



supporting landholders with native vegetation

conservation management network

Issue 12 July/Aug 09

## Cryptogams: From outer space or in your paddock

*When you think of your patch of native vegetation, be it naturally established or replanted, usually you'd admit there are trees, shrubs, grasses, animals and then all those other unnamed unknowns like mosses, lichens etc. What are those unknown entities, what do they do and how are they important to the health of your land?*

A few common names for these 'non-plants' and 'non-animals' are cryptogams or microbiota. Examples of collective names given to clusters or communities of different species of these are microbiotic crusts, cryptogamic crusts or the soil crust.

Cryptogams are non-vascular plants that lack the specialised fluid conducting tissues typical of higher or vascular plants. They include algae, lichens, bryophytes and fungi. (In the strictest sense fungi, some algae and lichens are neither plants nor animals but rather are classified into several separate kingdoms). Cryptogams are a specialised and diverse group that includes organisms as varied as single celled algae through to very large and complex colonies of lichen and fungi that may stretch over metres or even hectares.

Cryptogams grow predominantly on rock and wood, most of you would recognise the image below as a lichen that grows locally. Cryptogamic soil crusts



CMN facilitator, Dan Williamson's foot, beside an example of a cryptogamic crust, in this case lichen (what looks like grass) growing on the forest floor on the eastern side of Black Range.

however, form a surface layer on the soil and are not known to be all that common in the Bega Valley. However I found a few examples on a recent bush bash off the Black Range escarpment just south of Bega.

Cryptogams are one of the most poorly known and studied groups of all organisms. They are extremely diverse, with estimates putting the number of fungi species alone at 1.5 million worldwide. The distribution, abundance and ecology of all but the most common species in Australia are largely unknown.

The role of cryptogams in the healthy functioning of ecosystems is fundamental to the supply of ecosystem services on which all of society depends. They are the major players in breakdown of organic matter and release of nutrients into the environment. There is evidence to suggest that they can play a role in seed germination of some plant species, help increase water absorption and hold the soil together buffering against water and wind erosion.

The fact that cryptogams are poorly known and not as charismatic as an orchid or a panda, should not lessen their status in conservation efforts or decrease their true value to the community

Check out [www.anbg.gov.au/cryptogams](http://www.anbg.gov.au/cryptogams) for more detailed info and photographs.

## CONTENTS

Cryptogams	1
Coordinators Column	2
Who is Behind the CMN	2
Feral Animal & Weed Workshop	3
Wyndham/Towamba Local Link	3
Woodland Soil Seedbank	4
Attracting Birds	5
Project Updates	6
Ask an Expert	7
Koala Forum	7

## Contact the FSCCMN

Dan and Vickie Williamson  
 PO Box 816  
 Bega NSW 2550  
 (02) 6492 5558  
[info@fscmnm.com.au](mailto:info@fscmnm.com.au)  
[www.fscmnm.com.au](http://www.fscmnm.com.au)

## Coordinators Column

Winter is here which means watching the grass grow is a pointless process. Anything planted since summer will just hang around until probably September when growth should take off. If we get a little more rain over the chilly season the native veg should be spectacular this Spring.

I came across two great bits of info lately which inspired me to think differently about native veg, so I've summarised them both for you on page four and five. The first was an amazing research paper about native seed stocks in the soil, you'll be surprised by the results! In the next edition I'll try and find some info about how to work with the seed stock to encourage regeneration. The other was a management guide for landholders about creating diverse bird habitat.

Vickie is my main 'critical' editor for this newsletter and often pulls me up on the use of Latin names for plants/animals instead of their more widely understood common names. Common names can be confusing. Some species have numerous common names, others have none and some common names can be used for various species. But there is also a niggling voice inside me saying "let them pick up an ID book and find out for themselves!" It's a good excuse for having more native veg books around or immersing yourself in literature on the web.

Lastly, those astute readers may be asking where May and June got to! Yes, I have missed two months of newsletter. This was due to a few workshops all running close to one another coupled with a holiday and some personal matters to deal with. Never fear, you haven't missed an issue, just a lag between issues.

Both Vickie and I hope you are all well and starting to plan for Spring activities. Don't forget to send us your 'Ask an Expert' questions or us a line if you think we may be able to help you with your native veg matters.

DAN

## Who is behind the CMN ?

The Far South Coast Conservation Management Network (CMN) supports landholders to manage native vegetation on their property and caters to all land holders and vegetation types.

The CMN is funded and supported in various ways by the Southern Rivers Catchment Management Authority, Department Environment and Climate Change and Bega Valley Shire Council.

These agencies are working with landholders to protect native vegetation on private as well as public land. The CMN's role is to provide motivation, knowledge and skills support to landholders to ensure ongoing management and care is worthwhile for the landholder and the environment.



## Feral Animal and Weed Management in Conservation Areas

### A forum for those caring for our biodiversity 20th June

We recognise some management issues are harder in sensitive areas such as native vegetation. Weed and feral animal control are two in particular, so a specific forum was held recently in Wyndham to tackle these two very important issues.

The day started with a hearty warm lunch of soup, sandwiches, sweets and good coffee with plenty of time to mingle. We then broke the day into two sessions – one on feral animals and one on weeds. Twelve specialist field and technical staff from five natural resource management agencies were on hand to answer questions and present information. These were NSW Department of Environment and Climate Change (DECC which includes National Parks and Wildlife Service), Livestock Health and Pest Authority (LHPA formerly Rural Lands Protection Board), Southern Rivers Catchment Management Authority (CMA), Bega Valley Shire Council (BVSC) and the CMN.

One and half hours was spent on feral animal control and was clearly nowhere near enough time to cover all issues and management options in detail. Rabbit and fox control seemed to be most landholder's main concern. As you would expect many participants wanted to talk about safe and responsible use of poison for feral animal control. Many questions were asked including how to avoid non target kills, when is the best time to bait, how to bait, where to bait etc. The poison topic is a hot one and clearly more awareness is needed about how to best use it. Some links are included below that may help you understand the techniques and reason for using or not using.

The session on weed control in native vegetation was more varied in terms of the problems participants had. The first question asked of them was what are some of the weeds people are dealing with? The list of significant weeds exceeded fifteen. Blackberry was one main focuses of discussion along with grass weeds such as Serrated Tussock and African Lovegrass in native grassy woodlands. We could elaborate more about this but instead have used the space to provide a number of links to weed management web sites and resources available that may help in weed management in native veg.

One more important point that came from the day - and the best has been saved until last - MANAGEMENT PLANS! It became increasingly clear as the forum went on that one thing most landholders were missing was a management plan for feral animal and weed control. There was a lot of great knowledge in the room, landholders really understood the issues, but lacked a clear approach to dealing with them. Developing a management plan isn't easy and to do it comprehensively needs time, knowledge and help. The CMN has a clear role to help landholders develop management plans for their native vegetation which is linked to a whole farm plan and has sections on weeds, feral animals, soil health, biodiversity etc etc. If funding is kind to us next year, look out because management plans will be on our radar.

## Wyndham/Towamba Local Link

17th May 2009

Nearly 40 landholders from the Wyndham and Towamba districts gathered on a breezy Sunday for the most recent of CMN Local Links.

There was a diverse range of landholders and being a close knit community already, most people knew each other but it was particularly pleasing for us (CMN facilitators) to realise that a few of the attendees were new to the area and were meeting up with like minded 'neighbours'.



Setting for the day. Not bad!

There were discussions around a large range of feral animals including the obvious rabbits and foxes but it also seems feral deer and pigs are on the increase and having a big impact on some small pockets of land.

A few landholders shared their concerns about the requirement for holding a chemical use certificate to bait for feral animals. In the past landholders have not needed the accreditation, but with recent legislation changes, anyone wanting to use 1080 will need the certificate to purchase and use it. The main concern was that it can cost a few hundred dollars and two days in a training course. Most landholders felt this was too much money and time.

This issue is of concern to all landholders who are keen to actively manage feral populations. We are on the case to try and overcome this hurdle and looking into how to subsidise and reduce the time to gain accreditation.



## Woodland Soil Seed Bank - An Unnoticed Potential

*If you have land that you want to restore native vegetation to or increase the biodiversity of, then sometimes it pays to consider the unseen. Until recently not much has been known about the contents of the soil seed bank in grassy woodland vegetation types (like that found in the Bega Valley). So, if someone asked you how many seeds might you find in less than half a cubic metre of woodland soil... would you guess 300; 3,000 or 30,000?*

Many woodland remnants today are found on private property surrounded by productive agricultural land. Most have been disturbed by landscape fragmentation, livestock grazing, weed invasion, nutrient enrichment or soil compaction. A research project by CSIRO has been conducted on small patches of woodland within agricultural landscapes. As part of this work the soil seed bank of eleven woodland sites in the Boorowa and Young districts are being investigated. The remnants are located on private properties and travelling stock reserves with a long history of livestock grazing; five of the sites have had livestock excluded for up to twelve years.

Soil samples were collected in January 2008 and placed in seedling trays in a glasshouse. They were watered daily. Each new seedling that emerged was coded and grown up in another glasshouse until it could be identified. Amazingly, additional species are still germinating with the addition of water, and if time permits additional germination treatments will be attempted.

For many understorey plants, little is known about their seed dispersal or how long the seeds will survive in the soil seed bank. This research set out to find if there were native plant seeds in the soil seed bank which were not present in the standing vegetation, and if there were native plant species which were rare as adults but with a large seed reserve in the soil. The research also wanted to see if the soil seed bank changes with land use intensity and the current grazing regime.

A viable soil seed bank was present at all sites, and it was much larger than expected. After eleven months of germination, over 24,000 monocot seedlings and 7,000 dicot individuals have emerged from 0.43m<sup>3</sup> of soil and more seedlings are continuing to emerge. Monocot seedlings have one cotyledon (the first leaf/s to emerge from a germinating seed), in contrast to the two cotyledons typical of dicots. There is much greater diversity in the seed bank than was detected in the vegetation surveys. At present there are around 80 monocot species and 110 dicot species, though some of these are expected to turn out to be the same species.

Exotics grasses (e.g. rye) and forbs (e.g. Paterson's curse) were the first to emerge and respond to watering. Several exotic species not detected in the vegetation surveys were identified. This experiment could indicate future weed problems under changed climatic conditions or disturbance regimes. The native plants are growing and flowering much slower than most of the exotic species and the correct identity of many will not be known for months. Native

species that prefer moist conditions, including sedges (Cyperaceae family) and woodrushes (Juncaceae family), which had not been found in the field over the past three years were found to germinate under the moist glasshouse conditions.

Removal of livestock grazing appears to have altered the seed bank, with both the composition and abundance of species differing between livestock grazed sites and ungrazed sites. So far the ungrazed sites have the greatest diversity and abundance, and sites managed as travelling stock routes the lowest diversity and abundance.

The diversity and abundance of germinants so far suggests that the seed bank could play an important role in restoring the understorey of woodland remnants. Just as past and current management practices impact the current standing vegetation, they also appear to impact the capacity of seed bank to germinate.

By Elizabeth Lindsay,  
CSIRO Entomology



## Attracting Birds to your Block

*There is no doubt that birds are the most conspicuous animals in rural and urban environments. You don't need to do much to attract birds into your garden or broader property. BUT... to make your area more attractive to birds (and other animals for that matter) there are a few simple things you can do.*



Scarlet robin.  
Common in the Bega Valley, often seen perched on a branch looking for insect prey. [Birdsinbackyards.net](http://Birdsinbackyards.net) to find out more

The info below has been adapted from a downloadable set of guidelines available at the Birds in Backyards website. It is a well designed site with heaps of info and a pretty easy to use 'bird identifier'. See [www.birdsinbackyards.net](http://www.birdsinbackyards.net) (WARNING can turn seemingly 'normal' people into twitchers!)

### Survey your site

#### What birds are using the site and are in the area?

Know which species you are trying to target, for example small birds or parrots. While in the short term, only species located in the immediate area may use the site, over the long term as the plantings develop and mature, the site will provide important habitat for an even wider range of species. Therefore the future value of the habitat should also be considered. A simple 20-min bird survey conducted in and around the site for at least a month, preferably in spring to ascertain breeding use, is a good first step.

**What vegetation is currently available?** Is it very simple, such as open lawn and a few scattered trees, or is the site structurally complex with lots of layers of different vegetation, eg. shrubs of different heights? A more structurally diverse site will support more bird species. In understanding the habitat currently available you can then select the vegetation that needs to be planted.

**Is the site connected to other vegetation?** Increasing connectivity through corridor systems (whether that is linear such as vegetation corridors or as stepping-stones) will allow birds to move between larger patches of vegetation.

**What do the birds require?** While the amount and type might vary greatly, all birds need food and water, shelter and a place to nest, whether that is a dense thicket, tall tree or hollow. Most of these requirements can be met by the availability of suitable vegetation. However, if you have no old trees with hollows, you may want to experiment with nesting boxes. Use the internet to research design and placement depending on what birds you are targeting.

### What to plant

**What to plant - species:** We recommend locally native vegetation grown from locally collected seed. This vegetation was traditionally used by birds in the area and is best suited to the conditions of the site. Use a variety of different species throughout the planting rather than a single, or select few

plants. Properties that contain a broad range of plant species, are more likely to support a broad range of bird species.

**What to plant – structure:** The key is to create structural diversity, i.e. lots of plants and lots of different layers. Having a mix of trees, shrubs of varying heights, ground covers and open grassy areas will maximise the numbers of birds using a site.

**Native plants do not need to look messy.** Small birds like dense shrubs. Pruning can encourage a much denser growth habit, which provides good protection for small birds. Pruning can also help create a more formal and neater garden, which many prefer in their house garden areas.

## Birds

### Large Nectarivores (nectar feeders)

Honeyeaters, wattle birds and some parrots like shrubs and trees for foraging, perching and nesting (some require hollows for nesting) Banksia, Callistemon, Eucalyptus, Grevillea, Hakea, Melaleuca,

### Small Nectarivores

Smaller honeyeaters spend most time foraging and perching in shrubs but also use trees. Generally nest in dense shrubs. Banksia, Callistemon, Eucalyptus, Grevillea, Hakea, Melaleuca, Epacris, Correa

### Granivores (Seed eaters)

Parrots, finches and pigeons utilise shrubs and trees for perching, nesting and foraging but also forage on mature grasses. Trees and shrubs: Acacia, Casuarina, Leptospermum. Grasses: Lomandra, Themeda, Poa

### Frugivores (fruit eaters)

Pigeons and cuckoos feed in Ficus, Syzygium, Brachychiton

### Insectivores (insect eaters)

Wrens and Robins will feed on insects and other invertebrates either on the bark and foliage of shrubs and trees or on the ground. Dense shrubs are important for protection and nest sites as well as open grassy areas for foraging.

### Carnivores (Meat eaters)

Birds of prey ie Currawongs, Butcherbirds, Owls will prey on other birds, reptiles, frogs, mammals, invertebrates. Tall trees for perching, roosting and nesting. Some require hollows for nesting.

## Wetlands Carers Sea Spurge Success

### Regional Wetland Forum June 16th & 17th

The biggest event so far for the Wetland Carers Network took place at Batemans Bay — the 2 day regional wetland forum. The aim of the forum was to bring together people from around the Southern Rivers region and to provide an event to invigorate and encourage their conservation work on wetlands.

The forum was attended by over 50 people from 34 different organisations/groups. It featured keynote speakers, case studies and stories of wetland projects, a visit to local field sites and a social evening.

Over the two days 12 short talks about wetland projects were given by a range of people from around the SRCMA region, and summaries of these talks are included in the Wetland Carers Network newsletter.

Almost all participants at the forum decided that they wanted to exchange contact details and stay in touch so hopefully this will lead to good things for our wetlands. If you are keen to keep up to date on wetland management then contacting the Wetland Carers Network is the first thing to do. Contact Renae Riviere [riviere@conservationvolunteers.com.au](mailto:riviere@conservationvolunteers.com.au) to find out more and/or receive the newsletter, 'A Good Reed'.



*This is an example of a great success in dealing with a potentially major weed burden early and effectively. We headlined the project in our last newsletter but its current status was worthy of a follow up mention as the outcomes have been so encouraging. To all landholders dealing with weed problems (i'd say most of you) this project shows that even on a large scale, weeds can be brought to justice!*



*Weeding Sea Spurge along the entire south coast is a tough job but someone has to do it! See below for details to join a beach team.*

All Bega Valley Shire Council (BVSC) beaches from Wallaga Lake to Cape Howe have now been searched and any sea spurge (*Euphorbia paralias*) and beach daisy (*Arctotheca populifolia*) removed. These are two invasive exotic beach plants that left alone have the capacity to drastically impact the amenity of our beaches.

Credit for this achievement (the weeding of in excess of 100km of coast, some very difficult to access) goes to local volunteer groups, dedicated individuals and above all to work crews provided by the Merrimans, Bega and Eden Local Area Aboriginal Land Councils as part of the Project.

Workers found that while sea spurge was present on virtually every beach and within some tidal estuaries its impact was very uneven. Massive infestations were weeded on Haywards (Camel Rock) and Murrumbidgee beaches in the Bermagui area and on Middle and Main beaches at Merimbula. Elsewhere volunteers have

already achieved excellent control on Cuttagee, Baragoot, Tathra, Short Point and Aslings beaches.

Stuart Cameron, co-ordinator of the South Coast Sea Spurge Control Project, said that the Project's funding will allow for two or three more thorough searches/weedings of the Shire's coast over the next 18 months, by which time these invasive plants should be uncommon on our beaches. However occasional plants will always turn up from sea-borne seeds coming from Victoria and Tasmania.

After the project finishes locals will need to take on beach weeding, as many good folks already have. If you are taking a beach stroll spend five minutes to search for and pluck out these beach invaders. Just take care to protect yourself from the corrosive milky sap by wearing gloves. And if you spot any plants establishing on beaches that seem unfamiliar please contact the BVSC weeds officers on 6499 2222.

## Ask an Expert

*'Ask an Expert' questions to:*  
[info@fscmn.com.au](mailto:info@fscmn.com.au)  
or PO box 816 Bega

*Question: I have about 50 tubestock seedlings that didn't get planted this autumn when I wanted to. Now that we are into winter I would like to hold off until early Spring. They are getting a bit leggy and tall. Should I prune them back or let them grow tall? They are mostly Eucalyptus, Casuarina and Acacia. Thanks*

### Response from:

**Len Gazzard**

**Project officer, Southern Rivers Catchment Management Authority**

**Contact: 6491 8210 or [Len.Gazzard@cma.nsw.gov.au](mailto:Len.Gazzard@cma.nsw.gov.au)**

*Len has been working on landscape and biodiversity restoration projects with the CMA for five years and the Far South Coast Landcare Assoc. for two years prior to that. He had his own farm for 20 years where he acquired the practical skills and knowledge of farming and repairing the land rather than destroying it.*

There are two ways to go about this. One would be to leave them as they are and when planting time comes around, plant them as deep as you can. It doesn't matter that the stem is being buried so long as it isn't too young and sappy, but if your plants are getting 'leggy' they will certainly be OK to plant deeply. This is often referred to as 'long stem planting' if you Google it you'll find heaps of info. Keep up the water but don't add fertiliser as this will continue to encourage growth.

The second answer would be to trim them. You can cut back as much as two thirds of the plant provided you leave some foliage still on the plant. This will mean that either before you've planted them or once they start to grow in the ground they will coppice, meaning that many stems will form from the cut. Once they are established you can either leave them and a main stem will eventually form or you can choose the strongest looking and remove the rest. All this means is that you will need to go back along your plantings and prune. This may not be a bad thing as you can assess their health and other things like weed growth as you go.

### Some other things to consider.

- If you are keeping tubestock for long periods, make sure the bottom of the pots are not in direct contact with the ground, cardboard or other material the roots could grow into. This way the plants roots stay in the pot and won't be broken off when removed.
- Once trees are in the ground and growing nicely if you want to rapidly increase the height and trunk thickness trim off lower branches. You can usually trim up to 2/3 of the lower foliage. However unless you are trying to produce power poles stop the process once the lower branches are above say 2 metres. This is usually the height above browsing stock or you and your mower.
- If a tree, either a natural seedling or planted tree has been damaged or is performing poorly look for basal shoots and cut off most of the top. The tree should coppice from the base or remaining stem. Select the best new stem and remove the rest. A taller healthy new tree should result. If this does not work than the roots may be damaged. Remove the tree and plant a new one.

## Koala Forum

**Saturday 25th July  
11am – 3:30pm**

**The Crossing Land Education  
Trust, Bermagui.**

Come to celebrate, hear and see the results of the recent 2 year Far South Coast Koala Survey.

### Guest Speaker:

Chris Allen, Threatened Species Officer and Koala Project coordinator with the Dept. Environment and Climate Change (DECC)

### Program

Arrive early by 10am and have a paddle in The Crossing canoes otherwise for an 11am start. Chris will present survey findings followed by lunch then an open forum to discuss the future of Koala populations on the south coast.



### RSVP:

Morning tea, lunch and drinks will be provided so RSVP is essential. Please call Sundaramani on 6493 3662

### Directions:

Turn into Lamont St (first street on the southern or main town side of the Bermagui Bridge), Turn right at crossroads at top of hill (Nutleys Ck Rd - but no sign post). Continue west on Nutleys Ck Rd for 4km on dirt. Take the third right after Black Marlin and River Roads signposted "The Crossing". Keep following "The Crossing" signs until you come out of the bush and through a paddock, We are at the end of the dirt track on the Bermagui River.