

Kimberley Weeds

NETWORK

Issue 3 / June 2021

Covid-19 strikes again

By Danielle Bain, Environs Kimberley

Apologies to those who were looking forward to a 2021 Weeds Forum in Kununurra. It would have been nice to talk weeds all in one room, but the pesky virus had other ideas, making event planning very difficult. Instead, we decided to become better acquainted with video conferencing and remain online to share our knowledge of weeds and weed issues in the Kimberley region.

Since our last newsletter we have held two online mini-forums, each with multiple presenters.

In April 2021, we heard from Blu Gaff (Kimberley Regional Biosecurity Association), who revealed the results of her trial on Neem, which compared treatments with different quantities of dry herbicide. The presentation can be found here <https://youtu.be/9V3UKHHETdw> and the Q&A here <https://youtu.be/8XlvaMFTxQs>

We also heard from Andrew Mitchell (Centre for Invasive Species Solutions) who spoke about the automated weed identification App being developed. The presentation can be found here <https://youtu.be/xvq9c0VDM4g> and the Q&A here <https://youtu.be/Yp0fefsAZ28> Your photo contributions to this program will enhance the user experience for Kimberley weed managers. See Andrew's article in this newsletter for ways to contribute.

Lastly, we heard from Bruce Greatwich (Department of Biodiversity Conservation and Attractions), who talked us through a recent weeds workshop with Bunuba Rangers and Traditional Owners, where they worked to prioritise weeds for management on Bunuba country <https://youtu.be/VNj31YpTgUU>

In November 2020, we heard from Judy Fisher (Socio-ecologist and Theme leader IUCN Commission on Ecosystem Management Thematic Group Ecosystems and Invasive Species) who shared her work on using an ecosystem approach to integrated weed management. You can view part 1 here: https://youtu.be/MY_v-fIQ3CY and part 2 here: <https://youtu.be/bmjO8eRKPTM>

Tara Hopley (CSIRO) shared her work on the development of global best practice and the mapping work on stinking passionflower, and Susan King (NT Weeds Branch) gave us some insight to her experience with Quik Spray units in the NT <https://youtu.be/1uO7vPmTg5Y>

The Network is about sharing knowledge about weed distribution, threat and control, learning from each other, developing stronger relationships and breaking down physical and financial barriers to working together.

Being part of the Kimberley Weeds Network means simply being on an email list, receiving the occasional helpful email, and electing to participate in or listen to our (almost quarterly) mini-forum meetings. If you would like to be part of the network, please email me at weeds@environskimberley.org.au

Danielle



Praxelis clematidea - Image Louise Beames

Weed Alert! - *Praxelis clematidea*

By Simon Marwick - Biosecurity officer, DPIRD

It was recently confirmed that mature, seeding plants of *Praxelis clematidea* have been found on a 12 mile property near Broome.

After years of hard work by the Department of Primary Industries and Regional Development (DPIRD) to eradicate the declared pest from WA, this is certainly a setback. But we are working to get on top of this latest infestation as quickly as possible to stop the spread of this highly invasive weed.

Although only in the early stages of establishment, these weeds have the potential to seriously impact Australia's environment and agriculture. Small infestations can be eradicated if they are detected early, but an ongoing commitment is needed to ensure new infestations do not establish.

Praxelis is a C2 classified declared pest in the Kimberley, meaning there is a legal requirement for landowners to eradicate this weed.

Praxelis threatens biodiversity, can significantly increase the costs of managing crops and can infest pastoral grasslands and conservation areas.

An herbaceous plant growing up to one metre, the *Praxelis* stem is covered with coarse segmented hairs. It bears green somewhat sticky leaves, and has a pungent odour when crushed. It has purplish-blue or lilac flowers arranged in flower heads in flat-topped clusters.

It is important to report the pest weed to DPIRD and for landowners to seek assistance with control measures to avoid inadvertently spreading the weed.

Anyone reporting a sighting of *Praxelis*, should contact the department's Pest and Disease Information Service (PaDIS) on (08) 9368 3080, or email padis@dpiird.wa.gov.au

Reports can also be made by downloading the mypestguide reporter app and by contacting the Broome DPIRD office.

For more information visit www.agric.wa.gov.au/declared-plants/praxelis-declared-pest



Department of
Primary Industries and
Regional Development

Chemicals: what are the alternatives?

by Danielle Bain

We are always looking for better, more efficient ways of managing invasive weeds, and the remoteness and vastness of the Kimberley adds to this challenge. We want to minimize the cost and maximise the effectiveness, but a dependence on harsh chemicals is not ideal as it compromises the safety of ground crews and pollutes our environment.

So, what are the alternatives?

Dry herbicides

A water-soluble capsule containing dry powder or granules of a suitable chemical herbicide is inserted into a hole prepared in the stem of the target weed or unwanted tree, and the hole is sealed with a bung. Although the method still uses chemicals, it is a small dose, precisely placed in the target tree. Off-target kill, which can occur through spray drift and human error, is dramatically reduced.

Pros Safer for people and environment (limited exposure to harsh chemicals). Useful in remote areas as an alternative to diesel or other dangerous chemicals

Cons Requires ground crew to treat every target weed tree

*For more information: [Chemical Weed Control – BioHerbicides Australia](#)

Fungicides

Bioherbicides Australia produces biological herbicides that target parkinsonia and prickly acacia. The capsule contains a combination of naturally occurring fungal pathogens that kill off the woody weeds by inducing dieback disease.

The capsules are inserted into the tree by an applicator, where they are sealed with a plug, ensuring safe and effective placement. The capsule dissolves, releasing the biological agent into the vascular system of the tree, killing it from the inside. The process offers a direct hit on the weed with minimal environmental impact.

Pros Less effort (do not need to treat each plant as the disease spreads to other plants of the same target species), safer for people and environment

Cons More expensive than dry herbicides

*For more information: [Biological Weed Control – BioHerbicides Australia](#)

Bioweed

Bioweed is an Australian natural herbicide made from hand-tapped pine oil, and is free of synthetic chemicals and glyphosates. It works by stripping the outer coating of the contacted plant and seed material, causing cell collapse and desiccation. The plant's natural water cycle pulls water and energy out of the root system and dehydrates the plant's growth system.

Bioweed can be used safely in and around plants under normal spraying conditions, with reduced risk of off-target drift causing irreversible damage.

Pros Certified Organic, safe for people and environment (no harsh chemicals), non-residual, so you can reseed or plant within 72 hours of spraying.

Cons Unknown if effective on weeds in the Kimberley; it is a non-selective herbicide and initial trials suggest that some plants, such as grasses, are more susceptible than others. Entire plant must be subjected to sprays.

*For more information: [Bioweed Commercial](#) | [Bioweed](#)

Goats!

Using goats to graze weeds is becoming more widely accepted in difficult-to-access areas. Success stories can be found in NSW, Queensland and Victoria, and people are even starting goat-hiring businesses. Goats are being used because they can climb rocky cliffs and go into steep gullies and will seek out weeds such as blackberry, fireweed, bitou bush and gorse. None of these is a problem in the Kimberley, but we have our share of shrub weeds unpalatable to most animals. Goats' rumens have a low pH which allows them to browse toxic plants that other animals can't eat; they also desiccate the seed in their rumen so they don't spread viable seeds through their faeces. Using goats to remove weeds is a long game and they need to be contained so they don't cause pressure on sensitive ecosystems or become an additional feral herbivore within the landscape. They continually browse over years, which creates pressure on the target weed. This allows the native plants more of a chance. In Kununurra, Barry Lerch breeds goats that have been used to manage invasive weeds on a Sandalwood plantation in the Ord Valley. They are closely guarded by trained Marema dogs, who protect them from dingoes and wild dogs. Barry's goats made the ABC News recently — see: "[Kimberley sandalwood producer trades in pesticides for hungry goats to tackle invasive weeds in Ord Valley - ABC News](#)"



Image: Barry Lerch – goats working in Ord Irrigation Supply Channel

Pros No harsh chemicals, inexpensive, can be useful in hard-to-reach areas

Cons Goats can be hard to find in the Kimberley. They need to be trained and/or contained to reduce damage to other environments/species.

*For more information on "using goats for weed control in pastures" go to the Meat Livestock Australia website [23330-MLA_WeedControl](#)

Weed detector dogs

Trained weed detector dogs are another way to go. They don't eradicate the weeds but they will find them with their super noses. Young dogs are trained for around 12 weeks to detect the scent of a certain weed. When they go to work, they can immediately lead their handlers to the invasive plant they have been trained to find. This method is particularly useful when target weeds cannot be spotted by helicopters or in dense bush. Detector dogs were recently instrumental in finding seven incursions of the previously eradicated parthenium in NSW, one of which was a parthenium seedling which had not been noticed by the dog's handler.

Pros Great to work with, very accurate when looking for insidious high-threat species nearing eradication, or new incursions in dense cover.

Cons Expensive, and intensive to train and look after dog, if no contractors available.

Learn about Australia's first weed detector dog here: [Weed Detection Dogs](#) | [Steve Austin Dog Trainer](#)

Do you have any weed pics?

The Centre for Invasive Species Solutions (CISS) is currently in the design phase of producing an Automated Weed Identification App. This entails the curation of an online library of thousands of weed photos.

This means, we need your help!

So far, there has been limited Western Australian contribution, but we want to change that. The Kimberley Weeds Network, in partnership with CISS, is seeking funding to coordinate the curation of weed photos for this national online weed library.

The addition of photos from the Kimberley will fill a large geographic and climate zone gap and improve the Weed Identification App.

Additionally, these photos will highlight the weeds of concern from the Kimberley, which could threaten large parts of inland and tropical Australia.

If you would like to contribute your weed photos to the Weeds App, please contact Danielle at weeds@environskimberley.org.au



Andrew and Alex from the Centre for Invasive Species Solutions - Andrew testing the new App on his phone.

The importance of follow up – Date Palms 2019-2020

By Nicole Godfrey (Operations Officer, Parks and Wildlife Service - West Kimberley District)

In September 2020, DBCA Nature Conservation staff revisited the date palm (*Phoenix dactylifera*) population at the Big Springs mound-spring complex north-west of Derby, which was controlled in 2019.

(see article in Kimberley Weeds Network Newsletter #1)

At the time of control, in-excess of thirty crowns were removed, some of which had signs of flowering. During the revisit in September 2020, thirteen new small suckers had appeared, highlighting the critical importance of follow-up work with weed treatments. The suckers were cut-stumped and sprayed with a 5% mix of Garlon and diesel, as per the previous successful treatments, and a follow-up visit will be made in 2021 to ensure no further reappearance of suckers.



Operations Officer Julia Sercombe cut-stumping a date palm sucker.



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Department of Biodiversity,
Conservation and Attractions



Katherine/Northern Territory Update

By Susan King, Regional Weed Manager, Katherine Weed Management Branch

Hello from across the border in the Northern Territory!

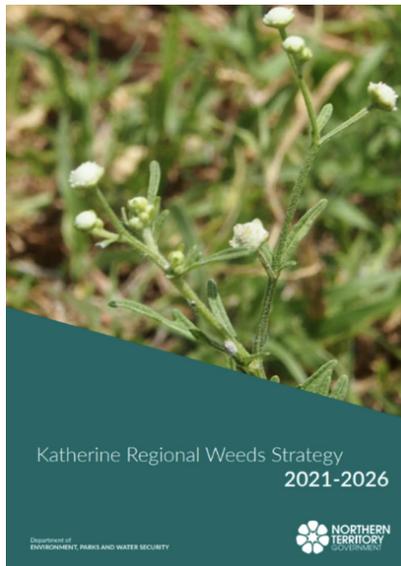
As you know weeds do not follow or respect boundaries, so we hope you find this Katherine Regional update interesting and useful to keep you informed on weed issues and activities from the NT.

Katherine Regional Weeds Strategy 2021 – 2026

On 12 May 2021, the new five-year Katherine Regional Weeds Strategy was launched. This Strategy sets out the strategic approach for the Northern Territory Government and key stakeholders to reduce the adverse impacts of weeds in the Katherine Region.

The Strategy identifies the principal weed threats, provides clear regional weed management priorities and clear achievable and measurable regional management goals and actions.

You can read the document in full at: [Katherine Regional Weeds Strategy 2021 -2026](#)



Siam weed in the Northern Territory

The management of the Siam weed outbreak in the Northern Territory (NT) is being guided by lessons learnt from the unsuccessful eradication program in Queensland (QLD). Key lessons are:

- Looking as far and wide as possible: in QLD Siam weed outlier infestations were missed, which were some distance from what was thought to be the extent of the infestation.
- Unintentional spread: the people on the ground who were engaged to manage the infestation were found to be unintentionally spreading it.
- Seeding period: while Siam weed is seeding, best practice is to stay away from infestations to avoid unintentional spread due to the ease of dispersal.
- Ease of spread through waterways: infestations spread steadily along roads but quickly within catchments and along water courses.

The NT Siam Weed Emergency Response is in the surveillance phase, with containment of the known infestation area continuing. Surveillance and inspections are ongoing to ascertain how far across the NT Siam weed has spread.

The known affected area in the Western Top End extends across three properties. The property managers are working with the Weed Management Branch (WMB) to control the outbreak. To date, all known Siam weed infestations in the affected area have been treated, either by:

- ground spraying
- aerial spraying
- manual control e.g. hand pulling and grubbing
- fire

The WMB will be undertaking further aerial surveillance in adjoining and nearby catchments in June/July 2021.

For further information on Siam Weed: [Siam Weed in the NT](#)



Siam Weed - very close, close and distant

Current regional priorities close to the WA border

Over the coming months, weed management officers will be focusing on mimosa, prickly acacia and gamba grass on properties close to the NT/WA border.

For further information:

Please contact Susan King, Regional Weed Manager Katherine Weed Management Branch on 08 8973 8857 or susan.king@nt.gov.au



**NORTHERN
TERRITORY
GOVERNMENT**

Were all in this
Together

Neem Trials

By Blu Gaff, Kimberley Regional Biosecurity Association (KRBA)

Does encapsulated chemical control have a place in your weed-control toolbox?

In 2020, the KRBA conducted a control trial of encapsulated chemicals on Neem (*Azadirachta indica*) in the East Kimberley.

The trial built on work previously done by Environs Kimberley, replicating encapsulated chemical treatments carried out in 2016. A purpose of the trial was:

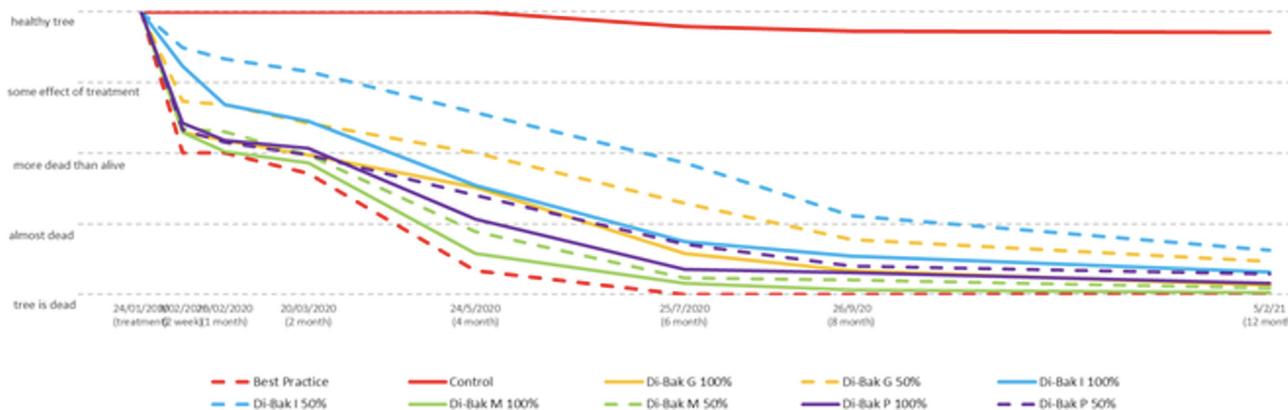
“To assess the effectiveness of encapsulated chemicals in the control of *Azadirachta indica* (neem), including mortality rates and cost per unit of each treatment”.

While the trial identified basal bark spraying as the quickest and most effective control option, encapsulated chemical injections do have a place in the weed-control ‘toolbox’.

For isolated weed control, where sites require staff to hike in on foot or fly in by helicopter, it is easier to carry, and safer to transport encapsulated chemicals than components required for basal bark spraying.

This trial was supported by the Department of Biodiversity Conservation and Attractions, the Department of Primary Industries and Regional Development, the Kimberley Regional Biosecurity Association and the Ord Irrigation Cooperative.

Encapsulated Chemical Control Trial - Neem 2020 Mortality Rate



Plant health @ 12 months post treatment (% of trees)	Treatments										
	Control	Best Practice (basal bark)	DiBak G 100%	DiBak G 50%	DiBak I 100%	DiBak I 50%	DiBak M 100%	DiBak M 50%	DiBak P 100%	DiBak P 50%	
healthy	92	0	0	0	0	0	0	0	0	0	
some decline	0	0	0	2	0	9	0	2	0	2	
more dead than alive	0	0	7	11	0	0	0	0	0	2	
almost dead	4	0	13	27	9	36	2	2	16	18	
dead	4	100	87	64	80	56	98	95	84	78	



Department of Biodiversity, Conservation and Attractions



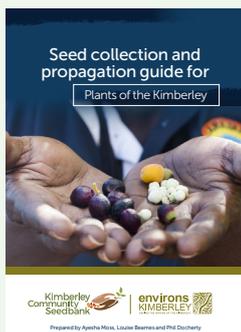
Department of Primary Industries and Regional Development



ORD IRRIGATION COOPERATIVE

Guess the weed competition

The first person to email weeds@environskimberley.org.au with the correct answer will get a free copy of Environs Kimberley's soon to be published **Seed collection and propagation guide for plants of the Kimberley**



Where is Mopane now?

By Andrew Mitchell, Retired Botanist

In 2004 I was part of a North Australia Quarantine Strategy (NAQS) survey along the old Fitzroy River frontage road from Willare to Fitzroy Crossing. At Quanbun Downs Homestead, my veterinary companion, John Curran, asked me what the strange shrub was, which I had missed, as I was too busy looking at the old shearing shed. It was a tree that had been planted between the track and the fence. It turned out to be Mopane (*Colophospermum mopane*), a southern African species that has a mixed reputation.



Mopane taken by Kim Courtenay



Mopane at Quanbun in 2004.

Some think it's a weed, others do not. It was certainly displaying weedy characteristics, as it had spread from where it was originally planted in the laneway, had hopped the fence and was growing in the black soil. Very few trees are able to thrive on black soil.

Its other name is butterfly bush. Its leaves are similar to those of our Bauhinia, but are much more elongated, and each leaf resembles a butterfly.

Quanbun Station was operated by the Bass Group from 1977 to 1992, and some experimental plants were introduced. I can only assume Mopane was planted at Quanbun during this period. It was also planted in the DBCA arboretum in Kununurra, from where it has since been removed.

I have tried to raise the issue of Mopane as a weed threat to northern Australia but have not been supported because it is not yet a declared species. It is 17 years since we recorded it at Quanbun and hopefully it has died out, but it may have spread even further.

Contact PaDIS (PaDIS) on (08) 9368 3080, or email padis@dpird.wa.gov.au if you think you have seen Mopane in the Kimberley.

Weed Warrior

By John Szymanski and Bruce Maher

Vale Mick Everett.

In early 2020, the Kimberley community said farewell to popular figure Mick Everett. Mick introduced rubber vine to John, who says, "Mick was involved in every part of the running, development and success of the Aquila program in the West Kimberley." Butch started flying helicopters with Mick on the Donkey program in the mid 90s, and said he "could not in a million years have had a better partner in the helicopter in all things to do with shooting, weeds surveys, and animal collaring".

Mick was a practitioner. He was no diplomat or part of the PC brigade, as he was too busy just telling it like it was, but he was even-tempered in his approach to everything in life. "From my point of view, he was rarely wrong, and would often go out on a limb to provide his expert and experienced opinion to Perth bosses for the benefit of regional staff and projects" says John.

Butch remembers that Mick could do the impossible with a computer program, despite IT experts advising that it was not possible. He looked beyond people's faults and saw the good in everyone. Mick was widely respected for his knowledge of the local landscape, and is sorely missed. He is impossible to replace.



Image: John Szymanski (on right), Mick on left.

Find out more...

You can find out more about the Kimberley Weeds Network and access Issue #1 (Dec 2019) and Issue #2 (Sept 2020) of the Kimberley Weeds Network News at our website: www.environskimberley.org.au/kimberley_weeds_network.

Thank you to those who have contributed articles for this newsletter. If you have any weed news big or small that you would like to share in the next newsletter please contact Danielle at weeds@environskimberley.org.au

This newsletter was produced by Environs Kimberley.

The Kimberley Weeds Forum and Network is an initiative of the Kimberley Nature Project, Environs Kimberley. The project has received support from the State NRM WA and the Australian Government's National Landcare Program.