversity and the likely impact on people, particularly First Peoples, and ecosystems, if more is not done to address this, including consideration of climate change impacts;
- (b) the adequacy of the legislative framework protecting Victoria's environment, including grasslands, forests and the marine and coastal environment, and native species;
- (c) the adequacy and effectiveness of government programs and funding protecting and restoring Victoria's ecosystems;
- (d) legislative, policy, program, governance and funding solutions to facilitate ecosystem and species protection, restoration and recovery in Victoria, in the context of climate change impacts;
- (e) opportunities to restore Victoria's environment while upholding First Peoples' connection to country, and increasing and diversifying employment opportunities in Victoria; and
- (f) any other related matters.

44 Matte Mattah Nature ReserveA Biological Oasis

Gerard Proust

Yatte Yattah Nature Reserve is a landlocked reserve located just west of Conjola Lake on the NSW South Coast. When I first started working there in 1996, it had just been gazetted and had its first management plan written (M. Robinson & A. Bofeldt 1997). It was 19 hectares then and has been expanded to 36 hectares. This is a small but highly significant parcel of public lands deserving higher regard and protection.

The reserve's vegetation is predominantly rainforest in the more protected areas and eucalypt forest on the higher exposed sites. The reserve is the southern limit of Subtropical Rainforest (*Doryphora-Daphnandra-Dendrocnide-Ficus-Toona*) found on the lower, richer soil areas and Dry Rainforest (*Ficus-Streblus-Dendrocnide-Cassine*) found on the upper rocky slopes. The main other community is Red Gum (*Eucalyptus tereticornis*) Forest with White-topped Box (*E. quadrangulata*) and Turpentine (*Syncarpia glomulifera*) on the higher ground and surrounding farmland.

All this changed on a smoke hued high noon, New Years Eve of 2019 when the surrounding fires ripped through from the west to north/west. More than 75% of the rainforest being affected with Percentage Foliage Cover (PFC) dropping from >85% to <10%. The result (see photo below) of the increased light, moisture (February rains) and nutrients was an exceptional rate of regeneration across the whole burnt area. The problem was what had been waiting for this event in the soil seed bank. Millions of weed seed, mainly tobacco bush/wild tobacco, amongst the thousands of native seeds. A high percentage of the weed seed was under the grey-headed fruit bats roosts.

This predicted and devastating fire left a totally changed landscape with a variety of challenges:

- number of weed species 20+
- size & intensity of fire [75% reserve burnt (approx. 27ha)] with many dead mature rainforest canopy species



Aerial view of part of the reserve showing the unburnt core rainforest area and the burnt area adjacent. Note the tall cabbage tree palm in the burned area with its tall smooth trunk which has allowed it to survive unburnt. Photo V Bear. Little Gecko

- sheer overwhelming numbers of tobacco bush between 15 to 50/m² making an estimate of a staggering 10 million + in soil seed bank
- difficult terrain rocky slopes of up 40°
- limited days and timing for works 50 person days in May/ June 2020
- spraying not considered an option for the tobacco bush due to numbers of native species germinating [2spp/m²; 20 plants/m²] and the steep rocky terrain (see photos opposite)

Large numbers of native species have germinated and continue to do so. These range from ground layer (*Oplismenus, Pollia, Solanum* spp ...), pioneers (*Omalanthus, Acacia, Trema*...) and stage 3 rainforest trees (*Dendrocnide, Alphitonia*..). Many native species continue to coppice (e.g. *Stenocarpus, Acmena, Alectryon*...) and/or sucker (e.g. *Acacia*...)

The site assessments looked for priority areas and weeds. As with all bush regeneration projects, it is a balancing act of what we can do with the limited time and/or budgets. The subtropical and dry rainforest were the designated priority

areas and out of the 20 exotic weed species recorded Madeira vine (*Anredera cordifolia*) and tobacco bush (*Solanum mauritianum*) were designated the priority weeds.

Work began in May 2020 after funds were made available for 50 person days. A small amount of time (2 person days) was allocated to the Madeira vine infestations in the riparian zones and the rest went on the tobacco bush areas.

The Madeira vine infestations of approximately one hectare,



Post Fire Recruitment May 2020 Primary weeding in progress moving up from subtropical to dry rainforest. Thousands of Tobacco Bush (*Solanum mauritianum*) Photos Gerard Proust

were mainly in unburnt subtropical rainforest. Whilst important to manage, the fire had not altered its immediate impacts on the vegetation. Several hours were spent spraying, after site preparation, and hand removal and bagging of seedlings. This will have to be managed more intensely in the medium to long term.

The tobacco bush infestations covered around 15 hectares throughout most vegetative communities After the good rains of February there was a sea of tobacco bush seedlings up to 50cm tall by start of works, with 40+ native species and 10+ weed species battling it out underneath.

The slow process of primary weeding started at the edges of the intact core rainforest areas and expanded up the slopes. In the first few weeks it was possible to carefully hand pull the tobacco bush seedlings with minimal disturbance to native species and the soil. However, as time rolled on this was no longer possible and so more and more were cut and painted. This minimised the disturbance and the uprooting of native seedlings but slowed the works down from 3,000 weeds per hour down to <1,000 per hour.

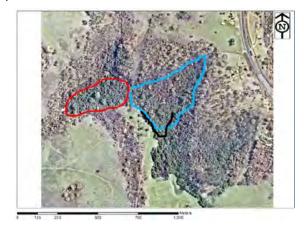
Work involved spreading out across the slope and systematically working our way upward. The pace was slow as care had to be taken on how to take the tobacco bush and other weeds out (too big to pull?), not treading on the native seedlings, not touching the giant stinging tree seedlings, of which there were 100's, and finding places to safely lay all the weed material.

The main other weeds that were scattered amongst the tobacco bush that we treated were:

Inkweed (Phytolacca octandra), common passionfruit (Passiflora edulis), white passionfruit (Passiflora subpeltata), spear thistle (Cirsium vulgare), senna (Senna septemtrionalis) and fleabane (Conyza sp.). Most of these weeds were hand dug/pulled with some of the larger specimens cut and painted.

Points of note and discussion

Native species recruitment has been quite high but has been overshadowed in more ways than one by the tobacco bush. It was not considered an option to leave the tobacco bush, as in other sites, as a nursery plant, for the large numbers of native species that would be lost.



Site map of Yatte Yattah Nature Reserve

Work Area [7ha. Main Tobacco Bush infestations] Core Subtropical Rainforest [approx. 5ha. relatively weed free]. Some canopy gaps weeded.

Main Madeira Vine infestation [approx. 1ha]



Tobacco Bush **Photos Gerard Proust**



Same site as left: Acacia, Dendrocnide, Claoxylon, Trema. A variety of native species found underneath after removal of tobacco bush

One of the many questions I keep asking: What is the optimum time for post fire weeding before weeds get too high/established and native species numbers start to drop off? In early May we were getting up to 60 tobacco seedlings /m² and 20 native plant seedlings /m². As we moved into the end of June, we were getting up to 40 tobacco plants, some over shoulder high, and less numbers of native seedlings <10/m²

A trial plot [20x20m: full data is available] was established in the burnt subtropical rainforest section. This plot was broken into 4 sub-plots [10x10m]:

- Control no works
- Primary to be carried out in January 2021
- Spray area carefully sprayed with Grazon]
- Manual and cut/paint area

How much of the weed seed bank has germinated and what is the persistence of the seed of tobacco bush in this seed bank?

Dense giant stinging tree patches, both seedling & suckering, are scattered throughout and extreme care is taken working around.

To remove the amount of tobacco bush a larger than normal crew of 7-9, was found to be the most effective in area covered and not going 'tobacco mad'. The sheer numbers that everyone removed each day (>15,000), the difficult terrain and the irritant from the 'dust' made for a demanding day. BUT everyone kept coming back due to the incredible resilience of the site and the restorative nature in so many ways. It is still one of the better workplaces to be in at this current time.

To cover more of the area, a mosaic spraying regime could be considered?

It is a sad inditement of our society that we have the resources to save and protect these fragile rainforest remnants, but we do not have the will or commitment. This will only get harder with the changing drying environment.



Seedlings? - Weedlings?

Russell Linnane

The most resource effective and environmentally efficient time to treat or remove weeds is at the seedling stage. Requiring less energy and less herbicide, seedlings or should we say, 'Weedlings' can be removed to allow native 'Seedlings' to establish with limited competition. However, this poses a threat, as native seedlings can be difficult to identify, or worse, mistakenly identified and removed as weedlings.

As with learning mature plant species, firstly learn the species that occur in the plant community of your site. Becoming familiar with both native and exotic species within the site and adjoining natural areas is key, as these species will be more likely to be the ones germinating. The botanical features and characteristics that each plant species possess are generally present at the seedling stage. Therefore, these key features will assist you in identifying seedlings.

The key to doing this is, after successfully identifying a particular plant species on the site, look for immature specimens, possibly at sapling stage, then further down to seedlings. Notice that some species will have the tell-tale botanical characteristics that helped you identify the mature tree in the first place. Seedlings will often be found under the drip lines or within close proximity of their parent trees, so when trying to identify seedlings look up and around, the site will give you the answers.

This practice can be challenging, yet rewarding, it can also provide some motivation when conducting laborious restoration techniques. Knowing the desirable plant species present on the site may be the stimulation needed to motivate you to conduct further work.

If you cannot identify these seedlings, let them mature a little until they disclose those identifiable features. Most plants will not set seed within a rotational visit, only annuals can reproduce that quickly and they can be beneficial to your site's recovery.

It is not critical to know every weedling on your site, learn the problematic weeds first that may be present within the vegetation communities you are working with. The species that produce masses of seed in a very short period, those that can inhibit seedling growth or threaten the integrity of the existing vegetation and control them, leave the others, and use them to your advantage.

Lophostemon confertus Brush box Comparison of 20mm seedling and 200 mm seedling



- 20mm Seedling
- Prominent mid vein
- Leaves opposite
- Noticeable hairs



- 200mm Seedling
- Prominent mid vein
- Leaves still opposite
- Noticeable hairs

Native and exotic look- alikes

Native Lauraceae Species

Neolitsea dealbata

White bolly gum

Exotic Lauraceae Species

Cinnamomum camphora

Camphor laurel





- Brown auxiliary bud and petiole
- New leaves purplish brown at first
- Midvein is not as prominent
- Lateral veins more prominent
- More prominent glaucous underside
- Red auxiliary bud and petiole
- New leaves reddish becoming green
- Midvein prominent
- Intra marginal veins obvious
- Underside of leaf not as glaucous

If you do not know, then let it grow.

One of the most common environmental weeds on the east coast of Australia is camphor laurel (*Cinnamomum camphora*), this plant is a member of the Lauraceae family. There are over 100 native Lauraceae species within Australia and many of them have very similar characteristics to camphor laurel. Of these native Lauraceae species some in particular look almost identical when at a seedling stage, and they will both occur in the same vegetation communities.

White bolly gum (*Neolitsea dealbata*) looks so alike that they are often mistakenly sprayed or removed because of these similarities. Both have the same leaf shape, size, coloration and even have the same prominent yellow venation distinguishable to the Lauraceae family, they even have the same glaucous underside of the leaf. Once about 200mm high the bolly gum's leaves will have grown considerably, and any new growth will have a purplish brown appearance. Camphor leaves will always have that distinctive smell; yet removing a leaf to crush and smell can be detrimental to a seedling and this should be the final check. However, there are subtle differences and learning these key features can be achieved with experience.

So, get out into your site and get down to seedling level and look for those little gems hidden amongst the herbaceous weeds before you go furiously hand weeding or spraying. Who knows what you might find?

I have recently developed a series of training workshops to assist people to learn identification for commonly confused seedlings and weedlings. If you are interested get in touch.

Russell Linnane Rustle in the Trees. Email: rustleinthetrees@outlook.com Facebook: Rustle Inthetrees Instagram: rustle in the trees

Join AABRs Facebook Group Seedling Recognition

Weed Weavers

Robyn Becket

A number of groups have used weeds in a creative way to weave baskets. Robyn Becket tells us about her experience at weeding and weaving.

Karragarra Island is the smallest of the group of four known as SMBI (Southern Moreton Bay Islands) between Brisbane and the Gold Coast. All of the SMBI are attractive to me because they are fairly natural, yet are accessible and affordable. Karragarra has the nicest beaches, no shops and a population of about 160.

The Bushcare site on the western edge of the island has dominant trees; *Melaleuca quinquenervia* (paperbark), with some *Eucalyptus tereticornis*, several *Callitris columellaris* (white cypress pine) and a few *Casuarina glauca* (swamp oak). On the site/beach edge are several large *Hibiscus tiliaceus*.

We have been dealing with enormous infestations of a climbing weed; *Arbrus precatorius* subsp. *africanus*. We call it crab's eye and it seems to grow, flower and go to seed quickly. We find on the sandy soil we can usually uproot it but the bigger ones we cut and paint.

Within our local Council Bushcare section (Redland City) is a roving Bushcare Group who weed vines only and weave with them

We had a fantastic time on their visit - they stayed a long time and taught us to weave. The weavers convenor, Carly took some



Bushcare group removing crab's eye



Arbrus precatorius subsp. africanus - crab's eye https://weeds.brisbane.qld.gov.au/weeds/ crabs-eye-creeper



Crab's eye creeper in a basket woven from mile a minute or coastal morning glory - *Ipomoea cairica*



Weed weaving

Photos Carly Kotynski

nice photos she has let me have for this article. We wove (or weaved?) the fresh crab's eye stems on the beach immediately after weeding. Later Carly told me that (they had learnt from experience) crabs eye was only good for weaving when fresh.

On the mainland the group usually weeds one month and weaves the following month. (We were due for another visit on Sunday 29 March which was cancelled due to Covid 19 risks).

We have two other weed vines on site that I know they have enjoyed weaving before. They are mile a minute or coastal morning glory *Ipomoea cairica* and corky passionvine *Passiflora suberosa*. So, it will be some time before the weed weavers run out of material on our site.

Weed weaving - Redland City Council Qld

The Redland City Council Bushcare Program has a weed weaving bushcare group that meets monthly. Where possible the groups aims to target the weed vine collection working bee at an existing bushcare site, so that the weed weaving group 'partners' with the bushcare group who normally maintains the site. The weed weavers collect weed vines one month and then do the weaving the next month.

The weed weaving group is open for new members/volunteers to come along, and in the past weed weaving workshops that are open to the broader public have been run. It is a partnership between Bushcare team and the convenor, Carly, who usually works/communicates with one of the Bushcare Officers who is an avid weed weaver.

For information contact the Bushcare Team at IndigiScapes (Redland City Council's environment education centre) .

Contact: IndigiScapes Phone: (07) 3824 8611 Email: indigiscapes@redland.qld.gov.au

Address: 17 Runnymede Road, Capalaba, QLD 4157 Follow IndigiScapes Centre on Facebook and Instagram.

Books

Early Bush Regeneration in Lane Cove

Recollections about early contracting done by the Lane Cove Bush Regenerators Co-Operative Ltd Sheila Walkerden

Sydney's urban bushland reserves are in peak flowering season. Many of them are beautiful and refreshing places because of the work of trained regenerators using their skills to remove weeds and make careful decisions about ongoing work.

The Lane Cove Council, with the encouragement of the Lane Cove Bushland and Conservation Society Ltd began employing contract regenerators over forty years ago, in Warraroon reserve. They were second to Mosman Council in this initiative. The work was gradually extended to all other bushland reserves in the municipality.

Many residents, with Council support, have taken responsibility for the bit of bush beyond their back fence. Many more plant native shrubs and trees in their gardens, helping the growth of corridors, linking reserves, and making wider access to habitat possible for native animals.

Methods used in those early days set the framework for the present, and as now, were carefully planned, to control stormwater, identify weeds, and work out the relative urgency of multiple tasks. Bush regeneration has been identified as one of the factors reducing the risks of uncontrolled fire.

A new book, *Early Bush Regeneration in Lane Cove*, by Sheila Walkerden, has been published about the years from the early

The Draft Cumberland Plain Conservation Plan

The Draft Cumberland Plain Conservation Plan is currently on public exhibition until Friday 25 September 2020.

The NSW Government has prepared the Plan to meet the future needs of people and biodiversity in Western Sydney and will help protect and conserve threatened plants and animals. It will help create the Western Parkland City by supporting the delivery of housing, jobs and infrastructure while protecting important biodiversity.

For more information on the Plan, including frequently asked questions and fact sheets you can visit the website.

You can also register to attend a community webinar to learn more about the Plan on Thursday 10 September 2020 at 12pm – 1pm.

The department has also developed the Cumberland Plain Conservation Plan Viewer to help community, landholders and other stakeholders understand the Plan.

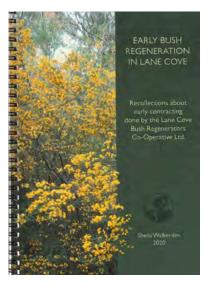
Have your say: We want your feedback on the Plan and other documents on exhibition, including the proposed State Environmental Planning Policy (SEPP) for strategic conservation planning. You can view the Plan documents and make a submission here.

90s to 2008, with a focus on work in Batten Reserve and Gore Creek Valley. The book describes recording methods, includes maps by Helen McNamara, and before and after photos of many sites, to show the transformation, and what was achieved by careful regeneration.

Lane Cove Bookery has the book on sale for \$15.00, and it will soon be available as an e book.

> Early Bush Regeneration in Lane Cove

Author and Publisher Sheila Walkerden, 2020 ISBN 978-0-646-81549-7 62 pages soft copy



Planet Ark Tree Report

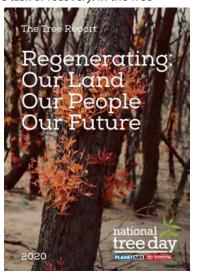
Planet Ark has produced their 2020 Research Report - The Tree Report. Regenerating: Our Land, Our People, Our Future.

After the summer bushfires of 2019/20, followed by the unprecedented Coronavirus pandemic, the the Australian people and landscape face the task of recovery. In the Tree

Report, we examine the impacts and highlight the importance of natural regeneration processes in recovery. We investigate mental health and how we can support each other in healing. Finally, we look to the future.

The report can be downloaded from the Planet Ark website

https://treeday.planetark. org/documents/doc-1942planet-ark-the-tree-report-2020-digital-final.pdf



Membership renewals for 2020-21

Invoices for renewals for the 2020 -21 financial year have gone out by email (or post where we do not have an email address for you). Thanks to he mmnay of you who have renewed so promptly. Paid up members allow AABR to advocate for bushland restoration.

If you haven't received the email - firstly check your 'Spam' or 'junk' mailboxes. Otherwise, contact Suzanne to re-issue the invoice. If your circumstances have changed and you would like your membership lapsed or to find out about unwaged membership payments, talk to Suzanne at admin@aabr.org.au, 0407 002 921.

Whats available online

ESA20 (Ecological Society of Australia's 60th Anniversary conference) is going virtual!

In light of the developing situation with COVID-19, the Ecological Society of Australia have made the decision to move the 2020 ESA Conference online.

What does this all mean?

Conference dates do not change: Sunday 29 November – Friday 4 December 2020

Conference theme: Understanding Ecological Extremes: Mechanisms of Resilience and Recovery

The conference program will consist of a number of symposia, some open forum sessions, and a keynote presentation or two. Poster sessions and online social functions are currently being planned.

Registration Fees: Registration includes access to all online sessions, online workshops, plus all networking sessions and the online exhibition

As the world of virtual conferencing is a new concept of many of us, we have worked to keep the registration fees for 'virtual attendees' as low as possible.

- Full Registration (ESA Member) AUD\$150 inc GST
- Full Registration (Non-Member) AUD\$200 inc GST
- Full Registration (Student / Retiree / Resident of Developing Country) - AUD\$50 inc GST

Please click on the link to commence your online registration ESA20 - virtual registration site

For a full list of symposia that will be offered at ESA20, please CLICK HERE.

Please feel free to contact the Conference Secretariat via email to esa@kaigi.com.au or by phone 02 6198 3218 is there is any way we can assist you.

Keep an eye on the conference website (www.esa2020.org.au) for conference planning updates and announcements.

Big Scrub Rainforest Day goes online

The 22nd annual **Big Scrub Rainforest Day** will take place on **Sunday 20th September 2020**. The theme, 'Saving our Rainforests from Fire' will be relevant to all members of our north coast community and communities further afield.

There will be two online panel discussions facilitated by well-known ABC journalists Kerry O'Brien and Mick O'Regan. The first panel will discuss the impacts of the fires on our rainforests and the lessons learnt. The second panel will focus on what on-ground actions should be pursued and how bushfire management should be improved to minimise the impacts of future major bushfires on our rainforests.

Big Scrub Landcare is hosting this event in response to our community's concerns about the impacts of the recent fires.

Register for the event at Eventbrite https://savingrainforests.eventbrite.com.au

All information about the event can be found at https://www.bigscrubrainforest.org/big-scrub-rainforest-day-2020/

Help to circulate information about it and please share the links with your friends and colleagues. Help support this year's event by getting the word out and getting involved! It is tipped to be an informative event for the NRM community and general public alike.



CLIMATE CHANGE, FIRE AND BIODIVERSITY WEBINAR SERIES

A webinar series - collaboration between the National Environmental Science Program's Threatened Species Recovery Hub and Earth Systems and Climate Change Hub.

https://www.nespthreatenedspecies.edu.au/events/climate-change-fire-and-biodiversity-webinar-series

Much of Australia is expected to experience hotter and drier conditions due to climate change. Join our speakers and panellists for a discussion on climate change, bushfire preparedness and policies, building resilient ecosystems, and managing carbon to improve biodiversity conservation.

Lessons from the fires: A biodiversity and climate perspective 25 August 2020, 3:30 - 5:00 pm AEST https://climatefirebiodiversity-lessons.eventbrite.com

The 2019/20 bushfire season in Australia was unprecedented in the historical record. This webinar will focus on understanding bushfire seasons under a changing climate, preparedness for future bushfire seasons, and ongoing impacts on biodiversity.

Evidence based planning for resilient World Heritage Areas
7 September 2020 (Monday), 3:30 - 5:00 pm AEST
https://climatefirebiodiversity-evidence.eventbrite.com

Twenty World Heritage Areas are recognised in Australia by UNESCO for their unique cultural, geographical, and biological diversity. Drawing on recent research on the Gondwana rainforests, our speakers will discuss the benefits and challenges of integrating climate change and biodiversity knowledge to build more resilient World Heritage Areas.

Managing and building biodiversity resilience to climate extremes 22 September 2020, 3:30 - 5:00 pm AEST https://climatefirebiodiversity-resilience.eventbrite.com

Climate projections suggest that climate extremes and natural disasters are likely to become more frequent and/or intense in the coming decades. Our speakers will discuss the consequences of climate extremes on biodiversity, the use of natural assets and habitats to protect natural ecosystems, and how we can build resilience in our habitats to buffer against climate extremes.

Carbon sequestration and biodiversity: valuing and managing carbon-rich systems in Australia

6 October 2020, 3:30 - 5:00 pm AEST https://climatefirebiodiversity-value.eventbrite.com

International and national climate mitigation policies have seen a growing interest in approaches to carbon accounting and investments in carbon-rich systems.

Our speakers will discuss the concept of 'green' and 'blue' carbon accounting in biodiverse systems and explore new approaches to integrating biodiversity, social and cultural values with carbon accounting.



What's happening

The COVID-19 pandemic has resulted in events being postponed.

The new dates for some events are below. Put them in your diary.

May 2021

(Postponed from 2020)

Nature Conservation Council's 2020 Bushfire Conference

Cool, Warm, Hot: the burning questions

Where: NSW Teachers Federation Conference Centre 37 Reservoir Street, Surry Hills Sydney, NSW.

Information; visit the website

contact (02) 9516 0359 or email BushfireConf2020@nature.org.au

Monday 10th to Thursday 13th May

Society for Ecological Restoration Australasia (SERA) Conference

Restoration Through Traditional Knowledge

Where: Darwin.

Information; visit the website

Submit proposals for workshops and sessions by Friday, 6th November 2020.

- Abstracts by Friday, 11th December
- Registration closes Friday, 30th April 2021 (Early bird closes: Friday, 26th

New dates

Wednesday 4th to Friday 6th August

National Landcare Conference

In **September 2020** there will be a launch of the 2021 conference and a webinar series to showcase and promote the organisations and individuals who have submitted an abstract.

Conference Location: International Convention Centre, Darling Harbour in Sydney, NSW.

Information; visit the website

https://landcareaustralia.org.au/nationallandcare-conference-2020

Sunday 10th to Wednesday 13th October 2021

22nd Australasian Weeds Conference

(The Weed Management Society of South Australia (WMSSA), on behalf of The Council of Australasian Weed Societies (CAWS), will be hosting the 22nd Australasian Weeds Conference (22AWC) at Adelaide Oval.

Note that abstract submissions have re-opened.

More information at http://wmssa.org.au/22awc-program/

22AWC A WEED ODYSSEY: INNOVATION FOR THE FUTURE Weed Management Society

Australian Association of Bush Regenerators

Tein McDonald president@aabr.org.au

Treasurer and Administration Suzanne Pritchard admin@aabr.org.au

Membership Officer

Louise Brodie membership@aabr.

Secretary

Jane Gye secretary@aabr.org.au

Website advertising

Mitra Gusheh advertise@aabr.org.au

Committee members

Scott Meier, Matthew Pearson, Agata Mitchell, Rob Scott, Deb Holloman, Victoria Bakker, Spencer Shaw, Peter Dixon, Sybilla Brown, Jane Pammer, Kylie Robertson

Victorian Committee

Enquiries please contact Rob at robscott@naturelinks.com.au or phone 0412 865 027

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 officersand 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

enquiries@aabr.org.au ABN: 89 059 120 802 ARBN: 059 120 802

Membership fees

Government

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
- \$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 0407 068 688 Opinions expressed in this newsletter are not necessarily those of AABR