



supporting landholders with native vegetation

Issue 8 Sept/Oct 08

# Biodiversity in the Paddock

**By Josh Dorrrough**  
 CMN member and  
 Visiting Scientist with CSIRO  
 Sustainable Ecosystems

*What management systems can be used to increase the diversity of plants in a grassy woodland? Can native pastures be managed for both production and diversity? Can the resilience and function of native pastures be improved in the face of an increasingly uncertain climate?*



These are just some of the important and difficult questions facing producers, managers and researchers in our agricultural landscapes. A new booklet, **Biodiversity in the Paddock – A Land Managers Guide** combines research data and personal observations to provide information intended to help livestock producers tackle the complex problem of managing their native pastures for production, function and biodiversity.

The Biodiversity in the paddock booklet is primarily based on research by Victoria's Arthur Rylah Institute for Environmental Research and CSIRO Sustainable Ecosystems on the biodiversity and productivity of native pastures and grassy woodlands of south-eastern Australia. The research project was undertaken in native pastures on 24 farms on the tablelands and slopes of NSW and Victoria. The main focus of the research was to contrast paddocks managed using either rotational grazing systems or continuous stocking.

Biodiversity research is increasingly pointing to the dominant role of soil nutrients in determining: the health of paddock trees; successful tree and shrub regeneration, and the diversity of understorey native plants in pastures. Much anecdotal evidence has suggested that rotational grazing systems can be better for biodiversity and function. However, while the stocking rate is important, there is little actual research to indicate whether particular

grazing management systems (e.g. rotational grazing, set stocking or continuous stocking) are better or worse for biodiversity. This recent research has supported these observations.

The long-term persistence of biodiversity, good soil protection and retention of a diverse perennial pasture capable of persisting severe drought conditions were only observed under low-input management systems. These had available soil phosphorus less than 20mg/kg (Colwell Phosphorus) and low stocking rates (in this case <4 DSE/ha). Despite extremely severe drought conditions in 2006, paddocks fulfilling these criteria still had a diversity of native pasture species providing some green feed and soil protection.

Although there are benefits of low input systems for the diversity and function of native pastures, there is a clear trade-off with productivity. Yet, many producers on the slopes and tablelands are opting for a low input approach to reduce stress, manage for a more uncertain climate and ensure they are not depleting the natural capital of their property. Profitability in these low input systems is being achieved through fine-tuning of grazing management systems and a focus on reducing input costs and increasing enterprise flexibility.

**Biodiversity in the paddock – a land managers guide**  
**Get the full report see page 7**

## CONTENTS

<b>Biodiversity in the Paddock</b>	<b>1</b>
<b>Coordinators Column</b>	<b>2</b>
<b>Free Book Offer</b>	<b>2</b>
<b>Partnerships Conference</b>	<b>3</b>
<b>CMN Events</b>	<b>3</b>
<b>Rainforests</b> In South East NSW	<b>4</b>
<b>Rainforest Field Day</b>	<b>5</b>
<b>Revegetation</b> Planning for Revegetation	<b>6</b>
<b>Events &amp; Resources</b> Grassy Ecosystems Guide 'Write it Up' workshop	<b>7</b>

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## Coordinators Column

It's nearly time to cast off your extra jumper and enjoy the warmer, longer days. If your property is prone to fireweed, you may have already noticed a few pesky yellow flowers poking up. While the weather is pleasant, it's a good time to stroll about and keep fireweed and other weeds under control. If you battle with thistle this is the time to kick or hack at the small plants before they flower.

Of course this is a good time to think about planting. Get in now before summer hits or wait till autumn next year! This issue has some advice from Liz Clark about considering what plants you want and collecting seed to propagate. Again this is a great time of year to get out walking and look at native vegetation.

If you're thinking of planting, you won't want to miss our 'Tree Planting Methods' Field Trip. You'll get expert information and see the results from various methods. The tour is on December 6th and there will be more information in our next newsletter.

Bill Peel, a very experienced ecologist from East Gippsland, has written an article that reminds us that this area once had a lot more rainforest than we see today. He shares his knowledge about how to manage rainforest remnants if you have them (or may have had them??). Bill is visiting our region in October for a one day workshop, see page 5.

As always, remember that CMN events have delicious catering, real coffee and are a chance to mingle with others who value their native vegetation – whatever form it takes.

We hope to see you at an event soon.

Dan and Vick

## Free Book Offer for Your Ideas

The Far South Coast Conservation Management Network supports landholders with native vegetation on their property and caters to all types of vegetation and all types of land holders. The CMN is about you so we'd like to hear how the network can best support you to manage your vegetation.

Have you got something to share? Are you working on a vegetation management project at home that is really successful and you could share your learnings with other members?

Anyone who would like to contribute an article in the next edition will receive a \$40 book voucher for Candelo Books.

Contact us to discuss your ideas.

*The FSCCMN is funded by the Southern Rivers Catchment Management Authority.*



## NRM Networking Partnerships Conference

14th - 15th Nov 2008  
Queanbeyan Conference Centre



Landcare NSW & the **Conservation Management Network National Node** (CMNNN) are bringing together conservation and Landcare networks to explore future partnerships for biodiversity projects, funding and education.

### Aim:

- To bring together existing community networks working towards improving NRM (Natural Resource Management).
- To facilitate communication and skills sharing.
- To identify opportunities for future partnerships for a more effective and efficient contribution to State and National NRM priorities.

Land managers involved with Landcare and Conservation Management Networks are leaders and change agents committed to conservation management of lands in productive, sustainable and agricultural systems. Our focus is on active management of native vegetation and the adoption of sustainable farming systems. This conference will highlight past successes and explore future collaborative partnerships.

**'Collaboration: the key to sustainable resource outcomes'**

## Opportunity for CMN members

We are inviting Far South Coast CMN members to head to Queanbeyan with us for this conference. We've met so many of you and know there are some keen and interested folk out there. So if you are interested let us know and we'll fill you in more. We've secured funding to cover costs for those who put their hand up early.

Call Dan & Vick for more info  
6492 5558 or [info@fscmn.com.au](mailto:info@fscmn.com.au)

## Monitoring Small Fauna Field Day

Sunday 26th Oct  
10am - 3pm  
Bournda



### NOTE change of date

The focus of the monitoring day will be on small fauna such as reptiles, mammals and invertebrates. We'll discuss ways to reveal what small fauna you have including fauna identification and how to identify fauna when they are not there. i.e. tracks, scats etc.

It will be a hands-on practical day hopefully with some interesting wildlife experiences.

## Tree Planting Methods Field Trip

Saturday 6th Dec  
10am - 4pm  
Starting in Bega



To complete the workshop series 'Grow Your Own' we're holding a local tour of revegetation methods. While there will be some planting shown, the aim of this day will be to demonstrate results from a selection of revegetation sites as well as over different time frames.

Information on the day will cover:

- The best time to plant natives
- Ground preparation
- Ripping or digging
- Handling seedlings
- Tips to get a good success rate
- Weed removal and herbicide use
- Water needs
- Species selection and where to get them

**These are both popular topics so book now to reserve your spot.**

**Bookings, contact:**

**Dan or Vick**

**6492 5558 or [info@fscmn.com.au](mailto:info@fscmn.com.au)**

## Hanging on: Rainforests of South East NSW

By Bill Peel, Senior Environmental Ecologist, ETHOS NRM Consulting

*Millions of years ago rainforests dominated Australia's landscape. Since then natural global climate changes, Gondwana's march south and more recently European settlement has suppressed rainforests and seen a drier vegetation type take over. Yet only some few hundred years back rainforests seem to have been more wide spread in the south east than we think.*

Today in the Australian landscape and on the south coast in particular, rainforests are a rare and special thing. They arose 60 million years ago when Australia was part of the great southern land Gondwana and dinosaurs roamed through the last of the great conifer forests of the southern hemisphere.

Back then Gondwana was much wetter and fire was rare. It was during this time, that much of what was to become Australia was covered in rainforests, can you imagine that? Some of the earliest flowering plants arose in these primordial forests and still persist in the rainforests of our region today. But for the last 35 million years on our epic voyage across our planet's southern hemisphere, Australia has warmed and dried. Finally about 5 million years ago it also started to experience more fire. This was the beginning of the flight of rainforests from their position of landscape dominance into fire refuges where they could shelter from the wild bushfires we see today.

Rainforest still exists in small pockets and with considered management will thrive as they once did. Landscape, climatic or vegetation features help to moderate the influence of fire across the landscape. These include the landscape its self (south or east facing gullies, cliffs, rock scree, lakes, rivers and beaches), fire-retardant or fire intensity reducing vegetation (salt marshes, mangroves, grassy woodlands) and/or the climate (summer rainfall, high rainfall, misty mountains and salts delivered by sea breezes). All of these factors help to create rainforest habitat and protect this fire sensitive vegetation.

So why are rainforests as scarce as they are in our region today? To being with, areas of fire refuge aren't as common in this part of southern New South Wales as compared to say the north coast. There were however, many more than you may have thought, certainly more than we see today! This is mainly due to the fact that we have cleared a lot of the rainforest's habitat. In the larger tracts of public land such as national parks and state forests, pest species such as deer are devastating what remains. Now I often hear "but there was never rainforest in my area in the past, even before clearing". Maybe so, or maybe not! The term 'landscape amnesia' refers to the phenomena that often what we see the landscape looking like now is how we think it has always been. Without decent records it is hard for us to really know whether rainforests were present in the highly disturbed landscape that we currently live in.

Research I have conducted suggests that rainforest was in fact more common before settlement. In particular Eden, Bega Valley, Tanja, Goalen Head, Verona, Tilba Tilba, Cuttagee, and Narooma all show evidence of a greater existence of rainforest. Does anyone recognise this stand of Dry Rainforest (Below) on Buckajo Road, just out of Bega? Does anyone remember a similar stand just outside Candelo, which fell apart 15 or 20 years ago? Ever wondered why they were there and how quickly they can vanish (not only from the landscape, but also from our minds?). Have you ever wondered what the banks of the Bega River once look like? Figure 4 showing Warm Temperate Rainforest along the Murrah River gives us a really strong hint, could this ever be restored on the Bega River?



**Figure 1.** Dry Rainforest is found on cliffs, rock scree and rocky ridges in rain shadow valleys. It is protected from fire by surrounding grassy ecosystems typical in the Bega Valley. Remnants can be seen in the Brogo-Warragul Range and Candelo areas. Small traces can be spotted around the valley such as this one in Springvale.

**Figure 2.** Cool Temperate Rainforest found in higher gullies (>650m) in high rainfall zone. The Monaro escarpment and higher ranges Mount Imlay, Gulaga (Mount Dromedary).

**Figure 3.** Dry Gully Rainforest, always found in gullies at low elevations on moderate fertility soils, rarely having flowing water. Dry Gully Rainforest occurs north from Wapengo Creek



**Figure 4.** Warm Temperate Rainforest on the Murrah River. Occurs in moist sheltered localities below 700m. Mostly on south or east facing gullies and on river flats away from the high flood energy zones of rivers, which are occupied by Gallery Rainforest (**Figure 5**).

**Figure 5.** Gallery Rainforest in south eastern Australia are restricted to the banks of swift-flowing or flood-prone rivers and streams below 560m

**BOOK EARLY to reserve a spot**

Perhaps you're wondering if rainforests ever existed on or near your property. The CMN is organising a Rainforest Exploration Field Day conducted by Bill Peel to help fill in a few of the missing pieces to this jigsaw puzzle.

Bill will provide participants with a tool to look at the landscape with new eyes so that we can 'time travel' and see for ourselves where rainforest might have occurred in our region in the past. He will talk about the different types of rainforest found in southern New South Wales (there are 7 types) and provide practical advice on how to manage, conserve and restore them.

Bill has an engaging style of presentation and a knack for converting the technically complex into clear take-home messages and actions that you can apply to your land or in your community.

If you wish to attend this FREE community field day, simply call or email to book your spot. Places will be limited, so get on with it!

**Contact Dan or Vickie:**  
**6492 5558 or [info@fscmn.com.au](mailto:info@fscmn.com.au)**



**Bill Peel** is a botanist, restoration ecologist, (with over 20 years experience in rainforest restoration) as well as being an author and teacher. He has extensive field experience in south-eastern Australia and is soon to have a book on rainforest restoration in south eastern Australia published by the CSIRO. He lectures in river restoration for post graduates at Melbourne University and also botany, ecology and restoration at his local TAFE. Bill is a founding member of the East Gippsland Rainforest Conservation Management Network ([www.egrainforest.org.au](http://www.egrainforest.org.au)).

## Revegetation from the very beginning

By Liz Clark, Community Seedbank Coordinator, Southern Rivers Catchment Management Authority

There's something to be said for the enjoyment you get from a successfully planned dinner party or even a holiday. With a little planning you can also add something special to your next revegetation project and enjoy the satisfaction of watching your trees grow.

Here are some examples that will give you a feeling of the revegetation process which considers the whole life cycle of a plants growth.

Firstly, let's look at how to get seedlings that suit your property. Watch the plants on your property or in a similar environment nearby. Choose those you want and wait till they flower and set seed. Collect the seed and propagate seedlings for your site. There is information about collecting and propagating on the CMN website. If propagation is not familiar to you and will spoil your enjoyment of the process, nurseries will often propagate plants from seed you supply.

Using a riparian landscape and some of its flora species as an example, we can follow the process from flower to seed and on to seedling in the ground.

Sallee wattle (*Acacia floribunda*) is common in riparian areas in the Bega Valley. It flowers around August (late winter) and the seed is ripe around Christmas. The enjoyable part starts with walking the river in winter looking at the wattle flower. Walk the same



area at the end of September to early October checking for young green pods on your chosen plants. A few trips may be needed to catch the seed when it is ripe in December, so start watching in the first week. Timing will depend on moisture and heat, in dry times the seed ripens quickly. While you are enjoying these walks you may notice another wattle shrub flower and set seed this is probably *Acacia elongata* whose seed is ripe just before the sallee wattle.



Small vanilla lily (*Arthropodium minus*) is a beautiful herb found in Bega Wet Shrub Forest remnants. When this plant is flowering it is easy to keep an eye on. Once the white to purple flowers drop however and the subsequent green pods form, it can blend back into its grassy surrounds. Mark the site of this plant on one of your walks whilst it is flowering in early to mid spring. The seed pods will turn brown, then dry and open to release the seed in January.

If you sow your wattle seed in January, with plenty of love and attention a decent sized plant can be achieved in 6 to 7 months. Tools of the trade like heat beds can speed up processes. Small vanilla lily seeds need to be stored for 2 to 3 months prior to sowing; excessive heat may stop germination and kill the seed. You can expect small vanilla lily plants ready for your site in 6 to 7 months from sowing or approximately 10 months from seed collection.

The minimum amount of time you need to allow for the journey from seed collection to revegetation seedling is 12 months. This is achievable if you use plants that have relatively short flower to seed cycles and all drop seed in the same season. Given 18 months you can achieve a wider range of species.

So if you take some time and plan for the plants you will be using in your revegetation project you'll enjoy the process and add to the satisfaction that you get from revegetating that special place.

Need a little help, missed that seed? The Far South Coast Landcare Association Community Seedbank has a seed store and may have seed local to your area. You can access seed and information on seed collecting in your local area through the Community Seedbank, contact Liz Clark on 6491 8221 or [liz.clark@cma.nsw.gov.au](mailto:liz.clark@cma.nsw.gov.au)

Liz can also advise on guidelines to follow when collecting seed and licences that may be required for some species or collecting from some vegetation communities.



*Photos: (left) Acacia Floribunda, very common along the valley's riparian zones, (middle) seed pods of Acacia cognata similar to that of A. floribunda but found in moist gullies, (above) the vibrant flower of Small vanilla lily, Arthropodium minus.*

## Grazing Grassy Ecosystems

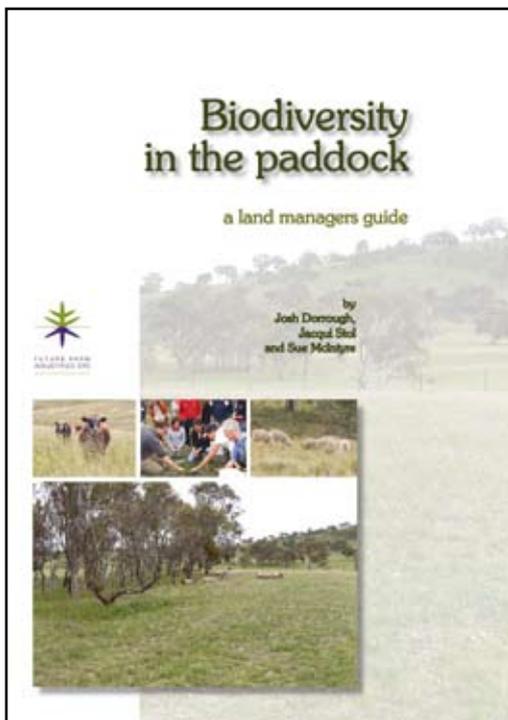
### Biodiversity in the Paddock - A Land Managers Guide

by Josh DorrOUGH, Jacqui Stol and Sue McIntyre.

Published by Future Farm Industries Cooperative Research Centre with funding support of Meat & Livestock Australia.

While not providing a recipe for action, Biodiversity in the paddock is intended to provide a starting point to help producers large and small consider alternative strategies. Ultimately producers and properties will have differing objectives and features - identifying these and combining them with on-going monitoring and knowledge acquisition will help guide decision making.

Although the research was undertaken on the slopes and tablelands, the results and guiding principles in the booklet are also applicable to the rainshadow grassy ecosystems of the Bega Valley.



29 page soft cover booklet

Available to download from [www.futurefarmcrc.com.au](http://www.futurefarmcrc.com.au)

#### Get a hard copy

The CMN can post you a hard copy, just drop us a line or email.

[info@fscmn.com.au](mailto:info@fscmn.com.au)  
6492 5558

## Grasslands Quiz Question

What iconic Australian grass species (common in the Bega Valley) is also a widespread native species in South Africa where, by coincidence, it is known as 'rooigrass'?

#### Answer:

*Themeda triandra* (also *Themeda australis*) - Kangaroo Grass

The widespread Kangaroo Grass, *Themeda triandra*, is one of the most recognisable members of the grass family (Poaceae) in Australia. *Themeda triandra* is considered by some to be two species, the African and Asian species *T. triandra* and a separate Australian species *Themeda australis*. As there does not seem to be enough distinguishable differences between them to warrant the split they are generally considered one species.

## 'Write it up'

**Free workshop**  
**Promoting your good work**

Friday 17th October  
Bournda

Presented by  
The Australian Association  
for Environmental Education

- \* Have you got a message to spread?
- \* Could others benefit from your successes?
- \* Do you want to develop the skills to clearly communicate your ideas?

For those of you involved in Landcare groups, producers associations or any group that aims to promote good environmental practise then you will certainly benefit from the 'Write It Up' workshop.

'Write it up!' is designed to encourage environmental and sustainability advocates to share their experiences through writing. It includes questions as starting points for reflecting, thinking and talking; guides for planning, checklists for reviewing—and examples drawn from four case studies that deal with very different problems and situations.

This workshop, accompanied by a manual, has been developed by AAEE, the national professional association for those who identify themselves as working in the fields of environmental or sustainability education. AAEE is committed to recognising, sharing and expanding current knowledge on good practice in sustainability and environmental management.

RSVP: Faith Thomas on 0439 724 945 or [faith@livingschools.com.au](mailto:faith@livingschools.com.au)

