

# Converting Lantana and Camphor Laurel Infestations to Endemic Forest

## Aim

The aim of this bush regeneration work is to convert simple habitats dominated by a single exotic plant species into biologically and structurally diverse forests.

## Theory

This methodology is based on replicating natural disturbances. In our regions forests naturally occurring disturbances can be something small, like a single tree falling, to cyclones that can flatten entire valleys. Land slips, fire and flood events are also causes of disturbance.

After a disturbance event, a new forest regenerates primarily from germination of the seed bank (seeds stored in the soil), root suckers and new seeds that arrive to the site. These events result in soil disturbance and extra sunlight reaching the soil. Sunlight, heat and water are the three key ingredients that seeds need to germinate. The better we can create these conditions, the better we are able to utilise the seed bank. When attempting to regenerate a forest, the seed bank is our biggest asset!

Soil disturbance can be achieved with the use of heavy machines, but tread carefully, it's a fine line between encouraging the flower to bloom and stirring up the hornets nest. The key ingredient most easily replicated is light.



*These 4 photos were taken from 2013 – 2015 on a Lantana site adjacent to a current Bush Connect Project in Huonbrook. The 4th photo was taken 2 years after the primary work. The site is north-west facing and extremely hot which resulted in exceptional growth rates. The Lantana infestation was 80 years old resulting in a well developed seed bank. At 4 years old, the site now consists of over 50 new species of trees and that number will continue to increase.*



## Primary Work

**Camphor** – To create a light gap, treat all Camphor Laurel, all large vines, all other woody weeds and all ground layer weeds. This is done using a variety of techniques including, injection, cut/paint, spraying and hand weeding. The more light created, the better germination of the seed bank and the faster the growth rates of seedlings.

This work can be done at any time throughout the year, however, best results are achieved in spring. The 3 main advantages to completing the primary work in spring are;

- It is the time of year when Camphors are most active and therefore respond to injection the best.
- Camphors renew all their leaves in spring, losing their old leaves and growing new ones. This creates an extra mulch layer of Camphor leaves which means there is a reduction in the amount of weeds germinating in summer.
- The site is best set up for an autumn germination when the soil is hot and moist and native tree germination is best.

**Lantana** – Treat the Lantana, all other woody weeds and any impacting vines. The most efficient techniques for treating Lantana have proven to be splatter and tractor slashing. Splatter is a technique which applies a stronger ratio of herbicide than traditional spraying, but only aims for a 10% foliage cover rather than 100% required when spraying. The advantages to the splatter technique are, there is no spray drift making it safer for the user and the environment, and its many times faster making it many times cheaper.

Lantana skeletons are then reduced to ground level by smashing them down. This allows access to the area for follow up weeding and to allow sunlight to reach the ground to encourage germination. Like the primary treatment of Camphors, timing is important as it can make the work easier and achieve better results. Manually splattering Lantana and reducing the skeletons to ground level is very physically demanding work and the timing should take this into account.

- Splatter Lantana in autumn when Lantana is healthiest and the heat of summer is over.
- Reduce the Lantana skeletons in spring before the heat of summer arrives and the Lantana has been dead for four or so months, making it brittle.
- Like in Camphors, the mulch layer created reduces the amount of weed germination throughout summer and sets the site up for good autumn germination of native tree species.

## Secondary Weed Control

Secondary weed control is undertaken regularly. Ideally, no weed should be allowed to reach a height more than 30cm. This will require more weed runs than you may think necessary.

Advantages to regular weeding are:

- Runs are easier and if spraying a milder rate of herbicide is required because the weeds are smaller.
- The competitive advantage of weeds is reduced maximising growth rates of desired species.
- Less off target kill of desired species.

The critical time for secondary weeding is between 6 – 18 months after the primary work has been completed. This is when germination of the seed bank (both native and exotic species) is most prevalent and the desired regenerating plants are the smallest, most vulnerable and need our care.

Camphor and Lantana seed is viable for two years in soil, therefore, once primary work has been done, secondary weeding should take place for a minimum of two years. After 2 years, the seed bank has been significantly depleted and native seedlings/saplings should be well established. However this work should continue until a native canopy has been formed which reduces light levels and therefore further germination and reduces the likelihood of weeds re-infesting the area.

## Results

Results from this type of work are influenced by the seed bank and the soil quality. In general, the older the Camphor or Lantana infestation, the longer the soil has had to recover from previous land use and the longer the seed bank has had to develop. Another factor influencing the results is a sites connectivity to large areas of good bush, ie. National Parks, Nature Reserves and other remnant forest. Being connected to large areas of good bush seems to create a more diverse seed bank and may aid in the re-introduction of appropriate fungus and bacteria.

So, the older the infestation and the better connected the site, the better the results.

When working on large, old and connected sites, we have the opportunity to choose what species and the abundance of those species we think will aid the success of the project into the future. The more latter phase species (longer living plants) and the more canopy species, the better chance the regenerating forest will have in becoming a self managing, self sustaining forest well into the future. This means short lived species (Bleeding hearts, Poison peach, wattles and Pencil cedars) may be thinned to allow for a greater diversity of pioneer species and/or to encourage the establishment of slower growing but longer lived latter phase species.



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