

War on WEEDS

CASE STUDY:

Glenalpine

One of six Producer
Demonstration Sites in the BBB



NQ Dry Tropics partnered with Meat and Livestock Australia to develop a Producer Demonstration Site to accelerate the adoption of cooperative, integrated weed management in the BBB catchment.

Cooperative, integrated weed management in the BBB

Project timeframe: May 2020 — February 2023

This Producer Demonstration Site aimed to showcase a cooperative and integrated approach to identify best-practice management of the highest economic priority weeds in the Bowen, Broken and Bogie River catchments (BBB).

The integrated priority weed management group, centred around Collinsville and Bowen, conducted weed management trials on six grazing properties.

The group implemented a suite of options, including best-practice application of biological, mechanical, and chemical controls.

Priority weeds included lantana (*Lantana camara*), rubbervine (*Cryptostegia grandiflora*), prickly acacia (*Vachellia nilotica*), belly ache bush (*Jatropha gossypifolia*), and chinee apple (*Ziziphus mauritiana*).

The properties measured and compared relative costs of previous control and maintenance measures with the new practices; the areas of weeds treated and the comparative success rates for the new practices; and the number of new cooperative actions with neighbours and other land managers.



Barry O'Sullivan, Glenalpine Station, demonstrates an Auscrimper sucker puller.

A series of field events and extension activities were held throughout the three-year project to showcase results.

The events attracted participants from grazing properties, local government, National Resource Management (NRM) groups, industry and the general community.



Glenalpine grazer, **BARRY O'SULLIVAN:**

☛ *Weeds are our biggest challenge.*

Weed management is a heavy user of our time and therefore, a great expense on our business.

However, if we don't start eradicating weeds, the job will become out of control, especially considering the amount of seed that continues being spread.

Being involved with a group, and having professional advisers to help with technical information, as well as monitoring sites, gave me the motivation to get into it.

It was good to be able to compare equipment, and poisoning applications and techniques. ☛

BIOSECURITY PROTOCOLS FOR EMERGING WEED MANAGEMENT

- Attended biosecurity, chemical application, and vehicle clean-down training.
- Established designated wash-down area and high pressure air and water clean-down facility.
- Established and implemented vehicle hygiene protocols for all vehicles entering the property.

PROJECT TRIALS

Glenalpine generally has intact vegetation with limited historical tree clearing.

This creates some challenges with managing dense invasive weeds on heavier clay soils and, particularly, with intact vegetation in riparian areas along creeks and rivers.

The O'Sullivans were seeking control methods which limited damage to the environment.



After initial weed removal (left) and the result (right) following rain and rest.

Trials, results, knowledge gained

A number of techniques and pieces of equipment were trialed. These included:

- splatter gun treatment of rubbervine using Grazon; and
- mechanical removal of dense rubber vine infestations using an Auscrimper sucker puller attached to a bobcat, predominately in riparian areas.

SPLATTER GUN

The splatter gun was trialed on dense rubbervine, in a hard to access area, using Grazon. A 30–45 per cent kill was achieved on larger plants, and 95 per cent kill on smaller plants.

AUSCRIMPER SUCKER PULLER (TWEEZERS)

An initial creekline trial was undertaken on dense mature growth of rubbervine, lantana, prickly acacia and chinee apple.

This proved to be highly-efficient with a good operator and achieved a 99 per cent kill.

An additional tracked (and airconditioned) bobcat and another sucker puller were purchased due to the success of the trial work.

However, within three weeks of working in rocky areas, the set of tracks were badly worn.

The tracked bobcat was, however, more stable in rough areas.

The success of the “tweezers” has encouraged the engagement of a full time operator systematically working across paddocks removing

scattered infestations and denser areas of weeds, particularly on creeklines and river country.

Approximately 1200ha was treated in late 2022.

The tweezers were unable to remove plants under about 7mm thickness and some follow-up chemical treatment is required.

A pasture seed mix (butterfly pea, green panic, Rhodes grass and a stylo) was applied to heavily disturbed areas where there was little regeneration of desirable pasture plants.

Treatment can be applied throughout the year, with an increase in activity through the wet season when soil moisture is higher, moving to soils that hold more moisture into the dry season.

A trained operator minimises machinery breakdowns and also ensures plants are not missed and are removed properly.

KEY LESSONS LEARNED

- Splatter gun treatment with Grazon did not work well on rubbervine.
- There is virtually no impact on any non-target species with the sucker puller.
- A good soil moisture profile is desirable when using the sucker puller.
- Follow-up is critical after weeds are pulled.
- It is recommended to chemically treat plants when they are showing no signs of stress and ensure good leaf coverage.
- The tracked bobcat was more stable in rough areas, but needs steel tracks instead of rubber, as they wear too quickly.



LDC helps communities to tackle landscape problems

Empowering communities in the Bowen and Collinsville region to manage healthy and productive landscapes has been a cornerstone of the Landholders Driving Change (LDC) project.

A grassroots design developed by locals, for local needs, provides the overarching framework and has been supported by a community-led co-governance model.

From the outset, landholders identified weed management as a barrier and challenge to improving land condition on their properties.

In the LDC landholder baseline survey, 47 per cent of landholders identified weeds as a barrier to improving land condition. One year later in June 2019, this increased to 67 per cent.

LDC submitted an application to Meat and Livestock Australia (MLA) in November 2019 to form an integrated catchment priority weed management cluster group.

This was approved and the group started a three-year project through the LDC's BBB Grazier Support activity area.

LDC hosted nationally-accredited weed training workshops to:

- increase awareness of biosecurity and build capacity in the BBB catchment to effectively manage weeds;
- learn how to clean and inspect vehicles and machinery for plant materials;
- understand government legislation and requirements; and
- increase awareness of biosecurity threats and impacts on businesses.

Land managers, non-grazing land managers, local contractors and council representatives attended the workshops.

The Queensland Government funded the first phase of the LDC project, 2017-2021.



The vision of the Sustainable Agriculture Program is resilient landscapes and productive enterprises, agricultural producers maximising outputs while minimising environmental impacts.

The Sustainable Agriculture Program aims to support and empower producers in the use of best management practices for natural resource management within the agricultural industries of the Burdekin Dry Tropics NRM Region.

FOR MORE INFORMATION

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Landholders Driving Change is a Burdekin Major Integrated Project funded by the Queensland Government through the Queensland Reef Water Quality Program.

