ECO VINEYARDS
GROWING RESILIENCE NATURALLY

CASE STUDY

ESTABLISHING NATIVE INSECTARY TO BOOST BIOCONTROL OF GRAPEVINE INSECT PESTS AT TAMBURLAINE ORGANIC WINES, ORANGE, NSW

By Marty Gransden, Tamburlaine Organic Wines and Dr Mary Retallack, Retallack Viticulture Pty Ltd

Wine Australia

retallack viticulture

ENHANCING BIOCONTROL OF INSECT PESTS

Background

The property is located at 510 Borenore Road, Borenore NSW and consists of a total of 119 hectares with 88 hectares planted to Cabernet Sauvignon, Cabernet Franc, Shiraz, Merlot, Pinot Noir, Petit Verdot, Grenache, Malbec, Chardonnay, Pinot Gris, Riesling, Semillon, and Sauvignon Blanc.

Project description

Our overarching goal is the continual improvement of both soil and vine health across all vineyard sites. As part of this commitment, we were drawn to the EcoVineyards program to establish a trial insectary.

Inspired by their recommendations, we launched a project to plant native and regionally appropriate shrubs designed to attract and support beneficial insect populations within our vineyard environment. This aligns closely with our sustainability goals and long-term vision of enhancing biodiversity as a natural form of pest control.

What did you do and when?

May 2024

- **Trial plantings:** We established our first insectary area by planting a diverse mix of native shrubs, focusing on species known to support beneficial insect life. This trial site was carefully selected and fenced to protect young plants from grazing by sheep and kangaroo damage, which are common challenges during the winter period.
- **Additional enhancements:** We erected two microbat boxes in a stand of mature gums near the dam at the northern end of Block 2A to encourage microbat habitation and a predatory bird perch between Blocks 2CA and 2B as part of our integrated pest management strategy.

March 2024

- **Soil samples:** Collected baseline soil samples from Block 9 Chardonnay to measure the pre-intervention state of soil health and microbial activity.

May to November 2024

- **Monitoring:** Plant health and survival rates were assessed in November 2024. The majority of the native species have shown strong establishment and growth.
- **Bat and bird monitoring:** We have conducted periodic checks on the bat boxes and predatory bird perch to monitor usage and signs of activity.

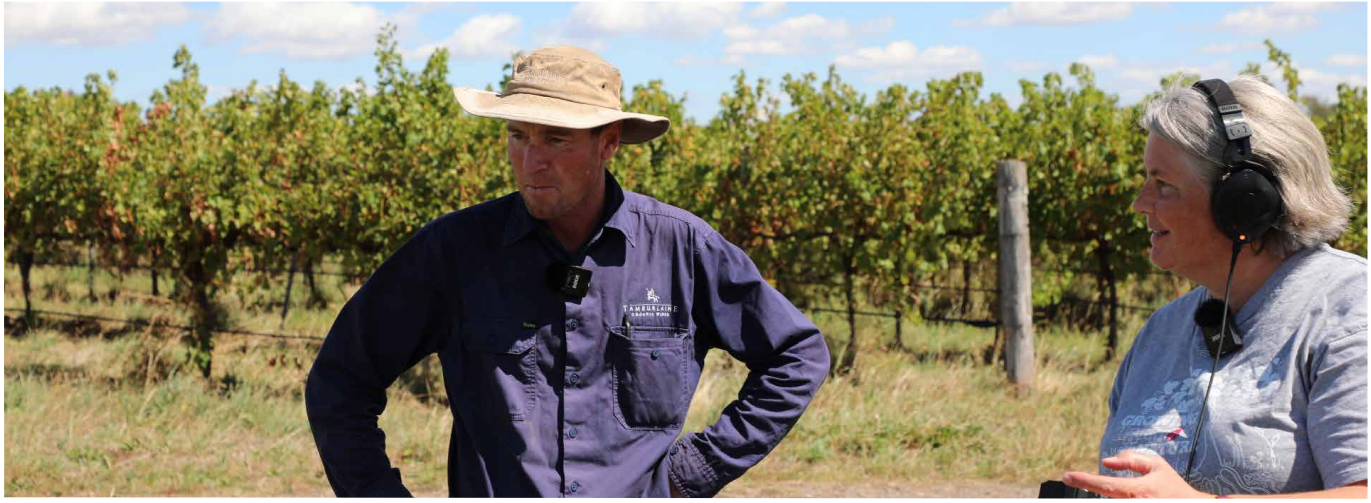


Figure 1: Marty Gransden and National EcoVineyards program manager Dr Mary Retallack discuss the Tamburlaine Organic Wines EcoVineyards project [Photo: Brent Hutton].

What worked well?

- The native shrub species selected for the trial adapted well to the site and have continued to grow steadily.
- Fencing the insectary zones proved essential to protect against livestock and wildlife, particularly during winter.
- The visual and ecological integration of the insectary with existing vineyard infrastructure has been seamless.

Pitfalls to avoid?

Although initially planned, mulching of the trial sites has not yet been completed. Mulching would have significantly reduced weed pressure and assisted in moisture retention, and remains a priority going forward.

The need for more structured data collection on beneficial insect presence and activity became apparent this is now a key focus area for expansion.

One of the most valuable lessons from this experience has been the importance of a staged approach. Thanks to some timely and wise advice from Mary, we scaled back our original ambitions and focused instead on manageable, measurable trials. This has allowed us to learn and adapt as we go, making the future expansion of this project much more informed and sustainable.

Where to from here?

- **Expansion of native plantings:** Extend windbreaks and create vegetative corridors between vineyard blocks, eventually connecting our insectary to the dam area. This will also serve the dual purpose of reducing water runoff and erosion.
- **Follow-up soil testing:** A second round of soil samples from Block 9 Chardonnay is planned to assess changes in soil structure, nutrient balance, and microbial life since the first sampling.
- **Under-vine ground cover trials:** In a recently replanted Pinot Noir block, we will begin trials using mulch and ground covers to test their effectiveness in weed suppression, soil health improvement, and potential insect habitat support.

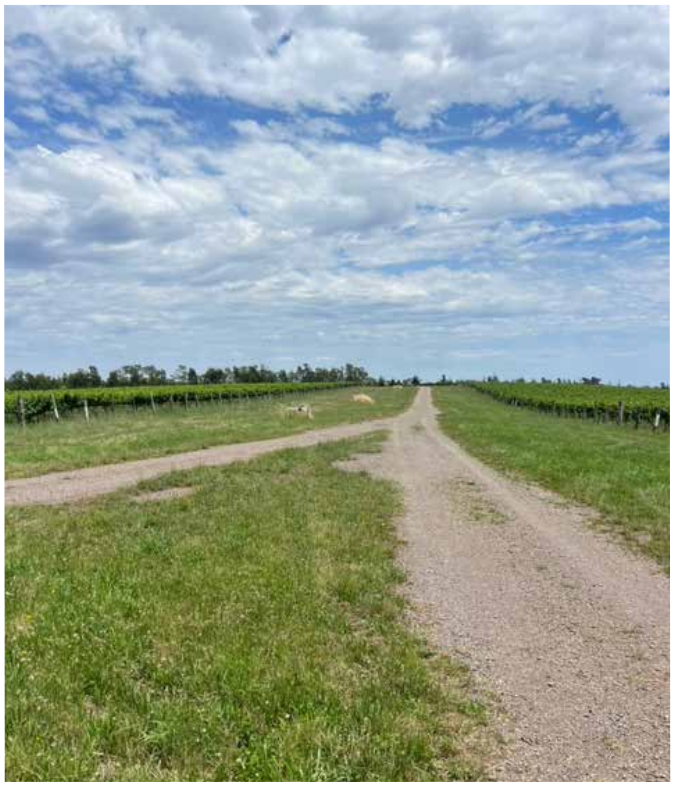


Figure 2: Tamburlaine wines main site for planting bio beds, 2023 [Photo: Marty Gransden].

Figure 3: Maturing insectary plantings, April 2024 [Photo: Mary Retallack].

Knowledge gaps

- **Microbat populations:** We currently lack data on microbat presence and activity across the property, despite having installed bat boxes.
- **Beneficial insect monitoring:** We have not yet conducted a formal study to assess which beneficial insect species have been attracted to the new plantings or their abundance. This represents a significant opportunity for learning and refinement.

Has your level of knowledge increased since becoming an EcoGrower?

Participation in the EcoVineyards program has been immensely valuable.

Local workshops and seminars, particularly those featuring expert guest speakers, have helped build our understanding of ecological vineyard practices and introduced new ideas around biodiversity and soil management that we are excited to implement.

> ***"Seeing the trial plantings take hold, watching the tubestock establish, grow, and thrive has been particularly rewarding. It's a tangible sign that these regenerative practices are working and lays a strong foundation for broader implementation across the vineyard."***
>
> **Marty Gransden, Tamburlaine Organic Wines**

Figure 4: Maturing insectary plantings, April 2024 [Photo: Mary Retallack].

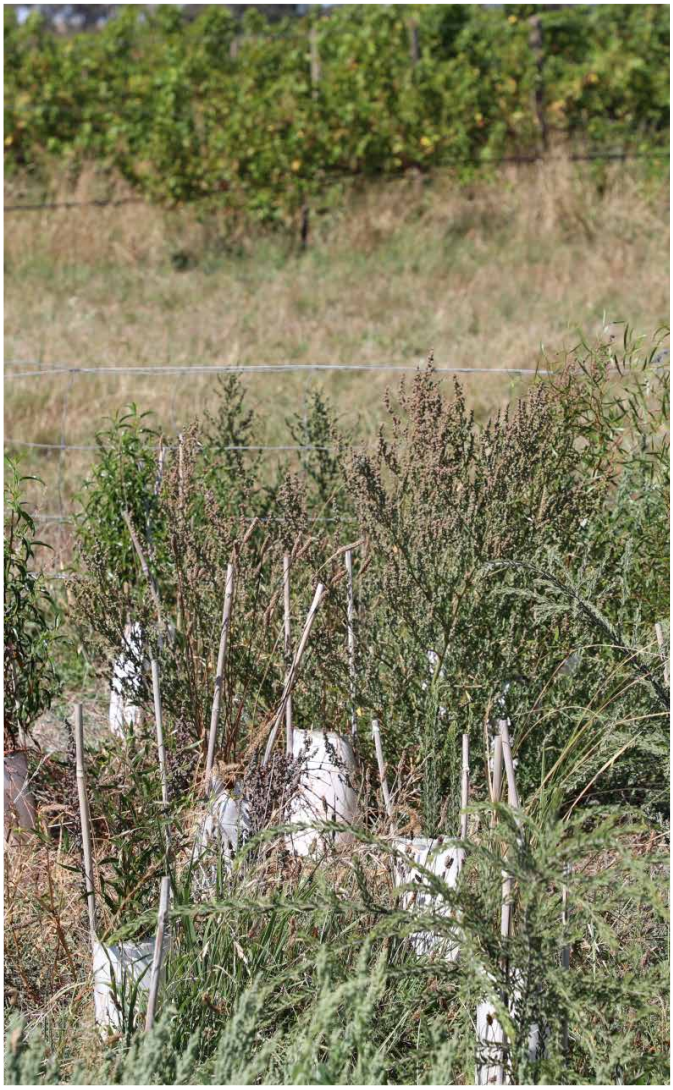


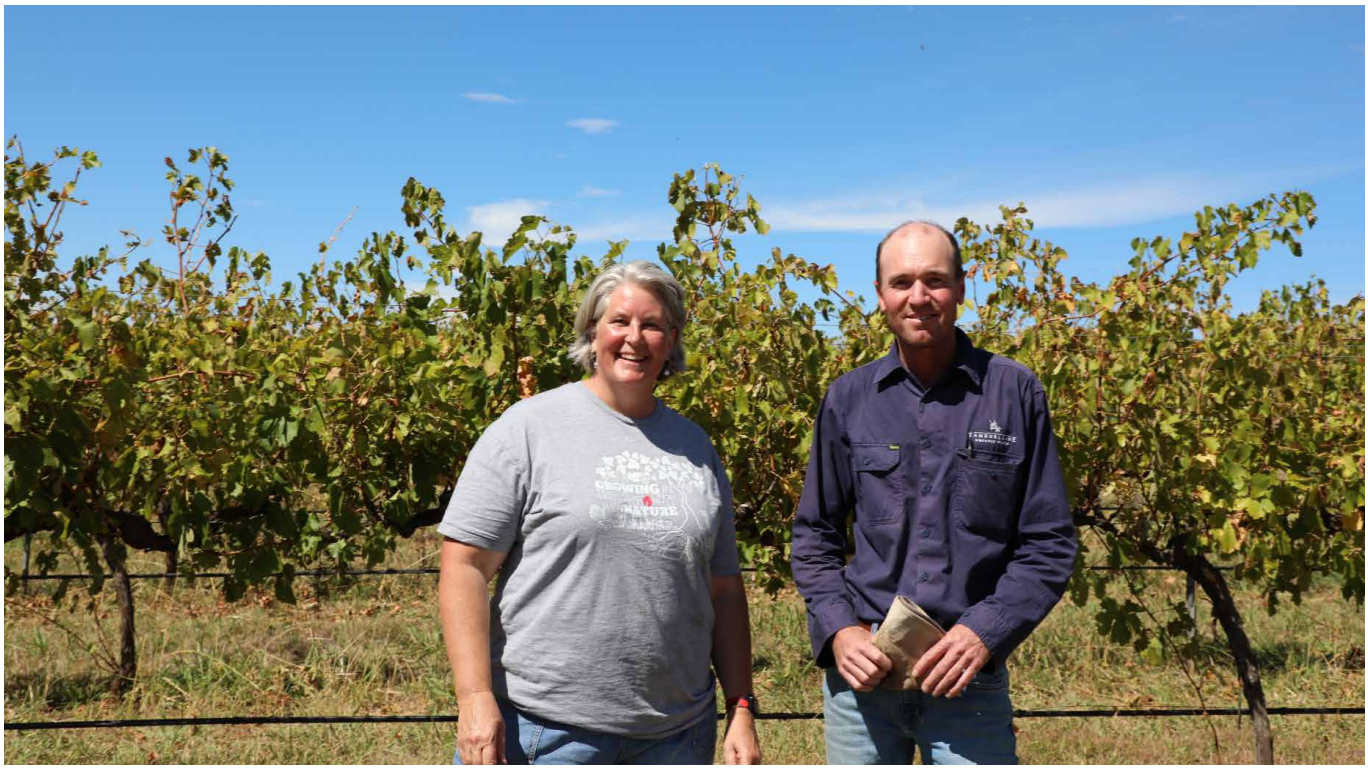
Figure 5: Maturing insectary plantings, April 2024 [Photo: Mary Retallack].

Plant list

#	Scientific name	Common name	# planted
1	*Acacia paradoxa*	hedge wattle	20
2	*Acacia verniciflua*	varnish wattle	20
3	*Bursaria spinosa*	native blackthorn	20
4	*Carex appressa*	tall sedge	20
5	*Dodonaea viscosa*	sticky hopbush	20
6	*Leptospermum myrtifolium*	grey tea-tree	20
7	*Olearia elliptica*	sticky daisybush	20
		Total	**140**

Expenses

Date	Item	Number of plants	EcoVineyards costs (ex GST)	Co-contribution (landholder contribution)	In-kind time (hours)
28/2/2024	Various tubestock	140	$382	$168	60
	1 x box of tree guards (250)		$91		
	1 x bale of bamboo stakes (500)		$77		
12/09/2024	Impact Ecology - Microbat call analysis		$124		
12/5/2025	Mixed Native Tubestock	180	$491		60
	EcoGrower contribution			$3,000	
	Total	**320**	**$1,165**	**$3,168**	**120 hours**



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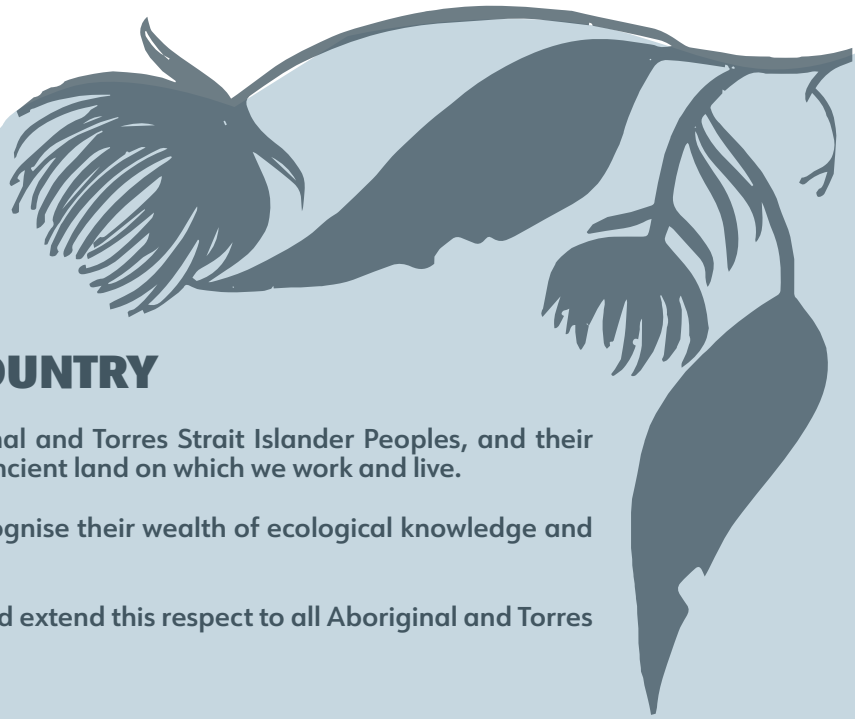
The National EcoVineyards Program is funded by Wine Australia with levies from Australia's grape growers and winemakers and matching funds from the Australian Government.



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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