Issue 13 - August 2010

Wombat Forestcare Newsletter

Now is the time to look again at what we can do to better protect the special places we really care about. This issue highlights some of the unique aspects of the Wombat Forest that make it such a special place for so many of us living near it and indeed to the thousands of visitors that want to see the forest gain better protection for future generations. It is appropriate to question past management practices that have severely degraded the biodiversity of the Wombat Forest and have pushed the balance towards unsustainable use. There are better options for the future of the Wombat and it's time to move in that direction... Tibor Hegedis *(editor)*

The Wombat Forest - State Park or State Forest?

By Gayle Osborne

The Victorian National Parks Association's report **"Better Protection for Special Places"** lists the Wombat State Forest as a special place and recommends that it be made a State Park. Those of us living in the area already know that the Wombat Forest is a unique place.

As a State Forest this public land is managed by the Department of Sustainability & Environment (DSE) with the aim of balancing "the impact of forest-based activities on all forest values and to create ecological sustainable development" (dse.vic.gov.au).

By law DSE is required to balance activities such as timber harvesting and recreation (e.g. car rallies, trail bikes, 4WD) with biodiversity. Due to a lack of resources, flora and fauna information and other competing interests, we constantly see biodiversity suffer.

On the other hand, Parks Victoria manages public land for environmental & ecological values as well as promoting appropriate recreation. We believe it is time that the Wombat was conserved under this style of management. Although Parks Victoria is not as well funded as it should be, the Wombat would receive more funds for management of flora and fauna and for visitor access facilities as a Park than it currently does as a State Forest.

There are many categories of "Parks"; the highest level of protection is afforded to National Parks and State Parks which are both managed under the National Parks Act, 1975.

One of the many special places in the Wombat that deserves better protection. *(photo by © Tibor Hegedis)*

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Regional Parks tend to balance a range of activities and afford less protection for biodiversity. We consider that a State Park would be the appropriate tenure for the Wombat.

A Management Plan is developed for each State Park. Zones are created based on environmental priorities. Each zone lists whether activities such as camping and horse riding are permitted. Firewood is usually dealt with by retaining appropriate areas of state forest as firewood collection zones. Contrary to the cry of "locking up the Forest" by the anti-park lobby faction, the values of the area are examined, historic uses are considered and a Management Plan developed. Everyone will still be able to access every part of the park with the exception of Reference Areas.

Under the present tenure the Wombat State Forest is open to further exploitation; the current situation is only a pause. Logging has ceased for a while but recent legislation has extended Vic Forest's ability to source sawlogs and woodchips from the Wombat and other forests in the west of the state.

We are seeing increased use of the forest for 4WD and trail bike recreation, much of which is causing degradation to forest tracks and the creation of illegal trails. Winter closures of tracks are often ignored, with convoys of 4WD vehicles turning the tracks into deep, turbid channels which often discharge into creeks and rivers.

Sediment in waterways severely affects the life cycles of aquatic creatures and plants, reducing levels of oxygen, covering eggs with sediment and affecting their ability to attach to logs & rocks.

The Wombat Forest is a very important area for biodiversity conservation and should be managed as such. With so many flora and fauna species extinct and endangered in Victoria, the Wombat represents a large and critical area of habitat in a very fragmented and cleared landscape.

It is time for those who care about the future of the Wombat Forest to write to the Minister for the Environment & Climate Change, to local Members of Parliament and to the newspapers in support of the recommendation for "Park Status". ■

Enlichenment

By Alison Pouliot

Those who are inclined to spend time crawling beneath the Wombat Forest's understorey may well have observed how effectively one can ensnare an amazing array of biological specimens in one's hair or down one's shirt. One recent intriguing catch revealed an Acacia twig adorned with the most intricately beautiful fruiting bodies of a Wombat lichen from the genus Parmelia.

The fruiting bodies of *Lichenomphalia chromacea* arising from an algal mat. *(photo by © Alison Pouliot)*

Much of the Wombat's remarkable biodiversity is represented by the smaller, lesser known organisms such as those that inhabit the leaf litter and sub-soil environments. These include invertebrates, fungi and other cryptogams (spore producers such as bryophytes: mosses, liverworts and hornworts) the pteridophytes (ferns and horsetails) and algae. Another less well-known and often over-looked group within the cryptogams is the lichens. Just over 3500 lichen species have been recorded for Australia and approximately 35% of these are thought to be endemic (McCarthy 2009).

The Wombat Forest is also a lichenological paradise although it has been insufficiently surveyed to know how many species occur.

Lichens grow on almost every type of substrate found in the Wombat, typically on exposed rocks and boulders, wood, bark and soil as well as semi-aquatic habitats.

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Many tree species are adorned with a variety of lichens although living eucalypts often shed their bark too regularly to be good lichen hosts. Lichens even grow on discarded rubbish such as car bodies, plastics and glass.

Saucer-like reproductive structures (apothecia) of the fungal component of *Parmelia sp. (photo by © Alison Pouliot)*

Beautiful, old and bizarre

Lichens exist in an incredible variety of forms and colours and have attracted the attention of artists for centuries. They may appear as enveloping crusts, broad lobes or filigreeing beards in a spectrum of colours from bright yellows through to deep mauves. Lichens are believed to be very ancient organisms dating back 400 million years.

So what actually are lichens? They have long been mistaken as plants, perhaps because their 'ecological niches' are similar to those of plants. Lichens may appear as an entire organism but in fact they are composed of two, sometimes three, distinct species of organisms – one being a fungus, the other usually an alga, but sometimes also a cyanobacterium (a photosynthesizing bacterium). What makes them especially interesting is that the organisms comprising a lichen represent two or sometimes three different kingdoms; the fungi, Plantae (green algae) and/or Monera (cyanobacteria) (Louwhoff 2010). In this mutually beneficial partnership, the fungal partner (mycobiont) protects the algal partner (photobiont) against harmful UV rays and dehydration, thus enabling the algal partner to survive in less hospitable habitats. In return the algal partner photosynthesises and produces carbohydrates for the fungus to metabolise. As lichenologist Trevor Goward famously noted, "Lichens are fungi that have discovered agriculture".

A myriad of forms

Lichen morphology and anatomy are complex but their different growth forms can be broadly grouped into three categories: crustose, foliose and fruticose. Crustose lichens have a thallus that grows on rock as a tightly attached crust and cannot be removed from the substrate without damage.

Foliose lichens have a more flattened appearance and a distinguishable upper and a lower surface and can usually be removed using a knife without much damage. Fruticose lichens may grow upright, have a bushy appearance or be pendulous in shape. There are also species which represent transitions between these different growths forms. Although this scheme is an artificial classification it is still very useful for identifying lichens.

In adaptation to life in marginal habitats, lichens have developed a swag of more than 500 biochemical compounds for repelling enemies such as microbes and herbivores, discouraging plant competition and controlling light exposure. They are also able to shut down metabolically during periods of unfavourable conditions. As factors such as light and moisture availability, pollution and competition levels become more favourable, lichens once again resume growth.

Ecological significance

Lichens are primary colonisers, often occupying niches that are too harsh for other plants to survive, breaking down organic and inorganic materials. In extreme environments, lichens often constitute the sole vegetation and play an important role in soil stabilisation. Many vascular plants are only able to become established in areas where lichen crusts have already performed the task of soil stabilisation and water retention.

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Rhizocarpon spp. colonise newly exposed rock and are found throughout the Wombat. *(photo by © Alison Pouliot)*

However, many lichen species are vulnerable to environmental disturbance, and are recognised as important environmental indicators of the effects of air pollution, ozone depletion and soil contamination.

Exploring lichens opens up a world of immense beauty and wonder.

Despite their poor profile, lichens are incredibly diverse, biologically fascinating as well as ecologically important.

While lichen identification can be challenging, with just a little knowledge of the major field characteristics many of the Wombat's species are readily recognisable.

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Simone Louwhoff (2010) An introduction to the Lichens, Fungimap Newsletter 29 **http://www.rbg.vic.gov.au/__data/assets/pdf_file/0020/8750/Fungimap_NL_39_text.pdf**

Trevor Goward (2009) Twelve readings on the lichen thallus **www.waysofenlichenment.net** ■

Wombats in the Wombat

By Judy Weatherhead and Glenda Holmes

Have you ever thought of the wombat as a lumbering, lethargic creature who leads a rather uninteresting life? Contrary to common perception, our forest's namesake can easily run 100 metres in under ten seconds, especially surprising given that wombats are described as "plantigrades" – animals that walk on the entire soles of their feet. Wombats possess the flexibility of a contortionist, able to flick their stumpy hind legs over their backs to scratch their ears. They can flatten themselves like dough under a rolling pin to slip through cracks less than 10 centimetres high.

Only three Wombat species survived the Pleistocene Ice Age era – the Northern and Southern Hairy Nosed Wombats and the Bare Nosed (or Common) Wombat found in the Great Dividing Range, including the Wombat State Forest. Wombats belong to the order Diprotodontia, marsupials that have two front incisors. This order includes kangaroos, possums and koalas. The two southern species are not listed as endangered but their northern counterparts are among the rarest animals in Australia.

Wombat young are born after 30 days gestation and remain in the pouch for 8 months. Wombats, like koalas, have a short tail, a pouch opening to the rear and a small efficient stomach. They are grazing, burrowing animals with a thick-set low-slung body, 1 metre long and 25 centimetres tall. Their thick hairy coat is variable in colour and they have very thick skin and strong skull bones for use as a battering ram to move a tree branch, rock or taut fence wire. Eyesight is poor, however, other senses make up for it, particularly hearing. Teeth consist of two incisors, upper and lower, growing forward to act like chisels for cutting grass and for self-defense.

Burrows are efficiently dug on slopes, under boulders or fallen tree roots or even banks of creeks. Major burrows may have two entrances leading down to bedding chambers. A mound of dirt close to the entrance marked with tracks and scats indicates recent occupation. The wombat spends all day sleeping. During sleep the body temperature drops to 34.7° C. – heat stored during the night's activity is slowly lost requiring less energy for temperature regulation (unlike all other warm-blooded animals).

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The air temperature under ground rarely gets above 25° C. Distress occurs if the temperature rises above 25° during extreme hot weather. The wombat copes well with lower temperatures in Winter.

At dusk, the wombat emerges from the burrow and sets off to graze on native grasses such as Poa, roots and occasionally bark to sharpen the teeth. It deposits many clumps of cube-shaped scats, leaving their scent behind to warn other wombats encroaching on their territory which can be in a radius of three kilometres. Wombat poo is the driest mammal poo on Earth, wombats being very efficient consumers of water. According to Barbara Triggs, an expert on the animal, wombats can skol a drink with the best of them taking just over three minutes to drink a litre of water.

A Bare Nosed Wombat on the move in the forest. *(photo by © Gayle Chappell)*

They are solitary animals and can be verbally aggressive towards other wombats, rarely engaging in physical contact. Courtship is brief, 30 minutes, after which the male has no more to do with rearing the young. At birth the embryo weighs only ½ gram and when it leaves the pouch at 10 months weighs 2 kilograms. The young wombat remains close by the mother until 15 months and is able to dig a burrow. Wombats can live in the wild for up to 15 years, given the right conditions.

Threats to the wombat in the wild are mostly from contact with humans. Mange contracted from introduced animals can lead to painful death. Floods can cause a burrow to collect water or even to collapse. Drought can cause malnutrition and breeding rates to decline. Fires can devastate the area causing the wombat to relocate in search of grass. In a weakened state they fall prey to feral dogs and dingoes.

Early European settlers regarded wombats as pests, even vermin to be killed. Land clearance, the introduction of rabbits and the erection of rabbit-proof fences which were breached by wombats, led to the introduction of a bounty system in 1925. Between 1950 and 1966 a total of 64,000 wombats were killed for the bounty. It was 1977 before wombats were protected in eastern Victoria and the introduction of the Wildlife Act in 1984 gave protection in the west. In certain areas in the east they can still be shot, trapped or baited if the farmer finds them a nuisance. Sadly, most Australians have only seen wild wombats lying dead on the roadside.

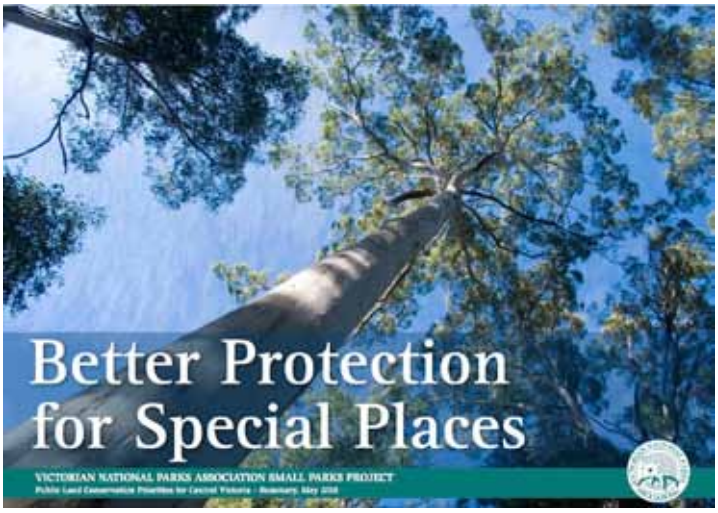
Thankfully, despite all the threats, wombats still manage to maintain a presence in their environment. The Bare Nosed Wombat in the Wombat State Forest is not at present an endangered species. We are responsible for protecting their habitat to ensure the future existence of this wonderful furry animal.

References

"Wombats" by Barbara Triggs, Australian Natural History Series.
"The Secret Life of Wombats" by James Woodford. ■

Leading Environment Group calls for Wombat Forest to become a State Park

By Murray Ralph



A report produced by Victoria's leading conservation group, the Victorian National Parks Association (VNPA), has identified the Wombat State Forest as a high priority conservation area requiring greater protection, and called for the area to become a State Park.

The report, Better Protection for Special Places, follows a two year investigation by the VNPA into the conservation values of over sixty areas of public land not currently included in the conservation reserve system. The twenty areas with the highest conservation values or 'special places' across Central Victoria were identified for better management and priority areas to become State Parks.

Of all the areas nominated, the Wombat State Forest was found to have the highest conservation values in the Central Victorian region. Other 'special places' identified included Mt Cole and the Pyrenees Ranges State Forest west of Ballarat, the Upper Loddon and Fryers Range State Forests north of Daylesford and the Wellsford State Forest north of Bendigo.

The high conservation values identified for the Wombat State Forest include:

• Over 350 indigenous plant species, including 28 rare or threatened flora species.

• Two endemic flora species, the nationally endangered Wombat Leafless Bossiaea and State-listed rare Wombat Bush-pea that only occur in the Wombat Forest.

• Over 80% of vegetation types (EVCs) in the Wombat Forest are classified as endangered, vulnerable or depleted. Four EVCs that are common or very common in the Wombat Forest are under represented in conservation reserve system.

• The forest provides habitat for over 200 vertebrate native fauna, including 17 species that are listed as endangered, rare, threatened or near threatened. Endangered species include the Growling Grass Frog, Bibron's Toadlet, Masked Owl and Macquarie Perch.

• A number of flora and fauna species are also considered significant as they have disjunct occurrences or are at the edge of their range, such as the Greater Glider, Mountain Brush-tail Possum, Red-browed Treecreeper and Olive Whistler.

• Vegetation assessments undertaken for the project indicated that the understorey within the forest is of generally of good quality.

The report also found that the Wombat Forest plays a vital role in the maintenance of ecological processes, landscape connectivity and ecosystem resilience within the region. It is one of the largest forest areas in Central Victoria and forms a vital part of a network of native vegetation stretching from the wetter forests of the Macedon Ranges in the west to the drier forest areas of the Lerderderg State Park to the south-west and the drier forest areas of the Upper Loddon State Forest in the north.

Because of its biogeograghic importance in linking the drier woodlands in northern Victoria and the grassy woodland areas to the south, the Wombat Forest may play a vital role as a 'climate change refuge' in the face of climate change.

As the Wombat Forest contains the headwaters of six major river systems (the Moorabool, Werribee and Lerderderg Rivers flowing to the south, and the Loddon, Coliban and Campaspe Rivers flowing to the north), the report highlighted the importance of the area as a catchment and for its extensive network of relatively intact riparian vegetation.

The lack of conservation reserves in Central Victoria has been highlighted in several key State Government reports. The State of the Environment Report (2008) identified the region as having significant

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Providing better protection for future generations. *(photo by © Sandy Scheltema)*

areas of public land that is not included in parks and conservation reserves. The 2007 Catchment Condition Report also found that parks and reserves in the region tended to be in poor to moderate condition, small in extent and fragmented.

The calls for more conservation reserves in the region should also be seen in the context of recent dramatic declines in woodland bird populations in Central Victoria. The loss of bird species and the decline of many other species reflect a wider crisis facing biodiversity in the region, due to widespread loss of habitat and now climate change.

According to the VNPA report most of Victoria's intact native vegetation and habitat for wildlife is found on public land, and more state forests needed to be converted to state parks to ensure the survival of threatened species, provide greater resilience for native species in the face of climate change and provide the foundations for rebuilding links across the landscape. If all twenty 'special places' identified in the report became State Parks it would add an additional 108,000 hectares to the conservation reserve system in the region.

The report also called for a dramatic increase in government spending to manage central Victoria's natural areas. Issues such as pest plants and animals, poor fire management, logging and a range of other threats require at least an additional $1 million per annum for on-ground management in existing reserves. An investment of $20 million in start up and management costs would be required for the new parks outlined.

The findings of the VPNA report present an opportunity for the state government to rectify the lack of conservation reserves in the Central Victorian region. The inclusion of the Wombat State Forest and the 19 other areas identified will achieve the best conservation outcomes and provide a world class reserve system for the region. It would also help to address the current loss or decline of native species in the region by rebuilding ecological processes and ecosystem resilience within the region.

To download a summary of the report or the full report go to **www.smallparksproject.vnpa.org.au** ■

ENVIRONMENTAL PHOTOGRAPHY WORKSHOPS

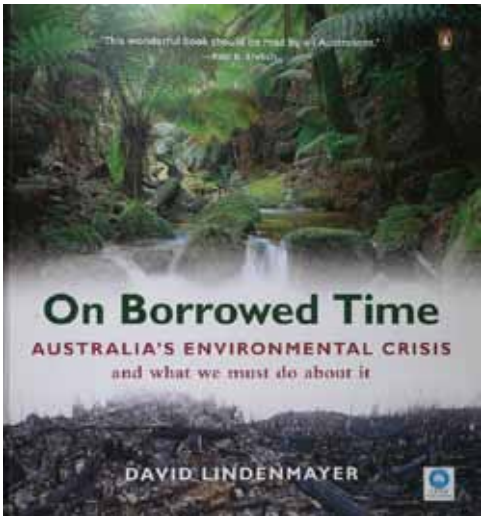
Local photographer and environmental scientist, Alison Pouliot will be running a series of environmental photography workshops in October. The workshops are aimed at those interested in documenting the natural environment, in particular, environmental change and comprise an illustrated & interactive and hands-on seminar followed by a field session.

Workshops will run from Trentham, Daylesford, Woodend and Creswick.

For further info please contact Alison: **alison@alisonpouliot.com** or call 0439 764 344

Book Review

By Gayle Osborne



Australia is a mega-diverse country and the oldest and most isolated continent. A large proportion of our plants, animals and environments are found nowhere else on the planet. We also have the lowest average continental rainfall.

Prof. David Lindenmayer's inspiring book "On Borrowed Time" documents Australia's unique biodiversity, environmental problems and offers solutions.

To raise our spirits and our pride in our country, the first chapter, "Australia, the ecological paradise" describes the extraordinary range of flora, fauna and environments found on and surrounding our island continent.

"The plants and animals of Australia's terrestrial, marine and aquatic environments differ markedly from those found elsewhere in the world. The total number of species supported by these environments is staggering. For example, we have 1350 species of terrestrial vertebrates that occur nowhere else, far more than the next highest country, Indonesia, with 850 species. The number of Australian invertebrate species may well exceed a million"

Prof Lindenmayer lists some of our remarkable terrestrial biodiversity –

- the largest kingfisher – the kookaburra
- the largest honeyeater – the yellow wattlebird
- the largest burrowing animal – the wombat
- the smallest gliding mammal – the feathertail glider
- two-thirds of the planets marsupials and monotremes
- the greatest species-richness in reptiles
- a sixth of the world's species of parrots
- the largest earthworm – up to 1.3 metres
- the largest moth- wingspan 27 centimetres.

Our coastal waters are just as impressive, supporting some of the planet's oldest living life forms, the largest coral reef, the largest fringing reef and the largest areas of sea grass meadows. The Queensland coast has the largest contiguous expanse of mangrove forest and we have more than 50% of the planet's mangrove species. These waters are home to more than 3500 marine fish species and more than half the world's sharks and rays.

Prof. Lindenmayer moves from the good to the bad. "Australia as a leader in environmental degradation" details our massive and unacceptable biodiversity losses. Land clearing, poor natural resource management, invasive plants and pests and altered fire regimes have contributed to these losses.

"Fighting back" details the problems and offers solutions. One of these solutions is to "create serious public awareness and education programs". This is imperative, without an educated population agitating for action, our politicians will not act. However, the problem is circular; who will pressure for awareness and education programs if they are unaware of the problem.

It is very shocking that a large percentage of our population have little knowledge of our fabulous wildlife. In the general population, kangaroos, koalas and wombats are well known but many have never heard of a greater glider, a bettong or a bilby.

Until we value our very special and unique flora, fauna and ecosystems and also understand what is causing this crisis we will not pressure our politicians to allocate proper funding and to initiate actions detailed in a plethora of government reports.

This wonderful book is essential reading for all Australians.

"On Borrowed Time - Australia's Environmental Crisis and what we must do about it"
by David Lindenmayer

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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 it. 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.