Langhorne Creek Wine Region
Case Study, September 2021

Bremerton's Kilpuruna Vineyard (First Pick Viticulture), Lake Plains

EcoGrowers: Samara Wyatt, Matt Schmidt, Bec Willson and the team at Bremerton's Kilpuruna Vineyard (First Pick Viticulture)

"Participating in the EcoVineyards project has reinvigorated a passion for native flora and fauna by acknowledging and supporting their role in the vineyard ecosystem. We have enjoyed getting together with other participants in the project to share and discuss ideas.

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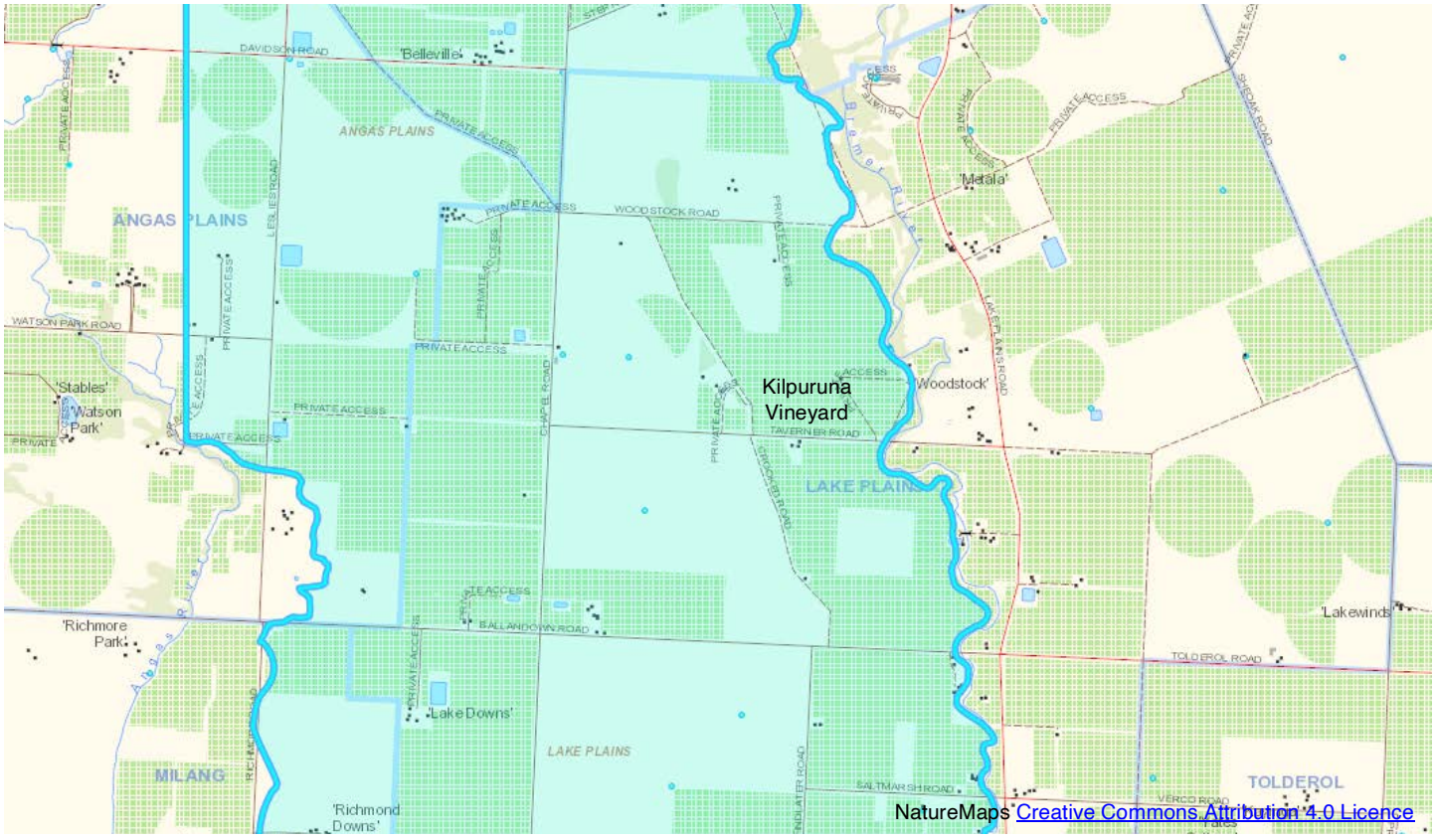
Plant communities: Drooping sheoak, *Allocasuarina verticillata* low woodland **(marked in blue)** and red gum, *Eucalyptus camaldulensis* woodland over an open understorey of sedges, rushes, grasses, and herbs along the creek line



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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Progress (June 2019 to August 2021):

We were fortunate to receive a small EcoVineyards grant…

As the sites were both small along with our budget, what we wanted to achieve was an "observation site" trial planting to identify what plants work well for our location.

Firstly, species planted needed to be low enough to not hinder any vision of vehicles in the vineyard. From there we left the species selection in the hands of the Goolwa to Wellington Local Action Planning Association (GWLAP) to select a variety of plants from their Goolwa nursery. This was utilising the Department of Environment and Natural Resources Urban Biodiversity Unit Identification of local area H22 Drooping sheoak low woodland site.

Site one, approx. 200m^2 within a large vineyard located between vines and arterial headland on sandy soil.

Second site on bare, compact sandy loam where nothing has grown for quite some time next to established native planting of trees and shrubs.

It is hoped that this site will provide some benefit to the vineyard as a halfway home and food source for existing micro species along with being a place where we can come to monitor what is within the vineyard. The site is also a great opportunity to observe what works well for us and a practice run for a much larger project.

What did you do and when?

June 2020 - First knock down herbicide was applied to site

July 2020 - Second down herbicide was applied to site

Aug 3, 2020 - Tube stock was planted and guarded with a hessian weed mat around the base. Drip irrigation was installed

Aug 4, 2020 - Grasses sown and watered in

1 kg of seed donated by Native Seeds in Victoria. The mix comprised 25% 'Griffin' weeping grass, *Microlaena stipoides*, 6% 'Oxley' wallaby grass, *Rytidosperma geniculatum* and 69% vermiculite. Which was hand cast across this site

Sept 18, 2020 - Applied liquid Blood and Bone to entire site

Sept 21, 2020 - Buried calico strips to assess microbial activity

Nov 3, 2020 - Excavated calico strips

Feb 2, 2021 – Commence bat monitoring

Mar 9, 2021 – Hand weeding of caltrop and fat hen. Smaller weeds were left to stabilise the soil

What worked well?

Most plants generally coped well. Those that were especially quick to establish and take off include:

- *Atriplex semibaccata*
- *Carpobrotus rossii*
- *Dodonaea viscosa*
- *Pelargonium australe*
- *Bursaria spinosa*

The jute weed mats proved to be the most important investment, protecting the sandy ground around the seedlings, and saving roots from being exposed after wind drifting the bare sand.

The site was also fenced to avoid damage by kangaroos, sheep, and rabbits and to give the plants the best possible start.

Highlights?

June 2020

We are pleased we initially identified all plants with a small label, so we were able to observe what were successful and what were not. I would recommend doing this to keep track of plantings.

A microbat survey was conducted in the vineyard including over the insectary. As the insectary is new this could be used as a base line for what bats are currently in the area.

Bats identified include:

- *Austronomus australis,* white-striped freetail bat
- *Chalinolobus gouldii,* Gould's wattled bat
- *Ozimops planiceps,* southern freetail bat
- *Nyctophylis geoffroyi*, lesser long-eared bat
- *Vespadelus sp.,* large forest bat or southern forest bat
- *Vespadelus vulturnus,* little forest bat

Photo above: Bec Willson (Photo: Mary Retallack)

Photo right: Samara Wyatt sharing the results of the calico test results at an EcoVineyards field session in Langhorne Creek (Photo: Mary Retallack).

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Before: 4 August 2020 (Photo: Willson and Samara Wyatt)

After: 24 June 2021 (Photo: Mary Retallack)

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Creeping saltbush, *Atriplex semibaccata* (Photo: Mary Retallack)

Spider flower, *Grevillea lavandulacea* (Photo: Mary Retallack)

Many flowered mat-rush, *Lomandra multiflora* ssp. dura (Photo: Mary Retallack)

Pigface, *Carpobrotus rossii* (Photo: Mary Retallack)

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Pitfalls to avoid

In future projects we may do preparation quite differently. Rather than wiping the whole site out with herbicide just spots where seedlings are going to be placed. Using existing 'weeds' to hold the sandy soil together. When sowing seed, combining it with mulch to reduce the amount blown away.

Inform ALL vineyard operators that we were trialling undervine plantings in the first adjacent row to avoid them being sprayed out! You learn from your mistakes!

Summary of expenditure including in-kind time

Arborgreen EKO™ Jute Mat squares 1 bundle X 100 = $49

Arborgreen Mallee flute tree guards 75 units @ $0.95 = $71.25

GW LAP - tube stock (150 x $2.50 ea) = $375

Additional tree guards, fencing, herbicide spray, irrigation and labour provided in-kind.

Labour - 30 hours @ $40/hr = $1200 including site preparation, weed control, watering, planting, installation of irrigation, guards and weed mats.

What are you more aware of now?

The need to educate everyone in who come within coo-ee of the vineyard to spare the EcoVineyards plantings!

Where to from here?

Bigger and better plantings! Creating a larger insectary site on another vineyard. Here we will use much of the same species as before along with some larger trees and shrubs.

Some native/indigenous plants will also be sought out to allow us to integrate this planting into the botanicals used for our gin production.

Are there any knowledge gaps you would like filled?

Ways to establish grasses both within the vineyard and insectary plantings.

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

Reigniting a love for natives and learning of their relationship with microspecies and being part of a local collective who support the concept of EcoVineyards.

Has your level of knowledge increased significantly since you became an EcoGrower?

Yes, absolutely. It has highlighted what we already have going on within our vineyards and opened up the possibility of what we could also achieve in respect to our biodiversity.

Photos: Native insectary plants establishing near the Matilda Plains Winery and Bremerton's Kilpuruna Vineyard (Photos: Mary Retallack).

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Native plant list:

- *Acacia acinacea*, gold dust wattle
- *Acacia euthycarpa,* wallowa wattle
- *Acacia myrtifolia,* myrtle wattle
- *Acacia pinguifolia,* flat leafed wattle
- *Atriplex semibaccata,* creeping saltbush
- *Bursaria spinosa,* sweet bursaria
- *Calytrix tetragona,* fringe myrtle
- *Carpobrotus rossii,* pigface
- *Chrysocephalum apiculatum,* everlasting daisy
- *Clematis microphylla,* old man's beard
- *Correa glabra*, rock correa
- *Dodonaea baueri,* crinkled hop bush
- *Dodonaea viscosa,* sticky hop bush
- *Grevillea lavandulacea,* spider flower
- *Hakea vittate,* stripped hakea
- *Kennedia prostrata,* running postman
- *Linum marginale,* native flax
- *Lomandra multiflora* dura, many flowered mat-rush
- *Lotus australis,* austral trefoil
- *Maireana brevifolia,* blue bush
- *Olearia* axillaris, coastal daisy bush
- *Pelargonium australe,* native storksbill
- *Piltenaea tenuifolia,* bush pea
- *Pomaderris paniculosa,* coast pomaderris
- *Prostanthera incisa,* cut leaf mint bush
- *Pultenaea tenuifolia,* twiggy pea bush
- *Swainsona lessertifolia,* coastal swainsonia
- *Thomasia petalocalyx,* paper flower
- *Vittadinia australasica,* fuzz weed daisy
- *Wahlenbergia luteola,* native bluebell

Grasses

- *Chloris truncata*, windmill grass
- *Cymbopogon ambiguus,* lemon grass
- *Enneapogon nigricans,* black bottle washers
- *Microlaena stipoides,* Griffin weeping grass
- *Rytidosperma* sp., wallaby grass
- *Rytidosperma geniculatum,* Oxley wallaby grass
- *Stipa* sp., spear grass
- *Themeda triandra*, kangaroo grass

Thank you to our project partners!

The initial funding was supplied by the Alexandrina Council. This project is supported by the Hills and Fleurieu Landscape Board's Grassroots Grants Program and is funded by the landscape levy.

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.

The Ngarrindjeri people are the traditional custodians of the Langhorne Creek region and have an ongoing connection to the land.

Disclaimer

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For more info about the National EcoVineyards Program see www.ecovineyards.com.au

This case study was collated by Dr Mary Retallack, Retallack Viticulture Pty Ltd