Cotton bush response plan

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Supporting your success
Acknowledgements

The Department of Agriculture and Food, Western Australia (DAFWA), community groups and landholders have provided considerable financial and physical resources to the management of cotton bush in the south west of Western Australia.

We would also like to acknowledge the efforts of the biosecurity officers and regional managers that continue to assist with the management of cotton bush by providing control information and management advice.

Perpetual draft

This document is a perpetual draft and it will be updated and new information added. The addition of further information is designed to enhance the quality of the plan by updating maps and control information and improving surveillance information.

Bibliography

For bibliographic purposes this report may be cited as:


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1. Background

Narrow leaf cotton bush ("cotton bush"; *Gomphocarpus fruticosus*) is a prominent example of a widespread and established species that poses a dilemma for the community and government, due to its impact upon the agricultural and community values of a region. The community are seeking additional intervention while government has limited resources to deliver management outcomes on land that is not being managed to the standard expected by the community.

Social considerations such as absentee landholders, hobby farms and lifestyle blocks also impact upon the presence of a wide range of pest species. Control options become limited in special rural areas, and some landholders lack the knowledge and capacity required to undertake pest management.

In order to meet the challenges of managing cotton bush and other widespread and established pest species in the context of limited government resources, an approach is required that creates a partnership between the community and government.

Figure 1 A large cotton bush infestation in the Shire of Dardanup. Photo courtesy of Andrew Reeves, Development Officer, DAFWA.
2. Current situation

Cotton bush is declared in the C3 Management category for Western Australia (WA) under the *Biosecurity and Agriculture Management Act 2007* (BAM Act).

Details of the extent of the cotton bush infestation in WA are provided in the *Situation Statement: cotton bush in Western Australia* (Reeves and Dodd 2014) and are summarised below (Table 1).

The data on the number of properties that are known to have cotton bush shows that the South West Agricultural Region (SWAR) has the greatest number of infested properties, while the Central Agricultural Region (CAR) and Southern Agricultural Region (SAR) have a smaller number of infested properties (Table 1).

<table>
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<tr>
<th>Region</th>
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<th>% of total</th>
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</tr>
<tr>
<td>Central Agricultural Region</td>
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<td>5</td>
</tr>
<tr>
<td>Southern Agricultural Region</td>
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</tr>
<tr>
<td>Northern Rangelands Region</td>
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<td>&lt;1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3125</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Data obtained from the DAFWA Inspection, Quarantine and Compliance (IQC) database.

3. Impact of cotton bush

Cotton bush is a common weed in the south west of WA. It invades run down or low fertility pastures where it displaces useful species such as clover and may cause problems as a contaminant of hay or chaff.

Cotton bush and its close relatives contain cardiac glycosides, which are toxic to humans and livestock. Livestock do not normally eat the plant because its acrid latex makes it extremely unpalatable (Parsons and Cuthbertson 1992). The main symptom of cotton bush poisoning is severe gastroenteritis, which shows up as severe congestion of the alimentary canal.

Cotton bush is predominantly an agricultural weed, but it also invades disturbed and partly cleared areas where it competes with native plants (Lloyd and Peirce 2003), but does not invade undisturbed native vegetation.

In August 2014 a community consultation report was conducted by Advanced Choice Economics Pty Ltd. That interviewed 30 landholders with commercial holding greater than 10ha in a focus area known to have the highest levels of cotton bush incursions.
in south-western Australia. This included properties in the Capel, Collie, Dardanup, Donnybrook-Balingup, Harvey, Murray and Serpentine-Jarrahdale shires.

Figure 2 Focus area for the cotton bush landholder survey (Peterson 2014).

The survey determined that almost all landholders control cotton bush by hand weeding with one third of the respondents also applying herbicide. The estimated cost of cotton bush control by all agricultural landholders is between $175,000 and $350,000 per year.

Because cotton bush is controlled by commercial agricultural producers, it does not affect the total revenue generated by these landholders. If uncontrolled, respondents indicated that cotton bush has the economic impact of displacing pastures as it is inedible to livestock, the environmental impact of displacing native vegetation especially in riparian area, and the social impact of causing conflict with neighbours (especially neighbours who are absentee landholders or life-stylers) (Peterson 2014).

It is perceived that landholders with commercial agricultural enterprises are largely controlling cotton bush, but that non-commercial landholders (such as absentee landholders, life-stylers and government) are not controlling cotton bush to the same
extent on their landholdings. This is causing frustration by neighbouring agricultural enterprises due to the invasiveness of the weed (Peterson 2014).

The DAFWA’s current position for the control of cotton bush is to assist landholders with their responsibility to control cotton bush through a community coordinated approach (where community groups take a leadership role in encouraging landholders to control declared plants pests with assistance from DAFWA. A RBG, as defined in the BAM Act, is DAFWA’s preferred community partnership arrangement where a stable financial basis for the group is required. Community groups in the south-west and south-coastal regions of WA are developing. However an increased awareness of these groups is required as most of the respondents to the survey were supportive of a community led approach (Peterson 2014).

4. DAFWA’s response

DAFWA’s Invasive Species Program considers that the preferred way to deal with cotton bush (and other established declared pest species) is to move from compliance to a community coordinated approach that involves the formation of biosecurity groups.

This strategic shift recognises that the role of government and the use of limited public resources should be directed away from established pests towards prevention and eradication of significant pests that are either absent or newly established. Control and management of cotton bush is predominantly the responsibility of asset owners/managers, that is, landholders and land managers. In community coordinated arrangements involving a biosecurity group, DAFWA will enforce compliance under the BAM Act where it is feasible and effective to do so.

This strategic shift from enforcement of compliance to support the community coordinated approach has occurred at the same time that the community in SWAR (landholders, owners and shires) has developed a heightened awareness of cotton bush as a problem that needs to be addressed owing to its rapid spread and non-control by some landholders. The community expects enforcement of compliance on those landholders who are not controlling cotton bush on their property.

DAFWA’s response to cotton bush is consistent with national trends for dealing with established pests (Schedule 5, Intergovernmental Agreement on Biosecurity), and includes the following key aspects:

- Moving away from the traditional approach of reliance on enforcement as a means to ensure control of cotton bush.
- Providing support where there is sustained collective action (by a community, biosecurity group or Industry body) to manage cotton bush and other declared established pests. Undertaking enforcement actions and regulatory interventions with respect to individual landholders only when necessary to support sustained collective action by an industry or community.
- Working cooperatively and collaboratively with stakeholders directly affected by cotton bush, or who are responsible for its control.
- Provide an opportunity for community and industry to work closely in partnership with government at a landscape scale.
- Meeting responsibilities as a manager of public land.
This provides an opportunity for DAFWA to engage and communicate with the SWAR community to discuss the strategic shift, its implications and the options for the control and management of cotton bush and other widespread and established declared pests in the region.

DAFWA will engage with stakeholders to promote and support the adoption of a community coordinated approach as the most effective way to control and manage cotton bush. It will also educate and raise the awareness of the community and industry of its new position on the control of cotton bush in SWAR and will prepare and deliver a communication and engagement plan for this weed.

5. The community coordinated approach

Cotton bush invades rural and agricultural land in SWAR and requires active intervention to manage it. DAFWA is aware of the threat and is responding to both the threat and community concern by promoting the community coordinated approach, leading to the formation of biosecurity groups that will assume responsibility for the control of cotton bush and other established declared pests.

The community coordinated approach is based on social science research and aligns with the National Framework for the Management of Established Pests and Diseases of National Significance (Cummings and van Zee 2005).

The approach places landholders and land managers within the community at the centre of actions to control established declared pests. This is premised on the community or industry being concerned about and placing a priority on the control of established declared pests.

This approach is consistent with the BAM Act, which places the responsibility for the management of established declared pests on the landowner/holder. It aligns with an emerging, sustainable model for established pest management based on community commitment rather than on compliance-driven approaches (Dzowa and Merewether, 2014).
6. Roles and responsibilities in relation to widespread weed management

A biosecurity group following the community coordinated approach will be well equipped to provide information to landholders on the control of cotton bush and to exert peer pressure on those landholders with significant infestations. Encouraging landholders to control those infestations and other expanding infestations before they become too large and impact on multiple neighbouring properties.

A community coordinated approach/biosecurity group with DAFWA support would be based on the following division of responsibilities for cotton bush management.

6.1 Biosecurity groups

- Provides community and industry leadership for landholders to control infestations of widespread weeds before they impact upon multiple neighbouring landholders.
- Distributes relevant information to public and private landholders in the region.
- May provide herbicides or a subsidy for purchasing herbicides to be used for the control of cotton bush.
- May employ an inspector where the landholder needs assistance, or to assist the community to establish a record of evidence for non-compliance in the future.

6.2 DAFWA

- Provides leadership in the region through formation of biosecurity groups with relevant partnership arrangements.
- Encourages State and Local Government agencies with responsibility for land management to be an active partner in community groups seeking to manage cotton bush.
- Provides information and processes required for community and industry engagement.
- Undertakes surveillance in association with biosecurity groups, including identified transport pathways along road, rail, power and water pipelines.
- Undertakes inspection and compliance activities on public and private properties identified as being non-compliant according to agreed regional best practice management.
7. Compliance policy

DAFWA is developing a compliance policy for the whole of WA to identify the legal roles and responsibilities and associated work instructions under the BAM Act. The intent of the compliance policy for C3 Management species is described below.

7.1 Legislation for declared pests in WA

The BAM Act provides a modern approach to the control of declared plants. Landholders have the responsibility of controlling declared plants on their land; however, the BAM Act enables landholders to work in cooperation with their neighbours and in partnership with others, including government agencies, using the additional mechanisms and resources available under the BAM Act. For example, partnerships between private landholders and government can be achieved through establishment and operation of a RBG.

7.2 Invasive Species declared plant policy

The Invasive Species Program has developed a declared plant policy that identifies the key elements of compliance and enforcement that can be applied to all widespread and established species.

This identifies that management of declared species may be undertaken using a community coordinated approach.

7.3 Declared pests controlled through the community coordinated approach

A community biosecurity group is a DAFWA initiative that will be applied to widespread and established species that are declared plants with agricultural impacts, although these pests may also have adverse impacts on the environment and society. This involves proactive leadership by the community to manage these declared pests, with engagement between community, industry and the various levels of government to add value to landholder responsibility. The approach involves formation of a community group that is responsible for managing declared agricultural plants in the group's area of responsibility.

If the community group decides, in consultation the Minister, to progress beyond the community biosecurity group they may form a RBG. An RBG will have the benefit of imposing a Declared Pest Rate (DPR) in their area, which is matched dollar-for-dollar by the State Government. To raise a rate and access funds annually, an RBG is required to reach agreement with DAFWA on:

- A strategic plan outlining priorities for controlling declared pests in areas where rates are collected.
- An annual budget and operational plan detailing control measures to be undertaken on private land where rates are collected.
- Disbursement of funds from the Declared Pest Account (DPA) in accordance with agreed milestones and availability of funds, as well as the RBG's agreement under s170 of the BAM Act (the Director General must give written notice to the RBG about this).
- Reporting on performance and financial acquittals.
8. Community compliance

In order to demonstrate that the community biosecurity group has adequately advised landholders in the region of their biosecurity requirements the community biosecurity group will need to demonstrate the following outcomes.

8.1 Strategic outcomes

- The community biosecurity group identified the priority species in the region.
- The community biosecurity group has developed a simple operational plan for the priority species in the region.
- The community biosecurity group has developed a best practice document for widespread and established species that defines the expectations of the community in the management of these pests.
- The community biosecurity group can demonstrate that general communication has occurred to community.
  - The simplest form of general communication is to inform the landholder of their legal obligations under BAM Act via a letter to the landholder sent by the community biosecurity group. This can be a general letter that advises people of the community group’s priority species and the control requirements.
- If the community biosecurity group or RBG is able to demonstrate that they have completed the outcomes at a strategic and local level and a landholder has not undertaken control to the satisfaction of the community then DAFWA may assist with compliance.
  - The community group or RBG should report, in general terms, the areas that are non-complaint landholder to the Regional Leader of DAFWA Invasive Species.
  - Depending upon the number of non-complaint individuals, staff availability etc., the Regional Leader will negotiate with the community biosecurity group or RBG to undertake audit and compliance activities.

9. DAFWA compliance

A community biosecurity group that has identified an area where a landholder or landholders are being non-compliant may have audit and compliance measures applied by DAFWA.

DAFWA will enforce compliance under the BAM Act where it is feasible and effective to do so. The regional leader will negotiate with the community biosecurity group to undertake audit and compliance activities; however DAFWA may not be able to undertake compliance on all properties identified by the community group depending upon the number of non-complaint individuals, staff availability etc.

DAFWA’s compliance activities will be focussed on declared pests with agricultural impacts (although these pests may also have impacts on the environment and society). These activities may be applied in several different ways, as detailed in the Invasive Species Work Instruction for the Management of Non-Compliance for Declared Pests; including:
• Property inspection with a work agreement negotiated between an inspector and the landholder or a follow up compliance inspection.
• Application of a legal notice by an inspector (such as a Pest Control Notice or Pest Keeping Notice)
• Application of an infringement notice
• Remedial action to treat pest organism
• Application of a legal notice by the Director General (such as a Pest Exclusion Notice or Quarantine Notice)
• Prosecution (this is considered a last resort within the Invasive Species Program).

DAFWA will retain the flexibility to apply the most suitable compliance action that is required at the time to modify the behaviour of the individual/landholder to achieve control of the pest species.

10. Conclusion

A community coordinated approach to the management of cotton bush and other widespread and established species is a new approach to invasive species management in agricultural areas. DAFWA recognises that this approach will evolve over time and adopts processes of continuous improvement to ensure that the approach remains relevant and effective.

Involvement by community and industry is essential to achieve targeted control outcomes. Structured process of community engagement need to be adopted by all key stakeholder groups involved. A significant benefit from adopting the proposed approach is cost-effective audit and compliance for control of widespread declared species.
11. References


Intergovernmental agreement on biosecurity. An Agreement between the Commonwealth of Australia, state and territory governments to strengthen the national biosecurity system. Schedule 5. National management framework for established pests and diseases.


