ECO VINEYARDS
GROWING RESILIENCE NATURALLY

CASE STUDY

ESTABLISHING NATIVE INSECTARY PLANTS AT TOLDEROL VINEYARDS

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Wine Australia

retallack viticulture

ESTABLISHING NATIVE INSECTARY PLANTS NEAR THE VINEYARD

Background

Tolderol Vineyard is located at Lot 7, 9 and 10 Sheoak Rd Tolderol, in the Langhorne Creek wine region and consists of a total of 8.3 hectares with 7.2 planted to Shiraz and Cabernet Sauvignon.

The area is plains country, near Lake Alexandrina with few natural trees. Neighbouring Kayinga Vineyards have had big success planting *Allocasuarina verticillata*, drooping Sheoak, which is an important food source for red-tailed black-cockatoo and other parrot species.

"The EcoVineyards program has provided us with a wealth of information and a starting point for us to know what and how to plant native species and improve biodiversity alongside our vineyard area. The educational lectures and support along the way have been invaluable."

Lucy Verco

What were you hoping to achieve and why?

Our project area is on the eastern side of our vineyard. It is a 'wedge shape' 200m long and 50m wide at the southern end. Our plan was to plant this area as a native insectary and to improve biodiversity in the area and to improve soil health.

What did you do and when?

I heard about the EcoVineyards program from a friend in the Coonawarra region who had been involved.

We joined in January 2023 to help improve the biodiversity of plants in the area, improve soil microbiome and provide a habitat for birds and bugs.

In June 2023, after spraying the area with weedicide, we planted 75 natives purchased mainly from a local grower from Strathalbyn and State Flora using a Victa post hole digger. That winter we experienced average rainfall, so we didn't need to water the plants until November 2023.

We hand watered (with 19 mm poly pipe connected to the vineyard irrigation) monthly over summer. This worked well for our area, with only a few losses occurring.

In June 2024, we planted another 166-tube stock. The winter was exceptionally dry (150 mm for the entire year of 2024) and we have had to water the plants every month.

For our 'wedge shape' area, it did not suit to put out drip irrigation and we could not justify purchasing a water trailer, so a series of black irrigation pipes taping into the vineyard irrigation suited best.

We have an added challenge in that we live an hour's drive from the vineyard, so we make designated visits once a month to water and maintain the plants.

We have invested many hours manually removing weeds (some spot glyphosate applications too although we tried to minimise this), plus mowing both with a tractor and a push/rotary mower in between the plants.

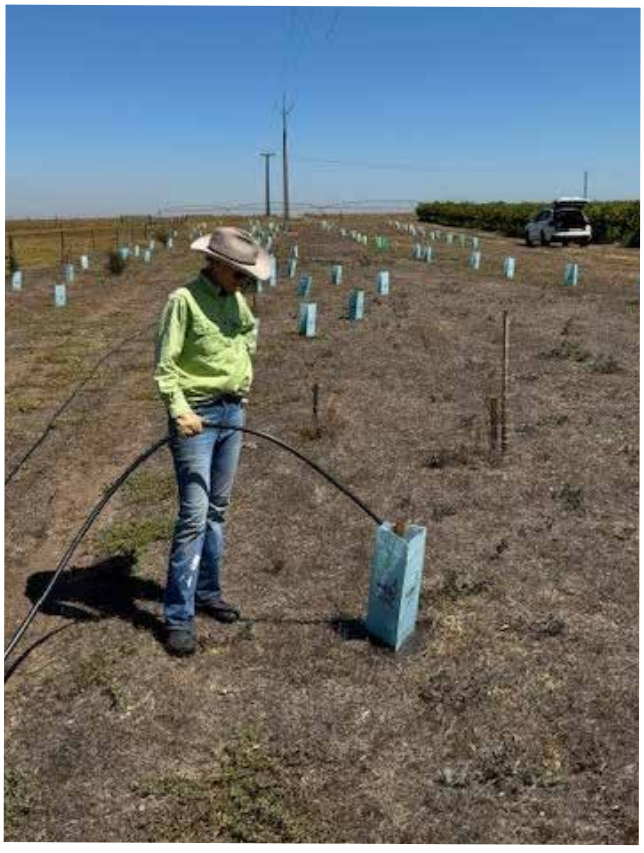


Figure 1: Hand watering plants using a 19 mm pipe.

What worked well?

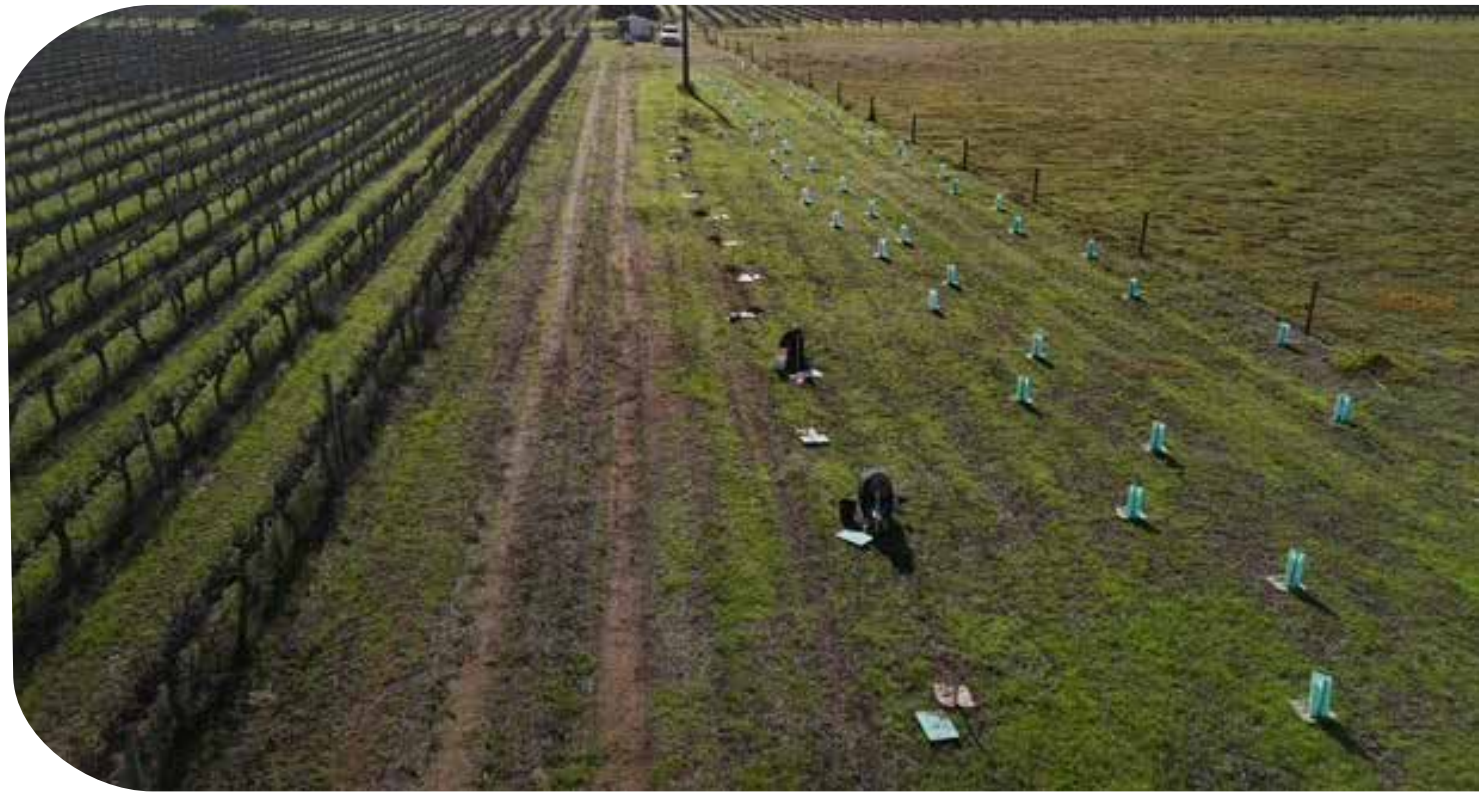
We have been really happy with our layout which has allowed us the ability to mow and access all plants. We have been conscious not to plant anything with a potential height +4m under the line of telegraph wires for obvious reasons.

We purchased a Victa 2 stroke post-hole digger from Bunnings which made hole digging a lot easier!

I also took time in photographing species with their tag to assist me in identifying them.

Did you find any pitfalls to avoid?

For future plantings, we will take more time in preparing the area of each tube stock and make the planting wells a diameter of at least 500mm to assist in holding as much water as possible.



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

We have many microbats in the area and activity in our microbat boxes has been pleasing. Also, my plant identification has improved extraordinarily! We hope to replace plant another 50 or so this winter. I am also propagating my own ruby saltbush and pigface and have native grasses amongst our insectary.

The most valuable aspect of the project has been the pleasure in observing the plants grow and the increase of birds and insects in the area.

Where to from here?

We would love to be able to sow native grasses between and under vine in the future, but funds are a limiting factor at the moment. We hope to extend this planting plan to the western side of the vineyard at some stage in the future.

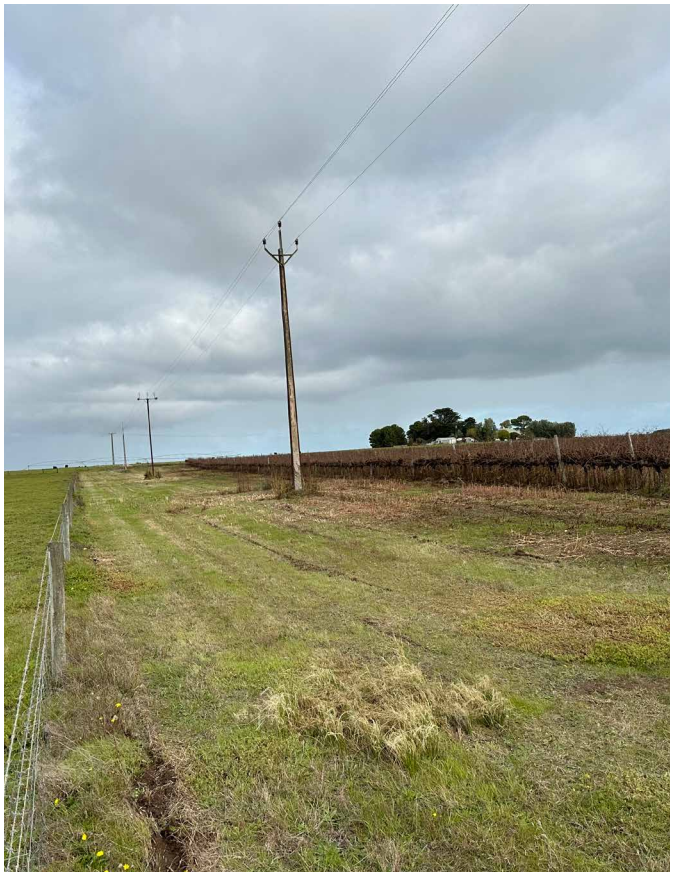


Figure 2: The insectary area pre-planting [Photo: Lucy Verco].

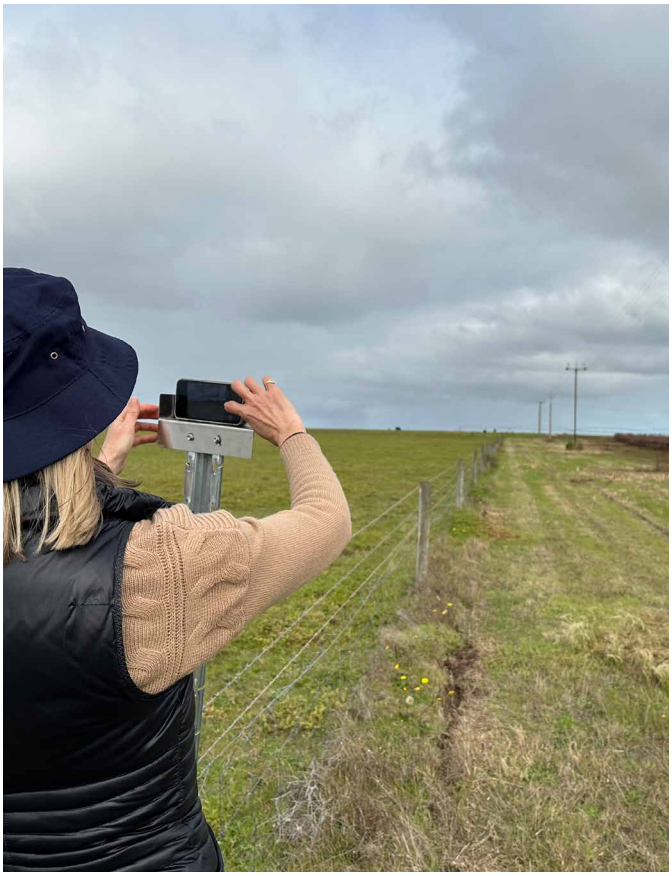


Figure 3: Lucy setting up the photo point and taking pre-planting photos [Photo: Mary Retallack].

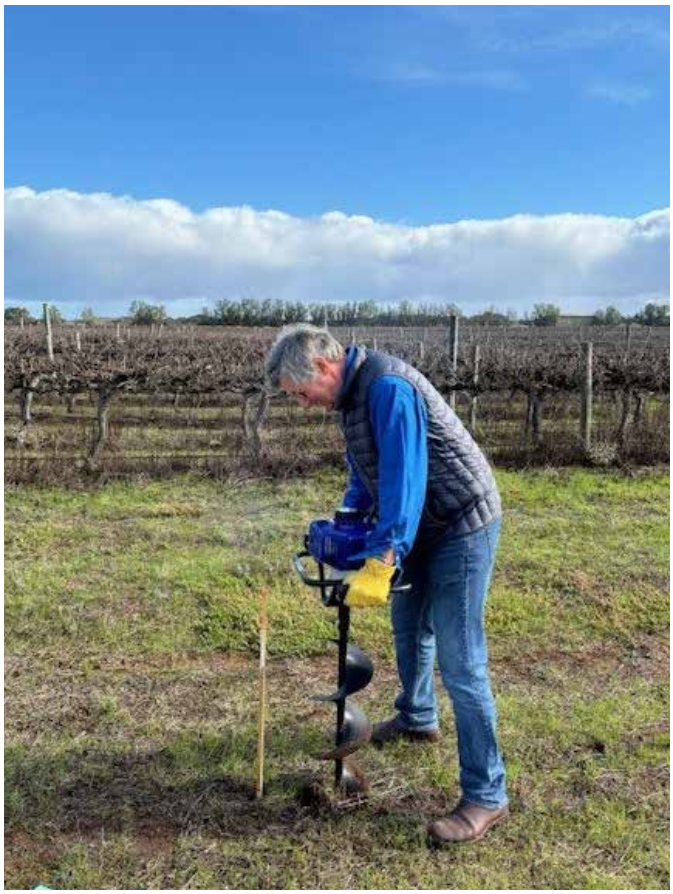


Figure 4: Victa post hole digger [Photo: Lucy Verco].

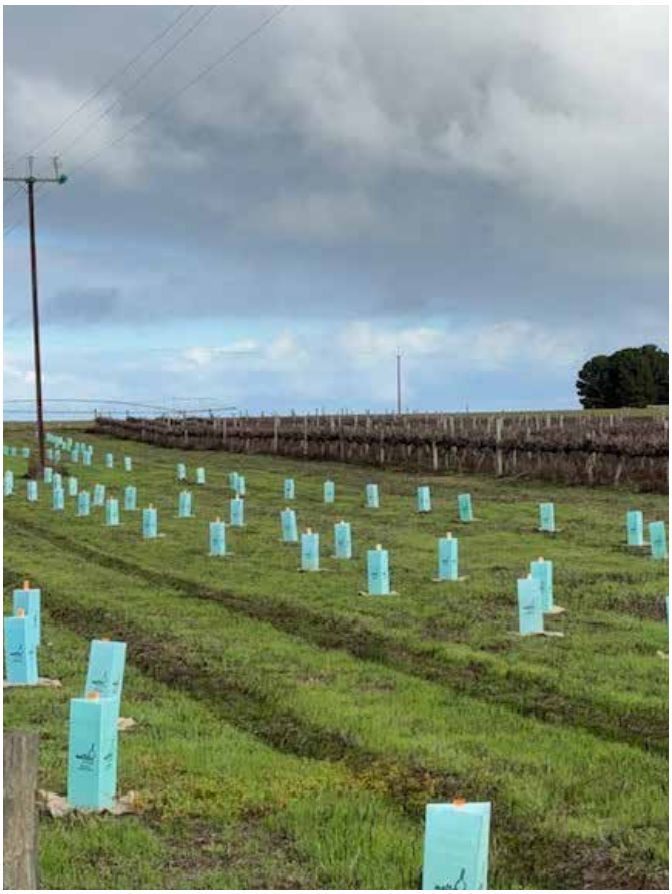


Figure 5: First round of plants in the ground with tree guards in June 2023 [Photo: Lucy Verco].

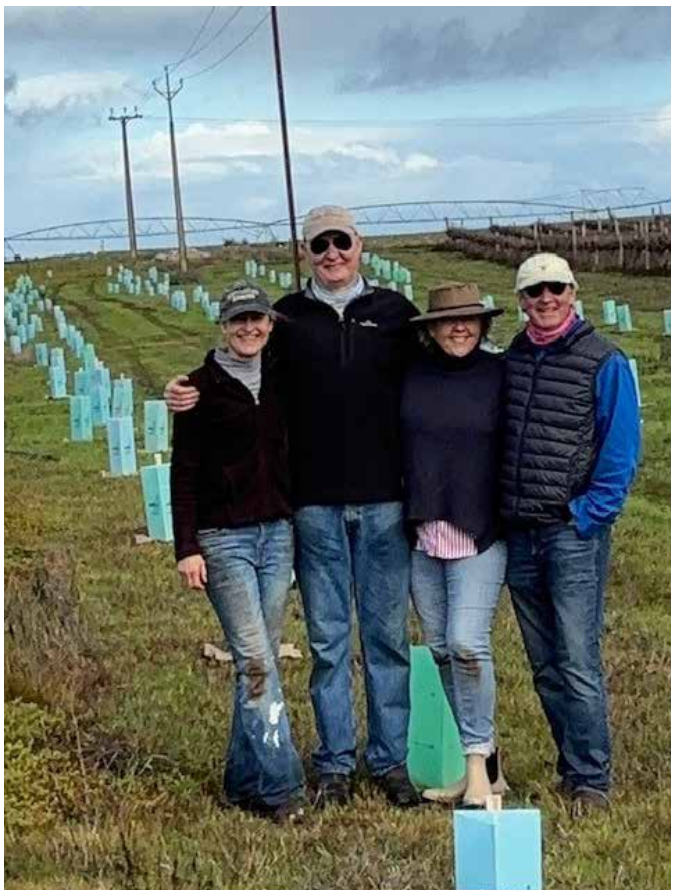


Figure 6: The planting team, June 2023 [Photo: Lucy Verco].

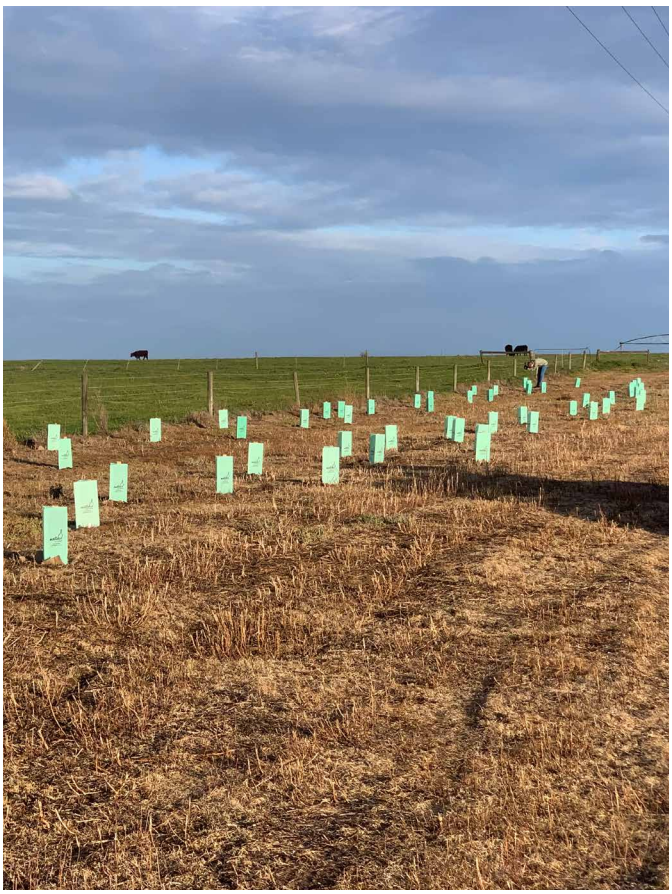


Figure 7: The second round of shrubs planted, June 2024 [Photo: Lucy Verco].

Figure 8: Second year of growth, March 2025 [Photo: Lucy Verco].

Plant list

#	Botanical name	Common name	Number planted	Number survived (March 2025)
1	*Acacia longifolia sophorae*	coastal wattle	2	0
2	*Acacia myrtifolia*	myrtle wattle or red stemmed wattle	1	0
3	*Acacia paradoxa*	kangaroo thorn/prickly wattle	5	5
4	*Acacia pycnantha*	golden wattle	8	5
5	*Allocasuarina verticillata*	drooping sheoak	15	14
6	*Atriplex nummalaria*	old man's saltbush	11	11
7	*Austrostipa elegantissima*	feather spear grass	3	1
8	*Bursaria spinosa*	native box/sweet bursaria	13	11
9	*Callistemon rugulosus*	scarlett bottlebrush	13	5
10	*Chenopodium nutans*	climbing or nodding saltbush	14	13
11	*Cullen australasicum*	native scurf pea	12	9
12	*Dianella brevicaulis*		4	4
13	*Dodonaea baueri*	crinkled hopbush	13	5
14	*Enchylaena tomentosa*	ruby saltbush	13	13
15	*Eucalyptus camaldulensis*	river red gum	6	4
16	*Eucalyptus frasciculosa*	pink gum	5	3
17	*Eutaxia microphylla* spp diffusa	mallee bush-pea	15	4
18	*Hakea mitchellii*	desert hakea	7	7
19	*Kennedia prostrata*	running postman	13	1
20	*Melaluca lancelota*	stringybark	10	9
21	*Myoporum insurlare*	boobialla/native juniper	2	1
22	*Pelargonium australe*		16	11
23	*Podolepis* sp daisy		13	5
24	*Pomaderris paniculosa*	scurfy pomaderris	13	10
25	*Wahlenbergia stricta*	native bluebell	16	7
		Total	**241**	**158**

Highlights and insights

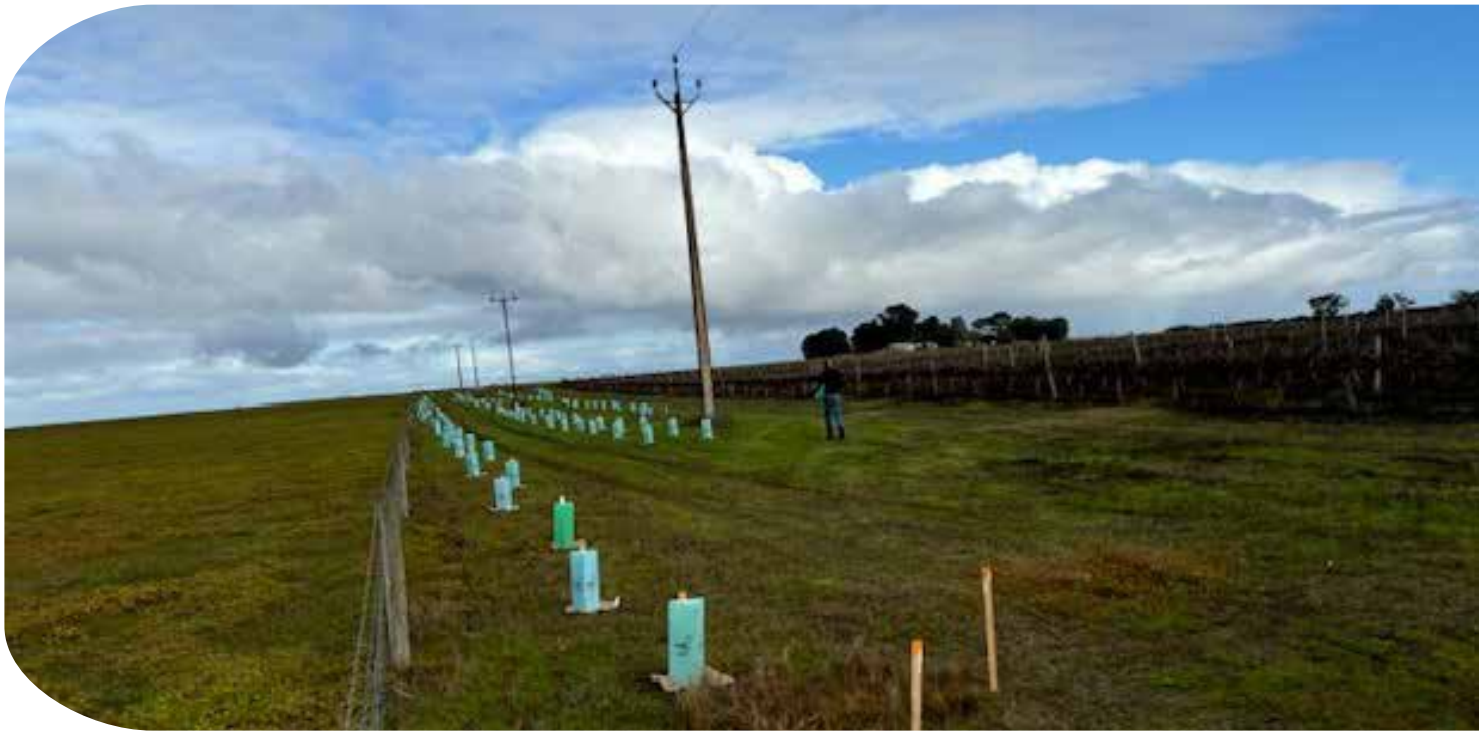
From the above table, it is evident most species have survived fairly well (considering the exceptionally dry year), except for *Kennedia prostrata*, running postman - being the worst performing.

I am now propagating my own *Enchylaena tomentosa*, ruby saltbush and *Carpobrotus rossi*, pig face to plant next to the seedling trees to assist in weed smothering, maintaining soil moisture etc.

In our experience, jute squares are a must! They not only supress weeds but provide a wonderful insulator from the hot sun and a valuable moisture retaining medium. These have lasted at least 18 months for our environment.

Tree guards of course are also essential assisting the plants to establish. In many instances, we are now putting wallaby guards around taller species to protect them from kangaroos and stock that occasionally escape into the area.

We made the mistake of using second hand tree guards, which turned out to be brittle and not nearly as strong as if they were new. We then had to purchase bamboo stakes to hold the guards in place as the winds in our area are gale force!



I have spray-painted the ends of the stakes using a different colour for when we replace/replant which we have found helpful.

We had issues with snails in the winter of 2023. For our 2024 plantings, I purchased a heap of coffee grinds from my local coffee shop and placed a circle of coffee grinds around each plant. This seemed to help as we had very few snails on the plants, but it was not a controlled experiment. However, costing nothing and breaking down to provide fertiliser for the plant we felt it was valuable!

We also put a handful of wetting agent out at the beginning of summer and we used a handful of our provided Rockdust.

Sadly, the bag of native grasses seeds we were given by EcoVineyards has had minimal uptake - at the time of writing, however as I have learnt from one of the lectures, native grasses take a long time to establish and when we do receive some rain we may see them emerging in the coming spring.

Has your level of knowledge increased significantly?

Yes our level of local plant species has dramatically advanced and I look forward to knowing more insect and bird species as the plants grow and we encourage local species in.

Overall, the EcoVineyards project has been an educational distraction from the current depressing grape industry. We hope to have initiated an insectary area which will flourish well into the future and we thank Mary and her team for her wealth of knowledge and initiative in establishing this wonderful organisation.

Costs

Date	Item	Number of plants	EcoVineyards costs (ex GST)	Co-contribution (landholder)	In-kind (time)
26/5/23	50 Arborgreen tree guards/stakes ($2.50 ea) 100x jute squares ($87.6)		214.60		Many hours weeding, watering and maintaining the area
28/5/23	Tube stock from Belair State Flora ($4 ea)	10	36.36		
9/6/23	10 Arborgreen tree guards/stakes		24.98		
9/6/23	50 tube stock plants from Goolwa to Wellington LAP ($3 ea)	50	136.36		
13/6/23	15 tube stock @ $4 each from Belair State Flora 15 tree guard kits ($2.25 ea)	15	85.23		
31/5/24	160 Arborgreen stakes ($2.50 ea) 200x jute squares ($174.11)		371.21		
20/6/24	150 tube stock seedlings	150	409.5		
29/6/24	4 x tube stock seedlings	4	18.18		
10/8/24	Bamboo stakes 2 x 20 pack		18.08		
7/9/24	Bamboo stakes 2 x 20 pack		18.16		
11/9/24	6 x tube stock seedlings	6	21.83		
29/6/24	20 x stakes		41.58		
17/6/24	Irrigation polytube 19mm pipe plus joiners		49.20		
16/1/25	Irrigation polytube 19mm pipe		22.73		
23/6/24	Victa post hole digger		288.53		
	50 tubestock plants @$3ea from Second Nature Conservancy	50	136.36		
	1 x tub Rockdust				
	1 x tub wetting agent				
	Total	**285**	**$1,892.89**	**$3,000**	

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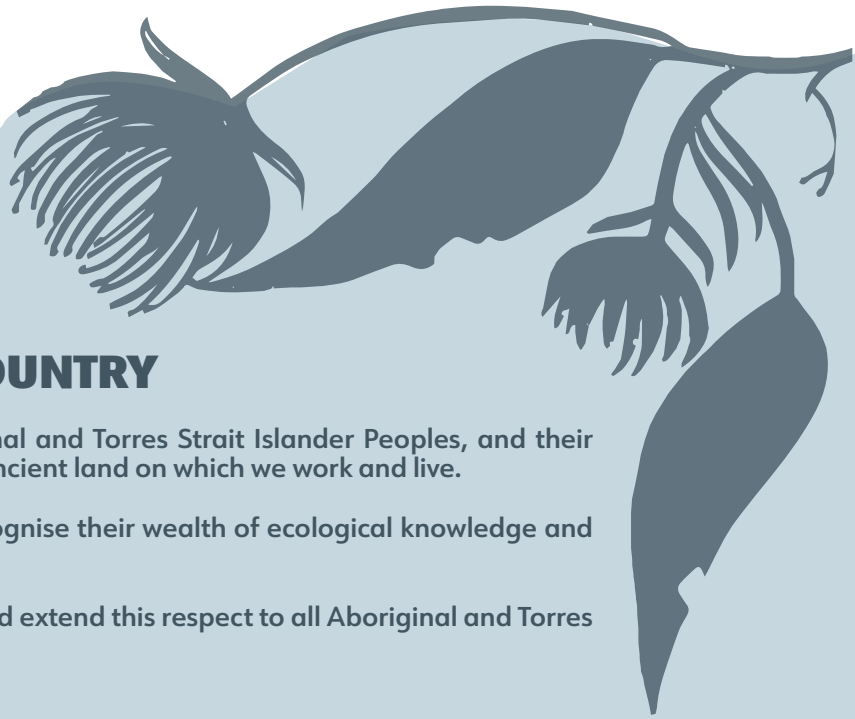
The National EcoVineyards Program is funded by Wine Australia with levies from Australia's grape growers and winemakers and matching funds from the Australian Government.



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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