

# Environmental Management at the Copping Landfill Site Winter 2017

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## Background

Since 2010 environmental weeds at the Copping Landfill Site have been mapped and managed annually. Weeds identified and managed include Gorse, Spanish Heath, Pampas Grass, Serrated Tussock, African Boxthorn, Californian and Scotch Thistles as well as Horehound.

All environmental weed sites have been visited and managed annually. Populations have been increasing and decreasing with environmental conditions, such as high precipitation years, bushfire and drought. Management of the property is revised every year to adapt to changing conditions.

Apart from ongoing weed management, further environmental management has included erosion and run-off control as well as an ongoing revegetation program.

## 2017 Site Management

Following a wet winter of 2016, weed populations were reviewed in early autumn 2017. Spanish Heath has expanded noticeably over less than a year. Spanish Heath seeds are minute and may travel significant distances in surface run off

water. A new management strategy was developed to respond to the newly emerging populations.

Some areas around the landfill site have been subject to development, increasing the risk of spread and colonisation of Serrated Tussock. These areas were sown with Rye Corn for short term competition and planted with *Poa labillardierei* as a long term native competition in the autumn of 2017.



Rye Corn germination (left) for short term competition and *Poa labillardierei* (right) for long term competition for Serrated Tussock management on disturbed ground.

In 2017 all known environmental weed sites were visited and treated accordingly. Further, weed management has been taken into newly discovered populations and the range of weeds included in management extended.

The property has changed significantly due to recent climatic events, natural revegetation as well as site management and associated disturbances.

The bushfire of 2013 has severely impacted the landscape of the Copping landfill site. Access to some weed sites that have been managed for several years, has become very difficult with numerous fallen trees across tracks. Extensive establishment of native vegetation on former tracks and bushfire trails has further limited the access to entire areas of the property. Hence some management is carried out now by foot, changing management techniques and on site safety management.

## Environmental Weeds managed in 2017

### Gorse

A substantial amount of Gorse seedlings as well as regrowth, has been treated in the past years. As most years, new outlier plants were spotted and treated, some invading from neighbouring properties. The majority of Gorse populations is scattered throughout the paddocks south and south-east of the landfill site, however three small new populations were found on and in the vicinity of the North-Western boundary track.

Following the 2016 primary control of a Gorse along Blue Hills Road, considerable follow up work was conducted in 2017. The 2016 control showed high success rates, however the gorse population was well established requiring some further management.



Gorse management along Blue Hills Road

### Spanish Heath

The Spanish Heath population in and around the old quarry south east from the landfill site has been treated in winter and spring 2016, leaving very few seedling to be followed up on in the winter of 2017. Rehabilitation to a healthy, weed free ecosystem is well on the way. Spanish Heath seeds have a viability of about 15 years leaving a seed bank slowly decreasing over future years.

Several Spanish Heath populations and individual plants had been treated along Blue Hills Road in the past which the winter treatment picked up from. Ongoing management will be necessary.



Spanish Heath management along Blue Hills Road

In the past two years the Spanish Heath population in the 'back paddock', south from the landfill site, had increased notably in size and numbers. The back paddock had been treated twice in 2016, both in winter and spring, showing a positive result of low numbers in winter 2017. The population will be treated again in spring 2017.

#### Pampas

No Pampas grass plants were found around the old population in the 'back paddock', south from the landfill site.

#### Serrated Tussock



Main Serrated Tussock site after the bushfire. February 2013

A large and dense Serrated Tussock population stretching over approximately two hectares had been a prime environmental concern initiating a trial to determine best management techniques. Success rates of different herbicides were investigated, as well as different competition plantings. Trial results showed that the use of the selective herbicide Flupropanate will provide best long term outcome. Further, the trial found that competition plantings were necessary for long term success rates. Optimum competitors were found to be annual grasses, such as Rye Corn for short term results and native grasses, trees and shrubs for long term competition.

Germination of Serrated Tussock varies across the site with some areas showing higher germination rates than other areas. Overall germination in the last 12 months has been limited resulting in spot application of Flupropanate.



Serrated Tussock seedling

A range of native trees and shrubs (*Acacia dealbata*, *Acacia verticillata*, *Eucalyptus viminalis*, *Eucalyptus pulchella* and *Allocasuarina verticillata*) as well as native grasses (*Poa labillardieri* and *Poa rodwayi*) were planted across the site to provide long term competition to germinating serrated tussock seedlings.



2017 planting

Survival rates of planted trees and shrubs of previous years have always been high, despite the harsh conditions of the site. However, in the past twelve months high winds in combination with browsing animals have leading to damaged guards, resulting in browsing. Some plants have been highly impacted and further maintenance to save established plants will be necessary when spring works will be carried out.



Heavily browsed revegetation plant



Wind damage to tree guard

## *Pinus radiata*

During a survey in early 2017, a rapid invasion of the neighbouring *Pinus radiata* plantation into native bushland at the Copping tip was noted. The numbers are extensive along an extensive stretch of land. Saplings were treated in the winter of 2017 with more follow up necessary in future years.

## **Future Management Recommendations**

### **Spring / Summer 2017 / 18**

Over the past years environmental management at the Copping tip has been constantly adapted to suit environmental and seasonal conditions as well as observations and management changes to meet best practice management.

A holistic approach to land management, combining herbicide use, mechanical removal of weed species, establishing native vegetation and cover crops (such as rye corn) has proven to be successful.

In the late spring to early summer 2017 Californian Thistle control will be carried out, as well as follow up on past management. Bi-annual control has proven to lead to higher success rates leading to a lower work load in winter, enabling focus on new populations such as the *Pinus radiata*. Some maintenance work on the planting site will be carried out, such as replacing guards and stakes where necessary.

In the winter of 2018, ongoing follow up work of known weed populations is recommended, in combination with continuous planting of native grasses, shrubs and trees.