ECO VINEYARDS
GROWING RESILIENCE NATURALLY

AGROECOLOGY PRIMER

We invite you to find out more about the EcoVineyards program and a broad range of resources with an agroecology focus at www.ecovineyards.com.au

Wine Australia

retallack viticulture

GROWING IN HARMONY WITH NATURE

Our approach

EcoVineyards is based on science and evidence-based learning, an interactive approach which brings together both academic peer-reviewed research and the application of these insights via participatory action learning to accelerate the sharing of insights in real time.

Our model of participation is used to provide growers with the knowledge and tools to grow wine grapes with minimal intervention over the longer-term, while learning how to create stacked enterprises.

We have demonstrated a variety of regionally tailored practices to grow resilience, so agroecosystems can rebound more quickly after disruption including extreme weather events. By growing in harmony with nature we believe we can create better buffered production systems.

What is Agroecology?

Agroecology is the application of ecological concepts and principals in farming or as we say growing in harmony with nature. A simple measure is does a practice take you closer or further away from this goal.

We can guide ecological restoration by looking at what the land was like before we modified it. This helps provide answers to the locally adapted plant communities and what is likely to do well on a particular site.

We show growers the benefits through demonstration sites, growers then teach other growers.

Locally-adapted, diverse and functional ground cover plants have the capacity to provide ecosystem service benefits including biocontrol of insect pests, weed suppression, erosion control, improved soil structure, nutrient cycling, soil water retention, improved soil organic carbon and biological activity.

By establishing supplementary flora in and around vineyards, we aim to help growers save time and resources by producing healthy grapes, with lower pest incidence while at the same time, enhancing the resilience and biodiversity of their vineyard.

Dr Mary Retallack, Retallack Viticulture Pty Ltd, National EcoVineyards Program Manager

Mary is the Managing Director of Retallack Viticulture Pty Ltd which offers a broad range of agribusiness and agroecological consulting services throughout Australia and overseas.

As an experienced agricultural scientist, agroecologist and third-generation viticulturist, Mary brings a wide range of skills and experience from practical, research, teaching, and consultancy roles and is recognised internationally as a Chartered Agriculturalist (CAg).

Mary has a PhD in viticulture and plant protection and associated tertiary qualifications in conservation and park management, natural resource management, adult education, and arbitration.

Mary is a recognised leader in the fields of viticulture, agroecology, functional biodiversity enhancement and is the founder of the National EcoVineyards Program.

What is functional biodiversity?

Biodiversity is the variety of plant and animal life. Each species has a niche in the ecosystem and contributes towards its functionality.

Functional biodiversity refers to a set of plant and animal species that interact with one another and influence how an ecosystem operates or functions.

It marries an agroecological focus. That is a concurrent focus on production and natural systems. We can gain insights to the optimal functioning of the system. Environmental stewardship complements and is mutely beneficial to plant health and production.

It is generally regarded that if a greater diversity and species richness are present, then it is less likely that individual weeds or arthropod pest species will dominate. The system may also be better able to recover from disruptions including extreme weather events.

Complexity in systems is important. We also know that s minimum of 30% of original vegetation cover is needed to stop species loss!

What are natural climate solutions?

It is reported that around one third of greenhouse gas mitigation require between now and 2030 can be provided by carbon drawdown through natural climate solutions, which focuses on ecological restoration.

The benefits of ecological restoration through the incorporation of locally adapted, native vegetation are unequivocal but often overlooked or underestimated in a farming context. Increasingly though, this is changing.

EcoVineyards are embracing regenerative techniques and the benefits that arise from increased functionality and resilience. These insights are applicable to a broad range of production systems.

They also align with UNs Decade on Ecosystem Restoration which aims to prevent, halt and reverse the degradation of ecosystems 2021 to 2030. The clock is ticking, we only have 5 years to meet these targets.

What are ecosystem services?

When focusing on the living elements of an agroecosystem the benefits derived can be described as 'ecosystem services'. This terminology is used to describe a wide range of functional benefits.

Provisioning services

- These relate to activities such as insectary plants which provide habitat for predatory arthropods (beneficial insects and spiders), biomass produced by the ground covers for carbon capture and mulch, or the nitrogen produced through the conversion activities of legumes in association with rhizobia bacteria.
- Provisioning services also relate to the wine grapes produced by a vineyard. In biodiversity terms, grapevines are a key part of the overall ecosystem to be managed.

Regulating services

- These are the benefits obtained from ground covers, such as minimising erosion from both wind and water, and the biological control of key pests and diseases. Mitigation of other climatic factors, such as extreme rainfall or extreme heat, is also achieved.

Cultural services

- This includes non-material benefits, such as recreation and aesthetic enjoyment.

Supporting services

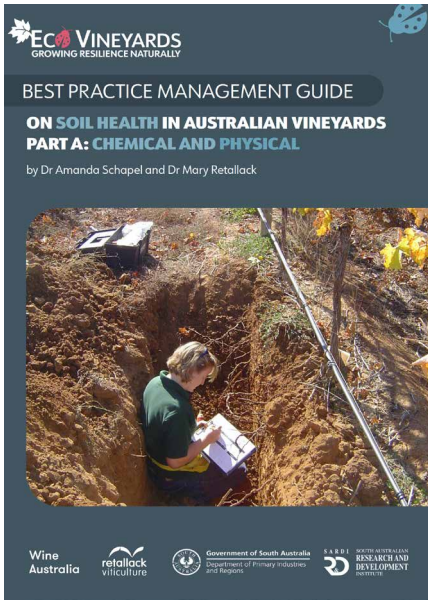
- Another key element that improved ground covers will provide includes natural processes, such as the symbiotic relationship plants have with the surrounding microbiology, nutrient cycling, soil formation, and crop pollination.

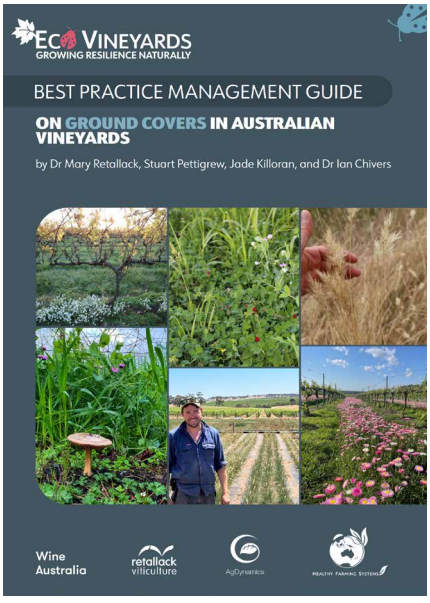
Would you like to find out more?

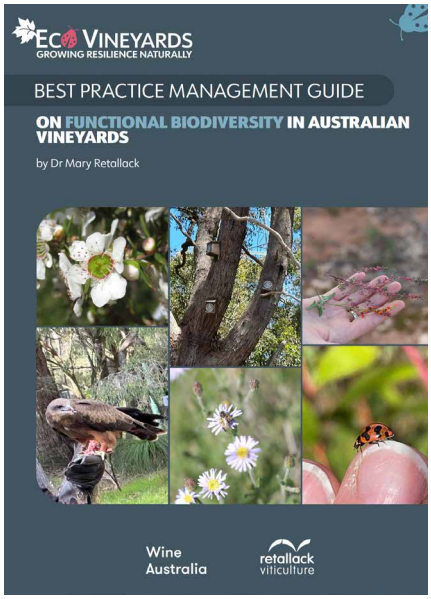
Wine growers have access to a practical suite of region-specific resources via the knowledge hub:

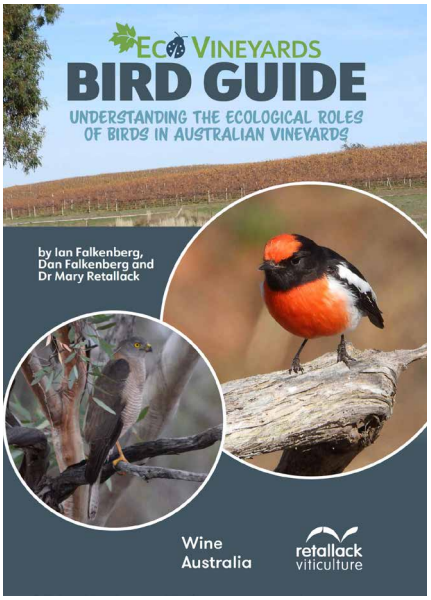
- fact sheets
- case studies
- grower insights
- soil health indicators (videos, booklet and posters)
- native plant lists for each participating region
- a range of podcasts and videos
- biodiversity action plan (BAP) and supporting materials
- scientific articles
- the natural predators booklet

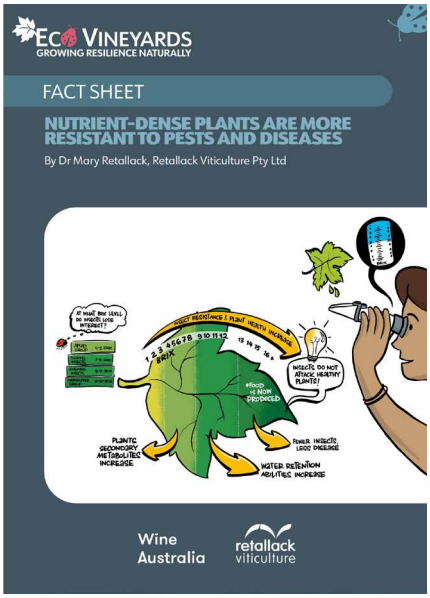
Wine growers benefit through the information-sharing activities associated with the EcoVineyards Program including various grower events and resources, grower discounts on supplies and field walks associated with each demonstration site.











To find out more please visit the knowledge hub www.ecovineyards.com.au

Stay in touch

For more information about the EcoVineyards program please visit www.ecovineyards.com.au

We invite you to join the EcoVineyards community via Facebook, Instagram, and LinkedIn

@ecovineyards

For more information please contact the EcoVineyards team admin@ecovineyards.com.au

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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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