SUMMER 2015
Newsletter No.43

Newham & District Landcare Group

Working towards a healthier environment

Production of this newsletter is funded through Melbourne Water's Community Grants Scheme

Address – PO Box 314, WOODEND, 3442

Habitat values: **Natural tree hollows**

DIARY OF EVENTS

MAY

Sunday 10th. Hanging Rock Reserve hands-on session

9am – MD. BBQ lunch to follow.
West of the entry drive – turn left immediately after entering the reserve.
Maintenance activities and in-fill planting (target 500). BYO gloves, and Wellies, if you're happy to cut and paint the Blackberry in the banks of the creek.
RSVP: Penny <penroberts@bigpond.com> 0418 396837.

Monday 11th. Launch of the Upper Campaspe Landcare Network strategic plan at Langley.

Details and map have been sent out electronically – contact Penny (<penroberts@bigpoond.com> 0418 396837) if you want these in hard copy.

Monday 17th.

Hanging Rock again, this time to support the Friends group in their project on the saddle.
9am – MD. Planting mostly (400 target).

AUGUST

Friday 7th. AGM – details to come.

Welcome new members barbecue

In what has become a lovely tradition on top of the hill, new Landcare members were welcomed by old ones chez Roberts on 28 February. Guests seem to excel themselves in bringing splendid seasonal food – exotic salads, cakes and puds, in addition to BBQ meats and vegie burgers. Not to mention decent wine!

After a warm start with the children enjoying themselves in watery activities on the lawn, the evening finished on a wild note with a cracking thunderstorm. While revelling in the magnificent view we did spare a thought for the Eagles fans at Hanging Rock's East Paddock concert – they were apparently undeterred by the downpour.

Group contacts

President: Penny Roberts. **Vice President:** Helen Scott. **Treasurer:** Hilary Roberts.

Committee members: Howard Stirling, Karl Kny, Nick Massie and Luke Spielvogel.

Secretary: Fran Spain.

New members, general queries: Penny Roberts; 5427 0795.

Roadsides: Sue Massie; 5427 0065.

Newham Primary: Jenny Waugh; 5427 0408.

Animal pests: John Luckock; 5427 0909.

Wesley Park: Fran Spain; 5427 0661.

Flora, library, small tools, grants: Penny Roberts; 5427 0795.

Spray trailer: Chris Wiggett; 5423 5279.

The committee meets on the first Monday of the month (February to December) between 7.30 – 9pm in Newham. All members are welcome to attend the Committee meetings to become more involved or raise specific matters. Please advise a committee member if you wish to attend. Meetings start and finish on time... and we enjoy them!

Habitat values:

Natural tree hollows – essential for wildlife

Trees with hollows and the animals that depend on them are disappearing from our landscape, and when we destroy living or dead hollow-bearing trees we displace or kill the wildlife dependant on them.

Throughout Australia, more than 300 species of wildlife use tree hollows – 17% of bird species, 42% of mammals and 28% of reptiles. Valuable hollows are generally found in mature and dead trees, because young trees are usually resilient to the numerous factors that contribute to hollow formation.

The formation of hollows

Hollows are formed by the process of failure and decay within a tree – fire, storm and ageing may result in damage to a tree. Eucalypts usually shed their lower branches as they grow (self-prune) to expose the point of branch attachment. Whilst the external, living part of the tree remains healthy, damage allows the entry of fungi and chewing insects which start the process of hollow formation. Once a hollow has appeared, wildlife may 'renovate' it to suit their requirements. This is a slow, slow process, taking upwards of 80 years. It can take up to 120-150 years in many tree species for natural hollows to develop. Large hollows may take 200 years to form.

Why are hollows important?

Trees provide resources for wildlife for foraging, roosting and nesting. However, trees which contain hollows are *particularly* important for those species of animals, including many threatened species, which specifically require hollows for shelter and nesting. These animals are termed 'hollow-dependent' in that they require hollows as a key component of their habitat. For these animals, the availability of hollow-bearing trees across the landscape is a key limiting factor to their on-going survival.

What can we do?

The simple message is to think "habitat" before removing those tree skeletons or fallen logs on your property including those that are in a waterway.

- When undertaking agricultural activities, avoid and protect all hollow-bearing trees, and retain dead standing trees.
- Fence around old trees to protect them and allow 'recruitment' – natural seeding from the old

tree so that there will be trees to replace it when it is eventually lost through old age, fire or storm damage. Consider how you might link these old trees into roadside remnant or other habitat areas on your property.

- If natural hollows are scarce, nest boxes can be used as artificial hollows (but should not be considered a replacement for natural hollows).
- It is possible to artificially create hollows in trees whilst maintaining the trees basic integrity.

The Arboricultural Industry has gradually become aware of the importance of habitat trees as part of an active ecosystem and techniques for creating hollows have been developed.

Remember that the benefits are not only for wildlife – we get the benefit of insect control by birds and bats, habitat areas as windbreaks, the aesthetic value to our property and the recreational pleasures of a natural area!

Photo: Sandy Scheltema

Cover image: Mature Candlebark (Eucalyptus rubida) located close to the northern fence of Hanging Rock Reserve has 16 hollows visible from the ground.

Right: Hollows provide shelter and nesting spaces, important for those species of animals, including many threatened species.

Understanding environmental history

More and more of the priceless fragments of rich and significant biodiverse roadsides in the Macedon Ranges are being lost. As components of these complex grassy ecosystems progressively disappear, we come to accept the changed roadsides as 'normal', often without realizing what has been lost.

In his presentation on 27 March, Paul Foreman demonstrated this beautifully with a series of images depicting intact, complex roadside remnant, modified remnant with loss of many species of small plants and shrubs and finally a roadside that had only Eucalypts with the ground flora completely replaced by mown grass.

Of all the areas covered in his talk, it was roadsides and their management (or mismanagement) that provoked heated discussion.

Macedon Ranges Shire Council states in its Natural Environment Strategy its intention to protect biodiversity in rural roadsides yet there are very significant gaps in the policies, strategies and actions required to implement this intention. As a result Shire workers or contractors carrying out road maintenance and mowing contribute to the progressive damage and loss of significant remnant vegetation.

Most landowners seem to have little understanding of rural roadsides as important remnants of rare and endangered plant communities and habitat for rare and endangered animal species, from soil organisms to mammals and birds.

It appears, from what most landowners do, that they believe their responsibility is to clear and mow all roadsides, till they look like the artificial landscape of an English estate, with simply grass and large trees. This belief is not surprising as it is the appearance being adopted by most of the larger and more affluent landowners and by rural tourism businesses and no alternative picture of roadside management for biodiversity is being communicated.

Threats to roadside vegetation include

- Regular dumping of large loads of road material by drainage and grading contractors on top of significant vegetation.
- Direct damage to plants and soil compaction by vehicles and horses
- Introduction of weed species by mowers, graders and horses
- Removal of fallen timber (and living plants) to allow access

- Repeated mowing of large areas preventing wildflowers from seeding, favoring exotic grasses over the native species and preventing the growth of young trees as future replacements for old ones.
- Planting of large non-native windbreak trees very close to the fence (*and even on the roadside reserve itself*) where they encroach on and compete with indigenous vegetation on the roadside (and require trimming by road authorities for safety purposes).

Endangered roadside gems

This image shows part of a very special piece of roadside in Newham. Yam daisies, Chocolate Lilies and Milkmaids were flowering at the time of the photograph, but the area has a succession of flowering plants showing off from late Winter until late Summer – Lilies, Orchids, Wattles, Pea flowers, Daisies, Heaths, Rice-flowers, Sundews, Violets, Pelagoniums, Bluebells and MORE!

In November 2014 it was formally assessed by Atlas Ecology and it was noted that the area "contains high quality examples of lowland plains vegetation communities that have been heavily cleared across the region. These communities, occurring on more fertile soils, have been targeted since early in European settlement for grazing and cropping." This area of roadside contains a species listed as endangered (at both federal and Victorian levels) and another listed as rare in Victoria, as well as 6 species of regional significance and another 52 more common species. Yet to the casual observer this would be a surprise. For many months of the year it is only the larger species – several Eucalypts and Wattles that are readily apparent and the ground layer with a mix of native grasses would be seen as 'untidy'. Having the consultants report proved very handy when MRSC workers dumped road spoils onto the roadside in February 2015 – MRSC agreed to remove the spoils, although it was insisted that funds weren't available to manually clear the spoils from the vegetation. Landcare volunteers (thank you!) manually removed the spoils to the road verge so that it could be removed by machinery without risk of further damage to the roadside vegetation. Because of the presence of a threatened species, DEPI (now DELWP) would have stepped in if the MRSC had failed to act.

As a result of this experience and ongoing concerns about the progressive loss of roadside remnant, the Landcare committee has resolved to undertake surveys of roadsides in our area each Spring, starting with those that are particularly at risk. If you think there is a section of roadside remnant near you worth preserving, let us know.

PLANT PROFILE

Fringe Lilies

There are two fringe lilies found locally.

Tall Fringe Lily (*Thysanotus tuberosus*) found on a roadside in Newham.

Flowering from late Spring to Summer on upright stems to 600mm height, the large flowers (25-35mm) have 3 broad fringed petals and 3 thin, unfringed sepals. This plant, like many of the native lilies, copes with a hot dry Summer by disappearing – it reshoots from its tuberous roots in late Winter – early Spring.

The Twining Fringe Lily (*Thysanotus patersonii*) has small (10-15mm) flowers, similar in all other respects to those of the Tall Fringe Lily, and leafless stems that mean it is almost invisible until it flowers.

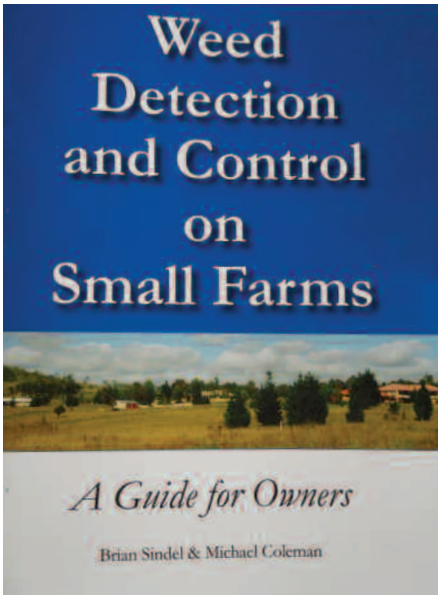
Tall Fringe Lily

Roadside remnant - depleted and full of exotic grass species, but lovely nonetheless.

This patch of Bulbine Lilies has survived because the embankment can't be easily mown!

This booklet is a useful source of information on weed control. It has been reprinted with funding from the Upper Deep Creek Landcare Network, of which the Newham & District Landcare Group is a member group, and we have sufficient copies for all our members.

These are available free from the Newham General Store.



A raft for 'de duckies

A year ago Karl and I visited Melbourne Zoo and – apart from lots of exciting things there – what caught our eye was this floating platform, planted up with sedges, grasses and flowers. An attendant informed us that the local ducks really quite like it and that they lay eggs and nest on it as well.

So when a good friend and fellow wildlife carer suggested that we should think of something that would protect nesting ducks and emerging ducklings from foxes and feral cats, we remembered that raft and enthusiastically went to work designing and eventually building a similar structure.

Our first raft had serious design issues, it started to sink slowly. Due to the fact that the plants were growing vigorously (being fertilised by mountains of duck poo) the piping we had used as floating device proved to be too thin to cope with all the weight. But we didn't really mind this set-back, as our first attempt of a duckie-raft was only small and looked miniscule even on our not-very-big dam.

So we opted for some serious downpipe size, 75mm and went to work. Below is some rough indication of the costs involved (the Chardonnay and the beer are optional items). Note: not all items were fully used up:

- Pipes and connections
  stormwater 75mm downpipes – 6m lengths – approx. $14 each
  T's – approx. $2.50 each
  slip couplings (for repairs when you stuff up) – approx. $4 each
  push-on caps – approx. $3.50 each
  90° elbow – approx. $1 each
  Solvent cement (glue) – approx. $10
- Roll of coated wire mesh, 30m – approx. $170
  Roll tie wire – approx. $15
  Cable ties, packet of 100 – approx. $13
- Roll of shade cloth, 3m – approx. $50
- 5 Water noodles – $10 each
- Wool mulch matting roll, 1.8m x 30m – approx. $280
  (also available as little 45cm x 45cm mats – approx. $1.80 each)
- Nettings clips and pliers – approx. $50
- Case of Kilkenny beer, 24 cans – approx. $60
- Couple of bottles Hanging Rock Chardy

Our first raft was a boring 2m x 1m rectangle, this time we went for a large exciting S-shape. The photos below show the assembly process:

- Piping covered with the plastic coated wire mesh. The water noodles would hopefully provide additional flotation to keep the wire clear of the water to prevent rusting and disintegrating.
- The shade cloth covered wire mesh and wool mulch matting cover. All was clipped together and we thought we had built the BEST-ever raft.

All it needed in our opinion was now to plant the sedges and grasses onto the matting and launch. However when our wildlife friend came for inspection, she pointed out all the weak points where ducks and duckling could get trapped, get feet and necks stuck – and basically terribly injure or even kill themselves. So we placed another layer of shade cloth over the raft and folded and clipped and folded and clipped till there were absolutely no gaps anywhere. Mind you, hacking afterwards through those layers of shade cloth and wool matting to plant the sedges and rushes was quite an effort. We needed a mighty sharp knife for that.

After 3 solid weekends of building we finally did launch and tied the new raft at opposite sides of the dam. We attached the old raft to the new one like a granny flat. And then sitting in the dry grass next to the dam, sipping what was left of our stack of chardonnay and beer – we watched excitedly when just after about 10 minutes (true!) the duckies approached, inspected and fully approved of their new home. And of course we started dreaming, planning and designing bigger and better rafts of various designs, maybe even O-shaped rafts.

An ecological approach to soil management

2015 is the UN "Year of the Soil"– with emphasis on raising awareness about the importance of soil and long term sustainability

The talk began with a brief overview of the factors determining the soil we find in our gardens and on our properties today. Underlying rock type, climate, previous treatment of the soil, and time have all played a part. Jim Sanson supplied examples of some of the main rock types in our area (granite, basalt and sedimentary) and displayed photos and samples of soils derived from different rocks. Later in the evening there was the opportunity to test these samples for acidity, texture and structure.

A potted history of soil management by humans followed. One example given was the primitive 'slash and burn' agriculture using the few inches of fertile top soil underlying rain forests in places like New Guinea. This simple system was used for thousands of years to support quite small, if stable populations, but it depended upon enough land being available for rotations back to forest cover for a twenty year cycle to restore fertility. World wide many societies recognised the value of manures, both animal and human, to maintain soil fertility.

With the invention of a way to 'fix' atmospheric nitrogen into a form readily available to plants by the German chemist Fritz Haber in the early 1900s, modern agriculture based on manufactured fertilisers was born. The next big leap forward in chemical fertilisers was probably the treatment of rock phosphate with sulphuric acid creating superphosphate. These developments and the discovery of pest killing chemicals and the evolution of plant breeding programs have led to huge increases in soil productivity and therefore food to feed an ever expanding global population.

The so called Green Revolution in the latter half of the 20th century saw big increases in rice yields in India and South East Asia using the rice variety IR8. Thousands of people were lifted out of food scarcity but there is a down side. Expensive inputs were needed and many individual peasant farmers lacked the resources to purchase the necessary fertilisers and sprays.

This led to consolidation of holdings with impacts on traditional social fabric. Heavy use of pesticide sprays and chemical fertilisers caused loss of important biodiversity including fish and frogs. Continued high production necessitated being locked into a cycle of buying expensive inputs.

In Brazil the miracle of soy bean production on land cleared of rain forest has been made possible by extensive use of ammonia based (nitrogen) chemical fertilisers. Two things happen with the heavy application of nitrogenous fertilisers: soil acidification and the release of nitrogen dioxide, a green house gas about 300 times more potent than carbon dioxide. To counteract the acid soils up to five tonnes of lime per hectare have to be added. Is this sustainable management of soil?

With rising concerns over the long term viability of conventional modern agriculture based on chemical fertilisers manufactured from non-renewable resources like rock phosphate and requiring large inputs of energy, many scientists are beginning to look more closely at the intricate association of plants and microorganisms in the soil.

Instead of the heavy handed application of chemical nutrient molecules to plants (which of course produce an immediate and dramatic result in crop growth) it is becoming evident that bacteria and fungi moderate more precisely nutrient requirements of plants. This doesn't mean that chemical fertilisers are 'bad' but simply that they should be applied more strategically, mindful of the paramount importance of maintaining a healthy, functioning soil food web.

Scientific research is now demonstrating that the rhizosphere (root zone of plants) has the largest

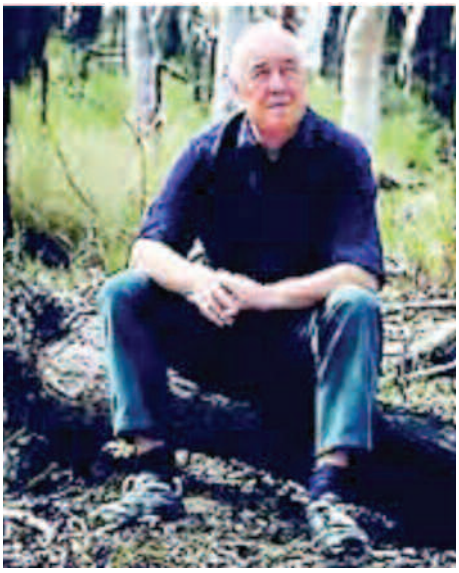
population of soil microorganisms. Enhancing the health and strength of this population leads to increased production and the best way to achieve this is the application of well prepared compost.

Good compost can be made to suit broad acre or garden scale operations. The essential requirements are: firstly a balance of carbon rich 'brown' and nitrogen rich 'green' waste vegetation material. Approximately 2 or 3 parts brown to 1 part green. Secondly material should all be slightly damp – not wet or dry! Thirdly the mass must be aerated (turned) regularly to prevent it becoming anaerobic – a stinking mess. Fourthly it is desirable to establish compost of a sufficient size, a minimum of about half a cubic metre is ideal.

Regular monitoring of soil acidity is important. Cheap pH kits are readily available and should be used to keep readings above 5.5 (better close to 6) to 6.5 or 7. Applications of lime or dolomite in small amounts, through the compost, should raise pH.

The talk also covered points about water infiltration and cation exchange capacity but time was too short to cover such a huge topic in any detail.

Fire, ecology and history



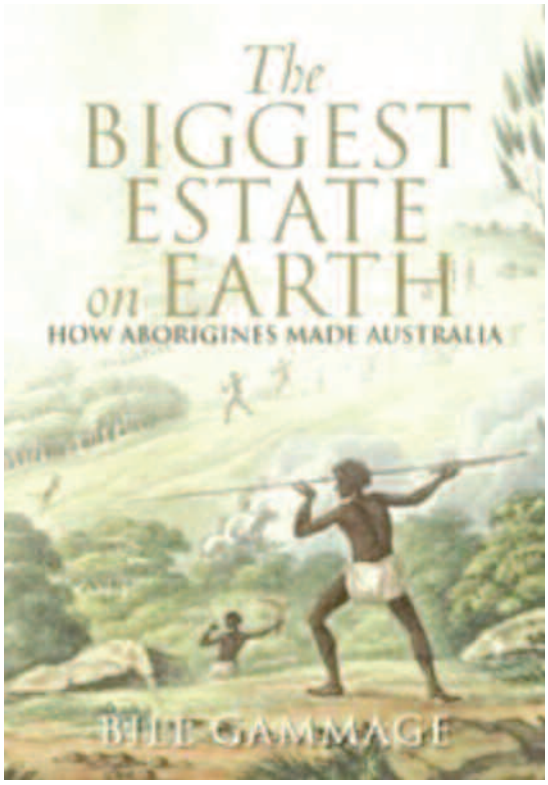
On 22 February a few of us attended a packed Hall in Campbell's Creek to listen to Professor Bill Gammage discuss Aboriginal management of the Australian continent and the potential lessons for us now and in the future. His book '*The biggest estate on earth: How Aborigines made Australia* was published in 2011.

Gammage argues that in 1788 there was no wilderness, but a landscape that reflected a sophisticated, successful and sensitive land management regime – acting locally but covering the whole continent, from Tasmania to the Kimberley and Cape York. Fire was not an indiscriminate tool of fuel reduction or grass promotion, but carefully employed to ensure certain plants and animals flourished, to facilitate access and rotation, and to ensure resources were abundant, convenient and predictable. Aboriginal people had so much control over their basic requirements that they had ample time for their arts and culture, which also determined how they interacted with their environment. For example members of a clan or family inherit a totem (a natural object, plant or animal believed to be descendants of Dreamtime heroes or totemic beings) as their spiritual emblem. This makes them responsible for the stewardship of their totem: the flora and fauna of their area as well as the stewardship of the sacred sites attached to their area. This stewardship consists not only of the management of the physical resources ensuring that they are not plundered to the point of extinction, but also the spiritual management of all the ceremonies necessary to ensure adequate rain and food resources at the change of each season. Hence fire management.

As a historian Gammage uses early documentary and visual evidence from paintings and writings - the most common terminology early Britons employed represented the highest praise of an Englishman: the grasslands were park-like. By this was not meant a national park, but a gentleman's park or estate, in which large trees were carefully situated within pampered grassland, providing sustenance and shelter to an array of grazing animals. Many of these large trees can still be seen – and locally.

The trouble is, nobody understood or valued what Aboriginal people did, and European settlement

meant land dispossession, overgrazing, damage to water resources, diseases and slaughter. Aboriginal communities have lost much of the knowledge of previous generations of land managers which has diminished their ability to help us all care for our very mistreated country. However there are some signs that notice is being taken and some Aboriginal elders with the knowledge are contributing to new fire regimes. Everyone who lives outside cities will have observed how badly managed burn-offs can be, and how intense fires destroy mature vegetation which is then followed by weeds and impenetrable undergrowth. An interesting observation made by Bill was how anachronistic it is to lock up valued environments and call them wilderness. They have become time bombs of death by fire, not beautiful national parks.



I would love to be able to do small slow burns to encourage native perennial grasses and kill off annual weeds as suggested by Paul Foreman, another inspirational speaker we have had at Newham Landcare, but am too worried about fire escaping into Parks Victoria land nearby which until a few years ago was open grassy woodland, but after a hot barely-contained burn is now thicket scrub.

The talk launched the 2015 'Connecting Country' Program – CC is a community-based not-for-profit organisation that aims to increase, enhance and restore biodiversity across the Mount Alexander Shire and surrounds in central Victoria. See http://connectingcountry.org.au/ for interesting information and resources.

Another ground-breaking work for anyone seeking to understand Australia and our place in it is Don Watson's *The Bush: Travels in the Heart of Australia*, published last year. It is a literary historical odyssey, "a magic pudding" of a book which unpicks the bush legend. It faces up to the silence about what happened to aborigines, faces up to the destruction of the natural environment, the conflicted relationship we have with the bush. It is packed with marvellous stories and minute details about places, people and their occupations, flora, fauna, stock breeds, farming methods, water movement, climatic variations, logging and much more, in writing that is by turns lyrical, crisp, witty, sardonic, prophetic.

Don will be in Woodend for the Winter Arts Festival on 7 June discussing this – you can book tickets via the WWAF website http://woodendwinterartsfestival.org.au/

Helen Scott, April 2015.

TUBE STOCK NOW AVAILABLE

Other species are expected to be available in early Spring.

A limited range of local plant species is available at 50c per tube to members.

These have been grown by the Newham Primary Propagating Group and are surplus to requirements for orders placed by Melbourne Water, Friends of Hanging Rock and Newham Landcare group.

The propagating group, which raises funds for Newham Primary school, is supported by our Landcare group (materials, propagating advice and extra hands) – over 5 years from 2010 the group has developed serious propagating and plant ID skills, and raised a grand total of $39,153 for the school. It has also supplied plants for use in Wesley Park, on the Newham traffic island and within the school grounds.

Pick up is from 159 Dons Rd, Newham on 23 May between 9am – MD, or contact Penny to arrange an alternative date/time <penroberts@bigpond.com> or 0418 3996837.

Ground Layer plants

Long-leafed Flax Lily (*Dianella longifolia*)

Tall Sedge (*Carex appressa*)

Tall Tussock Grass (*Poa labilliardierii*)

Shrubs

Prickly Tea-tree *(Leptospermum continentale)*

Woolly Tea-tree *(Leptospermum lanigerum)*

Sweet Bursaria (*Bursaria spinosa*)

Prickly Moses (*Acacia verticillata*)

Hop Goodenia (*Goodenia ovata*)

River Bottlebrush (*Callistemon seiberii*)

Understorey trees

These are in short supply at the moment but will become available later in the planting season.

Silver Banksia, Blackwood, Needle Hakea, Silver Wattle, Black Wattle

Large trees

Swamp Gum (*Eucalyptus ovata)*

Manna Gum (*Eucalyptus viminalis)*

Narrow-leaf Peppermint *(Eucalyptus radiata)*