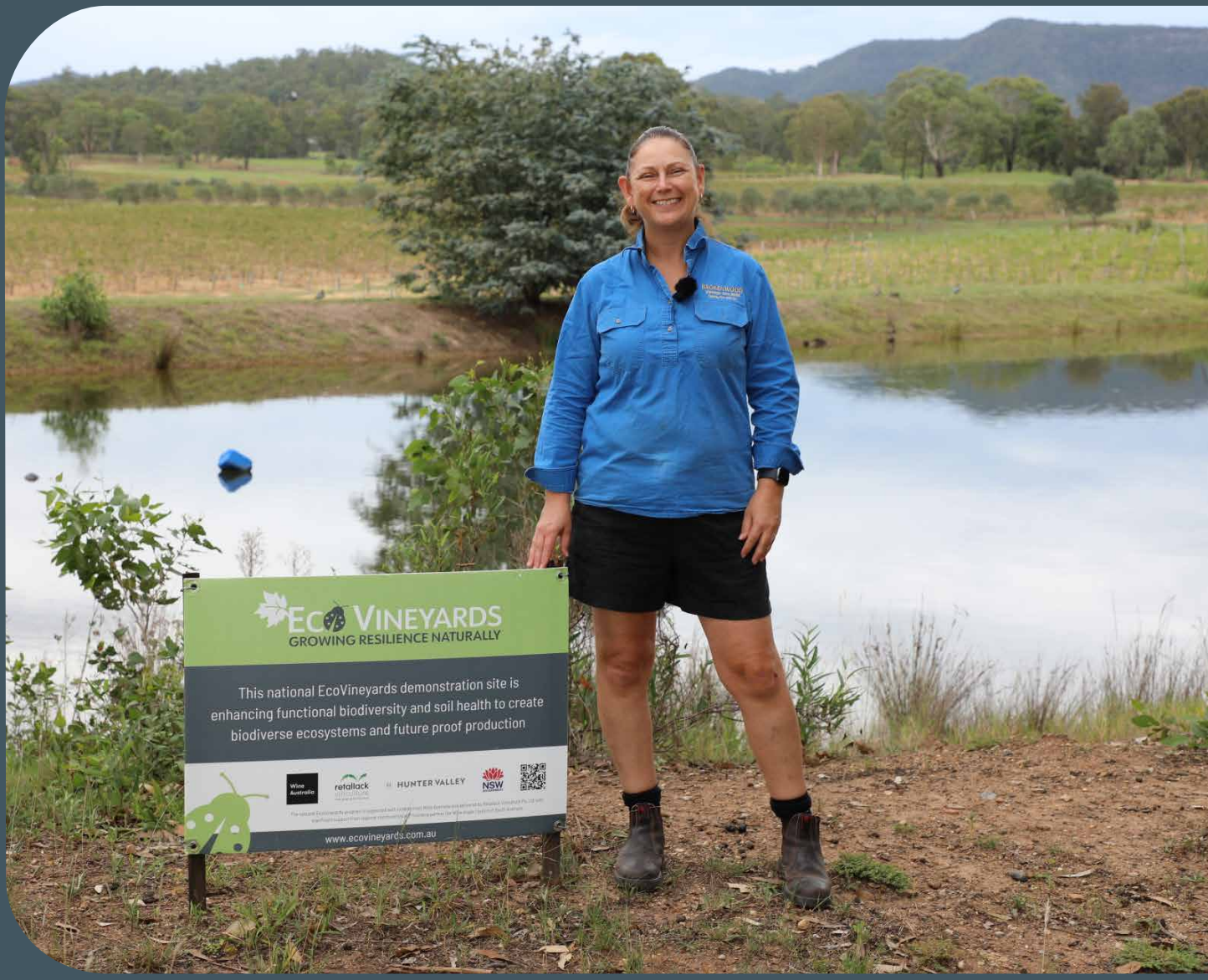
ECO VINEYARDS
GROWING RESILIENCE NATURALLY

CASE STUDY

INCORPORATING NATIVE INSECTARY GROUND COVERS AND SHRUBS AT BROKENWOOD WINES, HUNTER VALLEY, NSW

By Lorrae St Vincent, Brokenwood Wines and Dr Mary Retallack, Retallack Viticulture Pty Ltd



Wine Australia

retallack viticulture

BROKENWOOD
HUNTER VALLEY

BOOSTING BIODIVERSITY IN AND AROUND THE VINEYARD

Background

The Graveyard Vineyard, located at 401 to 427 McDonalds Road, Pokolbin NSW, spans a total of 17 hectares. 10.2 hectares is currently planted to Shiraz and 0.1 hectare to Merlot.

> ***"It has been a fantastic program to be part of thank you to the EcoVineyards team for providing such valuable resources and practical workshops that have helped us manage our vineyards in a more ecological and sustainable way."***
>
> **Lorrae St Vincent, Laboratory and Sustainability Lead, Brokenwood Wines**

Project description

Our project focused on enhancing biodiversity and ecosystem services across key areas of the Graveyard Vineyard:

- we established native habitat through the planting of insectary shrubs and grasses adjacent to vineyard blocks
- introduced sedge and rush species around the top dam to improve wetland biodiversity
- native grasses were also planted to support populations of native arthropods and bird species
- we trialled a pollinator crop blend in the mid-rows to boost functional biodiversity
- installed a native *Westringia fruticosa*, coastal rosemary bio-hedge as a dual bio-security buffer and to enhance bio-diversity

Figure 1: EcoGrowers Kat Barry and Lorrae St Vincent, 2023 [Photo: Mary Retallack].

What did you do and when?

Date	Task
1/05/2023	Native perennial grasses sown on dam surrounds and mid row-wallaby grass seed mix.
2/10/2023	Island Biologicals Biocast - wormcast biostimulant liquid (20L) fertigation - all blocks.
1/05/2024	Pollinator cover crop (Road Block 1.2 ha) very successful growth, oats and green manure mix including busta radish on all other blocks.
10/05/2024	5 x microbat boxes installed.
29/11/2024	Advanced Seed *Dichondra repens*, tom thumb 2 x 500gm planted on the dam wall, mid row and undervine cover crop trial in one block.
12/09/2024	Impact Ecology - microbat call analysis.
30/04/2025	Compost made last year post vintage incorporating grape marc to use for native plantings and spread on 4 blocks.
10/10/2024	Native tubestock *Westringia fruticosa* ,coastal rosemary biosecurity hedge planted, sedges and rushes planted around the dam including native shrubs *Lomandra longifolia*, spiny-head mat-rush and *Dianella caerulea*, blue flax-lily.
15/03/2025	Installed predatory bird perch.
18/03/2025	The Seed Collection native seed mixes including creeping saltbush, everlasting daisies, alyssum, billy buttons to plant in and around native shrubs to attract beneficial insects.
30/04/2025	Native tubestock *Leptospermum juniperinum*, prickly tea tree; *Bursaria spinosa*, sweet bursaria or blackthorn; *Lomandra longifolia*, spiny-head mat-rush; Poa labillardierei, common tussock-grass; Hakea sp. planted as native insectary pockets and adjacent to vineyard strainer posts.
30/04/2025	ANL Greenlife mulch and compost maintenance of plants and weed suppression.

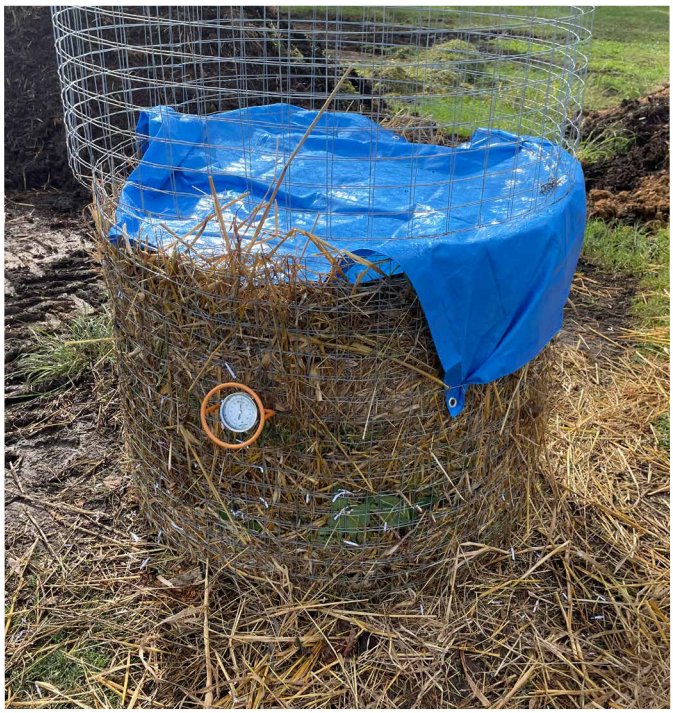


Figure 2: Thermal, fungal dominated compost to brew compost tea [Photo: Mary Retallack].

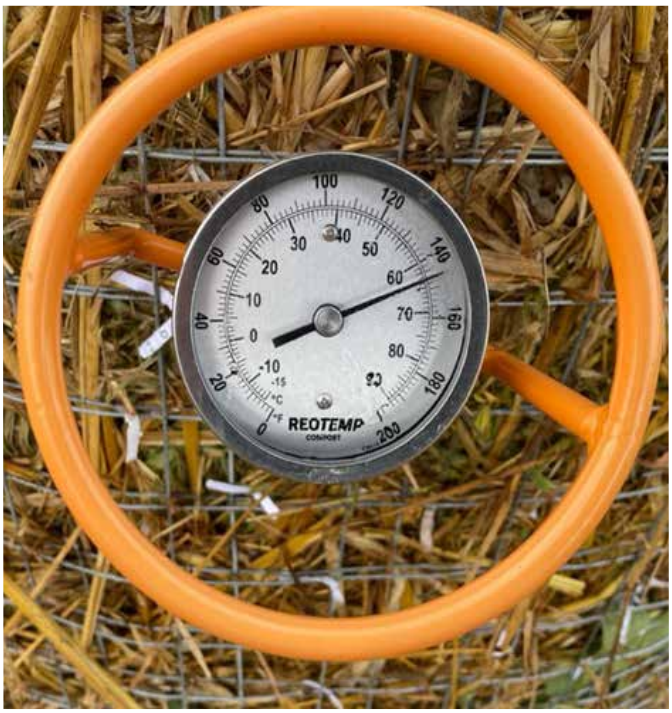


Figure 3: Compost tea thermometer (turn pile before it reaches 65 °C) [Photo: Mary Retallack].

If you changed your project, what was the reason for the change?

Due to prolonged wet weather over the past couple of years, we were forced to delay plantings until quite late in the season. Unfortunately, a significant number of plants did not survive.

As a result, we decided to prioritise replacing the lost plants rather than allocating funds toward new plantings in one of the areas originally designated in our Biodiversity Action Plan (BAP). We also opted to incorporate native seeds, including grasses and flowering shrubs, to enhance diversity and resilience.

What worked well?

The pollinator blend used as a mid-row cover crop performed well; however, its height became problematic as fruit ripening approached. To manage this, we slashed it to half its height, which encouraged regrowth and resulted in a second flush of flowering, further supporting pollinator activity.

The sedges and rushes planted around the top dam have also flourished following a strong rainfall season. We're looking forward to observing how this additional habitat contributes to improved water quality and supports arthropod and bird populations.

Any pitfalls to avoid?

We underestimated the level of soil preparation required prior to planting, as well as the time needed for post-planting maintenance, particularly weeding.

We've found that applying a thick layer of mulch ideally using cardboard followed by compost or heavy mulch immediately after planting significantly improves plant survival and reduces weed pressure.

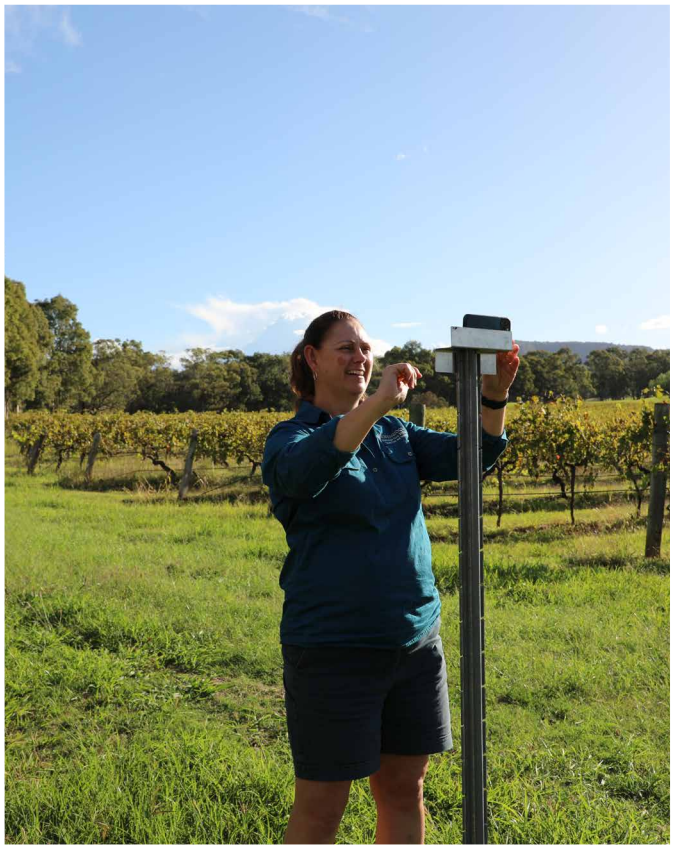


Figure 4: Lorrae installing a photo point to record growth of plants [Photo: Mary Retallack].

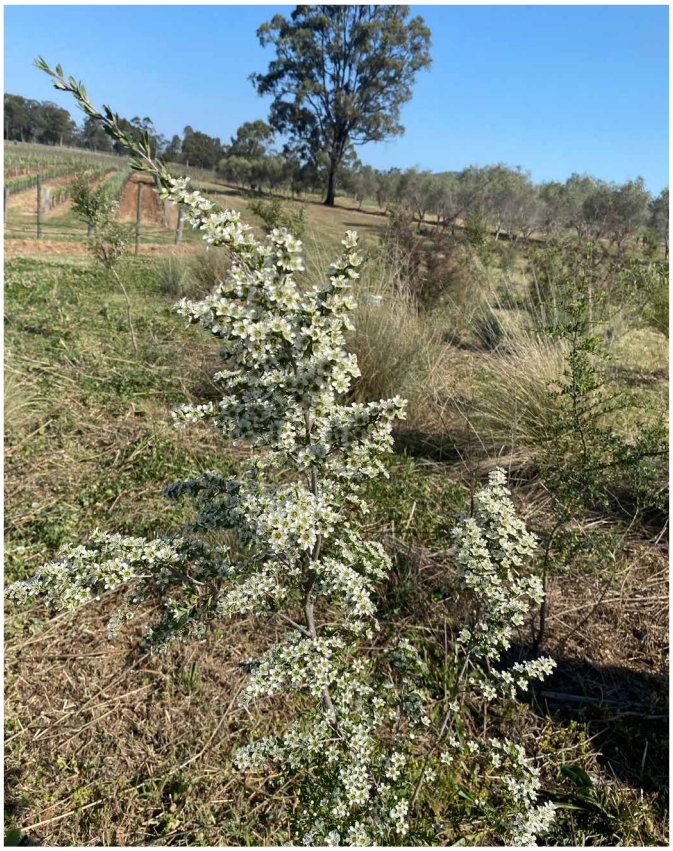


Figure 5: Brokenwood Wines biodiversity bed, September 2023 [Photo: Brent Hutton].

What are you more aware of now?

This program has not only provided us with invaluable resource materials, but it has also increased our awareness of on-site biodiversity.

Observing the growth of the plantings and the increasing diversity of species across the vineyard has deepened my understanding of seasonal insect activity and its connection to pest and disease management practices.

Where to from here?

We now have a much clearer understanding of which native shrub species thrive on our vineyard and their flowering patterns throughout the seasons. This has helped identify the species that are most beneficial, and I'm keen to continue planting more of these, particularly around strainer posts, to enhance biodiversity and habitat value.

What has been the most valuable aspect of the program for you personally?

I've thoroughly enjoyed all the workshops and gained valuable knowledge, particularly around composting, microbats, and other topics I wouldn't have had the opportunity to explore without the support of this funded program.

I've gained a great deal of knowledge about local native species and the benefits of creating and maintaining native habitat.

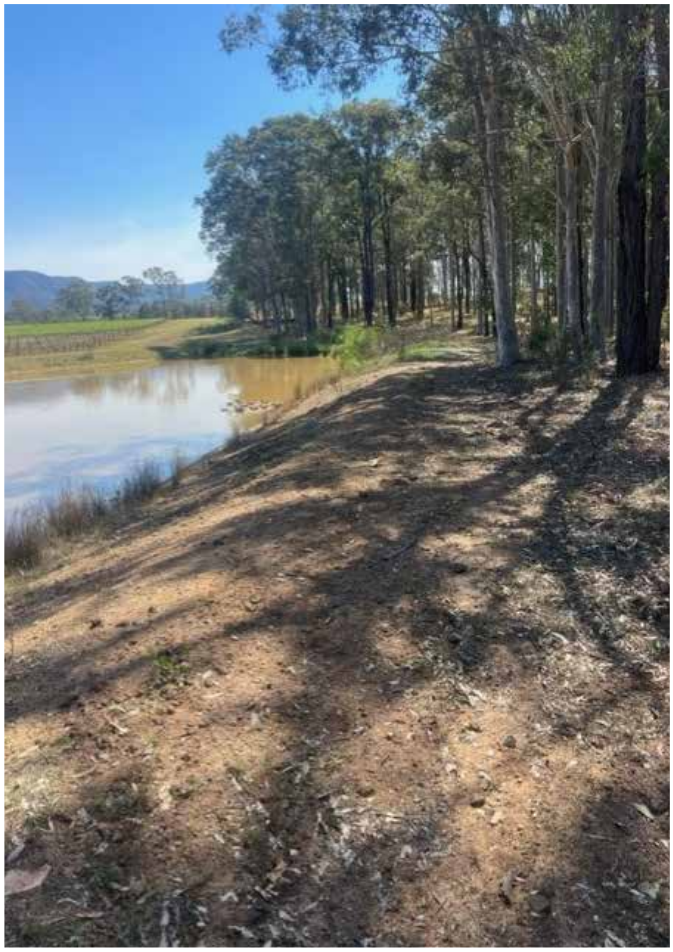


Figure 6: Dam where native grasses were spread, September 2023 [Photo: Brent Hutton].

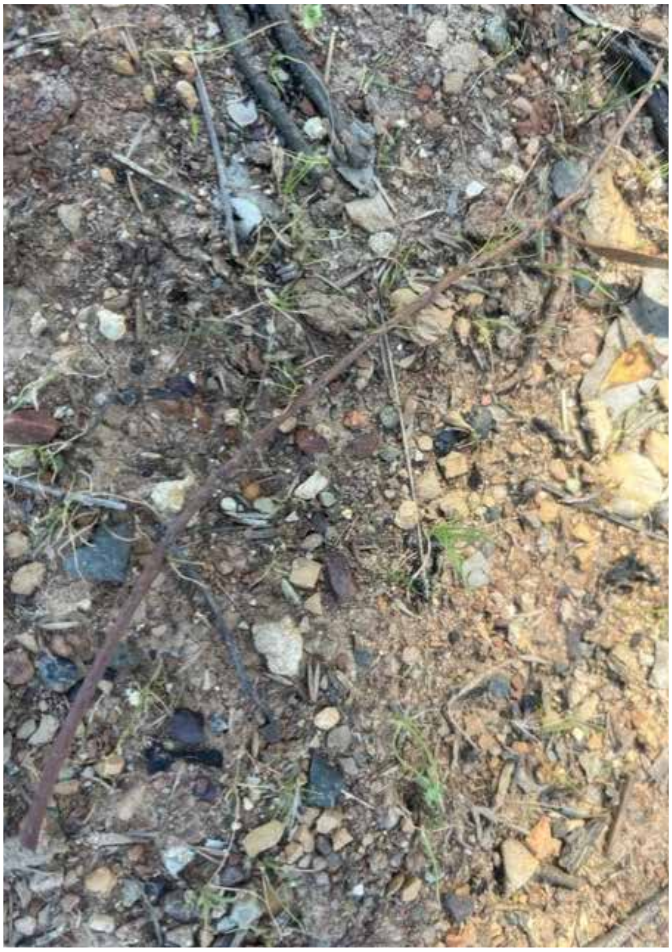


Figure 7: Native grasses beginning to sprout [Photo: Brent Hutton].

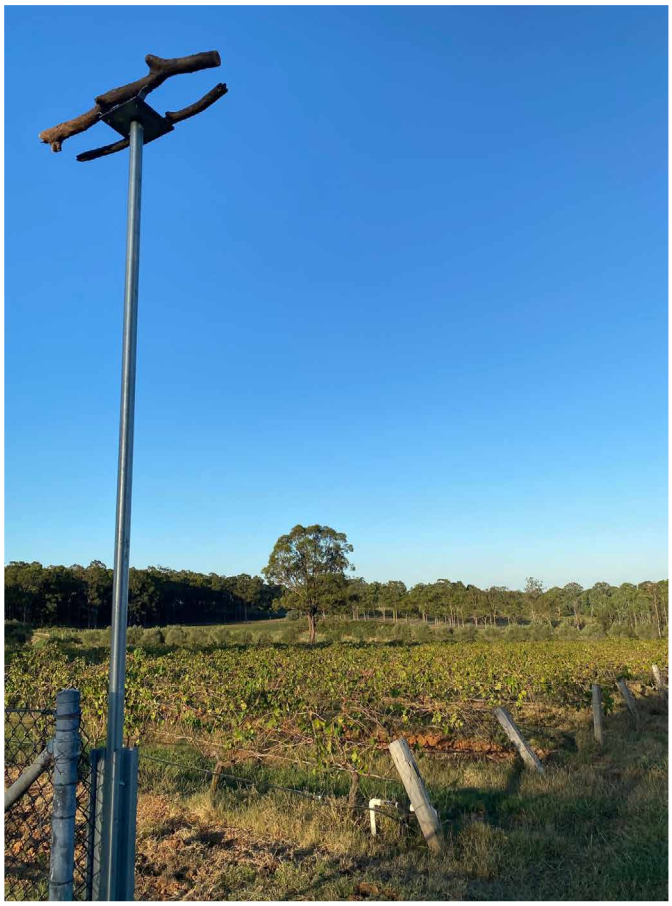


Figure 8: Bird perch installed to provide a vantage point to attract predatory bird species [Photo: Lorrae St Vincent].

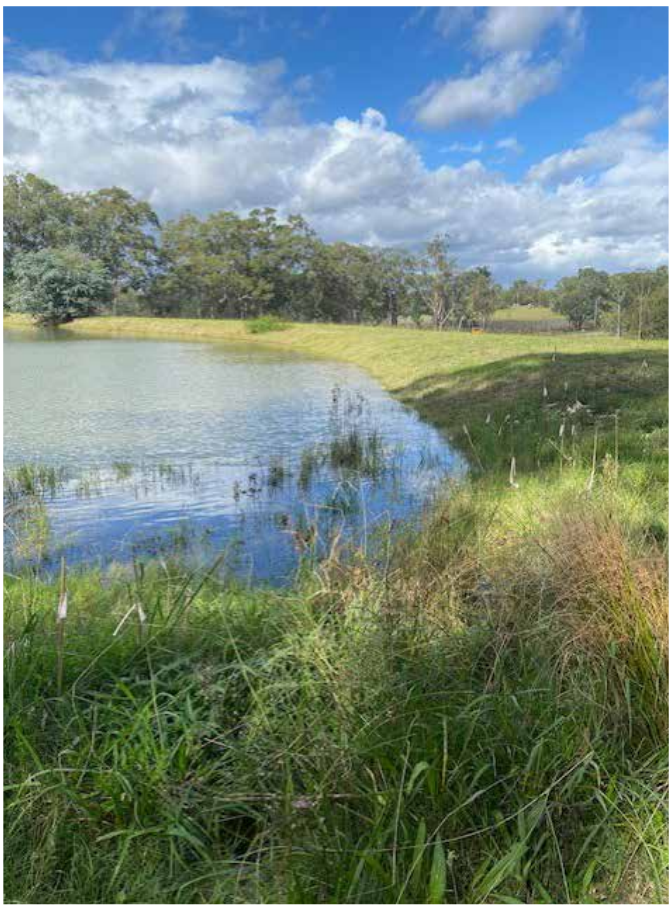


Figure 9: Graveyard Vineyard sedges a rushes Top Dam, May 2025 [Photo: Lorrae St Vincent].

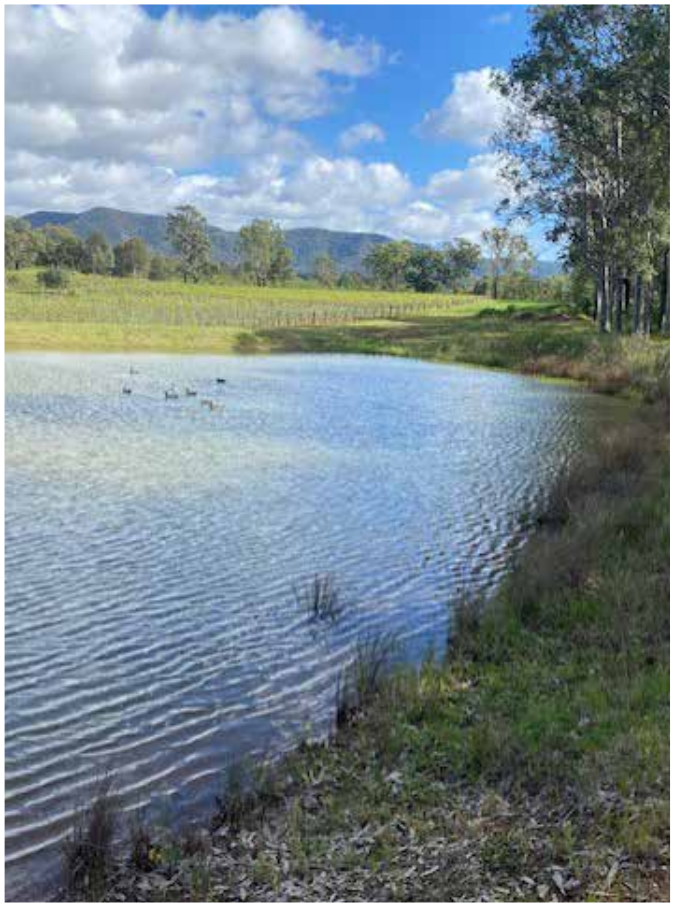


Figure 10: Graveyard Vineyard Top Dam surrounds, May 2025 [Photo: Lorrae St Vincent].

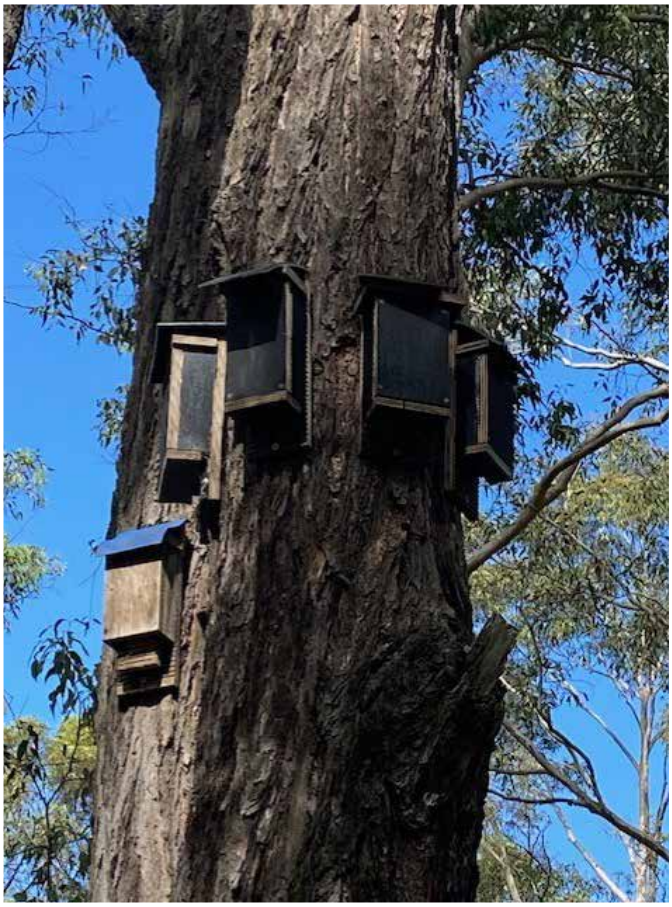


Figure 11: Microbat boxes Graveyard Vineyard #1 [Photo: Lorrae St Vincent].

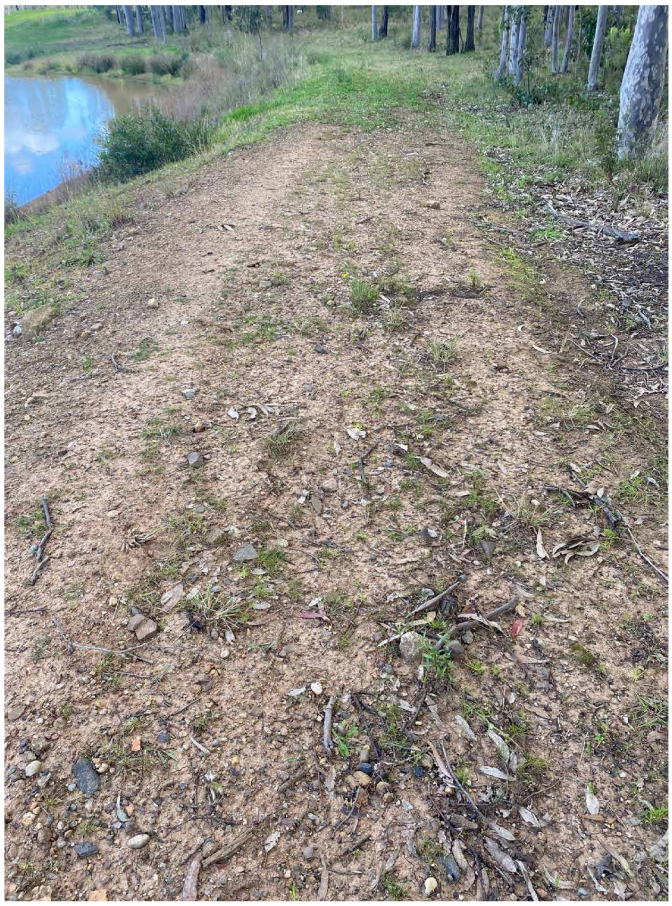


Figure 12: Graveyard vineyard wallaby grass establishing, August 2024 [Photo: Lorrae St Vincent].

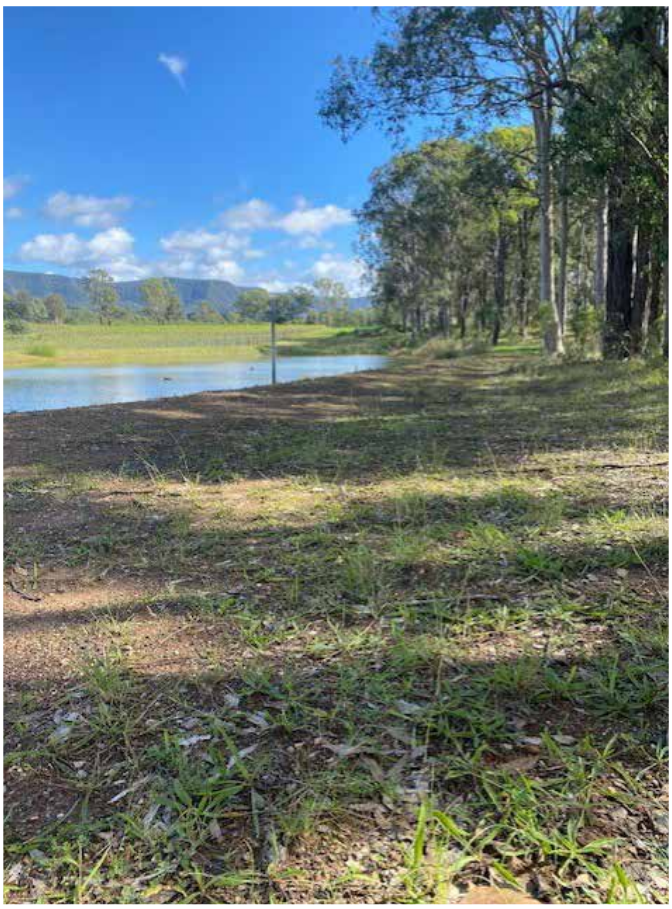


Figure 13: Graveyard Vineyard wallaby grass seed, May 2025 [Photo: Lorrae St Vincent].

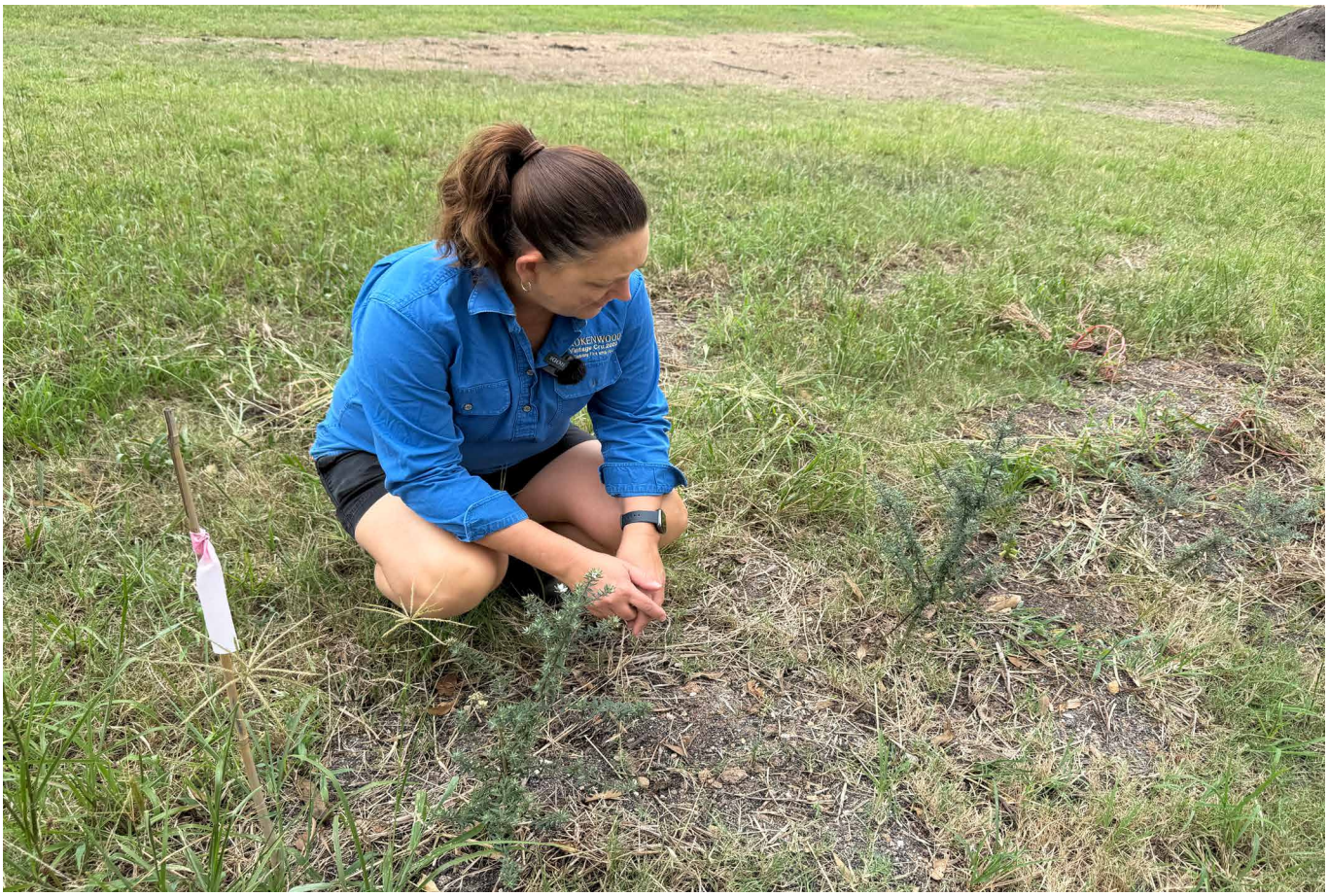
Figure 14: *Westringia fruticosa*, coastal rosemary [Photo: Lorrae St Vincent].

Figure 15: Polinator Cover Crop, November 2024[Photo: Lorrae St Vincent].

Plant list

Planted around the dam			
#	**Scientific name**	**Common name**	**# planted**
1	*Baumea rubiginosa*	soft twig rush	50 tubes
2	*Carex appressa*	tall sedge	25 hiko + 25 tubes
3	*Dianella caerulea*	blue flax-lily	25 tubes
4	*Eleocharis acuta*	common spikerush	25 hiko
5	*Juncus usitatus*	common rush	25 hiko + 25 tubes
6	*Lomandra longifolia*	spiny-head mat-rush	25 tubes
Shrubs			
7	*Bursaria spinosa*	sweet bursaria or blackthorn	320 tubestock
8	*Leptospermum juniperinum*	prickly tea tree	
9	*Lomandra longifolia*	spiny-head mat-rush	
10	*Lotus australis*	austral trefoil	
11	*Poa labillardieri*	common tussock-grass	
12	*Westringia fruticosa*	coastal rosemary	25 tubes
		Total	**570**

A heartfelt thank you to Mary Retallack for leading this program with such passion and integrity. She has truly been a driving force in shifting the way we approach vineyard management.



Expenses

Date	Item	Number of plants	EcoVineyards costs (ex GST)	Co-contribution (landholder contribution)	In-kind time
5/09/2023	Herbicide (weed control)			$100	2 hrs
8/09/2023	Tree guards and stakes (570 guards x $1.90 ea) Arborgreen		$386		
16/10/2023	Terra start (Arborgreen)		$250		
24/05/2023	Compost thermometer (Groundgrocer)			$380	
1/05/2023	Native perennial grasses sown on dam surrounds and mid row	4 kg seed		$600	
2/10/2023	Island Biologicals Biocast wormcast biostimulant liquid (20L) fertigation		$800		2 hrs
1/05/2024	Pollinator cover crop (Road Block 1.2ha)			$500	
29/11/2024	Advanced Seed *Dichondra repens* 2 x 500 g	1 kg seed	$126		
12/09/2024	Impact Ecology - microbat call analysis		$124		
30/04/2025	Compost incorporating grape marc to use for native plantings			$300	40 hrs
10/10/2024	Native tubestock	150	$269		
18/03/2025	The Seed Collection		$25		
30/04/2025	Native tubestock Hunter indigenious plants	420	$909		
30/04/2025	ANL Greenlife mulch and compost 15m^3		$1,014		
	EcoGrower contribution			$3,000	
	Total	**570**	**$3,904**	**$4,880**	**42 hours**

Disclaimer

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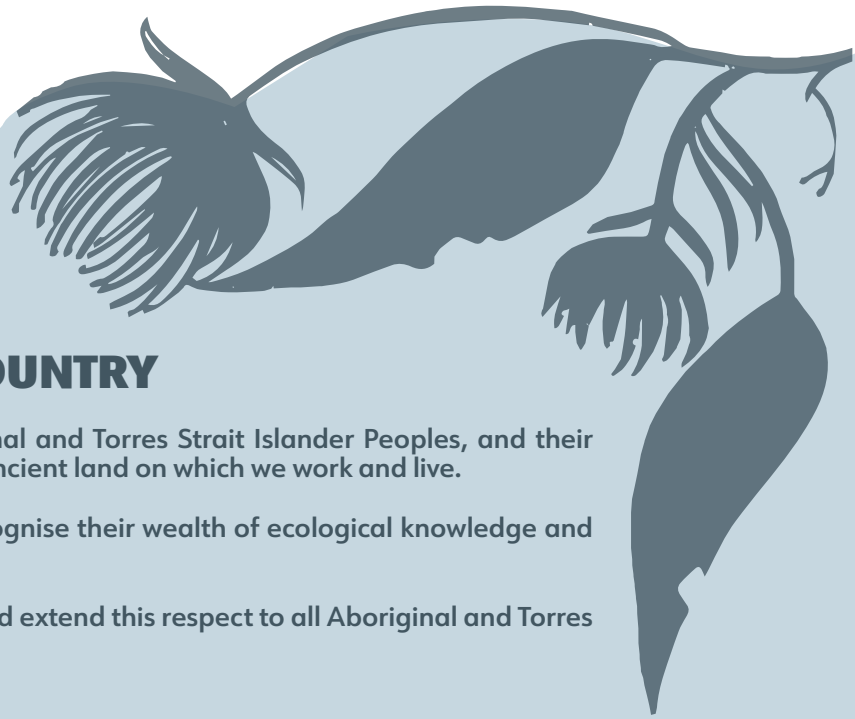
The National EcoVineyards Program is funded by Wine Australia with levies from Australia's grape growers and winemakers and matching funds from the Australian Government.



ACKNOWLEDGEMENT OF COUNTRY

EcoVineyards proudly acknowledges the Aboriginal and Torres Strait Islander Peoples, and their ongoing cultural and spiritual connection to this ancient land on which we work and live.

As the Traditional Custodians of this land, we recognise their wealth of ecological knowledge and the importance of caring for Country.

We pay our respects to elders past and present and extend this respect to all Aboriginal and Torres Strait Islander Peoples.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