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The Bundewallah Sub-Tropical Rainforest Regeneration Project

Facts & Tips for Landowners Considering Undertaking a Rainforest Regeneration Project in the Berry area

Background

The Bundewallah Bushcare Group has been working since 2006 on restoring remnant patches of Illawarra Sub Tropical Rainforest in the upper catchment of Bundewallah Creek. They have restored around 40 hectares of rainforest vegetation; the group has received support from Shoalhaven Council through the Council's Bushcare Program and grant funding from the NSW Environmental Trust. This money has been used to employ professional bush regenerators to assist with the restoration of the Illawarra Sub-Tropical Rainforest. Illawarra Sub- Tropical Rainforest is listed in NSW as an Ecologically Endangered Community and the remnants around Berry are at the southern geographical limits the rainforest in NSW.

How

The regeneration works have occurred across three properties in the upper Bundewallah Creek Catchment. The Bushcare Group meets for 2 hours every month with between 5 – 15 volunteers showing up. The work of the grant funded contractors has assisted and valued added to the work undertaken by the group and the land owners themselves.

The contractors have done the primary weed control work with the Bushcare volunteers and individual landholders providing the follow up or secondary weed control, of new germinating weeds following the initial control. The weed species and the control methods that have been used at Bundewellah are as follows:

Shoalhaven City Council

NSW GOVERNMENT

NSW Environmental TRUST

Berry Landcare

BUSHCARE
SHOALHAVEN CITY COUNCIL

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Large and Small Leaf Privet *(Ligustrum spp.)*

Large fruiting Privet trees adjacent to the rainforest remnant were targeted and drilled and injected with neat Glyphosate (Roundup) and left to die in situ, or free standing. Smaller privets have been hand pulled or cut as close as possible to the ground and painted with neat Glyphosate.

The key to success of the regeneration of rainforest patches infested with Privet has been control of the next generation of seedlings (as Privet seed is only viable in the soil profile for 12 – 18 months).

Lantana *(Lantana camara)*

The majority of the Lantana control on the Bundewallah site, has been done by cutting the main stem and painting with neat Glyphosate or by use of the Splatter Gun technique in the more remoter difficult to access areas. The key to successful Lantana control at Bundewallah has been to make sure that freshly cut stems do not come into contact with the ground, as due to the wetter moisture conditions they will restrike. This has been achieved by using a method of rafting which is building small piles up on existing logs like a raft so they do not contact the soil.

Other Weeds

Other weeds that have been present in smaller numbers but can infest previously controlled Privet or Lantana areas are as follows:

- Moth Vine Araujia sericifera)
- Cape Ivy (Delairea odorata)
- Tree Tobacco (Solanum mauritianum)
- Mist Flower (Ageratina riparia)
- Crofton Weed (Ageratina adenophora)

It has been vital to make sure these sleeper/secondary weeds are controlled in the areas where the primary control of Privet and Lantana has taken place. This is to allow the existing and new native seed space to germinate and reduces competition.

The Importance of An Existing Native Tree Canopy Cover

On the Bundewallah Rainforest project the key to successful regeneration of rainforest remnants has been to ONLY undertake weed control in rainforest areas where there is an existing canopy over head or directly adjacent to the weed infestation. Large open spaces, such as paddocks should be left until the areas under canopy have regenerated and developed resilience. In areas without a canopy a revegetation program should planned. There are three main reasons for this::

1. **Shade** - There is adequate shade to allow for the suppression of new weed germination and many local rainforest species prefer mottled shade for germination.
2. **Birds** – birds disperse and spread the majority the local rainforest plant species seeds, as they have fleshy fruits that require an animal's digestion process in order to germinate. Having an intact canopy provides perching points for birds to deposit seed. Birds = Seeds = Rainforest Regeneration
3. **Light** – Or the lack of light provided by shading from an over story native canopy trees will suppress or reduce the amount of sunlight that is available for the next generation of weed seeds to germinate, thus allowing a good chance for native rainforest plants to out compete the weeds.

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To Plant or Not to Plant

At Bundewallah 99% of the site has relied on natural regeneration, rather than planting. Planting cost time and money and is often resource hungry to maintain. If your site does have some good healthy patches of rainforest remnants, it is wise to concentrate on getting these patches regenerated first before you open up more degraded or weedy areas.

As always work to the basic bush regeneration ethos of working on the healthy bushland remnants first and only when you regenerated and improved the resilience of these remnants, then you can move onto the more weedy or degraded patches.

Accessing the resilience of the rainforest patches on your site is crucial to the success of regeneration project. As this will determine what level of intervention or weed control in required.

Planting should always be the last option in rainforest regeneration, unless of course you are trying to provide a link between two existing remnants that do not have any connectivity.






Pioneer Rainforest Plant Species Regenerating at Bundewallah

The following is list of commonly found pioneer native plant species that have germinated at Bundewallah following primary and secondary weed control. This is only a list of plant species that have germinated on our site, and conditions and soils will vary from site to site as species will:

- Pencil Cedar (Polycias murrayi)
- Giant Stinging Tree (Dendrocnide excelsa)
- Red Cedar (Toonia ciliata)
- Illawarra Flame Tree (Brachychiton acerifolius)
- Koda (Ehretia acuminata)
- Maidens Watle (Acacia maidenii)
- Bleeding Heart (Homalanthus populifolius)
- Brittlewood (Claoxylon australe)
- Scentless Rosewood (Synoum glandulosum)
- Native Peach (Trema australis)
- Smooth Mock-Olive (Notelea vesosa)
- Maidens Hair Fern (Adiantum aethiopicum)
- Gristle Fern (Blechnum spp)
- Milkpod Vine (Marsdenia rostrata)
- Native Raspberry (Rubus parvifolius)
- Forest Bindweed (Tylophora barbata)
- Native Groundsel (Senecio linearifolius)

Images: Koda Fruit, Native Passion Fruit Flower, Pisonia umbillifera - Moeyan Hill, Brown Beech - Pennatia cunninghamenii - Bundewallah Rainforest, Synoum glandilosum fruit and Smilax australis.

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Take Home Lessons

Some of the key lessons that have been learnt by the Bundewallah Rainforest Restoration Project are as follows:

1. **Follow Up Weed Control, Follow Up and then Follow up again** – The key to the success of any regeneration project, particularly in rainforest vegetation is to consistently follow up the first primary weed control with secondary control and then maintenance weed control. This will insure that subsequent generations of weeds are controlled and that new or secondary weed species do not get established in your patch.
2. **Work from Good to Bad** - Make sure that you seek the advice of someone who has expertise in bush regeneration before you start to access your patch to ensure your efforts/resources are put to good use. This means making sure that you use the resilience of the existing good patches of rainforest to aid you in regenerating the area. Always make sure that you start in the patches that are healthy and work outwards from there, this will save you months if not years of back breaking wasted effort trying to control existing and new weed species that will become established on the more degraded sections of your bushland remnant.
3. **Do not Over Clear** - Do not open up huge expanses of vegetation on your rainforest patches. Particularly if you can only get back to the area a couple of times a year. Over clearing will only result in more work and less regeneration of native rainforest species, it is also important to access how much time and energy you are going to have to devote to your regeneration project.'
4. **Don't Burn** – Rainforest's do not like fire, clearing huge swathes of Lantana and piling it up to burn may make you feel good? But if you are trying to encourage rainforest plant species to germinate then don't use fire as rainforest species are not fire tolerant and will only encourage more sclerophyll species such as eucalypts and wattles.
5. **Join a local Bushcare/Landcare Group and Seek Assistance** – Seek out the advice of others who have already trodden the weary path as they have already made the mistakes and you can learn from them. Seek financial assistance from grant program if possible, as regeneration of rainforest patches can be costly and there is lots of support out there. Employing qualified bush regenerators to assist you is a good way of giving your project the boost/kick start that it needs and they come with lots of experience and knowledge which they can share with you.
6. **Don't Think Short Term** – Regenerating any natural ecosystem such as sub- tropical rainforest is a long term project, you can not think in terms of 2 -3 year time frames most rainforest regeneration projects are 10+ years projects. Think of it as an investment into the next generation/s.

Useful Resources and Links

1. Cooperative Research Centre for Tropical Rainforest Ecology and Management www.rainforest-crc
2. Australian Association Bush Regenerators www.aabr.org.au/
3. Big Scrub Landcare www.bigscrubrainforest.org.au
4. Berry Landcare http www.landcare.nsw.gov.au/groups/berry-landcare
5. Bush Regeneration, Recovering Australian Landscapes, 1994, Robin Buchanan
6. Rainforest Trees and Shrubs – A Field guide to their identification, 2006, Gwen Harden, Bill McDonald & John Williams

Contact

For further information
Shoalhaven Bushcare Coordinator,
Alasdair Stratton 02 4429 3592 or
bushcare@shoalhaven.nsw.gov.au