



Mid Loddon Landcare Network News

*Mid Loddon-CMN & West Marong, Upper Spring Creek,
Ravenswood Valley, Nuggetty, Baringhup, Eddington
Landcare Groups & other community friends*



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MEETINGS & EVENTS – 2016

Group Meetings

Mid Loddon Landcare Network Management Committee Meeting 2016

Next meeting will be held at 7.30pm on **Monday 25th January 2016** at the Lockwood South Primary School.

Ravenswood Valley Landcare Group.

Next meeting will be held at 7.30pm on **Wednesday 27th January 2016** at the Harcourt Hall.

Baringhup Landcare Group -

Next meeting to be held at 7.30pm at the Baringhup Hall Supper room on **Monday 1st February . 2016 -**

Agenda: Bells Swamp & Eddington Red Gum forest current health report – Damien Cook
Learn how important these two sites are to their surrounding communities. Bells Swamp has seven significant, rare and threatened flora species, is of national ecological significance, and how this information will benefit group's future projects

Nuggetty Land Protection Group next meeting

Held at 7.30pm on **Monday 3rd February 2016** at the Winery meeting room.

Upper Spring Creek Landcare Group

Next meeting to be held at 7.30 on **Tuesday 9th February** at the Lockwood South Primary School

West Marong Landcare Group

Meeting to be held at **8.00pm** on **Tuesday 16th February 2016** at the Woodstock Hall.

Agenda: Alison Frischke

Eddington Landcare Group- meet seasonally

Summer meeting will be held at the Eddington store and share a coffee break..TBA

Group Events

Baringhup/ Nuggetty/Eddington/Ravenswood Valley Landcare Group farmers –

**Landscape geology and Soils Field Day
9.30am Wednesday 27th January at**

Col, Deb & Doug Jennings property and moving on to a second property.

Technical support provided by Soil Scientists Christian Bannan & Roger Wrigley. Catering provided (

West Marong landcare Group-

**Landscape geology and Soils Field Day
commencing at 9.30am Thursday 28th January at**
Brian & Brad Comer property and moving on to a second property. Technical support by Soil Scientists, Christian Bannan & Roger Wrigley. Catering provided.(funded Vic L/c grant)

Actions to build mid Loddon growers knowledge to enable skilled farm production planning

- Use of maps including geology, topography and NDVI from previous years to identify major zones of soil change on the participating properties.
- Undertake field investigations according to major zones of geological or geophysical difference and variable agricultural production occurs
- Undertake field investigations, where growers can accompany the investigators during this process and ensure the investigation forms an interactive discussion with the audience. Survey soils at this time according to soil survey criteria (McDonald et al, 1990).
- Use at least three soil pits at each site constructed on a soil catena (sequence) covering variants in surface geology, topography and production to undertake investigations, provide discussion and identify best practice soil management regimes according to production system

- Highlight the key soil physical and chemical characteristics of each site and assist with developing land class criteria.
- List the options for improving soil physical and chemical condition within each land class according to production system.
- Provide a summary of results to present to the group highlighting soil variability, key soil issues and options for management according to production system

Use the information derived from this project to infer findings in other parts of the catchment which evince similar soil sequences based on geology, topography and production.

Baringhup Landcare Group –

Farm Kitchen Table Meeting to be held at 9.30am Wednesday 11th February at Col & Deb Jennings. Discussing the observed local geological and soil condition data gathered from the previous Field day, with technical support provided by Soil Scientist Christian Bannan. (funded Vic L/C grant)

West Marong Landcare Group

Farm Kitchen Table meeting to be held at 9.30am, Thursday 12th February at the home of Howard Hepburn. Woodstock West Road. Discussing the observed local geological and soil condition data gathered from the field day. Technical support provided. Christian Bannan (funded Vic L/C Grant)

Ravenswood Valley Landcare Group

Rabbit Control Field Day event to be held at 9.00am to 12.00noon on Sunday 14th February (further details will be promoted)

** Australian governments and industry have joined forces in a global search for a new rabbit haemorrhagic disease virus (RHDV) strain to boost rabbit biocontrol effectiveness in Australia. The search and evaluation has led to a naturally occurring RHDV variant from Korea (RHDV K5) being selected. It is currently under assessment by government regulators. The national release will be coordinated by the Invasive Plants and Animals Committee in consultation with Australian Wool Innovation and Meat and Livestock Australia. It is hoped to be in Autumn 2016.*

*RHDV K5 Expressions of Interest document.
<http://www.pestsmart.org.au/get-involved-as-a-monitoring-site/>

Future Events:

West Marong, Baringhup, Eddington, Nuggetty & Ravenswood Farmers –

All day Workshop – Thursday 10th March @ 9.30am
 Sheep Nutrition and Management (San Jolly SA)
 Providing management advice to producers. We help producers optimise livestock productivity, profitability and sustainability and improve the resilience of their operations. To be held at the Laanecoorie Hall. Catering provided. (funded Vic L/c grant)

Baringhup & Eddington Landcare Groups invite other Network Group members to a special *Fungi of Eddington Forest and Bells Swamp Seminar* presented by internationally famed ecologist Alison Pouliot
 Monday 2nd May at 7.30pm at the Baringhup Hall Supper Room. (funded Vic L/c grant)



Image credit – Alison Pouliot

Neither fungi nor Swamps rate highly in ideas about biodiversity and conservation. Yet both play vital roles in maintaining the health of terrestrial ecosystems and in replenishing soils. Recent surveying of the Eddington Forest and Bells Swamp, found that while they are inhabited by many species of animals and plants, past current land use practices and river regulation have taken their toll. How do the plants and creatures cope with these pressures along with periods of inundation and drying? What roles do fungi play and how do they support plants and animals and the overall health and resilience of these systems?

Alison will explore the ecological significance of fungi and endeavour to elevate both fungi and swamps to new levels of interest, care and concern

Curlew excitement:

Four new Curlews have been kindly donated to our volunteer landcarers by the Halls Gap Zoo, to boost our local captive breeding and release program. (funding required for addition pens)

Two important documents produced -

Two important documents of special interest to the Eddington & Baringhup Landcare Groups and also the wider community have recently been completed by Wetland specialists Damien Cook & Elaine Bayes.

Eddington Forest Vegetation Report



Image credit – Damien Cook

Recommendations -

Changes to the hydrological regime of the Loddon River caused by river regulation have had negative impacts on the condition of the wetland and floodplain vegetation of Eddington Forest, including the invasion of River Red Gum saplings into previously treeless wetlands, loss of indigenous species diversity and cover and the invasion of the floodplain by terrestrial weeds. These impacts have caused changes in the composition and structure of vegetation which has had flow on effects on native fauna such as frogs and birds, which rely on wetland vegetation for shelter and as the basis of the food webs that sustain them.

While some of the ecological impacts of the changed water regime have been severe Eddington Forest has retained some highly significant ecological values. It supports a diverse range of threatened floodplain plant communities, many of which are in moderate to good condition, and is known to provide habitat for a species of rare and threatened plant, a species of rare and threatened bird and a diverse range of other flora and fauna. Some of the EVCs represented at Eddington Forest are at the southern limit of their distribution, being more common further to the north along the Murray River and the lower reaches of its tributaries and are therefore of biogeographic significance. The forest supports many large, old trees which provide habitat for diverse and abundant bird

communities. The value of Eddington Forest as fauna habitat is heightened by its connection via remnant vegetation along the Loddon River to other large blocks of native vegetation. Re-instating a more natural hydrological regime to Eddington Forest and its associated wetlands via the delivery of environmental water has the potential to maintain and assist in restoring the ecological values of the area.

The cover of woody weeds in Eddington Forest is currently relatively low, but has the potential to cause future ecological degradation. Species such as Osage Orange, Pepper Tree and Briar Rose would currently be relatively inexpensive to eradicate from the study area, and this should be a high priority for the conservation management of the site.

This study has collected base-line data on the composition and condition of floodplain vegetation and fauna within Eddington Forest. Regular surveillance monitoring at this site should continue every five years, with additional monitoring being triggered by any natural flood events or the delivery of environmental water.

Draft Management Plan for Bells Swamp V2



Image credit – Damien Cook

Recommendations

Overall recommended priority management actions for Bells Swamp can be summarised as follows –

Continue to monitor vegetation composition and condition

Eradicate or control high threat transforming weeds

Control pest animals, particularly foxes, in co-operation with adjacent land holders.

Revegetate buffers around the fringe of the wetland to protect it from agricultural run-off

Create corridors of native vegetation to link Bells Swamp with other significant remnants of native vegetation, including the riparian vegetation along the Loddon River to the west of the swamp. Promote community education to advocate stewardship of the biodiversity values of the area. In particular aim to reduce the incidence of illegal firewood collection

This month's (not wise) but Interesting Words:

Written by Author Raymond Briggs about his unconventional character "*Fungus the Bogeyman*" who inhabits swamps and strange underworld terrain. While Briggs character embodies all that is dank and revolting, his subtext makes a plea for greater understanding of maligned organisms and places.

https://en.wikipedia.org/wiki/Fungus_the_Bogeyman



Fungi helping farmers alleviate drought stress in Wheat

A specific group of useful fungi -- the so-called *arbuscular mycorrhizal* fungi (AM fungi) -- may be able to help alleviate drought stress in wheat. These fungi live in a symbiotic relationship with plant roots. Recent research from Aarhus University demonstrates that the fungi can improve growth and yield in some wheat varieties under drought stress.

Previous experiments have demonstrated that this symbiotic relationship involves a mutual exchange of nutrients between the crop and the fungus. The fungus provides inorganic nutrients, in particular phosphorus, to the plant.

Furthermore, the fungi help crops fight biotic stress factors such as diseases and pests.

Scientists from the Department of Agroecology at Aarhus University have recently examined whether the association with AM fungi can alleviate drought stress in wheat.

"We know that these fungi are important in relation to the absorption of nutrients and water as well as for tolerance to diseases, but what about extreme conditions such as droughts and heat? We examined if it is possible to increase wheat's tolerance to drought by exploiting the plants' symbiosis with arbuscular mycorrhizal fungi," says Associate Prof. Sabine Ravnkov from the Department of Agroecology at Aarhus Uni.

Drought stress leads to water deficits in crops, which affects crop growth and development and a number of metabolic processes in the plants, such as photosynthesis and primary metabolism. Our capacity to maintain world food production depends heavily on the thin layer of soil covering the Earth's surface. The health of this soil determines whether crops can grow successfully,

Climate, Soil & Carbon:

Several components of the earth influence its climate. The climate system involves the earth's oceans, land surfaces, soils and the atmosphere interactions among these components with one another and with various life forms on earth also play a role in climate.

Carbon is the fourth most abundant element in the universe, and the carbon cycle on earth is one of the most important interactions that influences climate. Carbon on earth is found in various forms: in oceans as carbonic acid, in the atmosphere as carbon dioxide, in wood as cellulose and in the soil in the form of organic matter.

Soil contains a large portion of the carbon on earth. It contains more carbon than all the carbon dioxide in the atmosphere and all the forests on earth combined."

The greenhouse gas carbon dioxide is a little molecule that has the amazing ability through its molecular structure to retain solar radiation and emit it back to the atmosphere. Therefore, the carbon cycle helps keep the planet warm and supports life, but too much carbon dioxide in the atmosphere can have the negative effect of warming the planet too much.

The processes that form soil are slow, so just a little bit of loss every year can erode your soil resource.

In addition to carbon storage, soil can influence climate in two other key ways—reflectance of solar radiation and water storage.

The soil surface reflects solar radiation, and whether the soil is dark or light can either serve to cool or heat the atmosphere. Water is held in soil and can either be retained in liquid form or released as water vapor. When the latter occurs and water vapor is released into the atmosphere, it serves as a greenhouse gas that can warm the planet, similar to the mode of carbon dioxide.

Extract from article written by Kendra MLaughlan, Assoc. Professor, Kansas State University