



AABR NEWS

Australian Association of Bush Regenerators

working with natural processes

Nº 140
April
2019

AABR Workshop. Tuesday 30th April

Water Weeds, the Biosecurity Act, and the National Restoration Standards.

Charlie Mifsud, DPI's Aquatic Weeds Project Officer in the Invasive Species Program, is the main presenter.

The day is designed to be a learning and networking opportunity with morning tea and lunch provided (Indian) to optimise networking time.

Tuesday 30th April. Time: 9-4pm (8:30 registration)

Venue: Harry Todd Band Hall, 10 Jubilee Lane, HARRIS PARK NSW 2150

Cost AABR Members \$20, non-member \$25

All information and Bookings are via the Eventbrite site, <https://www.eventbrite.com.au/e/aabr-workshop-with-dpi-water-weeds-biosecurity-act-and-the-recovery-wheel-tickets-59749358941> or if an invoice is required please contact Suzanne education@aabr.org.au. Bookings close 26/4/19

The learning outcomes include

Aquatic Weeds: Examining live plant specimens to help to distinguish between native and introduced species; Water weed habitats; Impacts and vectors of spread; Legislative requirements; Recognising plant characteristics; Correct disposal of aquatic plant material

Biosecurity Act; Understanding of the NSW Biosecurity Act 2015 in relation to weed management.

National Restoration Standards; An overview of the standards; Using the recovery wheel as a site assessment tool

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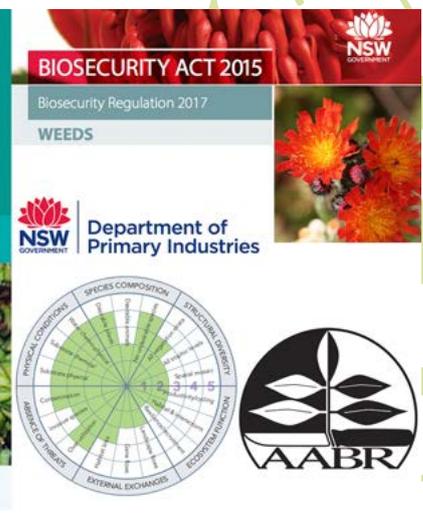
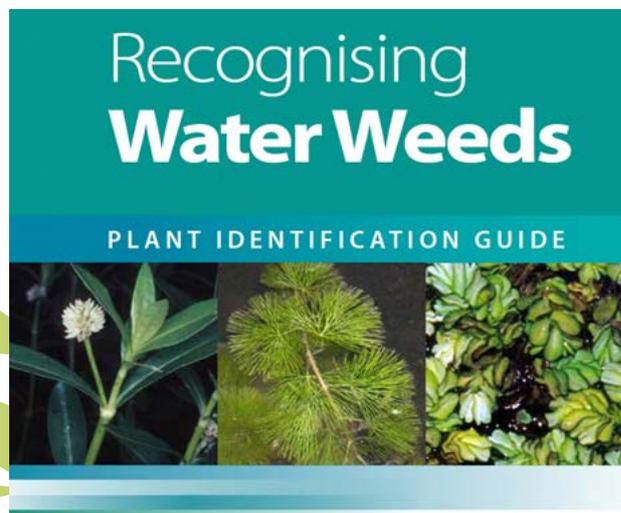
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Saturday 18th and Sunday 19th May 2019

Crowdy Bay Celebration and Workshop

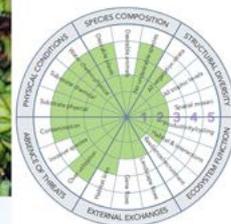
Kylies Beach, Crowdy Bay National Park, NSW mid north coast

AABR is off to Kylies Beach on 18th -19th May to celebrate the 40th anniversary with the mid-north coast NPA, of Australia's longest running Bitou eradication project.

Celebrations include networking aplenty plus special events:

- An AABR workshop on site monitoring using the National Standard's Recovery Wheel.
- The annual bush regeneration camp which runs from 13-19th May, with camping trailer and free park access, and The 40th Anniversary commemoration 18/5/19 10am at Laurieton United Services Club, corner Seymour and Lake Sts Laurieton
- NPA BBQ on Saturday night, and AABR members welcome to do some onground support on Sunday morning - finish by 11:30am.

More information and Bookings for AABR members through eventbrite. The event is free but numbers going are needed for catering and venue requirements <https://www.eventbrite.com.au/e/npas-2019-bush-regeneration-camp-40th-anniversary-and-aabr-recovery-wheel-workshop-tickets-59979485255>



President's Perspective

Happy Autumn to all – with the warmest March on record in Australia, followed by drought-breaking rains for some on the east coast but still dry in many parts north, south and central.

This newsletter includes notification of high quality AABR workshops and site visits on offer this quarter, as well as outstanding stories of restoration – both current and historic (See pages 6 and 10). Readers have also contributed items on a range of important issues including the importance of small remnants, biological controls for transformer weeds and the status of myrtle rust in Australia, keeping the newsletter editor very busy (but please keep these articles coming as we do need your input!).

Since last newsletter the committee has also been very busy engaging with the tasks committed to through the AGM, plus some additional ones. Perhaps the biggest news is that there is likely to be branch of AABR forming in Victoria under our current constitution, a development that promises not only to spread AABR's good work but also to enrich the collective skills and projects of AABR (see page 14).

Perhaps the next most important news is that we are finding that our initiative to assess the status of Vocational Education and Training (VET) across Australia has attracted excellent inputs from AABR people in each of the states where we are active (NSW, Qld, SA and Vic). Making this assessment is a work in progress but we now learn that it will be accompanied by opportunities to review that part of the AHC (Agriculture, Horticulture and Conservation) training package that covers Conservation and

Land Management and improved customisation of learning materials. (The feeling is that it is probably time to start using the term 'ecological restoration practice' in these documents.) Any interested reader is welcome to contribute to this process.

Progress has also been made on reviewing the wording of a couple of the 12 bush regenerator practitioner competencies around genetics and revegetation and this will dovetail into an effort to better promote the value of AABR membership and accreditation to all stakeholders in ecological restoration practice. This promotion requires expanded paid work by our executive officer and will be supported by further refinements to AABR's website and social media, as advised by the 'Gain and Retain' stakeholder communication program that AABR has subscribed to.

The expansion of membership and accreditation is particular important at a time when AABR is expanding into more states, as there is a need for increased membership to fund increased executive officer support for new projects. Further work is also ongoing to raise sponsorship for the continued productivity of *regenTV* – AABR's educational video platform (See pages 8 and 9) – with a prospectus being prepared over the coming months. (Contact secretary@aabr.org.au if you would like a copy of this when it is completed!)

Tein McDonald

President AABR

Surveying AABR Members

AABR is investing in how we communicate with our members, business owners and sponsors. We're keen to know what you want from our facebook page, newsletter and website so we can provide value to you for your membership and support.

As part of this, Suzanne and Louise are participating in a training course called Gain and Retain. The course is about how to use social media for non-profit organisations and highlighted the need to get to know our audience better, and how AABR can better meet our members needs by both the regular channels and also social media.

We are currently doing an on-line survey to find out a bit more about our members. The link to the survey is https://www.surveymonkey.com/r/2019_members_survey

Those who receive *enews* updates will already have an email with the link to the survey asking you to participate. We would love to get your responses.

Membership renewals for 2018-19

AABR currently has 488 financial members, which is quite a crew and gives us a voice when we advocate for the bushland, restoration focussed training, and recognition of the unique skills that an accredited practitioner holds.

Invoices for renewals for the 2018-19 financial year will be going out next month (except to those already paid).

If you haven't renewed for the 2018-19 year, for the past year you've still been enjoying the benefits of AABR membership, receiving newsletters, updates, invitations to events etc. Renewing your membership keeps you in the AABR circle and help AABR to provide greater services to bush regeneration.

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.

AABR Event Bookings

As many of you will have noticed, information and booking for our AABR events is now set up on Eventbrite. Any notice/email to alert you to events will contain the Eventbrite web address for the event.

The Eventbrite page will contain the relevant information about the event in detail. The Eventbrite booking system allows us to firstly see how numbers are going, plus receive payments if it is a paid event (if the event is free then, of course there is no payment needed).

If you don't have the link, or access to a computer, then contact Suzanne at admin@aabr.org.au or on 0407 002 921.

Welcome to new AABR Members

Mark Adams
Matthew Clarke
Sandra Conceicao
Kerry Hartskeerl
Paul Hoskinson
Steven Llewellyn
Rob Mawer
Sharon McArthur
Stephen McCarthy
Alan Noy
Kylie Robertson
Sandra Shergill
Ryan Sinclair
Mick Ward
Brett Watkins
D. Charles Williams

Business

Habitat Revegetation Services
Aust Care Environmental Services
Evolve Environmental Solutions

Organisations

Mosman Municipal Council

Congratulations on Accreditation

Yogesh Nair
Nicholas Yu

Smutty Tales: testing biocontrol for Trad

Discovering a site where the bushland and river bank are covered with carpets of *Tradescantia fluminensis* (wandering trad, wandering jew) is the last thing a bush regenerator wants to see. But hopefully help is on the way with the CSIRO announcing the release of the *Kordyana brasiliensis* fungus, which they have called its “natural pathogen”. It is hoped that the invasion of wandering trad could be slowed by this biological control agent.

Biological Control

Biological control is the practice of managing a weed by deliberately using one or more of its natural enemies (biocontrol agents) to suppress it.

Well known programs of biological control include the control of prickly pear by the *Cactoblastis* moth, where the 1926 release of this moth saw most of the affected land cleared of the pest by 1933. More recently biocontrol agents were released between 2001 and 2006 for the control of Paterson’s curse. The program was a success, bringing more than \$1B worth of benefits for grazing industries, including reduced animal deaths and increased pasture growth.

Biological control for Trad

Tradescantia fluminensis is native to South America, was introduced as an ornamental plant, and has become a major weed in Australia, forming dense cover in damp areas. It affects native vegetation and prevents natural regeneration. It is a significant environmental weed in the moist wet forests of south east Queensland, eastern New South Wales, and parts of Victoria.

The smut fungus is from Brazil and is a natural pathogen of trad. The leaf smut fungus (*Kordyana brasiliensis*) spreads through spores, and it needs trad leaves to survive. This pathogen enters wandering trad through the leaf’s air holes (stomata), and slowly uses the weed’s energy for its own fungal growth. After two to three weeks, the leaves begin to develop yellow spots, caused by a lack of chlorophyll. Eventually the fungal infection is so severe that the leaves die. The sick plant becomes less competitive against neighbouring native plants, giving the natives an advantage, and the opportunity to grow. That trad leaf will produce fungal spores that move to another leaf.

CSIRO is building on the work of Brazilian researchers, who tested whether this leaf smut fungus could be used as a biological control agent in New Zealand.

These days before a biological control agent can be released into the environment, lengthy testing is done to



A thick infestation of trad in the Dandenong Ranges.

ensure that Australia introduces biological control agents that *only* attack the target weed or animal pest—that it’s ‘specific’ to that invasive species and does not harm our native species. We all know where biocontrol has turned into a problem with the main example being the introduction of the cane toad when insufficient testing was carried out to ensure that introduced biological control agents act only on the target species and not become pests themselves.

Biological control researchers develop a list of plants that are closely related to the target weed. ‘Non-target’ plants are exposed to the agent, and their reaction assessed to determine if the agent can survive and reproduce on them.

This research is typically performed in a containment facility in Australia. CSIRO has two containment facilities where biocontrol agents are tested: one in Canberra (home of the leaf smut research) and one in Brisbane. The containment facilities can only be accessed via airlocks and security systems and are fitted with specialised filters and negative pressure to ensure imported organisms are contained. Protective clothing is worn inside the secure area, and then removed prior to exiting through the airlocks. All infected material must remain inside the secure laboratory, be destroyed in a manner that allows no survival of the disease (leaf smut, in this case) or be de-contaminated before being removed from the facility.

Releasing the smut!

After years of extensive testing in both Brazil and Australia, the researchers applied for approval to release the leaf smut fungus. This was granted by the Department of Agriculture and Water Resources in December 2018.

Researchers will first release the leaf smut fungus at ‘nursery sites’ in the Dandenong Ranges during the cooler months of 2019. These nursery sites are areas where staff will monitor the progress of the biocontrol agent to ensure it can survive and spread in the local area and is having a damaging effect on the trad.

Once researchers are sure that the agent has established successfully at each of the nursery sites, a series of field demonstration days will be held. During these demonstrations, the agent will be officially handed over to the community, by providing them with infected plant material, so that they can spread it at infested sites near them.

If the trials are successful, researchers hope to apply the fungus nationwide in a few years.

For more information and if you wish to register interest in a future release program for Victoria, NSW and Qld send an email

indicating your interest to Ben Gooden (Ben. Gooden@csiro.au), who is a field biologist in the team and who is in charge of the roll-out of the release program for the leaf smut.

Information Sources: <https://blog.csiro.au/smut-to-the-rescue/>
<https://www.csiro.au/en/News/News-releases/2019/Super-smut-fungus-to-combat-smothering-weed>



The leaf smut fungus uses up the trad’s resources, with the leaves turning yellow from a lack of chlorophyll. Photos: CSIRO

Myrtle rust on the move

Updated status in Australia

Laura Fernandez Winzer
PhD candidate, Macquarie University

Myrtle rust (*Austropuccinia psidii*) is an invasive fungus native from South and Central America that you might have seen in your garden – or less likely in the bush – as bright yellow pustules on leaves, flowers and/or fruits. It was first detected in Australia in 2010 north of Sydney, and from there it spread to all states except SA and WA. Dispersal is achieved by air-borne spores and/or human/animals mediated. This second way includes transport of spores on clothes, shoes, hair, feathers etc. Only one strain has been detected so far in Australia. It infects individuals in the Myrtaceae family, which is one of the dominant plant families in Australia. Myrtaceae includes the iconic eucalyptus, paperbark trees and bottlebrushes amongst others.

Given that Australia did not have a national surveillance or monitoring program in place for myrtle rust, in 2015 we decided to send a survey to update our knowledge on number of hosts, distribution and impacts (for more details see Fernandez Winzer et al. 2018). The survey was targeted to national park, botanical garden, council, nursery and forestry agency employees, (as well as readers of this newsletter), in all states where myrtle rust is present. To achieve this, 500 surveys were sent at the end of 2015, and 251 participants had completed the survey by the close time in February 2016.

Fifty-one species were mentioned by participants as seen infected with myrtle rust, with four new host species not present in the national host species list by Giblin & Carnegie (2014). Three of these new hosts are native to Australia, violet kunzea (*Kunzea parvifolia*), grey tea tree (*Leptospermum myrtifolium*) and cabbage gum (*Eucalyptus amplifolia*). The fourth one is endemic to New Zealand, rohotu or tutuhi (*Lophomyrtus obcordata*). These results raise the national number of hosts to 380 species in 50 genera. The species most commonly named were the native brush turpentine (*Rhodamnia rubescens*), native guava (*Rhodomyrtus psidioides*), broad-leaved paperbark (*Melaleuca quinquenervia*) and the exotic rose-apple (*Syzygium jambos*). The disease severity was classified as medium to high for most host species, with brush turpentine, native guava and thread-barked myrtle (*Gossia inophloia*) reported to have particularly high disease severity leading to mortality.

Myrtle rust was found to be most widespread in NSW and QLD, and four new local government areas where the pathogen had not been seen before were detected, two in NSW (Singleton and Muswellbrook) and two in QLD (Burdekin and Gladstone). In these two states, myrtle rust was reported in a wide range of landscapes, ranging from urban areas to native environments. At the local level, more than half of the respondents (60%) do not attempt to control or contain it. This is because it either affects plants in natural landscapes so not under their jurisdiction (78%), or they thought that control was either 'fruitless' or 'not feasible', or time and cost constraints. When control measures were applied, several different methods were used, from cutting infected branches or removing infected shrubs/trees, to application of fungicide spray.

Most stakeholders (53%) surveyed think that myrtle rust undoubtedly represents a long-term threat to specific species and/or plant communities in Australia. These participants were most concerned with the devastating effects it may have on

the composition and structure of affected plant communities, introduction of new strains, mutation of the current strain and the effects related to infection of new growth post-fire.

Stakeholder concern about myrtle rust has also resulted in a number of botanical gardens and nurseries no longer cultivating highly susceptible Myrtaceae species. For example, the highly susceptible blushing beauty (*Austromyrtus inophloia*) is no longer grown in nurseries, and neither the rose-apple. Furthermore, there are examples where local governments no longer recommend the use of some species in urban landscapes, for example willow myrtle (*Agonis flexuosa*), Cedar Bay cherry (*Eugenia reinwardtiana*), broad-leaved paperbark and brush turpentine.

The identification of four new locations in QLD and NSW suggests that this pathogen is still expanding its distribution range in Australia. Given its easy spread, unless it encounters climate barriers (e.g. dry conditions, low/high temperatures) it is likely that it will spread to the two remaining unaffected Australian states.

It is important if we travel to SA or WA to remember to clean very well our hiking shoes and clothes if we think we might be carrying spores of myrtle rust. There is now a myrtle rust ecological impacts working group led by Bob Makinson (Australian Network for Plant Conservation), which confirms and adds new host species to the susceptible species list, keeps track of distribution expansion and is getting momentum to implement a Draft Action Plan. This plan can be downloaded [Myrtle Rust in Australia – a draft Action Plan](https://anpc.asn.au/wp-content/uploads/attachments/Myrtle-rust-action-plan_accessible_PUBL_28June2018.pdf). (https://anpc.asn.au/wp-content/uploads/attachments/Myrtle-rust-action-plan_accessible_PUBL_28June2018.pdf)

References

Fernandez Winzer, L., Berthon, K. A., Carnegie, A. J., Pegg, G. S., & Leishman, M. R. (2018). *Austropuccinia psidii* on the move: survey based insights to its geographical distribution, host species, impacts and management in Australia. *Biological Invasions*. 1-11

Giblin F. & Carnegie A. (2014) *Puccinia psidii* (Myrtle rust)-Australian and Global host lists. [Online]. <http://www.anpc.asn.au/myrtle-rust>

Note: *Rhodamnia rubescens*, scrub turpentine and *Rhodomyrtus psidioides*, native guava are listed as Critically Endangered in NSW (Gazetted 01 Feb 2019). As at June 2018, species both remain unlisted in Queensland, and at the Commonwealth level.



Above left: Infected brush turpentine (*Rhodamnia rubescens*) leaves and stems at Royal National Park. The characteristic yellow pustules can be observed, and one of the classic symptoms, leaf distortion.

Above right: Infected brush turpentine (*R. rubescens*) leaf at Royal National Park.



Left: Infected seedling of native guava (*Rhodomyrtus psidioides*) at Shelly beach near Ballina (NSW)

Photos: Laura Fernandez Winzer.

Want to fly the flag for AABR?

Would you like to volunteer for AABR to 'meet and greet' people and provide a friendly focal point for AABR members to catch up?

We are looking for members willing to put on a T-shirt (we'll supply one), and be a point of contact to hand out AABR brochures at events. Our aim is to get a group of gregarious people on a list so that we can attend more events and share the joy of bush regeneration far and wide.

An upcoming event is the Groovin' Grassroots picnic and music festival being held on 25/5/19 at Bedlam Bay Oval - Gladesville. This event is being organised by the Greater Sydney Landcare Network celebrating enviro-volunteering in the greater Sydney region.

The Groovin' is an opportunity to let people know about AABR and how volunteering can lead to super satisfying work and career opportunities in ecological restoration especially if the volunteering efforts can be recognised through AABR accreditation.

Contact Suzanne at education@aabr.org.au or 0407002921 to have a chat about what's involved.

More info:

<https://www.facebook.com/events/436116940456887/>



Guidelines for the Translocation of Threatened Plants in Australia

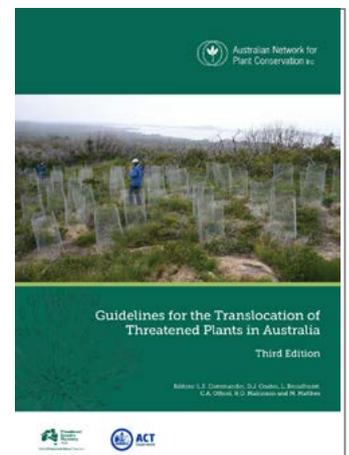
The Third Edition of the Guidelines for the Translocation of Threatened Plants in Australia, Eds: L.E. Commander, D.J. Coates, L. Broadhurst, C.A. Offord, R.O. Makinson and M. Matthes, has just been published by The Australian Network for Plant Conservation, along with the assistance of the Threatened Species Recovery Hub.

The Guidelines are essential reading for those working with threatened plants, and also those undertaking conservation and restoration generally. The publication was recently launched in Canberra by Sally Box, the Threatened Species Commissioner, and contains contributions from over 30 specialists, all new photos and case studies. This third edition updates the second edition, which has been widely cited by conservation agencies around Australia, and well used by practitioners and researchers.

You can purchase a print copy of the Translocation Guidelines here: <http://www.anpc.asn.au/translocation> (Discount for ANPC members!), or download it from here: http://www.nespthreatenedspecies.edu.au/Translocation%20Guidelines_FINAL%20WEB2.pdf.

A workshop about the Guidelines was held as part of the ANPC conference in Canberra, and you can find the program and selected presentations here: <http://anpc.asn.au/APCC12/presentations> A workshop will be held in Western Australia in March.

For more information on the preparation of the third edition, see here: http://www.anpc.asn.au/translocation_guidelines_review and to join the Australian Network for Plant Conservation, see here: <http://www.anpc.asn.au/membership>.



Translocation workshop in Adelaide

Save the date - 3 May 2019

South Australian threatened plant translocation workshop

Come along and learn about the new *Threatened Plant Translocation Guidelines*, hear about local case studies and get your translocation questions answered.

The draft program and registration details will be available soon, we will email again with the details. But for now save the date in your diary!

Venue: University of Adelaide



Restoration on Lady Elliot Island

Elisabeth Dark

Lady Elliot island is the southernmost coral cay on the Great Barrier Reef. It is around 80 km north-east of Bundaberg and is currently undergoing vegetation restoration.

How do you revegetate a Great Barrier Reef coral cay, that has minimal soil depth, is a significant breeding site for ocean-going bird species and resident turtle species, and is also permanent home to other bird species? This is the challenge faced by the lessee and management of the Lady Elliot Island (LEI) resort which has recently undertaken to restore the island to a condition not existing since guano mining commenced in the 1860s.

From the commencement of guano mining until the 1970s, LEI remained almost devoid of all vegetation and had minimal birds nesting on it. Since an initial revegetation program commenced in 1969, bird numbers have dramatically increased. The island now has the second highest diversity of bird species on the Great Barrier Reef with up to 95 different species of seabirds, landbirds and shorebirds. Some are residents that breed in season and live on LEI all year round, whilst others are classified as migrants as they spend extended periods on Lady Elliot. LEI hosts colonies of thousands of breeding birds which visit the island solely to nest and raise their young between September and March each year. The preferred nesting locations cover the entire island: along edges of the airstrip, in low grassy areas, in trees, above the high tide mark on beaches.

In addition to the necessity to avoid disturbing breeding cycles, there is the requirement to prevent any adverse impacts on the health of the surrounding coral. The existence of a fresh water aquifer within the island bedrock and its connection to the reef saltwater precludes the use of any herbicide, even though extensive areas require substantial weed removal.

A third issue is how to research and source appropriate plant stock, plus implement effective methods for propagating and planting in harsh conditions.

These are some of the major issues faced by Jim Buck, the recently appointed Environmental Management Officer, whose relevant expertise includes a long association with the management of Lady Musgrave Island, the closest coral cay to the north of Lady Elliot. His task is to direct and accelerate the revegetation project, to provide a best practice guide for other similar reef sites. It is being funded by the Great Barrier Reef Foundation as the first new climate change 'ark' included in the Reef Island Refuge Initiative in 2018.

Key to the project is a 10-year action plan which now guides on-ground work and was developed by botanists from the Queensland Botanic Gardens. The plan divides the island into 19 work sites, with specified actions for each resulting in a range of restored vegetation types. Under the plan, weed

removal is prohibited during the key bird breeding period of October to April.

When I visited the island in late 2018 Jim gave a tour of the progress to date. Inappropriate plantings of palms are being progressively removed. Senescing *Casuarina equisetifolia*, planted almost 50 years ago, are being replaced with a variety of tree species. These include dense planting of *Pisonia grandis* – sometimes called Birdlime Tree, a species unique to coral cays and forming low forests; and *Heliotropium foerthianum* (Octopus Bush).



Above: Lady Elliot Island around 1970 after guano mining. A barren rock.

Below: What the island looks like to day - showing the revegetation of the island prior to the current project.



A range of further suitable plant species has been selected, based on the vegetation community present on Lady Musgrave and similar coral cays to the north, which also provide a seedbank. A nursery established recently is successfully propagating trees, shrubs and creepers from seed and cuttings, using compost manufactured in a high-tech facility which recycles food scraps from the resort's kitchen. Already, a sizeable area of lantana and dragon fruit has been bulldozed, piled in rows, left to decompose, then planted with pisonia trees. Although currently barely two metres high (well below their mature height of close to ten metres), these were already utilised by black noddies nesting on the sparse branches.

With project initiatives already providing bird habitat, and the bird population continuing to contribute guano to enrich the soil medium, the restoration cycle is progressing well.

Look for updates in AABR News as the project develops.

Top right: Pisonia planted into coral

Right: Black noddies nesting in the Pisonia

Below: On the runway

Bottom Left: Jim Buck, Project Manager

Bottom Right: The nursery on the island.

Photos: Judy Christie



Further reading:

Anthony Walsh (2006) *Lady Elliot Island, Great Barrier Reef, Australia*, Anthony Walsh . This covers the history of the island including its devastation due to mining of guano.

Website for the current project

<https://www.barrierreef.org/science-with-impact/lady-elliott-island>

This webpage is a 'must', showing 'before and afters' of the island which are great to look at with the slide across bar to make the changes easy to determine!



regenTV

The regenTV project that was funded by the Environmental Trust officially wrapped up at the end of February. The three-year \$79,000 project generated and additional \$65,000 of in-kind and financial support that allowed for the production of some enduring educational resources.

The project outcomes included:

- Fifty-four professional videos and accompanying indexes produced from field days during the project period and forums & conferences held in 2018, 2016, 2015 and 2014. An additional index of 3rd party videos was produced providing links to presentations from conferences and field days not recorded by AABR. The videos were viewed 4895 times.
- Five sets of learning resources including a Fact Sheet and a Worksheet were produced, aligned to the National Restoration Standards, on the themes of Scaling Up, Engaging Others, Reference Ecosystems, Seed Sourcing, Evaluating Progress and Appropriate Approaches. Five additional Information sheets on bush regeneration were produced.
- Thirty 'events' were held throughout the project attended by 616 people. Two field trips were multiday events to Broken Hill Field and the Big Scrub.
- Evaluation surveys were conducted to garner feedback from educators, practitioners and the viewing community of regenTV.
- The contractors have been exceptionally generous in the provision of services providing at least \$10,765 worth of pro-bono support.
- AABR's committee contributed at least 611 hours of expertise in the production of the learning materials, coordinating and hosting field trips, attending meetings and overseeing the project, conservatively valued at \$33,600.
- AABR contributed \$19,218 in cash towards the project for additional video recording, website hosting of videos and costs associated with conducting events.
- The project has been promoted in 12 editions of the AABR News newsletter, 19 e-news bulletins and on social media with 276 Facebook posts. There are 10 websites with links to the regenTV resources from AABR's network.

Where to next? Would you like to be a sponsor?

AABR is very keen to be able to continue to build on this valuable educational resource. There is an abundance of recorded video material yet to be produced and AABR will be seeking sponsorship from businesses and interested parties to continue to create quality educational resources.

If you have an interest to sponsor the production of a video a prospectus is being developed. If you would like to receive one contact Suzanne at education@aabr.org.au.



Recent videos available on regenTV

A new batch of videos has recently been uploaded onto the AABR website - <http://www.aabr.org.au/regentv/>.

Most of these are presentations from the 2018 SERA Conference.

How the National Restoration Standards' affirmation of native ecosystems as references can strengthen SERA's function as a broad church

 Tein McDonald

Tein McDonald provides a detailed explanation of the concept of ecological restoration as intended by the National Standards for Ecological Restoration. Tein outlines the restorative activities continuum and provides examples of where various restoration projects may reside along that spectrum. Ideologies such as 'restorative thinking' and 'ecological civilization' are considered within the context of the National Standards as a guiding document "to encourage all restoration and rehabilitation projects in Australia to reach their highest potential" (SERA).

Six years and \$250,000 – What a community group learnt from implementing a major project

 Suzanne Pritchard

A six year \$250,000 Environmental Trust project enabled a community group to formally identify threatened species, record and monitor the local flora and fauna and undertake bush regeneration which has aided connectivity and set the multiple public reserves on a recovery trajectory. An assortment of community engagement events were undertaken and a plethora of publications produced to support local landholders to care for their bushland blocks, which in turn has aided the protection of the public reserves.



Suzanne Pritchard showing the information produced for landholders as part of the Coal Point project

Recovery processes underpinning rainforest restoration in the Big Scrub

 Tein McDonald

Does size matter? Victoria Park Nature Reserve is a small fragment of the once mighty Big Scrub sub-tropical rainforest. Reflecting on 40 years of monitoring, Tein McDonald highlights the significant contributions to the understanding of rainforest succession that this reserve has made. Monitoring of Camphor laurel removal using species composition surveys and photopoints, clearly demonstrates the critical role of frugivore dispersal to facilitate rainforest recovery.

Scaling up – Is it possible or an ongoing aspiration?

 Jen Ford

Comprehensive strategic planning and site assessments, coupled with thinking creatively around landscape connections are some of the ingredients required to scale up projects. By understanding the capacity of assisted regeneration, a spectrum of bush regenerator skill levels and resources can be utilised to maximise outcomes. Jen

Ford provides two examples that explore how the planning documentation translates into on-ground outcomes that enable all stakeholders to participate in restoration across a landscape scale project.

Big Scrub – making a vision of genetically appropriate seed production areas a reality Tony Parkes

Rainforest restoration pioneers, Big Scrub Landcare, are again at the forefront of restoration ecology investigating solutions to the problem of genetic inbreeding in the hundreds of thousands of Big Scrub plantings. With the long term viability of the Big Scrub and associated investment at stake, they have developed a strategy to test for genetic diversity, propagate the most genetically diverse specimens in a plantation system and reintroduce them in and around the historical plantings.

Restoring tree cover in the Ramsar-listed Koorangie marshes through a partnership with Barapa Barapa

Damien Cook

The Koorangie Marshes are part of the Kerang Wetlands Ramsar site that is culturally significant to the Barapa Barapa people. Prolonged waterlogging and rising salinity, which resulted in the death of River Red Gum and Eumong canopies, had historically impacted almost half of the Koorangie marshes. In partnership with the Barapa Barapa peoples the regeneration of the tree canopy and restoration of habitat features was undertaken.

Maximising ecological restoration outcomes through threatened species management programs Jen Ford

Jen Ford's presentation showcases a well planned, 10 year funded, Threatened Species offset project. Detailed examples of four Species of National Environmental Significance are discussed and picture-perfect photopoints utilised to highlight the changes that have resulted from dedicated professionals undertaking assisted regeneration supported by hazard reduction burns. The project not only achieved the 2 for 1 offset required but also increased resilience across the site, improved infrastructure and developed partnerships.

Community solutions to rehabilitating seabird breeding habitat on Big Island (Booirodoong), Five Islands Nature Reserve Rowena Morris (NPWS)

Restoring native vegetation cover on an island dominated by Kikuyu and Coastal Morning Glory poses unique challenges, especially when the island provides critical seabird breeding habitat. The Five Islands Nature Reserve is a culturally significant site and the success of the restoration project has been due to the project bringing together the Illawarra Local Aboriginal Land Council, Friends of Five Islands and scientific and academic communities.

How ecological (ecocentric) restoration can help facilitate a nature conservation culture in Australia (Putting nature first)

Todd Dudley

Todd explores the concept of ecocentricity and how it provides an ethical and social framework for both restoration and our relationship to the environment. An outline of the social, and individual benefits that have been produced on the Skyline tier project exemplifies how a changed worldview can unite a community. Todd, along with Michael Leunig espouse how ecocentricity could be a unifying social principle for Australia.

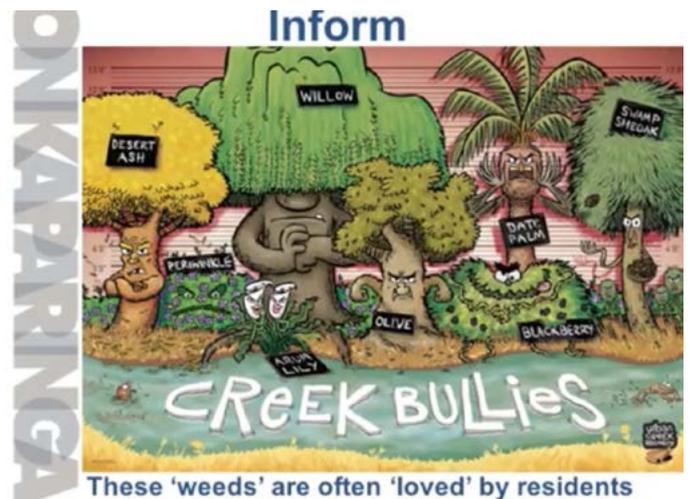
Native seed production 'farming for restoration supply'- Lessons from local and US sectors Paul Gibson-Roy

Why is grassy ecosystem restoration so hard...it doesn't have to be? Paul Gibson-Roy shines the light on the USA's approach.

In 2015 Paul received a Winston Churchill fellowship to explore the industry in the USA. He shares his findings of the scale and viability of the industry and the government incentives and the structures that have produced a market driven approach, which is driving grassy ecosystem restoration in agricultural and urban areas.

'Creek Heroes' are winning the battle in the City of Onkaparinga – Urban Watercourse Restoration Project Nikola Manos

Urban creeks in the City of Onkaparinga hold some of the last remnants of bushland within the city as well as containing valuable public recreational space. The 'Creek Heroes' project informed and activated the community to care for the creeks by crafting clever 'heroes and bullies', listening to the residents and providing opportunities to experience the local creeks. This inspiring project exceeded all expectations by engaging and including the community.



Creek Heroes and Creek Bullies as depicted by the City of Onkaparinga to engage the community.

Fire management business in Australia's tropical savannas Jeremy Russell-Smith. From NCC Forum 2015

The north Australian savannas are vast and have the potential to provide significant indigenous business opportunities for markets in greenhouse gas emissions, living tree biomass and non-living biomass as shown during the Carbon Farming Initiative. Jeremy Russell-Smith provides an overview of the fire management strategies that have been undertaken within the context of indigenous management opportunities in the north which are adaptable to all parts of Australia.

The South Australian Natural Regeneration Projects of Albert Morris

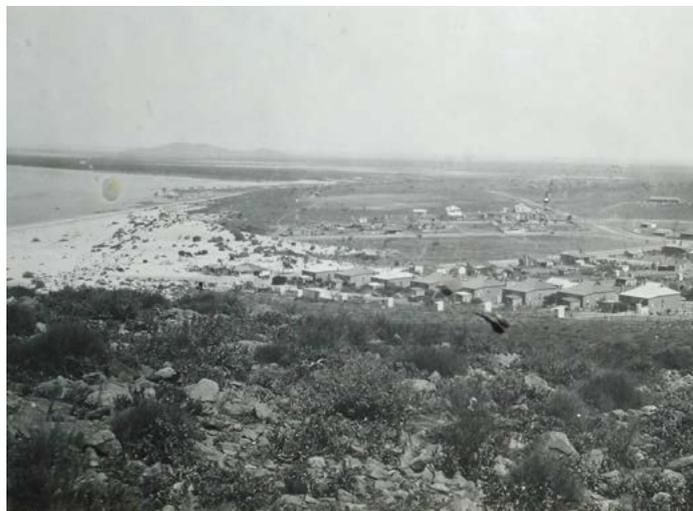
Peter Ardill

New research reveals that restorationist Albert Morris, known for his work at Broken Hill, also worked on South Australian projects in the 1930s.

Albert Morris (1886-1939) will be well known to many readers as one of Australia's pioneer ecological restorationists, a leading developer of the restoration technique, natural regeneration, and a prominent Australian arid zone botanist. Morris, along with colleagues Margaret Morris (1887-1957), Doctors William and Ian MacGillivray, Edmund Dow and other members of the Barrier Field Naturalists Club, was instrumental in researching, planning, lobbying for and finally developing the Broken Hill regeneration area project of 1936 - 1958, a pioneering Australian ecological restoration project that restored, via a natural regeneration technique, the degraded mulga and saltbush landscapes of Broken Hill in western New South Wales.

What is not widely known is that Morris also developed arid zone landscaping and natural regeneration projects in South Australia during the 1930s. Here is the story of those projects.

In 1932 Morris, who by this time was receiving widespread print media coverage for his innovative arid zone plantation work in Broken Hill, was invited by BHP mining magnate Essington Lewis to visit that company's operations in Whyalla and Iron Knob, SA, to advise on the establishment there, via a planting technique, of native tree plantations. The company was keen to improve the visual and physical amenity of these vital but isolated Spencer Gulf outposts, but previous attempts to establish landscaped park and recreation areas had met with limited results.



Above: Figure 1 Whyalla 1935

Source: National Trust SA

On his first visit to Whyalla in 1932, during a holiday break from his occupation as a senior assayer in Broken Hill, Morris took with him arid zone native trees and seeds, set up a propagation nursery and supervised the establishment of tree plantations in the two townships. A further visit in 1933 confirmed that the various plantation sites were prospering. Unfortunately, the historical documentation does not identify the exact locations of these plantations.

At some time between 1935 and 1937 Morris also initiated two natural regeneration projects in Whyalla. The historical documentation clearly states that these were natural regeneration, and not planting, projects: *One other feature always strongly emphasised by Mr. Morris was the possibility of the regeneration of eroded or eaten-out country by simply protecting it from stock. Two examples of such regeneration exist at Whyalla* (Ardill 2018).

The first regeneration project was located at Hummock Hill, a prominent seaside headland adjacent to the township. By 1939 fencing that excluded grazing dairy cows had resulted in the re-emergence of the indigenous flora of the area.

The second project was quite ambitious in its scope. Massive sea-sand dunes had penetrated into a degraded semi-urban area of Whyalla, threatening housing and engulfing the landscape. Fencing to exclude herbivores, plus a little planting, resulted in the stabilisation and diminution of the dunes, with the indigenous flora again flourishing.

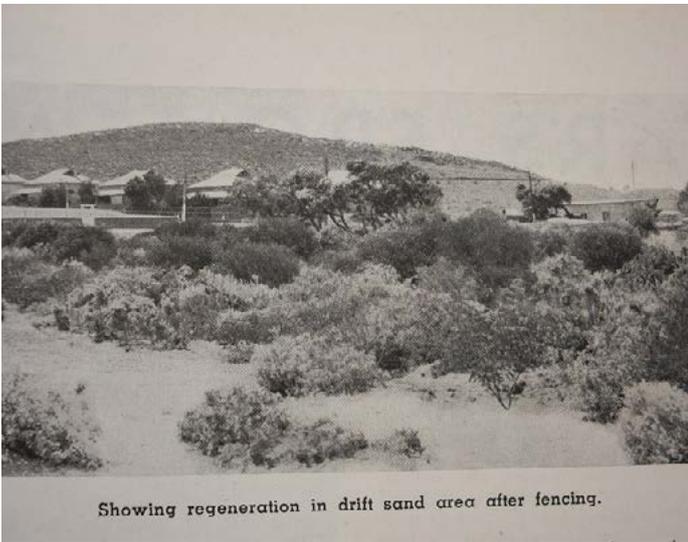
Fortuitous scenic snaps taken at the time provide us with graphic *before* and *after* illustrations of this sand dune project and its success! **Figure 1**, (below Left) dated 1935, illustrates the size and impact of the spreading sand dunes, located in the centre left of the photograph.

Figure 2, (below Right) dated 1941, reveals that the fencing technique has been successful, with the dunes now significantly covered in a layer of vegetation and receding in size. Prominent re-vegetation has also occurred in the inland paddock, centre right.



Above: Figure 2 Whyalla 1941

Source: SLSA B-69756



Showing regeneration in drift sand area after fencing.

Above: Sand-drift regeneration site with Hummock Hill in background
Source: BHP Review 1939

As mentioned, the two natural regeneration projects were initiated between 1935 and 1937. There is some evidence, in the form of historical documentation which refers to these two projects actually preceding the October 1936 start of the Broken Hill regeneration area project, to suggest that they commenced in 1935 or early 1936. However, precise and verifiable starting dates cannot be ascertained with any certainty.

There is also insufficient evidence to be able to fully justify a claim that these regeneration projects amounted to *ecological restoration*. A desire to improve resident amenity primarily motivated the BHP corporate managers, and this aspect of the project would have interested Morris. It is reasonable to claim that he also certainly would have, in his capacity as a conservationist, taken pleasure from the anticipated reinstatement of a certain degree of ecological function, in the form of the indigenous flora, to the two sites. The projects are probably best classified as *rehabilitation* of degraded urban open space.

Albert Morris's final visit to Whyalla took place in 1937. By this time, of course, he was heavily involved in monitoring the Broken Hill regeneration area project, which was proving to be a great success. Given the many years of sheer physical effort, research and experimentation that he, Margaret and other colleagues had



Above: The Ada Ryan Gardens shown in the middle of the picture are on former sand-drift site
Photo P Ardill 2018



Above: Hummock Hill vegetation May 2018
Photo: P Ardill 2018

devoted to the study of arid zone botany and its role in erosion control, it must have been a justifiably stimulating and rewarding period in his life.

Regrettably however, these South Australian projects further demonstrate the tragedy of Morris's premature death from illness in 1939. By this time the adaptability and success of his natural regeneration technique were indisputably confirmed and his work had gained widespread regional and national attention. His dedication, expertise and passion for the beauty and diversity of natural ecosystems had guaranteed that many more environmental repair projects awaited him. His work was ably carried on and promoted by Margaret Morris and members of the Barrier Field Naturalists Club, and that legacy lives on today in the form of the Broken Hill regeneration area and our regard for his contributions to restoration practice.

Reference: Ardill, Peter J (2018) *The South Australian arid zone plantation and natural regeneration work of Albert Morris* Australian Association of Bush Regenerators Inc. Sydney.

To read the full article and other articles on the work of Albert Morris: <http://www.aabr.org.au/morris-broken-hill/>. The Wikipedia entry is referenced and can also be recommended: https://en.wikipedia.org/wiki/Albert_Morris.



Planning a visit? Aerial photo showing the location of Ada Ryan Gardens and Hummock Hill
Source: Google maps

Recognising the conservation value of small patches of bushland

Two new papers highlight the conservation value of small areas which is not generally considered by planners and managers.

Louise Brodie summarises what these papers tell us.

Many regenerators work in or manage small areas of bushland or just appreciate its presence. We know the frustration of talking about the value of small pieces of bushland found in both urban and rural areas.

These recently published papers highlight that discussion of the values of small patches of bushland tends to revolve around the perception that they are useful for involving the community and getting improved engagement with nature, or recognising that natural environments provide ecosystem services.

In urban areas, both in cities and small towns, developments such as housing or roads tend to result in these smaller patches of vegetation being removed. The loss of vegetation in Australian cities continues. In rural areas loss of vegetation occurs with activities such as mining or clearing for changes to farming practices.

The studies highlight that generally decisions to remove small patches of vegetation are taken in isolation with little consideration of other patch losses. Due to their small size and relatively large amount of edge, they are considered expendable, tradeable, and of limited ecological value. It is death by 1000 cuts, but the impact is large and a major contributor to our high extinction rates.

Global synthesis of conservation studies

The findings of a study by Whittle et al (2019), was summarised in an article in *The Conversation* about the [small patch of bush over your back fence](#), which is worth reading. The study looked at the conservation value of landscapes in 27 countries across four continents and found that small patches of habitat are critical to the long-term survival of many rare and endangered species.

The study finds that the influence of the theory known as island biogeography and other subordinate theories is a factor in the lack of recognition of the values of small patches of bushland. These theories promote the idea that species richness and population sizes depend on the size of the patch as well as its isolation and quality of habitat.

This logic has led to much conservation policy and regulation giving preference to conserving large, highly connected areas, resulting in ambivalence and deprioritisation of the protection of small, isolated habitat patches.

The study analysed the relationship between conservation value of vegetation patches and their size and isolation in landscapes. It showed that these patches often have unique ecological and environmental characteristics.

The patterns of human settlement and clearing of native vegetation take place where the land is considered to be suitable for agriculture or urban growth, such as on river flats, and fertile land. Those environments would have supported specific

vegetation types and would have provided habitat for particular species of flora and fauna, which may not be found across other landscapes. So the remaining small, isolated patches of habitat are disproportionately important for the survival of many species compared to the size of the remnants.

When a team at University of Melbourne's School of Biosciences looked at the distribution of threatened species in Australia, 30 percent of the total number of threatened species have distributions that overlap with urban areas. Our cities are home to, on average, three times as many threatened species per unit area as rural environments. For eight threatened plant species all plants are entirely confined to cities. For example, the Nielsen Park she-oak *Allocasuarina portuensis* is found only within metropolitan Sydney, and the fringed spider-orchid only in a rapidly developing part of Melbourne.



Left: Map showing the general location of *Allocasuarina portuensis* in urban Sydney. Above: General habit of *A. portuensis* (cultivated plant, Nielsen Park). Photo: M. Matthes

The study by Whittle et al calls for 'a rethink of urban planning and vegetation management regulations and policies that allow small patches of vegetation to be destroyed with lower (and often zero) scrutiny.' Large conservation reserves do not compensate for the small patches of habitat being destroyed or degraded, because those larger reserves tend to contain different species to the smaller patches being lost.

Correcting common misconceptions

Another paper, by Soames et al (2018), seeks to correct common misconceptions in order to inspire conservation action in urban environments.

The paper argues that the tendency to overlook the conservation value of urban environments stems from misconceptions about the ability of native species to persist within cities and towns. This misconception hinders effective conservation action.

Research insights do not support the perceived 'lost cause' reasoning so frequently applied to urban environments. The mismatch between common understanding (among researchers and practitioners) and recent scientific evidence suggests the need for revised messages to guide conservation action in cities.

The authors provide messages which can be used to inspire conservation in urban areas. These messages cover a broader approach than only retention of existing bushland. The messages are also relevant to rural areas and small towns. They are given below.

Valuing Small Urban Spaces

Small urban spaces can support and sustain populations of native species. Even very small landscape elements, such as solitary trees or ponds, provide critical habitat resources. Many species can inhabit small patches in altered landscapes by adjusting their home range and behaviours or by taking advantage of resources that lie beyond the patch within the urban or town matrix.

For example, an assessment of a network of urban grasslands in Australia showed that small grasslands contained unique species not found in larger reserves. The potential for cumulative biodiversity gains to be made through the management of multiple small urban spaces may also better attract conservation initiatives led by local government or community groups with limited resources.

Recognising Unconventional Habitats

Urban areas abound with unconventional habitats which are areas originally created for human use that can provide important habitat or resources for native biodiversity. These include brownfields, golf courses, cemeteries, roadsides, cavities within buildings, and infrastructure such as constructed wetlands. Public and private gardens often provide resources that might not otherwise exist in the urban landscape eg the number and diversity of urban street trees has contributed to large range extensions of the nationally vulnerable grey-headed flying fox (*Pteropus poliocephalus*).

Managers in urban environments can achieve conservation gains in spaces that might otherwise be ignored by considering how a wider variety of spaces and land uses can benefit biodiversity.

Developing Creative Actions

There is a growing need to intentionally create conditions for nature to thrive in urban environments. This includes actions to minimise human-wildlife conflict, reduce mortality rates, or provision of resources that might otherwise be lacking. Changing the type of street lighting, for example, can reduce the impact of artificial light on nocturnal species. Wildlife bridges and tunnels can be used to overcome barriers to movement created by infrastructure. More recently, conservation scientists have advocated for bolder initiatives in urban environments, such as creating habitats on built infrastructure, recognising the value of novel ecosystems and restoring species through reintroduction and translocation.

If creative actions are to become routine management practice, they must be accompanied by a thorough and coordinated evaluation of their effectiveness.

Minimising Future Impacts

In rethinking urban conservation, one must also have future urban development squarely in sight. Urbanisation is accelerating through expansion and densification. This will place increasing pressure on natural environments.

At the landscape scale, systematic conservation planning can be used to plan new cities or suburbs that maximise development objectives while avoiding areas critical for biodiversity. This approach explicitly quantifies and maps the relative biodiversity value of different areas across the landscape to help stakeholders visualise, understand, and deliberate the merits of multiple urban development options. Considering the site-level scale (i.e., 10s to 1000s of m²), evidence-based urban design principles can help develop neighbourhoods that are more sensitive to biodiversity.

A third article – an opinion piece can be found at

<https://ensia.com/voices/ecosystem-remnants-biodiversity-nature/>

In this essay, the author, William Laurance, Distinguished Research Professor, James Cook University, Australia, gives three reasons small patches of native vegetation can be critically important.

1. Rescuing Rare Biodiversity

To save unique biodiversity, highly isolated habitat remnants may actually be incredibly valuable.

2. Restoring Ecosystems

Small patches of native vegetation are remarkably important for restoring habitats. They are a source of seeds of native plants, seed-dispersing animals and native pollinators.

3. Other Big Benefits

Provision of stepping stones for mobile wildlife eg birds and bats.

Habitat remnants also help purify water supplies, filtering out pollutants and reducing silt from soil erosion.

They are important for people — they provide opportunities for recreation and nature education.

Conservation of small patches

These papers highlight the importance of conservation of small patches and the expansion of habitats, especially in urban areas. Mounting evidence shows that the public support conservation of urban biodiversity. Biodiversity in cities also benefits people, improving human health and well-being and their connection to nature.

Community engagement can also boost biodiversity conservation, with active participation resulting in conservation of higher quality habitat and recognition of the value of the area so it may be less prone to clearing.

However, long-held perceptions that undervalue urban environments undermine opportunities for conservation. Tackling current misconceptions represents a critical step in moving toward effective conservation action in urban spaces. Recognising the value of small spaces and unconventional habitats for native species, and the potential for creative conservation opportunities, opens up new avenues and will lead to better conservation outcomes.

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Ives CD, et al. 2016. Cities are hotspots for threatened species. *Global Ecology & Biogeography* 25:117–126.

<https://onlinelibrary.wiley.com/doi/abs/10.1111/geb.12404>

Biodiversity sensitive urban design.

Read about it at <https://ggarrardresearch.wordpress.com/biodiversity-sensitive-urban-design/>

Biodiversity Action Plans

Check out some Biodiversity Action Plans for densely populated areas.

City of London. The square mile of the densely populated City of London <https://www.cityoflondon.gov.uk/things-to-do/green-spaces/city-gardens/wildlife-and-nature/Pages/biodiversity.aspx>

Dublin City, Ireland.

<http://www.dublincity.ie/main-menu-services-culture-and-amenities-dublin-city-parks-biodiversity-dublin-city/dublin-city>

Hong Kong. https://www.afcd.gov.hk/English/conservation/Con_hkbsap/con_hkbsap.html

Sao Paulo, Brazil. cbc.iclei.org/wp-content/uploads/2016/09/LBSAP-Sao_Paulo_English.pdf

The Victorian Biodiversity Management Network and AABR

A history and future directions

Rob Scott

The Victorian Biodiversity Management Network was initially conceived by John Loschiavo, as a committee member of the Indigenous Flora and Fauna Association (IFFA) in early 2016. The initial discussions were around the formation of a network for people who manage land for biodiversity to facilitate biodiversity management information sharing and hence the quality of management. I became involved around April when John convened a meeting to discuss the purpose of a network. I went to the meeting with the partial aim of garnering support for a forum on biodiversity planning and monitoring and teamed up with John in planning and promoting both projects. A further informal meeting of people interested in the network occurred in early June. There were three areas of focus:

1. Developing industry standards and industry promotion
2. Information and knowledge sharing using a website, field trips and workshops
3. Building capacity of managers through short courses and industry accreditation

Survey

John formulated a survey to gauge people's thoughts about the value and focus of a network, and gain some industry background on the respondents. The survey was completed by 106 people from 59 different organisations (local and state government, bushland contractors, environmental consultants, Landcare volunteers and facilitators, and TAFEs and universities).

The results showed widespread support (99% of respondents) for a network and a strong belief (94% of respondents) that we need best practice standards. The majority (93% of respondents) who were acquainted with the Society for Ecological Restoration (Australasia) thought training in the standards would be useful. In order of preference, the respondents were interested in the following areas of training:

- Monitoring
- Revegetation design and management
- Prescribed burning
- Weed management, plant identification
- Herbicide use and techniques
- Direct seeding
- Volunteer engagement.

Other feedback indicated substantial interest (73% of respondents) in hosting workshops or providing sites for field trials, plus strong support (91% of respondents) for an online forum for biodiversity managers to share information and find solutions to management issues. The most popular forms of communication for a network were: email list, annual conference, newsletter and website.

Most people were willing to pay \$50-\$100 for an annual membership, depending on what was included. People also expected from their membership: a well-maintained website, several training courses each year, and updates on relevant information.

Biodiversity Planning and Monitoring Forum

John, Ben North and I organised a forum on Biodiversity Planning and Monitoring in May 2017. This event booked out quickly. There was a high level of engagement with the presentations and the subject matter stimulated discussion on further opportunities for improvement in the industry. John and I looked around for best practice project management and monitoring and settled on the Conservation Action Planning

framework. Several speakers showed how the framework could define project outcomes, draw together stakeholders, formulate actions and measurement criteria to monitor progress towards the project objectives. While this framework has not been applied in the local government context, the principles are applicable. The Bush Heritage Trust, Parks Victoria, Greening Australia and others have put it into practice.

First meeting of the Network

The Biodiversity Management Network was launched at the forum with plans to form a committee to steer its progress. The inaugural committee meeting of 20 or so people agreed on priority areas for the network. Meeting of smaller groups were planned, to focus on each of the priority areas before regrouping with the committee to discuss outcomes of the meetings.

Three groups were formed from the inaugural meeting

- Advocacy – promoting the industry as well as pay and conditions for practitioners
- Biodiversity outcomes – improving the quality of biodiversity outcomes arising from management actions
- Education – promoting training within the industry and the value of biodiversity in the wider community.

As other commitments prevented the groups meeting, there was general agreement that an association would not be viable without a paid position to help run it. It seemed getting to the formation stage was a big challenge given people's other time commitments. Due to personal commitments, John ceased work on the project in November 2017.

A second meeting in late 2017 attracted six of the 20 original attendees and a second attempt was made to meet separately to discuss what a network would provide. Two meetings were held discussing advocacy and outcomes with only myself and one or two others. I continued to meet with industry contacts and discuss possible ways forward.

The decision to join forces with AABR

I met with Tein McDonald in January 2018 to discuss a Victorian group coming under AABR. Tein suggested exploring the opportunity of building on the resources and experience of IFFA while further defining the aims of the Victorian group. I joined the IFFA committee and began preparation for a follow up forum on biodiversity management software. To keep the conversation going, bimonthly meetings of biodiversity managers were set up as a subcommittee of IFFA, with the first meeting in July 2018.

With little progress towards the network becoming a reality, I discussed with Tein the option of forming a Victorian branch of AABR. Tein invited me to join the committee and I attended the AGM in late 2018, where there was agreement that AABR would support the formation of a Victorian branch. There was similar support amongst the industry managers group for this proposal.

Tein came to Melbourne in February 2019 to address an invited audience on the history, aim, objectives and current initiatives of AABR, as well as answer questions and provide information on how the structure of AABR would accommodate another branch. People were impressed and enthusiastic about what AABR had achieved and had in the pipeline. There was unanimous agreement to form the Victorian branch and a committee was formed.

The next step is to proceed with the formalities of setting up a Victorian branch and the associated structural relationship with the National/NSW organisation. In addition the committee will decide on a short and long term strategy and associated priorities.

Books

To Burn or Not to Burn

Perceptions of fire management around Australia

Anthony Kerr

Fire has been an integral part of Australian landscapes for thousands of years, but has its role been sufficiently understood?

To Burn or Not to Burn was born out of a curiosity about fire and fire management. In 2016, Anthony Kerr embarked on a road-trip around the country with his family and decided to interview Australians on how they felt about fire management. *To Burn or Not to Burn* is a compilation of these interviews.

The 37 personal accounts of fire management contained in the book, reveal not just the differing perspectives on fire management but perhaps more importantly, how Australians interact with the land on a more profound level which may provide a greater understanding on the future role of fire in mainland Australian landscapes.

Cost \$44.95 + postage for buyers in the Northern Territory. For other parts of Australia or Overseas, purchase from mainstream online bookstores (search the book ISBN number: 9780987628602).

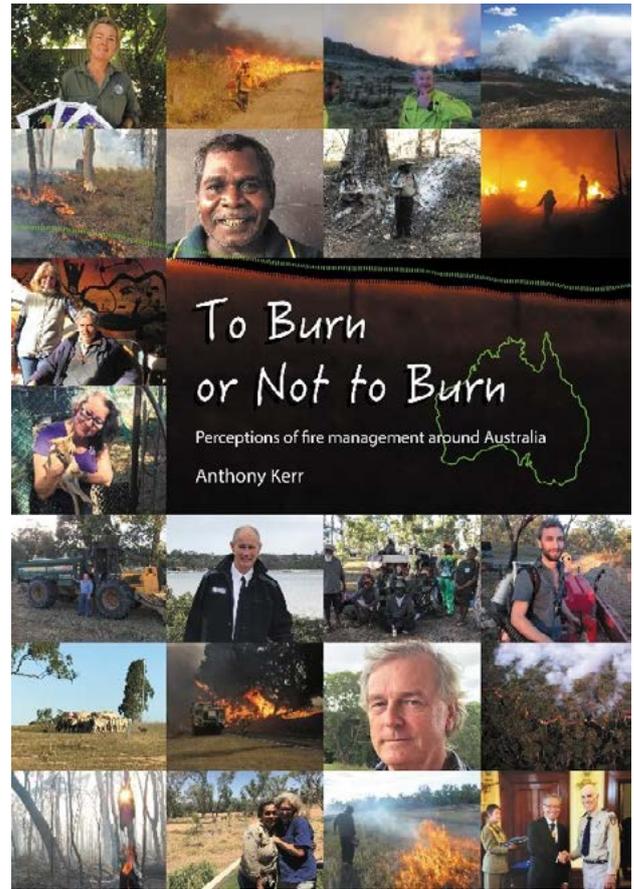
To contact Anthony about this publication, please email macotropic19@gmail.com Website: <https://macotropic.com/>

ISBN: 9780987628602; Paperback / softback

Publication Date: 22-01-2019

Publisher: Macotropic Trust

Pages: 364 pages | 25.4 x 17.78 cms



Early Invader Manual for Victoria

The Victorian project Weeds at the Early Stage of Invasion (WESI) has produced an *Early invader manual*.

The WESI project is funded by the Victorian Government and focuses on high risk early invaders that threaten biodiversity. A preventative and early intervention approach to weed invasion has been adopted in many parts of the world with great success.

Weed activities fall into four broad categories: prevention, eradication, containment and asset-based protection. Better understanding of these different management approaches, means public land managers can make informed decisions, invest resources wisely, and have better biodiversity outcomes.

Weeds, at the early stage of invasion (early invaders), have

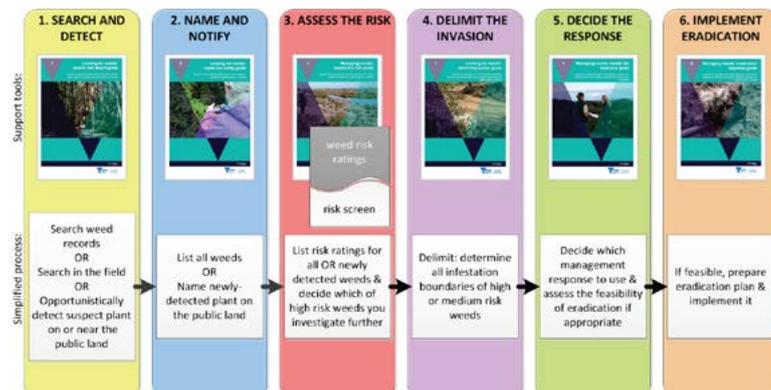
naturalised and started to spread. Their eradication is extremely important for the protection of biodiversity. Eradication is the elimination of every single individual (including propagules e.g. seeds and buds) of a species from a defined area in which recolonisation is unlikely to occur.

By investigating the barriers that prevent action on early invaders, WESI has created tools to assist public land managers. The *Early invader manual* leads public land managers through a decision making process to assist with the management of early invader environmental weeds.

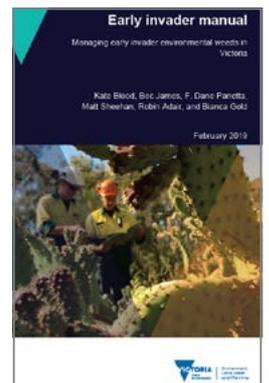
Although relevant weed legislation will be different in other states, the framework is still relevant.

The manual is available in hard copy and online in PDF: <https://www.environment.vic.gov.au/invasive-plants-and-animals/early-invaders>

You can order a FREE hard copy (for Victorian residents) of the *Early invader manual* posted directly to you here: <https://www.eventbrite.com.au/o/bianca-gold-department-of-environment-land-water-and-planning-18080018366>



Decision making framework for early invader weeds.



What's happening

Tuesday 7th and Wednesday 8th May 2019

Victorian Weeds Conference 2019



Where: Mercure Port of Echuca, Echuca, VIC

Event Contact: Bec James | admin@wsvic.org.au

<https://www.wsvic.org.au/events/>

Friends of Grasslands

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

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

www.fog.org.au/

Sunday 26 to Tuesday 28 May 2019

3rd National EcoArts Australis Conference:

Using the Visual and Performing Arts to Encourage Pro-environmental Behaviour

Wollongong, NSW

Our environment is being pressured on all sides, with burgeoning levels of rubbish and greenhouse gas emissions, increasing urban congestion, tree decline and land degradation and decline in biodiversity. All of these issues relate back to our behaviour as Australian citizens. The arts are uniquely placed to explain these problems to the general public and to motivate people to adopt behaviours that have lower impacts on the environment.

The third EcoArts Australis national conference is an opportunity for you to network and communicate with others who are using the arts in creative ways to encourage pro-environmental behaviour.

<http://www.ecoartsaustralis.org.au/events-and-projects/conference-2019-using-the-visual-and-performing-arts-to-encourage-pro-environmental-behaviour/>

Monday 26-Thursday 29 August 2019

20th NSW Weeds Conference

The 20th NSW Weeds Conference is a premier event for NSW weeds officers, researchers, market and industry analysts, government officials and policymakers working towards better weed management across the country. The conference will unite more than 250 weeds management experts in the beautiful beach-side city of Newcastle, Australia.

Weeds are a serious threat to Australia's native flora and fauna and add pressure to our economy. Recent technologies, policies and innovations are helping us manage weeds more effectively - but more work is needed.

Conference session themes include:

- Measuring success in weed management
- Weeds in the urban landscape
- Weeds management in rural settings
- Putting the we in weeds: working together

WHERE: Newcastle NSW

For more details: <https://www.nswweedsconf.org.au/>

Tuesday 22-Thursday 24 October 2019

Healthy Landcare | Healthy Landscapes NSW Landcare and Local Land Services Conference

Seeking presentations for sessions and posters
Submissions are due by Friday, 31 May.

WHERE: Broken Hill

For more information:

<http://nswlandcareconference.com.au/>

Sunday 27-Wed 30 October 2019

Landcare Unearthed - Celebrating Diversity, Managing Landscapes SA Community Landcare Conference

WHERE: Bordertown

For more information: <https://landcaresa.asn.au/event/2019-sa-community-landcare-conference/>



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Australian Association of Bush Regenerators

The Australian Association of Bush

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

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

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

AABR also offers accreditation for experienced practitioners.

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

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