Cactus Weeds in South Australia

Ralph Abbot BSc (Adel).

How did I become invovled?

My career was as a physicist at Weapons Research Establishment, later named Defence Science and Technology Organisation.

My work was mainly with airborne laser systems for use in mapping. The Laser Airborne Depth Sounder (LADS) was my main project. So I am not a botanist nor an expert with plants!
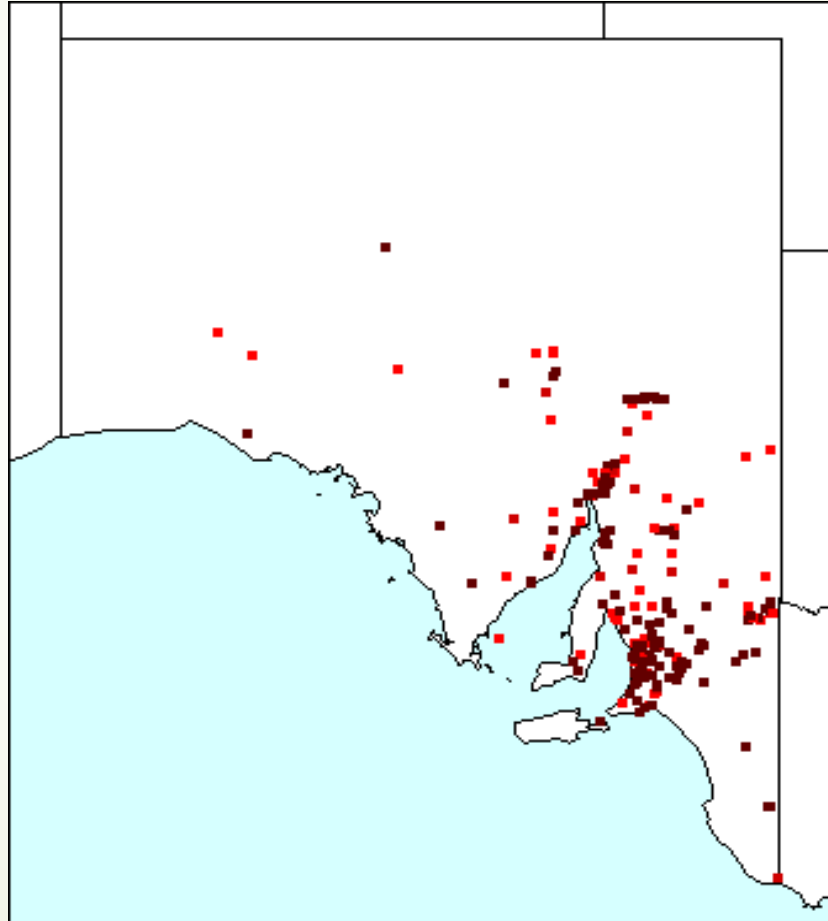
In retirement in 2000 we bought a 4WD to tow our new caravan. That led to involvement in 4WD clubs.

In 2009 the Toyota LandCruiser Club SA went to Gum Creek station, south of Blinman and there we learnt how to deal with wheel cactus.

That Toyota 4WD club told other large 4WD clubs about the experience and they too became regular cactus killers.

Cactus are found in most of SA

Have treated cactus plants in many locations

- Blinman in Flinders Ranges (Wheel cactus and thin leaf-Prickly Pear)

- Walkers Flat on River Murray (Hudson Pear)

- Several other locations near the River Murray (Wheel Cactus)

- Near Quorn in Flinders Ranges in Argadells property (Prickly Pear)

- Old Tailem Town in Tailem Bend (Bunny Ears, Wheel Cactus)

- Along train line in Tailem Bend (Bunny Ears)

- Onkaparinga Gorge (Wheel Cactus and Prickly Pear)

Have seen these:

- In southern Queensland (Velvet Pear)

- In Victoria around Maldon near Bendigo (Wheel cactus)

Mainly Opuntia species

Prickly Pear is *Opuntia Stricta*

Wheel Cactus is *Opuntia Robusta*

There are hundreds of other varieties and we encounter quite a few when treating mainly Wheel Cactus. Some have already been mentioned.

Others include Jumping cholla, Indian Rope,

How it started

The English brought Cactus in 1788 on the First Fleet as a host for cochineal that they used to dye their coats.
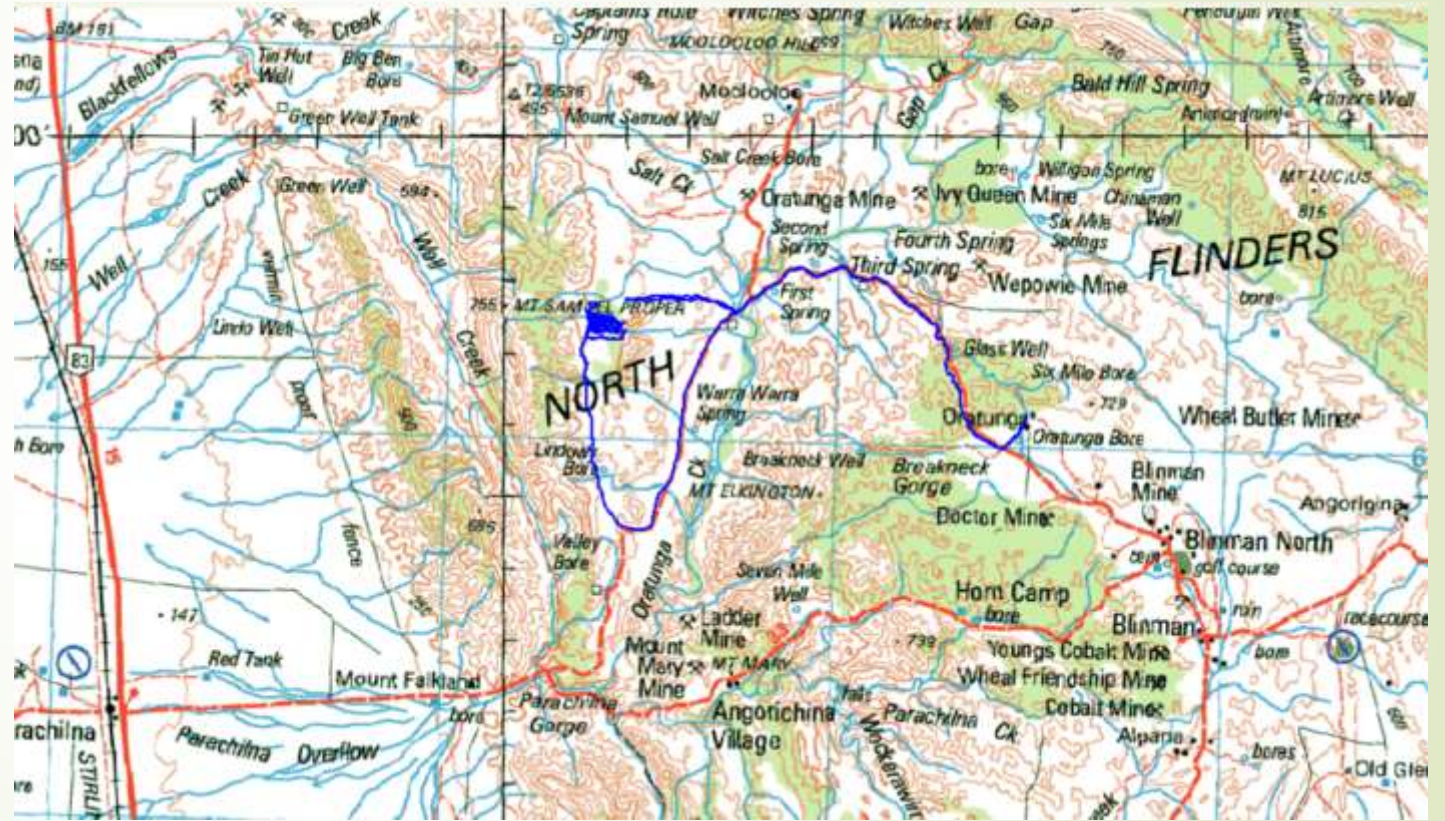
Around Blinman they are believed to have originated in the tuberculosis hostel in Angorichina where cactus was planted for fruit for making jam. Crows eat the ripe fruit and spread the seeds in their droppings.

They are now spread across a 50 km wide area centred around Blinman where the terrain is mainly mountainous woodlands.

The first plants of prickly pear were brought to Australia in 1788 to establish a cochineal (red) dye industry

Distribution around Blinman

- Wheel Cactus are mainly west of Blinman.

- Prickly Pear are mainly east of Blinman.

- Indian Rope Cactus are mainly to the east of Blinman but occasional ones are found in the west.

How they spread

- Crows eat the fruit and fly along creeks, resting in eucalypt tree tops.

- Emus eat the fruit and their scat may contain several hundred seeds. Some years later a good rain and the seeds sprout in a wonderful bed of fertiliser.

- Kangaroos and goats eat the fruit and spread seeds. They may also have a part of a plant caught in their coats which later drops and takes root.

- Parts of plants can drop off and take root through any of the areoles in the pads.

- The spread is slow and may not be noticed until it becomes substantial.

What problems do cacti cause?

- The insidious spread of cacti can render the land useless for grazing stock and degrade its environmental and tourism values.

How to treat unwanted cacti

- **Mechanical.** Drill 11 mm holes in every second pad (cladode) and inject neat glyphosate. Or entire plant can be sprayed with various poisons.

- Total removal is another option for small plants.

- **Biological**

- Cochineal. Require correct version of cochineal for specific cacti. Cochineal good with dense infestations where it can spread. Dehydrates plants and dead in about 3 years. When seeding cochineal have to protect from ants.

- Cactoblastis. Worked well in Queensland. Occasionally found in Flinders Ranges but ineffective.

Biological tools

Cochineal

Cactoblastis

Treating plants

Plants do not often grow in convenient locations. This is especially true in the rugged Flinders Ranges. They can be up steep cliffs, down in creeks or under a jungle of foliage.

In inaccessible locations biological control is the only possible solution.

This is delightful Fountain Spring on Eregunda Creek

Volunteers

The task is too large for landowners whose properties cover huge areas.

Sometimes contractors are used but the cost is too much for such large areas.

Volunteers from 4WD clubs and bushwalking groups can swell the numbers and assist the landowners.

Clubs spend a week each year with about 20 in most groups. Some volunteers are in several groups and spend up to three weeks a year.

Volunteers use drills and injectors of glyphosate and recently have been harvesting and seeding cochineal.

Most of the volunteers are retired and between 60 and 80. Steep hills are too much.

Toyota 4WD club at Gum Creek

Since 2009 this 4WD Club has spent a week each year at Gum Creek station just south of Blinman. The total number of wheel cactus removed/killed since then is 13,555. Many of those are large plants that produce fruit and seeds each year. Some are tiny seedlings less than 25 mm high. Gum Creek leaseholder, Bill MacIntosh, has drawn a line across his property and to the west of that (mountainous) will be left to biological control and to the east (flatter) to be mechanical treatment.

From one plant into 50

I lead a team to Oratunga, a smaller station NW of Blinman. A number of the team are fit fellow cyclists. We treat cacti in mainly a triangular area. Since 2011 we have already been once around the triangle and about 1/3 of the way the second time. We often find skeletons of very large plants that we treated several years before. However we often find up to 50 small plants coming up in that area from seeds buried in the ground.

We need to log the position of all plants that have fruited (either have fruit or scars on upper edges of cladodes were fruit was) so they can be revisited some 5 or so years later before the new plants produce fruit.

Are we winning?

We are making progress.

A week in the Flinders with friends is fun.

Midweek we go for a drive and dine that night in the Blinman pub.

One night the local station owner provides dinner.

We feel we are gaining but it looks like the problem is forever.

Maybe the best we can do is control to maintain useful land.