



Newsletter of the Weed Society of Victoria Inc.

volume 29 issue 2 2018

Weedscene

Myrtle Rust – not a weed, but...

... it is a serious threat to native vegetation and habitat, and associated industries.

Myrtle rust is a devastating plant disease caused by the South American fungus, *Austropuccinia psidii* (formerly *Puccinia psidii*, and initially *Uredo rangellii*). The fungus can cause deformed leaves, heavy defoliation of branches, reduced fertility, dieback, stunted growth, and plant death.

Plants in the family Myrtaceae, such as eucalypts (*Eucalyptus*, *Angophora* and *Corymbia* species), bottle brush (*Callistemon* species) and tea tree (*Melaleuca* species), are vulnerable. About 350 native species are known to be susceptible to myrtle rust. It is easily spread by infected plant material, fauna movement (e.g. bees, birds) and wind dispersal, and by contamination to people and equipment, making it extremely difficult to control and impossible to eradicate from the natural environment.

Myrtle rust was first detected in Australia in 2010 on the NSW central coast and has since spread rapidly, establishing along the east coast of Australia from southern NSW to far north Queensland. Infestations have been detected at more than 80 sites in Victoria, mainly at production nurseries and wholesale outlets within and near Melbourne. It has been found in the north and north-west of Tasmania in private gardens and plant nurseries, and on Melville Island in the Northern Territory and in the Darwin region.

An emergency response was initiated but eradication efforts were not successful. By late December 2010, state and federal agencies responsible for biosecurity decided that it was not technically feasible to eradicate myrtle rust from Australia, based on expert technical advice, and that response must transition to management.

Although nominated as a Key Threatening Process under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), it was decided by the Threatened Species Scientific Committee, exotic rust fungi of the order Pucciniales that are pathogenic to plants of the family Myrtaceae (including myrtle rust) were not prioritised for assessment. It was considered that these pathogens were already covered within the existing 'novel biota and their impact on biodiversity' Key Threatening Process which includes all invasive species that threaten species and ecological communities listed under the EPBC Act.

Various workshops, teleconferences and projects have been conducted over the years to address management of myrtle rust. Most recently, the Plant Biosecurity CRC and the National Environmental Science Program is due to be released for public consultation soon.



Yellow spores of myrtle rust. Photo source: www.abc.net.au/science/articles/2011/03/01/3151595.htm?site=science/tricks&topic=latest

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WSV Membership Rates 2017–18

Pay for 1, 3 or 5 years

Concession*	\$20
Ordinary	\$60
Corporate	\$140

* Students and Pensioners

WSV is not registered to collect GST

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COVER PHOTO: *Corymbia maculata* (courtesy Rob Richardson)

Joining the Weed Society of Victoria

The benefits of membership to WSV include:

- Weedscene: newsletter packed full of information
- eWeedscene: regular electronic bulletin on weed news and events
- Discounts to WSV seminars, workshops, conferences and other events
- Opportunities to network with others.

To apply for membership, download and print the membership application form from the WSV website, www.wsvic.org.au, complete the details and mail to the WSV Secretary.

Weedscene Newsletter of the Weed Society of Victoria Inc.

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- Logo displayed on 'Weedscene' – four issues per year
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- One promotional article in 'Weedscene' per year (subject to ed. control)
- One free membership per year (optional)

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■ One sixth page	56 mm wide × 128 mm high	\$50
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Invasive Plants PhD Research Projects

This is the eleventh in our series on invasive plants research projects being undertaken by PhD candidates in Victoria.

Hawkweed Hunting Hounds – optimisation of the use of dogs to find hawkweed in the alpine regions of Australia

Emma Bennett's supervisors are Joslin Moore, Monash University, and Cindy Hauser, The University of Melbourne.

Conservation dogs appear to be providing a novel and effective method of improving detection success for hard to find species. Unlike other methods used to survey for plants and animals, dogs employ their olfactory senses to locate and detect hard-to-find species and provide an alternative to the more common visual and auditory approaches. In recent decades, the use of dogs in conservation has grown rapidly and there is a growing acceptance that dogs are able to support the eradication of invasive weeds by finding small and hard to detect incursions.

The Office of Environment and Heritage in NSW has engaged Sally and Connor, two springer spaniels trained in hawkweed detection, to support efforts to find this highly invasive weed. Cindy Hauser from the University of Melbourne has undertaken preliminary studies to investigate if dogs can find hawkweed in the Alpine regions of Victoria and it turns out they can.

My PhD is seeking to quantify where dogs are best deployed to support efforts and to work together with people, drones and other technologies to create a multi targeted approach to hawkweed detection and ultimately eradication.



Photo right: Emma and her dog Mojo who is breeding future conservation dogs

Testing dogs in the field presents a high biosecurity risk as, typically, known samples of the targets are identified or placed in the field and dogs are tested on their abilities to find them. However planting live hawkweed back into the alpine region to test the dogs, creates a lot of nervous people in the biosecurity risk team.

In order to overcome this, we are investigating if the trained dogs can detect blended frozen samples of hawkweed matter just as readily as live plants. This will allow us to deploy frozen scent samples into testing plots without a biosecurity risk, whilst still allowing us to quantify the dogs' performance.



Photo above: Sally at Kosciuszko National Park

Additionally, handmade replicas of hawkweed will provide visual identification for the handler and human search teams allowing us to test the performance of dogs and humans within the same search areas. This is important as preliminary trials suggest that whilst dogs and human search teams find a similar proportion of hawkweed in the field, they are finding different hawkweeds, meaning their combined search effort is greater than either effort in isolation.

Photo left: Connor showing his trained alert for when he detects hawkweed

Environmental Biosecurity Roundtable

Ingrid Krockenberger

The third annual Environmental Biosecurity Roundtable was held in Canberra on 3 May 2018, hosted by the Australian Government. The theme of the meeting was 'Preparedness and Response'. [An article on the previous forum can be found on page 7 in Weedscape Volume 28 Issue 3 2017.]

Attending these events provides an opportunity to observe the encouraging progress in the revitalisation of biosecurity governance in Australia. The updates reported on progress in implementation of the recommendations by the recent reviews of the Intergovernmental Agreement on Biosecurity (IGAB) and the National Environmental Biosecurity Response Agreement (NEBRA), and responses to feedback through the roundtable process.

Following an introduction by the Department's Josephine Laduzko, Matthew Koval (First Assistant Secretary for Biosecurity Policy and Implementation, federal Department of Agriculture and Water Resources (DAWR)) gave the DAWR update. He reiterated the challenges to biosecurity posed by increasing trade and passenger movements, and complex supply channels. In 2016–17, there were 20.5 million and 840,000 international passengers arriving by air and sea, respectively; the arrival of 158 million international mail articles; and the arrival of 41 million and 1.8 million air and sea cargo consignments, respectively.

Matt reported on the inaugural Biosecurity Innovation Exchange meeting held in March 2018. This is a joint DAWR and New Zealand MPI undertaking with agency, industry and other representatives. The purpose of the meeting was to explore innovative approaches and technologies, in order to better target risk, ease pressure on our borders and to more effectively and efficiently undertake biosecurity work. The 2019 Biosecurity Innovation Exchange meeting is to take place in New Zealand.

An update on the National Environmental Biosecurity Response Agreement (NEBRA) followed. A requirement of NEBRA is that 5-yearly reviews are undertaken, which took place in 2017. A NEBRA Admin Group has now been established to respond to the 16 review recommendations and a first draft of a revised NEBRA is expected to be released in late 2018 for public consultation.

DAWR is supporting the delivery of a shared national response to the Priorities for Australia's Biosecurity System review (The Review) recommendations. The 2017 document (which is the final report of the independent review of the capacity of Australia's biosecurity system which underpins the Intergovernmental Agreement on Biosecurity (IGAB)) can be found at: www.agriculture.gov.au/SiteCollectionDocuments/biosecurity/partnerships/nbc/priorities-for-aus-bio-system.pdf.

Some of The Review's recommendations currently being implemented include:

- developing a National Biosecurity Statement (more later in this article);
- drafting a revised IGAB and priority reform areas for Agricultural Ministers' consideration (see 'In the Media' in this issue);
- developing a National Priority List of Environmental Pests and Diseases (see immediately below and later in this article);
- finalising emergency response deeds for aquatic animals and exotic production weeds;
- establishing an Industry and Community Reference Group to provide advice to National Biosecurity Committee (mentioned at the end of this article); and
- setting national priorities for biosecurity research and development.

One of The Review recommendations is an updated National Priority List of Environmental Pests and Diseases. Progress so far has been consultation at the November 2017 Environmental Roundtable and the March 2018 1st Stakeholder Workshop. Next steps include the 2nd Stakeholder Workshop in June 2018, public consultation process beginning in early 2019, and endorsement and publication of the list is expected in mid-2019.

Jeff, the amiable fool of 'Don't be a Jeff' biosecurity videos, was introduced as part of 'Biosecurity Matters' which has recently been launched to educate the community on biosecurity, why it matters and the public's role in biosecurity (see 'In the Media' in this issue).

Veronica Blazely (Director of Environmental Biosecurity Section, federal Department of the Environment and Energy (DEE)) explained the regulatory role of the DEE through the administration of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The DEE role in biosecurity isn't repeated here but can be found on page 7 in Weedscape Issue 3 2017. She introduced the new Threatened Species Commissioner, Sally Box.

Anthea Brecknell, of the National Environmental Science Program (NESP) run by the DEE, announced the release date (31 May 2018) for the 'Myrtle Rust in Australia: a draft national action plan' (see the cover story in this issue). She also reported on the NESP Threatened Species Recovery Hub review of myrtle rust and its impacts in Australia which will aid decision-making and will be released in June 2018.

Bruce Christie is the Chair of the new Environment and Invasives Committee (EIC) which has replaced the Invasive Plants and Animals Committee to give greater focus on environmental biosecurity issues. Bruce explained that the EIC is one of 4 sub-committees reporting to the National Biosecurity Committee and was formed in response to recommendations of The Review. The Weeds Working group is one of the key advisory groups for the EIC. The EIC is involved in developing the National Priority List of Environmental Pests and Diseases.

Bruce praised the work of the NSW Department of Primary Industries' 'Biosecurity Warrior' program run by their biosecurity team through social media.

This was followed by a new 'What's New' session which was very well received. Participants had been invited to give short presentations on progress and news items within their organisations. Presenters were:

- Pam Whiteley (Wildlife Disease Association – Australasian Section) – risk assessment and surveillance relating to zoonotic diseases (transfer to humans), transfer of disease from domestic and feral animals to wildlife, and biodiversity conservation;
- Andrew Peters (Wildlife Health Australia) – on the vital need for research as there are very few successful outcomes following disease emergence – local control may be possible through strict culling;
- Juanita Watters (Plant Biosecurity Cooperative Research Centre (PBCRC)) – collaboration between PBCRC and NESF on the review of myrtle rust and its impacts in Australia and the national action plan, and the need for an integrated, funded, long-term program to prevent new strains entering Australia and prevent incursion to WA and SA; urgent need to arrest species decline, and the need for seed capture and storage of germplasm to prevent extinction;
- Michael Robinson (PBCRC) – an activated silica product undergoing trials for red imported fire ant (RIFA) control without the use of toxic chemicals;
- Dr Helen Scott Orr (Department of Agriculture and Water Resources) – Helen described her position as the inaugural Inspector-General for Biosecurity whose role is defined under the *Biosecurity Act 2015*, and who makes recommendations for system improvements and is independent of the Minister;
- Andrew Cox (Invasive Species Council) – collaborative work with Monash University to identify environmental biosecurity risks and pathways, beginning with research on insects and then fungi;
- Linda Ford (Charles Darwin University) – inspiring Aboriginal Indigenous Engagement Model which has been very well accepted and is a template that can be used to engage communities with various issues, including biosecurity;

- Lowrie Price (OceanWatch Australia) – passive surveillance, biofouling, code of practice within Marine NRM.

Josiah Pit of the Pet Industry Association, and DAWR's Veronica Blazely, presented a session on encouraging voluntary compliance within the pet industry.

This was followed by a panel discussion on roles and responsibilities. The panel consisted of government, industry and community stakeholders. Questions posed to the panel included how to influence decisions made by individuals – social processes in decision-making and interventions which achieve desired outcomes – prompting discussion on nudge theory, compliance research, behavioural psychology, legislative power, social licence and change in culture.

Other topics raised through questions to the panel include: the importance of having industry involved in research and development, not just for the co-funding opportunities, but also for the potential for culture change; NEBRA deeds (the formal legally-binding funding and resourcing agreements between a biosecurity sub-committee, the Australian Government, all state and territory governments and a national industry body) responding to an emergency incident; Australia's obligations as signatory to international treaties; the mutual benefits and opportunities of participating in international incidents, and; the importance and biosecurity opportunities of the Indigenous Ranger program.

CAWS President, Rachel Melland, was a last-minute substitute for an indisposed speaker, reporting on progress in formulating the National Biosecurity Statement. Rachel commented that recent developments are an indication of the maturation of the biosecurity system in Australia. Rachel emphasised the importance of fostering community understanding and ownership of biosecurity.

South 32's Megan Lewis gave an engaging talk on the mining company's efforts to keep Groote Eylandt cane toad free.

John Robertson of the Environment and Invasives Committee ran the final workshop of the meeting, on future stakeholder engagement. He mentioned that a meeting of the National Biosecurity Committee earlier in the year had resolved to establish an Industry and Community Reference Group which will provide an important stakeholder forum to inform key national biosecurity policies and reforms.

Plant Biosecurity Cooperative Research Centre 2012–2018

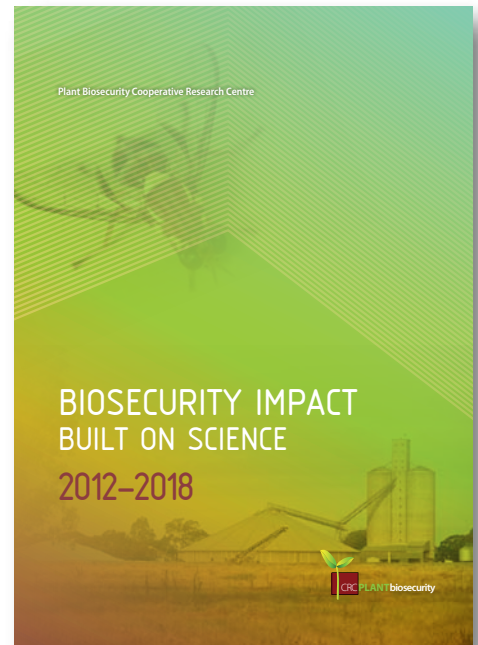
The Plant Biosecurity Cooperative Research Centre (PBCRC) is winding up in 2018. The PBCRC was established in 2012 to strengthen the plant biosecurity scientific capacity of Australia. The aim has been to ‘develop and deploy scientific knowledge, tools, resources and capacity to safeguard Australia, its plant industries and regional communities from the economic, environmental and social consequences of damaging invasive plant pests and diseases’.



The PBCRC was developed as an extension of the Cooperative Research Centre for National Plant Biosecurity which began in 2005 and ended in 2012. (A link to the legacy CFCNPB website content can be found at: <http://legacy.crcplantbiosecurity.com.au/>.) The PBCRC is funded through the Australian Government’s Cooperative Research Centres Programme and 27 participating organisations from both Australia and overseas, representing industry, universities, and state and federal government. Many of participating organisations are end-users of the research, maximising the benefit and impact of the PBCRC output.

The final output of the PBCRC is the *Biosecurity Impact Built on Science 2012–2018* report which summarises the major findings of the CRC’s research efforts and includes the findings of an independent analysis of the CRC’s research impact. A link to the report can be found at: www.pbcrc.com.au/news/media/biosecurity-impact-built-science-2012-2018.

This work was presented at the PBCRC National Science Exchange on 29–31 May 2018 in Melbourne. All the presentations will be made available as PDFs and in video format. Links will be provided once they become available.



Beyond the Plant Biosecurity Cooperative Research Centre

The PBCRC has been tasked by the Australian Government with developing an improved plant health Research, Development and Extension (RD&E) system. In 2016, the PBCRC released the investment proposal, *SmartBiosecurity: Australasian Plant Biosecurity Collaborative Science Institute*, which builds on the existing assets of the PBCRC, utilising a shared resourcing model and overcoming the limitations of a short-term CRC. (Access to the document: www.pbcrc.com.au/sites/default/files/managedfiles/Smart%20Biosecurity%20Initiative%20Proposal.pdf)

Although there has been consensus from across industry, government and research stakeholders on the urgent need for a nationally-coordinated, funded and enduring plant biosecurity RD&E system, there has been mixed response to the *SmartBiosecurity* proposal. As stated by Dr Martin Barlass, Chair of the PBCRC, in a news article published on the PBCRC website in November 2017, there are ‘many players looking for a captain’, with some disagreement on who will undertake the function of the proposed institute and what will be covered.

In response, the PBCRC has developed a supplement to the *SmartBiosecurity: Australasian Plant Biosecurity Collaborative Science Institute* proposal to cover animal biosecurity and aspects of aquatic biosecurity that are not covered by the Invasive Plant and Animal Committee. (Access here: www.pbcrc.com.au/sites/default/files/managedfiles/SmartBiosecurity%20Centre%20proposal.pdf)



We await further news.

In the Media

Investment Plan for Weed Research, Development and Extension

As part of the Federal Government's \$20 million investment in the Centre for Invasive Species Solutions (CISS), the Minister for Agriculture and Water Resources has requested that CISS develop a 10-year Investment Plan for Weed Research, Development and Extension that aims to improve weed management in Australia. The first stage in its development is public consultation – anyone interested in weed research, management, policy or practice is encouraged to provide feedback on the draft plan, at: <https://invasives.com.au/weeds-rde-feedback/> (Deadline 21 May 2018 but extensions will be considered.)

Agriculture Ministers' Forum Biosecurity Update

The draft Intergovernmental Agreement on Biosecurity (IGAB 2) was reviewed by state and federal agricultural ministers at the recent Agriculture Ministers' Forum. The new draft agreement responds to the 42 recommendations from the 2017 review of the national biosecurity system, chaired by Dr Wendy Craik. IGAB 2 is expected to be signed and come into effect by the end of 2018.

Media release: www.agriculture.gov.au/about/media-centre/communiques/ag-ministers-forum-april-2018

'Absolute Calamity for the Australian Environment'

Australian National University ecologist, Professor David Lindenmayer, described cuts to federal Department of Environment as “an absolute calamity for the Australian environment and for the conservation of Australia's ecosystems and threatened species”. About a third of the 200 full-time equivalent staff will be lost from the biodiversity and conservation division in the next financial year, to be redeployed into other positions. The role of the division is the coordination of the listings of threatened species and their recovery plans, developing Australia's national biodiversity strategy, and coordinating action against invasive species and other biosecurity threats.

ABC News article at: www.abc.net.au/news/2018-05-04/environment-department-to-lose-60-jobs-key-to-threatened-species/9722560

Budget Boost to Biosecurity

Biosecurity is a new focus for the Federal Budget. The 2018–2019 Budget delivers an additional \$121.6 million to 30 June 2022 for investment towards strengthening the national biosecurity system. This is part of the Australian Government's commitment to implementing the recommendations of the 2017 independent report, 'Priorities for Australia's Biosecurity System: An independent review of the capacity of the national biosecurity system and its underpinning intergovernmental agreement'.

www.agriculture.gov.au/about/reporting/budget/biosecurity-measures

Also contributing to the implementation of the biosecurity review recommendations is the introduction of the Biosecurity Import Levy which is estimated to raise \$325 million over the three financial years beginning on 1 July 2019. The levy will be imposed on port terminal operators for incoming goods that are cleared under the *Biosecurity Act 2015* and will contribute to onshore surveillance, diagnostics, data analytics, research and adoption of new technology. www.agriculture.gov.au/about/reporting/budget/import-levy

Budget Pipeline to Established Pest Animal and Weeds Management

Australia's worst established pest animal and weed species are targets for the 2018–19 Federal Budget – \$6.6 million in 2019–20 has been allocated to further fund research, development and extension, national coordination and key infrastructure. The initiative, named the 'Established Pest Animal and Weeds Management Pipeline', is a result of recommendations of the Agricultural Competitiveness White Paper (released in July 2015). In collaboration with states and territories, the investment will continue research and development into control tools, such as next generation biological controls and digital disruption technologies, aimed at managing the impact of established pests and weeds. www.agriculture.gov.au/about/reporting/budget/pest-animal-weeds

'Don't be a Jeff' on Biosecurity

The Department of Agriculture and Water Resources has released a series of short animated videos titled 'Don't be a Jeff' as part of the launch of a new community-focused biosecurity webpage. This has been in response to consistent feedback during the 2017 biosecurity roundtable events, requesting simple resources to raise community awareness about biosecurity and explain the community's role. Visit the page, watch the videos and share the content at: agriculture.gov.au/dontbeajeff

Practical Solutions to Farmers in Complying with the EPBC Act

The Federal Government has announced an independent review into the interaction between agriculture and the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Submissions are invited for the public consultation phase, which are due no later than Friday 15 June 2018. Access to the briefing paper and submission forms, as well as further information, can be found at: www.environment.gov.au/epbc/information-for/farmers/consultation-agriculture-review

Reducing Red Tape for Farmers, or Reducing Environmental Protections?

The Federal Government's announcement of an independent review of the application of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) to agriculture has been welcomed by farming groups who say farmers grapple with overwhelming and sometimes conflicting regulations at federal and state levels. However, environmental groups claim that the project was designed to work with agricultural groups and farmers to the exclusion of other interested parties from the review process, and that expressions like 'reducing red tape for farmers' are a smokescreen for reducing or removing protections for the environment. Read the ABC News report at: www.abc.net.au/news/2018-03-29/independent-review-into-how-agriculture-interacts-with-epbc-act/9603404

A news article reporting on problems arising from conflict and duplications among the copious laws and regulations governing agriculture at state and federal level can be found at: www.northqueenslandregister.com.au/story/5322872/williams-wants-epbc-act-to-stop-treating-farmers-like-criminals/?cs=4735. Several farmers in south-east NSW have been threatened with legal action after being advised by agronomists to spray out serrated tussock and African lovegrass on their properties where native grass was registered as 'endangered' under the federal EPBC Act.

State of Australia's Environment Report

The Invasive Species Council's Andrew Cox recently blogged on the tabling of the five-yearly State of the Environment report in Federal Parliament last year. He states that "for invasive species it paints a grim picture" citing the general consensus among natural resource managers that "the impact of invasive species is not diminishing and, in combination with other stressors, may be increasing".

However, he goes on to say that with the right political will, there is hope for the future envisaged in Invasive Species Council's advocacy campaigns:

- the re-invigorated red fire ant eradication program;
- rodent eradications on Lord Howe Island and other islands;
- a lessening of the impact of feral cats from implementation of the national Threatened Species Strategy;
- creation of an environmental biosecurity preparedness body such as Environment Health Australia;
- implementation of recommendations from the Intergovernmental Agreement on Biosecurity review, and;
- innovations from the Centre for Invasive Species Solutions and other research bodies.

Read the full article at: <https://invasives.org.au/blog/invasive-species-australias-state-environment/>

Rescue Dogs Sniff out CNG in NZ

NZFarmer.co.nz reports that rescue dogs have been trained to locate Chilean needle grass on New Zealand farms. Members of the Chilean Needle Grass Action Group, landowners and biosecurity officers are confident of great benefit through the work of the sniffer dogs.

www.stuff.co.nz/business/farming/agribusiness/99688299/sniffer-dogs-latest-tool-in-plant-biosecurity-battle

Canine Hawkweed Specialist Now Trained to Detect Alligator Weed

Connor, conservation detection dog extraordinaire, now includes alligator weed in his repertoire.

Read the ABC Rural story at: www.abc.net.au/news/rural/2018-04-19/a-big-country-connors-got-a-nose-for-weeds/9672624

Landmark Lawsuit against Monsanto

A California lawsuit will claim that Monsanto suppressed evidence of the risks of the cancer-causing dangers of glyphosate-based herbicide products. Monsanto has fiercely denied allegations that glyphosate causes cancer.

The Guardian article access: www.theguardian.com/business/2018/may/22/monsanto-trial-cancer-weedkiller-roundup-dewayne-johnson?CMP=soc_567

Utilising Weeds for Soil Health

ABC Rural published an article on the value of weeds to improve horticulture profitability and reduce fertiliser, chemical and labour costs. In orchards where there is a low return on produce, it may be smarter to harness the ecosystem services of suitable weeds.

www.abc.net.au/news/rural/2018-01-22/using-weeds-ecology-to-improve-farm-profitability/9343028

Largest Feral Cat Eradication Project in the World

ABC Landline reported on the largest feral cat eradication project in the world, located at the edge of the Great Sandy Desert. The population of feral cats in Australia is estimated to be 2–4 million, each consuming about 130 birds per year, amounting to about 320 million birds killed annually – add to this, about 60 million killed by pet cats. Furthermore, feral cats are considered largely responsible for the extinction of 20 Australian mammal species. Indeed, Australia is considered to be the global epicentre for mammal extinctions.

Following good years, the central desert region has particularly high densities of feral cats. The cat exclusion project will eventually span 100,000 hectares at the former cattle property, Newhaven Station, 350 kilometres from Alice Springs. Cats are expected to be eliminated from the exclusion zone by Christmas 2018.

Access: www.abc.net.au/news/2018-05-17/feral-cat-proof-fence-to-be-built-in-australia/9766830

Biocontrol of Cats Claw Creeper in Qld

ABC Rural reported on biocontrol work undertaken to control the serious environmental weed, cats claw creeper. This aggressive introduced species smothers vegetation beside waterways and in rainforests from Sydney to far north Queensland, and spreads rapidly via millions of papery winged seeds. The South American jewel beetle and tingid bug have been approved for release, and are being bred in a polytunnel by Gympie Landcare with much success. Now the search is on for a biocontrol agent which affects the persistent tubers.

www.abc.net.au/news/rural/2017-11-14/biocontrol-bugs-released-in-crusade-against-cats-claw-creeper/9130024

Open-Access Drive Escalates

Publishers of scientific journals are facing pressure to transition towards an open-access model. Scholarly publishing's current business model is to publish articles behind paywalls with access via subscriptions. Momentum is gathering following decades of campaigning for research papers to be published openly, on the grounds that the results of publicly-funded research should be available for all to read. Various national groups in Europe have recently been negotiating with publishers – link to article: www.nature.com/articles/d41586-018-05191-0?utm_source=twtnnc&utm_medium=social&utm_campaign=naturenews&sf189763830=1

Protection of an Invasive Species within a National Park

The New South Wales government scrapped a recommendation from its own environment department to cull brumby numbers in Kosciuszko National Park by up to 90%. Legislation has recently been introduced to parliament to formally recognise the cultural and heritage significance of brumbies and to ensure they are protected as an ongoing presence in the park.

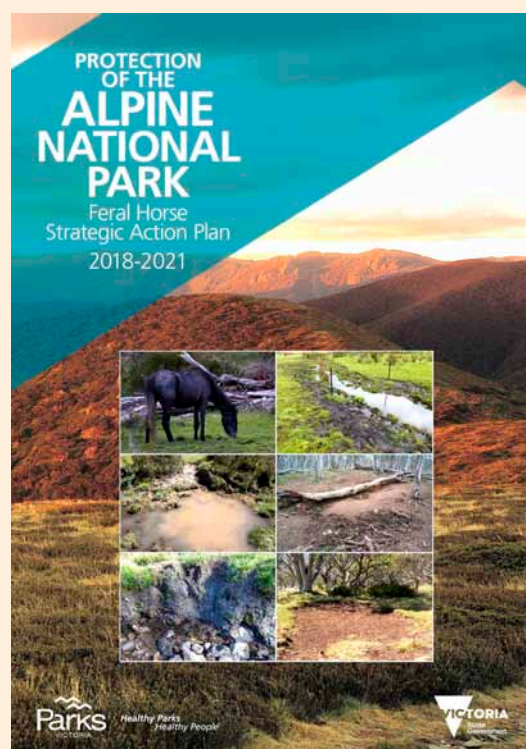
The Guardian has published on the background and recent turn of events on this issue, reporting that NSW deputy premier, John Barilaro (whose electorate of Monaro includes the national park) stated in parliament that “If we accept that the brumby has a right to exist in the Snowy Mountains region – a right that this bill encapsulates – and we recognise the brumby's unique place in Australian history, then we must find ways to preserve a sustainable population in a way that minimises harm to the environment”. (www.theguardian.com/world/2018/may/25/the-battle-over-brumbies-how-nsws-invasive-species-became-heritage-horses)

An earlier The Guardian article reported on conservationists concerns for the unique and fragile ecosystems under threat by the 6,000 feral horses which occupy about half of the 700,000-hectare Kosciuszko national park. (www.theguardian.com/environment/2018/may/21/plans-to-stop-kosciuszko-brumby-cull-labelled-a-disaster).

The Canberra Times reported on the recent backflip of Federal Environment Minister Josh Frydenberg. He has given his approval to the NSW government's plan to protect brumbies in the Kosciuszko National Park despite stating that brumbies were “creating great damage to parts of that national park”, and that “we want to see our flora and our fauna protected” just days ago.

Greens senator Peter Whish-Wilson, critical of Frydenberg's stance, stated that the minister's options included “listing the feral horses as a key threatening process, engaging through the Australian Alps [memorandum of understanding] which his department is a signatory, and assessing the National Park plan of management against the heritage requirements of the EPBC [Environment Protection and Biodiversity] Act”. (https://amp.canberratimes.com.au/environment/conservation/lasting-damage-josh-frydenberg-backflips-on-nsw-brumby-protection-20180528-p4zhvj.html?__twitter_impression=true).

Using the term ‘feral horses’ rather than the more affectionate term ‘brumbies’, the Victorian Government has released the draft consultation document ‘Protection of the Alpine National Park – Feral Horse Strategic Action Plan 2018–2021’. (<http://parkweb.vic.gov.au/explore/parks/alpine-national-park/plans-and-projects/feral-horse-operational-plan>).





WSV AGM 2018

The Weed Society of Victoria held its Annual General Meeting in Bacchus Marsh on 22 May 2018, in conjunction with the Best Practice Management Options for Opuntoid Cacti Workshop conducted by the Department of Environment, Land, Water and Planning. There were insufficient members present to form a quorum, and it has been a tough year for WSV due to lack of time available to committee members. However, there was plenty of productive and positive discussion. Ratification of decisions will take place via email.

Although we were unable to organise a conference this year due to other commitments and lack of time of the committee members, there is a benefit in skipping a year. Now the WSV biennial conference will occur in alternate years to the biennial Australasian Weed Conference. This may enable greater attendance because Victorians will not have to choose between a state and national weed conference in one year.

Following ratification, the committee will consist of:
President: (vacant at time of publication)
Vice President: Rae Kwong

Immediate Past President: Greg Lefoe
Treasurer: Rebecca Grant
Secretary: Bec James
Editor: Ingrid Krockenberger
General and Co-opted Committee Members: Keith Primrose, Kate Blood, Greg Lefoe

We thank Greg Lefoe, Keith Primrose and Rebecca Grant for their valuable contributions over the years in their positions as President, Treasurer and Secretary, respectively. Thankfully we will not be losing them, as Rebecca will be handing over to Bec for the Secretary position, while taking over the Treasurer reins from Keith who remains on the committee.

The WSV Constitution states that the office of President can not be held by any one person for more than two consecutive terms, so Greg must step down as President but continues in his contributions as Immediate Past President and General Committee Member. We are working on changing the Constitution to allow a 5-year term of office for the President.

We are still looking for nominations for President. Also, we would welcome more General Committee Members. So, if you are interested in participating in the WSV in this way, please contact the Secretary on: secwssv@surf.net.au. There will be plenty of support to ease you into the position.

21st Australasian Weeds Conference

The Weed Society of New South Wales Inc., on behalf of the Council of Australasian Weed Societies Inc., will be hosting the 21st Australasian Weeds Conference at the Novotel Sydney Manly Pacific from 9–12 September 2018. Field trips will be hosted on Thursday 13 September 2018.

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

New Technologies in Weed Management – Innovative advances in technology, including new ways of modelling, communication, surveillance and detection, are changing the weed management landscape rapidly.

Biological, Mechanical and Chemical Weed Control and Research – We'll discuss applied management findings and discuss best practice use of control tools and technologies. We'll also learn about weed management research that is



currently underway, and investigate knowledge gaps that require new research.

Herbicide Resistance – We will look at new cases of weed resistance, explore our understanding of what makes plants resistant, and discuss the latest and best management practices for managing or delaying herbicide resistance in weeds.

Weeds of Crops and Pastures – Weeds cost primary producers precious dollars by reducing agricultural productivity. Speakers will look at ways of managing crop and pasture weeds using a combination of chemical and non-chemical methods, and explore new and existing management practices.

REGISTER NOW at www.21awc.org.au

CAWS report

March 2018

Ingrid Krockenberger



While there has been increased planning for weed biosecurity and management in the Federal Department of Agriculture and Water Resources, the Centre for Invasive Species Solutions, Plant Health Australia and the National Biosecurity Committee, there are opportunities for CAWS and member societies to contribute and collaborate towards improving weed management. The 2018 Federal Election is such an advocacy opportunity for long-term planning and funding for weed management programs.

Discussion on advocacy in relation to the 2018 Federal Election included formulating a CAWS statement; participating in a joint statement with Andrew Cox of the Invasive Species Council; and encouragement of members and member societies to contact the Federal Environment and Agriculture Ministers, and local Members.

Sue Hinton reported excellent progress in reviving the Tasmanian Weed Society: 6–7 people are now prepared to form an executive committee and an additional 3 people are willing to help though not on the committee.

Rachel Melland has been encouraging members to join social media for the promotion of weed societies. She reports that there are currently five large weeds-focused Facebook pages in Australia: the Western Australia group has over 900 members, the Tasmanian group has over 700 members, and there are Facebook pages for the Canberra & SE NSW Weeds group, the Weed Society of Victoria and the Weed Management Society of South Australia, as well as a 21st Australasian Weeds Conference page and a 6th South Australian Weeds Conference page.

CAWS Treasurer, Michael Widderick, has presented recommendations to address concerns raised by the auditors recently, including matters such as ensuring payments are approved and minuted at CAWS meetings, concern about cheques being pre-signed by the second signatory, and signing off meeting minutes by the President in order to ratify.

Two 2018 travel award applications have been received. A selection sub-committee was formed and recommendations will be put to an out-of-session vote. The previous year's student travel award recipient, Dilani Hettiarachchi, was awarded a prize at the Kyoto joint meetings of the International Society of Chemical Ecology and the Asia Pacific Association of Chemical Ecology.

Rex Stanton and Kim Hignell from NSW reported that 219 abstracts (140 oral) have been received for the 21st Australasian Weeds Conference. Based on this number, they estimate attendance will be over 300 delegates. They are seeking volunteers for peer review of the submissions. Five field trips have been organised. The CAWS Orator has not been selected as yet.

Other discussions included the development of the CAWS Strategic Plan 2019–2024, the new provider now hosting the CAWS website, and further discussions on developing a biennial financial plan which will coordinate better with the biennial Australasian Weeds Conference.

Next meeting: 21 June 2018.

Ingrid Krockenberger and Brett McGennisken are your CAWS delegates.

Dates for your Diary

June 2018

18th European Weed Research Society International Symposium

New Approaches for Smarter Weed Management
Ljubljana, Slovenia. 17–21 June 2018
www.ewrs2018.org

September 2018

10th International Conference on Biological Invasions

Neobiota 2018 – New Directions in Invasion Biology
Dublin, Ireland. 4–7 September 2018
www.neobiota2018.org

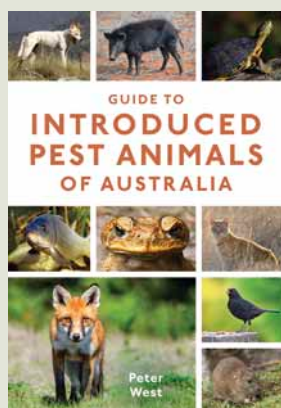
21st Australasian Weeds Conference

Weed Biosecurity – Protecting Our Future
Sydney, Australia. 9–12 September 2018
www.21awc.org.au

1st International Conference on Biological Control

Biological Control: Approaches and Applications
Bangalore, India. 27–29 September, 2018
www.icbc2018bengaluru.com

New Publications



For those interested in the pest animals of Australia:

Guide to Introduced Pest Animals of Australia

Author: Peter West

Published: April 2018

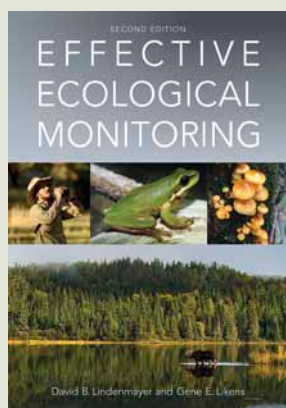
Paperback ISBN: 9781486305674

ePDF ISBN: 9781486305681

Publisher: CSIRO Publishing

Australia's introduced vertebrate pest species cost at least \$1 billion annually in economic, environmental and social impacts. The *Guide to Introduced Pest Animals of Australia* is a practical guide to 60 introduced pest animal species present in Australia, including 27 mammals, 18 birds, nine freshwater fish, two amphibians and four reptiles. It contains descriptive information to identify each species in the field, including distinctive physical characteristics, size, weight, colouration, diet, breeding behaviour, habitat preferences, and information about footprints, dung, scats and audible animal calls.

Each species profile is accompanied by practical management information, maps and high-quality photographs – allowing readers to learn about pest species in their local area, what problems they might cause, and what control options exist for management. This guide also contains a number of emerging high-risk pest species that may pose a significant threat to our natural environment, economy, agriculture and human health.



Whether you are a farmer, natural resource manager, public land manager, pest controller, teacher, student, field naturalist or wildlife ecologist, this easy-to-use guide will help you identify Australia's most significant introduced pest animals in your local area.

For those interested in ecological monitoring:

Effective Ecological Monitoring

Second Edition

Authors: David Lindenmayer, Gene Likens

Published: May 2018

Paperback ISBN: 9781486308927

ePDF ISBN: 9781486308934

Publisher: CSIRO Publishing

Long-term monitoring programs are fundamental to understanding the natural environment and managing major environmental problems. Yet they are often done very poorly and ineffectively. This second edition of the highly acclaimed *Effective Ecological Monitoring* describes what makes monitoring programs successful and how to ensure that long-term monitoring studies persist.

The book has been fully revised and updated but remains concise, illustrating key aspects of effective monitoring with case studies and examples. It includes new sections comparing surveillance-based and question-based monitoring, analysing environmental observation networks,



and provides examples of adaptive monitoring.

Based on the authors' 80 years of collective experience in running long-term research and monitoring programs, *Effective Ecological Monitoring* is a valuable resource for the natural resource management, ecological and environmental science and policy communities.

For those interested in conservation:

Recovering Australian Threatened Species: a book of hope

Edited by: S. Garnett, P. Latch, D.

Lindenmayer, J. Woinarski

Published: March 2018

Paperback ISBN: 9781486307418

ePDF ISBN: 9781486307425

Publisher: CSIRO Publishing

An inspiring showcase of successful approaches and implementation methods for conservation. Against a relentless tide of threats to our biodiversity, many Australians, and government and non-government agencies, have devoted themselves to the challenge of conserving and recovering plant and animal species that now need our help to survive. This dedication has been rewarded with some outstanding and inspiring successes: of extinctions averted, of populations increasing, of communities actively involved in recovery efforts.

This book showcases successful conservation stories and identifies approaches and implementation methods that have been most effective in recovering threatened species. These diverse accounts show that the conservation of threatened species is achievable: that it can be done and should be done. They collectively serve to inform, guide and inspire other conservation efforts. This is a book of hope and inspiration. It shows that with dedication, knowledge and support, we can retain and restore our marvellous natural heritage, and gift to our descendants a world that is as diverse, healthy and beautiful as that which we have inherited.