VICTORIAN

LANDCARE

& CATCHMENT MANAGEMENT

SUMMER 2024/25 Issue 89

INNOVATIVE FARMING FEATURE

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Plantations of the future

Conserving wetlands with precision agriculture

Victorian Landcare Program

VICTORIA State Government

Victorian Landcare and Catchment Management

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Cover photograph
North Harcourt-Sedgwick Landcare Group's Silver Banksia Project Coordinator Lea Harris, with Connecting Country's Bonnie Humphreys and Hadley Cole with silver banksia seedlings.

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Acknowledgment
We acknowledge and respect Victorian Traditional Owners as the original custodians of Victoria's land and waters, their unique ability to care for Country and deep spiritual connection to it. We honour Elders past and present whose knowledge and wisdom has ensured the continuation of culture and traditional practices.

We are committed to genuinely partner, and meaningfully engage, with Victoria's Traditional Owners and Aboriginal communities to support the protection of Country, the maintenance of spiritual and cultural practices and their broader aspirations in the 21st century and beyond.

From the Minister

I thank the Victorian community for coming together to support one another during the extreme weather events we have experienced this summer. To those working on the ground to keep our communities and environment safe, and those supporting these fire efforts state-wide, I am grateful for your dedication, resilience and bravery. I am continually impressed by the hard work and dedication of Victoria's land managers, emergency services staff and volunteers in preparing for and responding to bushfires.

I would also like to extend my heartfelt thanks to Landcare volunteers across Victoria supporting the response and recovery efforts in their local communities.

Landcare and environmental volunteers play a critical role in innovative and sustainable land management practices across the State. There are over 1400 Landcare and environmental volunteer groups and networks across Victoria who are caring for landscapes. These groups and networks are where local knowledge is shared, scientific expertise is sought, and best practice is demonstrated.

This magazine issue showcases stories from Landcare working on groundbreaking projects led by farmers aimed at creating a more sustainable and resilient future. Landcare groups cover 59 per cent of the state's total area and 68 per cent of Victoria's private land.

Sustainable land management is complex – it encompasses building healthy soils, managing water resources effectively, preventing soil erosion, sequestering carbon, adapting to climate change, and improving biodiversity.

Planning for the future always requires an understanding of the past. The Warrenbayne Boho Land Protection Group (WBLPG) has been a driving force in protecting soil, water, and vegetation since 1984. The group is revisiting Whole Farm Planning, which it first undertook in the 1990s, to bring neighbours together so that on-ground works could be cooperatively and strategically planned. This time WBLPG has collaborated with experts from the Australian National University and La Trobe University to host workshops focused on sustainability, helping a new generation of landholders to plan for the future.

This issue highlights the Mallee Sustainable Farming Group, which shares its success in reclaiming salt-affected landscapes. Their innovative use of interactive decision trees is helping growers manage salinity issues on a landscape scale, bringing once-unproductive land back into use.

The National EcoVineyards Program is another exciting initiative featured in this edition. By encouraging wine grape growers to plant low-growing native ground covers, the program aims to increase the resilience, functionality, and profitability of vineyards. Demonstration sites in the Yarra Valley and Mornington Peninsula are showing how these innovations can help the industry meet its goal of maintaining functional plant cover year-round.

We also catch up with Victoria's equine Landcare groups, who have come together to form the Victorian Equine Landcare Community of Practice. This network enables horse owners to share resources, host events, and improve their land management skills, addressing the challenges such as parasites, water sources, and manure, as well as fencing, shelter provision and equine nutrition.

Thank you to everyone involved with these projects, for driving more sustainable land management and improving the health of our environment.

We know many readers like to read their copy of the magazine at the kitchen table, and that these copies are often shared with family, friends, and neighbours. As we celebrate these remarkable stories of sustainability and collaboration, we also encourage you to consider making the switch to an online subscription of the magazine. Reading online helps us reduce paper, printing, and postage to be more sustainable. If you're ready to make the change, please email Landcare Victoria Inc. at info@landcarevictoria.org.au.

Steve Dimopoulos

Steve Dimopoulos MP
Minister for Environment
Minister for Tourism, Sport and Major Events
Minister for Outdoor Recreation

Inspiring the next generation of natural resource managers at Warrenbayne Boho

By Meredith Paez

Since 1984 the Warrenbayne Boho Land Protection Group (WBLPG) has been active in protecting and managing critical natural assets such as soils, water and vegetation. Over many years the group has sought expert facilitation from many different organisations, providing landholders with the knowledge and skills needed to tackle serious environmental issues.

This collaborative approach now guides the group back to one of the most valuable tools landholders can use – Whole Farm Planning.

WBLPG members first undertook Whole Farm Planning in the early 1990s. The process provided a format for getting neighbours together so that on-ground works could be cooperatively and strategically planned. It worked.

Forty years later WBLPG has a new and diverse generation of landholders who are interested in assessing their properties and understanding land management issues. The process enables them to address these issues and see how their actions affect the surrounding area. It gives landholders a plan for the future and is often the prompt for them to begin their own on-ground works.

Realising that our old standby, Whole Farm Planning, was the most effective method of engaging new landholders was a back-to-the-future moment for the group.

Targeted workshops and advice from experts

With funding from the 2023 Victorian Landcare Grants, we designed four Whole Farm Planning workshops covering soils, sustainable farming, natural capital accounting, protecting waterways, remnant vegetation and biosecurity issues. Landholders were provided with large maps of their properties in order to identify natural and built assets, and plan future works. Most importantly, they were provided with key knowledge about the land they had custodianship of through a series of targeted sessions with experts.

Our experts included Angelina Siegrist and Amber Croft from the Australian National University Sustainable Farms team, and Dr Jim Radford, head of La Trobe University's Research Centre for Future Landscapes.

Sustainability was a major focus of the workshops. All our participants were questioning how to be sustainable while still having a thriving farm business. According to Dr Jim Radford, it is about putting the environmental value of Australian farms squarely on the ledger.

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Realising that our old standby, Whole Farm Planning, was the most effective method of engaging new landholders was a back-to-the-future moment for the group.

Paul Malcolm and Angelina Seigrist assessing the native ground cover around a fenced off dam.

WBLPG committee members, Meredith Paez (left) and Mary Bridgland, tree planting.

The group keeps the dream alive

By Mary Bridgland

Our group is successful because it is dynamic, active, and always evolving to meet the needs of stakeholders and to ensure we are sustainable. Our Whole Farm Planning Workshops have helped our members to develop a clear purpose and an agreed, negotiated direction which reflects the dreams, aspirations, and particular circumstances of all.

For the past 40 years we've had the advantage of generational involvement with our families. Each generation has different challenges in the face of the ever-changing world. Change is inevitable. It is how we face the challenges and changes in the Landcare context that sets us apart.

Our WBLPG committee and membership works well because we are balanced in our structure. We have members of all ages with a broad range of skills and backgrounds. There are individuals with vision, experience, knowledge, creativity, enthusiasm, and tenacity. We work well together, have strong leadership and good organisational capacity.

Our ability to embrace change is demonstrated by our decision to move from group meetings to site visits. This has reinvigorated the group and led to greater capacity building, collaboration, and connectedness within our group and between neighbouring groups.

Our Landcare group decisions are based on science and evidence-based practice and research. We are connected to and supported by Australian National University, La Trobe University, Gecko CLaN, and Landcare Victoria. All share knowledge and experience through theory and practical advice related to our environment on our farms. This has proved invaluable for our Landcare journey.

We have a rich history, working together to tackle many problems. Most recently we are focused on the very real challenge of climate change. We recognise the future needs a careful and considered approach if we are to balance landcare with the need to be productive and sustainable.

WBLPG works hard at networking and relationships at all levels of government, peak bodies, industry, researchers and educational institutions. We absorb the knowledge of others and share what we know. All these qualities make our group strong and sustainable.

Watching for H5N1 Avian Influenza (bird flu) in Victoria

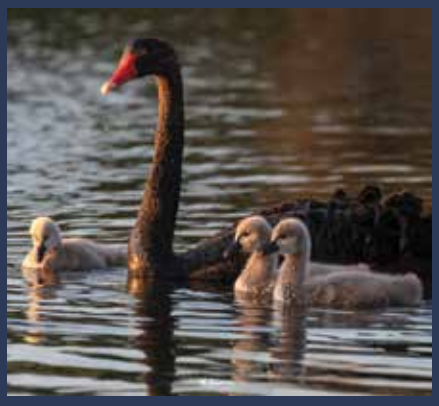
High-pathogenicity avian influenza (HPAI) is a highly contagious viral disease that can cause severe illness and death in birds.

A new strain of the virus, HPAI H5N1, is more concerning than previous strains, as it causes mass mortality not only in poultry, but also in wild birds and some mammals. There is no effective treatment and the prognosis for animals with the disease is poor.

At the time of printing, HPAI H5N1 has not yet been detected in animals in Australia. However, the global HPAI H5N1 situation means an increased risk of this disease arriving in Australia and infection of local wild birds and other native wildlife.

We are asking everyone to remain alert for indicators of bird flu and be aware of the signs and reporting processes via wildlife.vic.gov.au/sick-injured-or-orphaned-wildlife/high-pathogenic-avian-influenza

A number of linked commercial egg farms have been confirmed infected with the bird flu H7 strain in northern Victoria. Importantly, this is completely unrelated to the H5N1 variant that is yet to reach Australia. To read more about the H7 bird flu outbreak visit www.agriculture.vic.gov.au/biosecurity/animal-diseases/poultry-diseases/avian-influenza-bird-flu



If you find sick or dead wild birds or wildlife you should avoid contact, record the species, location, date and time and report to DEECA by using the online form at: forms.bio.vic.gov.au/wildlife-influenza-investigation or calling 136 186.

Angelina Seigrist (front left) and Amber Croft (front right) explain the benefits of revegetation around a fenced dam.

"Fifty-eight per cent of the Australian continent is used for agriculture, but that conventional measuring and accounting fails to log the natural assets of properties, on both the plus and minus sides of the ledger," Jim said.

> ***Old paddock trees that had protected for many years were still providing crucial habitat for wildlife and functioning as stepping stones for connectivity.***

This resonated with the group who, although managing a range of large-and small-scale properties, could relate to the idea of valuing natural assets. How could we farm without these?

Resilience and sustainability

La Trobe University's research themes include building resilient rural communities – including the environment – and driving more sustainable food production.

Jim gave an example of how these themes are being taken up around the world; for example from 2023 all garments sold in the European Union will need to have their sustainability footprint labelled.

"It's not just carbon footprint, it's their biodiversity impact and a range of other metrics," Jim said.

We saw the need to follow on from the targeted workshops with a field day to show our new landholders what a sustainable farm environment looks like. Rotherlea was an obvious choice as it was one of the first properties in the group project area to embark on Landcare works.

In October 2024 more than 20 participants gathered at Rotherlea for a field day to hear Angelina Siegrist and Amber Croft sharing their Sustainable Farms research. We learnt about Natural Asset Farming – protecting and enhancing natural assets to create productive and biodiverse farms.

Participants looked at revegetation sites and discussed important factors such as location, understorey, establishment of vegetation around farm dams, and how connecting plantings to other plantings provides better outcomes than isolated revegetation. Old paddock trees that had been protected for many years were still providing crucial habitat for wildlife and functioning as stepping stones for connectivity.

Eleanor Sadler, a young farmer who attended the field day said, "seeing this has helped me understand the importance of fencing and revegetating our farm dams. Water quality is improved for stock, biodiversity is enhanced and methane emissions are reduced."

The field day provided a new generation of land managers with lessons learnt over many decades. It was inspiring to see what can be achieved.

WBLPG gratefully acknowledges the support and assistance it receives from Gecko CLaN Landcare Network for facilitating projects and helping with submission writing.

Meredith Paez is secretary of WBLPG. For more information wblpgsecretary@gmail.com

Return to Rotherlea

By Angus Howell

In the late 1970s I was one of a group of six farmers spread across two municipalities, who began talking to each other about the increase of dryland salinity on our land. We realised that the problem was ours and we needed to work together across property boundaries, which was also one of the fundamental principles of Landcare, when it began in 1986.

In 1983, with the support of Violet Town Shire Council and the former Department of Soil Conservation, this group founded the Warrenbayne Boho Land Protection Group. The area covered two adjoining catchments and involved approximately 140 farms. At that time, less than 10 of those farms had their owners working off farm to supplement their incomes. Forty years later there are less than 10 farm families who can depend on their property for their livelihood.

In that time, I have seen many of the original generations of local settler families replaced by newcomers with smaller holdings and fresh ideas as custodians of the land.

Our father purchased Rotherlea in 1929 and I joined the farm after returning from school in 1958. Our family conducted a sheep and beef enterprise until the early 2000s when we moved to contract dairy heifer agistment and farm forestry.

Steve and Karen Viant with previous Rotherlea owner Angus Howell at the field day in October 2024.

Angus Howell, Claire Howell and friends in front of Rocky Hill at Rotherlea in 1974.

Karen and Steve Viant in front of Rocky Hill at Rotherlea in 2024.

Since our Landcare beginnings, I have continued to learn from the experience of my neighbours, as well as invited technical expertise. So many positive changes have occurred, including an improved landscape, hundreds of hectares of tree plantations growing on recharge areas, and creeks and streams fenced and revegetated to provide streambank protection.

Some of the trees established by the group were planted by urban visitors as part of the WBLPG Rural Urban Program supported by the Myer Foundation. This program brought groups of urban students and adults to Warrenbayne Boho to learn about Landcare. They departed with our gratitude and the knowledge they had contributed to helping us care for the land.

Whole Farm Planning has been a core activity for the group with members congregating in central locations using aerial photos and maps to focus on land class separation. This exercise has allowed members to share and consult with their neighbours over ideas, and at the same time enhance community ownership of the group.

Rotherlea has now been subdivided with Howell family members assuming their own parcels of land, each with a concentration on Landcare. I retired from farming my own portion of Rotherlea in 2014, after more than sixty years. I have had much pleasure and comfort in handing the place over to Karen and Steve Viant who are determined to bring new vigour to continuing our family's Landcare ethic.

I am always welcome at Rotherlea at any time. It is nourishing to see the farm as it changes and develops. I now start to understand the belief of our First Nation's people – we do not own the land; the land owns us.

The benefits of growing ground covers under vines

By Dr Mary Retallack and Karen Thomas

Winegrape growers are planting a diverse mix of low-growing native ground covers to improve the functional capacity, resilience, and profitability of their vineyards. Growers are being supported in their actions to enhance soil health, establish ground cover, and increase functional biodiversity in vineyards through the National EcoVineyards Program.

The program aims to accelerate the adoption and practice change outcomes specified in Wine Australia's Strategic Plan 2020–2025, with the aim of increasing the land area dedicated to enhancing functional biodiversity by 10 per cent, and the use of vineyard cover crops and soil remediation practices, also by 10 per cent.

Eight participating wine regions throughout Australia, including Hunter Valley, Orange, Margaret River, Yarra Valley, Mornington Peninsula, Clare, Adelaide Hills, and Langhorne Creek have set up local demonstration sites to trial innovations that support the sector to adopt practices to meet these strategic targets.

Growers are encouraged to achieve 100 per cent functional plant cover and active root growth, for 100 per cent of the time, where possible.

Wine growers from the Yarra Valley at the hydroseeding demonstration in May 2024.

Bare soil invites weedy pioneers

Agricultural practices that create bare soil invite weedy species, also known as pioneer plants or early colonisers, to establish. These plants are often indicators of soil health problems. Early coloniser species include plants that reproduce by spores instead of flowers or seeds, including moss and lichen. These plants help to protect the soil surface when it is sterile often due to prolonged herbicide application.

Native flax sown under vines with hydromulch to the left and surface seed on the right at the hydro-seed trials on the Mornington Peninsula.

Using herbicides in a vineyard is often problematic, with many weedy species quickly becoming herbicide resistant. Growers assume that weeds are directly competing with vines for nutrients, but there can be other factors involved. Some plants release chemicals into the soil which suppress the growth of nearby plants.

By replacing these voids with a diversity of functional ground cover plants, which might include native grasses, forbs (flowering plants) and low growing, prostrate woody plants we can break the cycle of intervention with herbicides. This is the first step in converting compacted and bacteria dominant soil to:

- Be more friable with greater water-holding capacity;
- Have more soil carbon and microbial activity with fungal-dominated soil, which is preferred by perennial species such as grapevines;
- Transform nutrients into plant-available forms;
- Create pathogen-suppressive soil; and
- Have greater resilience in the system.

Maximising the liquid carbon pathway to build soil

It is important to maximise the benefits gained from fully utilising nature's solar panels – the leaves of optimally photosynthesising plants. Photosynthesis and the liquid carbon pathway are considered the most important drivers for building soil.

The liquid carbon pathway is a symbiotic relationship between mycorrhizal fungi and 90 per cent of all plants, including grape-vines. Plants will purposely produce extra simple plant sugars and then exude that surplus into the soil to feed and farm fungi. Arbuscular mycorrhizal fungi, a type of fungi that penetrates the cells and roots of vascular plants, in turn, use the exudates to create a sticky carbon exudate called glomalin.

Glomalin is critical when soil aggregates are forming to create soil structures with adequate pores for air and water storage. With the increased water-holding capacity that comes with increased soil carbon, a plant's photosynthetic capacity increases. This leads to more carbon being pumped into the soil – an important feedback loop – all fuelled by the sun.

Applying the hydromulch to one side of each row sown with native grasses and forbs.

> *Growers are encouraged to achieve 100 per cent functional plant cover and active root growth, for 100 per cent of the time, where possible.*

In return for these exudates, soil biology, particularly fungi, provides moisture and nutrients back to plants. When the cycle is functioning well, soil biology sources, cycles and transports nutrients that plants require for growth. Without this plant-biology interaction, many minerals and trace elements are not available to plants, so the system doesn't work optimally.

Ground cover and hydroseeding events

The National EcoVineyards Program's ground cover and hydroseeding events held at the Yarra Valley and on the Mornington Peninsula in May 2024 focused on perennial native ground cover species that can break the cycle of intervention and provide long-lasting benefits in vineyards.

We explored the use of a range of low-growing species that might be suitable in the under-vine area by hand-sowing individual species in each panel. Wood fibre mulch was then hydroseeded over the top of half the row so that we can assess germination rates (with and without wood fibre mulch), and the overall success and growth characteristics of each species.

Commercially, a single blend of seed would normally be incorporated in the hydroseeding mix in a single pass.

The native Victorian groundcover species selected for the trials were chosen on availability of seed and their functional purpose for groundcover and attracting beneficial insects. The demonstration sites will provide insights into which species are likely to grow well so regionally specific mixes can be developed. The findings will be presented in each region with a series of case studies in 2025.

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.

Dr Mary Retallack delivers the National EcoVineyards Program with support in Victoria from Wine Yarra Valley, Mornington Peninsula Wine, and Melbourne Water. Karen Thomas is Sustainable Agriculture Facilitator at Melbourne Water. For more information go to www.ecovineyards.com.au

Trial ground cover species

Demonstration sites at Chandon in the Yarra Valley and Quealy Wines in Balnarring are testing the following native species:

- Tom thumb *(Dichondra repens)*
- Swamp daisy *(Brachyscome basaltica)*
- Fuzzy and woolly New Holland daisy *(Vittadinia cuneate and gracilis)*
- Native flax *(Linum marginale)*
- Billy buttons *(Pycnosorus globosus)*
- Common everlasting *(Chrysocephalum apiculatum)*
- Lemon beauty heads *(Calocephalus citreus)*
- Native blue bell *(Whalenbergia strictum)*
- Native parsnip *(Trachymene composite)*
- Kneed wallaby grass *(Rytidosperma geniculatum)*
- Weeping grass *(Microlaena stipoides)*
- Windmill grass *(Chloris truncate)*
- Creeping saltbush *(Atriplex semibaccata)*
- Inland pigface *(Carpobrotus modestus)*
- Round leaved pigface *(Disphyma crassifolium)*
- Scaly buttons *(Leptorhynchos squamatus)*
- Pussy tails *(Ptilotus spathulatus)*
- A mix of native grasses
- A mix of native grasses and forbs

Known as leanganook (his teeth) by the Dja Dja Wurrung, silver banksia is an important small tree. The flowers are soaked in water to make a sweet drink, and the dry cones were useful for carrying fire.

NHSLG Silver Banksia Project Coordinator Lea Harris, with Connecting Country's Bonnie Humphreys and Hadley Cole with silver banksia seedlings.

Restoring silver banksia in Central Victoria

The North Harcourt-Sedgwick Landcare Group (NHSLG) was among the first 20 Landcare groups established in Victoria, forming in 1988. The group covers approximately 12,500 hectares of Central Victoria on the lands of the Dja Dja Wurrung people. The group acknowledges the Dja Dja Wurrung and their ongoing connection, knowledge and protection of Djandak (Country).

In 2021 the group was successful in obtaining a Community Volunteer Action Grant from the Victorian Government to revegetate pockets of rare silver banksia (*Banksia marginata)* across the region.

Known as leanganook (his teeth) by the Dja Dja Wurrung, silver banksia is an important small tree. The flowers are soaked in water to make a sweet drink, and the dry cones were useful for carrying fire.

In the 1800s silver banksias (also called honeysuckle by early settlers) were plentiful in the region with old maps showing large stands of banksias around Mount Alexander.

From abundant to rare

In his 1858 book, Land, Labour, and Gold, William Howitt described the Victorian countryside on his travels from Melbourne to the goldfields. Nearing the Mount Macedon area he was taken by the variety of vegetation: "...through a wood of Banksia tree, the noises of vast numbers of parrots, paroquets, and wattle birds which were feasting on the honey of the Banksia flower."

And later in the book: "As we advanced ... nearly all the trees were shiacks (she-oaks) – not the eternal gum-trees and these interspersed with banksias, now in fresh foliage, and new pale yellow cones or rather bottle brushes with a sprinkling of gums and wattles gave... a variety of foliage and hue."

Silver banksia were considered untidy and of little value by the early settlers. They were cleared and burnt leaving eucalypts to dominate the landscape. Along with the decrease in biodiversity of smaller trees such as banksias and she-oaks, many nectar feeding birds also disappeared. The few banksias that remained were weakened through interbreeding and seedlings were often eaten by sheep.

NHSLG plans to establish 1500 new silver banksias over the next five years. The project aims to strengthen biodiversity in the region which will in turn increase the diversity and numbers of wildlife. Silver banksia are important to many nectar eating birds such as New Holland honeyeaters and rainbow lorikeets. Pygmy possums, sugar gliders and a range of insects also utilise the nectar and native bees are attracted to the pollen. The insects attract the smaller insect eating birds. Yellow tail black cockatoos tear the banksia cones apart and eat the seeds.

The last surviving ancient silver banksia (Banksia marginata) *on Mount Alexander.*

> *Silver banksia are important to many nectar eating birds such as New Holland honeyeaters and rainbow lorikeets.*

By Sandy McLennan

Seed provenance research aimed at promoting resilience

The project got underway in 2022 with 396 silver banksias planted by 17 local landholders. In the winter of 2023, a further 300 silver banksias were planted by 23 landholders. The grant funded the plants, guards, stakes, fertiliser and provenance identifying rings, which were then supplied to participating landholders at no cost.

Provenance of seed collection to create genetically hardy pockets of revegetation is important for the success of the project. Using seeds from different areas may give the plants a head start to withstand the effects of climate change.

The project has used seeds from seven different provenances, including areas around Dimboola, Kyneton, Tooborac and Kangaroo Island. Each new tree is labelled with a ring on the tree guard identifying its seed provenance.

Participating landholders have agreed to monitor the progress of the banksias and water the seedlings, and maintain the tree guards for the first two years. They are also recording data on survival rates and growth which can be used to further refine planting techniques to help the reintroduction of the species. As the new trees become established patterns may emerge regarding the different provenance of species and whether some grow better in our region.

The project continued in 2024 with some new landholders participating and infill of plantings at existing sites. Landholders have learnt the importance of keeping stock, kangaroos and rabbits away from the young plants as they are at risk of being eaten or trampled.

Working together to help restore the landscape and increase biodiversity has helped to create a sense of community in the region. Eliza Alford, President of NHSLG, is excited to be involved in this hands-on citizen science project.

"Learning about what the landscape used to be like and having the chance to help a species survive in our area feels like important work" Eliza said.

Sandy McLennan is a committee member of North Harcourt-Sedgwick Landcare Group. For more information email nhselandcare@gmail.com

John McMahon and Su Crail with a silver banksia planted on their property in 2022.

Plantations of the future

By Stephen Murphy

Bushy needlewood (Hakea decurrens) *planted at the Lal Lal Biorich demonstration site in 2019 to preserve a locally threatened species.*

Plantations on farms have the potential to be much more than windbreaks and shelter belts. They can provide a significant portion of a rural family's diversified income while being part of a vegetation network that sustains local biodiversity. They can also be places where farmers connect with wildlife as they maintain and harvest diverse crops of marketable products.

On a national scale, if we are to protect and restore our biodiversity assets and sequester substantial volumes of carbon, future farm biodiversity plantations will need to be much wider (greater than 50 metres) with native vegetation occupying as much as 30 per cent of rural properties.

Researchers have shown that this can be achieved without the loss of productivity. These wider plantations are important conservation measures because they suit the spiral foraging patterns of birdlife. They also provide more protected farm shelter, which is beneficial to wildlife.

This vision offers a win-win, where landowners provide for their own needs through improved shelter and a variety of marketable products. This shift in rural landscape strategic planting also ensures the recovery of the flora and fauna that sustain the health and lifestyles of the broader community.

Sustainable biorich design principles

There are several important design principles that help build diversity, longevity and resilience into plantations.

- Include a diversity of local plants. These are chosen from at least five families, 10 genera and 20 species. This ensures a richness of habitat, food and nesting materials. Up to 20 per cent of non-local, non-invasive species are planted for income and products for the farm. This doesn't diminish biodiversity values and makes wider plantations a lot more economically appealing.

These wider plantations are important conservation measures because they suit the spiral foraging patterns of birdlife.

Paddock trees at Jigsaw Farm provide stepping stones and hollows for wildlife, while contributing important shade and wind shelter for stock and crops.

- Create a layered plantation structure by planting same species groups. The smaller plants, like shrubs and tussock grasses, are grouped in larger numbers (up to 50) and the canopy trees in smaller groups of 5–10 to allow for natural selection and the potential for future timber harvesting. Same species grouping provides better habitat and more food for small insectivorous birds, plus superior pollination and seed production. It also suits the inclusion of small forestry plots, shrubs for cut flowers and other plant-based products for the market.
- Include 60 per cent shrubs in plantations. These provide the low, dense habitat and shelter that is often absent in existing plantations that are usually dominated by too many tall trees.

This is confirmed by Richard Weatherly, artist, merino breeder and former farmer from Mortlake in Western Victoria in his book, *A Brush with Birds, Paintings and Stories from the Wild*.

> "We came to understand the importance of insects in building the health of ecosystems, and hence the desirability of smaller trees, shrubs and ground-level vegetation to attract those insects, together with small birds. The key appeared to be a continuous energy resource through an uninterrupted and easily accessible nectar supply and good, dense protective cover at shrub level," Richard Weatherly wrote.

- Make vegetation links with wetlands, waterways, remnant vegetation, forestry and other farm plantings. This enhances wildlife movement for insect pest management and assists symbiotic fungi (mycorrhiza) to re-establish and support native plant growth, particularly when links can be made to remnant sites.
- Re-establish paddock trees at 25–100 metre spacing to support migrating birds and insects. Paddock trees also provide essential shade in a warming climate and very effective wind shelter similar to plantations.

Two diverse case studies provide some insights into why landholders are adopting the new biorich design approach and their observed benefits over the past ten years.

Stephen Murphy is an ecologist and the author of Recreating the Country: Ten key principles of designing sustainable landscapes*. He is an active member of the Bellarine Landcare Group. To read more of his writing visit www.recreatingthecountry.com.au*

Case study: Biodynamics and integrated farming in the Otways

For Andy Marshall, a second generation cropping and sheep farmer who grew up working outdoors, valuing self-reliance, and loving nature, the philosophy and practice of biodynamics was a comfortable fit.

His first tree planting experience was on the heavy basalt soils of Victoria's western Volcanic Plains in the 1980s, where he soon recognised that though Sugar Gum, *(Eucalyptus cladocalyx)* plantations provided good firewood, they offered little habitat and wind shelter.

"Recreating the Country motivated me to learn more about the importance of structure in vegetation and the grouping of species to create rich, sustainable ecosystems, which are important in my pursuit of regenerating biodiversity and integrated farming," Andy said.

His later plantations were much wider, had fewer tall trees and many more shrubs. They also included fenced-off wetlands where possible. Bird numbers increased dramatically to more than 65 species. Only 12 bird species were common on adjoining farms.

Andy and his partner, Linda Scott, now practice biodynamics and integrated farming at Gerangamete in Victoria's Otway Ranges. Their farm has wide adjoining roadside reserves and a neighbouring bush block that is linked with their own mixed biodiversity plantations and agroforestry. After just seven years, the bird count is well over 50 species, many of these birds live in the adjacent reserves and use the new plantations to move safely around their property eating insects.

Andy Marshall and Linda Scott at their biodynamic farm at Gerangamete in the Otway Ranges.

Case study continued page 14...

Young blackwood and spotted gum in a mixed agroforestry plantation linking to a remnant roadside reserve at Gerangamete.

Andy and Linda have applied their philosophy to growing vegetable crops like garlic and biodynamic vegetable seed. A large orchard and chestnut grove are also flourishing.

Significant corridors of indigenous plants and forestry species like blackwood, (*Acacia melanoxylon)*, silky oak, *(Grevillea robusta)*, and spotted gum *(Corymbia maculata)*, have been added to provide shelter, maximise biodiversity and to produce high-quality timber. These various components have made their biodynamic farm an exciting and vibrant farm enterprise that continues to evolve.

"I believe that a farm is a symbiosis of the land and the farmer, so that each benefit and matures from the relationship. I am always learning and pursuing my lifelong interest in farming systems that complement and support nature," Andy said.

Sustainable biorich design can effectively restore biodiversity to rural and urban areas while providing a significant income and offering the potential to connect with nature.

Fallen logs left in a biodiversity revegetation area to provide important habitat at ground level at Gerangamete.

Case study: Barwon Ridge Winery – a seven-year transformation

Geoff and Joan Anson's biorich journey started in 1998 when they moved to the Barrabool Hills to establish a vineyard. High on their priorities was to make their enterprise sustainable and this involved fencing off remnant vegetation, planting shelterbelts and planting a mixed block of eucalypts for agroforestry. In the gully below the vineyard, a wetland was planted with bog plants to support the freshwater crays. However, there was the ever present 4.5-hectare problem area on the dry northern side of their hill.

Adopting sustainable design principles, they planted a diverse list of mostly local species. These were grouped in clumps of the same species to create the vegetation layers found in healthy remnant woodlands. Red ironbark was planted next to a large group of saltbush growing near patches of wallaby grass. These layers all support bird and insect life.

Their planting included 25 species of approximately 800 canopy trees, 800 understorey and 2400 shrubs. These were grouped in same species clumps of up to 20 for the canopy and understorey, and 20–40 for the shrubs. The taller trees were planted in aesthetically appealing groups to provide a wow factor and early shelter across the vineyard.

Grouping also improves the germination of the next generation of each species through better pollination.

"Imagine, clusters of grey cypress pine, *(Callitris glaucophylla)* waving in the breeze, next to bold canvasses of blooming golden wattle, *(Acacia pycnantha)*, or stands of stately silver banksia, *(B. marginata*)," Geoff said.

Picturesque and productive

After seven years the change has been dramatic. Gums tower overhead, hundreds of mature shrubs are flowering, and wildlife is much more present. Many of the plants are now mature enough to collect seed and cuttings. Bee hives in the plantation provide honey for the kitchen and for sale through the cellar door.

I visited on a warm sunny day in early spring 2019 to help Geoff and Joan form-prune some of their clumps of forestry trees, many of them well over six metres tall in just four years. The layered woodland they had created by grouping indigenous shrubs and understorey next to majestic form-pruned spotted gum, *(Corymbia maculata)*, and red ironbark, *(Eucalyptus sideroxylon)*, was both picturesque and productive. They had allowed convenient access for pruning and harvest by grouping their forestry trees along the edge of a natural access track that snaked its way through the interior.

Geoff and Joan Anson enjoying the fruits of their labour at Barwon Ridge Winery in the Barrabool Hills.

Vegetation layering enhancing wildlife habitat at Barwon Ridge Winery, showing a canopy of form-pruned spotted gum with a shrub layer of hop goodenia and giant hopbush.

The structure of the 4.5-hectare plantation sheltered their vineyard from the damaging west winds and linked with earlier two and three row boundary plantings. The many small birds that lived in the woodland's clumps of shrubs formed an integral part of Geoff and Joan's insect management strategy.

Geoff Anson reflects on pushing aside thick wattle branches to be presented with a flock of sweeping, squawking black cockatoos.

"The cockatoos perch precariously in the trees and feed noisily on pin cushion hakea seed. It's a stunning difference to the weed-infested paddock five years previously. The area has been recreated to become both a place of exuberant biodiversity and uplifting reflection,' Geoff said.

With drought conditions intensifying, dry saline land can become more severe.

From left, consultant Chris McDonough with farmer Travis Thiel inspecting dry saline land patches in the northern Mallee and discussing management options.

Decision tree tools help farmers bring saline land back

Salinity is a major challenge for farmers in Victoria's low-rainfall regions, impacting productivity and threatening long-term soil health. Mallee Sustainable Farming (MSF) has developed two innovative tools that are helping growers manage and remediate saline-affected landscapes at scale. The Dry Saline Land Decision Tree and the Mallee Seeps Decision Tree are now available to support farmers to bring degraded land back into production.

The Dry Saline Land Decision Tree was developed to provide farmers with a practical, step-by-step guide to addressing dry saline land, also known as magnesia country – a growing problem across southern Australia, particularly during extended periods of drought. This interactive tool helps farmers identify the signs of dry saline land, understand the causes, and implement strategies that have been field-tested by farmers across South Australia, Victoria, and western New South Wales.

The Mallee Seeps Decision Tree focuses on salinity caused by Mallee seeps which occur where perched groundwater reaches the surface, typically in low lying farmland. This water is underutilised below the ground. When it moves into a recharge zone where excess water sits on the surface it causes soils to become waterlogged and eventually salinised through evaporation.

The Mallee Seeps Decision Tree guides farmers through identifying the problem, understanding the difference between Mallee seeps and other forms of salinity, and choosing the most effective management strategies. Together, these tools provide a comprehensive framework for farmers facing diverse salinity challenges.

Timing matters – the impact of drought on salinity

With drought conditions intensifying, dry saline land can become more severe. In low-rainfall years, the lack of leaching rains leads to increased salt accumulation at the soil surface, causing saline patches to expand. Without proper intervention, these areas can grow larger impacting productive land.

The Dry Saline Land Decision Tree provides practical solutions to reduce evaporation, manage bare patches, and encourage soil cover. Farmers can use the decision tree to explore different management options. Establishing and maintaining soil cover with straw, mulches and ameliorating with sand can reduce evaporation and break the capillary rise of salts to the surface.

Opportunistic management of seasonal rainfall and taking immediate action when good rainfall returns can be valuable, along with using salt-tolerant varieties that are most likely to thrive in saline soil conditions.

These strategies have been tested to address the unique challenges of farming in low-rainfall areas, offering farmers the flexibility to adapt their management based on local conditions.

Success in the field

MSF's approach has shown promising results in bringing degraded land back into production. Since 2018, and with support

Chris McDonough inspects a dried-up Mallee seep near the Victoria/South Australia border below a strategically sown strip of lucerne established on the mid slope to stop the flow of water into the seep.

to production

By Tanja Morgan

from the Australian Government's National Landcare Program for Mallee seeps and Future Drought Fund for dry saline land, MSF has worked closely with farmers to implement a range of management strategies at demonstration sites across the Eyre Peninsula, SA's Upper North and tri-state Mallee region. These efforts have highlighted the importance of combining innovative techniques with local knowledge to achieve the best results.

For example, the Mallee Seeps Decision Tree has helped farmers manage areas affected by perched water tables. A farmer in Victoria's Mallee region used deep-rooted perennials to lower the water table and reduce the risk of seeps forming. These plants helped draw excess water from the soil, stabilising the spread of seeps and preventing new saline patches from emerging. Over time, the affected paddocks saw a return to productivity, demonstrating the long-term benefits of targeted management.

One of the key successes featured in the Dry Saline Land Decision Tree involves using sand as a mulch. In several Mallee trial sites, farmers found that spreading a layer of sand over bare saline patches significantly improved soil conditions. The sand acts as a barrier, reducing evaporation and disrupting the capillary rise of salts.

This technique allowed farmers to re-establish ground cover and improve crop establishment in areas previously too salty for growth.

Another practical strategy that has proven successful is leveraging opportunistic rainfall. When a decent rainfall occurs, it can flush salts deeper into the soil profile, creating a narrow window for effective action. Some farmers have taken advantage of this by sowing salt-tolerant crops immediately after a good rain, allowing them to establish cover quickly before conditions deteriorate again.

The decision trees are a comprehensive resource hub for farmers seeking to improve soil health and resilience in the face of salinity challenges. Each decision tree is interactive, featuring links to case studies, videos, and downloadable guides that make it easy for farmers to access information tailored to their needs.

Tanja Morgan is Program Manager – Outreach with MSF. For more information and to use the decision trees go to www.msfp.org.au/projects/fixing-saline-soils/

Using sand as a mulch to improve germinating conditions and encourage establishment of ground cover in the Mallee in 2023.

VELCoP's first planning workshop at Bunyip in March 2024.

Equine Landcare groups form a community of practice

By Marianne Sawyer and Mel Archer

The equine Landcare movement began in Victoria 18 years ago. It is attracting increasing numbers of horse owners who have a deep connection with their animals and the knowledge that sound land management and best practice horse-keeping goes hand in hand with horse health and welfare.

In 2011 Katie Jacobsen, as a volunteer with the then Yarra Valley and Dandenong Ranges Landcare Network, wrote an article in this magazine about engaging with horse owners in the Yarra Valley.

The Port Phillip and Western Port region now has three functioning equine Landcare Groups: Yarra Valley Equestrian Landcare Group (YVELG), formed in 2010; Mornington Peninsula Equine Landcare Group (MPELG), formed in 2022; and Cardinia and West Gippsland Equine Landcare Group (CWGELG), formed in 2022.

> *The surge in equine Landcare groups raised the issue of the best way the groups should be supported.*

The surge in equine Landcare groups raised the issue of the best way the groups should be supported. In December 2023 the Victorian Equine Landcare Community of Practice (VELCoP) was formed. A community of practice is a group of people who share a passion or goal, and work together to learn, support each other, and synergise their efforts.

A model with minimal administration

Communities of practice appoint a leader, but there are no governance structures or accounts, so the administration is minimal. This differs to the current Landcare network model which can be taxing on volunteer time. Horse owners are by their very nature busy people and further administrative burden was not attractive to the participants.

VELCoP was proposed by members of YVELG who understood the fragmented nature of the equine Landcare movement in Victoria, and the unfortunate tendency of new groups to come and go.

VELCoP held its first workshop in Bunyip in March 2024 to brainstorm the best way to proceed. There were representatives from each group present, with the workshop facilitated by Karen O'Keefe, Sustainable Agriculture Facilitator, from Corangamite CMA.

VELCoP has been meeting regularly as part of its start-up phase. Its main role is to provide a forum for the committee members of the equine Landcare groups to keep each other informed of their plans, to share information, speakers, and other resources, and promote each other's events.

Horse keeping land management challenges

Dedicated equine Landcare groups are successful due to the special land management challenges posed by keeping horses. Each grazing species, including the horse, leaves its signature on the land. Their grazing usually performed an essential role in the ecosystems where they evolved – the north American grasslands more than 55 million years ago.

Australia has fragile soils, and our wildlife has evolved without hard hooved animals. The domestic horse we live with today is also vastly different from the animal that ran wild.

Horse keepers value the importance of multi-species pasture.

VELCoP members on a pasture walk with Kathy Mapleson at Tonimbuk.

> *Like-minded equestrians are turning to each other to share knowledge, using the Landcare model.*

Horses have high feed demands, hard hooves, and often heavy bodies. Horses are also commonly kept in relatively small areas, leading to land erosion and pasture degradation. They may additionally suffer from obesity and lack of fitness due to their inability to roam freely and forage.

Tackling horse sick paddocks

Many people will be familiar with the appearance of horse sick paddocks, with their overgrown and rank manure pads (roughs), unproductive heavily grazed lawns between the roughs, eroded fence lines and gateways, compacted soil, mud, and high weed burden.

A growing number of horse owners are dedicated to combating this problem. They are aiming to maintain the health of their horse properties and modify their management systems to complement the land. This can be challenging, and the problems faced can differ between small and large blocks.

Like-minded equestrians are turning to each other to share knowledge, using the Landcare model. This approach has proved successful in bringing people together, supporting change and promoting a more sustainable whole-farm approach.

Equine Landcare is particularly well suited to networking due to many issues in common that are shared across large regions. These include management of pastures, parasites, water sources, and manure, as well as fencing, shelter provision and equine nutrition.

Workshops spread knowledge

The individual equine Landcare groups meet regularly. Events during 2024 have included fire safety on horse properties (YVELG), dung beetle education (MPELG), and pasture plant identification (CWGELG).

VELCoP will continue to work to help existing equine Landcare groups thrive. We encourage all horse owners to join an event run by a local equine Landcare group to increase their land management skills and knowledge.

The current members of VELCoP include the Yarra Valley Equine Landcare Group, Cardinia and West Gippsland Equine Landcare Group, Mornington Peninsula Equine Landcare Group, Corangamite CMA and Project Hope.

If you have formed a group or are thinking of forming a group with the aim of improving horse-keeping practices for the benefit of the land they live on, VELCoP would love to hear from you.

Marianne Sawyer is convenor of VELCoP and President of the Yarra Valley Equestrian Landcare Group. Mel Archer is a member of VELCoP and committee member of the Cardinia and West Gippsland Equine Landcare Group. For more information email yvequestrianlandcare@gmail.com

VELCoP encourages all horse owners to join an event run by a local equine Landcare group to increase their land management skills and knowledge.

Most members of MARAG have preferred to adopt regenerative agriculture principles which favour non-chemical bio-friendly practices, with the challenges this may bring.

MARAG members participating in a bioreactor building workshop at Harcourt Organic Farming Co-op in late 2022.

Farmers in the Mount Alexander Shire re-imagine

The Mt Alexander Regenerative Agriculture Group (MARAG), was formed in 2018 with funding support from the North Central CMA, which was keen to encourage the uptake of sustainable agriculture practices consistent with Landcare objectives.

MARAG provides an opportunity for farmers to participate in a collaborative program that builds understanding and skills to help them adopt more sustainable practices. The group is based around Castlemaine in north central Victoria and involves farmers from across the region. MARAG's approach is flexible rather than prescriptive, fostering and demonstrating an exciting potential for innovation in agriculture.

MARAG members are a diverse group involved in a range of enterprises including grazing, cropping, horticulture, dairy, and market gardening. They have come together due to a common interest in finding innovative approaches that minimise the use of industrial chemicals and fertilisers, is nature friendly, builds soil carbon and helps regenerate natural ecological systems from the soil upwards.

Some MARAG members are involved with community supported agriculture, biodynamic and/or organic farming, while others are more mainstream but still wishing to tread more lightly on the landscape. Being able to supply produce directly to the local community is a motivator for many.

Designing and delivering a program that could meet the objectives of our key funding partner, the National Landcare Program, meant producing a detailed community action plan. The plan defined the scope of the project, objectives and outcomes, funding available, level of participation, extent of trials and demonstrations, resource provision, unequal skill levels, and knowledge transfer. Soil constraints, farm management practices, seasonality, and level of core competencies per farmer participant were also factored in.

Bridging the summer feed gap

The group has had to deal with failure and frustration. This was evident when we established pastures under transition from annuals to perennials – starting with both winter and summer active multi-species cover crops to help prime the soil, bridge the classic summer feed gap and account for seasonal climate variability risk. Trial and error were needed to get the best result. We've learnt that getting something right the first time is exciting but does not guarantee repeat success without the learning opportunity.

The current agriculture paradigm is heavily reliant on the use of herbicides to control weeds, and low impact interventions such as no-till sowing. Most members of MARAG have preferred to adopt regenerative agriculture principles which favour non-chemical bio-friendly practices, with the challenges this may bring.

Successes experienced by the group include the use of industry experts as mentors, active collaboration between members, and knowledge sharing between group members, facilitated by social media platforms such as WhatsApp.

MARAG farmers inspecting a successful multi-species cover crop at Runnymede, Elmore, in November 2022.

MARAG members are committed to sharing resources including monitoring and measuring equipment, foliar spray units, electric fences, seed, DIY workshops and laboratory testing equipment.

community agriculture

By Deane Belfield

Sutton Grange farmer Zane Trounson said that before MARAG he knew near nothing about soil tests, grazing, multi-species cover crops or grass identification.

"I now practise holistic managed grazing with our cattle – to great benefit to the pasture and stock. I can now name native and pasture grasses and have incorporated multi-species cover crops into our garlic enterprise which has transformed the soil and garlic end product," Zane said.

Knowledge and resource sharing

Another success has been the structure of the MARAG program's learning curriculum Regen Ag 101, which was developed to enable farmers to gain a more complete understanding of their soils, the interactions between plants, fungi, animals, and soil microbes.

The core themes include understanding soil tests, small water cycle, soil microbes and plant biology, planned grazing and production, multi-species cover cropping, livestock nutrition, soil carbon sequestration and emission reduction, bio-amendments, compost-biochar-dung beetles, biodiversity, revegetation and pasture audit. The themes are delivered through a combination of workshops, webinars, and field events.

After participating in a small water cycle and soil carbon workshop, farmer Tony Cordy reported that he did some soil pH testing on his property in several locations.

"I have been looking in my fertiliser handbook to work out what it all means. One neighbour spread gypsum many years ago and it seemed to go well. I enjoyed the workshop. It is a very good group," Tony said.

Barfold cattle farmers Grant and Kerry Connoley were impressed by a visit from grazing educator Dick Richardson.

"The visit really broadened my horizon regarding what is possible on our farm. It turned ideas into reality," Grant said.

MARAG members are committed to sharing resources including monitoring and measuring equipment, foliar spray units, electric fences, seed, DIY workshops and laboratory testing equipment. This is hugely valuable to all involved.

By participating in MARAG our members are increasing farm profitability, building a community of practice, producing food for the local community, creating an opportunity to be paid for increases in soil carbon and be recognised for achieving carbon neutral status, as well as helping increase net primary productivity across the region.

A MARAG pasture management workshop with Colin Seis in Castlemaine in March 2024.

Deane Belfield is the lead facilitator and developer for the MARAG program. For more information go to www.masg.org.au/agriculture/regenerative-agriculture/

Conserving wetlands with precision agriculture

By Jileena Cole

In 2023, the Beyond Bolac Catchment Action Group (BBCAG) teamed up with its neighboring Landcare groups and networks, i.e. Panyyabyr Landcare Group, Upper Hopkins Land Management Group, and Upper Mount Emu Creek Landcare Network, on a landscape scale initiative to enhance productivity in the region without compromising valuable wetlands.

The joint project involved an on-farm trial to promote precision agriculture strategies among cropping farmers. The initiative was funded by the Glenelg Hopkins CMA through the Victorian Government's Our Catchments, Our Communities program.

The trial took place in south west Victoria, a region known for high-rainfall cropping, variable soils, and temporary wetlands.

According to Tim Hill, Chair of BBCAG, the project came about because the region has the highest concentration of wetlands in Victoria.

"Many of these biodiverse, temporary wetlands are at risk due to drainage and cropping activities and we need to improve our conservation efforts," Tim said.

Four farmers recruited for trial

Four experienced cropping farmers from Skipton, Lake Bolac, Nerrin Nerrin, and Minninera volunteered to participate in the trial and undertake a personalised precision agriculture journey. Simon Gabb, trial participant from Skipton, got involved with the trial to help create more awareness and education around the value of precision agriculture.

"I want to try to integrate precision agriculture to better manage our natural capital assets, such as swamps," Simon said.

The first step was to understand the variability of surface soils and involved a grid soil sampling program, which enabled a deeper understanding of the nutrient levels of the topsoil of the project paddocks excluding the wetlands. Two participants mapped their soil variability through an EM38 (electromagnetic) soil survey as the first step to investigating potential sub-soil constraints.

Nutrient maps were produced and used to create base maps from which most variable rate applications were informed, such as variable rate lime, gypsum, monoammonium phosphate or potash.

Nutrient maps reduce run-off

According to Meera Cameron, from Precision Ag Pty Ltd, this methodology allows for the strategic placement of product at an appropriate rate.

"This reduces the potential run-off into waterways and application in wetlands," Meera said.

Four experienced cropping farmers from Skipton, Lake Bolac, Nerrin Nerrin, and Minninera volunteered to participate in the trial and undertake a personalised precision agriculture journey.

Cropping farmer Graeme Vallance (centre), meeting with Geoff Ross and Meera Cameron to discuss how precision agriculture can be tailored to suit his enterprise at Lake Bolac in south west Victoria.

Dr Michelle Casanova discussing why wetlands are important in the landscape at the precision agriculture field day at Lake Bolac in June 2024.

The trial was very successful in engaging the cropping community. Linking wetland conservation with improving crop yields was an innovative approach. Providing a financial incentive that covered some of the initial costs was critical for getting participants involved.

The participating farmers gained valuable knowledge on the value of seasonal herbaceous wetlands in the landscape. These wetlands provide habitat, replenish groundwater, provide drought refuge for biodiversity and stock watering, improve water quality and mitigate floods. They also learnt how variable rate technology can enhance crop yields while conserving wetlands.

Field day, case studies and videos to share knowledge

More than 40 people attended a field day held in June 2024 to share insights from the trial with the wider cropping community. Case studies have also been produced for each participant detailing their precision agriculture journey, and a series of short videos have been created to inspire others to consider adopting this approach.

The biggest challenge for this project was the limited timeframe for its delivery, due to funding requirements that didn't align with the harvest period in summer. Additional funding is now being sought to continue monitoring yield outcomes in the upcoming season and assess the long-term impact of precision agriculture strategies on crop productivity while preserving wetlands.

Jileena Cole is the Landcare Facilitator for BBCAG. Jileena's position is funded through the Victorian Landcare Facilitator Program. For more information about the trial, including case studies for each landholder, visit www.beyondbolac.org or email beyondbolac@outlook.com

Vale Judy Crocker

By Tess Grieves

The north central Landcare community was greatly saddened to learn of the death of Judy Crocker in early December 2024. Judy had recently retired from her role as Landcare Facilitator with the Mid-Loddon Sub-Catchment Management Group.

Judy grew up in the small town of Boort and spent 30 years raising her family and running a local family business, fondly known as Judy's Little Shop. After moving to Lockwood South, Judy and husband Jim set about restoring their bush block. They both loved gardening and learning about nature. This sparked Judy's more than 25-year involvement in environmental restoration and community building projects in the Mid-Loddon area.

Members of the Mid-Loddon Sub Catchment Management Group and its associated Landcare groups appreciated Judy's work, commitment and dedication to the restoration of the region's soils and natural environment. She was an outstanding Landcare Facilitator with tremendous energy and drive.

Judy was passionate about threatened species, particularly the bush stone-curlew. She raised significant funding for curlew conservation projects including building a predator proof fence so the birds could be released back into the bushland of Greater Bendigo. In a fitting sendoff curlew calls were played at Judy's memorial service.

Judy's legacy is visible across many successful Landcare projects in the region including the trees that line the roadsides of Ravenwood, which she saved from destruction during major infrastructure upgrades.

In an interview with Make a Change Australia, Judy said; "my happy place in nature is in the forest, it's peaceful. My favourite activity is being in the environment. The connection between people and the natural environment is absolutely necessary."

The North Central Landcare Facilitators group was hugely appreciative of the experience, knowledge and formidable force that was Judy Crocker. She was only too happy to mentor and guide others wanting to follow in her footsteps and work on landscape restoration and threatened species protection.

Judy was the heartbeat of Landcare in our region and will be greatly missed.

Tess Grieves is a Project Manager with the North Central CMA.

Judy Crocker with a statue of a bush stone-curlew. The garden statues raised awareness of the birds and helped to raise funds for habitat restoration, fencing and re-introduction.

> *Their first challenge on the property was excluding the dairy cattle from the treed areas*

Jeremy Rundell and his son Leo in front of their wallaby deterring tree sleeves on their property at Bolwarra.

A family journey towards regenerative living

By Kristy Brewer

Jeremy Rundell and his wife Jess were both raised on small farms in Portland and had a dream of providing their children with a similar upbringing.

In 2014 they bought a 30-hectare lifestyle property at Bolwarra so they could grow their own food, connect with nature, and foster a sense of self-sufficiency. With a shared passion for sustainable living, their journey to transform their land into a thriving ecosystem had begun.

According to Jeremy, having the space to cultivate their own food and experience the beauty of nature was incredibly important to him and Jess.

"As time went on, I became increasingly interested in regenerative agriculture and biodiversity. I wanted to create a property that not only supported our family, but also contributed to the health of the environment," Jeremy said.

Their first challenge on the property was excluding the dairy cattle from the treed areas. A Victorian Landcare Grant helped them to fence off the trees.

"Eventually, I aim to have trees lining the pastures and fences to provide shelter for the sheep, while minimising their access to wooded areas. This will balance the comfort of the sheep with the need to protect the trees. The goal is to create a pastoral landscape where trees offer shade and refuge for sheep. This will ensure both the well-being of the sheep and the preservation of the trees," Jeremy said.

Jeremy and his family joined the Tarragal Landcare Group which has provided them with valuable knowledge, resources, and funding to help them implement their plans. One of their primary objectives was to restore connectivity on their property by linking existing dams and a wetland with corridors of native vegetation.

"By planting native species including manna gum, messmate stringybark, blackwood and prickly tea-tree, we are helping to restore the ecological integrity of the land. These corridors provide habitat for wildlife, but also improve water quality and reduce erosion," Jeremy said.

The family used direct seeding techniques to establish the biodiversity corridors efficiently. They faced challenges from wallabies and koalas, eager to feast on the young plants. After experimenting with different methods to protect the seedlings they found tall plastic tree guards were most effective in deterring wallabies. Once the plants grew taller, the wallabies could no longer reach them.

The 20-metre biodiversity corridor serves as a vital link between the dams and wetland. The corridor provides connectivity between habitats and also plays a role in improving water quality.

Jeremy has kept a detailed list of species observed on the property since 2014. The list is a valuable tool for monitoring the success of their regeneration efforts.

"By documenting our progress through species lists and photographs, we hope to help motivate more landholders to adopt sustainable practices and become involved in Landcare," Jeremy said.

Kristy Brewer is Landcare Facilitator for the Southwest Environment Alliance. Kristy's position is funded through the Victorian Landcare Facilitator Program. For more information email facilitator@sealliance.org.au

Bald Hills-Creswick Landcare Group members celebrate a day of planting at Lake Calembeen, Creswick, in October 2024.

A food and fibre forest at Lake Calembeen

By David Unwin

Before colonisation, the Dja Dja Wurrung, like all First Nations people, relied on the land to sustain them. Their range stretched across central and north central Victoria, much of which became known as the central goldfields. The goldrush destroyed much of the indigenous flora, with trees felled for building materials and heating, land cleared for farming, and creeks dammed or diverted to locate gold. Creswick is at the southern tip of Djaara, the country of the Dja Dja Wurrung.

Lake Calembeen, in the heart of Creswick, is a relic of the gold rush. Now a council parkland, lake, local swimming hole and bushland area, it was once a mining pit with the spoil being dumped alongside. Over time many introduced species took hold.

The Bald Hills-Creswick Landcare Group (BHCL) devised a plan to clear out the blackberries and create a forest of indigenous plants, including grasses for weaving, traditional plants for smoking ceremonies, and indigenous foods. With the support of Hepburn Shire Council, and consultation with the DJAARA traditional owners' corporation, the plan was expanded to include a yarning circle – an area with the forest as the backdrop, and the waters of the lake below, for all people to enjoy.

The yarning circle and food and fibre forest is being delivered in multiple stages. In October 2024 BHCL group held a mass tree planting on the slopes of the lake. More than 700 plants were planted over the course of the day by 39 volunteers. The landscape reminded the volunteers of its past when they hit lumps of quartz left over from mining as they hammered in the bamboo stakes of the tree guards. The excess quartz proved useful for weighing down the jute weed mats around the trees, preventing them from blowing away in the next storm.

A garden pump was used to draw water from the lake up the slopes to water in the newly established plants. Power was provided for the pump by a member's electric car, which also kept the urn hot for tea and coffee throughout the day.

David Unwin is a committee member and the media officer at BHCL. For more information email baldhillscreswicklandcare@gmail.com

The newly established food and fibre forest at Lake Calembeen will stretch up the banks behind the yarning circle.

Regional snapshots

The volunteers enjoying the sunset after an active day of planting.

Plant by day, party by night

By Lauren Effenberg

For the last five years Bass Coast Landcare Network (BCLN) and The Hills Are Alive Group have worked with local farmers to revegetate hillsides around Almurta, Krowera, Ryanston, Glen Alvie and Glen Forbes in south Gippsland.

The project is an environmental sustainability initiative that aims to establish tens of thousands of indigenous plants by bringing together like-minded young people and offering them a unique planting experience followed by a relaxing night of food, drinks and music.

The Hills are Alive Group are a music and events company that describes itself as a community of music lovers with a passion for sharing compelling music, based in the Bass Coast.

The 2024 event was held in August at Tim Richards' property at Ryanston. Tim is committed to improving biodiversity on the 72-hectare farm. He has been involved in establishing more than 18,000 plants at the property with three major planting events since 2022.

The plantings have connected multiple tributaries of Archies Creek through a series of wildlife corridors. By fencing off these sections of the creek and revegetating them with indigenous plants, Tim is protecting the waterway from erosion from cattle, improving the water quality as well as increasing habitat for biodiversity.

According to Tim the aim of the planting projects is to create wildlife corridors.

"The proof is in the pudding because I have already seen a koala in one of the planting sites," Tim said.

The indigenous species in this planting were a mix of lowland forest and damp forest Ecological Vegetation Classes including a mix of large eucalypts, medium flowering shrubs for small birds and grasses such as *Carex appressa* to filter the runoff.

The August 2024 planting was attended by more than 50 enthusiastic volunteers from around the state. The weather could not have been any more perfect and the crew made light work of getting the 4000 indigenous plants into the ground. After a glorious afternoon of planting, the hungry volunteers headed up to the New Year's Eve On The Hill site, which is an amazing annual event ran by The Hills are Alive Group at their family farm on New Year's Eve, where they enjoyed dinner, drinks and some live local music.

Lauren Effenberg is NRM Project Officer and Communications Assistant at Bass Coast Landcare Network. For more information go to www.basscoastlandcare.org.au

An aerial view of the wildlife corridors being established along tributaries of Archies Creek.

A guide for Corangamite landholders with small blocks and big dreams

By Kristen Lees

The Corangamite Landcare Program in collaboration with the Corangamite CMA has produced a reference guide to help small landholders and producers in the region create productive and environmentally sustainable properties. *The Small Blocks Big Dreams Healthy Hectares Guide* is tailored to farmers, small-scale producers, bush-block owners and those managing properties for horses and livestock. It was launched in Colac during Landcare Week in August 2024.

The guide has been adapted from a publication produced by the Euroa Arboretum in 2018. It is full of practical tips and local contacts and will fit easily in the glovebox. Topics covered include soils, water, biodiversity, pests, and pastures. Printed copies are available from local Landcare networks and digital copies are on the Corangamite CMA website.

According to Corangamite CMA's Sustainable Agriculture Facilitator Karen O'Keefe, the Corangamite region, which stretches from Ballarat to Geelong and along the coast to Peterborough in the west of Victoria, is one of Australia's fastest growing regions.

"With so many tree-changers new to the area, we want to empower small property owners to care for the biodiversity and health of their land and water – to teach them to farm more sustainably and think strategically," Karen said.

The Small Blocks Big Dreams Healthy Hectares Guide.

The Small Blocks Big Dreams program got underway in 2021 due to the increase in small landholders moving to the Corangamite region due to COVID-19. The program was delivered by Corangamite CMA in partnership with Landcare networks and groups from early 2022 to April 2024. It has supported more than 150 small landholders across the region to better care for their properties and the environment.

Participants enjoyed six rounds of workshops and property tours and a visit from Corangamite CMA and Landcare staff who helped them to develop tailored land stewardship action plans. Participants were also offered up to $2000 to support the delivery of on-ground works on their properties.

The *Small Blocks Big Dreams Healthy Hectares Guide* is a legacy document that supports existing participants and acts as a bridge for new participants, providing continuity of learnings and inspiring future landholders to begin their stewardship journey.

Vicky Bosnar, a participant in the program, said, "having just recently bought 80 acres and being a novice at everything, this is just empowering for us. The whole program has been so beneficial – we have learnt so much, I didn't want it to stop.

"When you've come from the city to the country you feel a bit overwhelmed that you don't have any machinery, you have no knowledge, and you're looking around for who can help you. Small Blocks Big Dreams has been absolutely fantastic to assist with this."

The Small Blocks Big Dreams project is one of 11 Our Catchments, Our Communities regional on-ground projects, funded by the Victorian Government to support catchment stewardship, health, and resilience.

Kristen Lees is a Project Officer at Corangamite CMA. For more information go to ccma.vic.gov.au/projects/small-blocks-big-dreams/

From left, Sarah Brien, Karen O' Keefe and Chelsey Agg at the Small Blocks Big Dreams Healthy Hectares Guide *launch.*

Landcare Victoria Incorporated Update

Landcare Victoria Inc. (LVI) has seen remarkable growth over the past 12 months, marked by the addition of new staff and projects. Notably, Victoria's environmental volunteer base has continued to expand, defying the nationwide trend of declining volunteer numbers. This vibrant and growing network underscores the commitment of Victorians to preserving and enhancing our natural landscapes.

The first stage of the New Futures for Victorian Landcare project has recently been completed, with the two participating pilot landscapes publishing their landscape plans in late 2024. An additional two landscapes will be sought for this project in early 2025 – visit www.landcarevictoria.org.au/newfutures to keep up to date with the project.

LVI has partnered with Agriculture Victoria and Victoria's CMAs to participate in the Australian Government's Carbon Farming Outreach Program. This collaboration places LVI at the forefront of coordinating Carbon Farming Outreach Program activities statewide, engaging Regional Coordinators, industry associations and networks to drive awareness and participation in sustainable carbon farming. More information about this project and its events can be found at www.landcarevictoria.org.au/CFOP.

Landcare Victoria has welcomed several new team members, including Administration Officer Neha Concisom and Carbon Farming Outreach Program Coordinator Tahnee Burgess. The addition of these talented staff strengthens our capacity to support on-ground projects and expand partnerships, providing greater resources to our community groups and volunteers.

For more information visit www.landcarevictoria.org.au

Farewell Carrie Tiffany

By John Robinson

After 29 years and 89 issues, Carrie Tiffany is leaving her position as consultant editor of the *Victorian Landcare and Catchment Management* magazine to take up a lectureship in English and creative writing at La Trobe University.

Carrie said, "It is a reluctant resignation. Landcare has been a major part of my life for a long time. I am going to miss it. I'm immensely proud of what we've done with the magazine over these years."

Carrie began her career as a park ranger, working in the NT and, in the 1990s with Victoria's then Department of Conservation, Forests and Lands. She moved into a statewide role working with communities writing Salinity Management Plans. In 1996 Carrie was part of the team that produced the first *Victorian Landcare* Magazine and has worked as its editor and consultant editor since then.

Carrie has a deep knowledge of Landcare, its history, its values and its people. Along with writing many stories that featured in the magazine, Carrie worked with more than 900 story contributors. She collaborated closely to assist contributors to plan, draft and polish their stories so they were compelling, clear and logical, while respecting each unique voice.

The magazine is published by the Victorian Government and has more than 22,000 readers. Since 2016 many readers are now online. Since the creation of a digital index in 2015 every story in the magazine can now be searched by author, title, and topic, creating a rich resource of Landcare knowledge.

The magazine plays a significant role as a voice for Victoria's grassroots Landcare and environmental volunteer community. Through their stories in the magazine Landcare and environmental volunteers share the positive impacts of their on-ground environmental projects, their innovations, challenges, and failures, and learn from each other.

While editing the magazine Carrie completed an MA and a PhD in Creative Arts and wrote three prize-winning novels, all with environmental themes. *Mateship with Birds* won the inaugural Stella Prize in 2013. She also writes short stories and essays.

Landcare will continue to play a role in Carrie's professional life. She is currently re-writing the subjects she is teaching at La Trobe to include some Landcare content.

Carrie's departure as editor of the magazine marks the end of an era, and it is hard to envisage the magazine without her.

Thank you, Carrie. We have an immense debt of gratitude for all your work on the magazine.

John Robinson is a Senior Project Officer, Victorian Landcare Program, at DEECA. John has worked with Carrie to coordinate the production and publication of 30 issues of the magazine and has also contributed stories. For magazine enquiries email landcare.magazine@deeca.vic.gov.au

The *Victorian Landcare & Catchment Management* magazine is published by the Victorian Government's Department of Energy, Environment and Climate Action and distributed in partnership with Landcare Victoria Incorporated. The magazine aims to raise awareness of Landcare and natural resource management among Victorian farmers, landholders, the Victorian Landcare community and the wider community.

Mailing list enquiries and to receive your online copy via email alert
Contact Landcare Victoria Incorporated
Phone: 9034 1940 Email: info@landcarevictoria.org.au

Read the magazine online
To access the *Victorian Landcare & Catchment Management* magazine online as web pages since the Spring 2016 issue (#67) go to www.landcarevic.org.au/landcare-magazine/
Back issues of the magazine since the Spring 1996 issue (#1) can be accessed online as pdfs.

Next issue

Contributions are sought for the next issue of the magazine to be published later in 2025. Please send us your Landcare news, events and stories. We are interested in how Landcare groups and networks are innovating, meeting the changing needs of their communities and responding to climate change.

The magazine fills up very quickly so please get in touch with the editor well before the contribution deadline. Contributions should be sent to the editor by Friday 2 May 2025.

Email: landcare.magazine@deeca.vic.gov.au

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