EcoVineyards
GROWING RESILIENCE NATURALLY

Designing your EcoVineyards project, getting started and next steps…

Activity 1: BAP

- Thank you for your interest in EcoVineyards. This template walks you through the steps required to design your own project.
- The first task is to develop a simple **Biodiversity Action Plan (BAP)**.

Start here!

Activity 2: Site preparation

- The next step is to prepare your site ready for planting.
- If you wish to plant native perennial grasses, it is important to reduce weed pressure to ensure good success. You may need to spray the weeds to reduce the existing weed seed bank several times to create a weed free environment.
- Start this process now as soon as it is practical. You may need to prepare the site for more than one season before planting (especially if you are sowing native perennial grass/forb seed).

Before planting

Activity 3: Planting seed and/or tubestock

- Once you have prepared your site ready for planting, ensure your seeds and/or tube stock is planted while there are good reserves of soil moisture, ideally before the end of August (or September if the soil remains moist) depending on the region and season.

By the end of August (if possible)

Activity 4: Ongoing maintenance

- Once your plants are in the ground, ongoing maintenance (weed control and/or irrigation) will be required to ensure the best results.
- If you have planted native grasses/forbs, monitor their germination and if weeds start to dominate, you may need to use a broad leaf specific herbicide to reduce weed competition and/or a sponge wiper to remove fast growing weeds, periodically to ensure the native perennial grasses can establish well.

As needed over the next 12 to 24 months

More information

For more info about the EcoVineyards project see:

- Website https://www.wgcsa.com.au/ecovineyards.html
- Facebook https://www.facebook.com/ecovineyards/
- Instagram https://www.instagram.com/ecovineyards/

This project is supported by the Department of Agriculture, Water and the Environment through funding from Australian Government's National Landcare Program

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Wine Grape Council South Australia

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Step 1: Create a simple Biodiversity Action Plan (BAP)

1. Site plan (refer to an aerial photograph or Google Earth image of your property)

2. Outline a short description of what you would like to achieve and when (example):

- *I will plant tube stock to create a multi-functional shelterbelt and insectary planting approx. 15 metres wide x 100 metres long x 2 m plant spacing adjacent to my 0.5 ha vineyard. I will also plant a native insectary shrub/ground cover adjacent to each strainer post at either end of the vineyard, as well as trial a selection of ground cover plants undervine (4 rows), and sow perennial, native grasses in the mid row. I will also apply mulch in the shelterbelt area to help retain water and reduce weed pressure.*
- ***August:*** *I will determine the best plants to use (use the pre-European plant community lists as a guide https://www.wgcsa.com.au/ecovineyards-factsheets.html) and availability from the local nursery (plant available stock this year and order extra plants for next year).*
- ***August:*** *I will prepare the site to reduce weed pressure and instal temporary fencing to remove kangaroos, rabbits and hares using existing steel droppers, or old repurposed vineyard intermediate posts and chicken wire.*
- ***September:*** *I will plant the native insectary plants, then place a guard around each plant, held in place with a bamboo or wooden stake (in the large insectary planting area).*
- ***September onwards:*** *I will monitor the plants and start watering them using a dripline (or by hand if the soil dries out significantly), monitor the weed pressure and reduce weed competition on a regular basis until the plants are established.*

For information to get you started see these quick and simple fact sheets:

- Revegetation site planning here
- Revegetation site preparation here
- Revegetation planting here
- Direct seeding here

For further information on developing a Biodiversity Action Plan and revegetation tips see http://www.viti.com.au/pdf/Enhancing%20Biodiversity%20in%20the%20Vineyard%20-%20Workshop%20Notes.pdf

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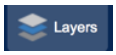
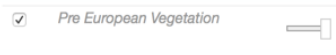
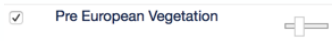
3. Choosing your plants

Please refer to the native insectary plant guides that have been developed for your region. For more details see https://www.wgcsa.com.au/ecovineyards-factsheets.html

NatureMaps is an online program that can be used to source information for individual properties located in South Australia. This is a 'quick guide' to help get you started on your property planning project and it provides details of the major pre-European plant communities found in the Coonawarra Wine Region.

Step #	Instruction
Step 1	To get started open the following link https://data.environment.sa.gov.au/NatureMaps/Pages/default.aspx
Step 2	Select the 'start' button  and wait for the program to load
Step 3	Type your details in the 'find your address or location' bar 
Step 4	Select the best fit from the ALVS tab  nd the map will zoom to your address
Step 5	Use the zoom 'in or out' buttons to navigate around the map (toggle out so you can see the region) 
Step 6	Select the 'layers' button at the bottom of the screen 
Step 7	Select the 'vegetation' layer  and then select the + button to open the drop down menu.
Step 8	Select 'Pre-European Vegetation' from the drop-down menu 
Step 9	Slide the bar to change the transparency of the layer selected 
Step 10	Place your cursor over a coloured area on the map to get more information about the selected layer. Then select 'view additional details' in the white summary box to access further details.
Step 11	Once you have identified the name of your local plant community you can search and download a list of plants here https://www.landscape.sa.gov.au/hf/plants-and-animals/native-plants-animals-and-biodiversity/urban-biodiversity/b4w-native-species

For further info see https://data.environment.sa.gov.au/NatureMaps/Documents/NatureMaps%20Help%20Guide.pdf

Please refer to the plant community lists below (which relate the location of the EcoVineyards demonstration sites) or enter your details into NatureMaps and follow the process above to access a plant list for your local area.

You may also be interested in using **nrmFarm**, a web based farm management tool which allows you to create and save a map of your farm including property boundaries, paddocks and infrastructure via secure login. It also allows you to record information like chemical applications, sowing dates, yield data, livestock movements, soil test results, and weed sightings.

The nrmFarm is available for the following regions. The nrmFarm program can be accessed here https://www.naturalresources.sa.gov.au/samurraydarlingbasin/land-and-farming/tools-for-land-managers/nrm-farm

LANDSCAPE SOUTH AUSTRALIA LIMESTONE COAST

LANDSCAPE SOUTH AUSTRALIA MURRAYLANDS AND RIVERLAND

LANDSCAPE SOUTH AUSTRALIA KANGAROO ISLAND

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Step 2: Costing your project

Decide what you would like to plant:

- Native plants via tube stock. Species selection will be dependent on the stock available from local nurseries. Planting may be required over two seasons if sufficient stock is not available in a particular season), or
- Native, perennial grasses/forbs, or
- A combination of both.

Indicative costings

- Tube stock will cost approximately $1.70 per plant for small plants propagated by seed, $3.20 per plant if propagated by cuttings, $3.75 per plant if propagated by division, or more depending on the size of the plant.
- A core flute tree guard (450mm high with 200mm sides) and wooden stake will cost approximately $1.90 each.

  NB: Alternatively, it may be possible to re-purpose old vine guards (cut down to size) to help save money (and the environment). For each re-purposed guard used, it may be possible to plant an additional tree!

  For information about local plant nurseries see here

  State Flora catalogue https://www.stateflora.sa.gov.au/buy-plants/how-to-order/catalogue
- Native grasses will cost approximately $1,500 to $2,500 per hectare for the supply and sowing of seed (depending on sowing rate), plus travelling and staffing on-costs to be determined by the contractor. The recommended seeding rate kg/ha will depend on the species selected. Please seek an individual quote to help cost your project.

Recommended plant spacing

- Native grasses (0.5 to 1 metre apart). Plant in clumps to help with weed control.
- Shrubs (2 to 3 metres apart) either randomly positioned (preferred) or in a straight line to assist with weed control.
- Large shrub/small tree (2 to 5 metres apart)
- Large tree (6 to 10 metres apart)

Calculating the planting area and the number of tube stock required (example)

Windbreak measuring 15 metres with plants 2 metres apart (plants per 100 m)

- **Area:** 100m long x 15m wide = 1,500 square metres (sqm).
- **Plant density:** 2 metres apart = 2 x 2 metres = 4 sqm.
- **Plants required:** 1,500 sqm (planting area) / 4 sqm (planting density) = approx. 375 plants are required.

If you are planting a hectare the equation would be 10,000 sqm / 4 square metres = 2,500 plants per hectare.

Calculating the planting area and number of tube stock required						
Calculator		**Width**		**Length**		**Step 3. Area covered**
Step 1.	**Project area**	15 m	x	100 m	=	1,500 sqm
						/
Step 2.	**Planting density**	2 m	x	2 m	=	4.00 sqm
						=
				Number of plants required		**375 plants**

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Step 3: Action!

You should now be well underway with your planting plan and the support needed to make your project a success. Don't forget to take photos from a set photo point, so we can share your progress!

Here are some more fact sheets to help you on your journey:

- Setting up photo points here
- Maintenance, weeds and pests here
- Watering and tree guards here
- Recording success here

Further reading

Articles on biodiversity enhancement using native insectary plants

EcoVineyards fact sheets: https://www.wgcsa.com.au/ecovineyards-factsheets.html

Retallack, M. (2011) **Vineyard biodiversity and insect interactions.** Grape and Win Research and Development Corporation, Adelaide. http://www.viti.com.au/pdf/Rmjr0811VineyardBiodiversityandInsectInteractionsBookletFINAL.pdf

Retallack, M. (2012) **Enhancing biodiversity in the vineyard.** Adelaide and Mount Lofty Ranges Natural Resources Management Board, Adelaide. http://www.viti.com.au/pdf/Enhancing%20Biodiversity%20in%20the%20Vineyard%20%20Workshop%20Notes.pdf

Retallack, M.J. (2018) **The importance of biodiversity and ecosystem services in production landscapes**. The Australian and New Zealand Grapegrower and Winemaker. Oct (657), 36 - 43. https://winetitles.com.au/gwm/articles/october-657/the-importance-of-biodiversity-and-ecosystem-services-in-production-landscapes/

Retallack, M.J. (2018) **The role of native insectary plants and their contribution to conservation biological control in vineyards**. The Australian and New Zealand Grapegrower and Winemaker. Nov (658). https://winetitles.com.au/gwm/articles/november-658/the-role-of-native-insectary-plants-and-their-contribution-to-conservation-biological-control-in-vineyards/

Retallack, M.J. (2018) **Practical examples of ways to establish native insectary plants in and around vineyards**. The Australian and New Zealand Grapegrower and Winemaker. Dec (659), 38-41. https://winetitles.com.au/gwm/articles/december-659/practical-examples-of-ways-to-establish-native-insectary-plants-in-and-around-vineyards/

Retallack, M.J. (2019) **The functional diversity of predator arthropods in vineyards**. The Australian and New Zealand Grapegrower and Winemaker. Jan (660), 23-26. https://winetitles.com.au/gwm/articles/january-660/the-functional-diversity-of-predator-arthropods-in-vineyards/

Retallack, M.J. (2019) **Ways to monitor arthropod activity on native insectary plants**. The Australian and New Zealand Grapegrower and Winemaker. Feb (661), 40-43. https://winetitles.com.au/gwm/articles/february-661/ways-to-monitor-arthropod-activity-on-native-insectary-plants/

Retallack, M.J., Thomson, L.J, and Keller, M.A. (2019) **Native insectary plants support populations of predatory arthropods for Australian vineyards.** 42nd Congress of Vine and Wine, International Organisation of Vine and Wine (OIV), Geneva, Switzerland. https://www.bio-conferences.org/articles/bioconf/abs/2019/04/bioconf-oiv2019_01004/bioconf-oiv2019_01004.html

Copies of these publications can also be found here https://www.australianbiologicalfarmingconference.org/mary-retallack.html

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Thank you to our project partners!

Acknowledgement of country

The EcoVineyards project acknowledges Aboriginal people as the First Peoples and Nations of the lands and waters we live and work upon and we pay our respects to their Elders past, present and emerging. We acknowledge and respect the deep spiritual connection and the relationship that Aboriginal and Torres Strait Islander people have to Country.

Disclaimer

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