Agriculture and Environment Committee

Inquiry into the impacts of invasive plants (weeds) and their control in Queensland

Summary of issues raised by submitters – Prickly Acacia Case Study (*Vachellia nilotica*)

This paper gives a summary of the points raised by submitters about the impacts of prickly acacia and its control in Queensland. The committee's secretariat prepared the paper to assist discussions during the roundtable meetings and public hearings in Hughenden on 19 June 2017 and Barcaldine on 20 June 2017.

Infestations

Submitters noted the presence of prickly acacia infestations in the following locations:

- Southern Gulf and Desert Channels region (Sub 12, Sub 53)
- Bowen area (Sub 31, Sub 38)
- Charters Towers (Sub 56)
- Fitzroy Basin area including Rockhampton Region, Isaac Region and Banana Shire (Sub 40)
- Barcoo Shire Council areas (Sub 52)
- North Burnett area (Sub 46)
- Miriam Vale area (Sub 46)
- properties near Collinsville (Sub 43)
- Augathella and Thargomindah (Sub 53)
- Hughenden (Sub 33)
- Tiaro (Sub 32)
- Mitchell Grass Plains (Sub 10, Sub 47, Sub 52), and
- Central West and North West Queensland (Sub 1, Sub 12, Sub 49).

The New South Wales Department of Primary Industries stated that prickly acacia was not known to be present in New South Wales (Sub 55).

Impacts

Impacts of prickly acacia noted by submitters include the following economic impacts:

- the threat to the viability of the beef industry which is an important contributor to the regional and state economy (Sub 12)
- a 20 per cent canopy cover can cut pasture production by 50 per cent, eating away at both the productivity and profits of landholders and having negative flow-on effects to towns (Sub 47)
- dire consequences for producers and local governments given that a 25 per cent canopy cover of prickly acacia supresses pasture growth 50 per cent (Sub 52)
- some small to medium landholders have spent over $100,000 per year on control (Sub 47)
- decline in rural land values, which will result in local governments increasing rates (Sub 52)
- high costs to grazing industry, exacerbated by the cost of drought assistance (Sub 51), and
- annual production losses of $24 million and control costs of $9 million (Sub 52).

Environmental impacts of prickly acacia which submitters noted include:

- the risk of soil erosion from the bare ground typically found under these infestations (Sub 12)
- destruction of habitat of many native animals, particularly ground dwelling species that inhabit the black soil plains (Sub 12)
- loss of perennial grasses which cannot compete with prickly acacia for canopy cover (Sub 51), and
- loss of biodiversity through loss of ground cover, erosion and increased sediment runoff and the provision of refuge for declared pest animals (Sub 52).

Southern Gulf NRM Ltd noted that there is some local advantage in prickly acacia but that its costs substantially outweigh its benefits at the regional scale (Sub 12).

One submitter believed that the prickly acacia had saved money in drought fodder and supplement and had also been positive for the environment by enhancing the soil and improved the pasture around its canopy. However, this submitter also noted that the clearing of prickly acacia and planting of improved pasture resulted in an invasion of grader grasses, which is another issue for the environment. (Sub 38)

Factors contributing to the spread of prickly acacia

Submitters noted the following issues in relation to the spread of prickly acacia:

- the failure by local government to enforce landholder compliance with declared plant control obligations has been a contributing factor in the increase in infestations (Sub 52)
- seeds remain viable in the soil for many years. Even after mature plants have been removed, producers can expect new plants to emerge, especially if the growing season has been favourable. This requires continuing vigilance over many years to avoid re-establishment. (Sub 12)
- cattle are the primary vector of long distance seed spread. Seed remains viable in the gut of cattle for up to one week. The cattle industry therefore plays the major role in both the spread of prickly acacia and in limiting that spread through the choices they make in stock buying, quarantine and transport. (Sub 12)
- livestock and the transport of livestock, including lack of controls on the transport (Sub 12, Sub 15, Sub 33, Sub 51, Sub 52)
- water as a vector for seed dispersal (Sub 12, Sub 51)
- exacerbated by the switch from sheep to cattle, as sheep kept the trees under control, and less seeds pass through sheep than cattle (Sub 1, Sub 52), and
- some view prickly acacia as valuable fodder (Sub 10, Sub 52).

Strategy

Southern Gulf NRM Ltd suggested that it was unlikely that prickly acacia could be eradicated from Queensland, but that practical eradication at the paddock, property and district scale could be achieved with diligent and cooperative effort (Sub 12).

CSIRO noted that there is insufficient quantitative information on triple bottom line impacts to effectively guide investments and that this information is vital to guide decisions on the value of different management approaches (Sub 48).

Other comments on strategy included:

- Desert Channels Queensland has a template for eradication that would be worth duplicating on a broad scale (Sub 52)

- the solution lies in partnership with the landowner and the regional natural resources management groups – good evidence of this success can be seen in action with Southern Gulf NRM and Desert Channels (Sub 49)
- unless the effort is targeted and wide spread, the best efforts will be undone by the areas not controlled (Sub 49)
- need for long-term (4 year) work programs to allow for certainty in regional communities (Sub 12)
- prevention of weed invasions is the most effective approach – the more widespread and established a weed becomes, the harder it becomes to eradicate, contain or control (Sub 37)
- the spread of the prickly acacia needs to be stopped before it moves further into the Lake Eyre catchment (Sub 47), and
- prickly acacia should be a more prominent focus of the Lake Eyre Basin Intergovernmental Agreement (Sub 52).

Eradication and control programs

Desert Channels Queensland stressed the need for stock movement and truck hygiene protocols given that cattle are the most effective agents for seed dispersal (Sub 53).

Agforce noted that progress to develop a national voluntary weed hygiene declaration by the Farm Biosecurity project had been slow and that the previous weed hygiene declaration was superseded as a result of the new *Biosecurity Act 2014* (Sub 33).

One submitter suggested that currently available chemicals are highly effective in controlling prickly acacia and that funding for new chemical control methods should be redirected into eradication programs (Sub 10).

Other comments by submitters included:

- Desert Channels Queensland and Southern Gulf NRM undertake extensive control activity and have arguably been more successful than any other entities to date in developing the techniques and strategies to prevail against the pest plant (Sub 53)
- lack of government support and recognition of achievements for Desert Channels Queensland (Sub 53)
- during 2015/16 Southern Gulf NRM managed prickly acacia control projects over 150,000 hectares in partnerships, involving more than 20 pastoral properties (Sub 12)
- the Flinders Shire Council stands out in its leadership of a Good Neighbour Program to manage prickly acacia (Sub 12)
- grants under the Everyone's Environment program provided some welcome support for prickly acacia control projects in the Southern Gulf region during 2013/14 (Sub 12)
- Burnett Mary Regional Group for Natural Resource Management has partnered with landholders and Queensland Parks and Wildlife staff in the North Burnett and with landholders in the Miriam Vale area for control of prickly acacia (Sub 46)
- one NRM group reported that 50 million prickly acacia plants had been eradicated in two and a half years on a budget of just $365,000 per financial year from the Queensland Government (Sub 47)
- graziers are reluctant to implement eradication programs as they feel it is a government responsibility to do so, particularly when they have leasehold land (Sub 1), and
- smaller councils can be challenged by the costs of controlling prickly acacia (Sub 53).

Techniques

Submitters raised some issues about control techniques for prickly acacia:

- while experience has shown that the herbicide Access combined with diesel, applied using the basal bark technique, is an effective control method, it has limitations as it is not suitable for use where plants are growing near waterways, due to the risk of the chemical entering the waterway (Sub 46)
- CSIRO noted that significant amounts of generic systemic herbicides (e.g. Graslan/Tebuthiuron) are being applied across vast areas and raises the question of the long-term sustainability of using such a tactic for a weed that has a 10+ year seed survivability in the seedbank and needs careful consideration especially along watercourses (Sub 48), and
- infested properties along watercourses should be encouraged to run their eradication programs sequentially (beginning at the top of the watershed) in order to stop the transportation of seed downstream reinfesting country that has already been treated (Sub 10).

Biocontrols and other research

CSIRO noted that Biosecurity Queensland has been pursuing biocontrol solutions for prickly acacia for many years, but with variable returns (Sub 48).

The Invasive Species Council noted the difficulty of targeting biocontrols at prickly acacia (and the other cases study weeds for the inquiry) because they are closely related to native species (Sub 37).

Fitzroy Basin Association noted that, in Central Queensland, biocontrol is being undertaken for prickly acacia with moths and chemical control (Sub 40).

Agforce noted that the War on Western Weeds initiative funded by the Queensland Government and the War on Northern Invasive Weeds project funded by the Australian Government, have provided adaptive research, trials and costings for several innovative techniques for controlling prickly acacia (Sub 33).

Encouraging landowners to take action

Desert Channels Queensland noted that more landholders were taking their responsibilities more seriously, but there remain some individuals and communities that erroneously believe that prickly acacia provide great drought fodder (Sub 53).

One submitted noted the importance of educating graziers about the long-term negative impacts of not treating prickly acacia and thought that they must be incentivised to treat the infestations and reprimanded for not doing so (Sub 10).

Submitters also recommended:

- the State should, in consultation with the pastoral industry, natural resource management sector and other stakeholders, undertake a feasibility study for the introduction of a rental discount incentive for lessees that demonstrate progress in prickly acacia control (Sub 12)
- exploring programs which provide producers with an incentive to control the weed, such as reduced land rents for pastoral lease holders or reduced rates for freehold land owners (Sub 47)
- a no interest loan facility to pay for initial control may be an acceptable option for the State to discharge some of its obligations (Sub 49), and

- funding for graziers could operate on a sliding scale depending on the level of infestation (from 80 per cent subsidies for dense infestations to 50 per cent for more lightly infested areas) and should be maintained for a period of at least five years in order to treat the majority of viable seed retained in the soil as well as any emerging plants (Sub 10).

Funding

A number of submitters commented on funding issues for prickly acacia:

- the 2016/17 Queensland Natural Resource Management funding allocation of around $8 million state-wide amounted to a 25 per cent reduction in investment compared to previous years (Sub 12)
- funding for strategic control of prickly acacia by the lake Eyre Basin Indigenous rangers needs to be sustained to ensure control of outlying infestations (Sub 33)
- a lack of funding and coordination between councils (Sub 47), and
- support from Government has been disappointingly slow to translate into funding (Sub 53).

Submissions that referred to prickly acacia

Sub 1	Gary Parker
Sub 12	Southern Gulf NRM
Sub 15	Astonvale Station
Sub 31	Whitsunday AG Services
Sub 32	Gympie and District Land Care Group
Sub 33	AgForce Queensland
Sub 37	Invasive Species Council
Sub 38	Jan Cottam
Sub 40	Fitzroy Basin Association
Sub 43	Garry Reed
Sub 46	Burnett Mary Regional Group for Natural Resource Management
Sub 47	Rob Katter MP
Sub 48	CSIRO
Sub 49	Cloncurry Shire Council
Sub 51	Juno Downs
Sub 52	Barcoo Shire
Sub 53	Desert Channels Group
Sub 55	Department of Primary Industries, NSW Government
Sub 56	Charters Towers Regional Council

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