

# A GOOD WEED



Newsletter of the Weed Society of New South Wales Inc.

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*Limnobium laevigatum* (frogbit), a floating freshwater weed from Central and South America. It can rapidly invade and is a serious biosecurity threat to NSW

Image: Kim Hignell

## Featured stories in this edition

- ◆ **Biocontrol of ox-eye daisy**
- ◆ **Feature story: sterilising woody weeds to prevent seed spread**
- ◆ **Awarding of prizes at the NSW Weeds Conference**
- ◆ **Collaborative effort for biological control research in NSW**



## In this issue

Front cover	1
Index and contacts details	2
Stopping seed set in weedy trees by Tony Cook	3
Scotts weed control products by Scotts	7
African Olive field day by Tony Cook	8
Ox-eye daisy bio-control by Andrew McConnachie	10
Truxor—for aquatic weed management by Truxor	12
Prioritising biocontrol in NSW by Louise Morin	13
NSW Conference Photo Competition by Tony Cook	16
NSW Weed Society Award winners by Tony Cook	18
Special feature for next issue by Tony Cook	20

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South Wales Inc.*



## Contact Details

Postal Address: PO Box 8040  
Koorlingal NSW 2650

Secretary: [secretary@nswweedsoc.org.au](mailto:secretary@nswweedsoc.org.au)  
Treasurer: [treasurer@nswweedsoc.org.au](mailto:treasurer@nswweedsoc.org.au)  
Editor: [editor@nswweedsoc.org.au](mailto:editor@nswweedsoc.org.au)  
Website: [www.nswweedsoc.org.au](http://www.nswweedsoc.org.au)

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**Stephen Johnson (Orange)**

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**Reece Luxton (Grafton)**

## Editor's note

Welcome. I'm always on the lookout for new and novel stories. If you have anything noteworthy for inclusion into the Winter edition, please contact me.

Tony Cook, newsletter editor

## A NEW PROJECT TO INVESTIGATE STERILIZING WOODY WEEDS TO STOP SEED SPREAD

With the recent introduction of the Biosecurity Act, there is now more emphasis to think about our action in terms of weed spread and dispersal. The Act specifically focuses on the shared liability relating to containment and control of weeds.

There is a significant and unresolved conflict between the retention of trees of species that are invasive and ecologically-damaging but which are recognised for their cultural, historic or aesthetic significance. Camphor Laurel is one such species. They were planted extensively for amenity or cultural reasons but the species readily invades natural areas, impacting on biodiversity and ecosystem functions. There are instances where the removal of such trees is curbed by community or historic values and individual trees then generate copious progeny annually through seed production and dispersal causing environmental impacts and adding to long-term costs of control efforts.

Some councils have received negative feedback from their rate payers and other concerned people (see image below). Protestor may only have their thoughts on a few issues, such as shade or the loss of very old picturesque trees, however we must consider the seed from some of these invasive species may be transported long distances via birds and deposited in other areas. Killing such trees will certainly stop seed set but this may result in community angst.

Is it possible to preserve these trees whilst preventing them from producing seed?



*Some people value their trees with passion*

*Image: Bellingen Courier*

### CHEMICALS USED NOT JUST TO KILL WEEDS!

We are all too familiar with herbicides and their primary role to kill weeds. However, there are many herbicides that have been used to modify the growth of plants without the aim of death. Other active ingredients (non-herbicides) have also been identified to alter plants growth for a desired outcomes.

Some examples to adjust plants' growth include:

- Products to slow growth rates in lawns
- Ethylene to promote flowering
- Low rates of glyphosate or phenoxy herbicides applied as a spray graze tactic to encourage stock to preferentially graze weeds
- Gibberellins and auxins to stimulate fruit thinning
- Low rates of glyphosate (and other herbicides) to suppress kikuyu growth in autumn for temperate pasture sowing
- Products that reduce foliar growth in orchards
- Products that enhance fruit colouring prior to harvest
- Desiccants to speed up crop maturity for better harvest outcomes
- Low rates of herbicides to sterilize seeds when applied between flowering to seed development stages

### A NEW PROJECT

A federally funded project commenced in July 2017, courtesy of the Department of Agriculture and Water Resources and the lead agency Mid Coast Council. Other collaborating agencies are the Central Coast Council and the Hunter Local Land Services. The primary aim was to undertake some research in the following 2 years to scope a handful of chemicals to de-flower or prevent fruit from developing on African Olive or Camphor Laurels. There is potential to use this technique, if successful, on other species. However, as there is limited project time it was decided to stay focused on these species.

**AFRICAN OLIVE**

African olive is a garden escape plant and has become a serious weed in Australian bushland. It can further spread to and heavily impact upon agricultural land.

**African Olive Fruit***Image: NSW DPI (WeedWise)*

In 2010 the “Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants ” was listed as a “Key Threatening Process” under the NSW Threatened Species Conservation Act 1995. African Olive itself was also listed as a ‘Key Threatening Process’ to Biodiversity by the NSW Scientific Committee in 2010.

It is estimated that African Olive is having a negative impact on at least 25 Endangered Ecological Communities as well as 13 threatened flora and 4 threatened fauna species in NSW.

African Olive has further been listed in the Global Invasive Species Database.

More than 4,000 hectares of dense African Olive infestation has been identified across the western Sydney region alone.

African Olive out-competes established native vegetation, casting dense shade which prevents the regeneration of native plants. Infestations can alter the floristic structure and habitat value of remnant bushland areas.

**CAMPHOR LAUREL****Camphor Laurel Fruit***Image: NSW DPI (WeedWise)*

Camphor laurel is a garden escape plant that has become a serious weed in neglected areas near habitation, on street verges, along roadsides, in native bushland, rainforest edges and gaps, moist open woodlands, pastures, and especially riparian zones (banks of watercourses).

It is estimated that Camphor laurel is having a negative impact on at least 25 Endangered Ecological Communities as well as 13 threatened flora and 4 threatened fauna species in NSW. It is considered a threatening weed similar to the same committees that listed African Olive.

They have the ability to adapt to the disturbed environment, have prolific seed production and a rapid growth rate as well as a lack of serious predators or diseases, they also possess many specific attributes which enhance its weed status.

Camphor laurels are ecosystem changers. They have a tendency to form single species communities and exclude most other tree species, including desirable native vegetation. This weed species has a competitive advantage over native vegetation due to the ability for them to easily establish.

Camphor laurel has a very dense, shallow root system which, when accompanied by the shading provided by the canopy, suppresses the regeneration of native seedlings. They have the ability to replace and suppress native vegetation and has an allelopathic effect on other species.



**INTERIM RESULTS FROM YEAR 1**

A long dry period of weather from winter to spring played havoc on the flowering times and synchronicity of Camphor Laurels and African Olives. Fortunately significant rains fell in early October to rejuvenate the weeds, however flowering was still not ideal. Timing of treatments was closely linked to flowering, namely near early-mid flower bud opening stage, similar to a de-flowering product in the USA.

Assessment of treatment impacts on flowering or fruiting capacity of the weeds were undertaken in March and May 2018, but careful consideration was made to foliage. An ideal treatment is one that suffers no foliar damage while completely aborting reproductive issue.

The list of potential chemical candidates for testing was rather lengthy and after an extensive literature review the list was trimmed down to three chemicals for Camphor Laurels and two for African Olives.

Growth habit of the weed plays a large role into determining the type of treatment selected and how it is applied. A species like African Olive is often multi-stemmed and would be impractical for stem injecting whereas the single stemmed Camphor Laurel trees are ideal for a range of chemical deliver systems.

One experimental site of very old single stemmed African Olives was found at Tocal, but that is an extremely rare case. Otherwise, they are more likely to form many lower branches, even making basal barking difficult.



**Camphor Laurel growth habit is ideal for stem injection**  
*Image: Tony Cook*



**Typical growth habit of an African Olive tree—very difficult to administer stem injection based treatments**  
*Image: Tony Cook*

The interim results from the African Olive experiments suggest this species is rather difficult to selectively control flowering/fruiting without severely affecting foliage.

From Table 1 below, it appears the x2 rate of treatment A would be the best compromise between foliar damage and reduction in fruit setting. Although a foliage damage score of 3 out of 10 equates to some very noticeable symptoms which the plant will take some time to recover. The results below represent assessments made more than 3 months after treatment.

There is scope to apply various rates around this x2 rate in the second year of the project, to better fine tune treatment outcomes.

**Table 1: Rate response of treatment A on African Olive fruit set and foliage damage, 3 months after treatment**

Rate used	% control fruit	Foliage damage (0-10)
x 0 (nil)	8	0
x 1	10	1
x 2	90	3
x 4	98	4
x 8	88	5



*Subtle leaf curling from a treatment is probably not evident enough to concern people (x1 rate)*

*Image: Tony Cook*



*This x4 rate of treatment A defoliated the African Olive too much*

*Image: Tony Cook*

**Table 2: Effect of three treatments on Camphor Laurel fruit set and foliage, 8 months after treatment**

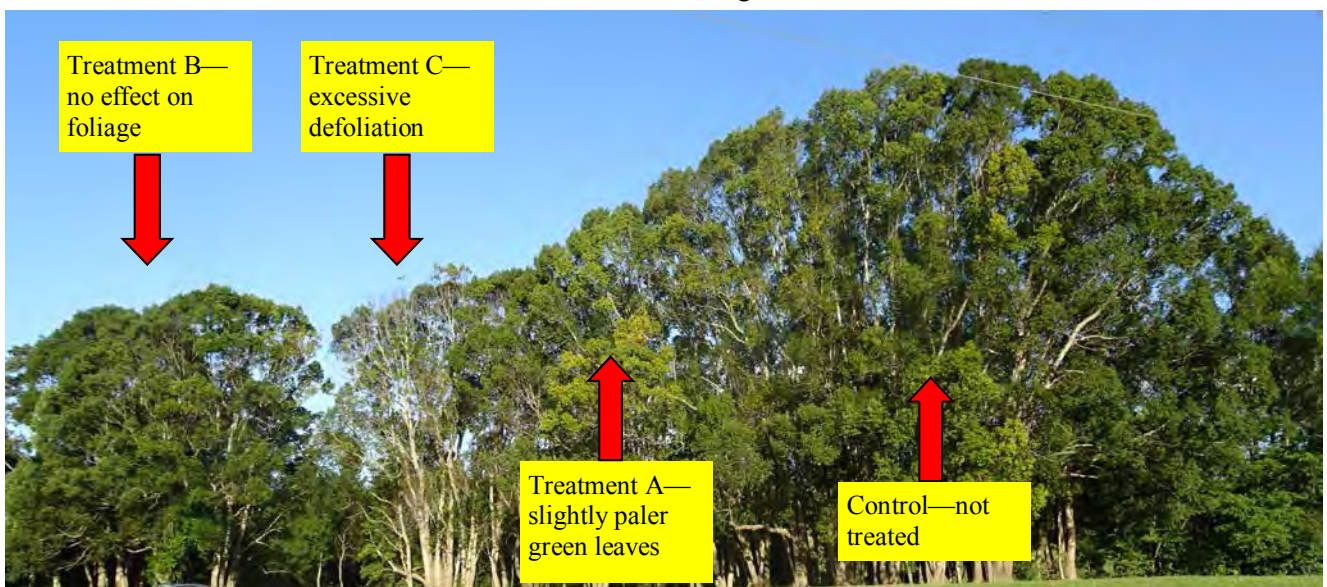
Treatment	% control fruit	Foliage damage (0-10)
A	98	2
B	5	0
C	90	8
Nil	0	0

It appears treatment A (same treatment for African Olives) was the most suitable for temporarily sterilizing Camphor Laurels. It subtly made the foliage paler whilst significantly reducing reproductive capacity. Treatment C will be tested in year 2 at much lower rates due to excessive damage in year 1.

**CONCLUDING COMMENTS**

The second and last year of testing will be focused on getting consistency and robustness of the likely treatments that may be considered for registration or Permits. The key to success is developing a treatment that can be easily and evenly applied that doesn't leave obvious scarring of bark while achieving near perfect seed set control and barely noticeable effects on foliage. Timing of treatments could be investigated in subsequent projects, however there is only enough time to investigate rate responses of treatment A. Other species could also be investigate in the future.

Fingers crossed for a better season than 2017/8.



*Camphor Laurel treated with various chemicals: The most suitable treatment to date is treatment A because it caused significant reductions in fruit production.*

*Image: Tony Cook*



**SCOTTS**  
**LAWN WEED CONTROL PRODUCTS**

**Lawn Builder™ + Weedkill Slow Release Lawn Fertiliser**

Australia's most popular lawn fertiliser has an excellent reputation with home gardeners and professional turf managers alike. The 'set and forget' solution to having a great lawn all year round, this product includes selective herbicides that will kill most broadleaf weeds with exceptions



<b>Three selective herbicides</b>	Weedkill contains <b>three selective broadleaf herbicides</b> that will control a broad range of weeds
<b>Greener stronger lawns</b>	<b>Boosted iron and sulphur</b> content promotes <b>deeper green</b> and stronger growth. The thicker the lawn, the less chance weeds have of taking hold - they're smothered before they become obvious and need treatment
<b>Controlled feeding</b>	Slow release of nutrients eliminates waste through run-off and leaching and prevents burning and surge growth
<b>No surge growth after application</b>	Traditional lawn foods release or 'dump' most of their nutrients within a couple of weeks of application, causing a rapid surge in growth that quickly drops off again as the food supply diminishes. Lawn Builder uses <b>patented time-release technology</b> to ensure nutrients are released slowly and continuously over a three month period
<b>Low phosphorus</b>	Weedkill has <b>1% phosphorus</b> , which means it can be <b>safely used anywhere in Australia</b> without posing any risk to ground or surface water
<b>Low application rate</b>	The recommended application rate is just <b>16 grams per m<sup>2</sup></b> , not the kilograms often associated with regular lawn foods!

**Lawn Builder Weed, Feed & Green Up Liquid Lawn Fertiliser**

A double action lawn treatment that kills weeds while it's feeding and greening the lawn. A tried and true formulation now available as a hose-on in the Easy Sprayer bottle that puts the product on the lawn, not all over you and the rest of the garden.



<b>Rapid greening</b>	The unique sources of nitrogen and iron are <b>highly soluble and quickly absorbed</b> to provide a rapid greening response
<b>Leaf and root uptake</b>	It goes to <b>work immediately</b> and is effective whether it is absorbed through leaves/blades of grasses or roots
<b>Fast hose-on application</b>	The <b>2.8L Easy Sprayer</b> bottle is perfect for small to medium sized lawns, covering up to <b>180 m<sup>2</sup></b>
<b>Kills common broad-leaf weeds</b>	<b>Effective control</b> of clover, bindii (jo-jo, Onehunga) and broadleaf weeds including capeweed, chickweed, creeping oxalis (not in Tasmania), cudweed, dandelion, dock, fleabane, lamb's tongue (plantain), wireweed
<b>Low phosphorus</b>	Weed, Feed & Green Up has only <b>0.7% phosphorus</b> , which means it can be <b>safely used anywhere in Australia</b> without posing any risk to ground or surface water

**AFRICAN OLIVE FIELD DAY  
DEMONSTRATES GREAT COLLABORA-  
TION AND QUALITY INFORMATION**

**INTRODUCTION**

Over 70 local landholders turned out in early April as the Port Stephens Invasive Species team held an African Olive Field day in conjunction with Maitland City Council and Local Land Services. The event, funded by the NSW Environmental Trust, attracted industry experts in DPI herbicide science, a Botanic Gardens weed ecologist, and gardening celebrity Jason Hodges. The panel of experts demonstrated control techniques through a series of presentations and practical displays including unmanned aircraft spraying demos. Feedback from all involved was overwhelmingly positive, with the community calling for more of the same.



The first invited speaker was Dr Peter Cuneo from Mt Annan Botanic Garden. His talk on ecology explained the longevity and spread of seeds. The seeds are not as long lived as most would think (2-4 years). He continued to show the potential spread and thickening up of infestations over a moderate period of time, say 10 years. Areas with a light scattering of African Olive became impenetrable thickets that would in the long-term prevent many endemic species from recruiting due to very low light intensities under the mid-level canopy.

Dr Cuneo stated that restoration of heavily infested site was possible by using fire after initial mechanical removal; the fire stimulating an emergence of

native grasses that could compete with emerging olive seedlings.



***The African Olive field day at Maitland Vale was well attended and so was the coffee van (right)***

***Image: Tony Cook***

The next presenter, Phil Milling from Sky Land Management demonstrated the Yamaha RMAX unmanned helicopter, up and down the moderately infested slope.

The RMAX was able to weave in and out of upper canopy eucalypts and apply herbicide precisely over olive trees. The benefits of this technology was shown, particularly on the very steep slopes or where the clump of olive were too thick and limited hand based treatments.

This helicopter was used previously at the site to apply a range of treatments. People had the opportunity to inspect the response to these treatments. It was concluded that some of the treatment rates needed to be lifted slightly as the best treatment resulted in approximately 90% but there were signs of re-growth.



***The RMAX in operation***

***Image: skylandmanagement***





Next on the program was Tony Cook, from NSW DPI. He talked about basic principles of woody weed control and then emphasized the need for calibrating any application technique. If considering foliar application, there is often more variation in spraying water volumes due to lack of specific training in this task. Herbicide labels clearly mention the dilution of product per volume of water but the correct application to a 3-dimensional object is sometimes very subjective. As much as a 10-fold variation from lowest to highest spray volume for the same bush has been reported.

He then mentioned that African Olive was one of the hardest woody weed species to control, having greater tolerance of herbicides and is best controlled when smaller and if the situation allows, using the basal bark technique. He mentioned a project that was investigating the temporary sterilization of this weed to prevent seed production. There are some cases where people wanted to keep them as hedges but are aware of the potential for spread, so finding

a technique to maintain these hedges without the risk of spread was paramount.

A local contractor control company, Kleinfelder, demonstrated the techniques of basal barking and cut stump applications. This was a critical presentation as it showed the 50+ attendees that controlling woody weeds this way was not too onerous. They demonstrated the do's and don'ts with basal barking so that participants wanting to basal bark will get the maximum level of control.

As a wrap up for the day, a brief forum allowed a panel of experts to field a range of questions from the audience.

This was an excellent example of a community and collaborative field day with an abundance of quality information.



*Passing on the good word: Terry Bignall (right), Technical Weeds Advisor, from Maitland City Council hands over a NSW DPI booklet that has control advice for African Olive  
Image: Tony Cook*



## PROSPECTS FOR THE BIOCONTROL OF OX-EYE DAISY

Ox-eye daisy (*Leucanthemum vulgare*) is a European native which has become invasive in over 40 countries (including Australia and New Zealand). It is found throughout NSW, Victoria (where it is a noxious weed), SA, the ACT (where it is an eradication target) and Tasmania. A risk assessment conducted by the NSW NPWS suggests that ox-eye daisy poses a very high risk to open bushlands, grasslands, alpine and sub-alpine vegetation types. Several national parks in NSW (Blue Mountains, Kosciusko and Barrington Tops) have concerning infestations of the weed.



**Ox Eye Daisy infestation at Mount Hotham**  
*Image: Andrew McConnell*

To date, the management of ox-eye daisy has largely relied on mechanical and chemical control approaches. However these are limited in their application due to the extent of the invasion, the sensitivity of the areas it invades and the accessibility thereof. As a result, biological control presents an appealing management option in this regard. In 2008, the Centre for Agriculture and Biosciences International (CABI) Switzerland initiated exploration for candidate biological control agents for ox-eye daisy with support from various Canadian and North American funding agencies. In 2016, NSW DPI received funding from the Australian Government Department of Agriculture and Water Resources as part of its Rural R&D for Profit programme (co-ordinated by AgriFutures) to join this collaborative funding initiative.



**NSW DPI's Dr McConnell monitoring an infestation**  
*Image: Andrew McConnell*

Since then, NSW DPI researcher Dr Andrew McConnell has visited the CABI research laboratory in Delémont, Switzerland and imported one of the promising candidate biocontrol agents, the rhizome-feeding moth (*Dichrorampha aeratana*). This insect is currently being reared and tested in the quarantine facility at the NSW DPI Orange Agricultural Institute. A second insect with potential as a biocontrol agent for ox-eye daisy, the rhizome-feeding weevil (*Cyphocleonus trisulcatus*) is also being tested at CABI Switzerland for its host range on Australia native Asteraceae.



**Rhizome-feeding moth at the larval stage**  
*Image: Andrew McConnell*



*The Rhizome-feeding moth*  
Image: Andrew McConnachie



*The Rhizome-feeding weevil—adult stage*  
Image: Andrew McConnachie



*The Rhizome-feeding weevil—larval stage*  
Image: Andrew McConnachie

The host range testing of these two insects will take place over the next couple of years and in the interim, field populations of ox-eye daisy are being monitored (plant population dynamics, seedbanks) at sites in Kosciusko National Park and Mongarlowe (NSW), and Mount Hotham (VIC). Data from these sites will be highly informative for the biocontrol program when (hopefully) any suitable agents are approved for release in the future.

For further information regarding the biocontrol program for ox-eye daisy contact:  
NSW: Andrew McConnachie  
([andrew.mcconnachie@dpi.nsw.gov.au](mailto:andrew.mcconnachie@dpi.nsw.gov.au))

**CONFERENCE NEWS**

## ISWS Golden Jubilee International Conference




Weeds and Society:  
Challenges and Opportunities

21-24 November, 2018

VENUE  
ICAR - Directorate of Weed Research  
Jabalpur, INDIA

Organizers  
Indian Society of Weed Science  
ICAR - Directorate of Weed Research





Website: <http://www.isws.org.in/conference/Default.aspx>

## TRUXOR : A GREAT CHOICE FOR AQUATIC WEED MANAGEMENT

Truxor has been appreciated around the world since the first machine was exported in 1996. This amphibious machine combined with an extensive range of accessories has made Truxor unique in the market.

With a wide range of easy to fit tools, Truxor can cut and collect aquatic weed and reed growth, dredge, excavate, clean up oil spills and much more. The amphibious nature of Truxor combined with low ground pressure allow it to operate in sensitive areas without damage to the environment.

Truxor is the ideal choice when working on wildlife reserves, golf courses and other sensitive areas normally inaccessible to conventional machines. Being able to simply travel from land to water is a great asset in wetland conservation management.

Truxor's sensitive joystick steering gives the operator perfect control in narrow channels and near obstacles. The machine easily turns on its own axis. From full speed forward Truxor will stop in less than half a metre.

The DM bracket on the machines lifting arm allows the operator to change tools quickly and easily. One person can easily handle the machine.

Truxor has a suction type cooling fan with better cooling capacity and lower noise level. Air intake to the radiator has a metal filter that prevents the radiator cells from being blocked by insects and particles.

The hydraulic pumps internal torque limiter ensures that the total power drain of the hydraulic outlet is balanced to the diesel motor's output. This makes it possible to work with tools that requires high power outtake.

- ◆ Ergonomic driving position
- ◆ Load-sensitive hydraulic system (LS)
- ◆ Filter system for radiator air intake
- ◆ Larger range of tools
- ◆ Standard equipped with work lights
- ◆ More hydraulic outlets for tool operation
- ◆ Electric-heated driver's seat

- ◆ Adjustable flow to hydraulic outlets.



**TRUXOR DM 5000 29 hp**



**TRUXOR DM 5045 45 hp**

### Tools for Truxor

- **Cutter units**
- **Collection rakes**
- **Excavator unit**
- **Dredge pumps**
- **Oil spill clean-up**
- **Woodchipper**
- **Miller**
- **Hydraulic hammer**

### Optional equipment for Truxor

- **Propeller drive**
- **Trailer**
- **Chain gear**
- **Transport bed**

## NEW BIOCONTROL RESEARCH FOR ENVIRONMENTAL WEEDS MANAGEMENT IN NSW

In 2016, the NSW Environmental Trust decided to invest in biocontrol research for priority environmental weeds in NSW. A partnership between the Trust and a consortium comprising CSIRO, NSW Department of Primary Industries and NSW Office of Environment and Heritage, was established to scope a project. Scoping identified that the best approach was to take advantage of previous or current biocontrol research projects in Australia or other countries to reduce significantly the cost, time and resources required to do the research.

The project consists of two stages, with stage 1 now completed. In this first stage, a transparent prioritisation framework was devised, based on a matrix assessment system that involves: 1) initial screening steps to identify eligible weeds, 2) an assessment of the threat each weed poses to natural ecosystems, 3) the feasibility of undertaking a biocontrol project for each weed using the most promising candidate biocontrol agent, and 4) the likelihood of the selected agent being successful at controlling the weed if released in a new environment (see page 16 for framework flow diagram).

The framework was applied to generate a justified, priority list of biocontrol weed targets. Of the 67 eligible weeds identified and assessed, it was deemed unfeasible or unnecessary, for a range of reasons, to undertake a biocontrol project for 49 weeds. The priority list comprised the remaining 18 weeds, was each allocated to a cell in a matrix of weed threat versus biocontrol prospects. Consider-

ing the first and second priority weeds identified and resources available for undertaking research in Stage 2, the Trust selected five weeds for investment: Balloon vine (*Cardiospermum grandiflorum*), sea spurge (*Euphorbia paralias*), leaf cactus (*Pereskia aculeata*), broad-leaved pepper tree (*Schinus terebinthifolius*), yellow bells (*Tecoma stans*).



*Broad leaf pepper tree*

*Image: NSW WeedWise*



*Leaf cactus*

*Image: NSW WeedWise*



The first four weeds were classified during Stage 1 as part of primary priorities for investment, based on their respective prospects of a biocontrol project being undertaken with the selected promising candidate agent that would be most likely to be successful in mitigating the threats the weed poses. In contrast, yellow bells was classified as a secondary priority weed, nonetheless, the Subcommittee believed that a small initial investment was warranted because it is a weed that is of increasing concern in NSW and included in several LLS Regional Weed Plans.

Stage 2 began in July 2017, with research on the most promising candidate agent for biocontrol of sea spurge, the fungus *Passalora euphorbiae*, which was identified as part of the prioritisation process of the project in Stage 1. Cultures of the fungus, stored since 2009 at the CSIRO European Laboratory in France, were imported in the CSIRO quarantine in Canberra in October 2017. Since fungi stored for long periods can lose pathogenicity, we reinvigorated the fungus by infecting sea spurge



***Disease symptoms caused by the fungus, the potential biocontrol agent of sea spurge.***

*Image: Louise Morin*

plants and re-isolating from lesions. This process ensured that we will use a highly pathogenic isolate in subsequent research to demonstrate the high specificity of the fungus. We have sourced seeds and/or plants of three different accessions of sea spurge and 26 non-target Euphorbiaceae plant species that will be used in host-specificity testing. Propagation of these species is ongoing in the glasshouse.

Weeds must be nominated as targets for biocontrol through the national Environment and Invasives Committee (formerly Invasive Plant and Animal Committee) before the release of any biocontrol agents in Australia. While sea spurge has already been endorsed as a target for biocontrol by the Committee, the documents to support the nomination of broadleaved pepper tree and yellow bells as targets for biocontrol are completed and will soon be submitted as part of the project. Similar documents will soon be prepared for leaf cactus and balloon vine.

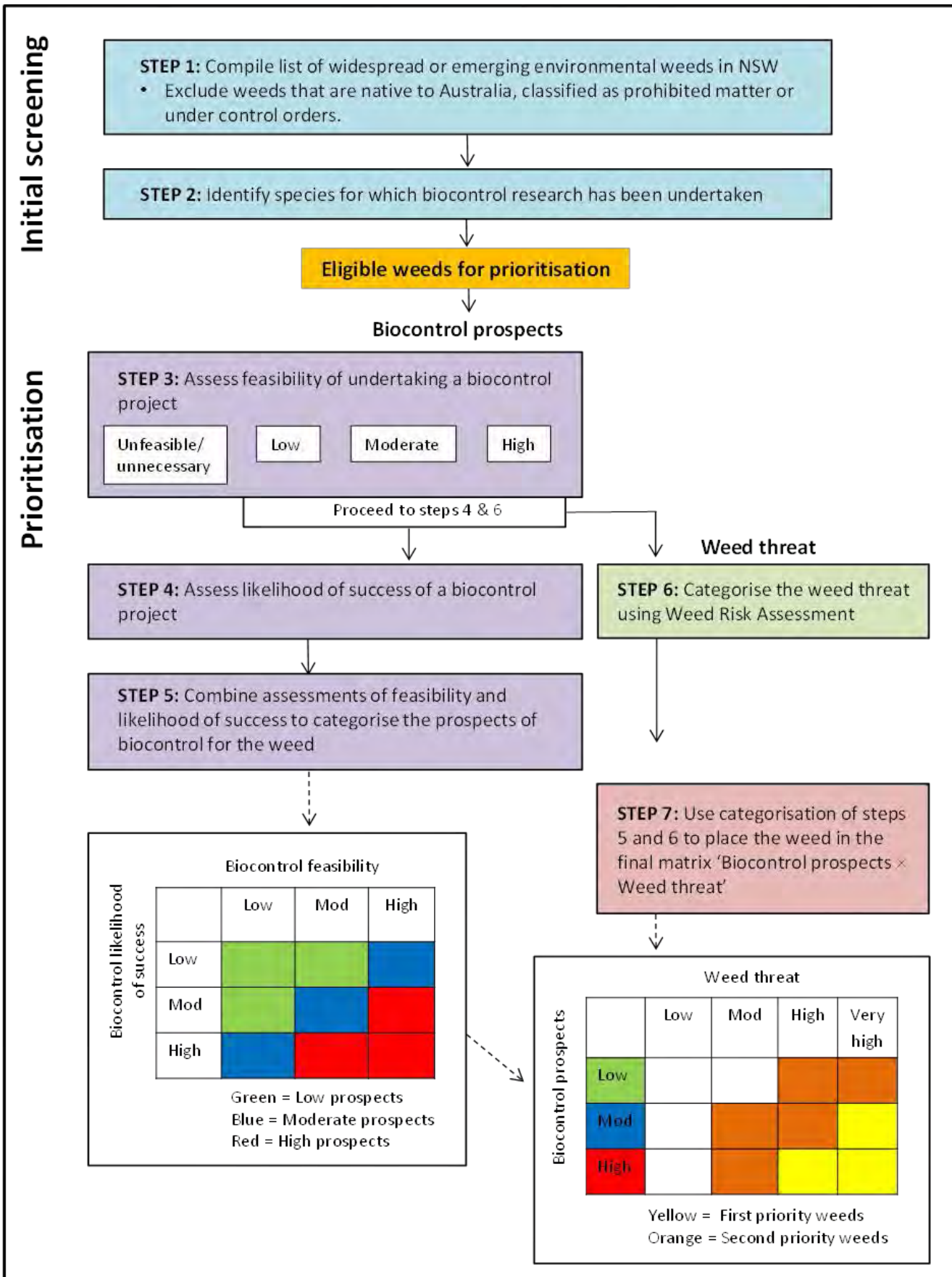
Research on the most promising biocontrol agents for leaf cactus, balloon vine and broad-leaved pepper tree will occur over the next 3½ years and will involve researchers from CSIRO and NSW DPI.

This project has been assisted by the NSW Government through its Environmental Trust. It also involves co-investments from CSIRO, NSW DPI and NSW Office of Environment & Heritage.

For more information contact: Louise Morin, CSIRO ([louise.morin@csiro.au](mailto:louise.morin@csiro.au)) or Andrew McConnachie, NSW DPI ([andrew.mcconnachie@dpi.nsw.gov.au](mailto:andrew.mcconnachie@dpi.nsw.gov.au))

More information on the project website at <https://research.csiro.au/nswweeds/>

**THE PRIORITIZATION FRAMEWORK FOR DEVELOPING SUCCESSFUL BIO-CONTROL AGENTS**



## NSW Weeds Conference Photo competition entries



**Lee Amidy—winner of the weed management photo competition**

*Image : Josh Biddle*



**“Beetles and eggs”**

*Image : Tracey Geppert*



**Winning photo: Alligator Weed Inspections**

*Image : Lee Amidy*



**“Frogbit flower” - one of the many high quality photos that contributed to Kim Hignell winning the award for best weed identification**

*Image : Kim Hignell*



**“Alligator weed inspections”**

*Image : Lee Amidy*





*"Lower Gingham Channel" Image : Phil Blackmore*



*"Moth"*

*Image : Jenny Conolly*



*"Lippia on the Lachlan"*

*Image : Scott Charlton*



*"TSA Signs"*

*Image : Elissa Van Oosterhout*



*"Attack of the tussock"*

*Image : Martin Filipczyk*

## WINNERS OF THE STEPHENSON AND WEED INDUSTRY AWARDS

The quality of candidates for the Stephenson (Weed manager) and Weed Industry Awards were excellent. However, there were no candidates for the Buerckner award. Hopefully prior to the next NSW Weeds Conference in Newcastle, we get some candidates for that category (on-ground control). It just requires nominations from fellow or peer workers.

### WEED INDUSTRY AWARD—PETE TURNER

Pete was the NPWS Program Leader (Weeds). His role was to oversee state weed issues relating to weed impacts on biodiversity. Pete led the development, implementation, coordination and monitoring of state-wide, cross-tenure weed management strategies, operational policies, procedures, information management systems and frameworks for biodiversity and natural heritage protection, conservation and ecological restoration.



***“Standing tall and proud” :Pete Turner (left), winner of the Weed Industry Award with other candidates Hillary Cherry on behalf of Jenny Connolly and Jonathan Lawson (man on right standing on chep pallets)***

***Image : Josh Biddle***

His duties included:

- ◆ Led and coordinated weed management on National Park estate, especially in relation to state issues and the progress towards the State targets relating to pest management on conservation estate.
- ◆ Led the determination and/or promotion of new and emerging weeds priorities in NSW, especially in relation to environmental weeds.
- ◆ Promoted, coordinated and/or supervised im-

plementation of weed Threat Abatement Plans and the Biodiversity Priorities for Widespread Weeds state-wide project across all tenures, and the Weeds of National Significance (WoNS) programs for asparagus weeds, bitou bush, boneseed and brooms.

- ◆ Led and managed weed staff in the Pest and Weeds Team (Pete supervises two staff members who work on statewide weed monitoring, policy and coordination).

In his role, Pete was accountable for:

- ◆ Leading the development, implementation, analysis and reporting of weed management strategies in collaboration with OEH staff and external stakeholders.
- ◆ The use of collaborative, landscape management planning for the conservation of biodiversity and natural heritage, including the use of cross-tenure approaches.
- ◆ Collating weed monitoring and distribution data and reporting on OEH contributions to weed management programs on and off Park estate.
- ◆ Providing expert advice and guidance to OEH staff, the Executive and Minister.
- ◆ Fostering and maintaining regular contact with regional, state, interstate and international researchers and practitioners involved in pest management and conservation of biodiversity.
- ◆ Monitoring, evaluating and influencing the implementation of scientific tools, sampling methods, planning and operational approaches in weed management.
- ◆ Providing effective expert leadership, training and co-ordination across OEH with regards to weeds.
- ◆ Working in a politically sensitive environment in relation to a range of complex and contentious issues that frequently polarise community views and attract political and media attention.

Pete continually provided technical information and advice on weed management to OEH and NPWS field staff, including the organisation of field days on weed biological control, weed monitoring, data analysis and restoration following weed management. He played a key role in the development of the NPWS Regional Pest Management Strategies – which determine the priority actions for all weeds on National Park estate (approx. 10% of NSW), including prioritising action on new and emerging



weeds. Pete ensured prioritisation of NPWS weed programs was based on evidence, risk and science. Most recently, Pete coordinated the NPWS/OEH approach to adoption and integration of the NSW Biosecurity Act. This included organising OEH/NPWS involvement in the new Regional Weed Committees across all eleven LLS Regions, and providing active NPWS representation on all 11 RWCs. Pete led the OEH/NPWS state-wide contributions to Regional Strategic Weed Management Plans (RSWMPs), and organised OEH agency endorsements and long-term support for these Plans. This is a precedent-setting integration of public land managers into tenure-neutral weed management in NSW, as aligned to the intent of the new Biosecurity Act.

Pete led the NPWS rapid response to hawkweed eradication in NSW, in Kosciuszko National Park. This highly successful program has established new and innovative approaches to surveillance, weed detection and control of hawkweeds (see below). This included integrating traditional surveillance techniques, innovative herbicide control methods, strategic remote access using helicopters, and the use of weed detection dogs and drones.

**STEPHENSON AWARD—MEL WILKERSON**

In the role of Weeds Officer, Mel Wilkerson is both weeds inspector and compliance officer. In addition, coordinates and manages Council’s weed control programs for roads and public lands. He also seeks out grants, external funding and manages numerous collaborative projects in the field of weed management, plus restoration and rehabilitation of public lands.

Mel has coordinated and organised large scale projects of 200 + hectares coordinating mechanical, manual and chemical works, incorporating controlled burning and clearing, revegetation both “ natural and assistant’ . The systems of planning include the bringing together of all stakeholders to develop “end point targets” then outline multiple methodologies for success.

Through evaluation of partner and stakeholder resources, he managed project works of multiple assets from National Parks, Councils, Forests, NSW, Rural Fire Service, private contractors, and private infrastructure companies to maximise the outputs while generating minimum strain and use of individual assets. Mel engaged the community and utilised multi- media platforms for exposure, (as well as good PR for contributors). Another goal was re-

evaluation of access and partner goals to find more efficient means of achieving goals not related to the project resulted in some cases of savings of over \$200,000 to individual companies resulting in significant “In-Kind” contributions toward weed management control projects within the same geographic locations.

Mel promoted engaging relationships with organisations such as the Rural Fire Service, allowed for 5 separate NSW fire brigades to conduct certification training on chainsaw works, track and trail maintenance qualifications, chainsaw and other equipment certifications while using the various defined weed control project areas as the training sites. This incorporated controlled burning of vegetation, removal of large trees and invasive as part of the integrated management strategy for weed control on the project sites. Maximum gain was achieved with the minimum output and costs. Training costs were part of previously approved budgets for many and all that changed was the venue and co-ordination of the work to be part of the weed control management strategy.



*“Show me the money” :Mel Wilkerson (right), winner of the Stephenson Award for Weed Management  
Image : Josh Biddle*

**THERE ARE MANY MORE WORK RELATED ACHIEVEMENTS FROM BOTH THE AWARD WINNERS (AND OTHER CANDIDATES) THAT CANNOT FIT IN THIS NEWSLETTER. HOWEVER THE SNIPPET OF ACHIEVEMENTS SHOWN HERE DEMONSTRATES THE TALENT POOL WE HAVE WORKING THE WEED INDUSTRY. CONGRATULATIONS TO ALL THE QUALITY STAFF THAT ENTERED THESE AWARDS— WINNERS AND RUNNERS-UP.**

**In the next edition of A Good Weed we investigate  
Coolatai grass  
A plant with many great attributes of  
a champion weed**



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