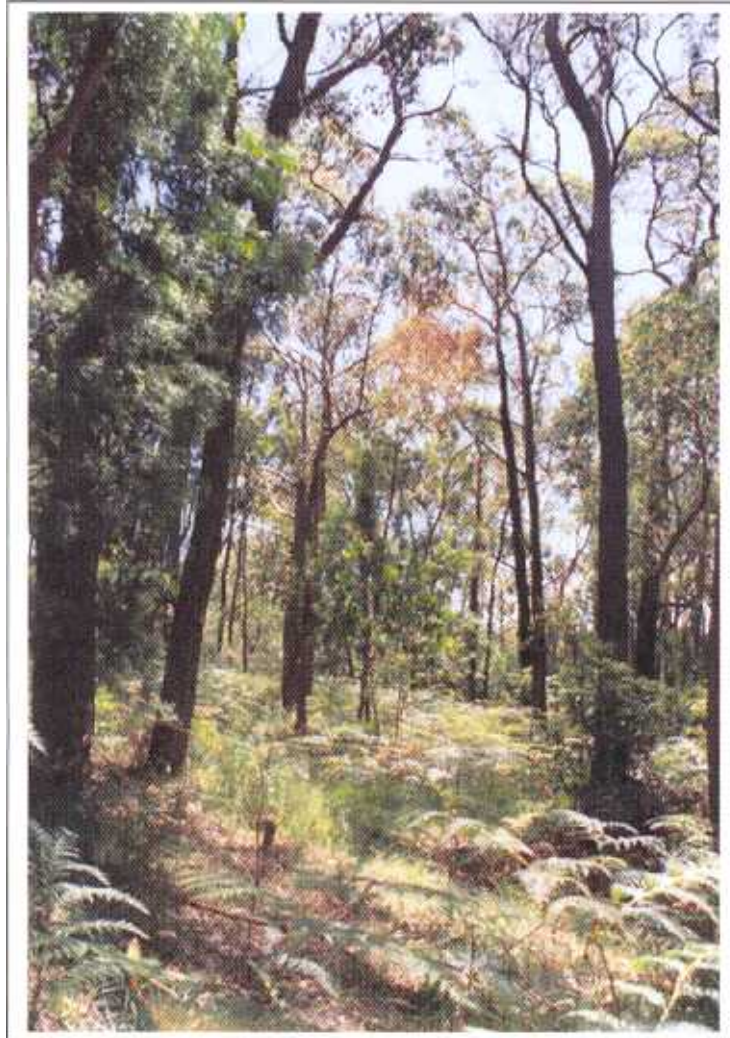


WEED REPORT

Tintern's Remnant Bushland



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Year 11 2005

Tintern Girls Grammar School

INTRODUCTION

My school, Tintern G.G.S, has a significant remnant bushland, which is listed with the Maroondah Council. The bushland is approximately 3 acres in size. It has considerable local significance, as it hosts several species of rarer orchids including the Sun Orchid, *Thelymitra sp.*, and other wild flowers like the Chocolate Lilly, *Arthropodium strictum*. With this knowledge in mind in Semester one of 2004 my Year 9/10 Sustainable Elective class decided to look at ways to improve some of the weed infested areas in this bushland.

Since then several species of weed have been targeted and in Term 1 of 2005 the Friends of the Bushland group was formed. The Friends of the Bushland is a group of students, staff and parents interested in helping preserve our bushland. The Friends of the Bushland meet on designated weekends and work in the bushland targeting weeds and planting native species. Already the areas targeted by the Friends of the Bushland have seen a significant increase in the numbers of native seedlings growing and a reduction in the number of weed seedlings appearing.

THE WEEDS:

As Tintern's remnant bushland backs onto suburban gardens it is threatened by weeds which are "jumping the garden fence"¹ This particular method of weed spreading was highlighted in *The Age* 27/7/05, 'the 10 new weeds found in Australia each year are "jumping the garden fence".'² The major environmental weeds that are being targeted at Tintern are Sallow Wattle, *Acacia Longifolia*, Sweet Pittosporum, *Pittosporum Undulation*, and Cotoneaster, *Cotoneaster Glaucophyllus*. Boundary areas of the bushland are also infected with the vicious climbers English Ivy, *Hederahelix* and Japanese Honeysuckle, *Lonicera japonica*.

Sallow Wattle was first introduced to Melbourne from Sydney. It spreads easily as its leaf litter smothers plants growing around it and the bright yellow of the wattle attracts many pollinators and therefore plenty of seeds are produced each season. Sallow Wattle seeds can also lie dormant in soil for a long time, until the seeds are stimulated by fire making it hard to eradicate totally. Sallow Wattle fits the description of an ideal weed as described in Buchanan's book *Bush Regeneration*³

Like Sallow Wattle, Sweet Pittosporum is an indigenous plant. Sweet Pittosporum leaves release toxins that once fallen, discourage understorey growth. Their bright orange coloured berries make them an attractive food source for birds and possums who then distribute the seeds over a large area. If left improperly managed both these weeds have the potential to overrun the substantially intact remnant bushland that remains.

Another problem weed in our area is Cotoneaster. Like Sweet Pittosporum berries, Cotoneaster berries are an attractive food source for birds and possums. This results in a spreading of seeds over a large area. Cotoneaster is not native to Australia. It was introduced from China as a decorative plant for ornamental use.

¹ Marino, Melissa 2005, 'Experts urge Australia to put its pest foot forward', *The Age*, 27 July, p. 5.

² Marino, Melissa 2005, as above

³ Buchanan, R.A, *Bush Regeneration*, Student learning publication, 1989, p. 62

English Ivy has been in Australia since it was first introduced from Europe with the Early Settlers. English Ivy smothers ground cover and climbs and strangles trees. English Ivy is currently only found in one corner of our remnant bushland, however, it is moving downwards, choking and smothering plants as it goes. English Ivy spreads in three ways, by sending out suckers, by birds eating seeds and by releasing seeds.

Honeysuckle spreads in the same way as English Ivy, however it originated in China and Japan. Like Cotoneaster it is an ornamental plant.

Several mature Radiata Pine trees, *Pinus Radiata*, fringe our bushland. These were cut down by professional tree loppers as they are a weed and their pine needles were preventing growth of native plants in the surrounding area. Unfortunately these areas were not replanted quickly afterwards so weeds began to crop up in where the pine trees had stood. (See photo below)

CONTROLLING THE WEEDS:

The two main methods used to deal with Sweet Pittosporum and Cotoneaster are frilling and cutting. Frilling involves slicing diagonal cuts around the base of the trunk and then applying neat Roundup to the cuts, this method is practical for larger shrubs. Cut and Paint is more practical for smaller shrubs, it involves chopping right through the shrub down near the base and applying neat Roundup over the cut. Any herbicides need to be applied to Sweet Pittosporum within 10 seconds of making the cut, otherwise the herbicide is ineffective as it is unable to penetrate the protective skin that forms over the Xylem. Plants killed using the cut and paint method or frilling usually takes about two months to die, although time consuming it is a sure method to eradicate the weed. If the shrub is pulled out, as can be done with small bushes, and any part of the tree is left it has the potential to regrow and sucker.

Due to the restrictions on chemical handling by students we were unable to utilise the cut and paint or frilling method. However, the Tintern groundsmen were able to do so. Sweet Pittosporum can easily be controlled via a hot burn, but as our bushland is in Suburbia this has proved an impractical solution. The school has had difficulty in obtaining permission from the local council to perform a controlled burn. Also Sallow Wattle seeds can be germinated by fire, so whilst eliminating Sweet Pittosporum a fire would encourage Sallow Wattle growth.

Sallow Wattle as an environmental weed differs in its management from Sweet Pittosporum. In some respects controlling the spread of Sallow Wattle is more straightforward than controlling Sweet Pittosporum. Once a plant is cut down the remaining stump and roots will not sucker. Controlling Sallow Wattle is a long-term project as the seeds are very long lived in the soil. Follow up work must be maintained over several seasons to eradicate seedlings that sprout up.

English Ivy and Honey suckle are more difficult to remove as their stems fragment easily, take root and regrow. Plants can be removed by hand weeding, a somewhat laborious and time consuming process. With larger specimens it is advisable to use the cut and paint method, particularly if it is climbing up a tree or wall.

OUR STRATEGY:

Since my Sustainable Futures Class first began to look at ways to manage weeds in our bushland interest has grown. Strategies have been put in place, a new Sustainable Futures Class have taken up where my class left off in 2004 and the Friends of the Bushland group has been formed. Below is an outline of steps that have been taken in Tintern's mission to manage the weeds in our bushland area.

April/May

- My 9/10 Sustainable futures class had guest speakers come to their classes to learn about weed control and management.

June/ July 2004:

- My class began identifying Sweet Pittosporum and Sallow Wattle plants and marking them with pink tape. As we worked it was discovered weeds were most prominent on the boundaries of our bushland.
- As berries ripened on mature Sweet Pittosporum plants my class cut them off and disposed of them to help reduce the spread of seed.
- Using the Bradley Method of bush regeneration we carefully pulled out small Sweet Pittosporum and Sallow Wattle Seedlings by hand.
- Several lessons were spent pulling out the ivy runners by hand and disposing of them.

August- November 2004:

The Groundsmen helped with some of the heavier work and the handling of chemicals. Due to chemical handling restrictions for schools we were unable to participate in this stage of the weed removal process. Using our pink markers as guides the groundsmen:

- Chopped down large Sallow Wattle trees and removed root systems.
- Used frilling and cut and paint to kill Sweet Pittosporum and Cotoneaster Plants

December 2004

- Mature Pine trees were professionally removed

February/March 2005

- Linda Bester walked and surveyed our bushland. She made recommendations for weed management strategies and suggested the most suitable indigenous plants for revegetation work.
- Friends of the Bushland is formed
- Identification and research of target weeds by 2005 Sustainable Futures Class

April/May 2005

- Received \$450 grant from Mitre 10 Junior Landcare Fund
- Place order for some indigenous plants to fill spaces where pines have been taken out.
- Ten large bags of honeysuckle and English ivy were gathered at first Friends of the Bushland afternoon. In addition many whole Cotoneaster bushes were dug out.

June/July 2005

- Year 11 IB students spend a day removing small Sweet Pittosporum, Sallow Wattle and Cotoneaster bushes by hand for community service.
- In the second Friends of the Bushland meeting 100 Sweet Pittosporum and Sallow Wattle plants are removed.

THE FUTURE

For the remainder of the year we plan to have Friends of the bushland meetings as regularly as possible and have a proposed outline in place for weed management. Although we are currently waiting more rainfall, a planting strategy is in place to revegetate the area where the mature pines were removed from. Later in the year Tintern groundstaff will be undertaking training in bush management.

BENEFITS OF OUR STRATEGY:

Our strategy is the most effective strategy that could be employed to control the weeds in our area. As mentioned before we are unable to handle chemicals so we had to consider this when designing our strategy. By dividing our strategy into stages and spreading the different components out over a period of time we put less stress on our remnant bushland as it was able to adapt to the changes we imposed on it gradually, as opposed to dealing with many changes at once.

By spending time in our bushland marking the Sweet Pittosporum and Sallow Wattle plants we became adept in identifying not only our chosen weeds, but other native plants also found in our bushland. Carefully pulling out the smaller Sweet Pittosporum and Sallow Wattle Seedlings was quite time consuming. However, as the plants were still small enough to be pulled out we chose to do thus as it reduced the quantity of herbicides we used. Pulling out the Ivy runners from the ground was, once again quite time consuming, however many hands make light work. We were careful in our excavations to avoid disturbing other plants. Once again this method was preferable to used herbicides which could leech into the soil and harm other plants.

However herbicides had to be used on the larger Sweet Pittosporum, Ivy and Honeysuckle specimens to be certain that the plants would not sucker. The groundsmen did this, using our ties to identify the plants to be taken care of. The groundsmen also cut down the largest Sallow Wattle trees and then carefully excavated the roots systems. This was the most practical way to remove the Sallow Wattle trees as it did not involve the use of more herbicide, also once the root systems were removed we could be sure that the plant would not grow again.

As the pine trees were so large, having them removed by professional tree loppers was the only viable option for their removal. However, care had to be taken so nearby plants were affected as little as possible by their removal. Unfortunately we did not replant with local natives afterwards and more weeds have appeared in these areas.

When we work in our bushland area we aim to cause as little disturbance to the soil and surrounding plants as possible, by moving with caution and sticking to the nature trail as much as possible.

PHOTO GALLERY



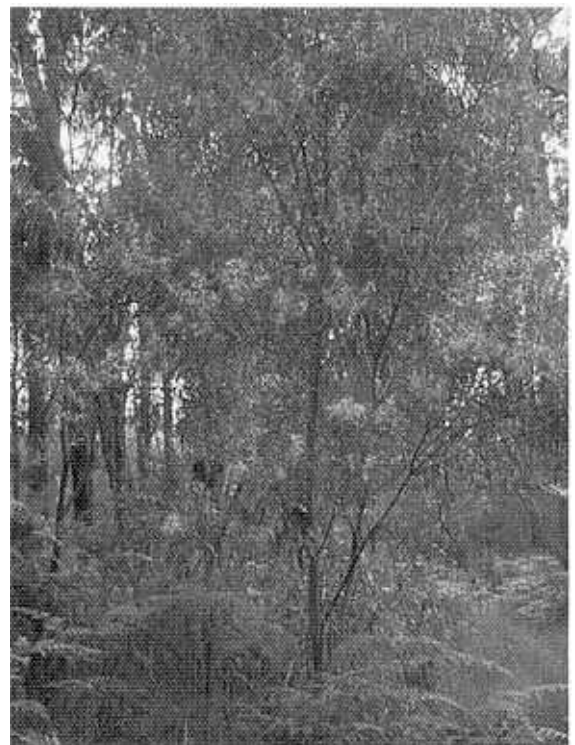
Left: English Ivy

Right: Sweet Pittosporum



Left: Radiata Pine

Right: Sallow Wattle





Above: Japanese Honeysuckle



Above: Cotoneaster



Above: Craig demonstrates frilling a Sweet Pittosporum plant



Above: Weeds pulled up in a Friends of the Bushland meeting and left to die so their seeds will not spread



Above: Site of pine tree. After pine was cut down natives were not planted so weeds began to grow



Above: Pulling out English Ivy

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