



**Landcare**  
Junee Area  
Network

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Network**

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**JALN meeting dates are published in the monthly Murrumbidgee Landcare e-news.**



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# Junee Area Landcare Network

**JALN Newsletter**

**Winter 2013**

## **Message from the Chair of Junee Area Landcare Network By Skye Bellamy**

The devastating January 2006 bushfire that swept across farms around Junee resulted in the Network launching the Junee Nesting Box Project. The project aims to address the loss of numerous hollow-bearing trees, including numerous threatened species. These nest boxes were made by the Junee Correctional Centre and the Junee Men's Shed. They were installed on 15 farms around the Junee area by the Australian National University. The ANU will monitor the nest boxes for approximately five years and the data from the study will be used in conjunction with data from similar nest box projects being undertaken by the ANU in association with the Gundagai Bushcare Group and the NSW Roads and Traffic Authority.

**Recent Funding Success:** Murrumbidgee Landcare was successful in receiving funds through the Australian Government's Biodiversity Fund and the NSW Government's Environmental Trust for a six year project in the mid Murrumbidgee. Our application was for \$1.33 million over 6 years, to continue and extend the cross-property groups at Kyeamba and Humula, and start a new group at Junee. One of the key successes of the project is the cross property biodiversity planning. This enabled landholders to develop their own whole farm plans as well as link in with neighbouring properties to achieve broader outcomes and connectivity. This re-kindled for many what Landcare is all about, sharing ideas and expertise outside the farm gate and across the fence.

Our Landcare network is also working on The Wallacetown Reserve Project. This project will revitalise the Reserve, a major rest stop on the route between Junee and Wagga Wagga. The Reserve has an important history as a site of indigenous significance, and this project will work with the local indigenous community to highlight this feature, and educate the community about its use and relevance. The project will also involve the removal of weeds, and revegetation, to restore the ecological habitat which the site offers. The Reserve has excellent links with several areas of native vegetation, so restoration will develop and enhance this valuable connectivity.

### **What native plants and animals are on my property?**

Have you ever wondered what species of birds, mammals and insects are hiding on your property? What about all the strange plants that you cannot identify? If you are a member of the Junee cross property group you will soon be able to find out.

The Murrumbidgee Landcare cross property planning project is funding a flora and fauna survey to be conducted in spring 2013. A public spot lighting evening will be held in conjunction with the day with more information to come.

Contact Jacinta Christie on pH: 0431 953 778

**This newsletter has been produced by Murrumbidgee Landcare as part of its 'Cross property planning to balance production and biodiversity' projects, assisted with funding from the Australian Government's Clean Energy Future Biodiversity Fund and the NSW Government's Environmental Trust.**

## Cross property planning – funding available for landholders

By Jacinta Christie, Murrumbidgee Landcare Inc

Over the past three years groups of farmers have been working together using a “cross property planning” model to work to protect and reconnect native vegetation across a fragmented landscape. This has huge benefits for native flora and fauna, protecting and improving crucial habitat and biodiversity. It also has benefits for production including weed and pest control, beneficial insects and significant improvement in soil and water quality.

In a 5 year project, funded by the Australian Government Biodiversity Fund and NSW Environmental Trust, Murrumbidgee Landcare has received funding to continue to support farmers in this work and also to encourage new landholders to become involved. The ‘Murrumbidgee Landcare Cross Property Planning Project’ aims to help landholders develop their skills, knowledge and understanding of conservation and biodiversity on their own properties and across their landscape. Landholders can participate in workshops, meetings and access funding for tree planting, protection of existing remnant vegetation and managing threats to biodiversity through weed and feral animal management.

### Cross Property Connectivity Planning Project - Groups formalised

In September 2012 three introductory days were held around the Junee shire to generate interest in the cross Property Planning Project. The enthusiastic response of Junee, Humula and Kyeamba landholders to these days and to be part of the cross property planning project resulted in the formation of an official register of group members. Members have been sent a letter outlining the project steps, funding available for on-ground works relating to the project themes of biodiverse plantings; protecting and enhancing existing vegetation; and managing threats to biodiversity. A survey of Junee cross property participants will also be conducted from late June 2013 to help determine where on-ground funds should be directed and to assist with planning activities and workshops.

Even if you are not a member of the cross property planning groups we can still provide training opportunities and technical assistance. Therefore if you are interested in the management and enhancement of your native vegetation and wish to improve connectivity and biodiversity at home and across the landscape please contact Jacinta Christie on 0431 953 778.



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## Using native species to manage roadside weeds

In conjunction with the Murrumbidgee cross property planning project, a series of trials are planned to look at roadside weed management using competition from native species in the Kyeamba Valley, Tarcutta/Humula and Illabo areas. The trials aim to compare the competitive ability of grasses, Acacias, shrub legumes, and miscellaneous ground covers and forbs against introduced roadside species.

Treatments will include varying plant densities; the effect of sugar to provide a competitive advantage to natives over introduced species; the use of transplanted seedlings compared to seed; and the use of micorrhiza to see if there is any improvement in establishment and growth of the native species.

An additional trial is planned for the Junee district to examine the effects of a mixed population of native species that flower year round and provide resources for a range of beneficial insects that can help regulate pest numbers. In addition to examining the competitiveness of native species to manage introduced species, the Illabo trial will also have an integrated pest management (IPM) component.



In this trial at Bill and Maria Muller's property 'Nanlong', mixed populations of native species will be planted within an existing mature remnant, to achieve year round flowering. Pest and beneficial insect diversity and abundance will be measured within the remnant, across the neighbouring cropping paddocks and also in a control remnant about one kilometre away, where no additional vegetation is planted, to determine the effects of native understory on insect populations.

For more information about these trials please contact

## Whole of landscape connectivity mapping for the Junee cross property group

Susie Jackson from the NSW Office of Environment and Heritage has been contracted to work with landholders in the Junee Cross Property Planning group to develop a whole of landscape connectivity plan for the area. Over the last few weeks Susie and Regional Landcare Facilitator Sam Shannon have visited a number of properties around Bethungra, Illabo and Junee to discuss proposed on-ground works and to help landholders create vegetation linkages across their properties.

One property that was visited belonged to Bill and Maria Muller from 'Nunlong', Illabo. Bill plans to use his on-ground funding to help improve the biodiversity around an existing dam and create linkages with it to existing vegetation through a new wildlife corridor and scattered paddock trees.

*Right:* Bill Muller points to an area of his property he plans to revegetate.



## Connectivity - what does it mean?

By Alison Elvin, Natural Capital and Susie Jackson, NSW Office of Environment and Heritage

With thoughtful planning, a resilient and productive farming landscape is quite capable of conserving many species of native wildlife without any loss of production. The secret lies in enabling wildlife to effectively utilize what habitat remains in the landscape by re-connecting these often isolate patches, thus providing sufficient resources for native animals to survive and breed for generations to come. Forming a mesh of connected habitat across the landscape allows animals to use the food and shelter resources of the whole landscape, and adjust to seasonal and climatic changes.

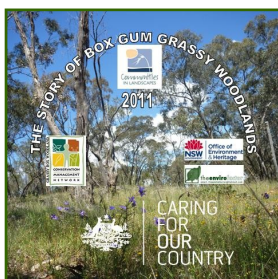
Small insectivorous woodland bird species once so common in the south-west slopes, and now fighting for survival are a classic example. If a small (approx 10 hectare) patch of habitat is a long way from the next patch, with only cleared grazing or cropping land in between, their ability to fly between the patches is severely compromised by attack from eagles, hawks and other predators. Current research indicates that many birds don't even attempt the journey if the distance between habitat patches is more than 1.1 km, even with connecting vegetation between them.

However, if these patches are a bit closer and connected by paddock trees every 70m or so, or by windbreaks and shelter belts with occasional piles of rocks and fallen timber, the birds are much more willing to attempt and survive their journey. They can continue to forage, establish territories, mate and raise young, across a larger area than in an isolated 10 ha habitat patch. Research also indicates that windbreaks and shelter-belts with their various natural resources (and wider than 100m) offer sufficient size to become another area of real habitat, as well as a connecting corridor.

Current studies suggest that a 34% cover of native trees, shrubs and grasses and grassland forbs across a farm will provide sufficient habitat for many native animals, providing the vegetation is not too far apart. This has also been shown to be the most profitable farming system in a survey of properties on the northern tablelands of NSW (Walpole 1998). Having a variety of plant species offers a diversity of structure, foraging, nesting and territorial sites- essential for increasing and maintaining biodiversity. Protection from predators and rest-stops can also be provided by scattered piles of fallen timber and rocks - and older standing trees alive or dead with established hollows are some of the most valuable real-estate there is for many animals.

Paddock trees 70m or less apart, with regular water-points across the farm are critical to the success of 'connectivity' in the landscape, and riparian restoration often brings to the farm another whole suite of native animals not previously there - as well as providing cleaner water for stock. Increasing the biodiversity by connecting larger habitat patches with smaller clumps, tree-lines, and paddock trees across your landscape often increases your productivity, with minimal initial cost to your farming business. There's nothing to lose and much to gain.

### The Story of Box Gum Grassy Woodlands (BGGW)



This DVD gives a short history of the ecological communities which collectively are called Box Gum Grassy Woodlands. It covers the history of these communities, how their management has changed over time, and what impacts these changes have had on these important and highly fertile ecosystems. The DVD provides insight into how many of these communities have come to be listed as endangered under both state and federal legislation. Most importantly the DVD provides information about what can and is being done to reverse the detrimental effects of past management. It contains chapters on Woodlands and Wildlife, Indigenous Stewardship, European Explorers and Early Settlers. **To view The Story of BGGW go to [www.gbwcmmn.net.au](http://www.gbwcmmn.net.au)**

## Landcare - a farmer experience

Max Chamberlain, "Naura" Downside

Max Chamberlain has been planting trees and working to improve the ecology on his Downside property for over thirty years. And the benefits are not just in greater farm productivity but also long term sustainability.

Max was a founding member of the Downside Landcare Group and he recalls the catalysts for the groups formation as a trip he and some other local farmers took to north east Victoria to view first hand horrific land degradation in 1988. "We saw the horrific salinity discharge sites and could see the potential for this in our own district. We started with around 20 members in 1989 with the aim of countering the threat to productivity posed by salinisation, and the potential for off-site damage."

"Our farm had very little remanent vegetation – my grandfather and father had followed the common farming practices of the time and cleared large parts of the property. So while I had been planting trees for ten years before, it wasn't until we formed the Downside Landcare group that I had began to better understand dryland salinity causes and effects and identified some saline discharge areas.

Max and many other Downside farmers have carried out large amount of environmental works. Recharge areas have been fenced off and trees established. Salinity scald areas have been mounded and planted out with trees, pasture and saltbush. Waterways with containment earthworks, fenced off, pasture and trees sown. They also established a local greenhouse where group members propagated thousands of trees such as kurrajongs, yellow box, red gums and drooping she-oaks from locally collected seed.

"Propagating from local seed grow some species which are suited to the local conditions. I've also learnt over the years how critical it is to plant the right tree species in the right place. Now we take a more integrated whole farm approach to our tree planting. All our windbreaks consist of three rows and we will you species such as kurrajong or taggaste in one of the rows to give us a living haystack. These wind breaks are not only useful in protecting livestock from weather extremes but has also allowed the incorporation of laneways to aid stock movement and provide better paddock access across the farm. "

Other changes on "Naura" have included the establishment of lucerne and the inclusion of canola in the crop rotation. "We didn't realise the important connection between the affect of acid soils on crop and pasture growth and the subsequent inefficient use of stored soil water. Liming our midslope country is now an integral part of our management and it has allowed us to not only grow lucerne and canola but grow better cereal crops as a result of the disease break.



Max believes Landcare is still very relevant but in his area it may need a new focus. "We have done a lot of work in fixing discharge areas but addressing recharge and off site causes are more difficult and expensive to combat. "I'm concerned about the explosion of noxious weeds along council roads and the lack of council funds to control problem weeds such as khaki weed, blue flowering heliotrope and St Johns wort. As landholders we need to regularly monitor our boundaries and work with council to try and limit their spread.

It would be great to see more young people become involved and give farming a greater voice in the broader community. "

*Left: Max Chamberlain showing grandson Will Chamberlain the finer points of tree planting.*

## Look beyond chemicals to tame Paterson's curse.

This information is adapted from an article by Pamela Lawson for the Kondinin Group's *Farming Ahead* magazine. [www.kondinigroup.com.au](http://www.kondinigroup.com.au)

Paterson's curse is a major winter weed that can quickly dominate pastures and is toxic to livestock if grazed for extended periods. Appropriately timed control methods such as biological controls, competitive crops and pastures, strategic grazing, slashing and hand weeding and spray grazing in combination with strategic herbicide applications if necessary, will effectively manage Paterson's curse in most environments.

### Beneficial bugs

There are currently six insect control agents established in the field which attack Paterson's curse during all stages of growth (see Table 1). At least one of these insects will be active year-round although the main period of activity and destruction occurs between mid-autumn, through winter and spring to mid-summer, during the main growth phase of Paterson's curse. It is very important to time the use of other management techniques such as spraying, so they minimise the impact on the survival of any biological control insects present in the area.

Table 1

Insects released in Australia for the biological control of Paterson's curse

Source: Adapted from Industry and Investment NSW

Species	Common name	Active	Insect length	Generations per year	Plant part(s) attacked
<i>Dialectica scalariella</i>	Leaf-mining moth	Spring to autumn	5mm	5-7	Leaf, below stem surface
<i>Mogulones larvatus</i>	Crown weevil	Autumn to early summer	3.5 – 4mm	1	Leaf, crown, leaf stalks
<i>Mogulones geographicus</i>	Root weevil	Autumn to mid summer	4 – 4.5mm	1	Leaf, root, leaf stalks
<i>Longitarsus aeneus</i>	Root hair flea beetle	Did not establish in the field	<2mm	1	Leaf, root hairs
<i>Longitarsus echii</i>	Tap root flea beetle	Late autumn to early summer	>2mm	1	Leaf, inside taproot
<i>Phytoecia coerulescens</i>	Stem beetle	Year round	10 – 15mm	1	Leaf, stem
<i>Meligethes planiusculus</i>	Pollen beetle	Late winter to autumn	2.5mm	1-2	Flower bud, flower, developing seed

### Limiting infestations

The biological control of Paterson's curse aims to limit the dominance of the weed in pastures, so it becomes economically insignificant to producers. Biological control agents will not eradicate Paterson's curse and generally more than one agent is required to attack the plant at different stages of its lifecycle. Once insect populations are established, it will still take several years for the seed bank to be reduced to a level that limits Paterson's curse populations, but the establishment of competitive pastures can hasten this process.

### Using nursery sites

While it can take many years for insects to become established at a site and reach their full potential, the use of nursery sites when initially releasing the control insects is recommended. These are fenced off, free-draining areas of at least half a hectare, which are kept free of grazing, cultivation and chemicals for 3-4 years. Nursery sites, especially those located next to permanent pasture paddocks will ensure a good level of attack in the first season and allow the insects to breed rapidly and become self-sustaining.

After several years, graze the nursery site with livestock for a limited time in summer, or apply herbicide in summer rainfall areas to open up the pasture and promote Paterson's curse germination the following autumn. As most bio-control insects are dormant in the soil and leaf litter over summer, grazing and spraying at this time has minimal impact on them.

### **Wonderful weevil**

One of the most successful bio-control strategies used for Paterson's curse in grazed pastures - the root weevil - becomes active between March and June when rain triggers weed germination. Females lay eggs anytime between March and October and the weevil larvae hatch and feed within the leaf stalk, mining directly into the tap root where they are protected from grazing. The larvae then pupate in the soil, with the adults emerging in spring to feed on the leaves and flowers until the plant dies, or dries off in late December. The adults then remain dormant in the soil until autumn rains begin the cycle again. Autumn is the best time to release 300-500 adult root weevils into nursery sites, although larger releases (at least 1000 adults) can be made in spring, but must take into account the over-summer adult mortalities, while the weevils are not feeding. Confining spring-released adults under a cage made of fine shade cloth in the nursery site will increase the chance of the weevils' survival until autumn by 400 per cent, but the cage must be removed in summer when Paterson's curse dies off. Irrigating the nursery site in late summer to ensure Paterson's curse germination, especially if a late autumn break is likely, will greatly increase weevil activity at the site.

### **Ongoing management**

Once root weevils are well established in the nursery site, reduced autumn grazing in adjacent, Paterson's curse infested paddocks will encourage the weevils to spread. As a simple guide, graze Paterson's curse only until the animals reach the crown of the plant. Reducing the grazing pressure at this time will benefit bio-control insects and help in the establishment of desirable competitive pasture species. In paddocks that are entering a cropping phase, minimum tillage in autumn will offer the best protection for adult weevils. While herbicides have no direct effect on weevil activity, killing Paterson's curse when it is in the rosette stage will cause under-developed larvae to starve. The use of insecticides can significantly depress weevil numbers and should be used with caution and expert advice.

### **Feisty fleas**

Adult flea beetles become active between May and August each year, with females laying eggs directly on the tap root of Paterson's curse rosettes up until November. Larvae feed and mine into the taproot and if they destroy it they will continue feeding into the plant's crown. Over summer the larvae pupate and turn into adults up to 20cm below the ground surface, well protected from grazing and trampling until late the following autumn. This life cycle format, where the beetle spends most of its life underground, makes them a successful bio-control weapon in heavily grazed pastures and regions with hot, dry summers and late autumn breaks. Winter is the only time to release flea beetles once rain has germinated Paterson's curse and stimulated the adult flea beetles to emerge from underground. Releasing 300-500 adult beetles into a nursery site is recommended. Once flea beetles are established in the nursery site ongoing management is the same as for the root weevil.

### **Flower power**

The pollen beetle emerges from winter dormancy in early spring when Paterson's curse rosettes start to bolt and flower. As the name suggests, this beetle targets the flowers of Paterson's curse, feeding on unopened buds and laying eggs between the buds. The hatched larvae then feed on the pollen and ovules (female parts) of the flower buds, destroying the bud and preventing it from producing seed. The larvae also eat immature green seed preventing it from forming viable hard seed. The larvae pupate for 1-2 weeks in the soil and the adults continue to feed on buds and immature green seed until the end of flowering when they return to the soil and become dormant. The adults emerge briefly after autumn rain to feed on the young rosette leaves before entering winter hibernation until spring.

Spring is the only time to release pollen beetles, with the recommended rate of 500-1000 adult beetles into a nursery site. Grazing should be carefully managed in areas where pollen beetles are being established, with reduced grazing pressure preferable in autumn when adult pollen beetles are active on rosettes and again in spring when larvae are developing in the flower buds.

As for other bio-control insects, minimum tillage in autumn offers the best protection for dormant adults in paddocks entering a cropping phase. Herbicides should be used at strategic times in the year and insecticides used with caution when establishing pollen beetles.



**Newest team member**  
**Alan Cole** has joined the Murrumbidgee Landcare team as a Landcare Support Officer (part-time) until the end of the year. Alan will work with Landcare networks and groups within the Murrumbidgee catchment to develop and implement ideas that support landholder communities to revitalise their Landcare groups, promote natural resource management and enhance their involvement in NRM projects at the grassroots level.

## Save the date

**22-23rd August 2013**  
**Murrumbidgee Landcare Annual Forum**

*"Cross property planning to balance conservation and production."*

**Thurs 22nd -Forum at Junee RSL followed by dinner and keynote speaker at Junee Licorice and Chocolate factory.**

**Frid 23rd—Field trip—Junee, Illabo, Bethungra**

**Forum topics include; linking landscapes, grassy groundcover restoration, traditional land management, managing salinity at a landscape level, pest animal management and developments in Landcare.**

**For more information:**  
[www.murrumbidgeelandcare.asn.au/forum/2013](http://www.murrumbidgeelandcare.asn.au/forum/2013)

## Critical Threats to Native Vegetation

Managing threats to biodiversity is one of the key aims of the cross property planning project. To assist with the identification and management of these threats Toni McLeish from the Conservation Management Network has identified ten critical threats and management actions for biodiversity .

### THREATS

- Clearing, degradation and fragmentation of remnants for agricultural, forestry, infrastructure and residential development
- Continuous heavy grazing and trampling of remnants by grazing stock, resulting in losses of plant species (simplification of the understorey and ground layer and suppression of overstorey), erosion and other soil changes (including increased nutrient status)
- Untimely grazing that does not allow plants to complete their lifecycle and set seed.
- Invasion of remnants by non-native plant species, including noxious weeds, pasture species and environmental weeds.
- Invasion of remnants by feral animals resulting in the loss or modification of habitat.
- Disturbance of remnants during road, rail and infrastructure maintenance and upgrades, removing habitat and escalating weed invasion.
- Removal of timber both dead and alive.
- Collection of on-ground woody debris (habitat) in the guise of a 'clean-up'.
- Nutrient increases on the site disadvantaging natives.
- Bush rock removal that reduces habitat.

### ACTIONS

1. Maintain and improve all existing sites including corridors and landscape linkages, allowing for fauna, pollen and seed dispersal.
2. In sites that are in low to moderate condition the grazing strategy should concentrate on controlling the introduced annual pasture grasses and flat weeds, through relatively short but intensive grazing.
3. In high to moderate condition sites, any grazing strategy should concentrate on maintaining diversity by reducing thatch and maintaining inter-tussock spaces
4. Undertake weed control (taking care to spray or dig out only target species)
5. Undertake control of feral animals using methods that do not disturb the native plants and animals dependent on the woodland.
6. Minimise disturbance; do not transfer problems from one site to another via contaminated equipment.
7. Retain all dead and live timber including standing and fallen trees. Timber extraction for on farm use should focus on younger solid trees that do not contain habitat hollows.
8. Sticks and leaf litter provide essential foraging and nesting habitats for many fauna species and should be maintained.
9. Prevent fertiliser drift and nutrient run onto the site.
10. Retain and avoid disturbance to all rocks and rock features which provide micro climates and protection for many species.

