Issue 72 - June 2025

Wombat Forestcare Newsletter

After an incredibly dry autumn, we welcome the winter rains and are looking forward to a burst of fungi. Read about the latest genetic information regarding our Wombat Leafless Bossiaea, the long wait for our national park and catch up with Brown Thornbills. **Gayle Osborne** (editor) and **Angela Halpin** (design)

Conserve or consume?

Expressing our disappointment that the Victorian State Government has failed to legislate the promised Park. Photography © Sandy Scheltema.

By Gayle Osborne

It is four years since the Victorian government accepted recommendations to establish new national and other parks in the central west of Victoria. Despite assurances, in writing, that they were to be created last year, we are still waiting for the legislation for these parks to be presented to parliament.

These delays mean that the Wombat Forest continues to be managed as a state forest rather than for the conservation of its biodiversity. The ongoing salvage logging significantly degrades habitats by disrupting natural processes and compacting soils. If the parks had been legislated as promised, Parks Victoria would be the forest manager and with its focus on ecological preservation, Parks Victoria would probably have adopted a different position on the log removal.

After extreme weather events, the Department of Energy, Environment and Climate Action (DEECA) deploys a Rapid Response Team to assess and respond to environmental damage and recovery efforts. A draft internal working document authored by DEECA's Rapid Response Team was obtained under Freedom of Information and points to the risks to flora and fauna from storm clean-up activities.

The report noted that in regard to threatened fauna and flora utilising ground habitats including fallen timber that

> *"Species of threatened fauna utilise fallen timber for shelter or foraging. Removal of fallen timber leading to fauna habitat loss or degradation. Many species of threatened flora are within the understory or ground layer. This can be damaged or destroyed by the storm clean-up i.e. use of heavy machinery that gouge and break up the soil and smothering of the ground layer by mulched material and subsequent loss of species at sites in and around the impact area."*

It would seem this advice has been largely ignored by DEECA as large volumes of logs continue to be removed from the Wombat State Forest under the guise of reducing fire risk. Is the delay in legislating the Wombat from state forest to parks status enabling the government to extract this timber? The longer we wait for the legislation, the longer it will be before we have strategies in place for the preservation of species and new walking tracks and interpretive signs to welcome visitors to enjoy the forest.

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Twenty-five years ago, many people in the local community were horrified by the scale of the timber harvesting in the Wombat Forest. The staff from Department of Natural Resources and Environment continued to defend the logging as sustainable. It was claimed that the logging could continue, as the trees would grow back quickly enough to sustain the sawmills. That did not happen, and we have been left with thousands of hectares of regrowth forest. This regrowth forest consists of tightly packed, spindly trees that greatly increase the severity at which the forest would burn in a wildfire.

Now we have the Chief Fire Officer and DEECA management claiming that this industrial scale salvage of windfallen logs is for fire safety. This is the same line of argument that we experienced all those years ago – "trust us, we know what we are doing". DEECA management is ignoring the scientific evidence that shows that fallen logs do not increase fire risk or behaviour. The logs may burn after a fire front has passed but as they age they absorb moisture and assist in keeping the forest floor sheltered and damp. The logs are an important component of the biodiversity of the forest and help maintain the resilience of forest ecosystems.

DEECA spokespeople also claim that larger fallen debris makes it difficult to access a fire. However, much of the timber is coming from broadacre works and given the danger of fighting a fire deep in a forest, it is unlikely that fire fighters would be deployed well away from a track or firebreak. Even the roadside works are clearing fallen logs 80 – 100 metres either side of forest roads, which is an excessive response to the possible risk.

It is particularly disappointing to see that logs are being removed from the Special Protection Zone (SPZ) on Osborne Road, Bullarto, which was established for the protection of Powerful Owl habitat. SPZs are managed for conservation and timber harvesting is excluded (Midlands Forest Management Plan). By calling this "reducing fire risk", DEECA is circumventing the legal protection for the SPZ.

The reason that this can happen is due to the powers given to the Secretary of the Department of Environment and the Chief Fire Officer under the *Forests Act 1958*. Responsibility for the planned prevention of fire on public land is delegated to the Secretary of the Department of Environment. The Secretary authorises the Chief Fire Officer to undertake actions to reduce fire risk.

> *Section 62 (2) of the Act states "Despite anything to the contrary in any other Act or law, the Secretary must carry out proper and sufficient work in State forests, national parks and on protected public land— (a) for the immediate prevention and suppression of fire; and (b) for the planned prevention of fire."*

This is all very vague. There is no requirement for the Secretary or the Chief Fire Officer to scientifically validate the effectiveness of any works carried out for the planned prevention of fire, they just need to consider that their works will contribute to the prevention of fire, and the works can legally be undertaken.

We need strategies that balance fire safety with biodiversity conservation, not the heavy-handed response that we are seeing in the Wombat Forest at present. ■

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What you can do: Write to The Hon. Steve Dimopoulos, Minister for the Environment Reception.Dimopoulos@deeca.vic.gov.au **and c.c. The Hon. Jacinta Allan, Premier of Victoria** jacinta.allan@parliament.vic.gov.au **Ask why the promised legislation to create the new Wombat-Lerderderg National Park has not been presented to the Victorian Parliament and tell the minister why you think it is urgent.**

Understanding *Bossiaea vombata*: what genetics reveals about a rare shrub and its conservation

By Eilish McMaster

Scientific Officer, Biodiversity Research, Botanic Gardens of Sydney

A recent genetic study has provided new insight into the identity and conservation needs of a rare native plant, *Bossiaea vombata*, which was previously thought to only occur in the Wombat State Forest of Victoria (McMaster et al., 2024). This species belongs to a group of "leafless" *Bossiaea*, a genus of Australia's native flora that includes a number of threatened and poorly understood species. Because these plants look similar, especially because they lack leaves, genetic tools are useful for clarifying relationships that are difficult to resolve through physical characteristics alone.

Bossiaea vombata showing the flattened stem with attached flowers. Photography © Gayle Osborne.

Taxonomic clarification using genetic data

In this study, researchers analysed 283 individual plants across 27 populations of seven *Bossiaea* species using a technique called DArTseq. This method is a type of reduced-representation genome sequencing. Rather than sequencing an entire genome, it targets representative sections, generating thousands of genetic markers known as SNPs (single nucleotide polymorphisms)—small changes in DNA that can be compared across individuals.

This allowed researchers to examine patterns of genetic similarity and difference among individuals and populations. By identifying clusters of genetically similar individuals, the team could assess whether different populations were part of the same species or represented distinct taxa.

One key finding was that *Bossiaea vombata*, originally described from the Wombat State Forest, includes two genetically distinct forms. The newly identified north-eastern population, located near the Cobberas Mountains over 290 km from Wombat State Forest, has enough consistent genetic and morphological differences to be recognised as a new subspecies: *B. vombata* subsp. *orientalis*. The two forms differ slightly in stem colour (green vs. grey-green), flower size, and geographic range, but more importantly, their genomes indicate limited or no genetic exchange.

What is a subspecies?

In biological classification, a subspecies represents a distinct group within a species that shows consistent genetic and morphological differences, often the result of long-term geographic isolation, but not enough to be recognised as a separate species. Subspecies often represent populations that are on the path to speciation: that is, they may continue to diverge over time through limited gene flow and local adaptation. Recognising subspecies is important for conservation, as it acknowledges evolutionary processes and helps protect genetic diversity that could be critical for future species formation or ecosystem function.

Clonality and limited reproduction

The study also confirmed that both subspecies of *B. vombata* reproduce primarily through cloning. In clonal plants, new individuals grow from parts of a parent plant (e.g. underground stems or root suckers) or from seed which was asexually produced via apomixis. Rhizomatous suckering leads to genetically identical patches, which can cover several metres in diameter. While some genetic variation has been observed among clones, there is little evidence of current sexual reproduction in some populations, particularly in *B. vombata* subsp. *vombata* in Wombat State Forest, where seed production is very limited (Amor et al., 2020).

This reproductive strategy can be beneficial in stable environments, but it also means reduced genetic diversity and fewer opportunities for adaptation to change. In small, isolated populations, this can increase vulnerability to disease, environmental stress, or climate change.

Gene flow and conservation implications

Another important finding was that gene flow (the exchange of genes between populations through reproduction) is extremely limited among these *Bossiaea* species. In fact, genetic connectivity appears to drop off sharply beyond 1–3 km. This geographic isolation

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contributes to genetic divergence and makes populations more susceptible to inbreeding (mating between genetically similar individuals), which can reduce the health of plant populations over time.

For conservation, this means that each small population may require individual management, but it also raises the possibility of using genetic rescue: introducing carefully selected individuals from related populations to increase genetic diversity. For example, researchers suggest that crossing B. vombata subsp. vombata with subsp. orientalis, if biologically compatible, might help restore seed production or improve population viability. This concept of "assisted gene flow" or "genetic rescue" is well established in conservation, and has been shown to greatly improve the fertility and fitness of endangered species (Frankham, 2015, 2016).

A multi-species, landscape-level approach

Rather than managing each species or population in isolation, the authors advocate a coordinated conservation approach. This means considering multiple species together, especially when they share similar ecological challenges, like limited gene flow or clonal reproduction, and applying consistent strategies across their range.

This might include:

- Habitat protection and restoration.
- Targeted seed collection that captures as much genetic variation as possible.
- Using genetic data to guide translocations or assisted gene flow.
- Monitoring populations over time to track genetic and reproductive changes.

By combining field surveys, taxonomic expertise, and population genomics, the study contributes to a more robust understanding of *Bossiaea* diversity and helps inform practical decisions for conservation planning.

Broader use of genetics in conservation

This study is part of a growing body of work using genetic tools to support the management of threatened species in Australia. Such studies help clarify taxonomic boundaries, reveal cryptic species, and identify genetic concerns (such as low diversity, inbreeding, or clonality) that can affect population viability. These insights inform practical management actions, including seed banking, translocations, and ex situ conservation. Without genetic data, conservation decisions are less targeted, often less effective, and potentially more costly over time (Cascini et al., 2025; Doyle et al., 2025). While much of this work is led and funded by state and federal governments, with contributions from universities and private organisations, community involvement remains crucial. Volunteers, citizen scientists, and local landholders play an important role in monitoring, stewardship, and implementation on the ground. Ongoing collaboration between researchers, governments, and the wider community is essential to ensure the persistence of Australia's unique biodiversity. ■

Glossary of Terms

- Genomics: Study of the entire DNA sequence of organisms to understand genetic variation and relationships.
- **NP** (Single Nucleotide Polymorphism): A single base-pair change in DNA, used as a marker to study genetic diversity.
- **Clonality**: Reproduction without seed, creating genetically identical individuals from a single parent.
- **Gene flow**: Movement of genetic material between populations through reproduction.
- **Subspecies**: A population within a species showing consistent genetic and morphological differences, often due to isolation.
- **Genetic rescue**: Increasing genetic diversity in small populations by introducing unrelated individuals from other populations.

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Brown Thornbill

By Trevor Speirs

The Brown Thornbill *Acanthiza pusilla* is one of the many small bush birds that offer real identification challenges to birdwatchers. Rather nondescript, thornbills and similar species such as weebills, warblers and gerygones are often referred to as "little brown jobs" when it comes to identification. Complicating matters further is that many of these small bird species forage together and rarely stay still as they move through the forest. It is similar in the identification stakes to the many species of migrant waders which come to Australia's coastlines every spring; birds that are mainly the same size, behave alike and at first glance, near identical plumage. The advantage with waders is that they are mainly seen in the open which is a great help in getting those essential pictures which can reveal subtle differences in bill shape or leg colour, some of the things that are vital for a correct ID.

Brown Thornbill *Acanthiza pusilla* Photography © Lynda Wilson.

Small bush birds, although very active, do have their own particular traits which birdwatchers can use to at least narrow down the possibilities. Of the five thornbill species found in the Wombat, the Brown Thornbill is, I would say, one of the easiest to correctly identify. Spending much of the day in the forest's mid-storey, it is the only Wombat thornbill with a rich musical voice. While also occasionally emitting the buzzing and zitting sounds generally associated with small bush birds, it is the sweet and surprisingly far carrying warbles and tuneful whistles that distinguishes it from the others. If you're quick enough to get a photo, look for the deep red eye and rufous forehead. Like the Striated Thornbill, the Brown Thornbill has striates on its upper chest but they are richer in colour and it also has less streaking on the head. While the Striated Thornbill inhabits the same forest types as the Brown Thornbill, it generally forages higher in the tree canopy and possesses that familiar insect-like voice.

Juvenile Brown Thornbill *Acanthiza pusilla* Photography © Lynda Wilson.

The Yellow, Yellow-rumped and Buff-rumped Thornbill have all been recorded in and around the Wombat Forest but these three species generally prefer a drier and more open woodland habitat than is found throughout the majority of the Wombat. The Brown Thornbill is very adaptable and is found in all types of forest, from mature to regrowth, and is one species that is advantaged by a dense shrub layer and good ground cover, where it can forage for insects in pairs or family groups. Studies in NSW have shown they are more abundant in unburnt forest than recently burnt, where the lower shrubs and mid-storey has been lost. A denser understorey also provides sheltered and protected nesting sites.

Typical of many resident/sedentary birds, breeding pairs of Brown Thornbills hold permanent home ranges or territories and depending on the richness of habitat could be as much as 4 hectares. If you live on a bush block or in town close to suitable habitat, there will be a good chance that Brown Thornbills will be sharing your garden as part of their range. Acacias seem to be a favourite tree and a slightly overgrown garden would certainly be an attraction to these melodious little birds. ■

The Fullness of Nature

By Tanya Loos

One of the great things about being into nature is that there is always more to learn! My favourite naturalist from bygone days is the Reverend Sir Gilbert White, who spent his days strolling about his little English country shire, observing the plants and animals around him – and the passing of the seasons. This was during a period in history when naturalists and scientists of the day were travelling to far off colonized lands and shooting animals and painting them. Through careful observation in the field, the Reverend discovered that 1) the local swallows do not hide at the bottom of ponds all winter as was thought at the time, and 2) that tiny harvest mouse is indeed a whole species not just a baby mouse! My favourite quote of his is "It is, I find, in zoology as it is in botany: all nature is so full, that that district produces the greatest variety which is the most examined."

Turquoise Berry *Drymophila cyanocarpa*. Photography © Tanya Loos.

And this adage surely applies to the Wombat Forest! Us locals know it is a jewel, full of special places and plants and animals worthy of protection, but like many other foothill forests these gorgeous mixed species forests and their fauna have been overlooked as ecologists have focused on the highly threatened box-ironbark forest, or the imperiled mountain ash forests so well studied by Prof David Lindenmayer.

Wombat Forestcare members, with the help of the VNPA, and now increasingly a suite of ecologists, now know more about this special place and its inhabitants. And like the Reverend's local area, the more we look at the Wombat the more we see! The recently discovered endangered Mountain Skink being a case in point!

Which brings me to the most recent You Me and Biodiversity talk – this time on the fascinating plants and ecosystems of the Wombat Forest, by ecologist Karl Just and plant grower and ecologist Jeremy Neal.

I have had the good fortune of knowing Karl and working with him on various ecology projects – and he is a fantastic all rounder with broad natural history knowledge as well as all the detail (bird calls, plant subspecies). He also is so generous with his time with community groups such as Landcare and other biodiversity community groups such as Wombat Forestcare. Karl is based near Castlemaine.

But we also have Jeremy of Wombat Native Plants! Karl really wanted Jeremy along to co-present as Jeremy's knowledge of the local flora is the best in the district.

I have worked on a written piece for the Great Dividing Trail Association and Jeremy was kind enough to show me some of the flora of the Lerderderg and his detailed understanding of our flora, and the threats that face our flora. Jeremy is a precious resource indeed.

Karl's presentation gave an overview of the forest, including its geography and geology, and then we took a closer look at the various plant communities and rare species that call the forest home.

Many of the most widely occurring Ecological Vegetation Classes of the region include the Shrubby Foothill Forest and Herb-rich Foothill Forest complex, Heathy and Grassy Dry Forests, Damp Forest, and Sedgy Riparian Woodland. Karl pointed out that some swamps in riparian areas that are filled with sphagnum moss, are truly ancient systems – stable and wet enough to protect rare wetland plant species for over thousands of years.

Have you heard of the Kilmore Gap?? This low elevation gap of a hundred kilometres or so forms a break in the Great Dividing Range between the forests of the west and the forest of the eastern parts of Victoria. This gap means we have a whole raft of disjunct species in the Wombat Forest, many of which have ended up with distinctive genetic differences from the same species in the eastern part of Victoria.

We have 750 indigenous species recorded for the Wombat Forest – representing 15% of Victorian species.

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And gosh there are some special ones: Mountain Baeckea, Elderberry Panax, Satinwood, Montane Bottle-Daisy, Mother Spleenwort, Bushy Clubmoss, Turquoise Berry, - and that is not even listing the threatened species!

Threatened plants include 39 listed species, and many more that are considered regionally significant. Some of these threatened species include Wombat Leafless Bossiaea, Wiry Bossiaea, Hairy Beard-heath, Dwarf Silver Wattle, Lacy River Buttercup, Large-leaf Cinnamon Wattle, Creeping Grevillea, Yarra Gum, and of course the Wombat Bush-pea.

We then had a look at the fauna that rely on plants (which as Karl pointed out is literally all of them!) and really it is quite simple – a diversity of forest equals a diversity of species!

Which brings us sadly to the threats facing the Wombat Forest. Logging, of course. Planned burning – which increases the fuel load, dries the forests out, destroys hollow-bearing trees, impacts fire-sensitive plants and animals, and impacts fungi diversity. Mining leases – we absolutely need National Park status to ensure these are not carried through to mining licenses. And finally weeds and introduced animals – deer in particular seem to be on an exponential increase!

We had some depressing discussions about the present drought and the effects on the flora and fauna of the Wombat – but ended on a good note with Jeremy showing us examples of many special Wombat Forest local plants – with some lucky folks even taking a few home! ■

Mountain Baeckea *Baeckea utilis* growing at Jeremy's nursery Wombat Native Plants.
Photography © Gayle Osborne.

BREAKING NEWS

A study by researchers, including those from the University of Sheffield (UK), found that fungi store a third of the carbon produced by global fossil fuel emissions. This significant carbon storage is primarily attributed to mycorrhizal fungi, which form vast underground networks. The study highlights the crucial role fungi play in climate change mitigation and suggests they could be essential for reaching net-zero emissions targets.

Researchers are calling for fungi to be considered more heavily in conservation and biodiversity policies and are investigating whether we can increase how much carbon the soil underneath us can hold.

This new research is very relevant to the Wombat Forest, a fungi 'hot spot' with more than 400 species. Fungi form vast mycorrhizal networks through the soil, but these networks are also commonly found under bark on fallen logs. Some fungi are only found under fallen logs. Instead of conserving the windfallen timber on the forest floor of the Wombat Forest, the Department of Energy, Environment and Climate Action (DEECA) is overseeing the removal of thousands of cubic metres of logs, which will presumably be sold as firewood.

While removing the logs, large heavy machines are compacting the soil, destroying vast underground networks and reducing the ability of water to infiltrate the soil.

Professor Katie Field, Professor of Plant-Soil Processes at the University of Sheffield and co-author of the study, said: "Mycorrhizal fungi represent a blind spot in carbon modelling, conservation, and restoration - the numbers we've uncovered are jaw-dropping, and when we're thinking about solutions for climate we should also be thinking about what we can harness that exists already."

Professor Toby Kiers, senior author from Vrije University Amsterdam and co-founder of the Society for the Protection of Underground Networks, said: "The paper is part of a global push to understand the role that fungi play in Earth's ecosystems. We know that mycorrhizal fungi are vitally important ecosystem engineers, but they are invisible to most people." ■

To read the article University of Sheffield
https://www.sheffield.ac.uk/news/fungi-stores-third-carbon-fossil-fuel-emissions-and-could-be-essential-reaching-net-zero

Reassessing planned burns

By Gayle Osborne

For many years environment groups throughout the state have raised concerns about the effects of fuel reduction or planned burns on the environment and whether this management action is effective in helping control wildfires.

In the Wombat Forest, where planned burns have occured, we have seen the loss of hollow-bearing trees. This will impact many fauna species that need the hollows for daytime protection and birds that need hollows for breeding. In an area south of Trentham that was frequently subjected to burns we are no longer able to locate any Greater Gliders and presume that they are lost from this section of the forest due to the burns. There is also a loss of vegetation complexity once areas have been subjected to several burns, usually causing the burn site to be dominated by bracken or Acacia species. The burns are destructively impacting flora, fauna and fungi as well as destroying fallen logs that are home to many insects.

Forest Fire Management Victoria (FFMVic) which sits within the Department of Energy, Environment and Climate Action (DEECA) is the agency in charge of planned burns. FFMVic staff argue that reducing fuel loads lessens the threat of bushfires destroying people's homes as well as critical flora and fauna habitat.

However, a number of distinguished scientists are questioning the justification for these burns. Although it is acknowledged that planned burns can have a short-term effect on bushfire behaviour, there are longer term outcomes that are not favourable at all and these are not being considered.

In a paper titled *Biodiversity impacts of the 2019-2020 Australian Megafires*, Don Driscoll et al. investigated the impacts of these fires on flora and fauna with respect to the frequency of previous fires (including planned burns) as well as drought and land tenure.

Their research revealed that sites which had experienced three or more fires in the preceding forty years (including planned burns) had species declines up to 93% greater than with sites that had not burnt or only burnt once over the same period. This was the case even when the bushfire was not particularly severe.

On public land, DEECA designs fuel management zones according to bushfire risk. Areas of the highest risk are designated Asset Protection Zones with the "aims to reduce fuel through burning or other methods approximately every 5 to 7 years." [1]

Such frequent fuel reduction burning (planned burns) means that many plants and animals are likely to suffer from large population declines in any subsequent bushfire. This is at odds with the argument frequently proposed by FFMVic staff that unless planned burns are undertaken in the Wombat Forest, we will lose populations of threatened species such as Greater Gliders should there be a major bushfire. They contend that these planned burns will create areas that will not burn as fiercely in a subsequent bushfire therefore creating refuges for many species.

FFMV staff also say that bushfires will be easier to contain after planned burns due to there being less fuel. However, this is not always the case as weather can be the main driver of the intensity of a bushfire. There are many instances throughout the state where there have been out of control bushfires even though there have been previous planned burns such as in the Grampians region.

Luke Collins et al. in their paper titled *Fuel reduction burning reduces wildfire severity during extreme fire events in south-eastern Australia* show that wildfire severity was moderated for at least 3 – 5 years in forests after fuel reduction burns with fire severity reduced within the first 18 months due to the lack of available fuel. After approximately 3 – 5 years fire weather is the dominant driver of high severity fire.

In another paper, *The efficacy of fuel treatment in mitigating property loss during wildfires: Insights from analysis of the severity of the catastrophic fires in 2009 in Victoria, Australia* by Price and Bradstock, it was shown that although recently burnt areas (up to 5-10 years) may reduce the intensity of the fire it was not sufficient to increase the chance of effective suppression under severe weather conditions. Since house loss was most likely under these conditions (67%), effects of prescribed burning across landscapes on house loss were likely to be small when weather conditions are severe. Price and Bradstock found that fuel treatments needed to be located close to houses in order to effectively mitigate risk of loss.

There is also more research into the detrimental effects of planned burning from Professor David Lindenmayer (Australian National University) and Dr Phil Zylstra (Curtain University). Their research paper *Identifying and managing disturbance-stimulated flammability in woody ecosystems* advises that planned burns can make forests more flammable. This is only one of many papers published by these authors regarding the negative impacts of planned burns.

Both the state and commonwealth governments acknowledge the environmental harm that can be caused by planned burns. The Victorian *Flora and Fauna Guarantee Amendment Act 2019* lists three potentially threatening processes caused by these burns:

- Inappropriate fire regimes causing disruption to sustainable ecosystem processes and resultant loss of biodiversity
- Loss of hollow-bearing trees from Victorian native forests
- High frequency fire resulting in disruption of life cycle processes in plants and animals and loss of vegetation structure and composition.

In 2022, 'Fire regimes that cause declines in biodiversity' was listed as a key threatening process under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999*.

The Threatened Species Scientific Committee noted that "While some fire regimes threaten species directly by reducing their survival and/or reproduction, many impacts of fire regimes on biodiversity are indirect, either because they alter habitats, disrupt dependencies among species, or exacerbate impacts of other threats. Fire regimes that threaten biodiversity may also degrade ecosystem *continued next page ...*

functions, reducing the capacity of ecosystems to sustain native flora and fauna and to supply ecosystem services that support human well-being and livelihoods."[2]

Another paper from Charles Darwin University published by von Takach et al. and titled *Long-unburnt habitat is critical for the conservation of threatened vertebrates across Australia* used a range of case studies to show that it is important to identify and protect long unburnt habitats for the conservation of many declining and threatened species. In the Wombat Forest, we have seen that the endangered Mountain Skink *Liopholis montana* is usually only found in long undisturbed habitat.

DEECA management would be well aware of the detrimental effects of the burns on biodiversity but appears to be reluctant to change the current burn regime.

Each year, DEECA undertakes to reduce bushfire risk to 70% or lower. This is mainly achieved by undertaking planned burns and measuring the reduced fuel loads. As discussed in this article, fuel reduction burns are only effective at reducing fire risk for a short time frame, and frequent burning has a significant impact on wildlife and other environmental values.

A failing of the bushfire modelling tool used by DEECA is that it can only measure the results of large fuel reduction actions and is unable to measure smaller reductions in risk such as removing gorse infestations that have the potential to carry fire into the canopy.

DEECA claims that "Our new approach is about ensuring we have the best evidence-based approach to reducing the risk of bushfire and making Victoria a safer place for our communities"[3] yet does not provide any evidence to substantiate this.

There is a hillside of gorse to the west of Barry's Reef and northwest of Blackwood that would burn with intense heat if ignited in a fire, with the potential to carry the fire into the canopy. Instead of dealing with this fire risk, DEECA intend to undertake a planned burn through wet gullies and greater glider habitat to the northwest of Blackwood. To the south of Trentham, the gorse infestation is increasing at a great rate. DEECA management informed us, that, as their computer program cannot measure the reduction in risk due to weedy plant removal, they have no budget to undertake the work.

We also note that there is a mature pine plantation to the northwest of Lyonville that we have been informed is a DEECA responsibility. All enquiries to DEECA about the plantation have been ignored. This plantation poses a fire risk to the Lyonville community but instead of arranging the harvesting of the trees DEECA intend to carry out an extensive planned burn at Babbington Hill.

Much of the contribution to the fire risk in the Wombat Forest is the tightly packed regrowth from the logging between 1970 – 2005. It is the same government department that oversaw the excessive timber harvesting that also oversees the planned burns.

There is a need to fundamentally change how we deal with fire risk. Given the increasingly volatile climate there are no easy answers, particularly as we cannot control lightning strikes, hot and windy weather or drought. The reason that we have not seen a major fire in the Wombat recently is that CFA brigades and FFMVic have rapidly reached fires at source and extinguished them. However, should a fire start with extreme weather conditions it may not be possible to control it.

Resources need to be directed to new technologies for early detection and ways of delivering appropriate firefighting equipment to the early stages of a fire.

Not only is there environmental damage from planned burns, but wildlife also dies. I was very distressed to see a severely burnt dead young wallaby on a forest road following a planned burn. We should be sure that planned burns are mitigating the effects of a wildfire before we inflict pain and death on our wildlife. ■

Notes

1. www.vic.gov.au/victorias-bushfire-risk-management-report-2022-2023
2. Department of Agriculture, Water and the Environment (DAWE) 2022, Fire regimes that cause declines in biodiversity as a key threatening process, Department of Agriculture, Water and the Environment, Canberra
3. www.safertogether.vic.gov.au

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Great Egret

By Trevor Speirs

Elegant and graceful are adjectives often associated with long-legged water birds like cranes, herons and egrets. The cosmopolitan Great Egret *Ardea alba* certainly epitomises that description, and the bird pictured has found the small lake in Trentham much to its liking in recent months. Egrets are a picture of concentration as they move very slowly through shallow water hunting for small fish and other aquatic life. Patience is also needed as Great Egrets spend much of their day standing perfectly still waiting for unsuspecting prey to come into view. Small birds, especially passerines, have also been recorded on the Great Egret's menu.

In the 19th and early part of the 20th centuries, the Great Egret was one of several species that suffered enormously due to the insatiable demand, especially in Europe, for feathers in the millinery industry. When in breeding plumage, species like the Great and Intermediate Egret are draped in long filmy plumes, also known as aigrettes, and these were used to adorn women's hats and ornamental military dress. Breeding in colonies with other species like herons and spoonbills, egrets would have been an easy target for "plume hunters" who obviously had no regard for the abandoned young left to perish on the nest. Fortunately pressure by various conservation groups, especially in England and the USA, saw the use of feathers fall out of fashion and the "industry" slowed considerably in the early 20th century.

Although the Great Egret is larger than the Little Egret and the Intermediate Egret, identification can be tricky in the field with all three species having snowy white plumage. A sure-fire way of knowing you are looking at a Great Egret is to check the bird's eye and bill. As Gayle's photo shows, if the gape extends past the eye, it's a Great Egret. ■

Great Egret fishing at the Quarry Street Reserve, Trentham. Photography © Gayle Osborne

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