Issue 14 - December 2010

Wombat Forestcare Newsletter

Another year ends and we send greetings to our members and readers and thanks for their fantastic support. It has been a mega year for Wombat Forestcare, the launch of the Park Status campaign, You, Me & Biodiversity workshops, rare plant searches and installing a night vision camera. The amazing rains have filled our rivers and streams and we can look forward to a good season for wildflowers. This year we celebrated the International Year of Biodiversity and we must hope that the conditions for biodiversity have improved however we have another chance with 2011 nominated by the UN as International Year of Forests... Gayle Osborne

The Werribee River that was...

By Alison Pouliot

Read this then close your eyes for just a few moments. Tune to your senses. Imagine the calls of frogs, one, two, three species, perhaps a fourth, all calling at once, different frequencies and rhythms, rising over the gurgling of water over riffles. And then in another sphere, high above the shady canopy, the soft call of black cockatoos, the characteristic screech of sulphur-cresteds, of galahs, corellas, then in amongst the understorey, the chortle of magpies, the melodic tunes of woodland species.

Let your mind imagine the sweetness of the forest in spring, honey scents of flowering eucalypts drifting down. Touch the textured bryophytes adorning the twisted limbs of blackwoods. Run your hand through a carpet of moss sporophytes. Feel the softness of wet earth underfoot. Trace your finger down the underside of fern fronds laden thick with sori. Let your eyes register the thousands of verdant shades and textures of the Wombat's flora.

This is the upper Werribee River as it rises on the Great Dividing Range in the Wombat Forest, animated and flourishing following the recent rains. These are perhaps the sounds and sights and smells experienced along the river's length by Aboriginal people from the Woi Wurrung and Boon Wurrung clans who inhabited this catchment for tens of thousands of years. But today, following the changes since European settlement, this can be experienced in just a few small reaches along the river's 110km length before it empties into Port Phillip Bay.

Werribee River near source in Wombat Forest (photography © Alison Pouliot)

Once the river leaves the Wombat Forest it flows through catchments so heavily modified by agriculture and development that it is barely recognisable as the same river. Just a few kilometres downstream, east of Ballan, the river's flows are already harvested for

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Werribee River lower reaches (photography © Alison Pouliot)

irrigation, its riparian vegetation largely destroyed, its banks eroded, its water choked with weeds. Today the Werribee River, like so many Victorian rivers, reflects the actions of another time, another mindset - one of tough-minded entrepreneurialism which through efforts to control and utilise the landscape, resulted in the degradation and destruction of the very source of life to the catchment and its inhabitants.

As the river flows south east over basalt plains, through highly fragmented grassland ecosystems, it faces many challenges imposed by stock access and subsequent nutrient enrichment, erosion and channel destruction; weirs that form barriers to fish migration; the numerous issues caused by riparian vegetation removal including increased salinity, loss of riparian/aquatic habitat and changed flow regimes. The river also bares the brunt of the impacts of urbanisation in areas such as Bacchus Marsh, Melton and Werribee. Fortunately there are some initiatives to restore and revegetate sections of the river, conducted mostly through volunteer efforts of local conservation groups.

Further downstream the river has carved an impressive gorge over million of years, which fortunately has some protection as part of the Werribee Gorge State Park. Towards the end of its journey the river's estuary forms the eastern boundary of a large Ramsar-listed wetland in northwestern Port Phillip Bay. The wetland provides habitat and sheltering sites for a diverse population of native and migratory bird species, some of which migrate to the wetland from as far as Siberia, China and Alaska.

Back up at its source, the Wombat Forest provides critical habitat for a diverse biota including several endangered species such as Bibron's Toadlet *(Pseudophryne bibroni)* and the Growling Grassfrog *(Litoria reniformis)*, both of which listed as endangered under the Flora and Fauna Guarantee Act 1998

But even these last remaining areas of high quality catchment face numerous threats such as inappropriate fire management and clearing regimes, fragmentation by roading and other destructive activities such as trailbike riding and four wheel driving. This is pretty much the last remnant, the last reach of the Werribee River where its biota can exist relatively undisturbed. It is imperative that this habitat is recognised, treasured and protected. Lifting the status of the Wombat Forest to state park is a pivotal and essential step. ■

Alison Pouliot's Environmental Photography Workshop
17th December 2010
book at Daylesford Neighbourhood House - 5348 3569

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Conservation, Connectivity, Catchments, Carbon and Climate Change

By Gayle Osborne

Wombat Forestcare in partnership with other environment groups recently hosted a presentation of the many values of the Wombat Forest. The forum was a great success with over 90 community members, politicians and representatives of organisations attending.

The importance of intact native vegetation was highlighted by Murray Ralph, Convenor, Wombat Forestcare in his presentation ***Conservation values of the Wombat Forest.***

The widespread fragmentation, loss of habitat and degradation of native vegetation is evident in the western half of Victoria. DSE has identified the Wombat Forest as containing a high proportion of the only remaining 'largely intact vegetation' in central Victoria.

The Wombat State Forest is one of the largest areas of forest in the region, covering approximately 45,000 hectares. Despite a history of exploitation commencing in the 1800s, the Wombat Forest still contains a wealth of conservation values.

The Wombat Forest contains over 350 flora species and 200 fauna species, of which 8% are listed as rare or threatened at a State or National level. There are two plants that only occur in the Wombat Forest, the Wombat Leafless Bossiaea and the Wombat Bush-pea.

Many species, such as the Greater Glider are at the extent of their range and only inhabit mature forest which has been depleted due to logging. In the west of the State, the Mountain Brush-tail Possum (Bobuck) is only found in the Wombat Forest and at Mt Cole.

Within the Wombat Forest, 75% of the plant communities (EVCs) have a bioregional conservation status of endangered, vulnerable or depleted. Murray explained that the plant communities in the Wombat are not the same as those in the already protected Lerderderg State Park and that Park status for the Wombat Forest would help meet the conservation reservation targets set by the State and Federal Governments.

Murray Ralph explains the need to protect the Wombat (photography © Tibor Hegedis)

Ecologist Alison Pouliot covered ***Fungi of the Wombat Forest*** and described the diversity of the fungi that occur in the Wombat. Although no inventory of fungi has been compiled for the Wombat, both anecdotal surveys and the fact that it is botanically diverse, suggest that its fungi are also diverse.

11,846 species of fungi have already been described in Australia and even with conservative estimates of total fungal diversity, there are tens of thousands of species yet to collect and describe. To put this in context, the current number of described fungal species in Australia already doubles that found in all of the European countries combined.

Alison also emphasised the importance of incorporating fungi, into biodiversity conservation, which to date, has largely focussed only on flora and fauna.

Gavan McFadzean, Victorian Campaigns Manager for The Wilderness Society discussed ***Rebuilding landscape connectivity and resilience*** and introduced their Central VicBiolink project explaining that solutions need to be as big as the problems they solve.

Victoria's natural landscape is the most cleared and in the poorest condition of any state in Australia. The science is now telling us that connected landscapes have greater resilience and to achieve this we need to bring communities together towards a shared vision. The first step has been taken with a recent workshop. Securing the future starts with protecting remaining

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vegetation and wildlife habitat in dedicated reserves and hence the Wombat Forest represents a critical element in the Central VicBiolink project.

This theme was continued by Matt Ruchel, Executive Director, Victorian National Parks Association with ***The importance of larger forest areas in maintaining landscape connectivity and resilience in central Victoria.*** The presentation outlined the results of the VNPA's small parks project which identified 20 areas of public land across central Victoria in need of better protection and management.

The Wombat Forest was assessed as part of this project, and for the purposes of the assessment broken into four blocks – Wombat Main, Bullarto North, West and North West. The large main block (31,448 ha) was assessed as having the highest conservation significance of any of the areas examined.

Matt highlighted the key role of public land as the bastion of comparative intact habitat compared to largely cleared private land. There is a potential role these significant blocks of public land could play, with better management and protection, as the foundation of larger scale biolinks. The full VNPA report and new 'Register of Special Places' web site are now available at www.vnpa.org.au

Orb Spider (photography © Alison Pouliot)

Karen Alexander, team leader at Victoria Naturally Alliance spoke on ***Solving Victoria's biodiversity crisis with carbon – why the Wombat Forest is important.***

Karen's key points were based around a case study, commissioned by the alliance, on the Victorian section of Habitat 141 that is primarily used for farming (south of Big Desert to the coast). The results showed that the investment needed to 'put back' biodiversity on 10% of private land currently used for agriculture was well and truly paid for, over 30 years, by the revenue from carbon in these biodiverse plantings provided the carbon price went as the Australian Treasury predicted, that is, to $60/tonne by 2030. Very importantly, the regional economic activity including numbers of jobs, stayed about the same for the region, with the transition on 10% of land from cropping and grazing to carbon and biodiversity farming. The summary of the report and the full report are available on www.victorianaturally.org.au

These types of calculations are applicable to almost everywhere in Victoria including 'connecting' via private land the Wombat Forest with other key public land areas that need protection.

Karen said that "While we do need to recognise that "restoring" the biodiversity is really just putting back the carbon that was already there and should not be used for offsetting current emissions, the need to address the crisis in biodiversity in this state is immediate and if the carbon market can help then we should use it".

The final presentation by Amelia Young, River Campaigner for Environment Victoria covered ***The importance of the Wombat Forest for hydrological processes.***

Amelia began her presentation by highlighting the dramatic reductions in water flows that have occurred in Victoria over the last 10 years. Amelia pointed out that after campaigning for highly stressed rivers across Victoria; it was a pleasure to be promoting an area that contained healthy waterways.

The presentation identified the six river catchments of the Wombat Forest and highlighted it's the relatively intact and healthy waterways compared to the downstream reaches. Amelia discussed the critical role riparian EVCs play in water filtration in the Wombat Forest.

Wombat Forestcare was delighted with the response to the forum, the support from environment groups in providing informative presentations and assistance with media. We are confident that our requests for a VEAC process for the Wombat Forest have reached our politicians and that in time we will achieve our goal of Park status for the Wombat Forest. ■

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Why Species are in Danger of becoming Extinct.

Extracted and edited from a talk by Jon Rowdon

I'm not going to go into great detail about endangered species or lists. The International Union for the Conservation of Nature (IUCN http://www.iucn.org/) has their own definitions, as do the state and federal bureaucracies, and they have that covered. I want to rather focus on why species are in danger of becoming extinct. In an era of climate change the threat of extinction is faced by all of us.

I want to raise some of the causes of the endangerment of species and the concept of interdependence between species. Identifying an individual species as endangered may not be the primary issue we need to be concerned about.

Threatening Processes

Predation is critical, especially with changing environments.

Loss of food source could be caused by changing habitat or damage to the environment, including vegetation removal by humans.

Disaster - This could include bushfires.

Isolation of population - A good example of this is our local Wombats which are fairly isolated from the rest of the Wombat populations in Victoria. The next westerly group of Wombats is on the south east coast of the South Australian border and are completely cut off from those that occur in Gippsland and up the East coast. Therefore there are gene pool issues.

Disease is important. There's increasing evidence of a range of diseases moving south into this area. Rat Lung disease in birds, previously only found in Queensland now occurs in Victoria. This is a worm which burrows into the lungs and gets into the spinal fluid and causes all sorts of damage.

Climate Change - We are all aware of the reality of climate change but don't really know what the impact and processes will be.

Habitat Loss and Alteration - Habitat loss can sometimes be as simple as a small alteration. It doesn't take much to alter an ecosystem sufficiently to put stress on a species, especially the more vulnerable and specialist species.

Powerful Owl *(Ninox strenua)* (photography © Murray Chambers)

Disturbance can be from recreational activities, people, other fauna, pets, new introduced species or natural movements of species across the landscape.

Interbreeding is related to the isolation of populations. For instance the Common Brushtail Possum occurs all along the east coast. The Queensland population can breed with those in NSW but cannot interbreed with the Victorian population.
The interbreeding is not only a result of isolated populations and a lack of gene pool, but it also means we're breeding out some of the less common of the races. For instance you virtually never see Victorian Emus. There are a lot of West Australian emus that were introduced for the commercial meat industry.

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Juvenile Common Brushtail Possum (*Trichosurus vulpecula*) (photography © Adam Fry)

Ecology is seen in various ways within the ecology industry.

Population vs Community vs Landscape
Most of the work has been done on population ecology which looks at particular populations of particular species, measures them and looks at their dynamics. This feeds a lot of our knowledge about the world but doesn't include all the interactions that occur around that species.

Community ecology is where you look at the food web, the animals that occur around it and the plants that they feed on. This broadens it out a bit so we have a better understanding of interdependence.

When that collapsed they were freed and have interbred with Victorian Emus and so there is a loss of the specialist strain of genetic material that they may have developed in this region.

End of Evolutionary Potential - This means that some species are so specialised that they reach the end of where they could have got to given all the conditions that got them to where they are. They may die out naturally or they may naturally evolve into something else. An example in the Wombat might be the Mountain Brushtail Possum (Bobuck). There are a few small populations which occur around the edges of some of the river courses. Anecdotal evidence suggests that as a result of the drying of the whole region, these populations are either interbreeding and dying from genetic diseases or they are dying of stress. It appears that a healthy population in Wheatsheaf has declined over the last ten years. The causes are unclear, it may be drought, habitat loss or they are coming to the end of their evolutionary capacity.

Alteration in Community Dynamic - This could be one or more particular species moving into the area. A particularly good season, a change to the flora or fauna within that region can change the dynamic. For instance this year there has been a lot of rain and some of the aquatic populations that have been surviving in the streams and the little billabongs or in the wet soil might be flushed out of the system. We may actually lose them from our local system and it may take decades for them to creep back up the streams. It represents a natural long term flow of community change or a cycle.

More recently, landscape ecology has been introduced. This brings in all the long and short term flows that run through an ecosystem; all the things that run in and out. I think it's a much healthier way to look at an ecosystem by considering it as a whole system, as an organism in itself.

Function vs Classification - This is a focus on ecosystem function rather than classification of species and considers that if a function is being met by some other source then that system is still healthy. A local example is blackberry, which forms a really important habitat. Many of the small birds and mammals live in it away from the foxes. The function of trying to find some sort of shelter for those birds and animals is still being met. It's a complicated issue because there are many other issues involved including the loss of existing native vegetation which may support a specialised insect. This is why it is really important to carefully plan for the staged removal of large areas of blackberry and plan to replace the functional habitat at the same time.

Looking at function is quite informative for the science as well as thinking about what is of value to us as far as the environment is concerned.

Interdependence - The key issue is interdependence. We should be looking at what are the things around any particular issue which are dependant on those things. A good example would be that there is no point in looking at the occurrence of Lorikeets in this area if we are not looking at what are the things

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that the Lorikeet needs to be kept here. So if for example, someone wanted to put up a nest box and they were particularly keen to see the Musk Lorikeets, they would have to consider the food sources that go with that nest box so that the bird can stay and feed. To have mating pairs in an area requires conditions so that they can hear each other and can flock together.

So we need to be looking at all those interdependencies between the habitat, the creatures and the other creatures within it.

Competition vs Cooperation - We hear a lot about the survival of the fittest, the great force in evolution and adaptation to competition. But one of the key issues is cooperation and I would argue that cooperation is a more powerful force than competition. ■

Jon Rowdon and Gayle Chappell are co-founders of the Hepburn Wildlife Shelter.
www.hepburnwildlifeshelter.com

Night Vision Camera

By Gayle Osborne

Wombat Forestcare is the proud owner of a night vision camera, triggered by an infrared sensor; it will take pictures of nocturnal animals.

Miriam Rotstein is in charge of the camera and she trialled it in the forest behind her house, delighting us with a sequence of mother wombat and young.

Having seen the potoroo pictures from Brown Mountain we were keen to get it into the forest. Five years ago, Ryan Chick, potoroo expert with the Arthur Rylah Institute for Environmental Research was sure he saw a Long-nosed Potoroo *(Potorous tridactylus)* cross one of our forest roads.

We headed for the location of Ryan's sighting and were thrilled that the area fitted descriptions of potoroo habitat. Wet drainage lines, thick clumps of tussocks and wire grass and soil that is relatively easy to dig.

Potoroos dig little holes to find their food, eating underground fungi, roots, tubers and insects that live in the soil. We were incredibly excited when we found whole areas of diggings in the damp soil. So we set up the camera trained on an infuser with bait which includes pistachio essence to mimic the smell of fungi.

Obviously we have not found a potoroo as it would have been in the news.

We return weekly to transfer the footage to a computer and move the camera. We have a lot of pictures of a fox and given their hunting skills we doubt that even if Ryan did see a potoroo there is little chance of a population surviving. The damp drainage lines are the result of good rainfall, however the years of drought could have had an impact on any population of potoroos.

An echidna was captured by the camera and is possibly responsible for the diggings as they dig for invertebrate larvae and worms as well as for ants.

The presence of the fox, a long way from any rabbit population is very disturbing as its diet will be dependant on native animals and birds.

At some point we will move on from this site and are seeking sightings of Spotted-tailed Quolls *(Dasyurus maculatus)* from our readers. There are many reasons to believe that there are quolls in the Wombat Forest and we may have better luck with this venture. ■

Red Fox (*Vulpes vulpes*) attracted to our peanut butter bait

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What We Learnt From Our Workshops

By Juliet Summers

The "You, Me and Biodiversity" workshops were born from a desire to educate the local community about the forest for the International Year of Biodiversity. What we didn't expect was that we would learn so much more than the presentations given by our wonderful guest lecturers.

Bat Workshop (photography © Tibor Hegedis)

We have learnt that there are a huge number of dedicated and knowledgeable people to draw on, but many work in isolation. They really enjoyed making contact and were delighted to come and speak to our small but enthusiastic group of participants. Most wrote whole new presentations to fit our theme. We learnt that at the heart of this goodwill was the grass roots nature of our series. Presenters interpreted our interest in their research as sincere and genuine. One said she found it far more rewarding than her last conference presentation to a room full of people paid to attend.

We were surprised to find that often those who worked in large organisations did not get many opportunities to speak to lay people about their field. They loved the certificates of appreciation which they proudly took back to show their work colleagues. Several said they gained validation from us and returned to their work nourished and with a new dedication. One emailed me that she was doing a presentation at her work about us. Another said no one had ever asked him to speak about biodiversity before and he found his energy levels renewed by seeing his work as a part of a bigger picture.

We've also learnt that the series has been nourishing to group members too. It's easy to get overwhelmed with the amount of damage being done to the environment and to focus on the negative and lose motivation.

This series has generated a lot of positive interest, energy and joy. It has allowed us to celebrate our love of the forest and learn more about its multifaceted wonders. It has been a lot of fun and given members an activity that is not physically taxing, nor does it require any prior knowledge.

We have also created new resources for the group to be used to educate the general public. These include brochures, display material and interactive components. Our participants provided us with a focus group to see which resources worked best.

What have we learnt overall? To use an analogy, imagine us all as train enthusiasts. It's easy to get so caught up in maintenance and service provision that we never get time to just jump into our train and go for a ride. As to the future, next year is the International Year of the Forest so we've decided on the theme of 'the Hidden Forest'. We're hoping to present lectures on the work members are doing with the night vision camera, fungi - the hidden forest beneath our feet, forest based orchids and the hidden lives of forest dwelling creatures. Toot, toot 'All Aboard!' ■

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.