

LORD of the WEEDS

Environmental Case Study

By

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1.0 Location of Area



Fig 1: Our school's "green buffer" and the "green belt" connecting the bush area.¹

The area we chose to investigate was the "green buffer" at the bottom of our school's oval. This area was planted c.10 years ago. The area has not been developed or investigated since.

1.1 Importance Of Area

This area provides a "green buffer" between our school and the golf course. Also acts as a "green belt" connecting bush surrounding the area (fig 1). The buffer also acts as a windbreak, blocking dust during the cane crushing season.

1.2 Environmental Significance

This area provides habitat for various flora and fauna. Native trees and shrubs act as a "green belt" connecting the nearby lagoon and bush surrounding the golf course and football fields (see fig 1).

1.3 Purpose of Area

Over 10 years ago, this area was a project of our school's student council. Since then, the area has been effectively used as a wind and

dust break. We, as a year 10 geography class, intend to transform the area into a “bush tucker” walk, after researching and talking to local experts.

¹
<http://www.whereis.com, Maps>

2.0 Identifying Weeds

A weed is any plant that is considered a pest in the area that it resides. Weeds in our green belt in our school include:



Common name: Snake weed²

Scientific name: Verbenaceous

Info: Not a declared plant in Queensland, yet still a pest in some areas, such as ours. Most of our area is covered by this weed



Common name: Siratro³

Scientific name: *Macroptilium atropurpureum*³

Info: Often used a grazing plant, this weed is commonly seen around roadsides, bordering forests and in lightly wooded areas. This weed is widespread throughout our area. This plant is not declared, but spreads easily if not controlled.



Common name: Pentas⁴

Scientific name: *Lanceolata*

Info: Found in throughout Australia, this pest is commonly used as a garden ornamental. In our case, this plant has taken over large portions of our area, so we described it as a weed.



Common Name: Stinking Passion Flower⁵

Scientific Name: *Passiflora foetida*

Info: Stinking passion flower is not a declared plant of Queensland, but is smothering many small native shrubs in our green belt.



Common Name: Guinea Grass

Scientific Name: *Panicum maximum*

Info: Commonly found in most coastal areas, this grass can easily become overwhelming to the ecosystem. Our area had large clumps of the pest scattered all around the place.

² <http://www.geocities.com/TheTropics/Island/2388/pbm2.jpg> ³ http://members.iinet.net.au/~weeds/western_weeds/plant_images_a-

[m/macropitium_atropurea.jpg](http://www.geocities.com/TheTropics/Island/2388/pbm2.jpg) ⁴ http://magnoliagardensnursery.com/productdescrip/Pentas_GraffitiPink.html

⁵ http://www.nrw.qld.gov.au/pests/weeds/non_declared_plants/stinking_passionflower.html

4.0 Possible Control Strategies

There are many ways to control weeds and weed spreading, but in an environmentally-conscious area we have to be careful about how we go about it. Herbicides and other poisons may be good at getting rid of the pests, but they may harm the delicate natives planted in the area. However, hand weeding is not always the most effective measure. A combination of carefully selected herbicides and hand weeding would ensure a full and effective eradication of the weeds in our area. Burning would not be an option in a school environment.

4.1 Some examples of realistic control substances and strategies

Control Element	Effective Against
Herbicide - glyphosate	Pentas, Guinea Grass, Stinking Passion Flower,
Herbicide - triclopyr	Siratro, Stinking Passion Flower
Herbicide - picloram	Siratro, Stinking Passion Flower
Herbicide - 2,4-D amine	Snakeweed
Hand Weeding	Guinea Grass, Snakeweed, Pentas
Burning	Guinea Grass, Snakeweed, Siratro, Stinking Passion Flower

Taking into account the fact that we want to limit the amounts of herbicide used, I merged the three easiest to eradicate (according to the amounts of the weed found at our site) to be weeded by hand, with the two hardest to kill, siratro and stinking passion flower, being killed by herbicides. Both herbicides, picloram and triclopyr kill siratro and stinking passion flower, but after researching into the toxicity of these herbicides, I decided to use picloram due to its less toxic (to native plants and animals) nature.

4.2 IWM

Integrated Weed Management would be the most effective way of eradicating these weeds. Integrated Weed Management (IWM) is when we implement more than one strategy to rid an area of weeds. In an area like this, where several different weeds with different resistances are closely intertwined, we would need to implement IWM to ensure the proper eradication of these weeds.

4.3 Eradication Plan

Considering the above, we came up with this eradication schedule:

Week 1	Week 2	Week 3	Week 4	Week 5
Large portions of Guinea Grass, Snakeweed and Pentas Removed, along with larger groups of Snakeweed	Weed spraying - Siratro, Stinking Passion Flower main targets. Larger groups of Guinea Grass sprayed to help removal later.	Removal of dead weeds, Second course of herbicide spraying.	Removal of dead weeds, more Guinea Grass, Snakeweed and Pentas Removed by hand. Remaining weeds sprayed with picloram	Dead weeds removed, starting to clean up other aspects of the area (dead leaves, branch trimming etc...). Preparations for projects on area begin.

This table allowed for two two hour sessions a week. This plan offers a safe, practical way of tackling the weed problem at the bottom of our oval.

5.0 Merits and Benefits resulting from the weed eradication

This area, once cleaned up, will be used as a native bushwalk for the students of Ayr State High School. Future year 10 geography classes will use the area for study, with whole units planned around the plants in that area. This will ensure the area's long lasting reputation as an environmental role model for our school.

The Aboriginal and Torres Straight director of our school intends on contributing to the area with a "bushtucker" section to educate students about the different foods found in their own backyards.