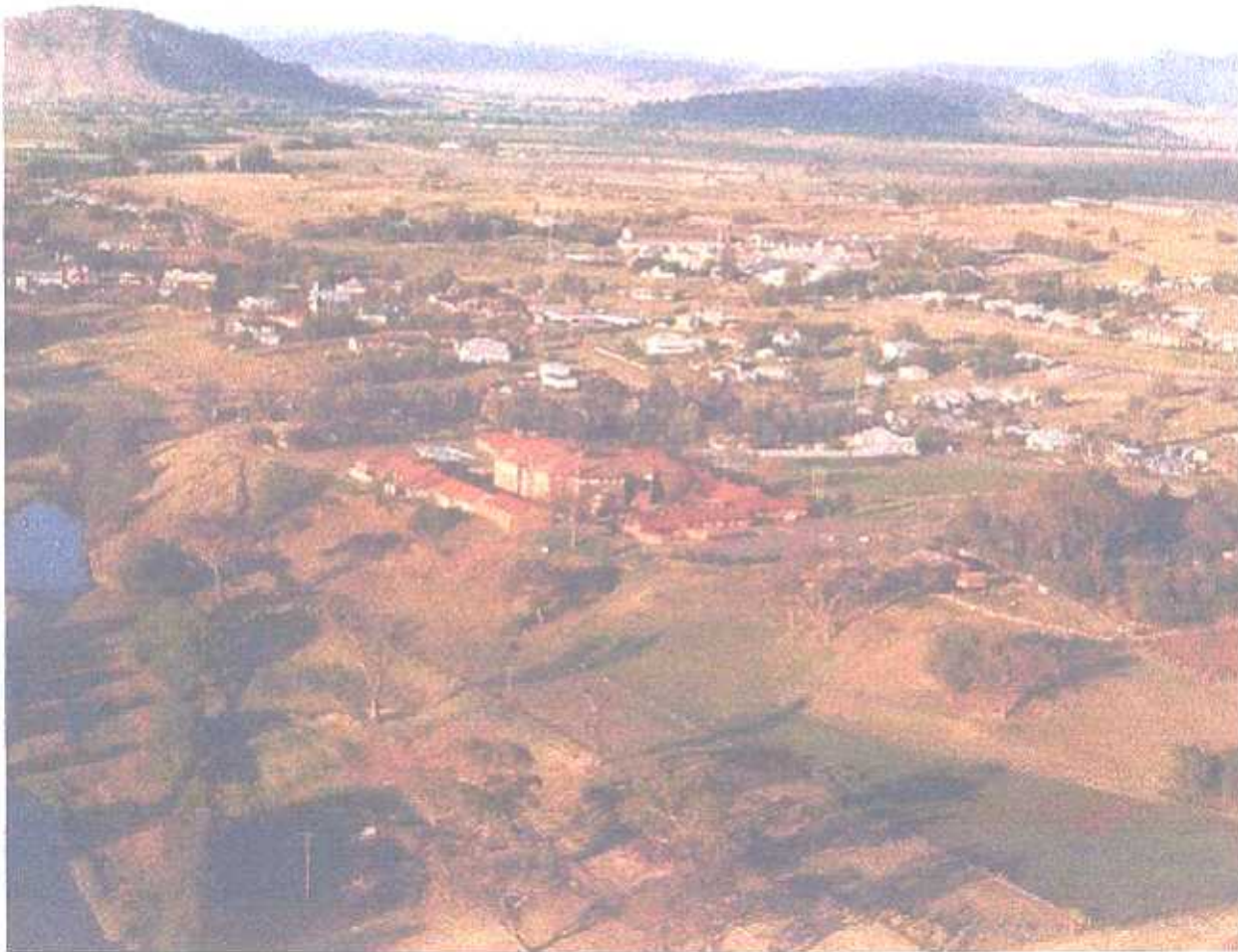


### *Study of the Weeds in a certain Area*

The area in which is being examined is the banks and surrounding area of the Hunter River. It is located behind St Josephs High School in Aberdeen which is situated in the Hunter Valley of New South Wales.



### Physical description of the area.

The area in which it is located is not used for any specific purpose; it may sometimes be used as a walking track for walkers and for looking over the picturesque Hunter River and its surrounding farm land.

This area could be used differently if the weeds were removed. The area is around a  $\frac{1}{4}$  of an acre. It is all covered in many different weeds, trees and some shrubbery and the odd native grass.

It would be possible to use the area differently, it would have to be a gradual process, by this meaning that if all the weeds were removed at once as if they were all removed the banks would disappear and cave in. as it is the weeds which are holding the banks together.

Over the gradual period of time the weeds could be replaced by native vegetation, this would be the most practical thing to do as it is on a slope. It would not be practical to plant say a crop or pasture on the hill as it is used as a walking track and a way down to the river.

It could be used as a way of attracting more native animals to the area i.e. birds and also attracting more people to the area to view this new and wonderful site.

As it is, the area is quite unique and individual. The weeds which are on the slope and top of the bank act like a barricade to the river, meaning not stopping people from getting their but things such as the chemicals and other things as such from reaching the water of the river.

The area is very important both to the school above and also to the local community.

The weeds have become a major problem because they not been properly controlled or attempted to be controlled.

This however, is not the only reason as during floods weeds would have been washed down stream and may have been caught along the bank where they have once again germinated.

Also biological factors such as wind dispersal meaning seeds have been blown from the weeds and they have then spread to other areas and germinated. Also animals, machinery, peoples clothing and tyres which they stick to and then are moved to another location.

With the soil being a loam it would have been easy for the seeds to germinate and then spread.

This area has little economic significance. The land at the bottom of the slope and on the banks is council land. It is also an open space for the people of Aberdeen.

The area is important to us because it is apart of our community both local and school, it is apart of who we are as we have grown up along it and with it.

## Weed Identification- Tiger Pear- *Opuntia aurantiaca*

*Opuntia aurantiaca* or Tiger Pear as it is commonly named is a form of cactus. It is not a native to Australia as Australia has no native cacti.

Tiger Pear is a spreading or climbing cactus: to around 50 to 100 cm high. Fruit is grown on Tiger Pear which is egg shaped. It is 2.5-3.5 cm long and is red and purple when ripe.



Tiger Pear is a Noxious Weed in NSW. This means that the weed "has detrimental effect or cause serious economic loss to agriculture and the environment".

It is not toxic or poisonous plant. The environmental impact on the natural environment is that it is easily spread over an area and can

invade crops and pastures if not properly controlled. This leads to the problems which are associated with this weed. It is easily spread which infects more areas and adds to the already growing problem, this also adds to the competition of space for it to grow, with the other surrounding plants or vegetation.

Tiger Pear establishes themselves in a natural or agricultural environment through the spines on its body. They snap off and are carried via animals, machinery, tyres and clothing they then drop off this is a problem as they can establish themselves wherever the spines fall/land. They can also be established through means of the floods as the plant is carried down stream and establishes themselves on the banks.



### Control:

There are many strategies which can be used in order to control Tiger Pear - *Opuntia aurantiaca*. An integrated weed management could be used in order to control Tiger Pear.

The herbicide in which Tiger Pear can be controlled by using is called Garlon. The biological control of removing Tiger Pear is through using an infected Tiger Pear meaning that it has been infected with the Cochineal insect- *Dactylopius*



*Austrinus* and placing it under the healthy Tiger Pear plant in order to remove it. Another way of removing the Tiger Pear is by manually removing it along with the bulb which is planted deep within the soil.

After having said this it is important to make sure that this type of management practices suit the type of ecology of the Tiger Pear and the environment surrounding it.

↑ Is a cochineal infested Tiger Pear

## Weed Identification- Onion Weed- *Asphodelus Fistulosus*

*Asphodelus Fistulosus* or Onion weed as it is commonly named is a form of succulent, which is straight and perennial plant which can grow to around 30 cm high and can reach up to 75 cm high. The stems of an onion weed are rigid and hollow which has a silvery white onion-like skin at the base without the smell. It as slender leaf, it has pink flowers with a brown stripe down the centre of each petal.



It also produces seed pods which are almost "globular capsule, wrinkled".

Onion Weed- *Asphodelus Fistulosus* is a declared noxious weed. It is a noxious weed as it has detrimental effects on Agriculture production and this can cause serious economic loss.

Onion weed has no poisonous effects on people or livestock. The impacts which it has on the environment and agricultural production is that invades pastures and crops where it "significantly reduces production".

Other problems which are associated with onion weed is that it is very drought resistant and is a "profolic seeder", it is also unpalatable to livestock. the onion weed spreads itself through seed dispersal. Its seeds are carried by the wind and are relocated and can then germinate wherever they land.

### Control:

Onion weed can be controlled through both usage of chemicals and through other means.

Infestations can be hand pulled or grubbed before seeding; with flowering plants they should be burnt. They can also be controlled by cultivations or through the use of chemicals.



## Strategies for controlling weeds

In order to help and start to remove the weeds a strategy is needed. Within the area in which the weeds are going to be controlled choose a smaller section along the bank or on the slope. You have to start by doing this as you cannot control the whole weeds problem at once due to the fact that if all the weeds were removed the bank would collapse as it is the weeds roots which is holding it together.

To start off chose the small area in which you are going to eliminate the weeds in first. The weed in which you remove first is the onion weed. Using the technique of grubbing; this means pulling it out with your hands, as there is only a small amount in the whole area.

After having done this the next weeds in which you can eliminate is Fennel and Hedge Mustard you can do these at the same time as they both require and use the same herbicide which is "MCPA". These two can be sprayed at the same time. After spraying these and waiting the gestation period for them to die they now can be removed from the area.

The last weed in which you would remove is the Tiger Pear. You have to get infected Tiger Pear (it is infected with Cochineal insect). Place this under the all the Tiger Pear bushes in the smaller area. After having done this they too must removed from the area and when you do this make sure none is left behind.

After the small selected area is clean and weed free you should know plant native vegetation such as trees, shrubs, or grasses so as they can establish themselves into the ground.

The strategy above shows how weeds in a small area of the selected area can be controlled without doing damage to the banks and slope of the river and hill. Once some of the weeds have been removed the planting of native vegetation can take place. You can only take a small section of weeds out of the area at a time, as this is a gradual process, it will take time but you have to establish roots to replace the weeds as it was their (the weeds) roots that is holding the bank and slope together.

The methods in which are above in order to eliminate the selected have been chosen as they are the best methods of control for the selected weeds in that area, over a period of time.

## *Merits of Weed Management Strategy*

The strategy will help improve the area being studied as it will gradually remove the weeds which will enable more native vegetation to be planted. Native vegetation is very attractive which will make the area more beautiful, whilst adding to the biodiversity. Although the area is already used as a walking track it will be more accessible and easy to walk along. As the strategy is a gradual process the people who are apart of the community both local and school will be able to see how this area is changing and growing.

The strategy will only be long lasting if it is forgotten about and not used as the way it has been designed. Even though it is a gradual process it will be easy to continue the management process after the removal as started.

With everything there is some type of problems, a predicable problem which may be associated with this strategy may be that they small areas are done before the native's have had time to establish themselves and also the chemicals may be sprayed and they may run into the river below. These are the only real predictable problems that can be suggested.

Even with these problems this strategy for gradually removing the weeds will be very beneficial for the surrounding environment and for the banks of the river and for the hill.

Once the strategy has been started the beauty of the area will truly be shown as t will have the native's instead of weeds, it will also provide a clearer and weed free walking track for those who are viewing the beauty of this site. Once some of the natives have been planted and stated to grow it will hopefully encourage and attract native animals to join the area and reap the benefits in which it has to offer.



## Additional Information

### Glossary:

Noxious- "has detrimental effect or cause serious economic loss to agriculture or the environment".

Unpalatable- is not eaten by animals due to taste and smell.

Gestation Period- is the time waiten before something else happens or is done to an area or something.

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Websites were accessed on the 7<sup>th</sup> 11<sup>th</sup> 2005 and on the 11<sup>th</sup> 11<sup>th</sup> 2005.

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