

Happy Valley Weeding Trip: 5th - 11th February 2017

Volunteers

Peter Shooter - Nambour
Chris Breitenbach - Auchenflower
Geoff Welsh - Boreen Point
Greta Lachte - Germany
Jessica Hoye - Eudlo
Brett Nunan - Eudlo

Abrus precatorius subspecies africanus

Work continues to eliminate *Abrus precatorius subspecies africanus*.

Control methods:

Foliage spray-

Foliage spray with 1.5% roundup is the main control method. This has been shown to be a highly effective method of control. Where the infestation extends into the canopy of trees, as much of the plant mass as possible is pulled down and heaped at the base of the tree and sprayed. All stems going into the canopy are cut off if they can't be pulled down.

Pulling out-

This plant is very deep rooted. Very small plants can be pulled. Larger ones break off and regrow. Pulling out is not an option.

Seed collection-

Seeds persist on plants for long periods of time. Sometimes this extends into the second year after flowering. Seed collection is an important element of control.

As previously reported, work on eliminating *Abrus precatorius subspecies africanus* commenced in March 2014. It is assumed that the plant was bought to Happy Valley as a garden plant and escaped into the town and surrounding areas. It was extensively established over a large area when work to contain it commenced. We have identified and been treating in excess of 40ha.

Three years later, as a result of 12 week long trips to Happy Valley, working with teams of volunteers ranging from 5 to 10 people, this invasive weed is now substantially contained. We have moved from what was a landscape problem to one where we are now systematically taking out individual small plants that were missed and emergent seedlings.

The only area where we are still discovering stands of *Abrus* is the region between Yidney Rocks Bypass Road and the beach. This area is in a disgraceful state, overrun with Easter Cassia and Lantana, as well as *Abrus*. Our efforts were largely focused on this area during this trip.

A few stands were found in this area where the plant had extended into the canopy. Wherever this occurs, access to sunlight stimulates flowering and seed set. This results in infestation of surrounding areas.

Movement through large areas of this region is extremely difficult due to the infestation of Easter Cassia and Lantana, making the discovery of *Abrus* very difficult.

Most other areas previously treated were revisited and spot sprayed. Pleasingly all but no seed had set in these areas this summer. This fulfils our aim of preventing further build up of seed in the soil, while killing all emergents.

Seeds are collected wherever we work. We collected less than a third of a large black plastic bag of seed pods this trip. The vast majority came from the Yidney Rocks Bypass area. Very little came from areas previously worked.

On previous trips we have collected up to nine bags of seed pods per trip.

This is especially pleasing as the main seed set season is the summer months. Flowering had commenced in November 2016. A very small amount of flowering was still happening this trip.

Seed germination trial:

The seed coat of Abrus is hard and may persist in the soil for long periods of time.

We have a germination trial in progress to improve our understanding of regeneration of Abrus.

1000 seeds were planted in March 2016. They are planted in sandy soil at Boreen Point and not watered. Conditions are similar to Happy Valley.

15% germinated in the first month. This increased to 19.8% by September. Since then, no more have germinated. The very dry season may be the reason for the slow down in germination.

Photo points:

In November we established 2 photo points at an infestation we discovered on the road running North West of the dump corner. We collected seed and applied foliage spray.

I took photos again this trip. The infestation was all but wiped out.

Marking infestation:

Wherever we locate and spray plants we mark the spot with pink flagging tape. This enables us to return to these locations for checking on subsequent trips. This has proved to be an invaluable tool throughout this exercise. The tape fades and disintegrates with time.

GPS recording:

For the last year, our volunteer Chris Breitenbach has used a GPS to record plant locations. This has proved to be a very valuable tool and one we are increasingly dependent upon. Chris started this work with his own GPS device which was an early model with limitations. Of late he has been using a device owned by Queensland Bushwalkers Club. I thank the club for making the device available to us.

Future work on Abrus:

Next trip, May 14th to 20th, will focus mainly on the Yidney Rocks Bypass Road area. We will spend at least one day North of the dingo fence mopping up Abrus and taking out Cassia, and inspecting and mopping up other previously worked areas.

Cassia and Lantana

A big effort was put into eliminating Easter Cassia (*Senna pendula* variety *glabrata*) and Lantana (*Lantana camara*) in the Yidney Rocks Bypass Road area.

The Lantana is generally in poor condition. I am advised this is as a result of various biological agents. However the plants are large and sprawling, extending into trees, and making movement very difficult in some places.

The Cassia is very healthy. In places it has grown and fallen and continues to grow making passage extremely difficult.

Both plants were pulled where possible, and the remainder cut off close to ground level and the stump sprayed with 100% Roundup.

We will continue this work on future trips. Next trip we will focus on clearing tracks through the dunes to make access easier, then work out from the tracks.

There is no end in sight to this work in this area.

There are also extensive stands of Cassia in the second valley north of the village. We will put some work into this area next trip.

Other weeds:

In the Yidney Rocks area, a number of umbrella trees (*Schefflera actinophylla*) and very large broad leafed pepper trees (*Schinus terebinthifolius*) were cut off and stumps treated with 100% roundup.

Summary

The containment of *Abrus* has been very successful. Follow up is essential to take out emergent seedlings. Preventing future seed set is critical.

More work is essential in the Yidney Rocks Bypass Road area. There may still be *Abrus* infestations we have not discovered.

We believe we have done controls to the extent of the infestation in all directions. However this needs to be verified by searching beyond the areas already identified and treated.

I estimate the population is below 1% of the infestation at the commencement of the program.

The work on Cassia and Lantana seems limitless. Destroying these two weeds in the *Abrus* infected areas allows access to discover *Abrus*, and will allow better access for follow up inspection and treatment.

Future Trips

May 14th - 20th

August 6th - 12th

November 19th - 25th

Peter Shooter