

Barossa Wine Region

Case Study, November 2021

Falkenberg Vineyard, Nuriootpa, SA

EcoGrowers: Dan and Ian Falkenberg

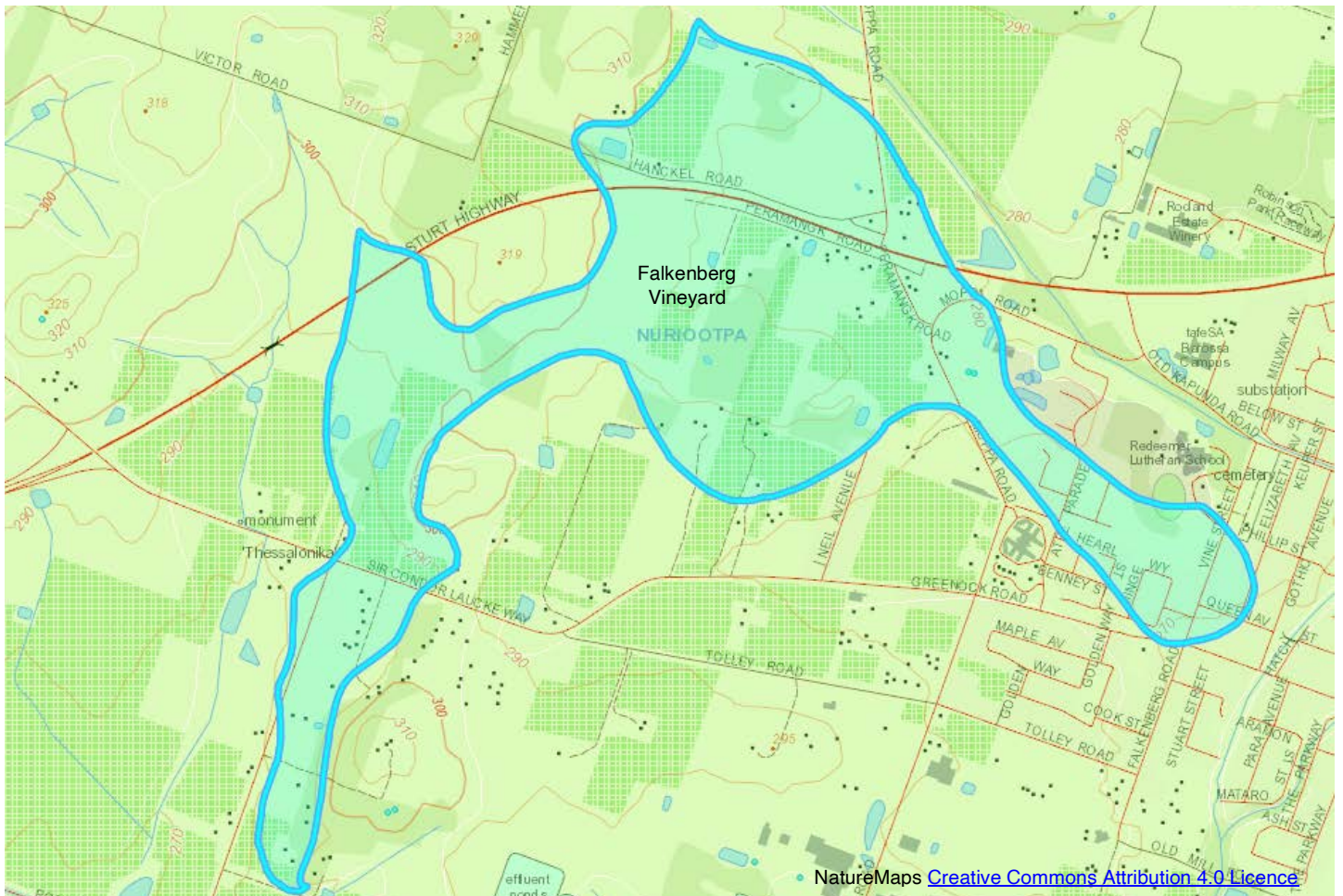
“EcoVineyards is a fantastic program that aims to inform the importance of habitat and native vegetation that can be woven into a vineyard production system.

To work with mother nature not against it.”



Barossa Wine Region

Plant community (marked in blue): Peppermint box, *Eucalyptus odorata* +/- blue gum, *Eucalyptus leucoxylon* woodland





Case study

What worked well?

- Native grasses in the mid rows germinated well and have persisted through the spring and summer of 2020 and into 2021.
- It may take several years for all the species to germinate pending rainfall and climatic seasonal variation.
- Planting the native insectary plant species was a simple process the site was prepared well, and all plants have core flute guards. 95% of plants are thriving with some well above the guards.
- Weed control was critical around the young plants to minimise weed competition and ensure a good survival rate.

Pitfalls to avoid

- Preparation is the key to establishing any native grass species, their slow growing nature can result in them being overrun with weeds if the site is not prepared properly.
- Weed control is vital in the first few years of establishment.
- When seeding native grass it requires patience, patience, and more patience!



Progress (June 2019 to 2021):

What were you hoping to achieve and why?

Establishment of a 20 species diverse mix of native perennial grasses and forbs in the vineyard mid row and the inclusion of beneficial native insectary plants around the perimeter of the vineyard to enhance habitat value and support beneficial arthropods.

What did you do and when?

Vineyard mid rows were prepared with a contact herbicide application in May 2020, the mid rows were then seeded with a 20 species mix of native grass species. Seeding Natives Incorporated used their 'Blue Devil' multi species seed drill to sow the mix in the first week of June 2020.

The headland areas on the western and eastern ends of the vineyard were deep ripped in May 2020 and planted in June 2020 with native insectary plants, irrigation was applied throughout the spring and summer to give the plants the best chance for survival.

What were the highlights?

Native grass species established slowly, with small plants visible in spring and setting seed in December 2020. Over time, more species will germinate pending seasonality. Patience is required when establishing native perennials.

Most plant species have grown well especially the Christmas bush, *Bursaria spinosa* and golden wattle, *Acacia pycnantha* are probably the standout species.

Bird species have been seen in the vineyard, including the diamond firetail finch, white winged chough and predators like the brown goshawk have been seen hunting on the perimeter of the vineyard.

What are you more aware of now?

The importance of native vegetation, soil health and the benefits for the environment and human health. Native vegetation plays an important role in viticulture providing a resource base for beneficial insects and habitat for threatened bird species.

Where to from here?

Our long-term goal is to continue creating a resilient landscape by planting more beneficial native insectary plants particularly Christmas bush and tea tree species in the understorey of some old growth remnant vegetation on the property.

We also intend to revegetate the dam banks with sedges around the edges as well as the inclusion of more bat boxes and monitoring of bird species.

Photo above: Seeding Natives Inc specialised native grass and forb seeder 'Blue Devil' in action (Photo: Dan Falkenberg).

Photo left: Andrew Fairney from Seeding Natives Inc. mixing native grass and forb seed prior to sowing (Photo: Dan Falkenberg).



Before: 15 June 2020 native grasses and forbs were sown over the existing stand of wallaby grasses using specialised seeding equipment (Photo: Dan Falkenberg)



After: 4 November 2021 a good dense covering of native grasses about to set seed (Photo: Mary Retallack)



After: 4 November 2021 a good dense covering of native grasses about to set seed (Photo: Mary Retallack)



Wallaby grasses produce a thick fibrous root system that exudes sugars and carbohydrates to feed microbes in the rhizosphere (Photo: Mary Retallack)



Native insectary understorey plants in establishment adjacent to peppermint gums and vineyard (Photo: Mary Retallack)



Native insectary understorey plants in establishment adjacent to peppermint gums and vineyard (Photo: Mary Retallack)



Bursaria spinosa, Christmas bush or sweet bursaria planted adjacent to strainer posts (Photo: Mary Retallack)



Native insectary understorey plants in establishment adjacent to peppermint gums and vineyard (Photo: Mary Retallack)



Calico strips installed to assess microbial activity (Photo: Dan Falkenberg)



Dan Falkenberg sharing his knowledge at the EcoVineyards field session in November 2020 (Photo: Mary Retallack)



Insights

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

One of the most valuable aspect of the program was learning about the many and varied beneficial insects that can be helpful to vineyards in controlling pests and disease and that native insectary plants are very important in providing ecosystem services that benefit long term sustainable solutions.

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

There is always something to learn when it comes to viticulture and the environment and having a good understanding of ecological process presented through the EcoVineyards program helps in making informed vineyard management decisions that benefits the environment and viticulture.

To find out more about Dan's project, watch the Landline program on 'Native grasses: Planting native grasses to help deal with drought and bushfire' <https://www.abc.net.au/landline/native-grasses:-planting-native-grasses-to-help/12376990>



Native plant list:

- *Acacia acinacea*, gold dust wattle
- *Acacia myrtifolia*, myrtle wattle
- *Acacia pycnantha*, golden wattle
- *Allocasuarina verticillata*, drooping sheoak
- *Austrostipa nodosa*, tall spear grass
- *Anthosachne scabram*, common wheat grass
- *Arthropodium strictum*, chocolate lily
- *Bursaria spinosa*, Christmas Bush or sweet Bursaria
- *Bothriochloa macra*, red grass
- *Calocephalus citreus*, lemon beauty heads
- *Chloris truncata*, windmill grass
- *Chrysocephalum apiculatum*, common everlasting
- *Convolvulus angustissimus*, Australian bindweed
- *Dianella revoluta*, black-anther flax-lily
- *Dichanthium sericeum*, silky blue grass
- *Digitaria brownii*, cotton panic grass
- *Dodonea viscosa*, sticky hop bush
- *Enteropogon acicularis*, curly windmill grass
- *Eryngium ovinum*, blue devil
- *Gonocarpus tetragynus*, raspwort
- *Helichrysum scorpioides*, button everlasting
- *Juncus subsecundus*, common rush
- *Leptospermum myrsinoides*, heath tea tree
- *Lomandra multiflora* ssp. *dura*, hard mat rush
- *Melaleuca lanceolata*, dryland tea tree
- *Microlaena stipoides*, weeping grass
- *Rytidosperma caespitosa*, common wallaby grass
- *Rytidosperma fulvum*, copper awned wallaby grass
- *Rytidosperma geniculatum*, kneed wallaby grass
- *Rytidosperma racemosum*, wallaby grass
- *Rytidosperma setaceum*, small-flowered wallaby grass
- *Themeda triandra*, kangaroo grass
- *Vittadinia blackii*, New Holland daisy
- *Vittadinia gracilis*, woolly New Holland daisy

Photo above: Dan showcasing the local plant community list details (Photo: Mary Retallack).

Photos left: Dan with wallaby grass and tending the establishing plants (Photo: Mary Retallack).

Expenses (cash and in-kind)

Name: Dan and Ian Falkenberg		Region: Barossa			
Date	Activity	Number of plants	Grant cash expenses	Additional cash co-contribution	In-kind time captured
04/06/2020	11kg native grassland seed mix and machine direct seed by Seeding Natives Inc	1	\$ 2,200		2 hrs
14/07/2020	Bush Gardens 536 plants @ \$1.50	536	\$ 804		3 hrs
03/09/2020	Irrigation dripper tube 300m x 2		\$ 157		5 hrs
03/09/2020	Tree guards x 950		\$ 1,265		6 hrs
15/05/2020	Herbicide and spot spraying		\$ 540		7 hrs
10/05/2020	Deep ripping				3 hrs
12/05/2020	Tree planting				6 hrs
		536	\$ 4,966	\$ -	32 hrs

Thank you to our project partners!



This project is supported by the Northern and Yorke Landscape Board (previously the Adelaide and Mount Lofty Ranges Natural Resources Management Board) 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 Peramangk, Ngadjuri and Kaurna people are the traditional custodians of the Barossa 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