

Autumn 2012

Number 57

# Promoting, preserving, protecting and rehabilitating native vegetation

# **Contact Details**

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#### Committee

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Secretary:	Camilla Hughes
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Editor

Sue Sagewood

Visit our website and Plant Propagation Database: www.understorey-network.org.au

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# **Coordinator's Report**

It has been a typically unpredictable Tasmanian summer, with just about every imaginable weather condition. This has meant that it hasn't been too bad a year for getting plants established and most of the trees planted last year as part of Understorey Network projects are doing really well. Unfortunately though, it seems that conditions may have been less than ideal for propagation, with several members reporting poor results for germination and growth. The reason for this is unclear and in some circumstances the seed provided may not have had good viability rates. We are also reviewing the potting mix used in the growers scheme and it is likely we will have a new mix this year.

Propagation at the Tolosa Nursery on the other hand is doing fantastically, with thousands of healthy plants bursting out of their pots. We will be having an autumn fundraiser plant sale at the end of March so come and stock up on a large range of Tasmanian natives and encourage others along.

Workshops are quiet with just a few seed collecting workshops around the state including Kingston, Exeter and Scamander. There will be upcoming propagation workshops and autumn is a good time of year for taking cuttings and sowing some of our slow to germinate species.

The project that has been taking up most of my time is the Regeneration Trial for White Gum Woodland (Fortyspotted pardalote habitat), that is being co-funded by the Australian Government's Caring for our Country program, NRM South and Kingborough Council. The project has involved establishing 120 plots at two sites on North Bruny Island. The plots are either unfenced, fenced to exclude stock, or fenced to exclude stock and native wildlife. The plots are either sprayed, burnt, scraped (top 2 to 5cm removed), or left as a control. Conservation Volunteers Australia and Understorey Network members have helped to establish the plots, put up the fences and collect the baseline data. The project is being set up as a long-term trial to determine techniques that can be applied across the landscape to encourage the regeneration of white gum woodlands.

If you are interested in finding out more about this or any other current projects contact the office or come along to one of our monthly committee meetings. Hope to see you at an upcoming event.

**Oliver Strutt** 

# President's Report Autumn 2012

Summer time is a time when we all like having a We have many growers growing plants for their break, but with young plants coming on it is a very own use and also for other projects and I am busy time especially if we have some warm days wishing you all well with your growing and hope all and our plants need watering every day. Things your plantings have done well. Please let us know have been very busy at the Tolosa Nursery too and about your successes and if there have been our volunteers have the plants looking really great failures please contact Oliver and hopefully we can and we are well stocked with plants.

The white gums (Eucalyptus viminalis) are really Summer time of course is our seed collecting time looking good and along with other native species, although plants do drop their seeds at different some 3000 plants are being grown for the times. We have seed collecting times listed in our endangered 40 spotted pardalote project and will newsletter and we are always looking for seed be ready for planting out this autumn.

While our volunteers have been busy propagating and planting at the nursery, our coordinator and more volunteers have been very busy fencing and preparing areas on Bruny Island for trial plots. We hope to trial some direct seeding plots also and with my experience these can work well but you do need the right season with good summer rain.

We have propagated another 6000 plants for Glenorchy Council which are looking great and will be ready for planting out this autumn. There are other projects for which we are growing including the Derwent Estuary Program (little penguins) and Aurora. We are also looking into setting up a stall at Salamanca Market as well as having our second plant sale this autumn (see advert on back page for dates and times).

help out in some way with substitute plants.

collectors. When in the bush always keep an eye out for the various plants to see if they are ready to have their seed collected. Most of the pea flowering plants have already shed their seed, however there are many plants that hold their seed for long periods of time and they can be collected over an extended period. Do be on the alert as with some plants if the seed is left uncollected, by the following week the seed will be gone, so in some cases it pays to put a stocking over the plant so that when the seed drops it won't be lost.

I hope you have all had a wonderful Christmas/New Year and have good success with your plants. Once again a big thank you to all our volunteers and to our coordinator and a big thank you for all the good work that has been done over the summer period. We will look forward to catching up with you during the autumn plantings.

Warner Wait

# **Understorey Network Management Committee—A Personal Perspective**

After attending the latest Committee Meeting I found myself in reflective mood. What a privilege to meet with such committed, congenial people every month for animated discussion, while at the same time gaining insights into the workings of this wonderfully productive community-based organisation. What major natural resource management outcomes have been achieved by our present coordinator. Ollie, and his predecessors, all with continuing solid support from our membership base. Inspirational!

I have been involved with USN since its rebirth around sixteen years ago. The joys of participating in the growers' scheme, the learning opportunities gained in helping put together the Plant Propagation Database, my intermittent attendances at workshops, field days and events have enriched my life. In retrospect, the years that I have served on the Committee have been particularly rewarding, enabling me to view and be involved in the 'big picture' aspects of USN. My experiences of the organisation fly in the face of the old adage "You only get out what you put in". Undoubtedly for me the benefits gained far outweigh any time or effort 'put in'.

I hope that sharing these thoughts will motivate others to 'give it a go' and join us on the Committee so that they may gain the same stimulation and sense of satisfaction. I offer my version of a Positions Vacant Advertisement which may prove tempting.

Positions Vacant					
ositions offered: We have on-going vacancies for new committee members. All members are welcome to apply.					
Core Duties:	<b>Duties:</b> To participate in 1-1 ½ hours of purposeful but congenial discussion and problem solving, on the second Monday of each month at 5.15pm. All ideas and viewpoints welcome. Committee members may or may not offer more volunteer time in any capacity that interests them at their own discretion.				
Working conditions:	This is an opportunity to work with inspirational people, in harmony and without pressure.				
Remuneration:	None				
Rewards:	Effective natural resource management outcomes and camaraderie served with quiche or sushi, tea or coffee.				
For more details please contact:   Mary Jolly 62278506   Oliver Strutt 6234 4286 or email oliver@understorey-network.org.au   Mary Jolly					
	Propagation Pointers				
Family Name:	RUBIACEAE				
Species Name	Coprosma hirtella				
Common Name:	Coffee-berry				
Coprosma hirtella has greenish flowers on separate male and female bushes. Fruit is a berry or drupe on an erect shrub 1 to 2 metres tall. A fire retardant plant and a great habitat for small birds which love to eat the fruit. Grows in open forests on rocky sidings and at the base of mountains in most types of soil that is well drained. Ideal for growing under power lines.					
Seed treatment	Collect seed in January when it has turned a brown, red colour and place into a glass jar or a plastic bag and let the seed ferment in it's own fruit juice for several weeks. Then remove seed from fermented fruit and sow without letting it dry out.				
Propagation notes	Stem cuttings should strike easily taken during March April.				
Seed sowing months April- May					
Growers, if you have p very much appreciate	propagated this species and can further add to the information provided we would hearing from you. Please email Oliver@understorey-network.org.au				

Warner Wait

# **Eucalypt Dieback and Understorey Networkers**

Like most people I have been dismayed to see the apparently inexorable decline and death of eucalypts in much of the Tasmanian Midlands. Now it is distressing to see that eucalypt decline appears to be worsening across Launceston and North down the Tamar Valley, including areas that appear to be in relatively natural condition and in areas that seem quite moist (although presumably they have had a decline in rainfall over the last decade or so, like much of Tasmania – climate change?). I want to know why and if we can do something to prevent this region looking like the Midlands in a few years time so I have done a little research on this complex topic and give you a taster here (apologies to the researchers if I've mangled it). I have provided references for you to follow up and find out more. Much of this paper is taken from the study by Dr Richard Doyle (2005) and work by Dr Neil Davidson. In fact, the studies have come up with quite different results.





In Tasmania (worst in the Midlands), over 200,000 hectares are either extremely or severely affected by dieback (Doyle, 2005)

Several causes of rural tree decline or "dieback" have been suggested. They include climate change (drought), increased possum browsing, isolation/exposure, insect attack, soil pathogens, old age, soil compaction or grazing pressure and competition with improved pastures (Doyle, 2005), as well as altered fire regime, loss of coarse woody debris and changes to mycorrhyzal fungi (Davidson, 2009).

## Drying out

From Dr Richard Doyle's study, it seems that **moisture stress** is the major factor in the Midlands which is largely due to many droughts since the late 1970's (presumably a result of climate change, *\*sigh*!). The effects of this are more apparent where **soils are shallow**, on **exposed sunny and windy aspects** (N, NE, NW, W), and on columnar rocks such as basalt and **dolerite**, because they commonly have shallow rocky soils and the fractured columnar nature of the bedrock leads to rapid vertical drainage of ground water (which explains a lot around my place!). OK, there is not much we can do about these things.

## Other factors make it worse

However, other factors also influence the moisture stress which we may be able to do something about in places. **Tree isolation** and **competition with improved pastures** were associated with high amounts of tree death. So we could plant more trees, appropriately spaced and attempt to replace introduced grasses with native understorey. Regrowth is also limited by **grazing pressures** so even when soil moisture is recharged reestablishment is hampered on most agricultural lands. **Cultivation around paddock trees**, associated with sowing of improved pastures, damages their surface roots. Many landholders have fenced off remnant trees in the hope that reduced grazing pressure and cessation of cultivation may allow trees to recover, and/or regeneration of seedlings to occur.

Mark Neyland (Neyland, 1996) declared that one factor controlling rural tree decline was the size of the remnant forest. The larger remnant blocks were less affected with dieback restricted to the margins, while small remnant blocks and isolated paddock trees were most affected. So, let's keep protecting those remnants and revegetating small ones to make them bigger.

Interestingly, **possum browsing**, considered by Neyland to be one of the major reasons for eucalypt dieback and **soil compaction** were found by Dr Doyle to be only minor aspects of the story.

## Competition with introduced grasses

Eucalypts in the Midlands region were shown to have a distinctly two-tiered root system, with upper surface feeding roots and deep tap roots which permeate cracks in the bedrock in search of deep soil moisture and ground water. In agricultural settings, **competition with highly responsive improved pastures** restricts surface tree roots. This means significant recharging rains are needed to allow moisture penetration to the tree roots. I wonder if even wet seasons such as we have had lately are enough to replenish soil moisture sufficiently.

# Other species can be OK

The study found that **sheoak** (*Allocasuarina*) and **wattle** (*Acacia*) species in many sites are out competing and replacing the *Eucalyptus* species due to their greater drought tolerance. I think prickly box, *Bursaria spinosa*, is also succeeding in the Midlands and could be viewed positively because of this (as well as its forage and habitat value that includes fostering thynnid wasp predators of pasture grubs). So local species that many Understorey Networkers have been growing clearly have an important place in revegetation and remnant protection. Hopefully they can help provide some protection from exposure for eucalypts.

#### But think again— there is more to it yet!

To summarise, Doyle considered that moisture stress is a big part of tree decline, though not the whole story. As mentioned above, cultivation damage, greater exposure, introduced grasses, possum and invertebrate browsing and old age have their role to play.

Then, just to confuse me, studies by Dr Neil Davidson (2011) prioritise factors quite differently. He states that "decline was related more to farm management than climate change" (http://www.crcforestry.com.au/view/ index.aspx?id=75015). Key factors causing tree decline were stock grazing (and related elevated nutrients, introduced grasses and soil compaction), altered fire regime, and removal of coarse woody debris (logs and limbs on the forest floor).

Stock grazing by sheep and cattle compacted soils, caused nutrient enrichment (through dung and urine) and introduced weed species (particularly pasture grasses and herbs). The resulting elevated leaf nutrition has been shown to predispose remnant trees to attack by insects and browsing by native mammals (particularly possums). Elevated nutrition has also been shown to reduce mycorrhyzal fungal biodiversity, decoupling eucalypts from root symbionts vital in the process of uptake of water and nutrients. Long absence of fire altered soil processes and understorey composition in a way that caused tree decline in particular forest types on susceptible sites. In this case, it seems nutrient deficiency (in phosphorus and micro-nutrients) and water stress occurs in trees embedded in a dense understorey which had developed in the absence of fire. (This nutrient thing is confusing – elevated sometimes or deficient sometimes!) Tree regeneration was strongly affected by fire regime and by availability of large logs. In healthy dry forests in the midlands of Tasmania in a period two to six years following fire, 80% of seedling regeneration was found adjacent to large logs.

## Different reasons in different places

There are, of course, other factors which can lead to tree decline in other areas and here are a few I remember.

**Phytophthora** does not tend to be found in the dry Midlands and is not a significant cause of disease in eucalypts in Tasmania as it is with some eucalypts in Western Australia (DPIPWE website). If there is another disease that is a problem for the drier areas it has not been identified (but fungi are hard to isolate).

In an earlier article in *Understories*, I mentioned the possible role of a good diversity of **fungi**, which may have been lost from some remnant forests allowing the aggressive native fungus *Armillaria luteobubalina*, the Australian Honey Fungus to dominate the fungal ecosystem and kill trees. Launceston City Council is currently trialling reintroduction of woody debris and a range of fungi into its reserves and I'll let you know when I hear results of that trial. Meanwhile, it is a good idea to retain woody debris in your bushland (bearing in mind fire hazard, especially around houses) for fungi growth, to encourage eucalypt seedling regeneration and for animal habitat.

**Coastal areas** often have dieback due to exposure to strong, salty winds especially after the clearing of surrounding coast-hardy vegetation leaving eucalypts vulnerable. Understorey species such as coast wattle (*Acacia longifolia ssp. sophorae*) can be planted on the windward side of remnants to protect them from the winds.

**Dryland (groundwater) salinity** can also be a problem in some areas and of course loss of vegetation from either dieback or clearing only makes this worse. Revegetation in the right place can help reduce or prevent dryland salinity.

In some areas, the native **noisy miner** can result in tree decline as these aggressive birds chase away other species some of which eat more insects, resulting in increased insect damage to the trees. Noisy miners tend to dominate when the native understorey has been removed. So, again, something we can do is make sure to plant an appropriate range of local native understorey plants (especially bipinnate wattles, which seem to help shelter other birds and reduce noisy miner dominance).

#### More things you can do

What to do about those **introduced grasses** which seem to be a big part of the eucalypt decline story? We Understorey Networkers are keen to ensure that native species form the understorey of our bush, but if introduced grasses are already present they can be very difficult to remove. Get to know your native grasses from your introduced ones. You can favour native grasses over introduced ones (which tend to set seed earlier) by slashing and mowing grassy areas earlier in spring (to remove introduced grass flowers) while allowing native grasses to mature and set seed in later spring and summer. As introduced grasses tend to be favoured by higher soil nutrients and water you can attempt to lower soil nutrients by removing slash every time you mow, or possibly by burning, both of which can slowly remove nutrients. Some people have had good results from adding carbon (in the form of sugar!) which reduces nitrogen in the soil and through spring burning. Have a look at the research done by Prober *et al* (2005).

Dr Neil Davidson at the CRC for Forestry, provides a somewhat more hopeful story and has produced a *Tree Decline Toolbox* which can be obtained as a CD from Dr Davidson (phone 0427 308 507 or email Neil.Davidson@utas.edu.au). You can work through it, identifying through easy picture choices what state your own bushland is in and the factors affecting it. The toolbox then predicts the likelihood of your bushland being in better or worse condition in future years. You can experiment with theoretical treatments and see which will improve the prognosis for your bush. It is a very user-friendly toolbox and you don't need special botanical knowledge to use it.

#### No simple answer, but please look after your local trees

With all due respect to the scientists who have studied this complex topic and who always acknowledge the interplay of many factors, it seems to me that the "take home message" about eucalypt dieback has changed over the last couple of decades and is not simple. In the 1990s it was the fault of "drought and possums", then it was "drought/climate change with additional pressures (but not really possums)", and the latest seems to be "more about bush management than climate change" (stock, fire management and woody debris, with changes to mycorrhyzal fungal biodiversity possibly involved too).

It seems necessary that each patch of dieback-affected bush should be investigated for every possible reason. I



would encourage everybody to check out their local bush and attempt to reverse any eucalypt decline before it is too late.

## References

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**Anna Povey** 

# "Backyard Goes Wild" in the NW



Central North Wildlife Care & Rescue has been operating a wildlife rescue service in the Devonport area since 1999. In 2006, the group constructed a small education centre at Forthside to provide a community venue and triage facility for injured and orphaned wildlife. Owners of the property, Alastair and Julia, have also constructed several rehabilitation aviaries and pens to care for a variety of birds, predominantly raptors (eagles, peregrines, owls, etc) and some of the specialist

'furries' such as devils, quolls, bandicoots, pygmy and ringtail possums. They also constructed a large shade house with the

express purpose of growing native plants for revegetation projects.

Whilst looking after wildlife is obviously a core part of what we do, the group is dedicated to raising awareness about the reasons why the animals are needing help in the first place. The three biggies are road kill, predation by dogs and cats and habitat loss.

Since the opening of the centre, members have spoken to many school students and members of the general public to try and get them to realise how their actions impact on native animals and birds. Over the years we have developed small programs, one of which was funded by Latrobe

Council, and is called the "Backyard



Goes Wild" project which consists of a poster and an activity sheet. The exciting poster design came from two local teenagers and encourages children to investigate and study wildlife in their back gardens and to create small refuges for birds, insects, reptiles and animals like ringtail possums.

To augment this kit, clients from Devonfield Enterprises helped construct a demonstration native garden at the centre which shows the very simple elements and scale required for a typical urban garden. The little plot is thriving and is regularly visited by several species of birds and small skinks, frogs etc.

Native garden

With habitat loss being such a major threat to wildlife around the rapidly developing towns on the NW coast, supporting the Understorey Network and tapping into their wonderful expertise was an obvious networking choice and for the last two years we have been participating in the Growers' scheme,



(still learning how to successfully get those stubborn little seeds to germinate!) We were really delighted to host a propagation workshop with Oliver last year and hope to see more of these activities held up here in the NW.

Nature doesn't come in neat little speciality boxes, where if we solve one problem, we can claim success. Nature is a vast web of life, which at the moment is being ripped to shreds by humans and is rapidly unravelling. We all need to work together and support each other's efforts so that we can conserve and effectively manage what is left. Understorey

Network and wildlife rescue is a great combination of effort, and we hope that the relationship will continue to grow here on the NW coast.

**Julia Butler-Ross** 

# **Growers Scheme Update**

Well it's been 3 months since I last told you about my seedlings (or lack thereof) and I know you will all be desperate to know how they went. On my return from my trip to India my plant sitting friend was proud to return 2 boxes full of little acacias and callistemon and remember that 1 little banksia? Well, what a thing! There it was, the finest clover you have ever seen! I must admit it has been with much relief that I hear other growers have had poor propagation success too. Phew! So as a first time grower it's not been a total failure and now my Twiggy Daisy Bush is growing I almost feel heroic! Here's to next year! **Sue Sagewood** 



Backyard Goes Wild poster

# WHAT'S HAPPENING

The Under workshops Governme organisatic	rstorey Network organises many of its with support from the Australian ent's Caring for our Country program and other ons.	Salamanca Market – Understorey Network Stall (South) Information stall, propagation demonstrations, T-shirts, books and native plants for sale	
Please call oliver@und or to RSVF	I the office on 6234 4286 or email derstorey-network.org.au for more information P for any of the workshops.	When: Where:	Saturday 21 <sup>st</sup> April 2012 Salamanca Market, Hobart
Also check the website for the latest Calendar of Events. Seed Collecting Workshop (South)		Agfest – Understorey Network Display (North) Information about the growers scheme (Look out for the Tasmanian Landcare Association Tent)	
pardalote h	seed to grow plants for Forty-spotted habitat	When: Where:	Thursday 3 <sup>rd</sup> to Saturday 5 <sup>th</sup> May 2012 Rural Youth Park, Carrick
When: Where:	Saturday 17th March 2012 Bruny Island (contact office for location)		
		Understorey Network Committee Meetings	
Penguin C USN Prop	Drganic and Sustainable Living Expo agation Workshop (North West)	When:	Second Monday of every month, 5:15pm
Information	n stall and propagation demonstrations at	Where:	USN office, Level 1, 148 Elizabeth Street
Information the Festiva When: Where:	n stall and propagation demonstrations at al Sunday 25th March 2012 Ironclife Road, Penguin	Where: All membe meetings –	USN office, Level 1, 148 Elizabeth Street Hobart rs are welcome to come to our regular please RSVP for catering purposes
Information the Festiva When: Where: Native Pla (South) Come and native plan	n stall and propagation demonstrations at al Sunday 25th March 2012 Ironclife Road, Penguin ant Sale – Tolosa Nursery Fundraiser choose from a wide variety of Tasmanian hts in tubestock or 6 inch pots.	Where: All membe meetings –	USN office, Level 1, 148 Elizabeth Street Hobart rs are welcome to come to our regular please RSVP for catering purposes



Where:

# **Plant Sale**

Saturday March 31<sup>st</sup> 10.00am - 2.00pm

Monday 2<sup>nd</sup> April

10.00am - 2.00pm



Where: Tolosa Street Nursery & Native Garden Tolosa Park, Glenorchy (Western end)

Tolosa Nursery, Tolosa Park, Glenorchy

What: Tasmanian Native Plants - tube stock and 6" pots