

Our Precious Environment- Unique Opportunities

Weeding Program 2006



By Kate Waller
Year 9 2006
Tintern Girls Grammar School

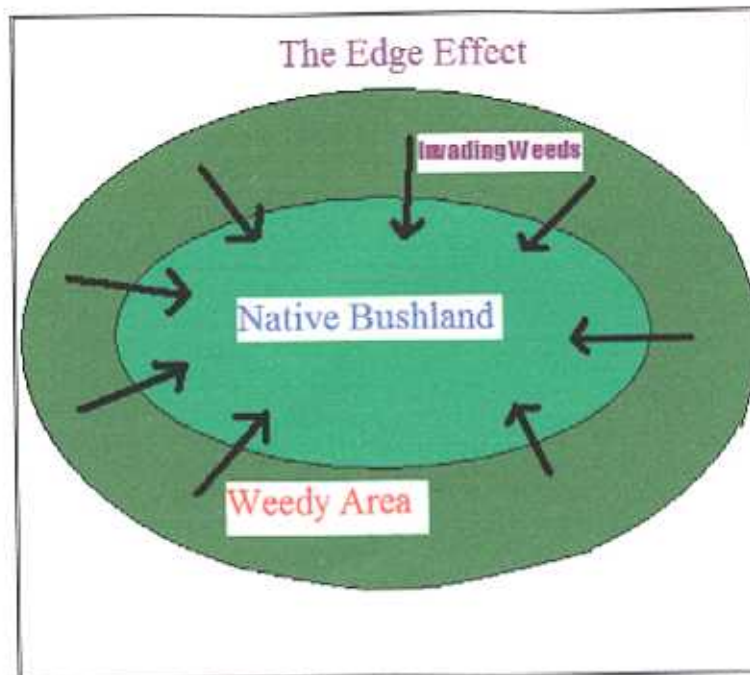
Introduction:

Tintern's remnant bushland is a unique and incredible example of south-eastern Victoria's native vegetation in a suburban environment. Not many school children have the opportunity to experience a slice of native bushland within the school grounds, which is why it must be protected and maintained. I feel very lucky to be able to have contact with this habitat every day of my school life. It has been saved from human settlement and clearing. Thankfully, it is a registered 'Land for Wildlife' with the Maroondah Council and will remain a window into native Australian bush for many years to come. This 3-acre sanctuary is not as accurate a representation of original Australian vegetation as it could be, as nearby housing has caused several introduced species to migrate into the precinct. In semester one 2005, 'Friends of the Bushland' - a group of dedicated students, parents and teachers - was formed. They meet regularly to try and control this problem and restore the remnant bushland to its former glory. They target specific areas and eradicate weeds whilst planting new native plants. The areas that have been worked on are showing an increased rate of new native growth and a decrease in weed habitation. In a very recent report compiled by Marty White of Greening Australia, the state of our bushland was evaluated. The lower section of our bushland, a dry woodland EVC, is largely intact and only maintenance is required. The higher section, which is exposed to residential housing, needs work on weed extraction and discouragement.

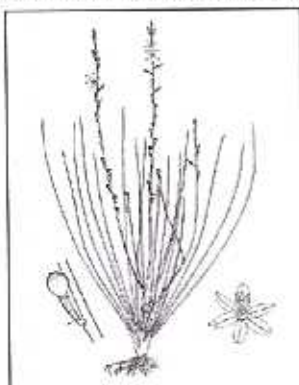
Many species of rare orchids grow in this area, such as the Sun Orchid, *Thelymitra sp.*, (which is considered 'of concern' in the Yarra Ranges), the Spider orchid, *Dendrobium tetragomum*, and Nodding Greenhood, *Pterostylis nutans*, as well as wild flowers such as the Chocolate Lilly, *Arthropodium strictum*. These have an increased chance of thriving on account of the Friends of the Bushland's diligent efforts.

The Weeds:

Onion Weed, *Allium Triquetrum*, Sallow wattle, *Acacia Longifolia*, Cotoneaster, *Cotoneaster Glaucophyllus*, and Sweet Pittosporum, *Pittosporum Undulation*, are the major weeds that are being targeted in the weeding program. Around the fringes of the bushland where vegetation is adjacent to dense housing, Japanese Honeysuckle, *Lonicera japonica*, and English Ivy, *Hederahelix*, are apparent. They have not invaded the centre of our bushland due to the 'edge effect', where invading weeds come from the edges of an area and take time to reach the centre.



Onion Weed, *Allium Triquetrum*, is a bulbous perennial herb reaching 18-40cm. It is a major issue because it can completely smother and replace indigenous ground plants. It is very hardy as it tolerates most conditions, including damp areas, semi-shade and wind. This makes Tintern's bushland an ideal habitat for this weed. It originated in the Western Mediterranean and was used in Australia ornamentally and as a culinary herb. The people who brought it into Australia probably had no idea of its future affects, as is mostly the case. The bulbs die out in summer and remain dormant until autumn, producing drooping white flowers emitting an onion-like odour. It spreads easily as ants are attracted to the plant and become carriers of the seed, and there are many ants at Tintern! Although mature bulbs only last a year, 'daughter' bulbs spread by water or erosion. The density of onion weed colonies eradicates other plants and therefore increases chances of erosion. This sends the habitat into a downward spiral. The areas left regrettably unplanted after the removal of Radiata Pine trees during the holidays have proved an excellent habitat for onion weed. It is also appearing in areas next to the road, as disturbance on the road's edge and extra runoff increases ease of weed invasion.



Botanical Sketch of Onion Weed



Photograph of Tintern Onion Weed

Sallow Wattle, *Acacia Longifolia*, is an indigenous woody shrub that originated in Sydney. It is an issue because it spreads with ease, smothering other plants around it with its leaf litter. Pine trees produce a similar smothering effect. Pollinators are attracted by the vivid yellow wattle and spread the multitude of seeds produced each season. These seeds, unlike onion weed, can remain dormant in the ground for a long period of time ready to be revived by fire. This makes controlled burning in the area not an ideal option.



Botanical Sketch of Sallow Wattle



Photograph of Tintern Sallow Wattle

Cotoneaster, *Cotoneaster Glaucophyllus*, was originally a Chinese plant brought over to Australia for ornamental purposes. It is also known as 'bright bead cotoneaster' and 'grey-leaved cotoneaster'. It is a toxic plant, as its bright red berries can cause gastroenteritis and some degree of poisoning to humans if eaten. These berries are incredibly attractive to the many rosellas, cockatoos and possums at Tintern. These animals eat the berries and distribute the seeds elsewhere, starting new plants. The berries are sometimes accurately referred to as 'Bird lollies'.



Botanical Sketch of Cotoneaster



Photograph of Tintern Cotoneaster

Sweet Pittosporum, *Pittosporum Undulation*, is a hardy woody shrub that is able to colonise a multitude of different environments. It has been found that this weed has contributed to alterations in bird and lizard populations. It has been made a pest by use of enthusiastic gardeners as hedges, ornaments, windbreaks and firewood. The introduction of the European blackbird and suppression of bushfires have also aided its spread. Despite it being a native plant, its high seed production, rapid dispersal and fast growth have made it an effective weed. Birds and possums are attracted to its bright orange berries and once eaten, distribute the seeds over a huge area. These seeds can grow under large canopies as they have a higher drought tolerance in shade. Once the tree is grown the fallen leaves release toxins that discourage understorey growth. If left unmanaged this plant has the ability to overrun our intact areas of bushland.



Botanical Sketch of Sweet Pittosporum



Photograph of Tintern Sweet Pittosporum



*Area left bare after removal of Sweet Pittosporum.
Leaves release toxins discouraging other growth.*

Japanese Honeysuckle, *Lonicera japonica*, is known as a toxic weed because its berries are very poisonous and its leaves may be toxic. It has the ability to smother trees and shrubs restricting sap growth as well as form dense mats along the ground, making this a very bad plant for native areas. It originated in Eastern Asia and was brought to Australia and used, like Pittosporum, for ornamental purposes. It has 'jumped over the garden fence' of surrounding houses of Tintern's bushland and is therefore only apparent around the fringes.



Lonicera japonica

Botanical Sketch of Japanese Honeysuckle



Photograph of Tintern Japanese Honeysuckle

English Ivy, *Hederahelix*, originated in Europe, as its common name suggests, and was brought to Australia for ornamental and medicinal use (it was once believed to be a cure for the plague!). All parts are poisonous if eaten and some people develop dermatitis from contact. It can grow to over 30 metres, completely smothering trees and understorey vegetation, which discourages regeneration. It is a hard weed to eradicate as the stems reshoot if cut and it can survive for long periods of time without its roots being connected to the ground. Insects and birds spread seeds and stem sections which can then turn into new plants.



Botanical Sketch of English Ivy



Photograph of Tintern English Ivy

Our Management Strategy:

- ✘ 90% of the total weeding program is the removal of bad species, while 10% is planting. This allows the bushland to also regenerate itself naturally. Planting occurs when the area is too large to regenerate itself naturally. Below is an area surrounding a lopped Radiata Pine before and after planting. A total of 200 plants were planted by the junior students on the 28th July – just in time for National Tree Day!



Before planting – weeds in area



After planting - 200 plants

- ✘ We have recently had Daniel Flaim from Candlebark Indigenous Nursery come to assess our bushland and recommend suitable plants. We bought 200 plants on his recommendation and planted them in the area above.
- ✘ Using Roundup in restricted areas, so as to reduce risks to other native plants, is controlling onion weed. Due to chemical restrictions on students, the Maintenance Staff undertake this task. A more suitable and less invasive method of control is being reviewed for the future.
- ✘ Sallow Wattle weed control does not require the use of Roundup, so the problem plants are taken out or cut down by hand. The Friends of the Bushland and students pull out the smaller plants and the Maintenance Staff cut down the larger ones. Once the plant is cut down, the remaining stump will not sucker. Follow up work must be done to completely eradicate this weed as the seeds last for a long time in the soil. Some of the larger weeds, such as mature Sweet Pittosporum and Sallow Wattle, have to be removed by a professional and these plants have been marked by the Sustainable Futures class with pink tape.



Pink tape marking the trees for professional removal

- ✘ Small Cotoneaster plants are removed carefully by hand (making sure that the whole root system is removed because otherwise there is potential for the plants to regrow and sucker) by the Friends of the Bushland and Sustainable Futures class. The larger plants are dealt with by the methods of frilling and cutting. Maintenance Staff do this as these methods involve the use of chemicals. To frill a plant, one cuts diagonal slices around the base of the trunk and applies neat roundup to these cuts. Cutting is used more commonly with medium shrubs; it involves cutting right through the base of the plant and applying Roundup. This is a very effective means of removing weeds, even though the plants take two months to die, because there is no danger of suckering.
- ✘ Sweet Pittosporum is also dealt with by the frilling and cutting method although any chemicals applied to the cut must be done so within ten seconds, as the plant produces a protective covering over the cut. Chemicals cannot penetrate this covering over the Xylem. Controlled burning can be used in more remote landscapes to eradicate this weed. However with our bushland being in such close proximity to housing this is not a viable option. The fire would also encourage other weeds whose seeds are germinated by fire, such as Sallow Wattle.
- ✘ Japanese Honeysuckle and English Ivy stems fragment and regrow easily. Because of this, the process of removing them is somewhat harder than the aforementioned methods. The small specimens are usually carefully hand weeded but larger specimens are removed by the cut and paint method.

Benefits of Our Strategy:

The strategy that we employ to eradicate weeds in our bushland is the most appropriate for us. By hand weeding small plants carefully, minimal disturbance is made to the surrounding vegetation. Another way we decrease disturbance is by working on one manageable area at a time. This makes the area completely clear of weeds so that it can regenerate itself freely. It also means the bushland only has to adjust to small changes at a time.

We only use pesticides when it is absolutely necessary, and when we do it is done in a very controlled manner over a small area. This means that no positive vegetation is affected. The Maintenance Staff handle all chemicals due to restrictions on students. One aspect of our strategy is that we react quickly and effectively. A passion fruit vine had migrated from a neighbouring house and was removed as soon as it was found. We have not had a problem with it since. This is just one example of how effective our strategy is.

It is preferable to take the more time consuming option if it means that it will do less damage to the surrounding vegetation. For this reason we do a lot of hand weeding as opposed to pesticide usage. Weeding is also a very 'hands on' activity, which gives the younger students a chance to be involved in bushland care and see their plants grow. It increases interest and enthusiasm among the students if they have played a part in restoring the bushland that they walk through every day.

The Future:

Friends of the Bushland working bees will be regularly held in years to come. Below is an example of a hard day's work – saving the bushland and returning it to its former glory. There are plans for our Maintenance Staff to undergo training in bush management so that it can be even better looked after. Plans have been made to professionally remove the last few pine trees around the fringes of Tintern's remnant bush. There are plans to divert storm water from the area.



Weeds collected by the Friends of the Bushland in one afternoon

In removing weeds and planting native plants applicable to this area, rare species of orchid have a chance to thrive. Orchids such as the Nodding Greenhood and Spider Orchid, which have been found in the bushland, can increase in numbers when they exist in a protected environment such as this. Weeding the bushland is not only beneficial to native and rare plants, but it also helps the many native animals taking refuge in this area. This area has vastly improved since the first efforts were made to restore it, and it will keep on improving because of the efforts of both staff and students



Botanical Sketch of Nodding Greenhood Orchid



Photograph of Tintern Nodding Greenhood Orchid

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