

February 2021, Issue #21

Welcome to the spring/summer issue of the Early Invader Weeds Update

Some new weed records in Glenelg Eden and possibly Victoria

The WESI team are always interested to hear about weeds popping up in new locations. Mitch Williams, DELWP Manager of the Glenelg Eden in the far south west of Victoria, is very good at noticing such things and has let us know about two new recent detections.

Kowhai (*Sophora* species) at Mt Clay State Forest - one plant flowering at the top of very steep country. There are eight mostly tree species of *Sophora* all endemic to New Zealand (Accessed online 3/3/2021:

<https://www.doc.govt.nz/nature/native-plants/kowhai/>). There are no *Sophora* species recorded in the Flora of Victoria.

Stinking Hellebore (*Helleborus foetidus*) (Figure 1), an ornamental garden plant, possibly fell off a passing vehicle and was spread by a grader along a road at Cobobbonee. There were three patches found by a Glenelg Ark person doing fox baiting. Twenty plants have been hand removed from the site. The area is in the Glenelg Plain, Lowland Forest Ecological Vegetation Class (EVC) (stringybark), with sandy soil, limestone and clay. This *Helleborus* is not recorded in the Flora of Victoria.

If more plants are found of either species, specimens will be collected for the National Herbarium of Victoria.

It pays to ask - what is that strange plant?

In spring while on a weekend trip with the family, Mark Whyte, DELWP's Manager Bushfire Biodiversity Response and Recovery, happened upon this unusual plant (Figure 2). He found it in a largely in-tact grassy woodland near Lake Fyans in western Victoria. Mark took a photo on his mobile phone and dropped the image into an email to the WESI Team.

WESI used social media to get authoritative help confirming the identification as invasive *Lachenalia aloides* (Soldiers). This ornamental garden plant from South Africa does well on sand and would feel right at home in nearby Gariwerd (Grampians National Park) and surrounds.

Mark has put a record in iNaturalist. WESI is chasing up information about another site near Deep Lead provided by a colleague in Agriculture Victoria.



Figure 1: Stinking Hellebore (*Helleborus foetidus*) at Black Road, Cobobbonee, Victoria, September 2020.

Credit: Mitch Williams (DELWP).

Fun Fact

Soldiers (*Lachenalia aloides*) is in the same family as Weed of National Significance Bridal Creeper (*Asparagus asparagoides*) - Asparagaceae.

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Figure 2: Soldiers (*Lachenalia aloides*) at Lake Fyans, Victoria, October 2020.

Credit: Mark Whyte (DELWP).



Figure 3: Karamu (*Coprosma robusta*) at Red Hill South, Victoria, November 2018.

Credit: Kate Blood (DELWP).

Landcare group creatively spreading the word about Karamu (*Coprosma robusta*)

The WESI team has known Bernie Schedvin for a few years now, so were excited to receive an update from her on behalf of the Main Creek Catchment Landcare Group on the Mornington Peninsula south east of Melbourne. Bernie is the editor of the group's newsletter and this is an extract from their December 2020 newsletter number 49:

"With the skilled assistance of Sam McKeon, Amanda Breidahl and Virginia Carter Main Catchment Creek Landcare Group has produced a terrific new video about our old enemy, Karamu. The video provides clear identification of Karamu (*Coprosma robusta*) and explains the ways in which Karamu threatens the local environment and important indigenous species. Eradication techniques are demonstrated ranging from methods for dealing with small seedlings and saplings to the heavy 'artillery' necessary to tackle huge dense thickets". You can view this video on Youtube here:

<https://www.youtube.com/watch?v=pA7WGLC0ZLs>

For more information, contact maincreek@mplandcare.org.au or visit <https://mplandcare.org.au/>

Latest round of GNP-funded projects for early invader weeds

The second round of Good Neighbour Program (GNP) funds have been allocated for early invader weed projects on DELWP-owned and managed public land.

Five new projects have been funded in the Grampians, Hume, Port Phillip and Gippsland Regions for this financial year (Figure 4). The projects range from Broad-leaved Cotton-bush (*Gomphocarpus cancellatus*) in State forest in the Wimmera, Aluminium Plant (*Lamium galeobdolon* subsp. *argentatum*) in the Pauls Range in the Yarra District, Chinese Wormwood (*Artemisia verlotiorum*) and Tiger Lily (*Lilium lancifolium*) near Tanjil Bren in La Trobe District, to the protection of threatened species at a grassland reserve in the Upper Murray.

This brings us to a total of 10 projects under this fund source this financial year. It is great to see activity under way in the field to reduce the threat to biodiversity by treating early invader weeds. Thanks to the GNP for supporting these activities.

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Figure 4: Left to right: Aluminium Plant (*Lamium galeobdolon* subsp. *argentatum*), Chinese Wormwood (*Artemisia verlotiorum*), and Tiger Lily (*Lilium lancifolium*).

Credit: Sally Lambourne and Brad Matthews (DELWP).

Enid and the weedy orchid

There were many recordings in Victoria of South African Weed Orchid* (SAWO) (*Disa bracteata*) (Figure 5) last spring 2020.

Back in 1996 Kate Blood was very interested to learn about this small terrestrial orchid from South Africa. One of the authors Kate referenced at that time was Enid Robertson from South Australia.

Enid was a botanist and had been working hard since at least 1989 with others from SA alerting people to the invasiveness of this introduced orchid. It was Enid who in about 1996 contacted Victorian colleague, Kim Robertson, warning of SAWO spreading to Victoria.



Figure 5: Flowering African Weed Orchid (*Disa bracteata*) at Beaufort, Victoria, November 2016.

Credit: Kate Blood (DELWP).

In the mid to late 1990s, there were only two records of SAWO (then called *Monadenia bracteata*) in Victoria. Kate marked them on her wall map of Victoria (this is pre-GIS era). In those days before social media and the common use of the internet, the fax was the popular communication tool and Kate remembers distributing faxes widely warning of the spread of this weed.

Its resemblance to look-alike indigenous ground orchids, such as *Microtis* species, slowed recognition of the growing infestations. People simply did not recognise it as a weed. WESI shared some look-alike information with the Friends of WESI in issue #12 of this newsletter (Gold and Blood 2018).



Figure 6: Germinated African Weed Orchid (*Disa bracteata*) showing basal leaves, at Beaufort, Victoria, November 2016.

Credit: Kate Blood (DELWP).

Enid's factually written information about the plant was greatly appreciated. Enid always reinforced the message about getting in and nipping it in the bud before it became established. A good warning for Victoria to heed as we were down-wind from what were now well-established infestations in WA and then SA.

Early records indicate it was first recorded near Albany in south west WA in 1944 (Robertson 1992) and in South Australia's Adelaide Hills in the 1980s and then established at numerous SA sites by 1996 (Robertson 1992).

The first record in Victoria was at Elephant Hills near Bacchus Marsh in 1991 then already a few hundred plants. A report at Hurstbridge in 1995 was followed by a 1996 report at Glenelg River between Princess Margaret Rose Caves and the SA border, then the Black Range near Stawell in 1999, then French Island in 2000, and on and on they continued. Kate stopped annotating her wall map in 2003.

Early conversations with botanists at the time suggested seed may have been introduced from WA by visitors to a Landcare demonstration site near Bacchus Marsh. Whichever way it first arrived, it was probably in

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Victoria earlier than was recorded. It most certainly has been more widely established than recorded, even today there will be many more sites established than appear on distribution maps.

It is very challenging to prevent its spread due to the millions of dust-like seed each plant produces. Each plant can produce 2.5 million seeds that can be blown by the wind many kms. Research appears to be limited, with the seeds expected to remain viable for up to 6 years (it would be great to see some research on seed longevity). The fine seeds can be spread on machinery, slashers, field equipment, vehicles, clothing, camping equipment etc.



Figure 7: A flowering African Weed Orchid (*Disa bracteata*) removed from the ground with three tubers intact, at Beaufort, Victoria, November 2016.

Credit: Kate Blood (DELWP).

Kate was web searching for information recently and found that Enid had passed away in 2016 ([Vale: Enid Robertson 1925 – 2016](#)). We acknowledge her work and generosity of sharing information with Victoria, particularly in the early days of SAWO spread.

* Note: *Disa bracteata* is known by various common names including South African Orchid, African Weed Orchid and South African Weed Orchid* (SAWO). WESI will use SAWO here to cover all the bases.

South African Weed Orchid reports skyrocket in Victoria

Last spring and early summer were cracker seasons for the growth of African Weed Orchid (*Disa bracteata*). In Victoria, 2020 was a very damp spring and that trend in

the southern part of the State continued into summer. This helped the germination and growth of South African Weed Orchid (SAWO) (Figure 6).

The inevitable establishment of SAWO in Victoria has occurred and now it is infilling locations across its range and continues to spread to new areas. Seasons like spring 2020 have tipped some land managers into making tough decisions about abandoning treatment or focussing only on asset protection (treating it only in areas where high value biodiversity assets occur). For some who experienced an unexpected huge increase in the numbers of plants, it was a race against time to simply hand-pull the flower stems and bag them to reduce seed-set without removing the underground tubers (Figure 7). The tubers will likely regrow next spring and flower again without some form of follow-up treatment.

The current big question people have is how seriously they should pursue treatment of SAWO when faced with a large infestation. It can form large populations; however, it is not a tall plant that takes up a lot of physical space above or below ground. We don't have a clear picture of the impacts of SAWO. Does it have an impact on the soil and the mycorrhizal fungi and other soil biota and associations?



Figure 8: Dried flower stem of African Weed Orchid (*Disa bracteata*) at Beaufort, Victoria, February 2020.

Credit: Kate Blood (DELWP).

For some, it is an early invader weed being recorded in new areas for the first time. If so, work through the "[Early invader manual](#)" to help you to decide and plan your approach.

Enid Robertson back in 1992 wrote SAWO has the potential to threaten and crowd out indigenous understorey species of conservation significance (Robertson 1992). SAWO was found in SA within

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metres of two endangered herbs – Variable Glycine (*Glycine tabacina*) and Cullen (*Psoralea parva*) (Robertson 1992) and Early Sundew (*Drosera praefolia*) (Prescott 1996). WESI would appreciate any information about impacts of SAWO.

Spring 2021 will be an interesting one to see how many plants regrow and where seeds germinate. In the meantime, the dead dark brown above-ground parts of the orchid are quite distinctive (Figure 8) in lighter/blonde dead grass. It is a great time to map locations where germination of seed and regrowth is likely to occur to help focus detection in the new growing season. Keep vigilant about hygiene to avoid spread.

Gold, B. and Blood, K. (2018) Early Invader Update. Issue #12, October 2018. Department of Environment, Land, Water and Planning, Victoria. ISSN 2209-3044 – online (pdf/word) format.

Prescott, A. (1996) An ecologist's view of *Monadenia bracteata* in South Australia. *NOSSA Journal*, 20(4): 37-39, May 1996.

Robertson, E. (1992) Biological diversity and the weed-orchid. *Environment South Australia*, Vol. 1, no. 5, Sep/Oct 1992.

What our readers think

Since 2016 WESI has been distributing this newsletter by email to a growing list of friends of the project, currently over 630 people. There have been 20 issues published totalling 94 pages of content many available here: <https://www.environment.vic.gov.au/invasive-plants-and-animals/early-invaders>

Last year the WESI team asked you, our readers, what you thought of this newsletter. The short (about 3 minutes) anonymous survey was answered by 55 respondents (9% of readers) and revealed these summary findings.

- 95% of the respondents thought the newsletter content had influenced their work.
- 96% of respondents agree that the topics of the newsletter are appropriate for their needs.
- 69% of respondents refer back to the newsletter for information.
- 85% of respondents would like to continue receiving four newsletter issues per year.
- 85% of respondents thought the newsletter length was 'just right'. 100% of respondents think the understandability of the written information in the newsletter is 'just right'.
- 87% of respondents think the images complement the written information and are 'fine and dandy'. 17% would like more images.

WESI wants to thank those that completed the survey. It's great to have your feedback and we are already taking the survey results on board to meet your needs.

WESI receives Froggatt Award 2020

The WESI team is super pleased to be one of three recipients of the prestigious Invasive Species Council (ISC) Froggatt Awards 2020 (Figure 9).

During the fourth "Weed management after fire" webinar (see article in this newsletter) the WESI team was presented with the award by ISC CEO Andrew Cox.

The Froggatt Awards were named in honour of Australian entomologist Walter Froggatt. Mr Froggatt was a lone voice, lobbying for caution upon releasing the Cane Toad to Australia in the 1930's for control of infestations of Cane Beetles. It recognises outstanding achievements in Australia's fight against environmental weeds, diseases and pest animals.

The WESI project was awarded under the "Policy and Law" category, for our decision making framework, early invader weeds tools and support program.



Figure 9: Froggatt Award 2020 and lovely handwritten card showing Alpine Sun Orchid (*Thelymitra alpicola*). Artist Kerry Moir.

Credit: Bianca Gold (DELWP).

The award has come as a great surprise to the WESI team, we are extremely thankful to the person/s who nominated the project and appreciate our work being recognised nationally.

Congratulations to the other recipients and thank you to the ISC for recognising the great invasive species work that is happening across the nation. You can read more about the 2020 awards here:

<https://invasives.org.au/our-work/froggatt-awards/>

Early Invader Weeds Update

What did we learn about managing weeds after fire?

After bushfire, our ecosystems are at their most vulnerable to weed invasion. We can help support indigenous flora and fauna by managing weeds in bushfire affected areas. The "Weed management after fire" webinar series (Figure 10) recorded in late 2020 focuses on sharing practical knowledge so everyone can contribute to bushfire recovery.

This was an intensely busy time as the WESI team learnt new skills in managing, hosting and presenting a webinar series. It was a very productive time collaborating with 12 agencies and groups and connecting with some fantastic technology support people.

The overwhelming theme that came through from the series is that there is hope and resources to undertake coordinated environmental weed management for fire impacted areas in Victoria.

This is the first time such a comprehensive webinar series about this topic in Australia has been available and provides a great resource in perpetuity:

Webinar 1: In the first webinar, Damien McMaster gave an overview of DELWP's Bushfire Biodiversity Response and Recovery program weed response, we heard an insightful ecological perspective from WA's Dr Judy Fisher, and show-cased the extremely successful Central Highlands Eden Project.

Webinar 2: Focussed on where to start and ways of prioritising weeds after fire drawing on methods used by ACT Parks Invasive Plants Program, DELWP and the Australian Association of Bush Regenerators.

Webinar 3: Delved into successful collaborative projects with Parks Victoria, DELWP and the East Gippsland Catchment Management Authority. The featured examples ranged from remote East Gippsland, the alps to urban Bendigo.



Figure 11: Screen grab of Associate Professor Randall Robinson's presentation including a tribute to the late Darcy Duggan. Webinar 4, 16 December 2020.

Webinar 4: Gave some great tips on taking weed photos and how to recognise weeds by WESI of DELWP, weed distribution recording in the Otway Eden, and a brilliant conclusion with the Darcy Duggan Memorial Lecture (Figure 11) giving a great overview of weed management after fire.

We encourage you to pencil a weekly or monthly reminder into your calendar to watch a webinar and you will have watched the series in no time. The recordings are available on the SWIFFT website

<https://tinyurl.com/WeedsAfterFire>



Figure 10: Logo for Weed management after fire webinar series.

Credit: Andy Geschke and Jemma Cripps (DELWP).

What did we learn about running a webinar series?

To wrap up the webinar series about weed management after fire, the WESI team did an evaluation report (Figure 12). The report details how the webinars were planned, run and evaluated. The information and evaluation will help people contemplating and running webinars and similar activities in the future.

Some of the findings in the evaluation report include:

- The webinar series provided a valuable platform for agencies and groups to share their experiences and skills. There were 17 presenters (Figure 13) representing seven agencies and groups delivering 14 presentations across a total of seven hours scheduled webinar programming.
- Multiple communication tools were used to promote the webinar series including social media, direct email, and e-newsletters. The combined views of posts about the webinars on social media were over 36,050.

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- Across the webinar series, there were 1,430 registrations from all over Australia and 12 overseas countries. Of these 477 (33%) watched a webinar live. The lower than anticipated conversion rate from registration to views is likely accounted for by the easing of movement restrictions for the global pandemic and many people either in the field or taking leave.
- Over the webinar series 96% of evaluation survey respondents agree that the session they participated in met their expectations. 93% agree that they heard about/ learned something that they are likely to use/ apply. There is a healthy appetite for more content with 95% of survey respondents agreeing they would like to learn more about weeds.

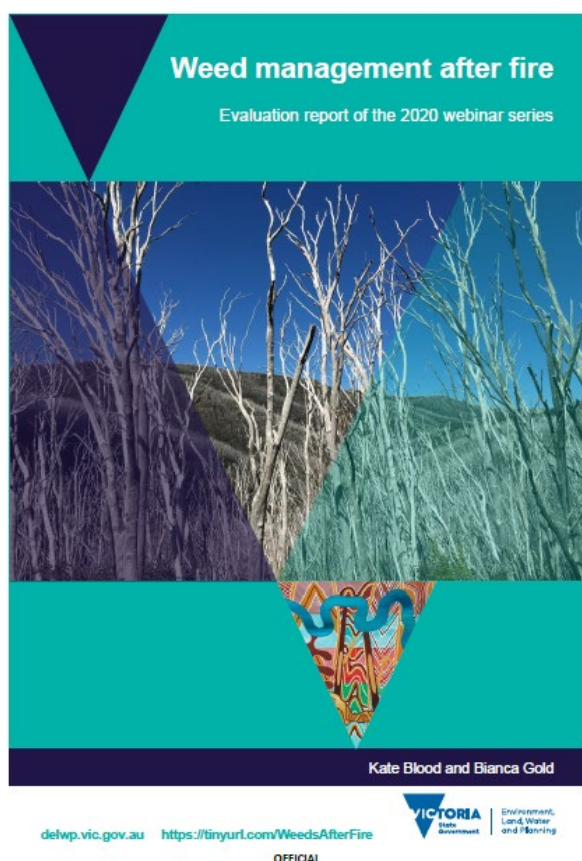


Figure 12: **Evaluation report** cover about the weed management after fire webinar series, January 2021.

The webinar series was funded by the Victorian Government's \$22.5 million Bushfire Biodiversity Response and Recovery (BBRR) program. For more information on the BBRR program, visit www.wildlife.vic.gov.au/home/biodiversity-bushfire-response-and-recovery



Figure 13: The Weed management after fire webinar presenters.

Credit: Bianca Gold & Andy Geschke slide compilation (DELWP).

Biological Control Workshop

In our last issue, we promoted the Biological Control Workshop held online on 6 October 2020 (Figure 14). It went really well and the recording is available on the SWIFFT website: [Biological Control Workshop - a powerful weed management tool explained](#).



Figure 14: Biological Control Workshop promotional material.

Credit: Andy Geschke and Bec James (DELWP).

WESI Steering Group changes

The WESI Project has had some recent changes to our Steering Group. Long-standing members, DELWP's Stefan Kaiser (Figure 15) and Parks Victoria's Ben Fahey have moved onto related roles and have passed the baton over to Peter Austin and Tina Konstantinidis. Peter is Manager State-wide Invasive Species Program with DELWP, and Tina is Program Leader Threat Management with Parks Victoria. Thank you, Stefan

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and Ben, for all your contributions to the project and welcome Peter and Tina.



Figure 15: Kate Blood and Stefan Kaiser road-test the national Opuntia cacti best practice management manual, Mallee, Victoria, November 2017.

Credit: Bec James (DELWP).

Switching Facebook

Bianca and Kate of the WESI team have each had Facebook profiles for some time and established a Facebook [page](#) for the project about a year ago. As we have learnt more about social media, the project is switching to a Facebook [group](#), called "Early Invader Weeds Victoria" (Figure 16). We hope to be able to have greater engagement with people in the group and encourage you to interact with us.

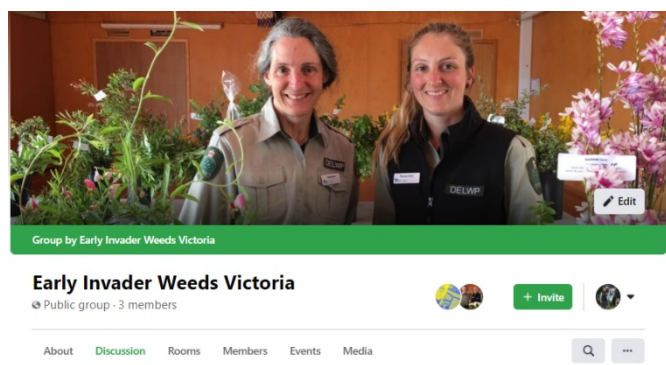


Figure 16: Early Invader Weeds Facebook Group profile screen snip.

We will be inviting followers of our Facebook [page](#) over to the Facebook [group](#) very soon. Our focus will be switching to posting activities to the group rather than our individual profiles [Bianca Goldweeds](#) and [Kate Bloodweeds](#).

You can find the Early Invader Weeds Victoria Facebook Group here:
<https://www.facebook.com/groups/earlyinvaderweeds.vi>
[c](#)

Notes

The 2021 winter issue of the Victorian Landcare Magazine will be featuring invasive species. Look out for information from the WESI Project. [Landcare Magazine — Victorian Landcare Gateway \(landcarevic.org.au\)](#)

The Victorian Naturalist has a pest issue (Volume 137 (6) December 2020) and the table of contents is available here: [tvn-current-contents.pdf \(fncv.org.au\)](#)

Have we told you about *Weed Futures*? This is a great website that now has maps of the current and predicted distribution of over 700 weeds in Australia. It is a decision-support tool to help plan weed management under predicted future climates: [WeedFutures.net](#)

Looking for an opportunity to catch-up in person with weed colleagues, expand your network and learn lots of new things? The *21st NSW Weeds Conference* this year is collaborating with the Weed Society of Victoria to combine forces under the theme 'discover through recovery'. The conference is in Albury on the Vic/NSW border from 23 to 26 August 2021. Registrations open 22 March 2021: [Home - NSW Weeds Conference](#)

The 22nd *Australasian Weeds Conference* has now been shifted to 2022. The conference is planned for 25-29 September 2022 at the Adelaide Oval, South Australia: [22AWC – Weed Society \(wmssa.org.au\)](#)

It's not just the beautiful weed flowers

Kate recently learnt about the value of taking more than just the perfect weed flower photo. Kate is one of the Victorian representatives on the project steering committee for the development of the weed ID and WeedScan app being coordinated by the Centre for Invasive Species Solutions (CISS).

Specifically, for weeds in Australia, the Computer Vision Weeds ID App is based on artificial intelligence and machine learning. For the machine learning to work, it needs lots of images for each weed - the weed in flower, in fruit/seed, in bud, its leaves, stems, armature (e.g., spines), in good growing conditions and not good conditions. Even images of mown or grazed weeds are wanted.

The 'machine' has to be able to recognise the weed in all growth stages and growing conditions i.e., in real-world conditions. Hundreds of images are needed and there is a request for good quality images to be submitted.

If you would like to see the image protocols and if you have weed images that you would like to make available, see [Submit your weeds photos - Weeds Australia](#)

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We will be looking for help later in the year to test the app in the field. The *Computer Vision ID App and WeedScan Community Management and Communication System* project was funded through the National Landcare Program: Smart Farming Partnerships initiative round 2 and started in early 2020.

Taking weed photos on your mobile device

Bianca recently presented about the ease of taking better weed photos to help with identification. Apart from the photography skills, the trick is to know what parts of the weeds to take photos of. Bianca shared her secrets in a webinar about weed management after fire and the recording is available here at time stamp 33 minutes: <https://tinyurl.com/WeedsAfterFire>

Feral Photos and Video Competition - more weed images needed!

If you are into photography or just happened to have captured a great photo or video, consider entering it in the Feral Photos and Video Competition. The competition is coordinated by the Centre for Invasive Species Solutions. It is free to enter and you can enter as many times as you like at feralphotos.invasives.com.au

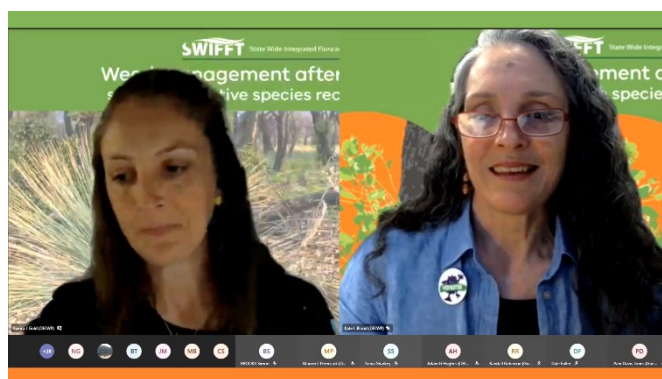
There is public voting which is already underway and there are prizes on offer. The competition is after photo or video footage that showcases 'ferals in action' and the damage they cause. Entries close at 12 pm AEST Friday 30th April 2021 with voting open until May 14. Winners will be notified in mid May 2021. You can vote for entries at any time, with one vote per person, per entry allowed.

At the time of writing, the image running second on the leaderboard is a great photo of a feral deer eating the fruit of an invasive Opuntia cacti!

Til next time!

Follow us on social media @weedyk8 and [Bianca Goldweeds](#) and our new [Facebook group](#).

<https://www.environment.vic.gov.au/invasive-plants-and-animals/early-invaders>



Your friendly WESI Project Team,
Kate (on right) and Bianca (aka Goldie)

The "Early invader weeds update" is the newsletter of the Weeds at the Early Stage of Invasion (WESI) Project. It is about managing early invader environmental weeds in Victoria.

If you do not wish to receive these updates, please reply 'unsubscribe' to our email and we will remove you from the list. We will not be sharing your details beyond our project.

If you wish to receive these updates via email please register online at: <https://www.eventbrite.com.au/e/subscribe-free-to-early-invader-weeds-update-wesi-newsletter-tickets-111894349010>

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