

Bunanyung Native Habitat Restoration Guide



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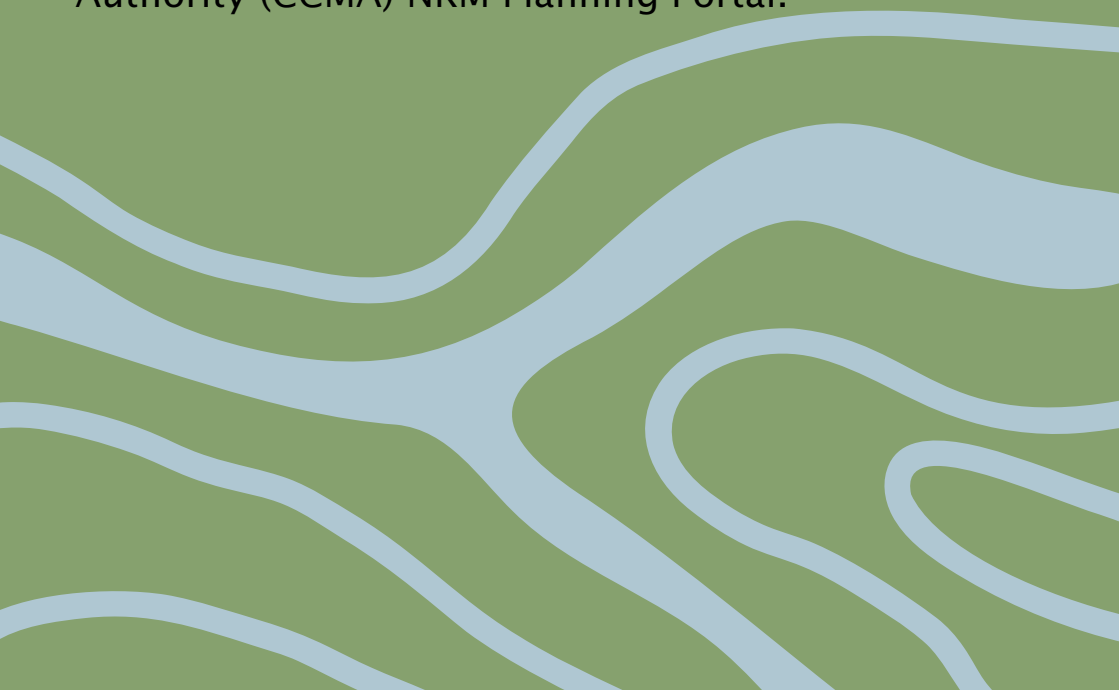


Welcome

This guide is designed to support land managers in planting and restoring native vegetation in the Bunanyung region.

Whether you have a farm or a small property, this guide will provide you with the tools and knowledge to make a positive impact on the environment.

The guide will show you how to discover what plants originally existed on your land and how to select suitable plants for revegetation using a new tool in the Corangamite Catchment Management Authority (CCMA) NRM Planning Portal.



WHY PROTECT AND CREATE NEW NATIVE HABITAT?

Native habitat can provide the following benefits:

Food and shelter for local wildlife like birds, bees and koalas.

Protection of rivers and creeks.

Creation of green spaces and areas for recreation.

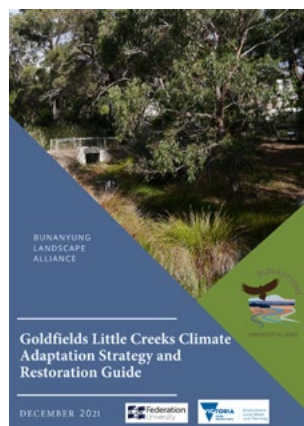
Provision of shelter for stock.

Reduction of erosion and enhancing soil health.

Reduction of greenhouse gases, as plants store carbon, thereby supporting climate action.

Allowing ecosystems to function in a way that builds resilience in a changing climate. (Refer to the Central Highlands Climate Projections 2024) online at climatechange.vic.gov.au/victorias-changing-climate

Cooling the environment by increasing areas of shade including the little creeks in the Ballarat region (Refer to Goldfields Little Creeks Climate Adaptation Restoration Guide) available online at bunanyunglandscapealliance.org



WHO ARE THE TRADITIONAL OWNERS?

The Bunanyung region between Ballarat and Geelong is part of the traditional lands of the Wadawurrung people. Prior to European settlement, Traditional Owners nurtured and cared for Country for thousands of years.

WHAT PLANTS ORIGINALLY EXISTED IN THE REGION?

This region was a mixture of grassland, woodland and forest. *See Figure 1: Broad vegetation communities.*

The gold rush and agricultural activities resulted in the loss of native vegetation and lands were ‘turned upside down’ in some areas. Many of Ballarat’s little creeks now feature sludge deposits, a product of goldmining practices.

We’ve made significant progress in restoring land in the Bunanyung region, but there is more to do to achieve a healthy landscape. We need your help!

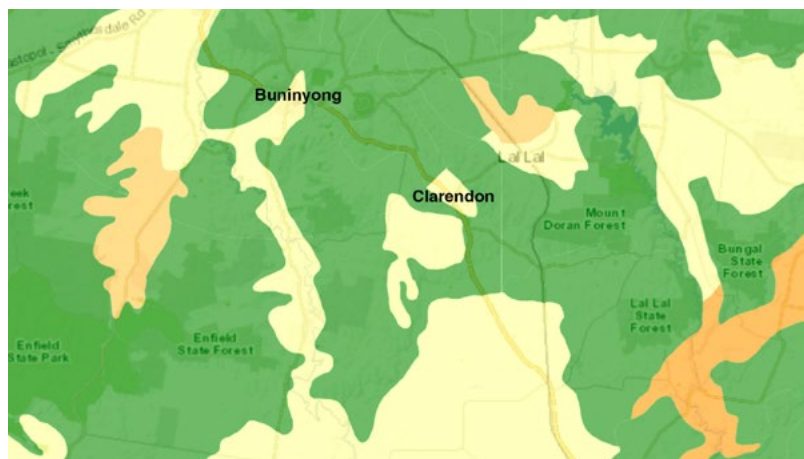


Figure 1:

●
Dry Foothill
Forest.

●
Plains
Grassy
Woodland.

●
Grasslands.

WAYS TO RESTORE YOUR LAND

How you restore your land with native habitat depends on what condition it is in. There are three stages to consider before taking action:

Protect what remains

Native plants that remain are precious. Hollowbearing trees and the variety of plants and animals are not easily replaced. Actions could include fencing areas from stock to protect plants from grazing pressure and trampling.

Repair

Implement actions such as weed control to promote regeneration of plants that are present before planting.

Restore

Plant seedlings when there is little chance of plant species coming back by themselves.

Quick Win:

Before planting, try weed control or stock exclusion to encourage plants to come back by themselves.

Quick win:

Reach out to your local Landcare group to get involved or learn about upcoming events.

Finding help

Joining a Landcare or Friends group is great idea. These groups often have experienced members and facilitators who can offer guidance, resources and sometimes funding opportunities. The two Landcare Networks in the Ballarat area are:

Leigh Catchment Group

Visit online at leighcatchmentgroup.org

Moorabool Landcare Network

Visit online at mln.org.au

Each Network is made up of smaller Landcare and Friends groups. There will be a group for you!

RESTORING YOUR LAND

STEP 1

Discover what you have on your land

Every site is different. Is your site on a slope? Do you have any weeds or native plants? How big is the area and what happened at the site in the past?

We are fortunate to have a new mapping tool for plant communities in Victoria that identifies the native plants originally found on our land. This new vegetation mapping tool is called the SciLink System and is built upon **Floristic Mapping Units (FMUs)**. It is accessible via the CCMA NRM Portal.

Let's find the FMUs for your site.



VEGETATION MAPPING AT YOUR SITE

FMU maps will show you what plants previously existed at your site.



Here is an overview of FMU mapping:

FMUs are available for free and were developed in Ballarat by Biodiversity Services and SciLink.

FMUs are mapped on a 10m-by-10m scale which provides highly detailed information.

The FMU fact sheets show the **structural revegetation species** for your site with a ● green dot. These are the species to plant first if they are absent or low in number. Species listed with a ● yellow dot can be planted once the structural species are established.

The other system used to map flora in Victoria uses units called Ecological Vegetation Classes (EVC). This system works in 100m² units and is less precise.

We recommend using FMUs from the SciLink System to determine the plant species for your planting plan.

HOW TO LOCATE VEGETATION MAPPING AT YOUR SITE:

1

Go to the Corangamite CMA website and click on the [NRM Portal](#) in the top right hand corner.

2

Click 'My Property' and Zoom (+/-) to locate your property on the map.

Alternatively try searching with your address in the My Property Report.

This function struggles with some addresses but you can use the zoom feature instead to locate your property.

3

In the legend press + for "Biodiversity" and select the 'Corangamite Native Vegetation Resource' layer.

As you zoom in and out, you will see a change from the satellite image to a colourful map.

4

FMUs are in this "Corangamite Native Vegetation Resource" layer — Clicking on a specific colour reveals a popup.

In the pop up click on the FMU Fact Sheet Number Link and select 'More Detail'.

5

You have now accessed the specific FMU's for your property search. Download the PDF to understand key plant species for revegetation of the land.

There may be multiple FMUs for your site depending on its size and characteristics.

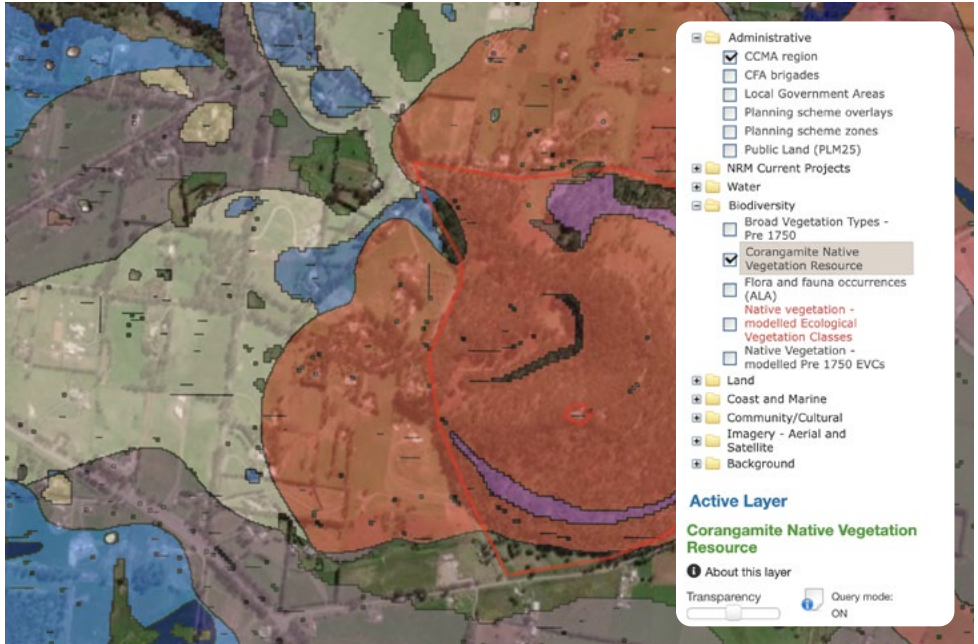


Figure 3: An example of FMU mapping at Mount Buninyong.

Shrubs	<i>Indigofera australis</i> subsp. <i>australis</i>	Austral Indigo G648	●
	<i>Ozothamnus ferrugineus</i>	Tree Everlasting G801	●
	<i>Pimelea axiflora</i> subsp. <i>axiflora</i>	Bootlace Bush 1% G162	●
	<i>Solanum laciniatum</i> ²	Large Kangaroo Apple G389	●
Trees/Tall Shrubs	<i>Acacia mearnsii</i> ²	Black Wattle G1502	●
	<i>Acacia melanoxylon</i>	Blackwood 1% G2580	●

Figure 4: An FMU species list.

● Green dots indicate species to plant first for a specific site.

● Yellow dots indicate species to plant once the structural species are established.

Now that you know what plants are suited to your site from the FMU fact sheets and mapping, go and have a look. You might be surprised what you find!



WALK AROUND YOUR SITE TO DISCOVER WHAT'S THERE

What are the native plants and weeds existing at your site at different times of the year? Sometimes it can be tricky identifying plants, but we have some great local resources to help.

To help identify native plants:

[Indigenous Plants of Southern Ballarat brochure.](#) *See below*

To help identify native species:

[Grassland Species of the Victorian Volcanic Plains brochure.](#) *See below*

[Indigenous Wildlife of Southern Ballarat brochure.](#) *See below*

Quick win:

Having trouble identifying plants? Contact your Landcare group, or call a knowledgeable friend or paid expert.



To help identify weeds:

[Weeds of the Moorabool Shire Field Identification Guide.](#) *See above*

[The Weeds of Central Victoria guide \(2024\).](#) *See above*

The WeedScan App is another tool to identify weeds. WeedScan is powered by an AI model trained by the CSIRO and field-tested across Australia by scientists, farmers, community groups, agronomists, rangers, and weeds and natural resource management officers. Visit weedscan.org.au online to download the App.



WeedScan App

RESTORING YOUR LAND

STEP 2

Choose a method to improve your native habitat

Now that you have identified your vegetation mapping (FMUs) and the plants that exist, choose a method to improve your site.

A

Natural Regeneration

B

Direct Seeding

C

Planting Seedlings



WEED CONTROL

If the weed load is high, concentrate on weed control before planting. This could take many years so be patient as effective weed control is essential for a successful project.

Weeds can be treated manually, chemically or with machinery such as a mulcher or slasher. Generally, in the greater Ballarat region, weeds are sprayed at the following times:

WEED		WHEN TO SPRAY
	Hemlock (Herbaceous weed)	August to December
	Teasel (Herbaceous weed)	August to December
	Thistle (Herbaceous weed)	August to December
	Broom	September to May
	Gorse	September to May
	Blackberry	December to May
	Serrated Tussock	August to April
	Exotic Grass	June and July



A

NATURAL REGENERATION

This involves allowing plants to emerge on their own by removing weeds, burning or soil scalping. This method is often the cheapest option and may be suitable where some native plants remain and there is a seed source available.

This method requires patience as nature and our wildlife help with the reseedling process.

*Protect, Enhance
and Restore.*

B

DIRECT SEEDING

Direct seeding needs less labour and a smaller budget than planting seedlings but requires a high level of expertise. Check your soil type as some are better than others for this method.

Native seed for direct seeding and growing your own plants can be sourced from:

Seeding Victoria, a local supplier in Creswick seedingvictoria.com.au (local seed)

[Victorian Native Seed](#)

[Native Seeds \(grasses\)](#)

To explore further direct seeding and natural regeneration options, refer to [Greening Australia's guide](#), Revegetation Techniques.

C

PLANTING SEEDLINGS

Now that you have learnt about your site and have the weeds under control, you are ready to plant. This is how you do it.

When to plant

Planting time in the Bunanyung region is typically in autumn or early spring when the soil has some moisture and frosts are less likely.

STEP 1 ORDER PLANTS IN OCTOBER/NOVEMBER

You will need a plant list for your nursery. Using the FMU species lists for your site, create a plant list. Remember to recognise those plants that are already present. Start with the species with green dots (see Figure 4 on page 9). These are known as the structural revegetation species.

Generally, submit orders by October or November the previous year for autumn, winter and spring plantings.

How many plants do I need?

It depends on species, purpose, and site condition. Generally, plant trees further apart than shrubs. Grasses can be planted thickly. If you're not sure check with your Landcare group, your local nursery or someone who has planted before. As a guide, plant trees and shrubs every 3 metres (1000 trees and shrubs per hectare).

Quick win:

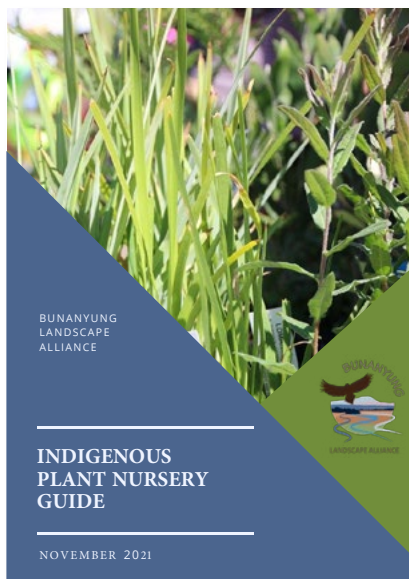
Take your FMU plant list to the nursery when making an order.

Quick win:

Visit a new local native nursery to see what they have and check when orders are due.

Local native nurseries and orders

The Ballarat, Bacchus Marsh and Geelong regions have many native-plant suppliers with experts in growing and selling local plants. Local suppliers know where their seed comes from and can guarantee the plants' source (provenance). See the [Bunanyung Landscape Alliance Indigenous Plant Nursery Guide](#) for a list of local suppliers.



STEP 2 PREPARE THE SITE

Weed control for planting

Good site preparation for planting begins 9–12 months beforehand.

To prepare the site you need to remove competition from weeds and non-native grasses. This can be done by using chemicals or mechanical methods. Spraying takes place after autumn rain and one month before planting to bare the ground. For more information on preparing the ground for planting, refer to Greening Australia's Revegetation Techniques.

Always handle chemicals safely and comply with OH&S standards and required permits and training.

Once weeds are removed, mulching around new plants can inhibit grassy weeds and slow woody weed growth.

Pest animal control

Rabbits can damage or kill planted seedlings. Control rabbits before planting. Other pest animals to consider include hares, deer and pigs.

Fencing

If there is stock in the same area as the planting site, a stock-proof fence is required. Allow for future access and ensure the fence is erected prior to planting.

Tree guards

Tree guards protect plants from harsh weather and browsing animals such as wallabies and rabbits. Guards are recommended for trees and shrubs. Search online for tree-guard suppliers.

Protect heritage values

Ensure Indigenous and Non-Indigenous heritage values are protected as part of your project.

Bushfire considerations when planting

Refer to the Country Fire Authority's brochure, "Landscaping for bushfire".

STEP 3 PLANTING

Most Landcare groups will have access to planting tools and potential labour. You could also purchase tools from a local native nursery. Plant when there is moisture in the ground and not too late in spring if the season is dry. Adapt your schedule to the season.

Basic guidelines on how to plant seedlings are on the [National tree day web page](#).



STEP 4 LOOKING AFTER YOUR PLANTING SITE

Take photos

Record your success and take photos. Be amazed as you watch the plants grow over time!

Observe the plants. In wet years, low-lying plantings can drown whilst in dry years high-ground plantings can fail. Learn what works best on your land before any replanting.

Maintenance is critical

Plant-and-forget does not work. Most plantings have a failure rate of between 10% and 50%. Successful restoration involves two to three years of work and may involve some replanting and weed control. A dry year may require some watering of plants.

PLANTING SCHEDULE SUMMARY
YEAR 1
Assess what is on the land Remove any weeds Spray (if required) prior to first planting Order plants and guards Erect fences Control pest animals
YEAR 2
Continue weed control Spray planting area after autumn rain Spray planting area one month before planting Plant seedlings and protect with guards Water if necessary
YEAR 3
Continue weed control Plant second round of primary plants (tree and shrubs) if required Maintain planting site
YEAR 4
Continue weed control Maintain planting site Undertake supplementary planting if required
YEAR 5
Maintain planting site

Remember to take small steps!

Don't go too big too soon. Allow time to prepare and maintain your site. It is better to have a smaller successful project that is manageable than a larger project with a high plant death rate and high weed load.

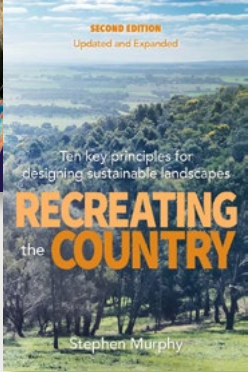
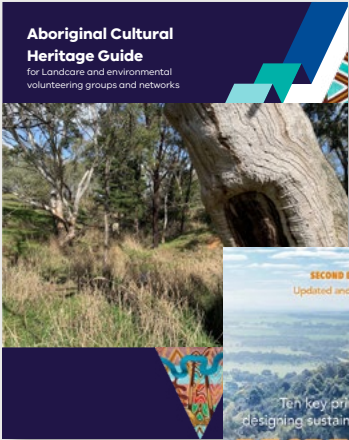
Quick win:

What are you waiting for?
Check out the new FMU mapping and start planning your site!

Other useful documents:

Stephen Murphy (2024) [Recreating the Country – Ten key principles for designing sustainable landscapes. 2nd Edition](#)
See below

[Aboriginal Cultural Heritage Guide for Landcare and environmental volunteering groups and networks 2024.](#) *See below*



Why Bunanyung Landscape Alliance

Bunanyung is what Wadawurrung People referred to what is known today as Mt Buninyong. Bunanyung has been translated to mean “man lying on his back with knees raised (ie from shape of the hill)”. Adopting “Bunanyung” recognises the long custodianship of the land by the Wadawurrung People.

“Landscape Alliance” reflects the current custodianship by The Alliance community and stakeholders. We are grateful to the Wathaurung Aboriginal Corporation for permission to use this name for our Alliance.



This project is sponsored by the
Bunanyung Landscape Alliance and the
Natural Resources Conservation Trust.

**For more information contact
Bunanyung Landscape Alliance**

Email bunanyunglandscapealliance@gmail.com
or visit our website at

bunanyunglandscapealliance.org

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