

Limestone Creek

Manual and Chemical Eradication of Catsclaw in 2006 to 2007

First Stage Progress Report to 22.04.07

SUMMARY

This report is a compilation of the diary of work done on this project to date. As such, it contains a lot of detail which is sometimes cryptic, and which may only be of interest to the current team. However, it is far more readable and organized than the original diary!

The observations collected in this summary are well-based on our experience, but after only 3½ months' work, cannot be the whole story. They are presented in order of priority of actions suggested to eradicate Catsclaw.

The secret to success must lie in **TIMELY** follow-up. You will need to adapt times to your own conditions and the seasons, but the project will be cheapest and easiest if you follow up **WHEN** regrowth is obvious but **BEFORE** it becomes rampant or seeds.

What is the problem?

Find the boundaries of the infestation, and make note of the most serious growth (i.e. where trees are being destroyed, or flowers are evident). Divide the area into sections so you can have the satisfaction of ticking off sections as you proceed.

Don't take on too big an area you are going to have to follow up regularly.

Save the trees and stop the seed cycle

NOTE: Just doing this will gain you a few years' respite the heavy infestations did not develop overnight they required years of environmental neglect

Dying trees or flowering Catsclaw require **URGENT** action. The priority is to disconnect the growth in the canopy by cutting off at the base of the trees. It will die instantly if, in a week's time you see green leaves, you missed a vine. If you don't have poison-trained people, just cut the stems about a half metre above the ground.

Follow up as soon as possible with treatment of the stumps, by pulling the vines away from the trees and re-cutting 10 to 15 cm above the ground and treating the cut stump. Cutting low before poisoning removes more potential growth points, and gives best kill of underground growth. (Not a very good kill see comments on ground-cover growth)

We don't believe that basal bark spraying is a desirable option the bark can be dry and corky, and you are likely to kill the host trees. Do follow-up checks - maybe monthly initially.
Get rid of hiding places

In our case, this was Lantana. You cannot tolerate **ANY** Catsclaw if you have moved to the eradication phase; you have to find it all. Do follow-up checks

Attack the ground-cover growth

What we call ground-cover growth can be massed a metre deep over logs and stumps. You will find that a covering spray of a mild herbicide such as Glyphosate will greatly reduce the bulk of vegetation, and regrowth will be slow and sparse.

We found that when you poison the cut stumps of the vines on trees, the poison only translocates downward to the first main node in the rhizome, which may be right at the base of the tree. That is, the vine can regrow from that point.

It appears that when we cut off the vines to the canopy, the ground growth in the area is stimulated either because more light is available, or by re-directed energy (or both).

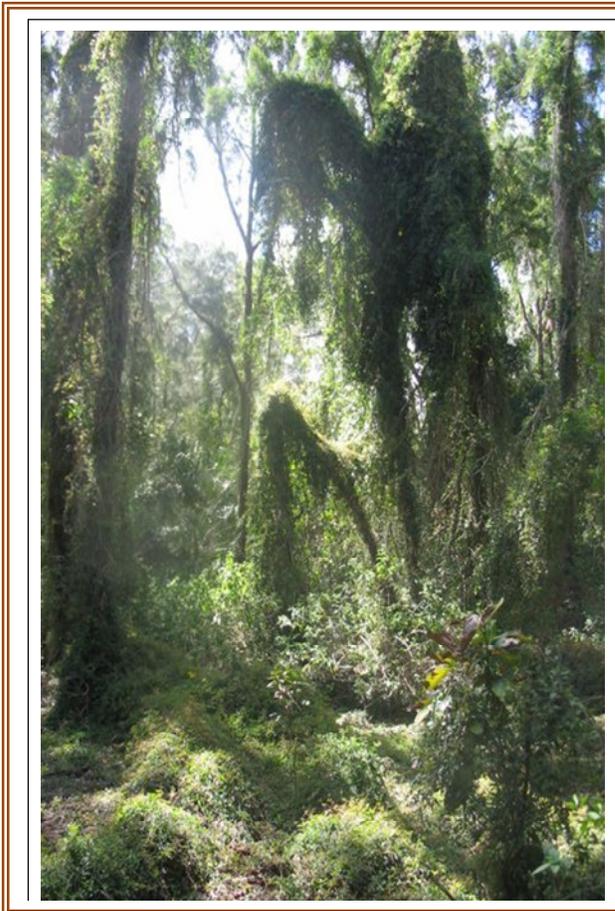
You cannot dig out the ground growth in infestations of any size. The tubers' are enlarged roots, and can even develop in hard clay or shale. The underground connecting rhizomes can be a multi-level network spreading over many metres.

The only hope is to spray emergent shoots with a spray which will be translocated to the underground nodes and tubers, (with due regard to damage to adjacent plants or to the soil).

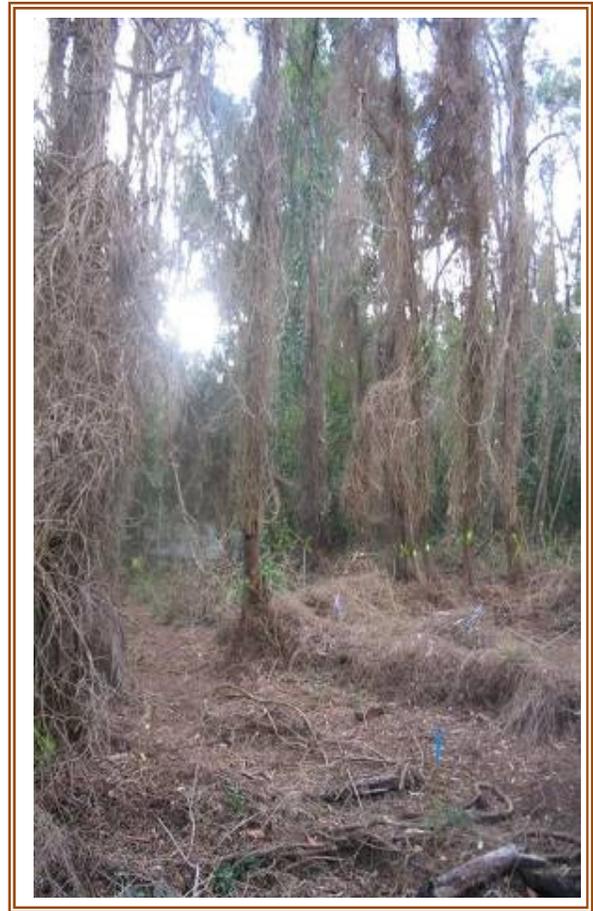
Do follow-up checks at least monthly, initially.

The Effect of Cat's claw on Vegetation

Before Treatment



After Treatment



Photographic site P2 (WP 260997/7444006)

Mapping

We have a map of the area, including road reserves, overlaid with a grid of 50m x 50m squares, with map co-ordinates at the corners of each square, (Courtesy of the LSC Livingstone Shire Council mapping section). We overlaid that map with the results of a GPS mapping exercise done by Barbara Tyson and Leise Childs, which defined the limits of the Catsclaw infestation.

We pegged' the areas of interest by using a GPS to locate the corners not a precise method, but practical in the dense undergrowth. The grid corners on the ground are marked with bamboo stakes, with pink tape ties, and pink streamers in overhead branches.

We started by checking section that had been treated in an earlier project (about 2 years ago).

Comments:

The regrowth emerged from nodes which were rooted, or, on older nodes, were attached to an enlargement of the root, which formed a woody tuber'.

It was no surprise that some vines had been missed, when we consider the mass of stems of variable size, and their ability to hide in bark fissures. Luckily, the leaves on above-ground cut stems die very quickly, and a follow-up after as little as one week (in summer) allows missed stems to be identified.

The stems of Catsclaw are very porous, and liquid herbicides (especially diesel-based) are absorbed instantly, and cause a visible colour change. The herbicidal gel used in the earlier project was more difficult to apply evenly under the awkward conditions existing in the Catsclaw-infested forest, giving rise to some partial stem kills.

The poor translocation of herbicide along the stems and rhizomes past the first node is a serious disadvantage. Cutting off the above-ground vines is a vital first step, as it reduces the load on the forest canopy (weight and shade), but that is only the start of the battle.

The ability of Catsclaw to thrive as a groundcover and the large number of sub-surface rhizomes and tubers' poses the greatest challenge.

Action

We worked through the previously treated areas, cutting every above-ground vine we could see, and applying 60:1 Diesel and Access (DA60) using either detergent bottles (to accurately dribble the DA60), or hand-held sprayers.

Re-treating these previously-treated areas (about 1.5 Ha) took about 8 man hours.

Trials of Different Treatments of Cut Stumps

1. Vigilant gel.

On the trees used as a sample, vine diameter varied from 3mm to 25mm. It was difficult to apply the gel evenly and reliably to all stem ends (especially the many small ones), with very messy results.

2. Diesel and Access (60:1).

Easier and more accurate to apply than gel; care needed to keep off tree trunk; penetrates very quickly into porous cut ends. Because there is no milky sap (e.g. like rubber vine), does not need to be applied as soon as the end is cut. (We did not experiment with different delays).

3. Diesel and Access (30:1).

This was used to compare results from different concentrations.

4. Kamba M (10% water added to improve liquidity)

This was used in order to try a water-based and readily available chemical.

Results:

When checked after a week, the leaves on the upper cut-off stems were black, and the different chemical stump treatments were equally effective, in that the shoots on the stumps were blackened in every case.

We did not trial the application of Glyphosate to the cut stumps, but ground-cover Catsclaw proved to be very sensitive to Glyphosate spray. It could be that neat Glyphosate may be effective as a cut stump treatment.

The more potent chemicals don't move past the first node anyway, so a less potent chemical may be just as effective.

In spite of all our care, we still missed cutting some vines on trees. This reinforces the need for regular follow-ups!

Trials of different chemicals on ground cover Catsclaw

1. Test area (T1/5) (about 10m²) near 8.1.07 test trees (WP 261003/7444023)
Ground cover consisted only of Catsclaw shoots (about 25/m²).

8.1.07 Sprayed lightly with DA60, to wet leaves with minimum run-off.
16.4.07 Original shoots dead with no regrowth.

1. Test areas T2/1 about 10m² each in Sector 77 (about 50% Catsclaw cover, and some other plants (e.g. Lomandra).

8.1.07 Sprayed lightly on with DA60, trying to avoid desirable plants.
16.4.07 Original shoots dead; no regrowth. Some damage to other plants.
8.1.07 T2/2 Sprayed lightly on with Kamba M (1/150) plus Chemwet (1/750),
trying to avoid desirable plants.
16.4.07 Original shoots dead; no regrowth, less damage to other plants.

2. Test area T3 an area of about 20m² around the base of a few large trees, in a moist hollow, with very deep mulch.
(WP 261021/7443988). About 60%

Catsclaw ground cover.

23.1.07 Sprayed lightly with DA60
16.4.07 Original shoots dead; some new growth emerging (mostly from heaps of mulch); about 1 per m².

3. Photographic site P2 (WP 260997/7444006) is an area of very heavy infestation, on trees and ground, totalling about 20m².

19.2.07 Half was sprayed heavily with DA60, and half with Glyphosate plus Chemwet.
16.4.07 Original ground-cover was dead (for both chemicals), with small regrowth shoots of 1 or 2 per m².

After reviewing the results up until 19.3.07, especially regarding the use of the various chemicals, we decided to do a larger-scale spraying using Glyphosate plus Chemwet.

The area we chose consisted of sectors 67, 68, 77, 78 and 87 (a total of about 1.25Ha). This gave us a representative mix of sparse previously treated infestation, sparse untreated infestation, and some of the densest infestation.

On 19.3.07, we sprayed all visible ground cover Catsclaw, at that stage, there was still considerable Lantana, which concealed many small shoots (Spraying took about 2½ hours, using 65m of hose on a low-volume (about 2 L/min) 12v powered spray unit).

At 16.4.07, a large proportion of the ground-cover shoots were dead; there was some new growth, and many live shoots under Lantana, which we had not reached with the spray.

NB. At this time we realised that we could not eradicate Catsclaw in areas covered by dense weeds in this case, Lantana. The following section describes what we regard as the optimum approach for killing Lantana in our situation.

Lantana Destruction

The area infested by Catsclaw is a prime forest, and our Catsclaw project is intended to maintain and encourage the regeneration of the natural bushland. This means that large scale slashing or foliar spraying will damage far too many desirable plants.

Most of the Lantana plants are relatively young (estimated to be less than 4 years old perhaps because of fire), and are not difficult to handle.

We decided to remove it by first slashing it with hand tools close to the roots, or, if the roots were shallow, in well-mulched soil, to manually pull out as much of the root as possible. A few trees were trimmed to allow access to the ground beneath.

We intend to return as soon as shoot regrowth has emerged, and spot spray with a suitable spray. The most cost-effective and efficient approach to regrowth is to treat it while it is young. This requires least total effort, and the best chance of success. It DOES require regular checking and immediate treatment the sort of attention you get from a person or small team encouraged to develop a proprietary interest.

The stems and leaves are being mashed' down to an evenly spread layer less than half a metre deep. When the leaves fall, we will be able to see and treat Catsclaw shoots through the open mulch cover.

Note:

In this environment, where we do not have to achieve a barbered park-like appearance, it is NOT desirable to remove Lantana debris. Removal is very expensive, in terms of time, transport, disposal costs, and disturbance to the local environment.

The debris forms a very desirable mulch, cut pieces of stem seldom take root in our dry climate, and the seed load is not high.

CONCLUSION

This report does not pretend to provide a solution to the Catsclaw problem, but we hope that it does reduce the feeling of hopelessness felt by caring people, when confronted with serious weed infestations.

Weeds are winning the war in the Capricorn coastal area (our area of immediate interest), as they are across Australia, and the answer is not just to throw money at the problem.

After 3½ months of spare-time work on Catsclaw, we do not have the answers to that problem, but we hope to be starting to show that less tolerant, regular, timely intervention can produce cost-effective results.

Cliff Bunn April 2007