Issue 6 - March 2008

Wombat Forestcare Newsletter

Autumn leaves are falling and it's definitely getting cooler, but where is the rain? Still very dry in the Wombat Forest and one of our main concerns over the recent months has been the proposed fuel reduction burns in the Trentham area and the potentially detrimental impacts on the areas wetlands. Our concerns have been conveyed to DSE and the Government, but it seems they just don't have the resources to appropriately care for our environment, whilst balancing the need for private asset protection. More on that in this issue, plus Echidnas, Bats and EVCs... Tibor Hegedis *(editor)*

Echidnas *Tachyglossus aculeatus*

By Gayle Osborne

If you have wondered where the Echidnas are at this time of the year perhaps they are hibernating. On the ABC Science show Stewart Nicol from the University of Tasmania said research in Tasmania shows that most go into hibernation in February and all will be gone in March and will re-emerge in June and July. He says that the secret of their success is that they are a very, very low energy animal. They hibernate to enable them to minimise their energy use and maximise their ability to use the most productive time of the year.

I wondered if the patterns found in similar forest in Tasmania are replicated in the Wombat. I looked at research papers on the net and found that as Echidnas occur throughout Australia, their hibernation habits vary depending upon the climate of the area in which they occur. There are differing academic opinions regarding whether echidnas exhibit true hibernation, like many cave bats, or whether their hibernation is actually torpor. Torpor is like "mini-hibernation", with a reduction in body temperature and body activities such as heart rate and breathing, but not to such a deep extent as true hibernation. Hibernation occurs for long periods of time, weeks or months, and involves no activity whereas torpor is a more short term, perhaps nightly, or during cold snaps, and the animal can more easily rouse itself to feed or drink if conditions are favourable. Most of our tree living bats use torpor in winter. Summer-time hibernation is sometimes called aestivation.

Foraging Echidna in action *(photo by Gayle Osborne)*

Echidnas do not have sweat glands, do not pant and are very vulnerable to heat stress. They will die if exposed to temperatures greater than 35° C for any length of time. They have to utilise other methods to regulate their temperature and will seek shelter in the heat in burrows (wombat and rabbit), fallen logs and rock overhangs. In Northern Australia they do not emerge during the heat of the day.

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Mating occurs in July and August and about three weeks later the female lays one soft-shelled egg. Echidnas are monotremes, which means they have a single opening (cloaca) for the passage of eggs, sperm, faeces and urine. The egg is transferred to the pouch which has developed prior to the laying of the egg. The egg incubates in the pouch and hatches after about ten days. The infant, known as a puggle suckles on milk which is secreted from pores, there is no nipple.

The female constructs a burrow for incubation and suckling of the young, however initially she may carry the egg with her. She often departs for up to six days to forage leaving the puggle and carefully closing the entrance. The puggle is weaned at about six months and then leaves to start life on its own.

Echidnas can live for over 50 years, their size is not an indication of sex or age, they feed on invertebrates, the most abundant group of animals on earth and have a low reproductive rate and therefore do not over-populate.

There are only three monotremes on the planet today, the Long Beaked Echidna in New Guinea and the Short Beaked Echidna and the Platypus in Australia. They represent the oldest surviving mammals and fossils of their forebears have been dated to 120 million years and therefore co-existed with dinosaurs.

There is a wonderful book on research carried out on Kangaroo Island into the biology and life cycle of the Echidna which I would highly recommend.
"The Echidna, Australia's Enigma" by Dr. Peggy Rismiller. ISBN 0-88363-788-X ■

Ecological Vegetation Classes of Wombat Forest

By Murray Ralph

The types of native vegetation that occur across Victoria vary significantly. This variation reflects differences in geology, soil type, aspect, climate, altitude and position in the landscape. Depending on these environmental conditions, particular plant species and groups of plants will tend to grow together. These distinct native vegetation types are called Ecological Vegetation Classes (EVC's).

Within the Wombat Forest approximately 30 different EVC's have been mapped.

Valley Grassy Forest, northern Wombat Forest *(photo by Gayle Osborne)*

Valley Grassy Forest (EVC 127)

Valley Grassy Forest has a scattered occurrence in drier sections of the Wombat State Forest where rainfall is below 800mm per annum. It usually occurs on valley floors on alluvial soils (soils that have been deposited in the valleys by erosion) and at altitudes less than 600m above sea level. The valleys may be dry or carry an intermittent stream or drainage line.

The overstorey is comprised of a variety of eucalypts, usually species that prefer more moist or fertile conditions when compared to those in surrounding drier habitats.

These include Yellow Box *(Eucalyptus melliodora)*, Candlebark *(Eucalyptus rubida)*, Manna Gum *(Eucalyptus viminalis)*, Messmate *(Eucalyptus obliqua)* and Narrow-leaf Peppermint *(Eucalyptus radiata)*. Apart from Silver Wattle *(Acacia dealbata)* the shrub layer is virtually non-existent.

The ground layer is dominated by a dense sward of Common Tussock-grass *(Poa labillardieri)*. Other grasses that may occur include Weeping Grass *(Microlaena stipoides)*, and Grey Tussock-grass *(Poa sieberiana)*, Plume Grasses *(Dichelachne spp)*, Common Wheat-grass *(Elymus scabrous)* and Wallaby Grasses *(Austrodanthonia spp)*.

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Between the grass tussocks grow a diversity of native herb species. These will vary depending on moisture levels, and include Cinquefoil Cranesbil *(Geranium potentilloides),* Hairy Pennywort *(Hydrocotyle hirta),* Blue Pincushion *(Brunonia australis)*, Ivy-leaf Violet *(Viola hederacea)*, Kidney Weed *(Dicondra repens),* Common Largenifera *(Largenifera stipitata),* Austral bugle *(Ajuga australis)*, Chocolate Lily *(Arthropodium strictus)* and Austral Bracken *(Pteridium esculatum).*

Grassy Valley Forest usually occurs adjacent to drier forests, such as Heathy Dry Forest and Grassy Dry Forest.

All EVC are assigned a conservation significance based on the extent to which they have been cleared from their former range. Valley Grassy Forest is classified as being vulnerable. The main current threats to this EVC in the Wombat State Forest include climate change, weed invasion, firewood collection, altered hydrology and fuel reduction burning. ■

Ecological Fire Management

By Gayle Osborne

Wombat Forestcare (WFC) is concerned about the impacts the proposed Domino fuel reduction burn would have on the wetlands and soaks that feed many of the creeks, rivers and springs in the Trentham area. WFC is recommending that this area be rezoned as a Specific Flora and Fauna Management Zone to protect the Sedgy Riparian Woodland and the resident pair of Powerful Owls.

An Ecologically Sustainable Fire Management Code has been developed for Brisbane's Western suburbs focusing on protecting biodiversity as well as life and property. There are many similarities to the Wombat Forest and the Hepburn Park with large areas of shared boundaries between private property and government managed forests.

In the West Brisbane code there is the recognition of the impacts of fuel reduction burns on flora, fauna and ecosystems. There is also the recognition that some fires are so intense that they will over-ride all precautions.

The code says that where properties abut the forest, fire breaks can be created using "micro-mosaic patch (or strip) burning or slashing, poisoning and removal of flammable exotic vegetation". Burning would not be conducted in gullies and other areas to be burnt would be surveyed to identify "micro habitats such as logs and tree hollows" as well as "fire-sensitive vegetation communities."

The document states that "Without human intervention most riparian vegetation was not fire prone and acted as a natural fire barrier. Any burning of watercourse vegetation has a major impact on the quality of water flowing into downstream watercourses and rivers – often only in the short term but it may directly affect water quality and the aquatic fauna. In addition, the more often vegetation is burnt, the more it becomes fire-prone as plants and weeds adapted to burning displace fire-sensitive and fire-retardant species."

We would like to see similar action initiated in Wombat Forest and the Hepburn Park to deal with fire risk in an environmentally sensitive manner.

To read the full West Brisbane code, visit the website at www.theca.asn.au/nhs/fire ■

One of the few remaining wetland areas in the Wombat Forest near Domino Road, Trentham *(photo by Tibor Hegedis)*

Bats Of The Wombat Forest

By Tanya Loos

This article introduces some of the common bat species of the Wombat Forest, and their roosting and foraging behaviour. I haven't gone into their fascinating reproductive habits; another article perhaps!

Large Forest Bat (photo by Lindy Lumsden)

Large Forest Bat *Vespadelus darlingtoni*

The Large Forest Bat gets its name from the fact that it is the largest of a group of very small bats, the Vespadelus genus. When held in the hand, these bats barely cover your palm! Large Forest Bats have dark brown to rusty brown fur all over, and very dark skinned ears and wings. Forest bats are difficult to identify, especially the females. Like some other bats species, the most reliable tool for identification is by examining variations in penis shape. For the record, the Large Forest Bat penis is "small and has a distinctly angular shape, the tip is not swollen" (Australian Bats, Sue Churchill).

The Large Forest Bat roosts in colonies of up to 60 individuals in tree hollows, but more commonly in groups of 5-6 females, or as solitary males. They will also roost in buildings, sometimes with other bat species.

These bats are adapted for cool climate living, and can be observed foraging on mild winter nights when other bats species are still in hibernation. They forage mainly under the forest canopy, in the spaces between the trees. The Large Forest Bat roosts most often in hollows and fissures (splits in dead or damaged trees) in large old eucalypt trees.

Lesser Long-eared Bat

Nyctophilus geoffroyi

The Lesser Long-eared Bat is one of Australia's most common species. They roost in crevices, under peeling bark, in tree hollows and buildings. This is the species most commonly found roosting in clothing such as coats hanging on verandas and in piles of firewood. This bat is small with very long ears. The ears are folded away when the bat is sleeping, or in torpor during cold periods.

Lesser Long-eared Bats are slow fliers, and have short rounded wings which enable a very fluttery flight that is highly manoeuvrable, enabling the bats to capture food in the air, from the surface of vegetation, and off the ground. Moths are the most common prey species; they also eat ants, cricket nymphs, beetles, spiders, and bugs. These adaptable little guys use echolocation to find prey in the air and on the ground, like most bats, but they also use their extraordinary ears to listen for prey, and their quite good eyesight to locate prey visually. This means that they can capture many of the insects that avoid bats when they hear echolocation calls.

Lesser Long-eared Bats can be found roosting under loose ribbon bark, but require substantial hollows in big dead old trees as maternity roosts.

Lesser Long-eared Bat (photo by Lindy Lumsden)

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White-striped Freetail Bat
Tadarida australis

A large, distinctive species with large squat ears that appear fused together at the front, and an endearing little bulldog mastiff face. They also have a white stripe on either side of the belly and onto the wings. White-striped Freetail Bats are specialised fast fliers, capable of sustained flight for many hours. They feed primarily on beetles and moths, and often forage over 50m above the canopy. Their dense, velvety fur is very smooth to the touch, probably streamlined for efficient aerodynamics!

White-striped Freetails roost in tree hollows alone, or in groups of up to 20. They also occasionally roost with other bat species, such as Gould's Wattled Bat.

The echolocation calls of these bats are relatively low frequency, thus most people can hear them. Their calls sound like a metallic ting... ting...ting..., and are heard in Victoria from September to May. White-striped Freetails are not known to hibernate, so it has been suggested that they migrate north during the winter period.

Gould's Wattled Bat
Chalinolobus gouldi

Gould's Wattled Bats are found in a wide range of habitats throughout Australia, including forests, deserts, and urban areas. These bats are easy to identify if you can see one up close, as they have dark blackish fur on the head and shoulders, and contrasting light brown fur on their back and belly. The wattles referred to in their name are lobes of skin at the corner of the mouth that extend to the back edge of the ear.

Gould's Wattled Bats roost in tree hollows, but also within leafy cover in the canopy, and in buildings such as old churches and farmhouses. Females form colonies of 8 – 40 in tree hollows, and up to 80 in buildings. Males generally roost alone, or sometimes with other bat species such as White-striped Freetail, and even Feathertail Gliders.

These bats eat mainly bugs and moths, as well as some beetles, flies and ants. Gould's Wattled Bats have a relatively fast flight speed (not as fast as the Freetail!) and tend to fly in a straight line, with sudden changes of course as they hunt their mostly aerial prey. Gould's Wattled Bats are often seen just after sunset when it is still quite light, hunting over dams, or along forest tracks.

White-striped Freetail Bat (photo by Lindy Lumsden)

This behaviour means they can catch a lot of insects that are active at dusk on still summer or autumn evenings, but it also means they are very vulnerable to predators. They are taken by Pied Butcherbirds, Brown Falcons, Boobook Owls, Barn Owls and feral Cats.

These are the most common or noticeable species around Victoria and in the Wombat Forest, but there are more bats recorded in the Wombat Forest, including:

Eastern Falsistrelle, *Falsistrellus tasmaniensis*
Gould's Long-eared Bat, *Nyctophilus gouldi*
Chocolate Wattled Bat, *Chalinolobus morio*

The photos in this article were all taken by Lindy Lumsden (Arthur Rylah Institute), bat ecologist extraordinaire. Thank you Lindy.

For further reading: Australian Bats by Sue Churchill, Published by Allen and Unwin ISBN 9781741754612 ■

Back Page Report

By Angela Halpin

Trentham Wetlands Walk

A very informative and pleasant walk was held on Sunday 28 February 2008, in response to the many questions and concerns raised about the proposed DSE fuel reduction burns around Trentham, and especially through the sensitive wetland areas. Twenty-seven people participated, including the Trentham CFA chief. His contribution was knowledgeable and ensured that many opinions could be discussed.

We car-pooled out into the forest behind Trentham on Domino Road and stopped on the road to view the extensive riparian zones and wetland habitats that are included in the planned burns. We then moved on to a walk that connected with the 'Domino Trail' rail viaduct, allowing excellent views of the wetlands below. The cooler weather was perfect for walking and talking, catching up with friends and making new ones.

Such a good turn out shows the high level of interest in river management issues in our community. These important and sensitive Sedgy Riparian areas between Lyonville and Trentham form the headwaters of the Coliban River. It is of grave concern to Wombat Forestcare that the planned burns may change the ecology of the area. Are we really protecting our 'assets' when we burn our waterways? Water is surely society's most fundamental asset! Riparian areas need especially careful management in designated zones.

The protection of human life and property around Trentham is very important and can be done as part of a wetlands friendly initiative. The governing bodies and the community have an opportunity here. Improved practices developed here could be part of our contribution to stream restoration in the greater Murray River catchment. Considering the terribly poor state of Australian rivers, it seems like the least we should do. ■

Newsletter articles (and suggestions) are most welcome. Please limit articles to about 500 words and send a selection of photos if appropriate. The newsletter is published quarterly in March, June, September and December, with articles due by the middle of the preceding month. Please contact **Tibor Hegedis at wombatoz@iprimus.com.au** for more information or to discuss your ideas.

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 on 03 5348 7558 or gayle.osborne@bigpond.com - Membership Fees are only $10 Single and $15 Family.

Wombat Forestcare

If undeliverable, return to: Wombat Forestcare Inc.
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