The early signs of spring are here, the wattles are in bloom and male birds defending their territories. After such fantastic rains we wait expectantly to see whether the orchids and other wildflowers will be abundant. There are reports of platypus in the Loddon river at Newstead. It will be an exciting season to enjoy the Wombat ... Gayle Osborne

A view from within: Rediscovering an enchanted forest

By Alison Pouliot

There's a species that's conspicuously absent in the Wombat Forest. It's not endangered, nor rare. But wandering anywhere in the Wombat other than perhaps its periphery, you're fairly unlikely to chance upon this elusive species.

It's called *Homo sapiens*.

Given the wonderment of the Wombat, it seems a little odd that so few people venture therein. Perhaps it's disinterest. Or fear. Or lack

of familiarity. Or could it be something less tangible?

This article follows up on "The real world of the Wombat Forest" from Newsletter 15 which explored the Wombat in the context of International Year of Forests. It considers why we, Homo sapiens, have become so estranged, so disconnected, from natural environments, including the Wombat Forest. It also proposes that enchantment might be an underestimated element of forest conservation.

I must confess that I'm always happy to wander through the Wombat and encounter no-one. Yet at the same time, this absence of fellow hominids is disturbing. I wonder what everyone could possibly be doing that is more important, enjoyable or necessary than wandering through the Wombat. My real



A fern frond unfurls in the forest undergrowth - photography © Alison Pouliot

concern is that if we don't wander in the Wombat, we forget about it. And once it's forgotten, it and we are both in trouble.

The mythical outback - A few clues about our attitudes to forests can be gleaned from those of the first Europeans who washed upon our shores. Put bluntly, they weren't favourable. Early diary accounts are crammed with negative descriptions of Australian landscapes ranging from loathsome to detestable to hellish. Marcus Clarke denounced them as evoking a "weird melancholy" while others wrote of alienation and nostalgic longing for the tamed landscapes of the English homeland.

Today we're one of the most urbanised nations on the planet, yet ironically, many of us enjoy perpetuating

the outback myth. We're strongly attracted to the concept of the 'outback', the 'never never' and the unknown places 'out bush' or 'beyond the black stump', as well as to the writers who allow us to imagine these. But do we venture into these alien terrains in our minds only? Curiously, these unfamiliar places from which we're so estranged are the same ones that seem to encapsulate our very sense of identity and belonging. This was aptly illustrated by some

Aussie friends who were entertaining international visitors recently. The conversation inevitably dramatised the hostilities of the Australian Outback and the abominable creatures lurking within. Admittedly, I too took a smug pleasure in the wide-eyed horror of the foreign guests reeling at the gruesome perils of treading this unknown turf. Yet at the same time I suspected the over-zealous story-tellers had rarely if ever, ventured beyond the bounds of concrete suburbia. It seems we're deeply entrenched within our romanticised notion of this wild land from the comfort and safety of the sofa.

Author, Robert McFarlane, among others, explores

the role of imagination and cultural responses to landscapes.¹ He suggests that when we look at a landscape, we're often inclined to see not what is there, but what we would like to believe is there. This is exemplified in the work of early landscape painters who superimposed their 'European visions' over Australian landscapes.

It wasn't really until the Heidelberg School that artists truly explored the real rather than imagined Australia. This radical change in approach resulted in more authentic representations as artists actually entered the bush and painted from within. From this grew new sensibilities and perceptions of landscapes as existing in their own right and not merely as backdrops. It also represented more ecological ways of thinking as they explored interactions between people and environments.² Hence, the early artists may have

had as much influence as the early conservationists in sparking environmental awareness as they were interested in what lay beyond the frontier of settlement as well as human interaction with the environment.²

The message from these early artists was that only from "within" can we begin to understand the true nature of our environments. Philosopher, Holmes Rolston III summed up the need for active entry into forests

in his comment, "Aesthetic appreciation of nature, at the level of forests and landscapes, requires embodied participation, immersion, and struggle. We initially may think of forests as scenery to be looked upon. This is a mistake. A forest is entered, not viewed. It is doubtful that one can experience a forest from a roadside pullover, any more than on television.... You do not really engage a forest until you are well within it."³



Moss-clothed blackwoods in a ferny Wombat Forest gully - photography © Alison Pouliot

Why wander in the Wombat?

Have you ever noticed how a meal from a forest campfire tastes inordinately better than the same meal prepared at home? Perhaps it's the closer connection to the elements, the greater attention to process, the sensory stimulation, the increased hunger, the immediacy or the enriched experience, all

coming together to fool our tastebuds into thinking it really does taste better. Or maybe with such alerted senses and the endorphin rush of being in the forest, it really does.

The positive benefits of forests on people are well documented. We wander through forests for all sorts of reasons – for the fascination, a sense of engagement and well-being, tranquility and freedom, to lower blood pressure, or perhaps even to experience transcendence. Wandering through forests helps us to slow down, to lose the impatience and haste that our technologically-driven world demands. Forests provide time and space for reflection and contemplation. One might also question whether the parallel between everincreasing chemical reliance for mental stability and diminishing forests is really so bewildering.

Imagination, Memory and Identity - Perhaps most importantly, forests provide vital sustenance for our imaginations. The imaginative allure of forests heightens one's sense of wonder and the most seemingly simple existences and interactions of life can take on renewed significance. Poet, Judith Wright was instrumental in urging us to reconnect with nature with renewed imagination and humility.² Writer and philosopher, Val Plumwood, maintained that a sensuous experience of nature is essential to true



Tiny insect galls adorn a eucalypt leaf - photography © Alison Pouliot

understanding, to "become more aware of nature's presence and agency", to develop a connection that is not merely rational.

Forests and other green environments are places where experiences happen. These in turn create memories, forge identities, and foster ecological literacy. When we become estranged, not only do the forests suffer, but we do as well. As connections and knowledge erode, we become less inclined to care. Have a close look for a moment at the word 'forest'. Jumble the letters around a bit and you what do you get? Perhaps, 'foster'?

The arts play a vital role in engaging our imaginations and making landscapes accessible to us. Literature has provided a means to listen deeply and develop critical awareness. Or to borrow from Thoreau, "to live deliberately... with thoughtfulness and attentiveness, an attunement to both words and the world...."⁴

Poetry has fallen out of fashion in recent decades. This is a great shame because it "re-enchants" the world. It allows us to re-experience a childlike world when we

didn't question our relationship with the environment but were simply at one with it. Ecopoetry helps us connect with natural environments and instinctively tune to the senses. As literature professor, Jonathan Bates explains, "Ecopoetry is not a description of dwelling with the earth, not a disengaged thinking about it, but an experiencing of it."

At the turn of the eighteenth century, Alexander von Humboldt explored how our imaginative and aesthetic

> sensibilities are shaped by landscapes. Henry Lawson and Russell Drysdale were also both intrigued with how landscapes seep into the sensibilities of their inhabitants. More recently and more locally, philosopher Raimond Gaita explored the influence of environment on identity and sense of place and belonging. Each explored how landscapes shape identities, provide memories and help us realise meaning. When we are estranged from places, so too is our sense of self and identity. In time, the places from

which we become estranged may lose significance. They are then at risk of becoming commodified and exploitable. When a forest is lost, it's not just the biota that is lost, but also our sense of meaning.

Many cultures talk of "storied landscapes" and their importance in allowing us to connect to place and to people, to make sense of ourselves and the world. Stories were once the prime means of generational communication of many of the world's indigenous peoples, providing crucial survival knowledge. The intimate connectivity of Australian Aboriginal people to land is bound by a complex network of knowledge and moral codes within "dreaming stories" that ensure preservation of life and land. Well-told stories also inspire and evoke our imaginations. As British ecologist, Jules Pretty said, "... places become meaningful when there is a story."6 The world is not only experiencing a decline in species, but in languages as well. This loss of languages, especially from predominantly oral indigenous cultures means we're losing stories and our capacity to describe our environments.

The passion foundation - Environmental conservation actions are often triggered by a sense of urgency resulting from past environmental neglect or sudden catastrophic events. Governmental responses to the 2009 Victorian fires are just one such example of how knee-jerk actions that stem from panic lead to poor decision-making and set conservation efforts back decades. For conservation efforts to be meaningful and effective, surely they need to originate from a deep sense of environmental connection. The one shared commonality of Australia's effective environmental advocates is that they all are/were driven by an intense and all-consuming passion (coupled with humility, patience and solid science). Passion is not just another necessary component, but should perhaps be the cornerstone, the very foundation of conservation efforts. Conservation requires a balance of practicality and pragmatism, but also passion. It also requires compassion. Australian biologist, Charles Birch insisted that we must regain compassion for nature. And as Stephen Jay Gould famously said, "We cannot win this battle to save species and environments without forging an emotional bond between ourselves and nature as well - for we will not fight to save what we do not love."

By now we've all heard and are perhaps even becoming immune to, the knowledge that Australia has one of the highest species extinction rates worldwide. It's well known that as countries become wealthier and forests decline, their peoples are more likely to protect them. Australia is an affluent and literate country but do we have sufficient ecological literacy to adequately protect our forests? Have we cast off the perceptions of the early pioneers, stepped beyond our mythologised notions of this country and began to explore our forests from the inside?

We're so fortunate to live this amazing country. And the Wombat Forest is just one amazing part of this amazing country. Imagine if we truly opened our senses to both the power and the nuances of our natural environments, to the intricate beauties that were once overlooked by our pioneers. Imagine what could be accomplished if we not only understood the ecology of the Wombat, but also formed highly emotive and enchanted connections.

To allow our forests to succumb to the whims of disconnected decision-makers would be a deep tragedy. Imposed regulation or scientific justification alone are unlikely to save the Wombat. Passionate connection and imagination are also part of the equation. These

in turn fuel ecological empathy and the chance for change, with decisions arising from compassion, intelligence and obligation. Those living in proximity of the Wombat have the greatest capacity to form intimate connection and understanding, to enlighten those who have preconceptions about what's best for the Wombat. In the words of Jules Pretty, "...much of what is good (in conservation) has happened despite policies rather than because of them."

There is a deep sense of excitement at the prospect of seeking and engaging with the unknown; of visiting the unmarked bits on the map. And these too exist within the Wombat. This is where enchantment lies. And enchantment is perhaps the critical ingredient in our efforts to protect our forests.

Tonight the Wombat seems far away as I'm penning this from the book-crammed bibliothek at Villa Cassel in the UNESCO World Heritage area of central Europe. A procession of walkers clad in colourful japaras looms suddenly through a mistscape outside the window, then disappears again into a hidden forest. But my mind is in the Wombat, where I hope that my fellow Aussies are being enchanted by its endless joys and wonders.

For in the words of E.O. Wilson, if we lose the forest, we don't just lose biota, we lose what it means to be human.⁷ www.alisonpouliot.com

References

- 1. MacFarlane, R. (2003) Mountains of the mind. Granta Books. London.
- Mulligan, M. and Hill, S. (2001) Ecological Pioneers: A Social History of Australian Ecological Thought and Action, Cambridge University Press. Cambridge.
- 3. Rolston, H., (1998) "Aesthetic Experience in Forests," The Journal of Aesthetics and Art Criticism 56: 155-166
- 4. Thoreau, H.D. (1995 Dover ©) Walden; or, life in the woods. Dover Publications. N.Y.
- 5. Bate, J. (2000) The song of the earth. Macmillan Publishers. London.
- 6. Pretty, J. (2007) The earth only endures. Earthscan. London
- 7. Wilson, E.O. (1984) Biophilia. Harvard University Press. Cambridge

The Wombat's 'Other' Teeth

By John Walters



Wombat road sign - photography © John Walters

In past years I have "confined" my studies into local natural history to a 15 kilometre radius from my home in Drummond. This took me into the Wombat Forest around Glenlyon which made an interesting contrast to the dryer forest and woodlands in the Fryers Ranges country closer to home. The arbitrary setting of a 15k radius is useful as it provides me with some sort of limit, albeit an inconvenient one when the distance does not roughly align with a road. The southern boundary through the Wombat Forest was the most inconvenient boundary of all, that is until I crossed the nearest road one day for a little look into the flora further south around Babbington Hill. That night, armed with several new plant species to add to my list, it seemed to me that the solution to locating the southern boundary easily on the ground was to extend it to the Daylesford/ Trentham Road. After all, the difference between 15K and 20K was hardly noticeable when you had such a clear boundary to work to. Hmmmm.

Then came the visit to Lyonville Springs area and the excitement of different species again, especially fungi species suited to the higher rainfall recorded there.



Icicle Spine Fungus, Mucronella pendula © John Walters

I have now seen the *Sarcodon* fungus (see last newsletter) in three locations in the Wombat, and yes, as you may have already guessed, one of these locations is further south again. I am still retaining my 15k zone – plus a little to the south – when it comes to flora, but when it comes to fungi - the entire Wombat Forest is now my backyard.

As I headed south from Trentham looking for the wetter gullies I found a road sign alerting me to the dangers of "other wombat teeth". It is difficult to find fungi in the dark so I trust that I need not fear the "vampire wombats" of the Blackwood road.

Nevertheless, I discovered that the Wombat Forest does have other teeth. The first of these is the rather harmless Jelly Tooth fungus *Pseudohydnum gelatinosum*, which has the texture of soft Turkish Delight and is found on rotting logs in very wet forest areas. It is edible, although it reportedly would do well with the addition of some rose water, such as that added to Turkish Delight as the flavour is described as insipid. It is cosmopolitan, found in all continents except Africa. I have also found a number of skin or crust-like fungi which have small tooth-like projections such as the Golden Splash Tooth *Mycoaca subceracea*, found on



Jelly Tooth fungus *Pseudohydnum gelatinosum*, which has the texture of soft Turkish Delight - photography © John Walters

the underside of fallen branches and *Steccherinum* and *Hyphodontia* species, but they do not present as well in photographs as the fragile looking Icicle Spine Fungus, *Mucronella pendula*. It is a relative of the coral fungi, and each small pure white icicle is suspended from a short stem, generally growing on the underside of logs. The example in the photograph was found on the cut face of a very wet log. It can grow in large groups in wet forests but to date I have only seen it in smaller clumps.



Ear Pick Fungus, Auriscalpium sp. - photography © John Walters

There is also one other very special toothed fungus in the Wombat that must be included in this list. It has not yet been formally named but is generally known as the Ear Pick Fungus, *Auriscalpium sp.*

This little beauty is just over 1cm wide and the only known world-population is growing on one tree in the Blackwood area. You need a keen eye to spot its small brown-topped cap and if you are lucky enough to do so you will be richly rewarded when you look at its spiky underside. A similar looking fungus was apparently seen in Tasmania a few years ago but it is also undescribed and has not been confirmed as the same species. My thanks must go to the Fungi Group of the Field Naturalists Club of Victoria who introduced me to the wonders of this largely unknown fungus. It is named after its Northern Hemisphere cousin Auriscalpium vulgare which has a long stem and apparently resembles the shape of an ear-pick excavated from Roman archaeological sites. Romans in the Wombat? Now that is stretching things a bit too far, but roaming the Wombat is certainly on my agenda for many years to come.

Confused mushrooms or climate change effects?

By Alison Pouliot

Mushrooms are something most of us associate with the arrival of autumn. Indeed, the great majority of macrofungi produce ephemeral fruiting bodies in autumn. But there are also a few that fruit in spring. Morels are perhaps the most familiar of these and you're likely to find them in the drier, lower nutrient soils of the Wombat, especially after fire. However, last spring I was surprised to find several fungal species in the Wombat that I'd only ever seen fruit in autumn. While it was exciting to stumble upon these unexpected forest jewels emerging through the forest floor, I also wondered whether it was a sign of something more worrying. Perhaps it was just the wet and mild winter that played a role in their unseasonal fruiting. Or could their spring presence be a sign of climate change impacts on a larger scale.

Recent decades have seen a surge of studies documenting phenological responses to climate change of flora and fauna, but few have focussed specifically on



Morchella elata group typically fruit in spring in low nutrient soils photography © Alison Pouliiot

fungi. Furthermore, interest has been mostly in the middle and higher latitudes with limited research in Australia. However, one of the few long-term fungal research projects found that fruiting periods have been significantly extended in association with increased rainfall and temperature in the United Kingdom, with many species now fruiting twice a year. While mycophagists may welcome this news, the concern is that increased mycelial activity and subsequently greater rates of decay in ecosystems could potentially alter the timing of ecosystem processes. The effects on symbiotic associations and longer term consequences on ecosystem dynamics are little understood. Other north-western European studies have shown significant correlations between climatic

also researching impacts of environmental change in the Wombat and assessing the role of climate variability, drought and fire on ecosystem processes.

Among the fungi I encountered in the Wombat last spring were members of the coral fungus genus, *Ramaria*. Large clusters of branched collaroid fruit bodies, ranging from purple to yellow to red provided a colourful addition to an otherwise burnt and blackened landscape. The genus is poorly documented in Australia but is considered very important as it contains recycling species crucial to forest health. Many *Ramaria* species are also known to form mycorrhizal relationships with various eucalypts. Several species of *Cortinarius* were also seen in burnt

areas and along roadside verges, often en masse with several dozen individuals forming clumps, sometimes up to a metre in diameter.

A more typical spring fruiter is the morel, *Morchella elata* group. Specimens are easily recogisable by their conical, deeply pitted caps and creamyellow coloured stipes. The group is believed to be primarily saprotrophic

saprotrophic but is also known to form mycorrhizal associations with eucalypts and possibly other genera. Much is still unknown about their life cycle, ecology and fire interactions but fruiting is believed to be in response to tree death and reduction in organic material. Morels are well-adapted to adverse conditions and can produce their own swag of food reserves in the form of a compacted mass of mycelium known as a sclerotium. The taxonomy of morels is in a state of flux but recent DNA analyses are throwing new light on their relationships and classification.



Cortinarius sp. growing in burnt forest - photography © Alison Pouliot

conditions in one year and the occurrence of fungal fruiting in the following. This suggests that belowground mycelia are influenced by climatic conditions over a longer time period before fruiting.²

Researchers from the University of Western Sydney are examining climate change effects on microbial communities and the potential role of soil microbes in carbon sequestration. This should provide valuable clues about fungal responses to climate change. As fungi act as conduits for carbon delivery to soil, findings may reveal the important role of fungi in soil carbon storage.³ Melbourne University scientists are

A wander through the Wombat this spring may provide some intriguing fungal surprises. Sightings of target species are always of interest to the Fungimap⁴ project. We don't yet really know what these unseasonal fruitings in the Wombat indicate but certainly evidence from climate change studies strongly suggest that global warming effects are already discernible in Victorian animal and plant populations. Given the close associations between fungi, plants

and animals, it is likely that these impacts will also affect fungi. It's imperative that we understand the effects of climate change on mycorrhizal systems as mycorrhizal fungi are fundamental to forest structure and health.⁵ The combined effects of temperature increases and other stresses such as habitat deterioration and destruction could alter species relationships and connections and possibly lead to

References

- Gange, A.C., Gange, E.G. Sparks, T.H., Boddy, L. (2007).
 Rapid and Recent Changes in Fungal Fruiting Patterns.
 Science 6. Vol. 316 no. 5821 p. 71
- Kauserud, H., Heegaard, E., Semenov, M., Boddy, L., Halvorsen, R., Stige, L., Sparks, T., Gange, A., Stenseth, N. (2010). Climate change and spring-fruiting fungi. Proc Biol Sci. 277(1685): 1169–1177. Published online 2009 December 11. doi: 10.1098/rspb.2009.1537



Ramaria sp. can change in colour intensity as they mature - photography © Alison Pouliot

extinctions. But whatever is going on in the forest, make the most of the unexpected delight of spotting fungi that might appear this spring, and perhaps contribute to widening our understanding of climate change by letting Fungimap know what you find.

- 3. http://uws.clients.squiz.net/hie/hie/research_summary/ecological_systems_and_diversity/?a=69867
- 4. Fungimap http://www.rbg.vic.gov.au/fungimap
- 5. Moore, D., Robson, G., Trinci, A. (2011). 21st century guidebook to fungi. Cambridge University Press. UK

www.alisonpouliot.com

You, Me and Biodiversity

This lecture series initiated in 2010 to celebrate International Year of Biodiversity has continued this year to mark the International Year of Forests.

Night time in the forest

Friday 21 October - Trentham Neighbourhood Centre A lecture by Miriam Rotstein on the results of our night vision camera research

What does the night mean for wildlife?

Saturday 5th November - Daylesford Neighbourhood House

A lecture by Jon Rowdon of the Hepburn Wildlife Shelter on what this important time means for our wildlife.

Visit www.wombatforestcare.org.au

Feathertail Glider (Acrobates pygmaeus and Acrobates frontalis)

By Gayle Osborne

The beautiful Feathertail Glider is the smallest gliding mammal in the world and a species that is common in our area. It is fascinating that recent research has established that there are two genetically and morphologically (shape and structure) distinct species.

At the 'Biodiversity Across Borders' forum, Megan Iskov, Honours student at Deakin University presented an abstract of her thesis which investigates the distribution of the two species and predictions regarding climate change on their distribution.

I was so excited by this revelation that I contacted Megan to find which species should be present in our area and more details about the differences.

The two species are now known as *Acrobates pygmaeus* and *Acrobates frontalis* and it is most likely that our species is *A. pygmaeus*.

Specimens held in museums and research institutions for which there were reliable collection locations were examined. *A. pygmaeus* has a well-furred tail tip whereas *A. frontalis* has a naked tail tip. The toe pads also differ, those of *A. pygmaeus* are small and round compared to the larger, heart-shaped toe pads of *A. frontalis*. There are other foot pad differences. Cat scans have revealed differences in skull shape and ear structure.

Mapping of the distribution showed *A. pygmaeus* to be mainly confined to the S-E mainland. *A. frontalis* is found from Cape York to inland central and western Victoria with "a consistent preference for woodland and open forest habitats". There is considerable overlap in S-E Australia as can be seen in the map.

A. pygmaeus was found to prefer the cooler, wetter forests whereas A. frontalis had a preference for warmer inland climates and was absent from the higher altitudes.

It is interesting to note that the Feathertail Glider has never been recorded in Tasmania.

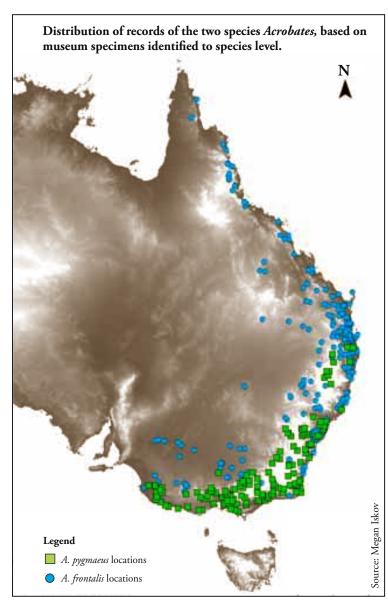
It is fascinating to realise that these two species have

evolved to exist in different ecosystems with the *A. frontalis* having adaptations suitable for open forest and woodlands. This research shows that amazing discoveries are still to be made about our rich and diverse animal life.

Many thanks to Megan Iskov for generously providing the information from her thesis to enable the writing of this article.

An article on the Feathertail Glider was included in our August 2009 Newsletter. ■

Ref: Megan C Iskov. Habitat characterisation of the genus *Acrobates* (Marsupialia:Acrobatidae) in relation to climate and vegetation.



Wombats find a home in heritage listed saw-dust heap!

By Ivan Carter

Home is where the heart is and often in the most unlikely places.

It has become apparent that the wombats of the mighty Wombat Forest understand what sustainable building is all about, with recent discoveries proving thermal mass is an efficient way to survive the temperature extremes.

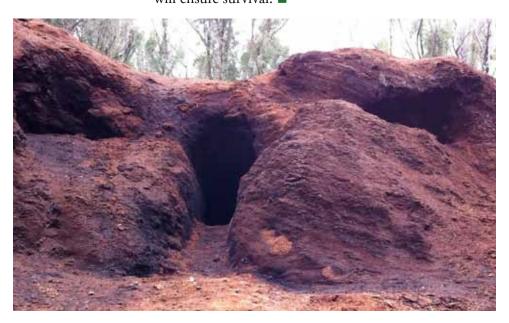
A family of inventive wombats have made the heritage listed saw-dust heaps (remains of early sawmilling operations dating back to the late 1800's) scattered throughout the Wombat Forest as their beloved homes, with a network of tunnels providing warmth in winter and some relief in summer.

All the burrows in the sawdust heap were very active, with signs of a large family existing in the immediate vicinity and some very happy campers. There are many

photography © Tibor Hegedis

heaps in the Wombat Forest, and many wombats to match, so who knows if this new craze will take off?

The heaps have stabilized over the past century and are very compact and hardened, much like a rendered cob home. Sounds like evolution to me and in a world of climate change, adaption, invention and intelligence will ensure survival.



Wombat heritage burrow - photography © Ivan Carter

Stewart's Creek

In 2004, a seventeen hectare site in the Wombat Reservoir Catchment was cleared of the pines that had been part of an Hydrological Experimental Area.

Our group volunteered to pull the pine seedlings in return for a donation to the Hepburn Wildlife Shelter. We were amazed at the natural regeneration of native species on this site which had supported a pine plantation for over 30 years. Twenty-five species were recorded, many of which were not evident in the surrounding forest.

We are returning to the site on Sunday 25 September for a picnic and walk. This should be of great interest to the many people involved in the removal of the few thousand pine seedlings.

More details: info@wombatforestcare.org.au or Gayle Osborne on 5348 7558.

Wombat Forestcare (Inc.) Membership

Wombat Forestcare Inc. is dedicated to preserving the biodiversity and amenity of the Wombat State Forest by utilising the skills and resources of the community. It will monitor activities affecting the forest and will work with government departments and their officers to improve or correct procedures which may impact on the forest and waterways. By becoming a member you will have input into our activities and projects, and give support to caring for our forests.

For memberships and further information contact Gayle Osborne, phone 03 5348 7558 or email info@wombatforestcare.org.au Membership fees are only \$10 single and \$15 family. **Visit our website - www.wombatforestcare.org.au**