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Bringing Back The Bush

A guide to site preparation for revegetation on the Swan Coastal Plain



This brochure lays out all the things you need to do to get ready for a revegetation project. The activities are listed in order which means that if you follow the steps, you'll have a weed-free and well-prepared site ready for planting come winter.

What is revegetation?

Revegetation is most often undertaken on a site that has been cleared, and involves the re-placement of vegetation. In a Landcare or nature conservation context, revegetation is usually done using native species local to the area.

Why revegetate

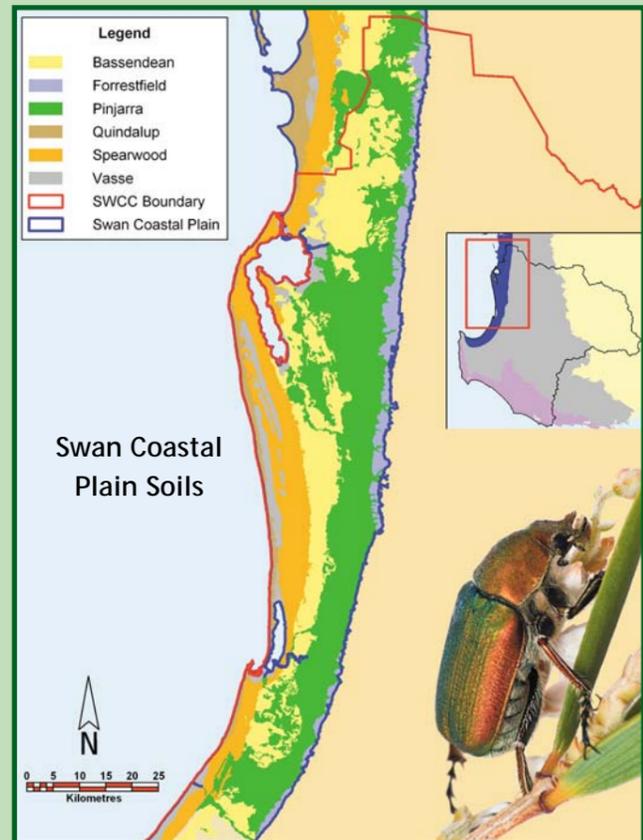
Cleared land has very few environmental values in comparison to vegetated land. It also erodes a lot more readily which in turn can lead to water quality issues both on and off site; provides little to no habitat value for plants, animals, birds, insects or soil organisms; and unless is used for grazing, such as with deep-rooted perennial plants, leaches carbon into the atmosphere.

Native bushland on the other hand, provides places for our local native animals, birds, spiders, reptiles and so on to live, breed and forage for food. Vegetation helps to stabilise the soil and improve soil structure and value, such as through the decomposition of organic matter from leaf litter. It also has significant environmental, aesthetic and cultural values - our local plants are many and varied and also unique in the world, our wildflowers bring colour to all times of the year and our bushland is teeming with life. On top of these and other things, it gives us a very important 'sense of place' - it says 'home'.



Resources

- For all things weeds & soils: Contact the Department of Agriculture and food Bunbury office on 9780 6100
- For all things flora and fauna: Contact the Department of Environment and Conservation on 9725 4300
- For local native seedlings: Contact the Leschenault Community Nursery on 9791 4670 Mon - Thurs, 7.30am -12 noon.
- A Ripper/Moulder is available to hire from the Dardanup LCDC. Contact Lyn Busher on 9728 1285.
- 'What to Plant' brochure series and 'Weed it Out' brochure, both available from the Leschenault Catchment Council on 9726 4111
- 'Western Wildlife' series of notes available from the Department of Environment and Conservation.
- Managing Your Bushland is a book available from the Department of Environment and Conservation.



Native Species

Why use local native species

Plants that occur naturally in an area have adjusted to the conditions in that area over many years, such as by making small changes in the way they grow or reproduce. By using plants local to your area in your revegetation project, you'll not only have a higher chance of success with plant survival rates but you'll also be providing habitat for the local animals and other wildlife that live in your area. Really obvious examples of the way that plants adjust to their conditions are mangroves and paperbarks - both need very specific conditions to grow but given those conditions, will perform beautifully. You wouldn't try to grow mangroves on a hill top or paperbarks on a sand dune!



Plan, Plan, Plan

Aims

Your revegetation project will be guided by your reason for doing it. If you want to create habitat for the animals or birds that live in or use your patch, you will need to include plant species that they need or like, and perhaps create foraging areas or nesting sites to make the area more appealing.



If you want to create screens, shelter belts or wind-barriers, your species list will include a lot of dense, bushy species that grow quickly. If you want colour all year 'round, you will probably increase the variety of plants within your patch, by either including more natives from your local area, or adding some from surrounding areas.

Budget/Resources

Getting this right can make your project a lot simpler. Regular weed control with checks in-between, taking photos for monitoring, planting and tree-guarding all take time and money, so it's important to plan ahead for these. Look at your site. Can you do it all in one year or should you divide it into sections?



Be realistic - consider your resources in terms of time and money and plan accordingly. Try not to bite off more than you can chew, especially if it's your first year - the last

thing you want is to be overwhelmed with work and still trying to get all your plants in the ground come August!



If you've never done revegetation before, plan on planting one plant every 3 minutes, or 20 an hour. Over time you'll be quicker but this is a good guide to start from to help you decide on the size of your site/section and how many seedlings to order. More on this below.

So, you know why revegetation is a good idea, both for us as for the other organisms we share the land with, you're fired up and keen to go but you don't have a clue where to start... Don't worry, help is at hand!



Know your site

Soils

Knowing your soil type is important, especially if you want to put back species that are local to your area because the underlying soils determine the plants that grow on them. That's why you get a different suite of plants in the Jarrah forest than you do in the Tuart forest, for example. Knowing your soil will also help you with management of weeds (different soils grow different weeds) and also with knowing what sort of site preparation you will need to do.

Heavy soils may need ripping and or mounding to create a more suitable environment for young seedlings. Some people also encourage ripping on sandy soils, especially if there's a history of grazing by cattle. The Leschenault Catchment Council is currently doing trials with Millennium Chemicals in Kemerton to determine if there are any benefits to seedling growth with ripping sandy sites.

Local plant species

You can get help with working out what would have grown on your site before it was cleared/grazed from the Leschenault Community Nursery. There is also an excellent series of brochures released by the Leschenault Catchment Council called 'What to Plant' which covers some of the major landscape types in the catchment. These are a good place to start. If you're unsure, you can also leave it to the nursery - just indicate your soil type, location and the type of plants you would like (eg. 25% each of groundcovers, small shrubs, medium shrubs and trees) on the order form, and they will work out the species list for you.



Animals/birds living or visiting?

This is especially important if you want to create habitat with your revegetation. Different animals and birds have different requirements of the places they live, breed and feed in and you'll need to know what these are if you want to incorporate them into your project.



Take Photos and record what you do and when

Set up photo points so you can take a photo from the same spot every year or every season. A photo point is just a stake in the ground that's marked in some way to make it easy for you to find again. It could be as simple as a fence post that you've spray-painted pink. Regular photos enable you to compare changes over time. Chances are you'll be stunned at how much the area has changed since you started work there.



Keeping records helps you be able to either avoid repeating things that didn't work in future years or replicate things that did. Like weed control - if you sprayed *Watsonia* in August and got a 40% kill rate and then based on that result, changed your regime and sprayed in October the following year with a 90% kill-rate, you'd know which timing works best. That means you'd be able to plan a more effective works program for future years.

Choose your method

Seedlings or seeds? Seedlings are recommended on Banksia woodland-type sands (Bassendean Sands) because results with direct seeding have been poor. Direct seeding is great for heavy soils where very good site preparation can be achieved, such as a section of paddock which can be treated with herbicide before and after seeding. It's harder to direct seed into existing bushland, so seedlings would be the better option here.



Calculate your plant order

For revegetation on the Swan Coastal Plain, aim for one plant per square metre if the species mix includes all types of plants from groundcovers through to trees. Generally, you should have one tree in every ten plants, so nine 'understorey' plants for every tree.

Order ahead

If you plan to get your plants from the Leschenault Community Nursery, orders need to be in by the end December for the coming planting season. Orders are filled in the order they are received so first in best dressed.

Fence

Exclude cattle to protect the growing seedlings. This can either be permanent with a post and wire fence or a more temporary electric arrangement, such as electric tape. Ideally, it's best to keep cattle out of revegetated areas altogether but if weeds become a problem, crash grazing, where you let the cattle into the reveg area for one to two days, is usually an option, after a minimum of three years.

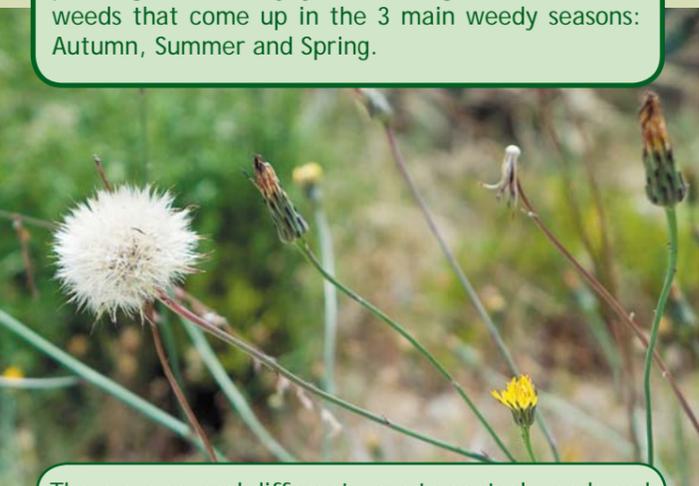


Weed Control

Weed species present

Before you can do any weed control you need to know what it is that you're trying to control. Some resources to help with this are the books *Southern Weeds*, newly updated and *Western Weeds*, both available at the Department of Agriculture and Food. You can also take samples of weeds into the department for identification.

Weed control should be started 12 months before planting. That way you can target the different weeds that come up in the 3 main weedy seasons: Autumn, Summer and Spring.



There are several different ways to control weeds and the approach you use will often depend on the species of weeds you have and the size of your project area. You can use solarisation (laying down plastic to heat and kill weeds and their seeds), weed mat, chemical or a combination of mechanical (such as scarifying) and chemical or burning and chemical. Generally, it's not a good idea to try and control weeds with burning or scarifying alone - both approaches will encourage more weeds to germinate which is a good thing as it means there is less seed in the soil waiting to come up, but if you don't get in and kill them, such as with chemical or solarisation, they'll flower and go to seed meaning even more weed seeds in your soil.

Earthworks



Ripping

Nearly all soils benefit from ripping as it breaks up compacted soils, such as those found on farmland with a history of grazing. The aim is to shatter the subsoil and create a network of pathways for new roots so it's best to rip deep in late summer/early autumn when the soil is dry, to a depth of 50-80cm. Always rip on the contour even if the site doesn't appear to undulate much, to minimise erosion. It's a good idea to leave gaps every now and again in your rip lines to allow for surface water flow. And always stay outside the foliage line if you're ripping near remnant vegetation.



Ripped and sprayed with glyphosate

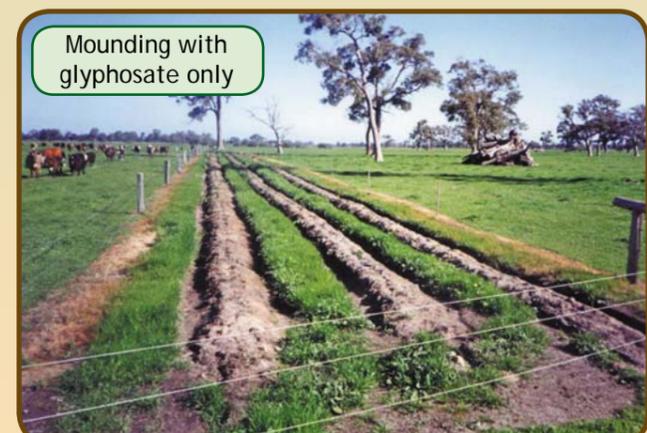
Mounding

Mounding is essential in waterlogged areas otherwise seedlings can literally drown. Plant into the mounds as this will help keep the seedling's feet out of water. If you have 'cloddy' soils, it will be easier to mound and plant if you cultivate the soil first. Mounds should be 200 - 300mm high by 1000m wide and done on the contour and as with ripping, it's a good idea to leave gaps for surface water flows.



Mounded and sprayed with glyphosate & pre-emergent

Once the mound has 'settled' you'll notice that weeds start coming up - this is because the working of the soil has stimulated germination. Wait a few weeks to make sure that most have germinated and then do some thorough weed control before planting. It's a good idea to have your ripping and mounding done a good few months before planting so you can focus on weed control.



Mounding with glyphosate only