



**Wollombi Valley Landcare
Group
News for December 2010**



Caring for Wombats followed by a Christmas Party

Saturday 11th December 2010 at 5:00 pm

The next Landcare meeting will be held at Sue & Graham Taylor's property, Belalla, 224 Dry Arm Track, Laguna.

There will be a short presentation by Louise Hicks and Chris Jackson on how to care for Wombats that have mange. After that it is party time with, we hope, no rain and just an enjoyable evening.

As usual this is a "bring your own everything" event. We will provide barbeques for those who want to barbeque, bread, sauces, tea and coffee. You will need to bring your meat, drinks, plate and cutlery, and a salad or dessert to share. Also a folding chair might be handy, in case we run out, and Aeroguard for when the mozzies come out.

Even if you haven't made it to a meeting during the year come along anyway, celebrate the end of the Landcare year and get in some practice for the festive season. Everyone is welcome. We look forward to seeing you there.



"Snow in Summer" – Melaleuca linariifolia, in flower - a sure sign Christmas is approaching.

For more information contact Graham Taylor on 4998 3326 or Jane Mowatt on 4998 8158.

The views expressed in this newsletter are not necessarily those of Wollombi Valley Landcare Group Inc, or any other Landcare agency or government department, but are presented to promote discussion about and the practice of sustainable land use and environmental responsibility.

Waterwatch on the Wollombi Brook

The last Landcare meeting was held at the waterhole in the Wollombi Brook on the 16th October at the bottom of the stairs off the Wollombi-Cessnock Road in the village was poorly attended, no doubt in part due to a number of rain showers in the morning and blustery winds in the afternoon. But despite these discouraging conditions, in the shelter of the high sides of the Brook and the dense trees and foliage all was peaceful and calm. Even the Federal election wasn't a distraction!

For those that attended it was an opportunity to try out the techniques that the local school children have been using as part of the Bugwatch program.

Ingrid Berthold, Waterwatch Co-ordinator at the Hunter-Central Rivers Catchment Management Authority was there with the knowledge and gear we needed to seek out and identify the tiny creatures that live in our waterways and are a benchmark of the health, or otherwise, of the Wollombi Brook. We even saw one of those wretched European carp!



Armed with bug nets we started dredging for all those thousands of tiny creatures living in the water. The aquatic invertebrates that were found in the Wollombi Brook were: mayfly nymphs; water treader; caddisfly larvae; freshwater shrimp, water mites, freshwater snails, damselfly nymphs, beetle larvae, mosquito larvae, water boatmen. The Stream Pollution Index rating was calculated to be FAIR. This indicates that the aquatic health of the Brook at Wollombi was MODERATE on that day.

For more information on Waterwatch, bug surveys, and a copy of the Bug Detective Guide, go to http://www.hcr.cma.nsw.gov.au/default.asp?section_id=44

After completing our survey we adjourned to the Tennis Clubrooms where we shared our experience and recent activities with Ingrid and Su Morley from the CMA over a cup of tea or coffee and a slice of cake.

Graham Taylor

Wombat Care

A small group of Buralong residents met at the Dairy on Saturday 20th November with Louise Hicks and Chris Jackson to hear of their efforts in treating wombats for mange. Discussion followed covering the attempts that various groups had tried when attempting to care for wombats. A couple of Buralong residents are currently treating wombats at two separate sites. A demonstration site was set up near the Tiny Pond in the Causeway Paddock. This site will continue to be monitored and observed.



Lesley Williams

Healthy soils, healthy water

Saturday 27th November was a beautiful warm day in the valley and ideal for the workshop that the Hunter-Central Rivers CMA (Catchment Management Authority) had organised.

The workshop/field day was open to anyone in the valley and about 25 people took the opportunity to learn more about nutrients, a welcome asset in our soils, but not in our waterways and dams.

The workshop commenced at 9 AM in the Wollombi Hall with a series of speakers ready to share their knowledge, followed by a barbeque luncheon and visit to a property to take some soil samples, do some tests and discuss the results.

Su Morley from the CMA welcomed everyone and gave an introduction to what was planned for the day.



[Su is the Lower Hunter Community Support Officer so is the first point of contact for anyone seeking assistance and support from the CMA. She can be contacted by phone on 4938 4924 or on mobile at 0417) 413 026 or by email: susan.morley@cma.nsw.gov.au]

Ingrid Berthold who is responsible for the Waterwatch program at the CMA then gave a presentation on water quality in the Wollombi Brook based on annual surveys, the presence of micro organisms and invertebrates as indicators of the health of the stream. The risk of high nutrient levels in the water, their source and potential to cause algal blooms and measures to prevent their entry into our streams was discussed.

This was followed by was by presentation by Lorna Adlem from the CMA who has been working in the valley for many years and is leading attempts to identify and remove infestations of Salvinia. Lorna also spoke of the many other water plants, some good and some bad that can be found in some of the waterways around Wollombi.

After a break for morning tea the presentations resumed with Sally McInnes-Clark, a Senior Environmental Scientist from the NSW Department of Environment, Climate Change and Water who gave a very interesting account of the key soil factors; geology, landscape, climate, organisms and time and to understand the distinct characteristics and features of the soils of the Hawkesbury, the Watagans, Laguna and Wollombi. Her final message: *“Soil is precious – it is all you get.”*



The next speaker was David Brouwer from the NSW Dept. of Industry and Investment who is based at the agricultural college at Tocal. David has written a number of books and publications on land use and property planning, including "Fertiliser Essentials", so was well qualified to talk on the use of fertilisers and the need to understand the analysis and its suitability for the crops you want to grow and the possibilities to use chicken litter. David also gave an interesting account of the cropping experiments, the successes and failures that have been conducted at Tocal. He also explained the eight land capability classes and why they should be the basis for all land use decisions.

The talks concluded with a presentation by Skye Moore, a Native Vegetation Officer at the CMA, on fungi and their role in the recycling and sequestering of carbon, their presence in many plant types, leaf litter and the decomposing of plant material, all important aspects in building the organic matter in the soil and the role of *Glomalin* protein produced by fungi that is the "glue" that binds the particles of our soil together.

Following the presentations at Wollombi Hall there was a delicious barbeque luncheon at Lindsay and Loris Self's property then a paddock "walk and talk" and soil testing demonstrations lead by Sally and David.

I think everyone who attended went away with new knowledge and ideas and an appreciation of the effort by the CMA and their staff (Su, Ingrid, Lorna and Linda Richards) in organising a very professional field day.

Graham Taylor

Plant propagation workshop

Once again, we have to thank Evelyn Bloom for organising and hosting the propagation workshop at her house and garden on Saturday 16th October.

Propagating from cuttings from shrubs growing locally is the cheapest and easiest way of acquiring large numbers of plants guaranteed to be genetically suited to the local environment.

Participants came home with a cuttings box that Evelyn had showed us how to make from a recycled polystyrene broccoli box. We took cuttings from native shrubs, some from Evelyn's garden and some contributed by Shelagh Brigg and Judy Brown and filled our boxes with a range of native shrubs-to-be.

Anybody who was put off by the weather (remember that wind and the trees coming down?) can contact Evelyn (4998 3316) for the makings of a cutting box.

Judy also brought some Flannel Flower, *Actinotus helianthus*, seeds and showed us how to "smoke" them. This mimics the effect of a bushfire and triggers germination. Now I just have to decide where to spread the generous number of smoked seeds Judy gave us to take home.

Our thanks to Evelyn for the time and effort spent in organising the morning and for providing morning tea for us all. Let's hope we can persuade her to do it again next year.

SEED SOURCES - CONSERVATION VERSUS PRESERVATION

by Dr. Julia Playford

If you intend planting trees on your farm to provide a wildlife corridor or to conserve the local bushland, genetics is important in the selection of seed and seedlings.

Conservation versus preservation

There is a distinct difference between preservation and conservation of a species or community. Preservation of the species means maintaining it for the short term. Conservation means to maintain a species with the potential for long-term evolutionary survival. This means creating the conditions for a species to continue to survive and adapt over thousands of years. We should aim for conservation: this means making minimal changes to a species, while reducing the impact of interference by humans.

Plant local seeds

The trees in your local area have a specific genetic make-up or gene pool. This gene pool differentiates them from trees of the same species in another area. The use of the gene pool is determined by the amount of gene flow - the dispersal of seed and pollen between trees. We can assess this distinction by use of biochemical and molecular methods. **Long-term conservation relies on the maintenance of a mosaic of different genetic populations.** This allows for the potential for evolution and adaptation.

Current conservation policies only consider the significance of a species. However, **much of the world's biological diversity is within species - that is, genetic variation.** This variation is particularly significant because it is essential for long-term evolutionary survival of a species. If trees planted on farms come from genetic stocks that are not local, then, over time, the local gene pool will be corrupted and some of Australia's biodiversity will be lost.

It is preferable to plant seeds or seedlings for reforestation from the local area. This will prevent the mixing of genetically distinct populations. The end product of mixing populations from all over the place is genetic uniformity in following generations. This means there will not be a genetic mosaic for evolutionary potential. Planting seeds from a local area will ensure that the genetic signature of your area is maintained. This genetic type in future generations may be the only one resistant to a particular disease or the only type able to survive under conditions of global warming.

Plant seeds from large populations

Interbreeding can, however, be a problem if there are very small numbers of individuals in isolated populations in your area. Interbreeding is when related plants or animals breed. It results in in-breeding depression, which means that the plants are much less likely to survive in the long term; they are smaller and produce less viable seed. This is bad news for long-term conservation! In-breeding occurs when a tree is in a paddock by itself (the ultimate in-breeding is selfing) or when it is part of a small population. If your nearest stand is a small population of ten or so individuals then it is worth looking further for another nearby population.

For the same reason you should always collect seed from as many trees as possible and mix them together when you are planting. Remember that if you are planting for long-term conservation you have to think twenty generations ahead of today. If you have only collected seed from a few plants, in twenty generations trees in the population will all be breeding with relatives and will be experiencing in-breeding depression. I would recommend collecting from no fewer than ten trees and mixing together equal numbers of seeds from each tree before planting.

Conservation (rather than preservation) of rare species

If planting rare species, you will need to be even more careful because what you do to the population will have a more significant effect and may decide the species' fate. In this case, the most important thing is preventing even more in-breeding than is probably occurring now. If you collect a kilo of seed from one plant which is flowering well this year and ten or so seeds from all the other trees and plant them in those ratios you will hinder the chances of survival of that species. You will have significantly increased the number of individuals (good for preservation) but you have also increased the chances of inbreeding depression in the population, which won't allow evolutionary change. Conservation is a slow process. It is best to plant an equal number of seeds from each tree, i.e. ten seeds from each tree, and then wait for the plants to grow and reproduce. IF you wish to let them continue without further intervention make sure that seedlings will be able to survive (by fencing the area, for e.g.) or if you want to plant more seeds in other areas, collect equal numbers of seeds from your trees once they have matured and reproduced and plant them.

Doing something about the large areas of land that is deforested is better than doing nothing, but if you can take the time to do the best possible job it will be well worth the effort. We created the conservation mess by being in a hurry, so let's fix it by doing it slowly and properly.

Reprinted with permission from Dr. Playford of an article in Big Scrub Landcare Newsletter, Autumn 1997, and also in Subtropical Rainforest Restoration Manual produced by the Big Scrub Rainforest Landcare Group, July 2005.

Our next meeting in February....

For our first meeting in the new year we have invited David Edwards from the University of NSW - School of Biological, Earth and Environmental Sciences, to provide a BIG picture presentation on the Geological Evolution of Australia with particular emphasis on NSW and, of course, the Sydney Basin.

David has for many years been bringing his students on field trips that include sampling and reporting in the Wollombi Valley, including Dry Arm, so he is very familiar with our region and the research that has been undertaken by others including Professor Wayne Erskine.

The story will be one of explaining why the landscape looks like it does in terms of the geological controls on the environment. This has implications for the overall style of landforms e.g. soft Permian rocks of the Hunter = broad valleys with low relief whereas Wollombi has resistant Triassic sandstones = steep narrow valleys with high relief.

Of course to tell this story we must trace right back to the origins of the rocks (and indeed the Australian continent) themselves.

And the implications extend far beyond just the overall landform style. It impacts on the river styles and sensitivity to change as a function of flow confinement and flood plain style and also relates to sediment and soil properties, e.g. sandstone basically breaks down to yield quite infertile and well-drained sandy soils and show how the big picture view of the environment relates to the farm scale perceptions and how this might give an insight into rates and time-scales of change.

Sounds interesting. Watch out for our next newsletter with details of the date, time and venue.

Some times it is a struggle to find enough material to fill our newsletter. But I know there are those amongst our membership that have the skills to make a contribution. So if you know something or have an experience that you would like to share with other members then why not get out the pen or the keyboard and send us your thoughts for possible inclusion in the next newsletter? Perhaps you have heard about an activity that is being planned and might be of interest to Landcare members then let me know.

Graham Taylor

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Upcoming Workshop

The Hunter-Central Rivers CMA are organising two free one-day workshops for Hunter landholders workshops titled Managing Land for Carbon on the 18th and 19th January 2011

With carbon trading likely to be introduced, what will this mean for landholders who can grow or preserve vegetation on their property? What actually is soil carbon and how would one develop a property plan to enter into the new carbon markets that are emerging?

On 18th and 19th January, two (2) free workshops are being held for Hunter landowners. This is an accredited course that covers the policies, technicalities and practicality of soil and forest carbon. It is delivered by a presenter with five (5) years experience in the field and incorporates a preliminary land assessment and impartial advice.

Participants will be sent materials to prepare before the workshop and should come away with a better understanding of carbon trading and how to increase productivity and develop a soil carbon plan for their own property.

Cessnock 18 January 2011

Upper Hunter 19 January 2011

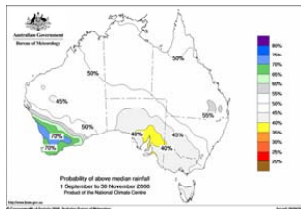
Places very limited! Register immediately to secure a place by calling 6672 2770.

Registering promptly will allow the CMA to forward landholders the working materials (such as farm planning maps) before the Christmas holiday break.

This course has been developed by Industry & Investment NSW (I&I) and sponsored by the Hunter-Central Rivers Catchment Management Authority (CMA), with funding from the Australian Government's Caring for our Country program.

Managing Land for Carbon

A free one-day workshop for landowners, developed by Industry & Investment NSW and sponsored by the Hunter-Central Rivers Catchment Management Authority (CMA), with funding from the Australian Government's Caring for our Country program



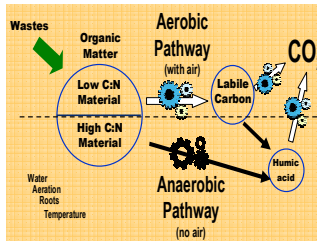
Seasonal Risk Management



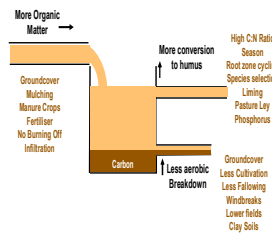
Carbon Trading



Where



Why



How

Paddock Carbon Plan				
Paddock Name	Properties	Soil	Management	Management Options
Example Paddock	Class: 10 Terrain: Light Clay Groundcover: 100%	Soil: 100 pH: 5.5 Salinity: 0	Management: Subsoil till & fertiliser	OM Supply: 10000 kg/ha Conversion: 10% Emission: 1000 kg/ha
Class:				OM Supply:
Terrain:				Conversion:
Groundcover:				Losses:
Class:				OM Supply:
Terrain:				Conversion:
Groundcover:				Losses:
Class:				OM Supply:
Terrain:				Conversion:
Groundcover:				Losses:

Paddock by Paddock Plan

This is an accredited course that covers the policies, technicalities and practicality of soil and forest carbon. It is delivered by a presenter with five years experience in the field and incorporates a preliminary land assessment and impartial advice.

Two courses will be sponsored by the Hunter-Central Rivers CMA for a limited number of landowners. Register immediately to secure a place!

**Cessnock 18 January 2011
Upper Hunter 19 January 2011**

Register by calling 6672 2770

Comments by people who have attended the course:

'Very good course providing excellent level of knowledge on a difficult subject'

'Well presented. Good technical information. No fluffy stuff'

'A most essential course for landowners in present time'

'Dealt with real issues on my property'

'Extremely valuable for increasing productivity and awareness of carbon trading'