



AABR NEWS

Australian Association of Bush Regenerators NSW

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President's
Perspective
2

AABR Change
survey
3

Assessing
Environmental
Trust grants
4

Tick-borne
diseases: update
6

Weeds of doom on
Lord Howe Island
10

The North Coast
Camphor Wars
13

WoNS
16

Bits and pieces
17

What's happening
20



AABR Saltmarsh field day at Kurnell 25 May 2012

We learned that a saltmarsh is supposed to have some bare patches—but this has gone way too far! Saltmarsh is vulnerable to physical disturbance, and cars and trail bikes have done the damage. Can it ever look like the second site we visited (photo below)? We will bring you a write-up of the day in the next edition.



Photos V. Bear

This is not a before and after photo!

(Though hopefully when we revisit the site in 3 years, there will be some exciting results.)

Don't forget our **before and after photo competition**. Send to newsletter@aabr.org.au along with a few words about the project. Photos may be published in the newsletter and on our website. Closing date 31 December 2012.

\$200 prize

President's Perspective

Happy winter to all... which hopefully will bring some respite from the last (relentless!) weeding season. And welcome to the 12 new AABR members approved since last issue of the AABR news. It is a testament to our relevance that our applications are still running at a steady pace.

Survey. The big news for the committee right now is the completion of the online survey of members, potential members and supporters—as it brings us a step closer to putting a proposal for change to the AABR membership. (Our aspiration since the last AGM).

Indeed, it was heartening to read the survey results which attracted so many thoughtful and intelligent responses. This gives me and the other committee members a strong sense of hope that the future of AABR will be a bright one. More specifically, it was particularly heartening to see such a strong level of interest in the two main ideas being proposed by the committee—i.e. broadening the scope of AABR (while retaining a strong natural regeneration emphasis) and

opening up membership to all supporters by establishing a strong accreditation system to replace our previous defacto accreditation provided by strict membership.

There are still further steps to go before the proposal is ready to go to members for formal discussion and consideration, however. AABR is currently examining the legal context of the changes including potential for rule changes that enable the vision to be realized while at the same time protecting AABR's standards. In addition we are scoping a promotion campaign to identify what exactly would be required to convey the changes to our stakeholders and attract new members.

Further, there are still a number of questions in the survey that have not yet been analysed – and these may have a bearing on the proposal for change (particularly the document on AABR's ecological restoration philosophy that is being prepared to accompany the proposal). So bear with us as we take the time necessary to complete all these tasks!

Tein McDonald

Want to join the newsletter team?

We have a vacancy for a folder. It's a voluntary job.

You can be located anywhere in Australia where there is a printer. Perhaps get some friends together and make it an occasion?

You will be needed 4 times a year to:

1. Collect newsletter from the printer
2. Purchase envelopes (we reimburse you - 1 box lasts about a year)
3. Fold and stuff about 130 copies (most people receive the newsletter by email)
4. Stick labels on (we send them to you)
5. Post the newsletters.

We usually manage to get the news in the post within one or 2 days of printing. We can cover it if you are sometimes unavailable.

Also let us know if you would like to do it occasionally—perhaps we could share the job around.

Contact Virginia Bear newsletter@aabr.org.au 0408 468 442 or Louise Brodie membership@aabr.org.au

Field day ideas

Do you have any suggestions for a field day?
Would you like to co-host one with AABR?

We are particularly interested in events outside the Sydney Basin.

Talk to us on 0407 002 921 enquiries@aabr.org.au

AABR Sponsored awards at TAFE

The 2012 recipient of the AABR NSW Mark Foster Memorial Award is Craig Scorgie. This is awarded to a Central Coast NSW Certificate II or III student in Conservation Land Management (Natural Area Restoration) who, like the late Mark Foster, has demonstrated an outstanding enthusiasm and genuine passion for the bush and bush regeneration, and is able to inspire and motivate those around them.

The award was presented by a colleague of Mark Foster's, Damien Moey, on behalf of AABR at an awards night at the Ourimbah TAFE/University campus.

The 2012 Beverley Blacklock Award was awarded to Julian Reyes. The Award is for the most outstanding student in Bush Regeneration / Conservation and Land Management at Ryde TAFE. Julian averaged almost 100%, attended all lessons and was a nice guy to boot, including helping his classmates. It was presented by Beverley's son Richard Blacklock.

Congratulations Craig and Julian.

Welcome to new members

David McGuiness	Glen Walker
Terry Hile	Jason Walsh
Jeff Culleton	J Bryan Hacker
Jason Salmon	Joe Kielniacz
Kieren Kinney	Chad Oliver
Julie Reid	Kirsty Reynolds

AABR change survey overview

Sue Stevens

As regular readers of this newsletter will know, in late April and early May AABR conducted an online survey of its members and interested non-members. While AABR is still considering the implications of the feedback, there are some clear messages.

A total of 274 surveys were completed. This was a very healthy result, and the 115 members who responded represented about one third of AABR membership.

Respondents:

Current Members: 115
Lapsed Members: 19
Subscribers (Current or Lapsed): 27
Potential Member under current rules: 32
Potential Member if rules change to separate membership from accreditation: 55
Other Non-members: 26
Total 274

The types of work the respondents did:

Regenerator (i.e. employed or a contractor): 35%
Regen manager/planner/trainer :17.8%
Other NRM: 17.2%
Volunteer/retired: 15.1%

The Responses

The two big questions in the survey were: (1) Did people wish for AABR to have a broader perspective on ecological restoration, but still emphasizing natural regeneration and (2) did people want membership to be separated from accreditation. The results show that most people would welcome, or are at least open, to these changes.

1. Broader scope of AABR

This question received more 'yes' responses than any other—both from members (85.6%) and non-members (81.8%).

Comments to this question included "It is important to allow anyone with an interest in regeneration to join and benefit from a large pool of experience and skill."

2. Separation of Membership from Accreditation

79.9% of member respondents supported separation of membership from accreditation, and 56.7% of non-member respondents would consider joining AABR if membership was separated from accreditation. Fifty-five respondents who are currently non-members said they would be potential new members if rules changed. Thirty-three respondents who are currently non-members already satisfy the membership criteria under the current rules. Comments included that:

- accreditation was important, and some were agreeable to the separation only as long as it didn't erode the value of accreditation
- current membership criteria are too rigorous and do not admit people with much experience, and 'shut out' interested other people
- some saw accreditation as less important for employees, for whom a TAFE certificate is sufficient entry into the industry.

Other questions

A range of other questions were asked including questions about: potential for a name change; the extent to which AABR's services (such as this newsletter, walks and talks) were valued and used; scales of fees for the future; whether and to what extent AABR should play an advocacy role; and, the potential for respondents to contribute time and energy to AABR.

While the data on these other questions are not yet fully analysed, all the responses to these questions appeared very informative and encouraging for AABR's future. A more comprehensive article on all the questions of the survey will be provided in the next issue of this newsletter.

SERA Conference 27-30 November, Perth, WA—abstract submission date extended

The Society for Ecological Restoration Australasia (SERA) is a new organization in Australia... but not a new organization in the World. That is, SERA is a local chapter of Society for Ecological Restoration—the peak international body promoting and raising standards for practitioners, researchers and managers involved in ecological restoration around the globe.

You can be part of this by attending SERA'S first conference—which this year will be held in Perth at the end of November. The aim of the conference is to provide a forum for scientists and practitioners to present papers, attend workshops and improve their networks to sharpen our potential to collaborate to conserve Australasia's ecosystems.

AABR will be represented at the conference—particularly at two workshops designed to bring together leaders of Australasian environmental NGOs to develop ideas for these organizations, including AABR, to better collaborate to optimize our joint mission.

Think up a topic to present on—and go to seraustralasia.com to submit your abstract. (Note that due to unprecedented interest, the abstract submission deadline for the inaugural SERA conference has been extended until the 22nd June.)

AABR reps help ensure good value for Trust grant dollars

In 2011 AABR was asked to nominate delegates for the two committees assessing Environmental Trust grant applications. Mary-Lou Lewis and Janet Rannard volunteered for the role.

The Trust have advised us about how important it is to have AABR in the technical committee to help them constantly improve the sophistication of bush regeneration activity around the State, and that many changes to the program have occurred over the years because of input from AABR.

From Mary-Lou Lewis

With great honour and trepidation I accepted the request to be part of the assessment panel for Environmental Trust Restoration and Rehabilitation Grants for 2011. I say trepidation because I was familiar with what is involved in ET grants—both applying for, and reporting on if the grant is successful.

In October 2011 we (the assessment panel) were involved in commenting on a new assessment criteria. These followed five basic areas:

- 1 tangible environmental benefits
- 2 consistency with program aims and objectives
- 3 efficiency and effectiveness
- 4 demonstrated ability to deliver the project to a high standard
- 5 value for money.

A bit of background to the committee process.

Section 9(1) of the NSW Environmental Trust Act requires the establishment of a Technical Review Committee. Each Technical Review Committee is to include at least one representative of community groups and at least one representative of industry.

The Trust is to refer each application for a grant to a Technical Review Committee. The committee is to assess the practicability and overall worthiness of each application and provide the Trust with its assessment. The technical committee consists of people drawn from relevant government departments, local government, industry representatives and the environmental community. Technical Review Committee members' functions are to assess the annual round of grant applications and occasionally review progress and final reports of Trust funded projects.

The NSW Government committed \$10 million to regenerate degraded natural bushland, including riverbanks, urban bushland and degraded waterways. The NSW Environmental Trust approved the allocation of \$10 million between two programs being a Community Bush Regeneration Large Project Stream and a Small Project Stream.

Janet Rannard

We agreed that these criteria were more efficient and streamlined, and would allow for more consistent interpretation by the various assessors.

Next we headed into reviewing the applications. There were two types of applicants: community and government. The applications were assessed separately.

From community organisations we received 62 applications requesting \$4 779 891. From government departments we received 83 applications to the total of \$6 745 492. That meant I was to read and consider 145 applications, each consisting of approximately 30 pages! Oh boy.

Each application was reviewed against the stated criteria and given a score. The type of project varied, however there was a high number of applications to remediate areas that had been devastated through recent extreme weather conditions—storms, wet weather and floods. I feared that extreme weather was eating into funds which otherwise could be spent on well deserved remediation and maintenance regen projects.

I needed to grasp and understand if the money requested would be beneficial, but my difficulty was that I did not see the site or even know the area. I was relying on words in the application to demonstrate thorough planning and sensible sequential project management, together with detailed costing and the experience of the applicant.

I found I asked myself things like "could a team really cover 50 km of riparian bushland with 240 volunteers over a period of six months and be effective?"

What would happen after this grant? Who is benefiting? So many questions...

We all sat and reviewed everyone's rankings. Some were easy and everyone agreed, some needed further clarifications to make a judgment and others required discussions to explore the merit or possibilities of expected outcomes. This was eye-opening as everyone came to the table with different expertise and biases. Surprisingly, details of a projects were known to some members of the panel through catchment management or other related cross-tenure objectives.

After reviewing all the applications, what came to mind was how many terrific places we have around the state worthy of preserving which are cared for by people who are innovative, creative, passionate. They are true custodians of the land, helping to ensure longevity of quality biodiversity for future generations.

It was really uplifting and reassuring to hear of all the good work that is being done (or hoped to be done) by community members and employed staff.

Our recommendations went to the review board who decided who was to receive funding. Approved were 25 grants totalling \$2 052 515 from the community and 24 grants totalling \$2 010 533 from government organisations.

Next call for applications is in July 2012. So my advice to anyone applying is to follow the guidelines and meet objectives of the Environmental Trust, be as descriptive as possible, giving a true picture of the site's importance, its impacts and pressures, and link the project to other supportive projects. Be clear on how

best it can be ameliorated and why you chose this avenue. Be realistic about expected outcomes and how they can be clearly monitored, and be accurate and clear on the financial page.

The review committee also looked at two major projects funded from Environmental Trust, *Restore the population of Tasmanian devil* and *Weed removal on Lord Howe Island*. Both needed extensive business plans to ensure risks have been addressed and there are beneficial outcomes for money spent. It was insightful and rewarding to learn that the NSW Government sees fit to help protect these icons, is rigorous in review process and willing to accept recommendations to achieve the best possible results.

From Janet Rannard

I am an industry representative (representing AABR) for the Community Bush Regeneration Large Project Stream Technical Committee until December 2014. The aim of the program is to facilitate large, long term bush regeneration projects run by local community groups. The funding is available over a period of six years, and targets well-designed, larger scale projects where the groups can demonstrate their capacity to maintain the project and continue the work beyond the funding period. It also aims to improve the capacity of communities and organisations to protect, restore and enhance the environment by strengthening local community organisations whose primary purpose is to undertake works in their local area.

Funding of up to \$8 million was available. Each applicant could apply for up to \$250 000.

I was given three weeks to review at home a number of applications. It was a very busy time. The assessment criteria were similar to the ones mentioned by Mary-Lou. I needed to score the assessment criteria for each application. This information was then sent back to the Trust and collated.

The assessment committee then met to review and to make a decision on the successful applications. Other members of the Technical Review Committee came from the north coast, the south coast and from the west.

Initially we were allocated one day. However this turned out to not be quite enough time. Rather than meeting again in person we teleconferenced to complete the process.

As at 21 May applicants have not been informed if they were successful.

Overall the review process was challenging but enjoyable. Like Mary-Lou I am amazed at all the interesting places and projects and people that would like to improve their local environments with the assistance of the NSW government.

AABR thanks Mary-Lou and Janet for giving their time and sharing their expertise to assist with the review process. This is a substantial commitment and we value their contribution.

Other grant news

Are we getting it right?

In their recent article [The biodiversity fund: another missed opportunity](#) published in *The Conversation* Emma Burns and David Lindenmayer are concerned that grant money is not always used in the most effective way. While pleased that the biodiversity fund, announced in July last year, offers almost \$1 billion over 6 years, they are concerned we may be repeating past mistakes.

Here are some extracts.

“The Biodiversity Fund is characterised by a lack of robust monitoring, with no specified budget given to monitoring the Fund. A paucity of effective monitoring lay at the core of the caustic criticism of the Natural Heritage Trust. Several authors have argued that monitoring should be 8-10% of a program budget.

It has only been through effective monitoring that it has been possible to determine what makes a good planting in temperate woodland environments and what does not make a good planting (and is therefore a waste of taxpayer’s money).”

“The Biodiversity Fund has failed to learn from other successful Australian Government programs. The Environmental Stewardship Program is one such program. Land managers are paid to undertake strategically designed and scientifically informed conservation actions in targeted threatened ecological communities. Implementation and investment strategies are based on evidence: the biodiversity benefit of funds spent is estimated relative to the program’s objective.

The program’s design and implementation is strongly linked to conservation science. It has been supported by well-designed monitoring to quantify the effectiveness of the program. These are critical features of effective and informed program design and they need to be embraced in the Biodiversity Fund”.

Caring for Our Country extended

The Federal Government will continue the Caring for our Country program, providing \$2.2 billion from 2013-14 to 2017-18.

The extended funding follows a review of the first phase. The next five years will draw on the findings of the review and the strengths and successes of the first phase, will focus on activities that address emerging priorities in natural resource management, and strengthen the focus on the marine environment.

From July 2013, Caring for our Country will be delivered through two specific streams—one dedicated to sustainable environment, and the other to sustainable agriculture.

Source: Tony Burke, Federal Minister for the Environment, media release May 2012.

Funding for roadside vegetation

More than 30 councils from across NSW will share in nearly \$1.3 million to restore, revegetate and protect roadside vegetation as part of the Roadside Vegetation Implementation Program. The Local Government and Shires Associations of NSW (LGSA) is managing the funding on behalf of the NSW Environmental Trust.

Forty-six grant applications were submitted and 11 of the projects that attracted funding were in council areas with populations of less than 20,000 people.

President of the Shires Association, Ray Donald, said the grants would provide a boost for smaller rural and regional councils, allowing them to carry out vital roadside conservation works and help regenerate ecological corridors. Projects included removing environmental weeds, bush regeneration, improving signage of environmentally sensitive areas and staff training to ensure roadside vegetation areas were protected.

Source: LGSA press release Feb 2012.

Tick-borne diseases: update

Lynn Rees and Virginia Bear

This expands on the tick removal and protection information in the previous newsletter. It will soon be available as a separate PDF on www.aabr.org.au.

We consulted with Dr Mualla McManus, founder of the Karl McManus Foundation, Nikki Coleman who runs the Lyme Disease Association of Australia, and Dr Ann Mitrovic, Pharmacologist from the University of Sydney for any updates and to help answer some of our remaining questions.

The science about how to both repel and kill ticks still has many gaps and can be contradictory. So take this advice for what it is: current best practice based on research and personal experience. As more research becomes available we will attempt to keep this guide up to date.

Update on TBD hot spots

We previously said that "hot spots for tick-borne diseases in Australia are northern suburbs of Sydney, Northern Beaches, Central Coast, Coffs Harbour area, Gold Coast area, all the way up the coast to Cape York. Plus outer Western Sydney, due to Indian myna birds as a source of mites, ticks, etc."

Nikki Coleman, who collects data from people infected with TBD, said "we need to add the South Coast of NSW, parts of rural Victoria (which are undergoing a babesiosis outbreak at the moment), parts of rural and coastal Queensland, and large parts of southwest Western Australia (we are getting a lot of inquiries from WA at the moment). Basically due to the lack of research in Australia, I would say that wherever there are ticks there is the potential for tick-borne diseases such as Lyme disease, babesiosis, rickettsiosis, bartonellosis etc. Currently our governments aren't interested in protecting Australians from TBD, so it's up to us to be careful."

According to Dr McManus "ticks are becoming more prolific and their range is expanding and the rising temperature together with high rainfall makes the perfect environment for tick eggs to develop and thrive. These subtle effects of climate change appear to be making the bacteria in the tick's guts more virulent. This means people who get infected get sicker with more serious symptoms."

Mosi-guard

We have received two recommendations from readers who find Mosi-guard to be an effective tick repellent. It does not contain DEET. The website is heavily oriented toward mosies, but it states on the container that it gives four hour protection against ticks.

From www.mosiguard.com.au "It is one of the most effective ways of protecting yourself from biting insects. The active ingredient of Mosi-guard is Citriodiol®, a naturally occurring extract of lemon eucalyptus oil. Mosi-guard is the world's most widely used and successful natural insect repellent.

Mosi-guard is available in aerosol and roll-on. This is easily superior to all other natural repellents & is equivalent to, or better than, all synthetic repellents."

Is there any problem if tick mouth parts are left in?

Yes. This is very dangerous. This would mean that saliva in the mouth can possibly continue to deliver pathogens. Dr Mualla McManus suggests antibiotics ASAP, if mouth parts are left in.

For the most up to date advice on prophylactic treatment for a tick bite contact either www.karlmcmannusfoundation.org.au or www.lymedisease.org.au. Your regular GP may not know this.

Are essential oils OK to kill ticks?

No they are not! I (Lynn) have used essential oils to kill nymphs and larvae for 20 years and I have Lyme disease! According to Dr McManus, essential oils are irritants. Any substance that has a different pH to that of the tick, as well as blocking the ticks ability to feed (oils are thick and the hyposome (mouth) can't work), would irritate the tick. There are no published studies about essential oils as tick irritants.

Earliest known Lyme case

Oetzi the 5300 year old "iceman" had Lyme disease.

Oetzi's corpse was found by hikers in the Italian Alps in 1991. Recently, scientists sequenced his genome. They found that he suffered many of the same ailments we suffer from today and they found Lyme disease. This is the earliest documented case of Lyme disease!

Are essential oils OK to use as tick repellents?

Perhaps! But better not take the risk. There are many recipes using essential oils as tick repellents, and they have been used for centuries. However, Dr McManus says, "I don't know if these "natural" repellents would work as well as common chemical repellents, but they are more likely to be irritants to the tick.

Can larval ticks transmit infections?

There are several tick-borne pathogens that have been shown to be transmitted transovarially (from parent to offspring) e.g. babesiosis, ehrlichia/anaplasma and rickettsiosis.

According to Lyme expert and author Karen Vanderhoof-Forschner "People can be told erroneously that larvae do not transmit Lyme disease because the bacteria do not cross from the adult to the egg. Yet in Europe, up to 21% of unfed larval *Ixodes ricinus* are infected with the pathogen. In Russia, the *Ixodes persulcatus* tick ... transmits 100% of its infection to



Coveralls (modelled by Lynn) and long-sleeve, high-vis, orange/navy shirt, from Safari Life. They also supply other colours and styles.

25% off permethrin treated clothing

As a special offer to AABR members and subscribers, Safari Life is offering a 25% discount on web orders for a month after publication of this newsletter (June 10 to July 10).

Enter the promotional code TICK when you check out.

The discount does not include the coveralls that are currently on special at \$20.00.

Contact Cheryl Loots

08 9341 7338

cheryl@safarilifeworld.com

Unit 2, 16 Abrams Street, Balcatta, WA 6021

Skype: safarilifeclothing

www.safarilifeworld.com

its eggs, and 100% of the emerging larvae are infected. In New Jersey, 16% of the clusters of unengorged larvae harbour *Borrelia burgdorferi*. So while the risk may be low, it's not zero."²

Larval ticks are a particular cause for concern—even if an individual larval tick is less likely to carry infection, their greater abundance means we are likely to be bitten by more individuals, and it may take longer to detect them, giving them more opportunity to pass on an infection.

How quickly can ticks transmit infections?

There is uncertainty about this, but it is likely quick removal or killing of the tick will reduce the chance of infection. So check regularly! Karen Vanderhoof-Forschner again: "One of the least studied and most intriguing features of ticks is that some are systemically infected with pathogens found both in the midgut (stomach) and salivary glands, while others are infected locally, with the agent present only in the midgut. The distinction is very important. With Lyme disease, for example, a systemically infected tick may be able to transmit a pathogen in only a few hours whereas a tick with a localised infection may take 24-48 hours to move the bacteria into its salivary glands so that transmission can occur."²

Permethrin-treated clothing that kills ticks fast

Thanks go to Kim Cheney, owner of Bellingen Bush Regenerators, who put Lynn onto Safari Life who makes a range of permethrin treated clothes and accessories. Ticks are killed on contact and the permethrin lasts up to 70 washes. She sent a swag of samples by Safari Life and the quality and fit is good. My (Lynn) volunteers and staff are currently testing them out. They even have permethrin treated socks! They sell coveralls, work shirts and pants as well as a more fashionable bush walking types of styles. The sizing is generous and the prices are good too.

The chemical safety of this product on a sweating body appears to be safer than products containing DEET.

Contact www.safarilifeworld.com for testing information.

Clothes driers and washers

To kill ticks on clothing a drier is recommended—on the hottest setting for at least 10 minutes. Ticks are sensitive to desiccation. That's why they inhabit mainly moist areas such as the coastal strip and are found in shady moist bush settings rather than open areas where they can desiccate easily.

I (Lynn) don't have a dryer. I soak my tick-infested clothes overnight in a 10 litre bucket with about 20 ml of eucalyptus oil. This is personal advice only—not scientifically tested—but it has been effective so far.

A machine wash is unlikely to kill all ticks on clothing—even if hot. We haven't found data about the minimum temperature and time needed for heat sterilising clothes, but immersing clothing in boiling water is a potentially useful method.

References

¹Stephen S. Hall (2011) *Iceman Autopsy* ngm.nationalgeographic.com/2011/11/iceman-autopsy/hall-text

²Karen Vanderhoof-Forschner (2003) *Everything You Need to Know About Lyme Disease and Other Tick-Borne Disorders*. John Wiley & Sons, Inc

Lyme symposium, Sydney Sunday July 8

2.30pm to 4.00pm The Grace Hotel 77 York Street

Diagnosis, and options available in Australia and overseas, including serology, PCR, culture and ELISpot. Symptoms, diagnosis and treatment options.

The role of complementary medicine treatment of LD.

Dr Nicola McFadzean US-based naturopathic doctor specialising in Lyme disease.

Dr Gull Herzberg GP, based in Bellingen, NSW, who currently devotes about half of his practice to Lyme disease.

Dr Mualla McManus Director of the Karl McManus Foundation, patient advocate, ILADS member and a consultant pharmacist with a PhD in neuroscience.

\$45 before 20 June. \$65 after 20 June

Enquiries and bookings

0413 168 886

info@karlmcmannusfoundation.org.au

www.karlmcmannusfoundation.org.au

First report of human babesiosis in Australia

Dr Ann Mitrovic
Honorary Associate School of Medical Sciences
(Pharmacology) The University of Sydney

A serious tick-borne infection, babesiosis was identified in a 56 year old man on the South Coast of NSW, and reported in the Medical Journal of Australia.

This is thought to be the first reported case of locally acquired babesiosis¹. The species of *Babesia* was identified to be *Babesia microti* which is found in the US and is a common co-infection with Lyme disease causing bacteria *Borrelia burgdorferi sensu lato*. In Australia, babesiosis is a known disease of cattle² and dogs³ and *Babesia* species have been reported in our wildlife⁴.

The article highlighted that although the host for *B. microti* is yet to be identified, the proximity of ticks, wildlife and human populations suggests that further cases may be encountered and that clinicians should be aware of the signs and symptoms of babesiosis and how to diagnose it. The article suggests that babesiosis should be suspected if patients have any of the following symptoms following a tick bite, or have participated in outdoor activities that could have exposed them to tick bite, blood transfusion or overseas travel to endemic areas:

- haemolytic anaemia
- thrombocytopenia
- fever
- influenza-like illness

For diagnostic support they suggest

- thick and thin blood films examined for red blood cell parasites (three sets of films 8-12 hours apart)
- antibody testing of serum
- molecular testing of blood by polymerase chain reaction

If you require further information please speak with your doctor.

References

- ¹Senanayake, S.N., Paparini, A., Latimer, M., Andriolo, K., et al (2012). *First report of human babesiosis in Australia*. MJA 196: 350-352.
 - ²Bock, R., Jackson, L., de Vos A., Jorgensen W. (2004) Babesiosis of cattle. Parasitology 129, Suppl:S247-S269.
 - ³Jefferies, R., Ryan, U.M., Jardine, J., et al., *Blood, bull terriers and babesiosis: further evidence for direct transmission of Babesia gibsoni in dogs*. Aust. Vet. J., 85, 459-463.
 - ⁴Paparini, A., Ryan, U.M., Warren, K., McInnes, L.M., de Tores, P., Irwin, P.J. (2012). *Identification of novel Babesia and Theileria genotypes in the endangered marsupials, the woylie (Bettongia penicillata ogilbyi) and boodie (Bettongia lesueur)*. Exp. Parasitol.131(1), 25-30.
- Link to Sydney Morning Herald article: www.smh.com.au/environment/origin-of-lethal-tick-infection-a-mystery-20120318-1vdse.html

Research into tick-borne diseases—thank you

Thank you to all the bush regenerators that have sent ticks to the University of Sydney for our research into tick-borne pathogens, your assistance is greatly appreciated. Please continue to send them as it is important to have tick samples from a wide sampling area of the eastern seaboard.

If you would like to assist us please contact me by email ann.mitrovic@sydney.edu.au or phone 02 9351 3217 and I will send you more information regarding the research and how you can help.

Red meat allergy

Andy Marshall
Environmental worker, NSW North Coast

In his article in AABR News 112, Matt Springall made a brief mention of a suspected allergy he had to red meat. This is something I'm quite sure I have.

My understanding is that it's called "alpha-galactose allergy", and like Lyme, doesn't seem to be widely known about in Australia, but is readily found on Dr Google from American medical sites. Alpha-gal is a sugar (carbohydrate) found in the muscle tissue of all mammals other than humans, old world monkeys and great apes... so ALL red meat items on most peoples diets contain alpha-gal. Being a sugar, alpha-gal is readily dissolved and spread in cooking, and on cooking implements, and is found in anything containing gelatine—including medicine capsules and many gelatinous lollies, and in small amounts in dairy products—generally the higher the fat content the higher the risk of reaction for an alpha-gal sufferer.

In people with the allergy, the symptoms can range from skin hives, to upper digestive tract allergy response (a bit like severe indigestion or upset stomach), to life threatening anaphylaxis. Unlike many food allergies, the response is often delayed up to some hours, so the association between cause and effect can be missed.

There is a common thread to many alpha-gal allergy cases, in that many sufferers can isolate the onset of the allergy to a time when they received a tick bite. The mechanism in a human immune response that triggers this allergy is less well understood, but it seems to involve a chain of reactions after exposure to a tick which some people are more susceptible to than others—maybe even bad luck plays a part. It is presumed that the tick is passing some component of its last mammalian meal via saliva, onto the poor alpha-gal victim, and triggering the immune system-allergy response.

Although symptoms for some people can subside over time, additional tick exposure seems to be linked to persistence of the condition—and some poor sufferers get it far worse than others

(fortunately mine is relatively mild, but I've had it for about 18 years... and little sign of it subsiding).

There is no cure, you just have to get animal protein in the diet from fish, birds, reptiles or crustaceans... or go vego... but for me, every time I think I've got a spot of indigestion, it's likely I've been exposed to a mammalian product (usually gelatine or fatty dairy) of some kind. If you're sensitive to alpha-gal, you soon realise how many food items contain mammal products with alpha-gal.

Diagnosis of alpha-gal allergy is entirely possible, and could be a request via a local GP. I haven't bothered with the test because after 18 or so years of diet modification and avoidance, my self-styled treatment to avoid the symptoms (don't eat mammalian meat products) works fine, and knowing the cause for the allergy reaction, which I can't change, seems less important than avoiding the consequences, which I can.

Just how does a tick poo?

Matt Springall

In my article in the last AABR News *Ticks—a bush regenerators perspective* I claimed that ticks “expel waste from the body via the mouth as they have no anus” which I have since had pointed out is not quite correct.

It was something I was told years ago and like much information passed from peer to peer about ticks, there seems to have been a misinterpretation. So in the interests of accuracy here is a better referenced correction.

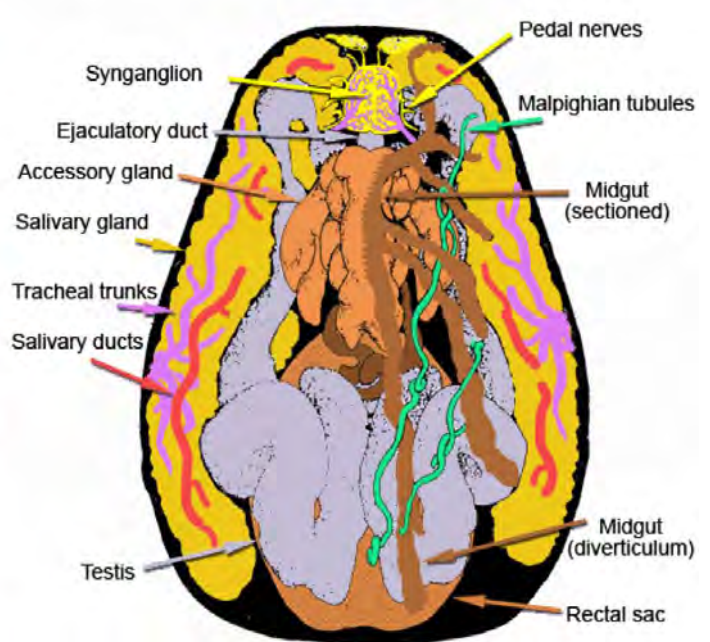
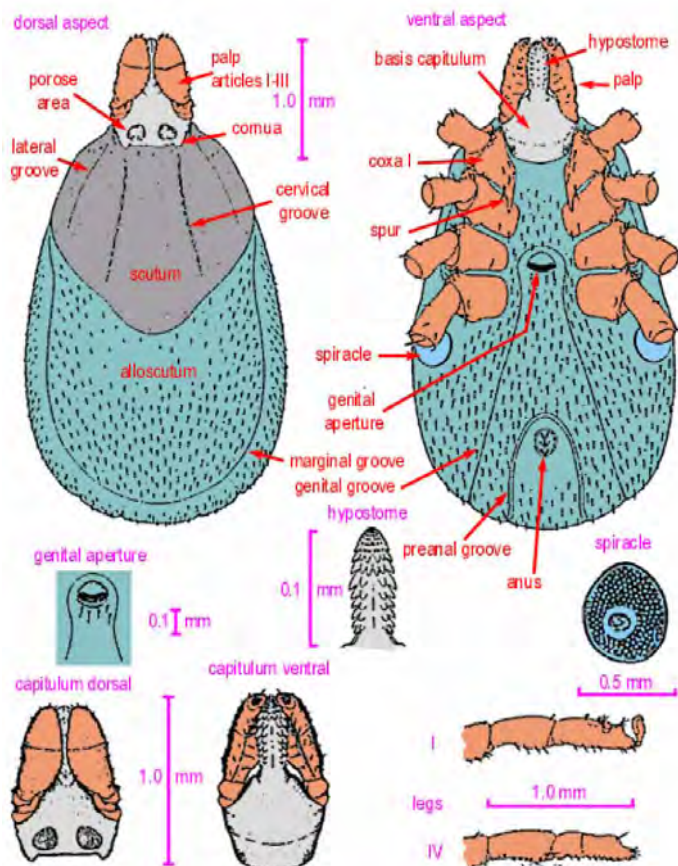
A simple internet search on “tick anatomy” (which I should have done earlier) provides several well-referenced sites showing diagrams of ticks with a clearly labelled anus, such as the diagrams of male and female ticks here from Wikipedia.¹ The Wikipedia page on *Ixodes holocyclus* has excellent information

on this tick's biology that is well referenced, including close up pictures of tick body parts (such as mouthparts) and diagrams of the tick's life cycle and feeding behaviour.

I did also come across a reference to a study on tick salivary glands from the journal *Parasitology* which does say “When feeding, the tick is able to return about 70% of the fluid and iron content of the blood-meal into the host by salivation into the feeding site. This saliva also contains many bioactive protein and lipid components that aid acquisition of the blood-meal. The salivary glands are the site of pathogen development and the saliva the route of transmission.”² So it seems it does also return waste products into the host which makes me not totally incorrect, but I do wish they would just use their bum!

References

- ¹Sonenshine, DE (1991) *Biology of Ticks*, 2 volumes: Oxford University Press, New York, Oxford
- ²Bowman AS and Sauer JR (2004) *Tick salivary glands: function, physiology and future.* *Parasitology*;129 Suppl:567-81



(Note the large salivary glands running length of the body. This is why it's dangerous to squeeze an attached tick—it could inject more saliva and pass on an infection.)

Weeds of doom: how would you feel if asparagus invaded your habitat?

In AABR News 111, Sue Bower wrote about on-ground works to control ground asparagus—which threatens to turn Lord Howe Island into Asparagus Island.

If weeds are to be eradicated, it is important that the community is aware of the threat they pose to the island's unique habitats. The Lord Howe Island Board have also developed a presentation entitled *Weeds of Doom*. Aimed at school students, it details the ecology of ground asparagus and how far it has spread on LHI. Students are asked "how would you feel if asparagus started invading your habitat?" These are some of the images used in the presentation.





Ecological Management & Restoration

Linking science and practice

Project summaries now free on line

The *Ecological Management & Restoration* (EMR) journal now has a project summaries webpage! So summaries are now freely accessible on site.emrprojectsummaries.org

EMR Project summaries being uploaded onto the EMR website to coincide with the release of the June issue include about 6 bush regen stories including:

- Rainforest restoration on private land—Wompoo Gorge, Huonbrook, NSW
- Evans River catchment to coasts corridor—Northern Rivers CMA
- Restoring grassy understorey under Forest Red Gum—Wolston Creek Bushland Reserve, Riverhills, Queensland
- Geary's Way Bushcarers—Success is in our sights
- Recent works supplementing the ongoing regeneration of coastal vegetation at Dirawong Reserve, Evans Head, NSW

More are being uploaded in the next couple of weeks and we are always keen to spread the word about bush regen to a broader audience.

Please send any stories you have to emreditor@ecolsoc.org.au



The Geary's Way Bushcare Team. Di Harry, Marilyn Algeo, Sue Bardwell, Hugh Lander, Alan Bardwell, Barry Kirtley, Liz Mackay, Barbara Walsh, Ian Coffey (Photo provided by Hugh Lander).

Subscription to the EMR journal

The affiliate discount is a benefit of joining AABR. The discount rate for 2012 is \$64 (\$70.40 with GST).

Subscribe to EMR by contacting Wiley-Blackwell directly. Subscription information is available on the [EMR home page](#).

SOCIETY FOR ECOLOGICAL RESTORATION AUSTRALASIA 2012 Conference

28-30 November
Perth, Western Australia

*The leading conference
for people involved in
environmental restoration*

The 3-day conference program will feature topics of global interest, with a number of workshops in post-mining restoration.

Venue: The University Club of Western Australia located on the campus of The University of Western Australia.

For further information please visit:
<http://www.seraustralasia.com> or
Email: sera@bgpa.wa.gov.au



RESTORING AUSTRALASIA

The inaugural conference of the Society for Ecological Restoration Australasia (SERA) will be held in Perth, Western Australia, in 2012. For land managers, scientists and practitioners who work in biodiversity restoration, this SERA meeting will provide a critical international forum at a time of significance for the planet's animals and plants.

IMPORTANT DATES

Proposal/s (symposia, sessions, workshops)	27 April 2012
Abstract Submissions	22 June 2012
Registration and Fees	31 August 2012 (early) 31 October 2012 (regular)
Welcome Reception	27 November 2012
Conference Program	28-30 November 2012
Student Social Night	29 November 2012
Conference Dinner	30 November 2012
One-day Conference Field Trips	1 December 2012



Informed taste and romantic enthusiasm; or the North Coast Camphor Wars

Ross Macleay

Over the summer of 2011 the town of Bellingen became a theatre for the North Coast Camphor Wars. Bellingen Shire Council wanted to remove four camphor laurels, planted just after the First World War, from Church St, a shady outdoor café strip in the middle of the town. The reaction of citizens inspired a long essay on the town and its camphor laurels. Here are two sections extracted from the essay.

(The full essay can be read at northbankessays.blogspot.com.au)

In 1826, almost one hundred years before the camphors were planted in Church Street, Alexander Macleay arrived in Sydney to take up a post as Colonial Secretary in NSW. Governor Darling and Macleay were both Tories and Church of England evangelicals, and Darling was accused of corruption when he granted Macleay 54 acres on the harbour at Elizabeth Bay, land that had previously been set aside by Governor Macquarie for Aboriginal and public use. Macleay, who had come to NSW partly for financial reasons, depleted whatever funds he may have had for building his mansion on the harbour foreshore, by beginning with the garden instead, a grand landscape garden. 'The native bush was retained and planted with exotics to enhance its botanical interest. The dramatic topography was embellished with picturesque structures: turreted stables, cottages, a rustic bridge, terrace walls and grottoes.' Among the species planted were camphor laurel and lantana. Camphor laurel had probably already been introduced into the colony in 1822, probably from stock that came from Kew. At least there is a web meme to that effect that crops up on nearly every google search path, but if there is any substantiating evidence it's not so easy to find.

The line about retaining the native bush and planting 'with exotics to enhance its botanical interest' is in the Historic Houses Trust guidebook on Elizabeth Bay House. It is a sentiment depressingly familiar to anyone who has tried to deal with the effects that plants like camphor have had on the resilience of native bush. The same guide says 'Macleay's development of his garden reveals his informed taste and romantic enthusiasm.' Macleay's was not only a romantic enthusiasm. He was a Fellow of the Linnean and the Royal Societies and a leading entomologist. The design of the garden at Elizabeth Bay embodied elements of both the romantic and scientific love of nature — two sides of the Enlightenment coin — represented by British horticulture and Australian nature. It was a dream vision of their harmony and resolution in the art of landscape.

Macleay's family motto was *Spes ancora vitae* (hope is the anchor of life). But it takes more than hope to anchor history and nature. They aren't anchorage. They shift in unexpected ways. The same vision of reconciled bush and horticulture or at least its descendant, was still unravelling in the camphor war. If there were sides in Bellingen, then for one side it was still a daydream, for the other a nightmare.

The camphor wars have been simmering throughout the NSW north coast for years, especially in the lowland valleys of the coastal rivers. There were seldom open hostilities, although I do remember an exchange of fire in a session on camphors at a rainforest regeneration conference.

By the time the rainforests along the Bellinger were being cleared in the late nineteenth century, camphor laurel was seen as a perfect tree to replace shade lost in the haste of clearing: fast growing, a dense crown, and if not a commercial proposition for camphor oil, at least a curiosity of oriental horticulture. It was also very hardy. It grew on the alluvial flats, the river terraces and the ridge country of the Bellinger. It fruited, it fed pigeons, doves, figbirds, bowerbirds and honeyeaters, and it came up self sown and thrived. By 1900 people had noticed its ability to self sow and spread. (Joe Friend, anti-camphor warrior, cites the Lismore Northern Star on this.) It was planted in several places around Bellingen including in the school grounds and Church Street, but now most of the trees you see are self-sown. It is the most common tree in the cleared lowlands of Bellinger and Never Never valleys. It lines roads, fences and creeks, shades paddocks and edges the bush at the back of farms. An aggressive invader, it is a common element of rainforest regrowth and of the rainforest understorey of tall wet eucalypt forest, one of a suite of weeds that messes with the resilience and the diversity of these native forests. Unlike all the other common weed invaders in these forests, a camphor grows into a big spreading tree, and big is beautiful in tree aesthetics. To a tree lover they can look magnificent, while to a lover of native forest they look like weeds, weeds that dominate and replace the native tree canopy, and transform the forest. Nowadays the Bellinger Valley looks like the Bellinger Valley because of camphor laurels. The camphor look is one of 'the exact qualities that distinguish Bellingen and contribute to its identity'. — a line Craig Burton used in his January 12 letter to the Courier Sun. Once restoration ecology or bush regeneration became part of modern Australian nature culture, tree lovers and native bush lovers began to clash. Pigeon lovers sometimes weighed in against the native plant lovers, or cautioned that if they got rid of the camphors overnight, the pigeons would have nothing to eat. It has been going on since the 80s. The tree lovers seemed ignorant and naïve to the native bush lovers, the bush lovers seemed like 'botanical purists' or fundamentalists to the tree lovers; the camphor lovers were environmental vandals or woolly sentimentalists, the native bush lovers were weed Nazis, closet ethnic cleansers.

So the war came to the streets of Bellingen

Where weeds are mentioned, the concepts noxious and toxic are bandied about. There is something similar and confusing about them. Noxious, apart from innocently meaning harmful, is also officialese for species deemed by authorities to require control or eradication. It makes noxiousness sound at least illegal and therefore probably toxic. Solveig Larsen wrote to the Courier Sun on 12 January to say she had found an expert from Armidale under the camphors in Church Street and he had informed her that camphors were not noxious. This looked like a real killer argument. But maybe the expert meant they were not noxious in Armidale. Who knows? There aren't many, if any, camphors in Armidale. It's too cold. They are noxious in Bellingen Shire though, officially 'Class 4', a local declaration that means that the Council or a landholder has to 'undertake a control program to strategically manage them' and 'minimise their impact... by available resources'. Experts and expertise were batted back and forth to add force to the claims and counterclaims.

Joe Friend's camphorlaurel.com is a goldmine and a minefield of camphor lore, legend, science, surmise, gossip and history. Whether you want to enter the vexed world of camphor strains and phytochemistry, find out how to use camphors to conceal your dope crop, or just sniff your camphor wood chest, you will get some pointers from camphorlaurel.com. The toxicity of compounds extracted from camphor leaves and fruits gets a lot of emphasis. Back in the 90s and early 2000s Joe waged a lone wolf campaign on camphor toxins and their effects on water, fauna and humans. Joe was never in Bellingen of course. I don't even think he was even cited by anyone who wanted to get rid of the camphors. But Cherie Pugh cited him and did a hatchet job on his toxicity argument in the January 19 letters. All she had to do was cite the Scientific Committee that makes determinations under the NSW Threatened Species Act. The Committee had responded to an application to have toxic camphor exudates declared a threatening ecological process. Toxicity is a common adaptation of plants. It protects them from herbivores or makes life difficult for competitors. A forest is a salad of toxins. The Committee decided that camphor laurel toxicity should not be called a Key Threatening Process. Incidentally, lantana invasion of native forest is a KTP. Lantana is probably the most famous weed on the North Coast, but no one drinks their coffee in shady lantana bowers. It's not a tree. It's a weedy looking weed. The Committee has never made a determination on whether camphor laurel invasion should be a KTP.

The expert named on the ecological benefits of camphor turned out to be Peter Andrews, another name, like Joe Friend, that hovers over weed debates. Cherie Pugh cited him to support her views about the futility of 'weeding the bush'. He inspired Ziggy Koenigseder to advise citizens that scientists and bureaucrats were misleading Landcare, and that, really, camphors were good for biodiversity—not just the ones in Church Street, but the ones out in the bush as well. More famous than Joe, Peter is not so much an ecological expert as a media phenomenon. He has succeeded in blending some pretty conventional water retention hydrology and wetland ecology, spicing it up with a dash of contrarian weed ecology and selling himself as David vs. Goliath. He's not so much a lone wolf anymore as Christ among the Pharisees. He's made it onto ABC TV's Australian Story. He's won an Order of Australia. And as Ziggy Koenigseder alleged, he's 'respected by such men as Gerry Harvey, John Singleton and former Governor General Michael Jeffrey'.

The Council had its experts too. The Aborist's expertise was armoured by those decision matrices, devices for securing consistency in judgement among colleagues. Objectivity here is really a kind of consistency, and no doubt consistency and coherence are criteria for truth; they serve as the backbone of empirical science. In matters of weed classification and heritage value any objectivity has slipped away from physical evidence towards sheer consistency, the consistency not only of a body of facts, but of a body of facts and norms: received historical and scientific claims combined with political judgements and bureaucratic regulations. An expert here is a bureaucrat or a consultant. They are masters of and mastered by the system. They judge whether the camphors in Church Street are heritage and whether camphors are Class 4 Noxious Weeds. The judgement is mapped into a local government plan, becomes part of the system and proves its objectivity by its inertia. It can take more explaining than a coffee drinker has time for, to demonstrate how a system that says camphors are heritage and noxious is not inconsistent.

Nowhere, somewhere, anywhere, everywhere; or where camphor laurels matter most

Citing dubious experts, or having to proclaim your own expertise, was all part of the spectacle of the Bellingen Courier Sun's letters pages, and maybe the clearest demonstration of the tendency of justification to shoot off to distractions. 'Expert', like 'beautification', is a word we mock with quotation marks. It advertises what experience doesn't need to advertise. There were letter writers though who didn't have to cite experts. In his February 9 letter Martin Smith described the camphor monocultures on the lower Bellingen, and the populations of seedlings that top knots and other birds are tirelessly spreading along 'the forested slopes of the Bellingen Valley'. Camphors are a problem for native forests. They mess with the resilience of native forests, take over and stop their regeneration, and reduce their diversity. Plenty of Church Street's camphor fans know that. But Martin summed up his big picture with a blunt strategy aimed straight at Church Street: 'the only good camphor on the north coast of NSW is a dead one'. Right back in a letter on November 10, Trevor Pike had addressed the same big picture but with a different strategy: 'a planned program to bring this weed problem under control should focus attention where the most benefit can be achieved...in rural, riparian and forested areas.' Leave the camphors in Church Street until after you've got rid of all the others.

Both writers acknowledged the problem of camphors and both went for the big-picture eradication strategy. Stepping back and looking at the big picture is a kind of primal gesture of objectivity. On its own, though a big-picture camphor strategy lacks whatever it takes to drive the here and now of action. Talking big picture is the perfect way to delay: planning about everywhere is no better than doing it nowhere. A planner's report for a Council meeting has to satisfy the most demanding of constraints. It is a high wire act. Finding the right words would be a task worthy of poet, if it weren't for the unwritten handbook of prepared expressions. Saying 'The only good camphor is a dead one' was not really an option for The Planner. Saying 'camphor laurel eradication is a regional problem and requires a consistent approach aimed at gradual eradication' was. It's big on generalisation and coy on the particulars. The art is in the

ambiguity and in the difficulty of the expression. Depending on the translation it probably says 'consistency requires that camphors be removed everywhere, maybe even anywhere and everywhere and whenever.' Martin was blunt: anywhere and everywhere including Church Street. And Trevor was too: anywhere but Church Street, until, he added helpfully, 'say 2050'.

You can't get rid of them everywhere at once, not because, as pro-camphor warriors occasionally point out, it would leave all those top-knot pigeons, and baldies and rose-crowns without their drupes, but because you have to get rid of them one particular camphor at a time. Reality is relentless about that. It's concrete; it's not an abstraction. Logic is relentless too, and 'everywhere' is a false substantive, like 'nowhere'. Sometimes weed management strategists become so absorbed by the big picture, that when you do something humble like pull out a weed by hand, they say it's all very well but the problem is too big to be fiddling about pulling out that weed. Actions are nothing if not part of a process, but a process is nothing without actions. Every action expresses its own principles or intentions, including things so trivial you might not state them because they seem like tautologies: you take camphors out where you can,

not where you can't; or you take out your camphors first from where they matter most, not from where they don't matter. Thus people take them out of their own back yards. Some people take them out from an otherwise camphor-free valley like the upper Bellinger, others take them from an important patch of bush like a little rainforest near a swimming hole on the Never Never River, or along Cemetery Creek in Bellingen. Or a Council takes them out in stages from Church Street.

Both sides shared the assumption that Church Street is at the heart of Bellingen's identity and the camphors are iconic. Icons, tokens, emblems, symbols—these words all mean much the same thing, but they have different connotations. If one side felt free to value the camphors as icons and could call them that, thus invoking all the objectivity of incumbent heritage, then the other seemed left with no choice but to see them as tokens for promoting camphor eradication, or symbols of the destruction of native forests by exotic weeds—words they couldn't say with much confidence because they wanted to avoid the appearance of mere tokenism or symbolism. They mostly fell back on the absentee objectivity of the surrounding bush, and on the gesture to objectivity in big picture weed strategy.

Korinderie Bush Regen Holiday

The Korinderie Ridge bush regen camp will be held from 6-10th August at the 200 ha private bushland property 'Korinderie Ridge', adjacent to Bundjalung National Park, just south of Woodburn, NSW.

This is the 9th year. Those who have been to our Korinderie bush regen camp before will be keen to meet up again with good friends as well as get to know any new participants. (Each year it is always a good mix of returnees and newcomers.) The work involves helping us residents treat the lantana on the property as the amount of lantana is too much for us to treat on our own.

The camp is free. We offer pleasant campsites and delicious meals to visitors willing to help work on lantana in the mornings, with time out or tours in the afternoons.

The project has reached the home straight. We have mapped our progress and can now report that we are half way through the area of land affected by lantana (that is, we have treated 61 ha, and there is a similar amount left to go).

Of the treated area, 38 ha are on maintenance and 23 ha are still under secondary treatment, including 9 ha treated last year.

But because we would like to accelerate our progress even further, our community has decided to adopt the 'splattergun' method of spraying the more dense lantana patches, which will substantially reduce the labour required. This will mean that our volunteer bush regen week each year can focus on lantana in the more remote and interesting patches of bushland and we can get the whole job treated within reasonable timeframes.

To that end, this year, Korinderie residents have started using 1:9 glyphosate in standard knapsacks to treat the more dense lantana areas, which will be followed up by knapsack in year 2

and then manually followed up in year 3 once the lantana trash has broken down. (So the sprayed areas probably won't start being included in the volunteers' areas till 2013.)

For any newcomers interested in seeing photos of the animals and plants of Korinderie and photos of past regen weeks, visit the photo galleries on korinderie.org.au or [Flickr](https://www.flickr.com/photos/korinderie/).

Contacts:

Phone Tein or Graeme on 02 6682 2885

or email: teinm@ozemail.com.au for further details and to make bookings. (Prior to end June is advisable to reserve your place.)



Bush regenerator and regular participant in the Korinderie regen week, Craig Robbins, (also a skilled nature photographer) taking in the wildflowers at Bundjalung National Park during one of the tours on offer during the week.

WoNS increase from 20 to 32

The Australian Weeds Committee (AWC) has declared an additional 12 Weeds of National Significance (WoNS). They have been selected based on their economic, environmental and social impacts and their potential to spread. Some of the declarations include more than one species, e.g. asparagus.

Declaration as a WoNS can give a weed priority in control programs, and increases its potential for funding.

In the future the focus for all states will be on reducing the risk of spread to new areas while managing outlying infestations.

“The Natural Resource Management Ministerial Council (Resolution 15.7, 21 May 2009) endorsed a three-phased approach

to national management of the WoNS species (see Figure 1, next page). This aims to make the most cost-effective use of limited ‘national coordination’ resources available from public funds.

Key to this phased approach is the intention to phase out species now being effectively managed and a call for further nominations and subsequent endorsement of additional WoNS. The AWC is implementing these reforms. While the national coordination of the inaugural 20 WoNS species has already transitioned to phases 2 and 3, no species have yet been removed from the WoNS list. The AWC is developing a protocol to guide future decisions about when this should occur on a case by case basis.

[New weeds were nominated for listing in 2010.] The Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) assessed the candidates and the AWC endorsed twelve additional ‘species’ to be listed as WoNS.”

Sources: www.weeds.org.au/WoNS/index.html and www.weeds.gov.au/weeds/lists/wons.html

WoNS declared June 1999

Alligator weed *Alternanthera philoxeroides*.

Athel pine *Tamarix aphylla* athel tree, tamarisk, athel tamarisk, athel tamarix, desert tamarisk, flowering cypress, salt cedar.

Bitou bush / boneseed *Chrysanthemoides monilifera* subsp. *monilifera* Bitou bush, *Chrysanthemoides monilifera* subsp. *rotundata* boneseed.

Blackberry *Rubus fruticosus* aggregate.

Bridal creeper *Asparagus asparagoides*.

Cabomba *Cabomba caroliniana* fanwort, Carolina watershield, fish grass, Washington grass, watershield, Carolina fanwort.

Chilean needle grass *Nassella neesiana*.

Gorse *Ulex europaeus* furze.

Hymenachne *Hymenachne amplexicaulis* olive hymenachne, water stargrass, West Indian grass, West Indian marsh grass.

Lantana *Lantana camara* common lantana, kamara lantana, large-leaf lantana, pink flowered lantana, red flowered lantana, red-flowered sage, white sage, wild sage.

Mesquite *Prosopis* spp. *algaroba*.

Mimosa *Mimosa pigra* giant mimosa, giant sensitive plant, thorny sensitive plant, black mimosa, catclaw mimosa, bashful plant.

Parkinsonia *Parkinsonia aculeata* Jerusalem thorn, jelly bean tree, horse bean.

Parthenium weed *Parthenium hysterophorus* bitter weed, carrot grass, false ragweed.

Pond apple *Annona glabra* pond-apple tree, alligator apple, bullock's heart, cherimoya, monkey apple, bobwood, corkwood.

Prickly acacia *Vachellia nilotica* blackthorn, prickly mimosa, black piquant, babul.

Rubber vine *Cryptostegia grandiflora* india rubber vine, palay rubbervine, purple allamanda.

Salvinia *Salvinia molesta* giant salvinia, aquarium watermoss, kariba weed.

Serrated tussock *Nassella trichotoma* Yass River tussock, Yass tussock, nassella tussock (NZ).

Willows except weeping willow, pussy willow and sterile pussy willow *Salix* spp. except *S. babylonica*, *S.x calodendron* & *S.x reichardtii*.

New declarations April 2012

African boxthorn *Lycium ferocissimum* boxthorn.

Asparagus weeds *Asparagus aethiopicus* asparagus fern, ground asparagus, basket fern, sprengi's fern, bushy asparagus, emerald asparagus. *Asparagus asparagoides* bridal creeper, bridal veil creeper, smilax, florist's smilax, smilax asparagus. *Asparagus africanus* climbing asparagus. *Asparagus declinatus* bridal veil, bridal veil creeper, pale berry asparagus fern, asparagus fern, South African creeper. *Asparagus plumosus* climbing asparagus-fern. *Asparagus scandens* asparagus fern, climbing asparagus fern.

Sagittaria *Sagittaria platyphylla* delta arrowhead, arrowhead, slender arrowhead.

Bellyache bush *Jatropha gossypifolia* cotton-leaved physic-nut, cotton-leaf physic nut, cotton-leaf jatropha, black physic nut.

Brooms *Cytisus scoparius* broom, English broom, Scotch broom, common broom, Scottish broom, Spanish broom. *Genista linifolia* flax-leaved broom, Mediterranean broom, flax broom. *Genista monspessulana* Montpellier broom, cape broom, canary broom, common broom, french broom, soft broom.

Cat's claw creeper *dolichandra unguis-cati* cat's claw vine, yellow trumpet vine, funnel creeper.

Fireweed *Senecio madagascariensis* Madagascar ragwort, Madagascar groundsel.

Gamba grass *Andropogon gayanus*.

Madeira vine *Anredera cordifolia*, jalap, lamb's-tail, mignonette vine, anredera, gulf madeira vine, heartleaf, potato vine.

Opuntoid cacti *Austrocylindropuntia* spp., *Cylindropuntia* spp. prickly pears, *Opuntia* spp. prickly pears.

Silver-leaf nightshade *Solanum elaeagnifolium* silver nightshade, silver-leaved nightshade, white horse nettle, silver-leaf nightshade, tomato weed, white nightshade, bull-nettle, prairie-berry, satansbos, silver-leaf bitter-apple, silverleaf-nettle, trompillo.

Water hyacinth *Eichhornia crassipes* water orchid, Nile lily.

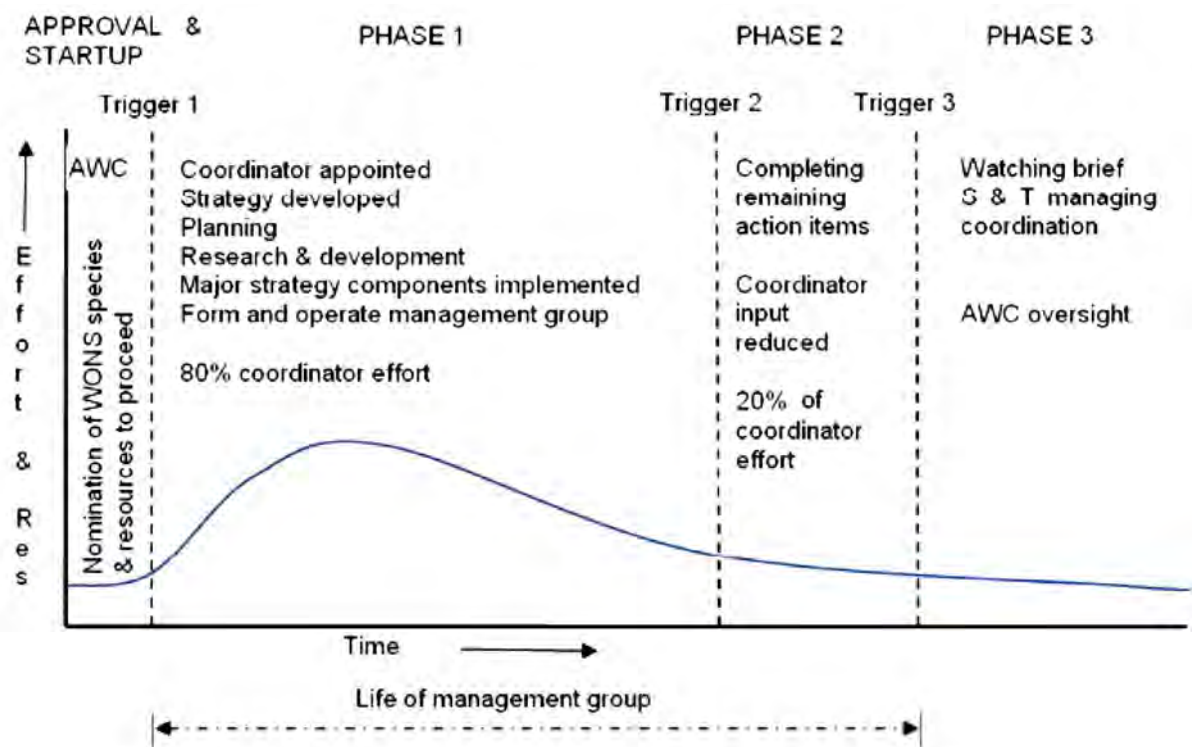


Figure 1 Australian Weeds Committee diagrammatic representation of coordinator effort and resource use when implementing a Weeds of National Significance strategy. From www.weeds.org.au/WoNS/index.html

Bits and pieces

Forests of East Australia: are the new biodiversity hotspot

In a recent publication, "Forests of East Australia: The 35th Biodiversity Hotspot" a team of researchers from CSIRO working with Conservation International documented their analysis of the fauna and flora in two of Australia's World Wildlife Fund Ecoregions.

The team found that these diverse and unique coastal forests – that stretch from just south of Sydney to north of Cairns – more than qualify to be included as part of an elite global club.

This is the second hotspot to be identified in Australia. The other is the Southwest Australia Hotspot near Perth.

Being formally recognised as a hotspot acknowledges something that many of us already know: we live in one of the most biologically diverse regions on Earth.

The listing puts eastern Australia on par with places such as Madagascar and the tropical rainforests of Brazil – areas that have great biological diversity, but that have been greatly modified by human activities".

From an article by Tom Barret and Carl Vernes in The Conversation 4 November 2011.

Free conservation biology textbook

In support of the International Year for Biodiversity, Oxford University Press is making a new textbook Conservation Biology for All, edited by Navjot S. Sodhi and Paul R. Ehrlich, Oxford University Press (2010), freely available on the internet. Download the 350 page book (6.4 MB) for free at: www.mongabay.com/conservation-biology-for-all.html.

'Bio-perversity': a useful new word for regenerators?

A paper published in January by David Lindenmayer and others is titled 'Avoiding bio-perversity from carbon sequestration solutions' (It can be downloaded free).

According to the abstract: "The development of a new carbon economy has the potential to offer win-win outcomes for environments and economies. Large-scale tree plantations are expected to play a major role in carbon economies but could have negative ecological and economic consequences when key environmental values such as biodiversity conservation are not considered. We discuss three potential "bio-perversities"—negative outcomes for biodiversity—that could result from inappropriate plantation tree programs aimed solely at reducing atmospheric carbon dioxide and mitigating rapid climate change effects. These are: (1) clearing native vegetation to establish tree plantations, (2) planting trees that become invasive taxa, and (3) tree plantations negatively affecting key ecosystem processes such as fire and hydrological regimes. These bio-perversities may result from common mistakes in environmental management: (1) too narrow a focus on a single environmental value, (2) failing to adequately quantify ecological uncertainty, and (3) failing to anticipate how different groups of people respond to an environmental problem. We highlight ways to prevent possible bio-pervise outcomes in large-scale plantation programs. These include requiring that risk assessments precede project establishment, full carbon accounting is undertaken, incentives used to stimulate tree plantation establishment are rigorously examined, and rigorous compliance and ecological monitoring is undertaken".

Lindenmayer, D.B., Hulvey, K.B., Hobbs, R.J., Colyvan, M., Felton, A., Possingham, H., Steffen, W., Wilson, K., Youngentob, K., Gibbons, P. (2012) *Avoiding bio-perversity from carbon sequestration solutions*. Conservation Letters, 5(1): 28-36

Lantana: a battle lost?

A recent paper available in the [Public Library of Science One \(PLOS ONE\)](#) open-access journal explores this question.

Bhagwat SA, Breman E, Thekaekara T, Thornton TF, Willis KJ (2012). *A battle lost? Report on two centuries of invasion and management of Lantana camara L. in Australia, India and South Africa.* PLOS ONE, 7(3): e32407. doi:10.1371/journal.pone.0032407

Here is the abstract:

“Recent discussion on invasive species has invigorated the debate on strategies to manage these species. *Lantana camara* L., a shrub native to the American tropics, has become one of the worst weeds in recorded history. In Australia, India and South Africa, Lantana has become very widespread occupying millions of hectares of land. Here, we examine historical records to reconstruct invasion and management of Lantana over two centuries and ask: Can we fight the spread of invasive species or do we need to develop strategies for their adaptive management?

We carried out extensive research of historical records constituting over 75% of records on invasion and management of this species in the three countries. The records indicate that governments in Australia, India and South Africa have taken aggressive measures to eradicate Lantana over the last two centuries, but these efforts have been largely unsuccessful.

We found that despite control measures, the invasion trajectory of Lantana has continued upwards and that post-war land-use change might have been a possible trigger for this spread. A large majority of studies on invasive species address timescales of less than one year; and even fewer address timescales of >10 years. An understanding of species invasions over long time-scales is of paramount importance. While archival records may give only a partial picture of the spread and management of invasive species, in the absence of any other long-term dataset on the ecology of Lantana, our study provides an important insight into its invasion, spread and management over two centuries and across three continents.

While the established paradigm is to expend available resources on attempting to eradicate invasive species, our findings suggest that in the future, conservationists will need to develop strategies for their adaptive management rather than fighting a losing battle.”

When does an introduced species become a native?

From [Does an introduced species belong yet? Ask the locals, say scientists, ECOS Magazine](#) February 2012. Source: University of Sydney

A radically new way to determine whether an introduced species has become a native species – by observing the reactions of other local native species – is outlined in new research published in the journal [Public Library of Science One \(PLOS One\)](#).

Researchers Alex Carthey, a PhD student in the School of Biological Sciences at the University of Sydney, and her supervisor Associate Professor Peter Banks, explain that introduced species do not remain eternally ‘new’ in an ecosystem: at some point they become ‘locals’ themselves.

‘Determining whether species are native or not is a worldwide conundrum. Scientists, governments and legislators have struggled with the question of how long it is before you can consider a “new” species to be native,’ says Assoc. Prof. Banks.

‘Native status is a big deal. It affects people’s reaction to the species and where conservation dollars are spent.’

It has been thought impossible to answer this question, but the researchers propose a solution—‘ask’ the local wildlife it interacts with.

‘If local fauna recognise and respond effectively to the new species, it has become very well integrated into that community,’ says Assoc. Prof. Banks.

To investigate this process, the team used the dingo *Canis lupus dingo* as a case study, as its native status in Australia remains disputed.

Dingoes were introduced to Australia around 4000 years ago, but there is debate about whether they should be classified as a native species or not. The native status of dingoes has implications for how they are managed and conserved.

‘We wanted to see how a vulnerable native species, the bandicoot (*Perameles nasuta*) reacts to domestic dogs (*Canis lupus familiaris*), which are the same species as the dingo. So domestic dogs are in that sense standing in as a proxy for the dingo in this study,’ says Ms Carthey.

‘We compared how bandicoots forage in urban backyards in households that have dogs, compared to those that have cats, which were more recently introduced.

‘We found that bandicoots recognise the danger and avoid foraging in backyards with dogs, but continue to visit yards of cat owners and petless households.

‘Our study suggests that bandicoots have come to fear dogs as predators after thousands of years of interaction with dingoes, and so avoid areas with dogs, while they are yet to recognise the threat cats pose as predators, as bandicoots haven’t been in contact with cats for as long.’

Cats were introduced in Australia only about 150 years ago.

If bandicoots are responding to the danger that dogs pose as predators, it suggests that at least this local species reacts to dogs as they would to a native predator.

According to Ms Carthey, ‘this supports the argument for dingoes to be considered a native species. The lack of response to cats by bandicoots in our study suggests that hundreds of years of coexistence has not been enough time for bandicoots to start regarding cats as anything other than an introduced species and not yet native’.

Unlike newly arrived species, native species are well-integrated and do not upset the balance in an ecosystem. In contrast more recent arrivals have enormous ecological impacts, including on native species that do not yet know how to respond to them. This study suggests, however, that with enough time many introduced species will eventually integrate into their new community until at some point they will be considered native.

Landcare for singles

From www.landcareonline.com.au

“Landcare for Singles events provide the perfect opportunity for environmentally-conscious people on the look-out for that special someone to try a new and unique form of speed dating, or in this case—speed planting. They are also a great way of attracting new volunteers to your group and spreading the word about the great work your group is doing for your local environment.

The inaugural Landcare for Singles speed planting events were run by the Yarra Valley and Dandenong Ranges Landcare Network in Victoria in 2011 to address recruitment issues for Landcare groups in the area. The Network ran two hugely successful planting days, which attracted over 100 participants, 95% of whom were completely new to Landcare. An after-party

was also hosted, giving the opportunity for all singles from both planting events to come together and mingle.

Following on from the success of these events, Landcare Australia, in partnership with Kim Boswell of the Yarra Valley and Dandenong Ranges Network, has developed a project kit and a suite of branded promotional collateral artwork which will enable local environmental groups across the country to run Landcare for Singles and Coastcare for Singles events in their localities.

The project kit provides a comprehensive guide for your group on how to run a Landcare for Singles event, and the branded artwork will help you to promote your event and get registrations.

We would love to keep track of how many Landcare for Singles events are taking place around the country, so if you are planning on running an event, please email the event details to events@landcareaustralia.com.au. We can then list your event details on our website to help get the word out and also see how popular Landcare for Singles actually is!"

Our wattles: going feral overseas and messing with the soil chemistry

From Science Daily 13 March 2012

"Biologists at Bielefeld University in the team of Junior Professor Dr. Christiane Werner in cooperation with the University of Lisbon have developed non-invasive method for quantifying the spatial impact of such exotic species on the ecosystems which they invade. They can estimate whether native plants in the neighbourhood of invasive species incorporate the nitrogen fixed by the latter. The biologists examined the Sydney Golden Wattle *Acacia longifolia*, an Australian shrub that has established itself in Mediterranean climates worldwide. They found that the invasive species threatens native ecosystems not only through its prolific growth but also by fertilizing the surrounding soil with nitrogen—this effect markedly extended beyond the area occupied by the invader."

Concrete and water quality: chemical pollution is worse than we thought

Some extracts from [Concrete pushing urban water quality 'over the edge'](#)? by Ian Wright in *ECOS Magazine* February 2012.

"It's known as urban stream syndrome. The streams and rivers running through many of our cities are getting sick: not just from the pollution and waste carried by stormwater into gutters and drains, but from another, unexpected source—the concrete pipes and infrastructure carrying the water.

Our research has shown that the process of concrete dissolution and water contamination can be rapid. When we recirculated rainwater from a northern Sydney location through a concrete pipe for just 1 hour 40 minutes, the pH of the recirculated water jumped more than three pH units: from an acidic 4.7 to a strongly alkaline 7.9. The salinity of the water also doubled.

Two minerals in particular contributed to these changes—calcium and bicarbonate. While barely detectable in the original rainwater, levels of these minerals were elevated after recirculation through the concrete pipe. Calcium and carbonate ions are abundant in limestone, which is an ingredient of concrete.

While concrete contamination alone may not be a critical threat in urban streams that flow in catchments with a natural limestone geology, our findings suggest that in some situations, concrete contamination may be contributing to urban stream syndrome.

For example, recent data from the Georges River catchment, south-west of Sydney, reveals that urban streams are ecologically very sick. The bicarbonate (alkalinity) levels in the most highly urbanised catchment streams are more than 40 times higher than the 'natural' levels typically recorded in Georges River bushland catchment streams. In this situation at least, it is likely that urban concrete stormwater infrastructure is having a constant degrading effect on urban streams."

New site for NSW flora and fauna sightings

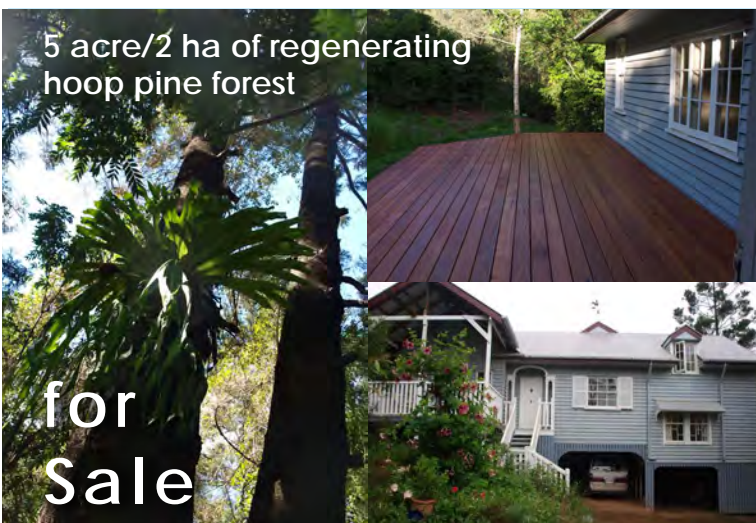
The NSW Office of Environment and Heritage has launched the BioNet website. It replaces both the old Atlas and BioNet sites and provides access to government held information on flora and fauna in NSW. The new site can be accessed at www.bionet.nsw.gov.au.

Weeds of Australia identification tool

The Queensland Government has a free weed ID resource available at www.business.qld.gov.au/industry/agriculture/land-management/weed-identification-tool.

New roadside management resource

NSW Roads and Maritime Services (formerly RTA) has developed guidelines to minimise impacts on biodiversity during construction projects and maintenance works. The Biodiversity Guidelines: *Protecting and managing biodiversity on RTA projects* are intended for RMS project managers, staff and contractors (including ecologists and landscape designers). Download the Biodiversity Guidelines at www.rta.nsw.gov.au/environment/biodiversity/biodiversity_guidelines.html



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What's happening

CHLC Landcare Training Calendar 2012

Where Coffs Harbour

These workshops are targeted at Coffs Harbour Regional Landcare Inc (CHRL) volunteers and members and are made possible through the support of the Northern Rivers CMA, Coffs Harbour City Council and the NSW NPWS.

27th June – Worksite Health and Safety

29th August – Bush Regeneration Techniques

31st October – Coastal Dune Management

Please RSVP as places are limited.

Contact CHRL 02 66511308 chrl@westnet.com.au

AABR Plant ID Courses

AABR is not able to host any plant ID courses this year as Van Klaphake is not available.

Van's lists of Eucalypt species by region is now available to download from the [AABR web site](#).

Coming up: a big year for big tides

For anyone working on saltmarsh projects or in intertidal zones. In the July 2012 to June 2013 year there are 15 forecast days when the high tide will be 2.0 metres or greater (this compares to 5 events in 2010-11 and 6 events in 2011-12). The largest tide will occur on the 24th June 2013 at 2.09 metres at around 9.00pm (Fort Denison).

Timing preparatory or structural works where inundation by salt water is important around these tidal events would be beneficial

In 2012-13 2.0 metre or greater tidal events will occur in:

- July (2 events)
- November (1 event)
- December (3 events)
- January (2 events)
- May (3 events)
- June (4 events)

2012-13 tidal data is now available at: www.maritime.nsw.gov.au/docs/Tide_Tables.pdf

(Thanks to Tony Wales, Georges River CCC Riverkeeper Coordinator for this info).

June 28-30

2012 Qld State Landcare Conference

"Paddocks, Backyards and Balconies. Together, making a difference". This year the conference is open to community groups outside the Landcare sector, to 'provide fresh insight on how to develop strong, vibrant and sustainable groups.'

Where Brisbane Convention and Exhibition Centre.

Contact qldlandcareconference.org.au.

September 3-9

Landcare Week

Landcare Week is the annual awareness raising activity of the Landcare movement. The purpose of the campaign is to assist groups around Australia build resilience, create awareness in their community and encourage participation.

Where Australia wide. Groups can email events to: events@landcareaustralia.com.au to be posted on the website.

September 3-5

The National Landcare Conference

Landcare—the future in our hands

Where Sydney Exhibition and Convention Centre Darling Harbour.

Contact Department of Agriculture, Fisheries and Forestry

Sunday September 9

Bushcare's Major Day Out

A National Day to promote regeneration of native bushland through awareness and engagement of local communities in an enjoyable and sociable way.

Where Australia wide.

Contact bushcaresmajordayout.org/

September 17-21

Coast to Coast 2012 Living on the Edge

Where Brisbane Convention and Exhibition Centre.

The renowned and only National Coastal Management Conference when all with interest in coastal, estuarine and marine matters get together to celebrate Australia's coasts and share knowledge and experiences on management, science, policy, governance, activism and many other topics.

Provides an excellent forum for Australian coastal workers and managers from councils, universities, consulting companies, community organisations and all levels of government.

Contact www.coast2coast.org.au/

October 8-12

18th Australasian Weeds Conference

Where The Sebel, Albert Park Melbourne.

Recent advances in weed science, extension and policy across Australian and international communities and landscapes.

Valuable information and networking opportunities for anyone with an interest in aspects of weed legislation and development of practical solutions to evolving weed problems.

Poster abstract submission until 30 March 2012.

Contact www.18awc.com.

October 29-November 2

Australian Network for Plant Conservation's 9th National Conference. Plant Conservation in Australia—Achievements and future directions.

Where Canberra

Contact www.anpc.asn.au

November 28-30

The inaugural conference of the Society for Ecological Restoration Australasia (SERA)

Also see page 2 and 12.

Abstract submissions close June 22

Where Perth.

For land managers, scientists and practitioners who work in biodiversity restoration, this will provide a critical international forum at a time of significance for the region's species, ecosystems and landscapes.

The three day conference program will feature topics of global interest, including themes on "Our restoration capabilities within a changing world". Topics that are relevant, of high focus and contemporary in Australia, will also be highlighted during the conference program.

Papers are sought from researchers and practitioners engaged in restoration across Australasia.

December 3-7

ESA12 'Ecology: Fundamental Science of the Biosphere'

Where Melbourne

Contact esa2012.org.au/index.asp?IntCatId=14

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AABR News is the newsletter of the Australian Association of Bush Regenerators (NSW) AABR Inc. It is published four times a year, usually March, June, September and December.

AABR NSW was established in 1986 out of concern for the continuing survival and integrity of bushland and its dependent fauna in or near bushland areas, and seeks new members and friends for promoting good work practices in natural areas. The Association's aim is to foster and encourage sound ecological practices of bushland management by qualified people.

AABR NSW has regional committees in northeast NSW/Southeast Queensland and the Hunter, and a sister organisation in Western Australia: AABR WA.

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ABN: 33 053 528 029 ARBN: 059 120 802

To keep in touch and be notified about events, subscribe to Bush Regeneration or Bushcare list servers and check out Solutions: the Bush Regeneration Bulletin Board—see website for detail.

\$20:00	p.a. AABR Newsletter Subscription	(all interested people)
\$10:00	p.a. AABR Newsletter Subscription	(email for 1 year for students of Certificate III CLM-Natural Area Restoration)
\$25:00	p.a. AABR Membership	(appropriately qualified & experienced bush regenerators)
\$50-400	p.a. AABR Contractors & Consultants List	(appropriately qualified & experienced bush regenerators)

Newsletter contributions and comments are welcome

Contact Virginia Bear newsletter@aabr.org.au 0408 468 442

Opinions expressed in this newsletter are not necessarily those of AABR NSW