

Weed Management Plan Review Summary Document

Prickly Acacia (*Vachellia nilotica*) and Mesquite (*Prosopis spp.*)



Prickly acacia



Mesquite

Document title	Weed Management Plan Review – Summary Document Prickly Acacia (<i>Vachellia nilotica</i>) and Mesquite (<i>Prosopis</i> spp.)
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The Weed Management Branch acknowledges the time invested by land managers, landholders and key stakeholders to inform and guide this review.

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Glossary	
DENR	Department of Environment and Natural Resources
NTG	Northern Territory Government
VRD	Victoria River District

1. Executive Summary

This report presents the findings of the reviews undertaken for the Northern Territory Government (NTG) Weed Management Plans for Prickly Acacia (*Vachellia nilotica*) and Mesquite (*Prosopis* spp.) 2015.

The review of these plans was undertaken in accordance with the requirements of the *Weeds Management Act 2001* (the Act). The Act is administered by the Weed Management Branch (Weeds Branch) of the Department of Environment and Natural Resources (DENR). Under the Act, the Minister must review a weed management plan not later than 3 years after it is approved and thereafter at intervals not longer than 3 years. A weed management plan remains in force for a period, not longer than 10 years, as specified by the Minister.

The review commenced with the release of the 'Discussion Paper Review of the 2015 Weed Management Plan for: Chinese Apple (*Ziziphus mauritiana*); Mesquite (*Prosopis* spp.); Neem (*Azadirachta indica*) and Prickly Acacia (*Vachellia nilotica*)'.

Note the review of the chinese apple and neem weed management plans are still being finalised and a separate review summary paper will be prepared for these.

A public consultation period was held in 2019 to inform the review process.

A summary and analysis of feedback received during the review process is included in **Appendix A**.

The main aim of the review has been confirming the requirements of land occupiers and owners for the remaining life of each plan. Following the reviews, it has been recommended that both the prickly acacia and mesquite weed management plans are amended in accordance with Section 12(4) of the Act.

2. Review Process

The review of the prickly acacia and mesquite weed management plans has been undertaken in accordance with the requirements of the *Weeds Management Act 2001* (the Act) administered by the Weeds Branch of the Department of Environment and Natural Resources (DENR). Under the Act, the Minister must review a weed management plan not later than 3 years after it is approved and thereafter at intervals not longer than 3 years.

A weed management plan remains in force for a period of 10 years, as specified by the Minister. As such, the plans have been renamed as:

- Weed Management Plan for Prickly Acacia (*Vachellia nilotica*) 2012 – 2022 (2020 Revision)
- Weed Management Plan for Mesquite (*Prosopis* spp.) 2012 – 2022 (2020 Revision)

Factors that have informed the review of these plans include:

- progress against targets included in previous plans
- stakeholder feedback
- recently reviewed weed management plans

The aim, objectives and required actions within these amended plans reflects the final actions to achieve as set out in the original 2012 plans.

2.1. Progress against previous plan targets

The original weed plan for prickly acacia and mesquite both commenced in 2012. These 2012 plans included management requirements, targets and completion timeframes that must be met over a timeframe of 1 to 10 years. The requirements, targets and completion timeframes were almost identical between plans.

The first review of the 2012 plans was conducted in 2015. During this review the management requirements, targets and completion timeframes were simplified in each plan with a completion timeframe of 1 to 10 years. The requirements, targets and completion timeframes outlined in the prickly acacia and mesquite plans were again almost identical between these plans.

Key targets of the 2012 and 2015 prickly acacia and mesquite plans included:

The 2012 plan (for both prickly acacia and mesquite) required by year 5 to 10:

- all prickly acacia and mesquite infestations in the Northern Territory are under active eradication programs
- the number and size of infestations of prickly acacia and mesquite in the Northern Territory is reduced

The 2015 plan (for both prickly acacia and mesquite) required by years 4 to 6:

- mature trees have been eradicated and the production of seed and spread of prickly acacia and mesquite is prevented

The 2015 plan (for both prickly acacia and mesquite) required by years 1 to 10:

- all prickly acacia and mesquite infestations in the Northern Territory are under active eradication programs, and number and size of infestations of prickly acacia and mesquite in the Northern Territory is reduced

It is considered that progress has been made against the key targets outlined above based on feedback and research conducted during the review. Feedback was given that it is important to note the good progress made in the management and control of prickly acacia and mesquite. Comments were received that timeframes in the plans should reflect the good progress made.

The NTG has further facilitated the management of prickly acacia since the 2015 review as outlined below.

In 2016, the NTG secured Commonwealth government funding for the management of prickly acacia through the Agricultural Competiveness White Paper released in July 2015. Funding secured through this process was used to develop trial control sites for prickly acacia, increase stakeholder awareness of the threat posed by prickly acacia to pastoral productivity and to help identify suitable control measures.

A report was commissioned and prepared for DENR, 'Prickly Acacia in the Northern Territory: Costs and Benefits of Eradication – October 2017'. This report presented an economic analysis of prickly acacia control on pastoral leases in the Barkly Region and Victoria River Districts (VRD) within the Northern Territory against different management scenarios. The management scenarios included do nothing, eradication and slow the spread. Conclusions of this report state:

"Analysis of the available data on the extent and spread of prickly acacia in the Northern Territory shows that without careful management the costs of this weed could become significant within a very short space of time.

Case studies on the Barkly and VRD show that while infestations remain relatively small that eradication can be achieved at a relatively low cost. While small, low density infestations do not cause significant productivity losses, the analysis shows that it is far more cost effective to treat these infestations while they are small than to allow them to reach a point at which they do impact productivity.

Based on this analysis it is recommended that all land managers who have prickly acacia on their properties conduct a full survey to measure the current extent and estimate the potential impact on productivity. The companion decision support tool to this report can then be used to review options for treatment and identify the most cost-effective path to eradication. (ArGyll Consulting 2017)."

This report is available online at:

<https://denr.nt.gov.au/news/2018/prickly-acacia-cost-benefit-analysis>

Another report, 'Remote Sensing of Prickly Acacia on the Barkly Tablelands Project Report – Remote Sensing Trial' was completed in September 2019. This remote sensing project was funded by the NTG through the DENR and delivered by Territory Natural Resource Management and Desert Channels Queensland with the support of landholders in the region. The trial was undertaken to assess the detection capabilities of emerging technology, such as drones for woody weeds in the rangelands. The trial focused on prickly acacia and discussed impacts of prickly acacia on the environment.

2.2. Stakeholder engagement

Stakeholder consultation has been undertaken to inform the review of the prickly acacia and mesquite weed management plans. Stakeholder consultation consisted of public notification in the Katherine Times, Tennant and District Times and NT News in April 2019 with a 4 week comment submission period ending in May 2019, targeted liaison held around Katherine and public forums held in Mataranka and Top Springs. Note that stakeholder consultation was undertaken at the same time for prickly acacia, mesquite, chinee apple and neem, which is reflected below.

A full summary of the public stakeholder consultation and survey results is shown in **Appendix A**. Some general feedback received included:

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- 79% of respondents were aware of all four statutory weed management plans
- 95% of respondents understood the impacts that weeds can have on the Territory's environment, economy and production if left untreated
- 95% of respondents stated that they have a property weed management plan
- 42% of participants noted that they are still seeing weeds expand in their landscape
- budget, time and staffing were the main factors limiting people's ability to manage weeds
- 32% stated that enforcement would encourage them to undertake control work more regularly

A wide range of feedback was also received from Weeds Branch staff. Some main points provided are summarised below:

- consideration be given to amalgamating some of the weed management plans
- the ecology of the plant needs to be considered including germination of seeds
- include a definition of eradication due to the varying opinions on where eradication is possible
- consideration of what are reasonable expectations for landholders
- keeping the plans simple and simplifying requirements
- removing requirements that are not practical
- the good progress made towards the control of prickly acacia and mesquite and statutory plan timeframes should reflect this

All feedback received has been taken into consideration during the review of these plans.

2.3. Recently completed weed management plan reviews

A number of weed management plans were reviewed in 2018. These plans included changes that simplified the requirements for land occupiers and owners, and general information about community education and awareness, compliance and enforcement, legal roles and responsibilities, regional weed management strategies and property weed management plans.

The 2020 revision of the prickly acacia and mesquite weed management plans have been subsequently updated. This was done to ensure consistency of information between plans and to ensure requirements of landholders are presented consistently (where relevant).

3. Discussion of changes made to weed management plans

Based on the review process the changes that have been made to the weed management plans for prickly acacia and mesquite are discussed below.

- Simplifying the aim and management objectives, management requirements, management actions and targets within each weed management plan so that the requirements for land owners and occupiers is clear. This process has also allowed for the remainder of 10 year targets (applicable for both prickly acacia and mesquite) to be a focus of the amended plans.
- The main requirement of the 2020 revised plan for prickly acacia and mesquite is that all land owners and occupiers with prickly acacia and mesquite on their land must destroy these weeds by December 2021. It is considered that this requirement is in line with the key requirements for prickly acacia and mesquite in the 2012 and 2015 plans.
- The addition of a glossary that defines key terms such as mature plant, active management and eradication.
- Including a new section 'achieving the plan's objectives' – that outlines the importance of education and awareness for any weed management program. This section also outlines strategic approaches to weed management and expectations of the NTG on owners and occupiers with prickly acacia and mesquite on their property. This section includes the implementation of a compliance and enforcement framework to achieve the objectives of each plan.
- The management control options section in each plan has been simplified to remove control options for each weed. Control options are included in a number of other documents, including fact sheets and management guides and reference to these documents has instead been included in the management control section. This removes duplication of information between documents and possible inconsistency that could arise where management control options may change.
- The addition of a planning section that explains the role of the non-statutory regional weed management plans (to be renamed strategies in future iterations) for Darwin, Katherine, the Barkly and Alice Springs, and how these plans relate to prickly acacia and mesquite.
- The section in the 2015 plans 'developing a weed spread prevention program' has been replaced in the 2020 revision with the section 'developing a property weed management plan'. In both the 2020 prickly acacia and mesquite weed management plans it is a requirement for land owners / occupiers to develop a property weed management plan. The property weed management plan section outlines what must be included in such a plan, and includes information on weed spread prevention. Reference is further made to the standalone DENR document 'Preventing Weed Spread is Everybody's Business'.
- Performance indicators to measure the success of the implementation of each plan has been updated.
- A section on legal obligations and penalties for non-compliance with a weed management plan and roles and responsibilities for the NTG, land owners and occupiers, local government and the Australian Government is explained in more detail.
- Support information with updated hyperlinks to related documents has been included.

4. Summary

Based on this review process it is recommended that the weed management plans for prickly acacia and mesquite are amended as per Section 12(4) of the Act.

Each amended plan has been simplified as outlined in this document, with a focus on the remaining actions to be achieved since the commencement of the 2012 prickly acacia and mesquite weed management plans.

Appendix A – Community Consultation Survey Results

Survey results which relate to Chinee Apple, Mesquite and Prickly Acacia and Neem¹ Surveys

Awareness of Statutory Plans and Legal Requirements

Based on the information received 79% of survey participants stated that they know there are statutory weed management plans for all four weeds currently under review. 11% of participants said they are aware of some statutory plans, 5% of participants were not aware of any plans and 5% did not respond.

79% of all participants knew they were legally required to fulfil the requirements of these plans. 5% did not know they had to fulfil the requirements of the plans and 16% did not answer.

Awareness of the Impacts of Weeds on the Environment

95% of respondents understood the effects weeds can have on the Territory's environment, economy and production if left untreated. Impacts of weeds that were reported included:

- fire
- affecting land productivity, environmental function and value
- loss of production and increasing costs of mustering
- continuous control equals time and money for the landowner
- decreasing stocking rates
- taking over waterways and native / national parks and damaging river corridors

42% of participants stated they are seeing weeds expand in the landscape. Areas where weeds are expanding were reported to include:

- Roper River
- Katherine Area - neem
- all over Mataranka
- around creeks and through the bush
- Eley National Park and Mangarri Aboriginal Land Trust – neem
- on participants property and neighbouring properties

Weed Control

95% of respondents stated that they do have a property weed control plan. Actions that landowners undertake in relation to their property weed control plan include:

- controlling weeds as they are found (58% of participants)
- controlling weeds during dedicated weed control periods during the year (74% of participants)
- recording the work that is done either electronically or on paper (95% of participants)
- assessing control work results and amending accordingly if controls are not working (47% of participants)
- including hygiene protocols or weed spread prevention measures in my plan and in practice (74% of participants)

¹ Note the review of the chinee apple and neem weed management plans are also currently being finalised.

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- isolating stock from interstate or weed infested areas into quarantine paddocks before moving them into clean areas on the property (26% participants)
- trying to work with neighbours when doing control so both efforts align (32% of participants).

Of the survey participants that reported having a property weed control plan:

- 43% stated they have found new infestations of neem on their property in the last 3 years
- 5% stated they have found prickly acacia on their property in the last 3 years.

Participants also noted that they have seen reductions in weed infestations on their properties as follows:

- 31.6% have seen a reduction of 0-10%
- 31.6% have seen a reduction of 10 – 25%
- 10.5% have seen a reduction of 25 – 50%
- 10.5% have seen a reduction of greater than 50%
- 15.8% did not answer.

Participants were asked what factors limit them from doing weed control. Figure 1 shows that budget, time and staffing were the main factors affecting people's ability to conduct weed control.

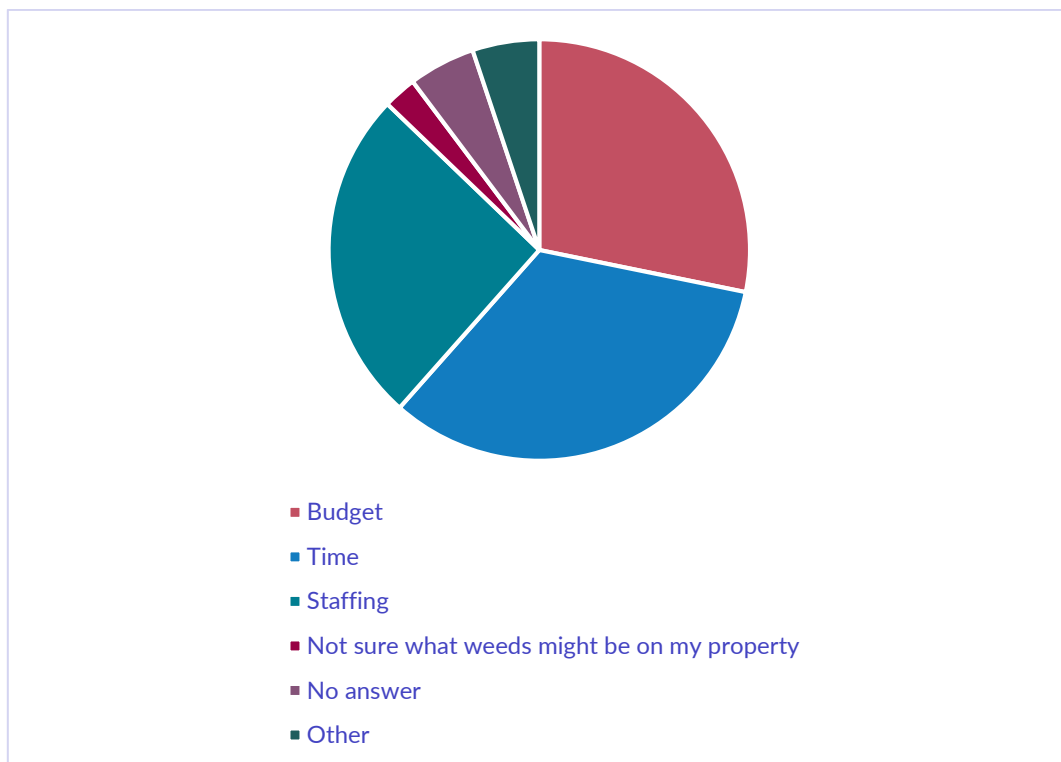


Figure 1 – Factors affecting participant's ability to control weeds on their property

Enforcement

In relation to whether enforcement of plans would encourage land managers to undertake control work more regularly:

- 32% of participants stated that enforcement would encourage them to undertake control work more regularly
- 53% of participants stated that enforcement would not encourage them to undertake control work more regularly
- 16% of participants did not answer

In relation to whether control works are affected by their neighbours:

- 42% of participants stated that their control works are being negatively affected by their neighbours
- 37% stated their control works are not being affected by their neighbours
- 21% did not respond

90% of survey responders stated that they do think legislative requirements to control weeds along property boundaries would help protect their property from infestation from neighbours. 5% stated they did not think legislation requirements to control weeds along property boundaries would help protect their property from infestation from neighbours and 5% did not answer.

79% of respondents stated that they knew these requirements already exist for neighbours. 5% said they did not know this and 16% of participants did not answer.

Prickly Acacia

When asked how the recent prickly acacia program has influenced control work people answered in accordance with **Figure 2**, suggesting many gained improved understanding of prickly acacia and support from the Weeds Branch.

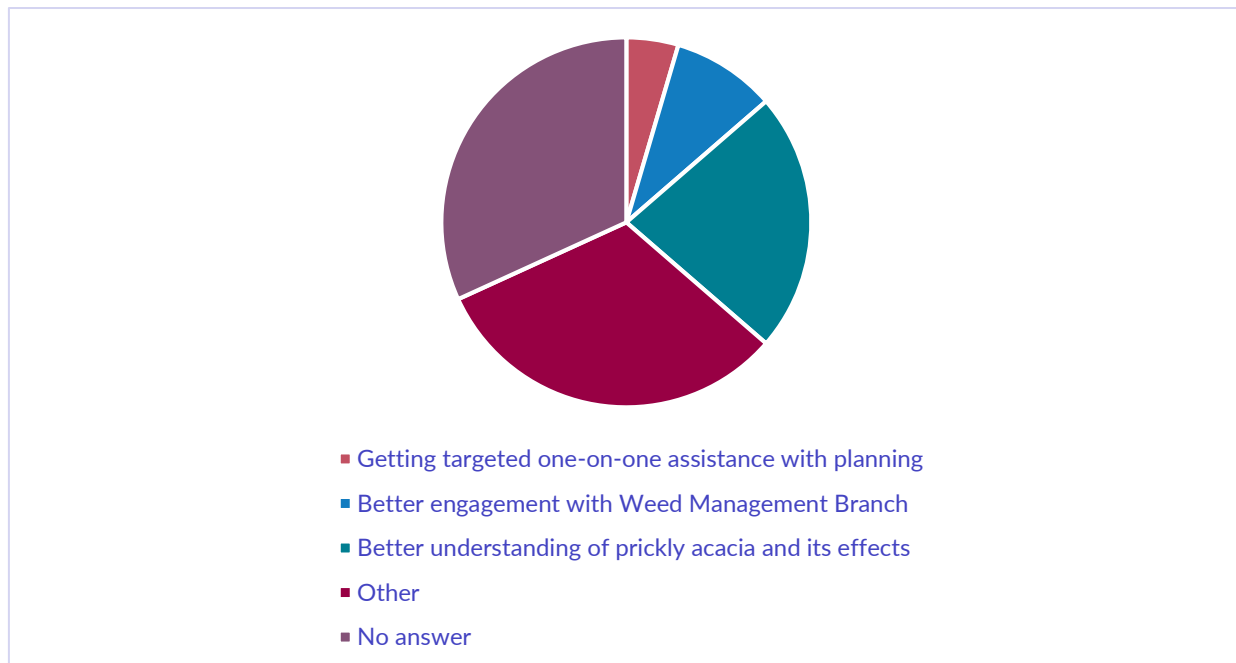


Figure 2 – Responses to whether the prickly acacia program has influenced participant's control work

5. References

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3. Northern Territory Government (2012). Weed Management Plan for Mesquite (*Prosopis* spp.) 2012, Department of Natural Resources, Environment, the Arts and Sport, Darwin.
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