Edition 41 Summer 09/10

NESSI Newsletter

Providing land management information to the community

Inside this issue

Welcome to the summer edition of NESSI. In this edition we have brought together some locally relevant stories on 'a changing climate'. Summer is a good time to assess farm water supply and start planning for any future improvements, contact Craig Turton for more information. Planning for future tree shelter for stock should be considered now, as it takes many years to be effective. If you would like more information on local plant species or design of shelter for stock please contact me at DPI Wodonga.

Kylie Macreadie - Editor

Landholder Profile: David and Lorraine Griffiths, Greta West

David and Lorraine Griffith's family have owned property at Greta West since selection. They run 500 beef cattle on over 1000 acres of flat to rising country. David and Lorraine have been active members of Landcare since it's inception in the early 90's and have completed many environmental projects. Works have included erosion and waterway protection, wildlife corridors and habitat protection. The family estimate they have completed over 10 kilometres of fencing, setting aside nearly 30 hectares and planting numerous native trees and shrubs.

In 2008 they completed another three hectares of waterway protection and corridors with direct seeding and seedling planting. Two corridor sites direct seeded with native tree and shrub seed show some interesting results. Both sites were planted in early August 2008, by Greening Australia contracted by DPI, using a Hamilton direct seeding machine. The red ironstone gravel soils on the mid-slope were moist at sowing, although rainfall for winter/spring was generally poor. Both sites were difficult to seed as the ground was so hard. Both sites were twice treated with a knockdown herbicide prior to sowing. Kangaroos and wallabies have been a problem, particularly with establishment, damaging and browsing plants.

Site one has shown excellent results with a healthy mixture of trees and shrubs. No other works or treatments have been carried out since sowing. Site two has shown good results with trees three to four metres tall. The two outside rows of site two were watered three times over the summer, the slight slope allowing the water to run down the direct seeding furrow. These outside two rows of trees and shrubs are up to 50 per cent taller, there are more stems, and plants are bushier. Acacias in particular have responded the most to the watering. David believes the watering has helped get the plants up and above the weed and grass competition while the residual spray was still working.

Both sites show the importance of first-rate weed control, a must in all revegetation projects. It will be interesting to see is how both sites compare in the future.
For more information contact Mary Anderson, DPI Wangaratta on (03) 5723 8655.

Around the Catchment: information and key messages about events and projects

Ovens Landcare Network (OLN)

In November the OLN organised a North East Regional Forum for Landcare groups with 50 people attending. Valuable discussions were held along with some opportunities for new directions for the future.

The OLN has received funding to provide an information resource, a web focused newsletter, to the community on soil health over the next 12 months. The newsletter will concentrate on soil health issues, the future of our soils and climate issues. If you wish to receive a copy please contact Upper Ovens Valley Landcare Group Coordinator **Trevor Danger at** upperovens@landcarevic.net.au or all links are available from the OLN page on the Landcare Gateway.

http://northeast.landcarevic.net.au/ovens-network/projects/soil-health-program

Are you in the Ovens Landcare area and interested in a subsidized internet workshop? The interactive workshops for groups cost $320 for a minimum three hour session with OLN providing a subsidy of $200. For further information contact Trevor Danger 0439 393 019 or upperovens@landcarevic.net.au

OLN will be rolling out a series of energy efficiency workshops across the NE region for more information contact **Trevor Danger** on 0439 393 019.

Landscape Scale Conservation Project

The Landscape Scale Conservation project aims to bring groups of landholders together to develop plans from farm to catchment scale for the protection of riparian woodlands and associated grasslands.

This will be achieved through a range of activities delivered by the North East CMA in partnership with Landcare and groups of landholders in priority woodland areas, focussing on riparian woodland areas. These include planning, training, field days and workshops aimed at improving management of these woodlands and associated grasslands. The project will include a small component to enable incentives for a number of priority sites identified by landholders in the landscape planning process.

The project officers will work with Landcare and clusters of landholders to develop long term plans for native vegetation protection and improvement. The primary approach will be through the use of Efarmer to enable landholders to identify and prioritise sites for vegetation works and develop management plans. This will enable landholders to include native vegetation management in their farm plans and provide plans for works that can be used to submit to any current or future grants or incentive programs via their local Landcare group or regional projects. This will effectively provide a full database of future works sites for Landcare groups to access quickly for grant project planning, enabling rapid project planning and development.

To get involved please contact your local Landcare group or the CMA Sustainable Landscapes Officers – **Klaus Boelke** on 0428 444 190, **Simon Feillafe** on 0417 655 462 or **Geoff McKernan** on 0429 928 654.

Mitta to Murray Landcare Network

Landcare Groups in the western end of the Towong Shire celebrated the formal establishment of the Mitta to Murray Landcare Network in December 2009. A bus tour visited sites from a selection of groups and finished the day with a BBQ at Pigs Point on the Mitta Mitta River. Each group gave an account of their recent events and projects and nominated representatives to the Network Committee. Those present endorsed some initial operational guidelines.

The Network includes Talgarno Wises Creek, Tallangatta Valley, Mitta Mitta, Honeysuckle, Bryant's Gap and members from other local Landcare groups. Individual's from across the Towong Shire who are interested in being part of the Network and those interested in keeping in touch with the Network and local activities are invited to contact Neil Paulet, (President email at tvlc@harboursat.com.au) or Greg Hayes (Secretary/Treasurer email at ggbbhayes@gmail.com).

Janice Horsfield

Upper Murray Landcare Network

The Upper Murray Landcare Network and DPI Agfutures hosted an evening with Mick Keogh from The Australian Farm Institute (AFI) to deliver a presentation on climate change. Approximately 30 people attended the evening with many questions and valuable discussions held.

The next event will be a presentation on Global Markets by Tim Reeves on Thursday 25 February in Corryong. To register your interest or for further information please contact **Barton Roberts** on (02) 6072 7502 or umlandcare@bigpond.com

Update: Sustainable Framing Practices Program – Soils

Soil testing for the program is now in full swing. We have now procured a mechanical soil probe which has made life much easier for the field staff; especially in the hot summer weather. Landholders who are interested in participating should contact the CMA reception on (02) 6043 7600, even though we have sufficient numbers for this financial year we will continue on in 2010/11.

Once we have sufficient landholders in an area with soil test results, the participants will be placed into groups and have access to free agronomic advice which should commence in the second half of February. **Chris Reid**

Are You Interested In Developing A Farm Plan?

A whole farm planning course aims to give landholders an overview of the core concepts in managing a property, along with how a property fits with the bigger picture of productivity and natural resource management. The course delivery is flexible and can be tailored to suit particular types of landholders. A number of courses will be held in 2010.

Interested landholders should contact **Mary Anderson** at DPI Wangaratta on (03)5723 8655.

Phalaris Pastures Survive the Drought

Phalaris pastures survive the drought. This is the message so far in a review of local pastures conducted by the Burgoigee Creek Landcare Group with FarmReady funding from the Federal government.

As project coordinator I have met with over twenty farmers in the district and assessed their pastures to see what has survived and why. Phalaris pastures are the best survivors. Australian phalaris has survived better than some of the newer more winter active varieties.

Little perennial ryegrass has survived in low rainfall areas, but Banquet ryegrass has survived in wetter valleys like Meadow Creek and Myrrhee. Survival of all perennial species is best where there is high soil fertility and where plants are rotationally grazed. Australian phalaris, which has a flat growth habit, has persisted better than some of the newer more upright varieties. It is difficult to find fescue pastures that have survived well. If anyone has a fescue pasture that has survived please let me know.

As well as the pasture review there is a perennial pasture information day to be held on:

Friday, February 26, 2010
at the Whorouly Recreation Reserve

Topics include:

- Perennial pasture sowing and management
- Soil fertility and fertiliser needs of perennial pastures
- Weed control strategies
- Growing fodder crops
- Pasture cropping
- Rotational Grazing
- A display of sowing machinery

A number of demonstration sites are planned in 2010 and 2011. The farmer managed sites will be set up at Murmungee - Whorouly, King Valley and Byawatha. The Murmungee - Whorouly sites are not quite finalised but are expected to focus on intensive rotational grazing, phalaris varietal trials with different sowing strategies and a two year process with cereal in 2010 and phalaris sown in 2011. Different fodder crops will also be trialled.

For more information on this project please contact Tim Ekberg on (03) 57273931.

Local Farmers are already Taking Climate Change on Board

Whether you like it or not, climate change will affect all of us. Variable weather has been part of farming in Australia, but greater variations will need to be addressed in the future, and decisions made in response to the increased uncertainty.

Rural communities in Australia are already adapting to the longer periods of warmer, drier weather, as well as playing their part in locking up carbon dioxide and cutting their greenhouse gas production.

Changes to local farming practices have come as a result of the immediate changes in climate as well as the affects of farm prices, and many of these changes will have a flow-on affect of reducing greenhouse gas emissions.

Travelling through the region, many adaptation and greenhouse gas reduction measures can be seen on local farms. Some of those I observed are:

- Different crops varieties- crops with shorter growing seasons are being favoured.
- Farm enterprise mixes have changed - e.g. from stock to cropping, as feeding stock and providing water is unviable on some farms.
- More perennial pastures such as lucerne are being established - with some fodder shrubs such as saltbush appearing.
- Stocking rates have been lowered, often with an increase in cropping.
- Stock containment areas are being used more regularly as hand feeding of stock increases.
- More shade is being provided – every stock paddock on the farm needs to have shade available and what better way than providing trees that store carbon as well.
- Small dams are being replaced with reticulated water systems from larger dams – reducing evaporation.
- Planting of revegetation areas and plantations is being carried out earlier in the season, with more post planting weed control and even the use of water storing crystals at planting.
- Nitrogen fertiliser use is more strategic and application in a more timely way to not only save money but reduce nitrogen loss from nitrous oxide gas (an important greenhouse gas).
- Retention of organic matter on paddocks through reduced tillage and careful grazing management is increasing soil carbon levels- which also lead to improved soil health and water holding capacity.
- Firewood plantations have been established. These trees play an important role as a productive carbon sink, as well as firewood being a carbon neutral renewable energy source that reduces greenhouse gas production from fossil fuels.

These are just some local changes observed. With many more, no doubt taking place. They can give some useful ideas to assist others when decisions need to be made which include the uncertainty of climate change. They show that being proactive about climate change need not be negative- there are many benefits for the long term. For more information contact Philippa Noble, DPI Farm Forestry Team Leader, Wangaratta on (03) 5723 8686.

Carbon Pollution Reduction Scheme and Agriculture

Mick Keogh from the Australian Farm Institute provided a presentation to 30 landholders at Corryong on December 14 on the Carbon Pollution Reduction Scheme (CPRS) and agriculture. The evening was a follow up from a recent joint Upper Murray Landcare Network and DPI Agfutures event.

The evening was very successful, with Mick answering a wide array of questions from the audience and providing information on what we know, don't know and what it might mean for farmers. Some of the key messages that came out of the evening were:

- Nitrous oxide and methane emissions from agriculture are currently excluded from the CPRS.
- Regardless of what emissions reduction policy is implemented in Australia, landholders will need to be responsible for their on-farm emissions to meet processor and consumer demands for 'clean green' products. Reducing on-farm emissions will help to lift productivity and counteract the likely increase in farm operating costs due to living in a carbon-constrained economy.
- Agricultural emissions include livestock, livestock wastes, fertilisers and non carbon dioxide soil carbon.
- Costs of energy and energy-related farm inputs (e.g. fertilisers) will increase.
- Cattle and sheep account for two thirds of on-farm emissions.

Reducing your on farm emissions can increase your productivity. For example, improving the diet of cattle and reducing their methane emissions means they are getting better use of their food which might lead to an increase in meat or milk production. Efficient use of nitrogen rich fertilisers will decrease your nitrous oxide emissions and increase the total value of your fertiliser application.

Why has soil carbon been left out?

Under international rules, soils can be included in the national emissions accounts to create carbon credits. However, all three of the following criteria must be met:

(1) Demonstration of a net gain in carbon stored, year on year.

Net-Net Accounting rules apply in emissions trading which focuses on the flow of carbon being sequestered. So if your soil carbon flow is 0.5 per cent gain each year, you then need to increase the flow level above and beyond this for each subsequent year to be eligible for credits. In the majority of Australian soils, this would be very difficult to do and soil carbon could become a liability (debit) rather than an asset (credit) in our national carbon accounts.

(2) One in all in.

If soil carbon is included, the whole of Australia and every farm business in the country is included. It does not just include the areas where soil carbon is increasing.

(3) No separation of natural and man made changes.

Emissions trading aims to remove man induced carbon from the atmosphere. However, major soil carbon emissions occur during drought and bushfires which would add to Australia's total emissions accounts and potentially lead us off target in meeting our global commitments.

It is up to individual countries to decide whether or not they include soil carbon in their emissions accounts. These criteria are the reasons why Australia has not included soil carbon in the CPRS to date. Soil carbon is traded in voluntary carbon markets however ensure you have all the information, understand and feel well informed before signing up to any agreements. A lot of the science of soil carbon is still unknown but evolving. There is a nation wide soil carbon project underway collecting soil carbon data for different soil types and land uses which will provide valuable information in the next few years.

How do I calculate my farm emissions?

A variety of calculators are available for landholders to use, to calculate on farm greenhouse gas emissions. Mick Keogh gave an overview of one such calculator that has been developed by the Australian Farm Institute. The FarmGAS calculator, as it is called, which allows landholders to calculate nitrous oxide and methane emissions on their property for a mix of farming enterprises.

DPI, in conjunction with other partners, is planning to run some information sessions during 2010 on on-farm greenhouse gas emissions and the tools available to calculate these emissions, so watch this space.

Overall, be careful about the different markets for carbon and ensure you have all the information, understand and feel well informed before signing up to any agreements. You don't have to sell your carbon.

The bottom line is it is not all about soil carbon. Soil carbon is one important piece in the bigger picture of your whole farm. The broader priority is to reduce emissions on your property (looking at your inputs and outputs) and carry out land management practices that improve the health of your property and prepare it for a warmer and drier climate. Carbon sinks and emissions sources should be considered carefully in your whole farm plan ensuring your farm and the wider catchment remains productive and sustainable into the future.

To get regular updates and for access to the latest tools for calculating on-farm emissions, go to www.new.dpi.vic.gov.au/agriculture/ctan
To access the FarmGAS calculator, go to www.farminstitute.org.au
For more information about climate and emissions, go to www.dpi.vic.gov.au/climaterisk

Story collated by Kristy Youman, DPI Wodonga on (02) 6043 7968.

Surface Water Supplies and Groundwater Trend

The now familiar pattern of below average long-term annual rainfall across the North East region occurred again in 2009. This has resulted in the continuing trend of decreasing security of both surface and groundwater supplies on many rural properties.

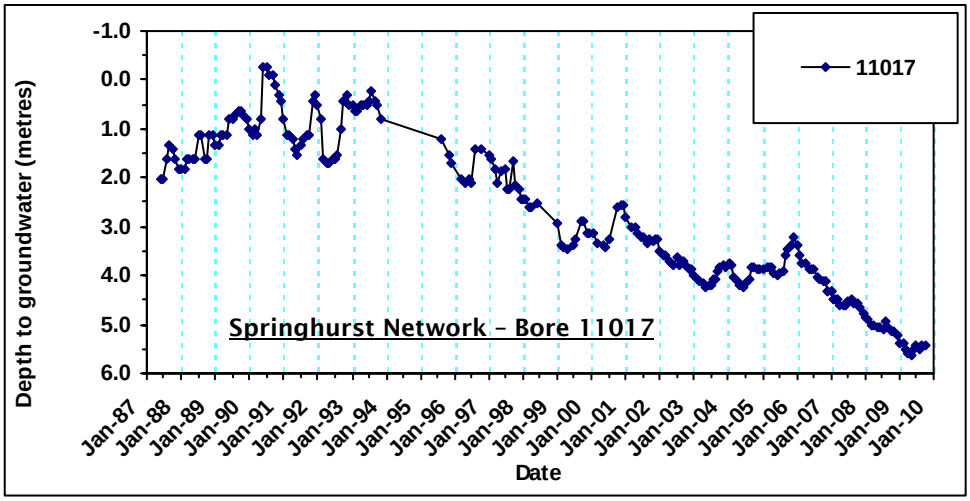
The interaction between rainfall and ground water trends is never more evident than in these dry times. Groundwater is often relied on more for domestic, livestock and irrigation purposes during periods of drought. So it's an opportune time to provide an update on watertable trends of the 330 regional groundwater monitor bores managed by the DPI. These bores are located across the NECMA region and monitored on a monthly basis. The majority of these bores are 5 to 25 metres deep and drilled into shallow groundwater systems for the purpose of determining their long-term trends in salinity and watertable. This is critical information to help farmers make informed decisions about catchment management activities on their property.

The 330 DPI monitored bores have shown the following general watertable trends for the period 2000 to 2009. During 2000 there was a general rise that was followed by a level or falling trend for the period 2001 to 2003. Then in 2004 and 2005 there was a moderate rising trend. This was followed by a significant fall during 2006 that continued until autumn 2009. Since then rainfall during winter and spring has produced a modest short-term rise in watertable until now. These general trends can be matched with both seasonal and annual rainfall during the same period of time.

To illustrate these trends a hydrograph is included for Bore 11017. This bore was previously used in the NESSI newsletter to highlight long-term watertable trends. The bore is located in the foothills a few kilometres south of Springhurst on the eastern side of the Hume freeway. It is 50.6 metres in depth and has had water salinity measured at 6600 uS/cm (electrical conductivity).

During the 2008 to 2009 period the watertable in this bore reached the lowest point since monitoring commenced in 1987. This trend is very similar to the vast majority of other DPI monitor bores. So if you rely on groundwater then it needs to be managed as a finite resource.

Further information on DPI groundwater bores and their trends can be sourced by contacting, Ian Gamble DPI Wangaratta on (03) 5723 8671.



Tips on Managing Phalaris

Weeds are a problem in many phalaris paddocks. Gaps in phalaris pastures are caused by over grazing and low soil fertility. Weeds like silver grass and barley grass have quickly filled these gaps in the pasture. Below are a few tips on how to graze phalaris to reduce gaps and to encourage it to persist and grow more feed.

Phalaris likes to be spelled in late spring and autumn. It is not surprising that paddocks have been over grazed given the past few dry springs and poor autumns. To persist and survive the summer phalaris needs to put up a seed head. The further the seed head grows up the stem, the more vigorous it will grow the next autumn and winter and the more dormant the plant will be over summer.

It is important to understand that phalaris rarely regenerates from seed in the paddock. Seed head formation and development strengthens the underground rhizome which feeds the buds that will grow the following autumn. It also increases the dormancy and the amount of buds produced.

Paddocks that are not grazed in November and December tend to persist better and grow more feed the following year. Of course, this is difficult to do every year as stock have to be fed. As a guide, let your weaker paddocks go to seed and graze your stronger paddocks.

In autumn, phalaris plants that are allowed to grow four leaves before grazing, will replenish the carbohydrate reserves lost through the summer and grow significantly more feed through the rest of the year. The plants will be stronger, there will be less gaps in the pasture and there will be less opportunity for weeds to invade the pastures. Again as a guide, let the paddocks that you grazed through late spring, recover by giving them a break in autumn.

Story by Tim Ekberg on (03) 5727 3931.

Picture: Ron Fergusson from Murmungee standing in an oat paddock that will be sown to phalaris next year.

For information on land and biodiversity management contact any of the following DPI or DSE staff:

Peter Ockenden, Team Leader - land.	(03) 5723 8674	**Kristy Youman,** CMO.....	(02) 6043 7968
Ian Gamble, CMO.....	(03) 5723 8671	**Craig Turton**, CMO.....	(03) 5723 8682
Kylie Macreadie, CMO.....	(02) 6043 7922	**Mary Anderson,** CMO.....	(03) 5723 8655
Philippa Noble, Private Forestry.....	(03) 5723 8686	**Martin Revrenna,** CMO.....	(03) 5731 1233
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Mary Titcumb, Biodiversity Officer....	(02) 6043 7956	**Matthew Looby,** Project Officer...	(03) 5723 8673

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To The Landholder

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