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March
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AABR NEWS

Australian Association of Bush Regenerators

working with natural processes

AABR Webinar

April 13th 2021 @ 2:00 pm - 4:00 pm

Hundreds of AABR members rose to the challenge of supporting post-fire regeneration only to have their intent somewhat stifled by a pandemic. In spite of this AABR site coordinators were able to navigate the COVID constraints and deliver on-ground outcomes at five sites.

In this AABR webinar the coordinators will share the process and the achievements from 12 months of post-fire regeneration activities in a diversity of ecosystems.

Tom Clarke – Crowdy Head littoral rainforest- prioritising actions post fire

Boyd Carney – Barrington Tops broom – engaging contractors and community volunteers

Wollombi – Deb Holloman – what help have fire-affected landholders needed most

Yatte Yattah – Gerard Proust – riparian restoration – follow up needs over time since fire

Scottsdale – Tein McDonald – importance of plant recognition and follow up

A short panel discussion will round off the session with questions in advance from the audience. The program is subject to finalisation.

To find out more go to the AABR Event Page

https://www.aabr.org.au/event/post-fire-regeneration-in-nsw-where-are-we-12-months-on/

The Albert Morris Award - Nominations open for 2021

Nominations are now open for projects from Australia, New Zealand and the Pacific islands to be considered for the Society for Ecological Restoration Australasia's (SERA) annual awards for restoration excellence,

Above: Gary Rodda from NSW LLS, receiving the 2018 Albert Morris Award trophy for the project ' Travelling Stock Reserves Riverina' which used managed livestock grazing, direct seeding and pest species control to achieve significant landscape recovery across extensive areas of TSRs in NSW.

The Albert Morris Award is a collaboration between SERA, the Australian Association of Bush Regenerators and Barrier Field Naturalists' Club. The award celebrates well-established ecological restoration projects or programs that have outstanding ecological and social outcomes. Established in honour of Albert Morris pioneer botanist, who designed arguably the earliest intentional restoration project that harnesses natural regeneration as the main means of recovery. The project was initiated by Albert and the Barrier Field Naturalists' Club and carried out in the mid 1930s in Broken Hill NSW to reverse desertification of the town common surrounding the city. Results are evident by the green swathe of native vegetation that surrounds the city today.

Nominations for this and other SERA awards closes 16 April 2021. Information about this and the other awards is found at https://www.seraustralasia.org/2021-awards

President's Perspective

I am not sure if I feel more like Douglas MacArthur in the Philippines or Arnold Schwarzenegger in Terminator. Either way, I have returned, and yes, I am back!

The first thing that I want to acknowledge in this Perspective is the dedication, work and focus of Tein McDonald in her many years of being President. Tein helped instill such a rigorous and evidence based frame around both the practice of bush regeneration and the Association itself. Part of her legacy will be the increased credibility in which bush regeneration is held and the academic community's greater focus on the practice. We haven't let her go entirely… she is still on the Committee and I hope to continue to learn from her.

I also want to acknowledge and thank the outgoing Committee and Subcommittee members and the incoming ones. One of the things that amazed me most, coming back to the AABR Committee after many years away (because I headed a major government program that funded bush regeneration, I did not stay involved with AABR due to potential perceived conflicts of interest) was that there were so many old friends still involved; Danny Hirschfeld, Virginia Bear, Louise Brodie, Heather Stolle, Jane Guy, and Mitra Gusheh among others, who were active last time I was President and are still active (and still looking young!) now.

This year will be a year of significance for AABR. Taking our new draft Constitution, approved in principle at the AGM to Fair Trading and the Australian Charities and Not For Profits Commission for approval will allow us to grow in many ways.

It will make it easier for members in all States and Territories, as well as Regions, to self organize into Branches, and the Constitution and By-Laws more clearly set out what these Branches can do and how AABR can support them.

It will also make it easier for members to set up working groups to address particular issues facing the bush, bush regeneration, the industry, and volunteer regenerators. The Glyphosate Working Group helped to host the on line AGM this year, and already there is an interest from members to come together on other issues such as training and education.

I want to encourage all members to think about how they could work within AABR, its branches and working groups to progress those issues they are passionate about and talk to us in the Committee. There are also opportunities from time to time to represent AABR on various projects and committees, which may not sound that interesting, but is a powerful way to influence and great experience.

For those of you who don't know me, I have worked in bush regeneration for a long time, and my passion for weeds and urban habitat goes back to early teenage years. In the mid 70s' a close friend of mine and I used to collect native seed from local bushland in Beverly Hills, Sydney, grow it on and sneak into properties for sale or rent in the area and plant them out with local native plant species. In 1979, my classmates and I organized to weed the bush behind our school adjacent in the Lane Cove Valley (the area is still weed free after all these years… mainly due to the NSW Government's wisdom in building the M2 Motorway over the top of our regeneration site…).

I worked as a bush regenerator from 1987 through to 1994 and after that devised, designed and delivered restoration programs, first in the Sydney Water Board, then the Hawkesbury Nepean Catchment Management Trust, Department of Land and Water Conservation, Sydney Metropolitan Catchment Management Authority and finally the NSW Environmental Trust. I am now a consultant working in natural resource management, community engagement and funding.

All through this time I remained a volunteer bush regenerator, being the Convenor of the Mighty Duck River Restoration Collective, the only anarcho-syndicalist bushcare group in Australia, working along one of the most degraded waterways in the country.

I am a previous President of AABR, having that role from 1995 to 2003 and being on the Committee from 1994 to 2010.

I am really pleased to be actively involved again and quite excited about the year ahead (yes, I know I need to get out more), and I hope that you will feel free to approach me with any issues and ideas.

Peter Dixon

President AABR

AABR's New Committee

At the AABR AGM on February 27th 2021, the committee members were elected as below.

Welcome to our new president, Peter Dixon and to new Committee members. Note that committee members come from a variety of locations.

The meeting expressed thanks to outgoing president Tein McDonald.

Executive

President: Peter Dixon (NSW Lower North Coast)
Treasurer: Suzanne Pritchard (Hunter NSW)
Secretary: Jane Gye (Sydney)

Committee members

Matthew Pearson (South Australia)
Agata Mitchell (Sydney)
Rob Scott (Victoria)
Deb Holloman (NSW Central Coast)
Scott Meier (Lower North Coast NSW)
Victoria Bakker (Queensland)
Tein McDonald (Snowy-Monaro NSW)
Alex Milicic (Victoria)

Unelected roles

Admin/Education and Public Officer: Suzanne Pritchard
Accreditation: Danny Hirschfeld
Newsletter and Membership: Louise Brodie
Video/Photo expert: Virginia Bear
Technology guru: Mitra Gusheh

Special Resolutions

The following Special Resolutions were passed:

SPECIAL RESOLUTION 1 "That the Members approve the model for AABR's National Structure and Governance, as detailed in the Preamble document and reflected in the draft Constitution."

SPECIAL RESOLUTION 2 "That the new draft Constitution, as exhibited (and including any minor and non-substantive edits approved at the AGM), be adopted by AABR, subject to its endorsement by NSW Fair Trading and the Charities and Not-for-profits Commission, including any minor, non-substantive changes to the draft Constitution required by these bodies

SPECIAL RESOLUTION 3 "That the Committee voted in at this AGM become the first Board once the Constitution is adopted, with half the board remaining on for a 2-year term."

SPECIAL RESOLUTION 4 "That determination of which board members remain on the board for the full 2-year term is made internally by the board members."

AABR RegenTV Bush Regeneration Videos

FIrst Aid for Burned Bushland (FABB)

AABR has recently produced a further two videos in our series of six. Whilst directed to those who are carrying out post-fire regeneration, they cover broad topics which are of interest to any bush regenerator.

The six main weeding techniques

This video provides an introduction to six techniques commonly used by bush regeneration for controlling weeds.

Dispose of weeds on site

Examples and advice on how to efficiently dispose of weeds on your site.

Special thanks to the many sponsors who have contributed to these two videos including Bush-it, BARRC- Bushland And Rainforest Restoration & Consulting, Apunga Ecological Management, Bushland Restoration Services, Waratah Ecoworks, Naturelinks, Paul Thistlethwaite, Joe Kielniacz and Marita Macrae, along with the support of South East Local Land Services.

Special thanks also goes to Virginia Bear for her tireless work preparing these very high quality videos for AABR.

See AABR's regenTV YouTube channel http://www.youtube.com/c/regenTV

Welcome to new AABR Members

Mathew Acocks
Neale Adams
Owen Adams
Sem Alcoba
Bryce Angell
Cameron Arden
Kristan Armistead
Sally Aslett
Thomas Balk
Richie Ball
Ranaraja Bandage
Isabelle Barrington-Wood
Hannah Bevis
Joseph Birckhead
Huw Bolt
Scott Brewster
Hannah Brown
Charlie Browning
Amanda Calleja
Michael Cirone
Erica Colborne-Veel
Gerard Cook
Rachel Devlin
Jack Doncon
Thomas Fee
Sissa Feltham
Clayton Fenech
Anthony Fennell
Rebecca Ferraro
Jarrod Fleming
Julia Forrest
Richard Francis
Kyle George
Linda Gotvik-Dobson
Tess Carly Graham
Toby Grant
Joshua Gunn
Jason Gura
Jonathan Hagen
Benjamin T Hallpike
Luke Haraida
Jenny Harvey
Carly Haslam
Victoria Heaton
Liam Hogan
Shadah Houston
Dinesha Jay
Timothy Jenkins
Trav Jolly
Graham Jury
Rebecca Korossy-Horwood
Fiona Laisanna
Adrian Lamande
Ang Little
Jeremy Little
Regan Lockett
Maggie Logan
Justine Lund
Joe Lupone
Brenton Martin
Karen McChesney
Ruby McCoy
Kirby Medway
Eimy Molina
Jason Montero
Aimee Moon
Daniel Nippard
Blake Nisbet
Luke Oldmeadow
Luke Passick
Kah Bae Pha Per Yaw
Liam Plumb
Courtney Price
Bron Richardson
Alice Ridyard
Joshua Romeo
Fiona Saxton
Kristy Shakespeare
Emily Sharp
Jarrah Simao
Natalie Simms
Ross Simpson
Chris Solazzini
Pia Spreen
Rosemary Star
Danielle Suffern
Michael Swire
Alasdair Taylor
Jo-Anne Tetteroo
Lah Naw Paw Tha Ei
Simon Thorning
Kelly Tobin
Dilhan Turker
Anton Vigenser
Sue Wade
Mitchell Wallis
Tyler Wilkie
Erin Wilson
Nathan Wise
Thomas Woodhouse
Cary Aiken
Melanie Cottam
Karla Gillies
Roxanne Ives
Shane Ivey
Juhan Leroux
Patrick Mitchell
Peter Nash
Thomas O'Keefe
Jim Phillipson
Zoe Ridgeway
Tamara Sequeira
Kevin Taylor
Bettina Tuerk-Rochl

Agency
City of Newcastle Council

Business
Goanna Bush Regeneration Services

Congratulations on Accreditation

Stuart McDonald
Joshua Freeman
Gess Flynn
Bronwyn Murphy
Lauren Walker
Kane Spruce

Introduction and The AABR Glyphosate Working Group

Chair: Patrick Deasey- Co-Chair of AABR's Glyphosate Working Group

Patrick Deasey is co- founder and a Director of Naturelinks Landscape Management Pty Ltd working in the greater Melbourne area. Pat has a degree in horticulture and masters in agribusiness, and has been working in environmental restoration for the last 25 years. He has a special interest in weed control techniques of all types.

Obviously the restrictions on glyphosate use is a very hot topic of interest amongst those of us who have come to depend on it for the last 30 years at least, since it has been around. We have come to know it as a relatively safe and relatively environmentally friendly chemical to use in preserving biodiversity.

Biodiversity management faces unique challenges due to perennially limited budgets and a seeming lack of competitive chemicals and strategies that may assist us with biodiversity management and outcomes.

AABR is a useful conduit for information between users in the field, decision makers and the public.

The glyphosate working group aims to assist with this by considering issues surrounding glyphosate, and collating and distilling the consequences of bans or restrictions on its use, and making that available in an accessible form to our members, the public and decision makers.

In addition the strategies and tools that have (or not) worked, can be hopefully shared amongst us, to avoid many of us having to reinvent the wheel

Aims of the Glyphosate Working Group

- To gather information from parties affected by a ban on glyphosate, such as AABR members and local government
- To collate information on the science behind glyphosate
- To provide information on:
  - The impacts of a glyphosate ban, or restrictions, on the control of weeds.
  - The health and safety implications of glyphosate use.
  - The experiences of other councils and organisations that have already restricted or banned glyphosate.
  - The biodiversity and conservation impacts of glyphosate and other herbicide restrictions.
  - Weed management plans that show glyphosate and other herbicides are a necessary, but minor part of conservation efforts and regeneration, with herbicide use decreasing to minimal levels over time.

Further information and links to relevant material can be found on the AABR Glyphosate Working Group webpage. https://www.aabr.org.au/aabr-projects/glyphosate-working-group/

Talking about Glyphosate: A Chemical to Understand

Tim Low

Tim Low is a biologist and prize-winning author of seven books, including Feral Future, which is about invasive species, and which inspired the formation of the Invasive Species Council, an NGO that works for better policies on invasive species. The ISC engaged Tim to write a report about glyphosate. ***Glyphosate: A Chemical to Understand.*** *Released in 2020.*

In this report Tim has put together a great summary of the credible research on the safety of glyphosate, in an easy-to-read format, which still provides a balanced view and information that would be useful to the interested public and decision makers who are looking through the morass of articles and opinions out there. In his talk at the AGM, Tim explained the major points he found in his research.

Glyphosate is an organophosphorus compound widely used for weed control and kills growing plants by blocking the synthesis of enzymes. It interferes with the shikimate pathway, used by plants to produce some amino acids. Glyphosate is absorbed through foliage and transported to growing leaves. Animals lack the shikimate pathway, obtaining these amino acids in the foods they eat. This means glyphosate cannot harm people or animals in the way it harms plants.

There has been considerable debate and controversy about glyphosate, which is a herbicide (notably Roundup ®) used in bush regeneration and restoration as well as being the main herbicide used on crops in Australia. Aside from cancer concerns, glyphosate is controversial for its link to genetically modified crops.

Hazard vs Risk

The report considers why agencies have reached divergent or apparently divergent conclusions. Apparent different conclusions are clarified when the questions being asked are shown to be different regarding glyphosate and cancer. The International Agency for Research on Cancer (IARC) determining in 2015 that glyphosate was a 'probable carcinogen', whereas The European Food Safety Authority states that glyphosate 'is unlikely to pose a carcinogenic hazard to humans'. 'Hazard assessment versus risk assessment are two ways of assessing the **danger posed by a chemical.** *'A hazard assessment considers only the potential to cause harm. It does not determine whether or not the harm will occur. It also does not determine the likelihood of the harm occurring in real-world situations.'*

The IARC determined that glyphosate may be capable of causing cancer but did not specify the circumstances. In Australia,

decisions about pesticides are the responsibility of the Australian Pesticides and Veterinary Medicines Authority (APVMA) an independent statutory authority. A review commissioned by the APVMA led the Authority to restate a previous finding that **glyphosate is safe to use if the safety instructions are followed**.

The difference between hazard and risk is only one reason for differing opinions. It does not explain why some countries have moved to ban glyphosate while others have pronounced it safe.

Different Research

Finding evidence of carcinogenicity in humans is difficult as studies need very large numbers of people followed for decades, with detailed information about specific pesticide exposure including how much pesticide and length of time of exposure.

Research papers that report evidence of cancer or a lack of it are not always accepted as reliable by agencies reviewing risks. When eight scientists checked the quality of 73 epidemiology studies in leading journals (but not focused on glyphosate), they concluded that 'Overall, there is a serious risk that some epidemiological publications reach misleading conclusions' (Pocock et al. 2004). Size of study, unsound statistical methods and, in retrospective studies, recall bias are some of the factors that may lead to rejection of the results of a study.

For those agencies that have endorsed use of glyphosate, the pivotal study has been the Agricultural Health Study (Alavanja et al. 1996), which is a longitudinal survey of 90,000 farmers, and other pesticide users in Iowa and North Carolina which began in 1993. Importantly, it is a cohort study, which means participants are asked about chemical use before any cancer is acquired. The Agricultural Health Study has yielded many published papers, and the one about glyphosate relied on by the IARC and other agencies did not find a link to cancer (De Roos et al. 2005). The scientific disagreements are echoed in the legal arena.

What does it mean for glyphosate to be a carcinogen?

Cancer is such a feared disease that many people might suppose that any cancer risk is reason to ban a chemical. But today's world abounds in carcinogens.

In hazard assessments by the IARC

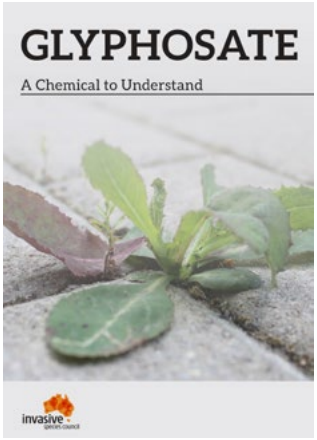
Group 1: Carcinogenic to humans includes, benzene, coal, engine exhaust, estrogen therapy, ethanol in alcoholic beverages, outdoor air pollution, consumption of processed meat, salted fish Chinese style, solar radiation, and wood dust.

Group 2A: Probably carcinogenic to humans includes glyphosate. Others in this group are emissions from high temperature frying, occupational exposure for hairdressers and barbers; nightshift work, consumption of red meat and drinking very hot beverages >65 degrees.

What would bans mean?

The concern is 'regrettable substitutions' where alternative chemicals have been proposed, but often very little research is available on these and the replacement chemical is no better or even worse.

Non-chemical alternatives often simply do not work.



For the full report and references

Download your copy at https://invasives.org.au/publications/glyphosate-a-chemical-to-understand/

This content and scope of this report was addressed in AABR Newsletter No 146 https://www.aabr.org.au/learn/publications-presentations/aabr-newsletters/

Managing weeds in the public environment

A Byron shire case study by Andy Erskine. March 2021

Andy Erskine is a horticulturist and bush regenerator with over 40 years industry experience. In his position as Technical Officer for Byron Shire Council he has been closely involved in the implementation of Council's Integrated Pest Management Strategy which aspires to the minimisation of herbicide use in all public areas of Byron Shire.

Andy has been at the pointy edge of this, as Byron was one of, if not the first, council to restrict the use of pesticides including glyphosate, and had to cope with initially not having the tools to do their work - not just in bushland management. They were forced to innovate, educate, and use alternative means. Andy provides some salutary and inspirational examples of what happens when a key tool such as glyphosate is removed from our use.

Byron Shire in coastal north eastern NSW is a beautiful and diverse area with a sub-tropical climate. The area has good soils which are a legacy of the volcanic background. These are predominantly basalt derived with Aeolian sands on the coast.

- Second highest level of biodiversity in Australia (after the wet tropics of Far North Queensland)
- Total land area 567km2 of which 43% is high environmental value vegetation and 15% is threatened ecological communities.
- Population of 34,000 but has 2.4 million visitors per year. This high visitation is hard on infrastructure.

Council Resolution

Byron is a 'green council' and has been for the last few council terms. As such, council's aspirations include being able to ban the use of herbicides. This is difficult in practice.

In 2013 council resolved to develop a shire-wide integrated pest management policy and strategy with an aspiration to reach the goal of ***"ceasing the use of all chemical pesticides in highly frequented, public use areas within 5 years"***. Staff had to rally to come up with practical solutions.

The resolution resulted in confusion.

- Anti-herbicide members of the community were happy but interpreted the resolution as immediately applicable and started reporting to councillors any sign of herbicide use, including on rural roadsides.
- Staff carrying spray packs were being abused by passing cars and managers were subjected to 'Please explain' following every public complaint.

As a result, all chemical weed control with the exception of bush regeneration was ceased until new protocols were developed.

However, things such as roadsides suffered. Guard rails and signposts were hidden in long grass and no solutions were instantly found. Manual treatment placed operators at risk from speeding motorists on roadsides round abouts etc.

What was at stake?

- Biosecurity eg Byron is in a containment zone of bitou bush and if left uncontrolled, council can be fined by the weeds authority.
- High environmental value vegetation, threatened species and habitat.
- Aesthetic values. Quick growing plants such as lantana and buddleia change roadside vistas and affect remnant vegetation.
- Public safety - including a reduction in the ability to see roads clearly. Also weed growth can physically crack and damage roads and can block drainage etc.
- Asset & Infrastructure maintenance regimes

What we did next

Councill staff formed an internal cross department working group to understand the extent of council's herbicide use. Basically, herbicide use by parks and gardens was easy to find out but there was also the need to ascertain herbicide use on roads and utilities and during building maintenance.

We had to determine what constitutes a high use public area as per the resolution. These were to be defined by levels of use and where people are likely to come into physical contact with any herbicide sprayed eg high use parks, bus stops, and outside shops where people might have lunch. We had to look for alternatives in these areas.

Other considerations were the risk of glyphosate use to staff - we used advice from APVMA and our insurers. Also to look at current legislation relating to pesticide use in public areas.

What are the alternatives available? Manual, steam, organic, biological. Costs? For example, steam weeding is a popular tool with councillors. But it has limited use in bushland situations. It does not replace tree injection and does not selectively control weeds in turf. The machines are cumbersome, noisy and produce fumes. But it is used around the shire especially in urban areas and town centres, for weeds in pavement and steam cleaning furniture. It is useul in some situations but not on a big scale.

Finalising the Policy.

When staff and their needs were brought together then the integrated pest management strategy was able to be developed. We had sufficient funding to be able to use consultants and some dedicated staff time. There was lot of public consultation and meetings with councillors.

This resulted in something that could be worked with. Agreement was reached with council as to what were high use public areas with other areas identified as being too difficult and dangerous to work with alternatives.

During the process it became apparent that previous use of herbicide had not been questioned and was a hangover from when not so much attention was given to weed control methods.

Current practice 2021

In high use public areas, considered to be town centres, playgrounds, bus stops and busy parks, steam, organic or manual methods are to be employed (roundabouts and central medians exempt).

There is increased spending on good cultural practices such as aeration, fertilising, mulching, and irrigation. High people usage of lawn areas results in perfect conditions for weeds. Good cultural practices mean that turf grows more strongly so conditions are less perfect for weeds.

Use of a slashing calendar to mow roadside exotic grasses prior to seed set. For example, Setaria grass on roadsides grows to a considerable height and obscures safety rails. Mowing was spreading seed around. So now attempts are made to mow areas prior to seed set.

A goal is to have better machine hygiene, but washing machinery down in some places is difficult and we need to consider what happens to the material washed off.

Use of low toxicity pre emergent herbicides on sportsfields and garden beds. On sportsfields it is not appropriate to use glyphosate as it is non selective. So, the aim was to try and improve culture to minimise weeds, and then use selective and sometimes pre-emergent herbicides. In town garden beds pre emergents can be used prior to mulching.

Sometimes some exotic species might be preferable to others eg *Melinis repens* red Natal grass forms a think colony. It is exotic but grows to be about knee high so not as much of a problem as Setaria which grows to shoulder height.

Exclusion zone mapping was done (certain factors may still justify pesticide use in these zones). This was made available to all staff together with education of the staff, so they knew where not to spray.

A pesticide use decision tree has been developed. This is consulted before any pesticide use (bush regeneration is exempt). This is a useful tool, and has made every member of staff responsible for really considering the implications of using herbicide and whether they were authorised to do so. They had to step through the process and question: Do we need it? Is there an alternative? Is the weed tolerable? Is there a non-chemical way to deal with it? Then to ultimately get the result signed off by their manager. This initially led to more work but has had a significant reduction in chemical use.

Bush regenerators who generally have a higher herbicide use compared to other staff, have been able to reduce herbicide use. This has mainly been through reducing the number of sites and visiting them more often ie rather than treating a site comprehensively and then going back after 3 – 4 months which allowed a lot of weed growth, increased visitation meant that every time they went back there were less and less weeds so now these areas can be treated quickly with less herbicide used.

There is considerable interest by other councils.

The link to Byron Shire's report https://www.byron.nsw.gov.au/Council/Your-right-to-Council-information/Policies/Integrated-Pest-Management-Policy

Above: Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and South-east Queensland, Endangered Ecological Community under the EPBC Act 1999.
Left: uncontrolled broad-leaf paspalum ground layer.
Right: ground layer controlled by bush regeneration techniques. Source: K. Love.

The AABR Talks on glyhphosate are now online at https://www.aabr.org.au/aabr-projects/glyphosate-working-group/

Reinterpreting biological control of Prickly Pear in Australia

The control of prickly pear in Australia has been touted as an example of successful biological control using the Cactoblastis cactorum moth. However recent work in South Africa leads to a reinterpretation of this.

In Australia, the old story is that *Opuntia* species (prickly pear) were introduced into Australia in the 19th century, probably to support the establishment of a cochineal industry. Cochineal are scale insects that feed on Opuntias producing a red dye.

The *Opuntia* were highly invasive and by 1920 had covered more than 4 million hectares making the land unproductive. In 1914, the *Cactoblastis cactorum* moth was released and within three years most stands of drooping prickly pear, found in Queensland, were destroyed. This is celebrated with a monument to the *Cactoblastis cactorum* in Dalby, Queensland, commemorating the eradication of the prickly pear in the region.

Move forward to 1992 and work started in South Africa and an article publish in the *Journal of Applied Ecology* December 2020 reports on a long-term evaluation of biological control of an invasive cactus, *Opuntia stricta*, in the Kruger National Park, South Africa. Finding below are from the abstract of this article.

In the park, *Opuntia stricta* forms large impenetrable thickets. Thus, this weed species posed a major threat to the integrity and biodiversity of the park, and to agroecosystems more widely.

Over 22 years, from 1992 to 2013, counts were made along fixed transects at four different sites to measure the abundance of *O. stricta* and the prevalence of two of its biological control agents:

(a) *Cactoblastis cactorum*, whose larvae feed in the plants' cladodes and

(b) a sap-sucking cochineal insect, *Dactylopius opuntiae*.

With only *C. cactorum* present, the numbers of *O. stricta* cladodes and fruit remained unchanged at two of the sites but increased annually at the other two. Within 5 years of the introduction of *D. opuntiae*, the numbers of cladodes and fruit decreased substantially at all the sites and the residual cactus populations have been held at inconsequentially low levels ever since.

Both the *C. cactorum* and *D. opuntiae* populations on *O. stricta* in South Africa were sourced from founder stocks in Australia. This allows direct comparisons of biological control of *O. stricta* in South Africa with the world-famous program against *O. stricta*, in Queensland and in New South Wales, that peaked in the 1920s and 1930s.

Synthesis and applications. Almost all accounts acclaim *Cactoblastis cactorum* as the dominant contributor to the sustained decline of populations of prickly pears in Australia in the 1930s.

Our results provide evidence that this now widely accepted conclusion is incorrect, and that cochineal was and is the key role player. Managers and biological control practitioners concerned with the apparent underperformance of *C. cactorum* in the suppression of invasive *Opuntia* cacti should interpret the entrenched reports in the literature with circumspection. There may also be less cause for concern about the anticipated devastation of native *Opuntia* prickly pear species in the southern United States where *C. cactorum* has become an invasive pest species.

Reference

John H. Hoffmann, Vincent C. Moran, Helmuth G. Zimmermann, Fiona A. C. Impson (December 2020) Biocontrol of a prickly pear cactus in South Africa: Reinterpreting the analogous, renowned case in Australia. *Journal of Applied Ecology*, 57 (12) 2475-2484. First Published: 07 August 2020 https://doi.org/10.1111/1365-2664.13737

Crowdy Bay National Park Bush Regeneration Camp May 2021

Crowdy Bay National Park is on the mid north coast south of Port Macquarie. National Parks Association, Mid North Coast Branch has undertaken bush regen in the park since 1979 with massive achievements. A large part of the project has focussed on bitou bush making this Australia's longest running bitou eradication project. Progress on its eradication reached the point some years ago where efforts can now focus on habitats such as rainforest and woodland.

The 2019 bushfire affected a large area of the park. Not in our wildest dreams could we have imagined what the park would look like a year later. Abundant rainfall saw spectacular natural regeneration with parts of the park swathed in the yellow of flowering grass trees in October and then with the red and orange of Christmas bells by November. Two 'big wets' since then have produced rampant growth.

Of course the rain has also produced significant weed infestations in some areas, particularly tobacco bush, *Acacia saligna* (a Western Australian who managed to dodge the border closures and didn't bother to self-isolate!) and morning glory. Volunteer help is greatly needed to assist the regeneration of infested areas. We were delighted to have several AABR members present at our 2019 camp and at some of our working bees last year.

This years camp will be held from **Monday 17th – Sunday 23rd May** at Kylies Beach campground and volunteers are welcome to attend for as long as they wish, even for a day. Our great group of regulars will welcome you warmly. There is time to swim, drop a fishing line and explore the surrounds. We have use of a trailer fully equipped with eating, cooking and washing up utensils, a sink, an urn and tables all under tarpaulin cover which makes camping so much easier. We have a campfire each night and dinner will be provided on Saturday night.

The campground has basic showers and toilets. Water at the campground is not potable. The trailer has a water tank, but volunteers should bring at least some drinking water.

If you would like to come please contact **AABR member Tom Clarke on 0418 411 785** or email thomas.clarke7@bigpond.com.

PLEASE NOTE: there is no need to book a campsite online; NPWS will book out part of the campground for us. Genuine volunteers are exempt from camping fees.

Sue Baker, Camp Coordinator

K'gari Chemical Free Weed Control Project

Crash Grazing Bush Regen Style!" Large teams making quick work of dense weed infestations, with manual removal.appearing. Photo Bree Jashin

Spencer Shaw, with contributions from Bree Jashin and Tina Raveneau

It was only a few years ago, that as a professional bush regenerator, I thought that non-herbicide based weed control was pretty much a fringe activity, and that the only way we could undertake weed control in bush regeneration (the way that we currently practice it) was with herbicides. For so many of us in the bush regeneration industry, the use of herbicides could be seen as being synonymous with being professional. However, a few years can be a long time and inspiration from a range of sources has challenged me to look at alternatives to the herbicide-only option so dominant in the mainstream bush regeneration industry in south east Queensland (I must add here, that I believe this is not so much driven by bush regenerators but by clients e.g. local government). One such inspiration (and demonstration of practice) has been the community volunteer chemical free weed control project, *Zero Chemical K'gari,* at the township of Happy Valley, on K'gari.

K'gari (Fraser Island) is the largest sand island in the world, over 123 km long (north to south), up to 22 km wide at its widest point and is located approximately 250km north of Brisbane. Happy Valley is a township about half-way up the east coast of the island and like many townships in natural areas like this, are sources of many environmental weeds that find their way into the bush, which in this case, also just so happens to be a World Heritage Listed site. "K'gari" is the Butchulla name for the island and roughly pronounced in English as "Gurri". The Butchulla people are the traditional owners of K'gari.

The *Zero Chemical K'gari* chemical free weed control project (approx. 8ha), as the name suggests, is and always has been herbicide-free project focusing on manual reduction and removal of environmental weeds that are present in the bushland within and surrounding Happy Valley. As community concerns increase over the use of herbicides and pesticides in agriculture and public spaces, the time has come to recognise the benefits of chemical-free methodologies in bush care. Chemical use has become the orthodoxy for weed control

Monitoring Point 1E-26march2018 – Before shot of *Abrus precatorius* ssp *africanus* infestation 26th March 2018 Photos Bree Jashin

1E-28 April2019 – After shot, same site 13 months later, primary weed control completed and ongoing strengthening works removing any seedlings.

Monitoring Points

Left: 1G-26march2018 - Before shot of *Abrus precatorius* ssp *africanus* infestation 26th March 2018

Right: 1G-28april2019 – After shot, same site 13 months later, primary weed control works completed and ongoing strengthening works removing any seedlings. Great to see the re-emergence and dominance of midyim – *Austromyrtus dulcis* in the understorey.

Photos Bree Jashin

in bush regeneration over the last few decades in south east Queensland, displacing manual techniques. It is now hard to find examples of long-term successful bush regeneration projects that are taking place without the use of herbicides, but this is a great example. This far sighted and innovative project was founded in 2005 by local resident Bree Jashin. Since 2014 the project has been operating under the umbrella of Fraser Coast Regional Council's (FCRC), Community Environment Program (CEP). The strong support of natural area's environment team, along with a solid volunteer base contributing many hundreds of hours each year, has generated not only a highly successful environmental weed control project in this World Heritage listed site, but also a training ground in the application of the concepts and methodologies of chemical-free invasive species management. This is one of SE QLD's first no herbicide projects, supported by local government.

I have found this site particularly inspiring as the techniques and methodology implemented are a solid demonstration of the efficacy of manual chemical-free weed control. Weeds managed include but are not limited to gidee-gidee or crab's eye- *Abrus precatorius* subsp *africanus*, lantana - *Lantana camara*, painted spurge - *Euphorbia cyathophora*, easter cassia - *Senna pendula* var. *glabra*, morning glory - *Ipomoea indica*, green panic - *Megathyrsus maximus* ssp *pubiglumis*, mile a minute - *Ipomoea cairica* and Singapore daisy - *Sphagneticola trilobata* .

What I particularly like about this project is the pace, it initiates and enables a long-term return to a stable, functioning native ecosystem by manual removal of environmental weeds with no off-target damage, by working at the pace of native vegetation recruitment and resilience.

An example of what is considered a relatively intractable weed in coastal areas of the Queensland is gidee-gidee - *Abrus precatorius* subsp *africanus*. The focus of management of this weed is removal of propagules from site e.g. bag and dispose of seed, manual removal of seedlings – this is surprisingly easy in the deep sand, even tap roots 0.5m long can be persuaded to let go with a firm grip and a little bit of digging if necessary. Mature vines are cut, and the tap root dug, which again sounds like hard work but given the deep sand it is a relatively easy process with minimal disturbance to surrounding native vegetation. The alternative chemical-based methodology is to either cut and paint with herbicide, or foliar spray herbicide on the Abrus, with, in too many cases, the inevitable damage or loss of surrounding native vegetation - collateral damage. Also, of concern on a sand-based area like this, is there is no clay in the soil to bind with the residual herbicide that makes its way to the ground, and from there into the water table – of this World Heritage site.

Another example is the management of exotic grasses such as green panic *Megathyrsus maximus* var. *pubiglumis*. They are "peeled" back from a native vegetation edge, gradually at the pace taken by the native vegetation to recolonise and dominate this "frontier" between native dominated and exotic dominated vegetation. Usually only a metre or two per run, which might be repeated every few months. Again, an easier/quicker solution to remove the green panic from a large area is to foliar spray herbicide, but any native recruitment is also killed, and herbicides are again introduced into the sandy soil. This pioneering community volunteer project demonstrates the efficacy of working with the pace of recruitment and regeneration of the native vegetation, by targeted manual removal of weeds from amongst native vegetation in a manner that allows native vegetation to dominate and displace weed colonisation of the given niches.

Speaking as a professional bush regenerator who has been operating on the Sunshine Coast and throughout south east Queensland for over 20 years in a mainstream industry dominated by herbicide use, this project has been an inspiration. Beyond that, it is also a very practical demonstration of the efficacy of manual techniques and the speed / timing of assisted regeneration being focused on observed recruitment.

From 2021 onwards, this project will once again be conducting on ground activities independently, no longer beneath the umbrella of council's CEP program. As awareness of the work of the quiet achievers who have driven this project grows, hopefully it will receive the recognition it deserves and continue to go from strength to strength.

Left: Vols – hand collection of *Abrus precatorius* ssp *africanus* fruit /seed bunches and seedlings (note the length of the tap roots removed from these sandy soils. Abrus seed, like Acacia can remain dormant in the soil for many years (if not decades), so any fruit removed is valuable in preventing future outbreaks. Photo Bree Jashin

Right: Obligatory selfie by Spencer Shaw, with some crew from Brush Turkey Enterprises on a working holiday at K'gari, Spencer Shaw, Dominic Palmer, Karen Shaw, Angus Shaw and Tina Raveneau from FCRC and Bree Jashin - Project Founder and Co-ordinator.

Another chapter in Australian environmental repair history: Federation era rehabilitation of Coast Teatree, Port Phillip Bay, Victoria

Peter J Ardill. Independent researcher of Australian environmental repair history. Member AABR

This article presents a series of innovative environmental repair undertakings that focused on the reinstatement of coast teatree ***Leptospermum laevigatum*** and its associated ecosystem services to the degraded east coast foreshore reserves of Port Phillip Bay, Melbourne, from 1896. The projects also reveal deeper community concern about the loss of the wider spectrum of indigenous biodiversity and ecological function that was occurring along the bay, and the development of repair techniques intended to achieve the reinstatement of these qualities to degraded ecosystems.

The ttraditional owners and custodians of the eastern coast and hinterlands of Port Phillip Bay, also known as Nairm, were clans associated with the Boon wurrung language group, a language group of the Eastern Kulin nation. It is probable that wildfire, or managed cultural fire, or a combination of both, maintained the coast teatree and the foreshore vegetation in a healthily persistent condition at the time of Boon wurrung management.

Following the 1835 settler invasion of Port Phillip Bay, the Boon wurrung clans were forcibly dispossessed. Introduced diseases and settler aggression shattered clan communities, and in 1863 a refuge for the Eastern Kulin was established at Coranderrk, east of Melbourne. Further social ostracism, hardship and dislocations were to follow. There is no record that opportunities arose for Boon wurrung clan members to contribute traditional ecological knowledge to the repair projects presented here. Today, members of the Eastern Kulin nation continue to maintain physical and spiritual links with their traditional lands.

The Melbourne settlement expanded rapidly. By approximately 1890, expanses of the foreshore reserves at Brighton, Sandringham, Beaumaris and Mornington had been reduced to a bare, eroded condition, displaying only the scattered remnants of previously dense coast teatree groves (Figure 1). Seedlings were eaten by wandering stock; mature plants were trampled and destroyed by beach users. Commercial scale firewood collection destroyed many hectares of indigenous foreshore vegetation.

It is possible that settler expansion along the coast resulted in a reduction in fire events and a widespread decrease in coast teatree seed germination. A possible reduction in fire events may also account for the widespread senescence of the coast teatree that was being reported by this time.

Mature coast teatree groves were commercially valuable: Melbourne's holidaymakers enjoyed picnicking and camping in their shade, and the elegant trunks, branches and flowers were much admired. In 1896, the councillors of Brighton Council, concerned about the economic impacts of losing the coast teatree, authorised the undertaking of a replanting project in a foreshore reserve. Reinstating ecosystem services was the council's prime objective.

Figure 1: Red Bluff Brighton 1880-1900 Remnant coast teatrees
Source: State Library Victoria

The project was regarded as an 'experiment', and the Brighton councillors and council staff were delighted when the experiment succeeded; further coast teatree plantations were established in the reserves. By 1903, the council staff were engaging in the effective conservation management of a set of thriving coast teatree reserves.

A distinctive feature of the bay replanting projects was the high level of community involvement. Mornington, Hampton and Black Rock Progress Associations all initiated coast teatree replanting projects between 1903 and 1913. At Mornington, thousands of coast teatrees were replanted; the Hampton project cost seventy pounds, an expensive undertaking for the period!

Following the First World War (1914 -1918), a further significant community replanting project was undertaken at Beaumaris between 1924 and 1927. Successive replanting sessions were conducted on the winter weekends. Residents, school children, and members of the local progress association took responsibility for sections of the foreshores and replanted them with coast teatree seedlings supplied by Sandringham Council.

Brighton and Sandringham Councils undertook further extensive coast teatree replanting work in the 1920s, but their efforts were criticised by journalist, naturalist and conservation advocate Donald Macdonald. An extremely popular nature writer, Macdonald penned articles about environmental and conservation issues for the influential and nationally circulated 'The Argus' newspaper. Macdonald was a keen ornithologist, and was distressed to see the indigenous foreshore vegetation near his home in Black Rock slowly disappearing. He regarded the council's replanting efforts as inadequate.

In approximately 1910 Macdonald had observed that wildfire renewed the indigenous foreshore plant communities, as well as coast teatree. He unsuccessfully advocated for the application of managed fire, or ecological burning as it is now known, to the degraded foreshore reserves. He also appreciated the value of using only the local indigenous plant species when replanting was required, and scattering their seed in scarified degraded areas.

Despite the replanting projects, the decline of the coast teatree continued. As Melbourne's population and urban footprint expanded in the 1920s and 1930s, increasing areas of the foreshore reserves were converted to formal gardens, carparks and built areas. Many of the newly replanted coast teatree reserves were trampled by picnickers and holidaymakers (Figure 2).

Unfortunately, it would seem to be the case that the coast teatree replanting efforts of the councils were progressively cut back in the 1930s and 1940s. A number of the replanted reserves are likely to have been lost in the following decades, due to ongoing development within the Bay foreshore reserves. Vegetation remnants of some reserves are still identifiable today.

The Port Phillip Bay repair projects reveal that an ever expanding thread of interest in the actual repair of degraded natural areas has permeated Australian settler conservation management practice since at least the 1890s. Certainly, the idea that degraded natural areas should and could be repaired had been publicised in Melbourne and possibly around Australia by Donald Macdonald and his 'Argus' articles by the 1920s. Albert and Margaret Morris widely promoted the efficacy of natural regeneration as a landscape scale environmental repair tool in local and national media throughout the 1930s and 1940s. From the 1960s, Joan and Eileen Bradley fostered recognition of the need to strategically manage unwelcome, introduced plant species. Today's practitioners of environmental repair are bequeathed innovative conservation management legacies to be proud of.

Figure 2: Sandringham 1921 Increasingly degraded groves and foreshore reserves
Source: WH Hanson State Library Victoria

Read the full, referenced story here:

Ardill, Peter J (2021) Innovative Federation and Inter-war Period repair of degraded natural areas and their ecosystems: local government and community restoration of coast teatree *Leptospermum laevigatum* at Port Phillip Bay, Victoria, Australia. *The Repair Press* Sydney (February)

Freely accessible at http://ecologicalrestorationhistory.org/articles/

Biosecurity Update

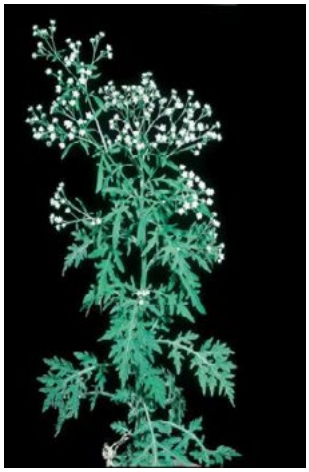
NSW DPI issues parthenium weed alert after cases in Tamworth and Kiama

People are being urged to lookout for parthenium weed after the discovery of the noxious weed on chicken farms near Tamworth and Kiama. The Kiama case marks the first time the weed has been found in south-eastern NSW and is assumed to come from contaminated wholegrain organic chicken feed. Seed of parthenium weed can be bought in through feed and fodder from non-local sources. Parthenium weed found in the Sydney suburb of Engadine in early 2020 was in an urban compost heap.

Parthenium weed, *Parthenium hysterophorus*, is a fast-growing plant with small white flowers and is a Weed of National Significance. It can cause allergic reactions in humans and is a serious agricultural weed. It spreads rapidly, is dangerous to grazing animals and reduces crop and land values. Contact with the plant or pollen can cause serious allergic reactions in people.

NSW has made keeping this weed out a top priority. Widespread in central Queensland, machinery or vehicles that have been in parthenium weed areas of Queensland, especially harvesters, are high-risks. Outbreaks can occur from various sources and people should check areas such as sites where hay, grain or seed has been fed to pets, livestock or chickens; roadsides and areas with bare soil; and in or near bushland, where soil or compost have been delivered or earthworks have taken place.

Do not attempt to treat or dispose of this weed yourself. Report sightings anywhere in NSW by calling the helpline limmediately. NSW DPI will lead an initial response for the treatment and disposal of the plant to stop it from spreading.



Call the **NSW DPI Biosecurity Helpline**, **1800 680 244** or the local council for plant identification and assistance or send an email to weeds@dpi.nsw.gov.

Read the weed profile at https://profiles.ala.org.au/opus/weeds-australia/profile/Parthenium%20hysterophorus

AABR Achievements in 2020

President's Annual Report February 2021

AABR has had a very active year in 2020. At the time of the last AGM in November 2019 the Black Summer fires were already cutting a huge swathe through native ecosystems, farms and towns on the Australian east coast. The fires continued till at least February. This catastrophic event triggered a huge response and effort by AABR in 2020, to help provide important information about native plant recovery after fire - and turned into a substantial program of outreach to a range of organisations, government agencies and landholders.

The outline in this report covers this project and also our other ongoing core programs that involve maintaining our communications to members, improving AABR's Bush Regenerator Accreditation program, supporting our new Victorian branch, forming a glyphosate working group, assisting with the review of the national Conservation and Land Management program, undertaking constitutional reform to better match our national expansion and developing partnerships with other (14) organisations with compatible goals. The finances of AABR remain healthy, allowing us to support the employment of our Executive Officer through membership subscriptions - and generous donations, sponsorships and grants have enabled AABR to achieve a higher level of output to support our stated aim of protecting and enhancing the natural environment of Australia.

1. Post-fire program

(a) Fundraising. This large effort has been supported by:

- Individual member and contractor post-fire contributions: $3626
- Foundation for National Parks and Wildlife - $10,000
- South East Local Land Services - $10,000
- Hunter Landcare - $1500
- FABB (First Aid for Burned Bushland) video sponsorships (totalling $11,650)
- Bush-it ($2500)
- Apunga Ecological Management ($600)
- BARRC - Bushland & Rainforest Restoration & Consulting ($1000)
- Regen Australia ($4000)
- Bushland Restoration Services ($2000)
- Waratah EcoWorks ($500)
- Naturelinks ($250)
- 6 individuals ($800)

(b) Postfire Bush Regeneration Online Locator Map https://www.aabr.org.au/do/post-fire-bush-regeneration-map-and-resources/ The map was created gratis by Manesh Nesaratnam (Whoosh Digital Media) with data provided by AABR to link fire-affected sites with volunteer expert bush regenerators. Volunteer AABR members and others are acting as AABR link people and assisting the land manager hosts with on-ground activities - particularly at three sites Scottsdale (a Bush Heritage Australia property near Canberra), Crowdy Bay National Park (NSW Mid North Coast) and Barrington Tops National Park (NW of Newcastle) where multiple events have been run through the year with excellent results. Louise Brodie has been coordinating, liaising and keeping volunteers informed.

(c) FABB Videos and fact sheets – First Aid for Burned Bushland. In addition to fact sheets and links, three videos, funded by sponsors, have been published on AABR's website and YouTube, with another three on the way. Contributors: Virginia Bear (Little Gecko Media), Scott Meier, Louise Brodie, Gerard Proust and Tein McDonald. These excellent, short videos have been extremely popular with 2287 views to date.

- 1400 views: Assisting regeneration after fire: why it is so important.
- 504 views: Assessing priorities for post-fire bush regeneration.
- 383 views: Minimise disturbance when walking and weeding.

(d) Post-fire workshops and webinars:

- **Eurobodalla** post fire recovery March 16 2020 - for agencies and NGOs including landholder groups. Coordinated by SE NSW Local Land Services and AABR and funded by NRM regions – Presenters Tein McDonald and Gerard Proust.
- **Wollombi** post fire recovery workshops for Upper Yango Creek and Wollombi landholders – Funded by Hunter Region Landcare Network and presented by Deb Holloman and Paul Malligan and supported by Suzanne Pritchard.
- Post Burn Bush Recovery Workshop hosted by **Mid Coast Council and Mid Coast Landcare**– Presenter Scott Meier.

AABR members have also presented in post-fire webinars **run by other organisations:**

- Scott Meier presented at the Australian Government's Environmental biosecurity series webinar - Flora, Fauna and Fire – Regenerating a scorched landscape on 29 September. Access at https://publish.viostream.com/play/bgoo5gyn916ujb
- Tein McDonald presented at NCC's Flames in the Rainforest http://fireandrestoration.org.au/watch-flames-in-the-rainforests-webinar/
- Tein McDonald presented at Webinar 2 of the Victorian SWIFFT Weed Management after Fire series on 2 December 2020. https://www.swifft.net.au/cb_pages/weed_management_after_fire_-_webinar_series.php#webinar%202

(e) Social Media

Two new Facebook groups have been established to help the post-fire effort:

- Post-fire Bush Regeneration group (1.5k members) https://www.facebook.com/groups/postfire.bush.regeneration/
- Seedling Recognition (290 members) https://www.facebook.com/groups/seedling.recognition/

(f) Funding Collaboration

The opportunity to collaborate on various projects resulted in AABR's expertise being sought for funding applications by Wollombi Valley Landcare for The Bushfire Local Economic Recovery Fund (BLERF) and The Bushfire Recovery for Wildlife and Habitat Community Grants.

AABR has submittd applications for funding to a range of grant programs and carryied out extensive advocacy for post fire bush regeneration (including attendance at Federal Ministerial Roundtable early in 2020 and playing a key role in establishing a post-fire environmental NGO network). Plans continue for completion of elements of the program in 2021.

2. Membership

As at mid-February 2021 AABR has 1056 members, (increase from 716 at November 2019)

Members comprised the following categories: (2019 numbers are in brackets)

Accredited - 236 (228)	Pioneers - 36 (40)
Individuals – 471 (368)	Businesses - 33 (25)
Students - 236 (34)	Agencies - 17 (13)
NFP orgs – 12 (5)	Complimentary - 16 (14)

There has been a big increase in individual membership, with the largest increase from the new AABR branch in Victoria (39 in Nov 2019 increasing to 209 in Feb 2021). AABR Victoria had carried out a major push to increase membership - successfully.

There has been a major increase in student membership due to a campaign assisted by TAFE NSW which publicised the offer of free membership for students. (Short bush regeneration Statements of Attainment were made available by TAFE post-fire, which prompted AABR to further promote our long-standing arrangement that students can access free membership whilst they are studying.)

3. AABR Accreditation

From Nov 2019 to Dec 2020, 27 AABR members were successful and obtained Bush Regeneration Practitioner Accreditation.

To increase the number of accredited bush regenerators AABR expanded its ability to assess applicants. 19 new assessors-in-training have signed up to boost the number of assessors across NSW and Queensland. Plans to hold assessments in Victoria - followed by an induction workshop for would-be Victorian assessors - have been put on hold due to COVID.

Discussion is ongoing around the potential for establishing an Ecological Reconstruction Practitioner Accreditation focusing on reinstating vegetation communities by planting and or direct seeding. This may be undertaken collaboratively with Greening Australia and initiated in late 2021.

4. Glyphosate working group

Patrick Deasey and Kylie Robertson co-chair a national working group of 11 members, the aims of which are;

- To gather information from parties affected by a ban on glyphosate, such as AABR members and local government
- To collate information on the science behind glyphosate
- To provide information on:
    - The impacts of a glyphosate ban, or restrictions, on the control of weeds
    - The health and safety implications of glyphosate use
    - The experiences of other councils and organisations that have already restricted or banned glyphosate
    - The biodiversity and conservation impacts of glyphosate and other herbicide restrictions and
    - Weed management plans that show glyphosate and other herbicides are a necessary, but minor part of conservation efforts or regeneration, with herbicide decreasing to minimal levels over time.

5. AABR Victoria

The active Victorian branch of AABR is providing opportunities to ensure the national structure supports the branches. AABR Vic has met six time in the past year. The AGM and committee meetings have been full of lively discussion and well attended. A successful membership drive saw 5 fold increase in members (39 in Nov 2019 to 206 Feb 2021). The accreditation process has been posponed twice due to COVID lockdowns

A web presence has been established on AABR's website (https://www.aabr.org.au/about-aabr/aabr-branches/aabr-victoria/) and AABR's logo designed to accommodate branch versions.

6. Constitutional change

Developing a new constitution to assist in gaining Deductible Gift Register status

Peter Dixon and other AABR members have worked for months on developing the draft new constitution that meets the requirements of national registration as a charity and for gaining Deductible Gift Recipient status through the ATO - as well as to better reflect our national structure.

7. Communications

Newsletter: AABR's flagship is its well-received, high quality quarterly newsletters compiled by Louise Brodie. This year four have been produced and disseminated - Nos. 143, 144, 145, 146.
eBulletins: Suzanne Pritchard sends regular eBulletins. In the past year 10 e-news including 4 Post-fire bulletins were sent to the communications list that numbers 1373 non-member contacts, 3030 Post-fire contacts and members.
Website: There were 38,126 users of the website that had 102,523 page views (75k in 2019). 86% of website visitors are new with Bush Jobs continuing to be a significant draw card (10%) and 58% of visitors find the site organically**.**
Facebook: Followers grew rapidly as a consequence of the post-fire messaging from 1900 in December to 2350 in January finishing the year with 2950. The page reach peaked at 15,751 with a post-fire post on 22/1/20 urging people to wait and watch.

8. Education and Training

This side of AABR's work is growing so AABR has called for the formation of a national sub-committee to oversee AABR's education and training activities and identify and prioritise achievable initiatives.

AABR Forum: On Oct 8th, 2019, AABR held a forum in Sydney in collaboration with the Australian Network for Plant Conservation and Greater Sydney Local Land Services, with funding assistance from the NSW Environmental Trust and a number of very generous sponsors including Toolijooa, Greening Australia, Greater Sydney Landcare, Garden City Plastics, Bushland and Rainforest Restoration Company (BARRC), Arborgreen Landscape Products, All Stakes Supply and Apunga Native Nursery.

The Forum discussed principles and practice of seed supply for restoration. The Forum was attended by 155 managers and practitioners and involved 10 speakers (from a range of organisations) and provided time for satisfying plenary discussions. The Forum drafted a Communique which was sent to organisations, agencies and politicians responsible for policy relevant to the native seed industry. As usual, there were industry display tables and enjoyable networking opportunities. Summaries of the talk can be found in AABR Newsletters Numbers 142 and 143. https://www.aabr.org.au/learn/publications-presentations/aabr-newsletters/
RegenTV - Ongoing maintenance and expansion. Three new videos have been uploaded (post-fire videos) and two more are being uploaded now. One more post-fire video is in train and two others are sponsored and are awaiting editing (Rainforest regeneration, Barrier Field Naturalists centenary video).
Victorian video series - plans are underway for a video series managed by the Victorian Branch.

Vocational Education and Training (VET)

Representation to the Australian Industry and Skills Committee (AISC). Jen Ford continues to represent AABR on the (National) Amenity Horticulture, Landscaping, Conservation and Land Management Industry Reference Committee of the AISC. The AISC is the statutory committee that provides advice on the

implementation of national VET policies. Jen serves as the Vice Chair of this Industry Reference Committee and, as well as attending six (half-day) meetings throughout 2020, invests many hours in advocacy and to ensure communique, reports, minutes etc. are correct before being published.

Review of the CLM Training package. AABR formed a CLM Review working group in 2020 (with wide representation from bush regeneration industry participants) to provide industry input to the review of the CLM component of the AHC Training Package conducted for the federal government by SkillsImpact. The working group (particularly with support from Jen Ford behind the scenes) made substantial contribution to the revision of many units, deleted some and created others - to ensure greater workability and to align them with the *National Standards for the Practice of Ecological Restoration*. The qualifications have been renamed Conservation and Ecosystem Management (CEM), and can be obtained in an Ecological Restoration specialisation. The revised qualifications are now being offered by RTOs and can be viewed within the AHC Agriculture, Horticulture and Conservation and Land Management Training Package.

Review of the Mine Rehabilitation Specialisation. AABR's Jen Ford, Matthew Pearson and Alan Noy are currently contributing industry input to the Mine Rehab specialisation, which is part of the Conservation and Ecosystem Restoration (CEM) cluster of qualifications.

National Standards. As a Partner in the National Restoration Standards, a small group of AABR members participated in an email forum to discuss proposed revisions to clarify the role of assisted regeneration in ecological restoration.

Non-fire workshops and webinars:

UN Decade on Ecosystem Restoration Webinar – Scaling up Ecosystem Restoration - conducted by NE Bioregional Network (Tasmania) Webinar held on 28th September 2020. Speaker: Tein McDonald presented on the SER Standards . Accessible at https://www.landcaretas.org.au/report_scaling_up_ecosystem_webinar

Introduction to bush regeneration workshop - City of Newcastle landcare held on 2nd November, by Deb Holloman.

Hand Weeding workshop - is being planned by the Victorian Branch to be run by Jane Pammer and dedicated to the late Darcy Duggan. This may run on an annual basis.

9. AABR Collaborations with other Organisations

Society for Ecological Restoration Australasia - SERA: AABR continues (as a formal partner) to collaborate with SERA on revisions to and promotion of the *National Standards for the Practice of Ecological Restoration in Australia* - as well as the Albert Morris Award for outstanding Ecological Restoration that will be judged again at the 2021 SERA conference.

Australian Network for Plant Conservation: AABR is a Partner in ANPC's *Healthy Seeds* program to improve appropriate native seed production and supply to restoration projects and revise the Florabank Guidelines. AABR's Rep on ANPC's Healthy Seeds Consortium in 2020 was Tein McDonald and is now Peter Dixon.

Ecological Society of Australia: AABR continues to be an Affiliate of ESA's journal Ecological Management & Restoration, a relationship that will undergo formal renewal in 2021.

Project Phoenix: AABR is represented on Greening Australia's Project Phoenix External Technical Committee advising on $5M post-fire seed needs strategy for the Federal government. AABR's Rep in 2020 was Tein McDonald and is now Peter Dixon.

Restore Australia: Since January 2020, AABR has been on the Technical Advisory Committee of Restore Australia – an initiative of Global Evergreening Alliance and has contributed advice and feedback on proposals to the major donors. Presented a bid to WWF (the contracted partner with RA)re a range of options for brokering skilled regenerators to guidepost fire volunteers. Rep: Tein McDonald

Great Eastern Ranges Initiative: In late Jan 2020 AABR and Great Eastern Ranges Initiative created an informal network of around 20 environmental NGOs working in the post fire space. Meetings were held that improved cooperation and collaboration between the groups, avoiding duplication and creating synergies. Rep: Tein McDonald

WWF-Australia: AABR engaged with WWF through reviewing their post-wildfire guiding strategy for vegetation recovery and submitting a proposal for brokering provision of experienced bush regeneration guides for post-wildfire volunteers.

Conservation Volunteers Australia: AABR has engaged with CVA post-fire independently, through the post-fire environmental NGO network and through a three-way relationship being developed between our two organisations plus WWF Australia.

Pew Foundation: AABR participated in a collaboration involving about 100 NGOs and interest groups on Pew's proposal for conservation and land management economic stimulus package post COVID. AABR contributed a proposal for approximately $1M worth of employment in ecological restoration with input from AABR members and bush regeneration contractors.

Landcare: AABR developed relationships with both Landcare Australia Ltd and the National Landcare Network during the post-fire period, which will continue. We have also commenced the process of signing an MOU with the NSW Landcare Network and hope to do the same with the Victorian Landcare Network.

Planet Ark: AABR has had a relationship with Planet Ark for many years, particularly with respect to providing alternative bush regeneration activities for National Tree Day (NTD). While NTD was cancelled in 2020 AABR assisted with Planet Ark's publication *Regenerating our Land, our People, our Future*.

Nature Stewards Victoria: AABR worked with Nature Stewards re potential for post-fire training for community volunteers and presentd participants with an overview of AABR.

NSW Environmental Trust: Technical Review Committee for Restoration and Rehabilitation Grants – Government and Community. AABR Representatives have been Louise Brodie and Mary-Lou Lewis. Many thanks to Mary-Lou who retired in October 2020 from the Community Technical Review Committee on which she participated for many years. Louise remains on the committee.

NSW Nature Conservation Council: Jane Gye is a rep on NCC's BushFire Advisory Committee and is an alternative NCC rep on NSW Roadside Environment Committee.

Places You Love Alliance: AABR has joined the PYL with Peter Dixon the AABR rep. This group is currently focussing on the revision of the EPBC Act.

AABR also maintains newsletter-sharing relationships with a number of organisations involved in ecological restoration.

10. Current Grant applications

Online Training Videos – NSW Environmental Trust Education Grant Application. AABR, in partnership with NSW National Parks and Wildlife Service and TAFE NSW has applied for $60,000 to develop online training videos in bush regeneration techniques which will be suitable for national use. Many thanks to Susanne Larson of NPWS for writing the application.

11. Advocacy and Submissions

- Submission to the Federal *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Review
- Letter re *Cumberland Plain Conservation Plan* to NSW Dept. Planning, Infrastructure and Environment.

12. AABR Site visit and Talks

Due to COVID-19, AABR's normal programs of regular site visits and talks did not take place in 2020. It is hoped these will recommence when possible.

Books

Plants of Subtropical Eastern Australia

Andrew Benwell

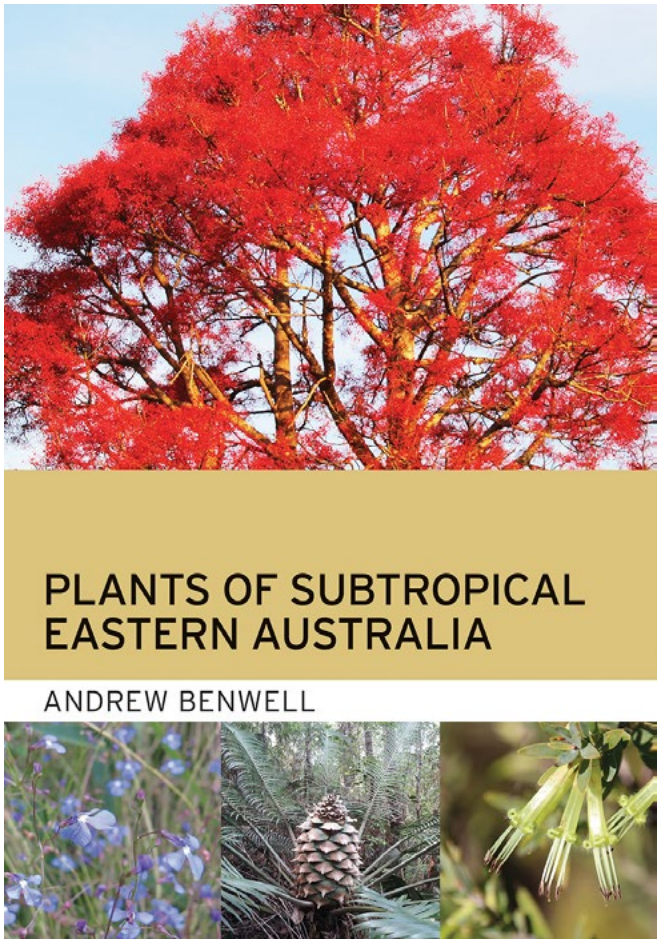
This book features over 500 common, threatened and ecologically significant plans of subtropical eastern Australia. The author comes with 40 years of experience as a botanist working for federal, state and local government and the private sector. He has published research on many topics and co-authored the third edition of the ANPC *Guidelines for the Translocation of Threatened Plants in Australia*.

I am a new resident of the area the book covers, who has moved onto acreage on the outskirts of Brisbane 5 years ago. I moved here from the Central Tablelands of NSW which has a totally different environment and biodiversity. Our 52 acres consists of a mix of remnant bushland (a mixture of wet sclerophyll forest and dry rainforest) and depauperate farmlands (previously cleared and growing tropical fruit) which were abandoned. This has resulted in a dynamic conflict between pioneer native species and invasive weeds. Arriving with no prior knowledge of species on the property I have had to find references to assist in identification, as well as pester local neighbours, Land for Wildlife and our local catchment group, to help determine what we have and how to preserve and/or revegetate the land.

Plants of Subtropical Eastern Australia is a book that will be of great value to me. Firstly, it presents very well. The photos are professional and well curated. Secondly, I find the description of the larger bioregion interesting and informative, and enables me to put our own local patch into context. I liked the distribution maps for each of the species described; a nice addition! I really like the treatment of trees, particularly relating to trunks. I often find trees quite difficult to identify, especially if they are tall with the leaves and flowers high up in the canopy. The photographs and description of trunks are very helpful.

I like the general description of each species as well - not only the description of form but also the location within the bioregion, its geographical and geological provenance and often its evolution.

As Andrew Benwell points out there are some 3000 plant species within the flora of subtropical eastern Australia. It's impossible for a book to describe every possible species. I have been using *Mangroves to Mountains*, which describes flora of SEQ and *Wild Plants of Greater Brisbane*. I find that each book fills in



the gaps of the others. I can recommend *Plants of Subtropical Eastern Australia* as it will greatly add to the armamentarium for botanists, both amateur, professional and those in between, in the eternal quest to identify all the different flora that populate this prolific bioregion.

CSIRO Publishing December 2020
ISBN: 9781486313655 Paperback $ 49.99 400 pages 245 x 170 mm
Also available as ePDF and ePUB from eRetailers

Reviewed by Colleen Watts, Land for Wildlife property owner SE QLD

Korinderie Ridge Bush Regen Week - back in 2021 – with a difference!

The 18th Korinderie Bush Regen week will be held this year during the first week of August (Monday Aug 2-Friday Aug 6) - with one difference. The community is also extending the date to include the prior weekend (i.e. Sat 31st and Sun 1st August) to accommodate people who can only come on a weekend or just prefer a different mix of dates.

During the 'regen week', visitors join with residents to progressively remove lantana on the Korinderie Ridge private property adjacent to Bundjalung National Park on the NSW north coast. In exchange for their labour, visitors enjoy the camaraderie of like-minded friends (old and new), lovely camp sites with views of the national park (and ocean beyond), plus delicious meals catered by the residents.

Korinderie members during 2020 'Corky Passionfruit search and destroy' mission.

Enquiries to Nadia 0432 660 717 or regenweek@korinderie.org.au . Also join the Korinderie Regen Week facebook page and check out the Korinderie website where you can also find a gallery of photos of past years' events.

What's happening

Note any changes of dates and format

Tuesday 4th May to Thurs 6th May 2021

Nature Conservation Council's 2021 Bushfire Conference

Cool, Warm, Hot: the burning questions

This virtual conference will be held online using the Zoom Video Webinar platform.

Information; visit the website

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

Monday 10th to Thurs 13th May 2021

Society for Ecological Restoration Australasia (SERA) Conference

Restoration Through Traditional Knowledge

Where: Darwin. **A COVID-19 safe face-to-face event with online content for those who are unable to travel**

Information; visit https://sera2021.org

Registration closes Friday, 30th April 2021
(Early bird closes: Friday, 26th March 2021)

15th April through to November

Australian Government Department of Agriculture, Water and the Environment

2021 Environmental Biosecurity Webinar Series: Knock Knock. Who's there? Drawing attention to our most unwanted visitors

The series of seven monthly webinars and discussions will focus on the recently released National Priority List of Exotic Environmental Pests, Weeds and Diseases (EEPL) and explore the list's purpose, its development and how it will help manage risks to Australia's biosecurity. Each webinar will welcome three guest speakers presenting in the first hour, followed by 30 minutes of facilitated discussion

To register for the webinar series and for more information, visit the Eventbrite registration page (https://www.eventbrite.com.au/e/knock-knock-whos-there-drawing-attention-to-our-most-unwanted-visitors-tickets-145807563347)

Wednesday 4th to Friday 6th August 2021

National Landcare Conference

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

Due to COVID-19, the 2021 National Landcare Conference and 2021 National Landcare Awards will be hybrid events with both in-person and online delegate options.

Includes the 2021 National Landcare Awards Gala Dinne

Information; visit the website https://landcareaustralia.org.au/national-landcare-conference-2020

Sunday 10th to Wednesday 13th October 2021

22nd Australasian Weeds Conference
A weed Odyssey: Innovation for the Future

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 are now open.

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

Australian Association of Bush Regenerators

The Australian Association of Bush Regenerators Inc (AABR) was incorporated in NSW in 1986, and has several hundred members from all over Australia. AABR is pronounced 'arbor.'

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

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

AABR also offers accreditation for experienced practitioners.

AABR News is usually published in January, April, July, and November.

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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

Individuals	$30 (unwaged $15)
Organisations *(does not confer membership to individuals in the organisation)*	
• business (< 5 staff)	$120
• business (5-20 staff)	$300
• business (> 20 staff)	$480
Government	$60
Not for profit	$30 *(or $0 with newsletter exchange)*

Benefits of Membership:

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

Newsletter contributions and comments are welcome

Contact Louise Brodie newsletter@aabr.org.au 0407 068 688

Opinions expressed in this newsletter are not necessarily those of AABR