



*Supporting landholders
with native vegetation*

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Batty in Bega by Andrew Morrison

Flying-foxes are an animal that often evokes a love or hate response from the community. Most people have an opinion on flying-foxes whether it be that they are pests of orchards, disease spreading health risks, or a fascinating and graceful pollinator of native vegetation.

I never cease to be impressed watching them silently streaming across the sky on a warm evening. They must be some of the most highly visible and accessible wildlife people can see, especially when they choose to camp in towns or cities.

Flying-foxes are classed in the order Chiroptera (bats) along with the much smaller insectivorous microbats that are seen flitting around at night. There is debate as to whether flying-foxes should be reclassified, with some scientists claiming they may be more closely related to primates than microbats. Flying-foxes don't echolocate like the smaller insectivorous microbats, instead relying on eyesight and smell to locate food.

Australia has four species of flying-fox; the little red, black, spectacled and grey-headed flying-foxes. In the Bega Valley 99% of the flying-foxes you will see will be grey-headed flying-foxes.

Grey-headed flying-foxes are listed as a threatened species in NSW and nationally following significant population declines. The main cause of this decline is habitat loss through clearing of native vegetation. These listings are hard to understand when people see



Grey-headed flying-fox mother and young

Photos: Andrew Morrison

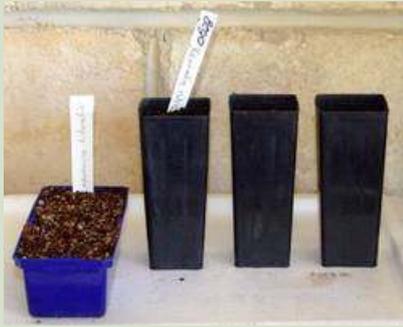
tens of thousands of bats in a single camp but population trends are an important consideration when determining threatened species and the flying-fox populations seen today are just a fraction of past numbers.

Flying-foxes feed primarily on nectar and pollen and, to a lesser extent, fleshy fruits. For this reason, flying-foxes are important pollinators and seed dispersers. They commonly forage over large areas, traveling up to 50km from their camp each night (a 100km round trip) and helping to maintain the genetic diversity of the plants they pollinate. While they can't swallow large seeds they are able to swallow seeds up to 5mm in size and will spread these over a wide area.

Grey-headed flying-foxes establish maternity or breeding camps where young are born and raised over the summer months. Once the young are weaned the camps disperse and individuals form

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Next Workshop



Native Plant Propagation with Karen Walker

Bega area

Fri 12 April 2013

Register interest by contacting Ali (details below)

Contact the FSCCMN

Alison Rodway

PO Box 118 Bega NSW 2550

(02) 6491 8224 (w)

0457 542 440 (m)

info@fsccmn.com.au

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Coordinator's column

Greetings CMN members.

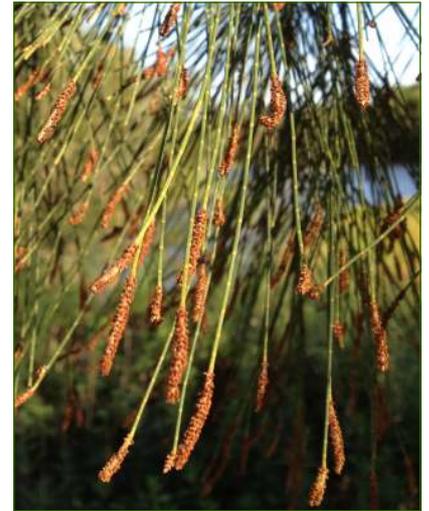
What an excellently wet end to the summer with conditions looking great for autumn plantings.

This year I'd like to organise a series of property walks guided by local experts. The purpose would be to explore different vegetation communities across the Shire, improve plant identification skills, understand the impact of geology/soil type, slope, aspect, altitude and fire on plant communities, get a clearer picture of historical impacts on landscapes, including Aboriginal heritage, see the effect of different management approaches and experience some beautiful and interesting places.

Please contact me if you are interested in hosting one of these walks at your place.

I hope some of you are able to participate in the funding opportunity (see page 7) that offers support to improve habitat and corridors in the Bega Valley.

All the best. Ali



Male (pollen-bearing) flowers of *Casuarina cunninghamiana* at the Bega River



Fruiting *Dianella* sp.

Photos: Alison Rodway

What is the CMN?

The Far South Coast Conservation Management Network (CMN) supports private landholders in the Bega Valley Shire to recover and manage native vegetation on their properties.

The CMN aims to inspire and motivate landholders, increase knowledge about native vegetation management and develop the skills to do this work. The coordinator produces quarterly seasonal newsletters, organises workshops and field days, manages a website and keeps landholders up to date with relevant events and information via a mailing list.

The CMN is funded and supported by the Southern Rivers Catchment Management Authority and Bega Valley Shire Council.



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smaller winter foraging camps.

Flying-foxes are known to potentially carry Hendra virus and Australian bat lyssavirus. Hendra virus hasn't been found to be transmitted directly between flying-foxes and humans but can be contracted via horses that can become infected by ingesting infected bat droppings in feed or water. Lyssavirus is a potentially fatal rabies like virus that can be contracted if bitten or scratched by an infected bat. In spite of hundreds of thousands of flying-foxes roosting and foraging in Australian cities and towns, there have been only three recorded cases of humans contracting lyssavirus since its identification in 1996. All cases have been in Queensland with two from flying-foxes and one from a microbat. If you find an injured or trapped flying-fox or microbat **don't handle it, contact WIRES** (Wildlife Information and Rescue Service) on 02 6495 4150 and an appropriately trained (and vaccinated) wildlife carer will collect the individual.

For those with horses, avoid feeding or watering your horse under trees that fruit bats are foraging in.

Although flying-foxes' preferred food is eucalypt blossoms, they will turn to fruit in our orchards and fruit trees in years when the eucalypts are not flowering well. This is the time that local WIRES volunteers get the most call outs for bats caught in fruit tree netting. For information on wildlife friendly netting options see www.environment.nsw.gov.au/threatenedspecies/NettingOfGardenFruitTrees.htm

People can also help flying-foxes by planting more of their preferred food sources such as eucalypts and banksias as well as protecting



Grey-headed flying fox camp at Glebe Lagoon Bega

existing trees and bushland.

Why are they in Bega? The camp at Glebe Park in Bega is a maternity camp with bats present from November to May (dependent on eucalypt blossom availability). The flying-foxes are in the Bega Valley area to make use of the large tracts of eucalypt forest in surrounding private land, National Parks and State Forest.

Important, high nectar producing tree species in the Bega Valley shire include red bloodwood, blackbutt and spotted gum as well as banksias. Rainforest remnants provide native fruits for the flying-foxes which in turn distribute these seeds to other patches in the landscape.

One of the main threats to flying-foxes during the hot summer time is overheating. Flying-foxes don't sweat and can die in their thousands if they get too hot. Flying-foxes drink by flying down and dunking their bellies in water then licking the water off their fur.

Glebe lagoon allows large numbers of bats to access water and the willows and other vegetation surrounding the lagoon provide a cooler microclimate to roost in during very hot days.

To better understand the status and movements of flying-foxes in

Australia the CSIRO are leading a National Flying-fox Monitoring Program which will conduct quarterly counts at all flying-fox colonies in eastern Australia over the next four years. As part of this national census a group of enthusiastic local volunteers, along with Bega Valley Shire Council and National Parks and Wildlife Service staff, undertook the first of these counts at the Bega flying-fox camp on 15 February. Training was provided by CSIRO's Research Officer Adam McKeown. The Bega count indicated that around 30,000 animals were present in the Glebe camp making it one of the largest Grey-headed flying-fox camps in NSW. If you would like to be part of the next flying-fox count in Bega please contact Hugh Pitty (0407 137 574) or Andrew Morrison (6499 2253).

There are a lot of great publications about grey-headed flying-foxes so check out the Office of Environment and Heritage website www.environment.nsw.gov.au/animals/flyingfoxes.htm for best practice guidelines and ecological information and/or the Department of Primary Industries for information on health concerns www.dpi.nsw.gov.au/data/assets/pdf_file/0010/367255/Bats-and-health-risks.pdf

From Willows to WoNS

by Alison Rodway

Willows are useful plants which provide shade, shelter, stock feed in drought, bank stabilisation and basket making material. For many people they also hold aesthetic and heritage value. They were brought to Australia soon after European settlement and planted most extensively in the 1950's to 1970's to deal with erosion along cleared water-courses. Today, willows are regarded as one of Australia's most serious riparian and wetland weeds and declared a Weed of National Significance (WoNS). So how and why did they lose favour so dramatically over the last 20 years, with significant funds and community efforts being focussed on their removal and control?

One answer is that they did not do what they promised to do. Whilst willows seemed to provide temporary stability to riverbanks, in many cases they ended up causing increased erosion and



Willows create a choke point on the Brogo River

flooding and altered the course of rivers.

Willows can grow in continually wet sediment so can colonise riverbeds, growing across the channel as well as on banks. They can grow into large trees or thickets which collect sediment and debris in extensive dense root mats. These can be dislodged in floods or change the shape and stability of streams and rivers. As they block watercourses they can divert water flow onto banks, increasing erosion and flooding.

The majority of flood debris in the Bega River catchment after floods in early 2010 was from uprooted willows, with large root balls dragging up nets of fine

matted roots mixed with sediment torn out of banks and bed. These left gaping holes in banks, released large amounts of sediment into the river system, blocked the natural flow of water and diverted water onto banks. They also created a massive reshooting event as every part of the fallen trees that touched the ground sent up vigorous shoots, put down roots and created new willow thickets.

Willows spread rapidly and now dominate thousands of kilometres of waterways across south-east Australia. They reproduce via seed which germinates on bare, wet sediments. This seed can spread long distances by wind or water.



Willow root ball with sediment and debris ripped out by floodwaters near Cathcart

When conditions are suitable, hundreds of thousands of seedlings can establish. They can also spread easily via broken twigs or branches, fallen trees or parts of live trees that touch the ground and put down roots, mainly on wet ground or in shallow water.

The belief that many willows are sterile comes from the history of their introduction to Australia. Early willow plantings were derived from one or a few individuals via cuttings. These willows were usually either male or female which meant that most of the cuttings (or clones) were



Willow choke forces floodwaters into the riverbank on the right, causing erosion

unisexual in any one location and plantings rarely produced seed or seedlings. The sparseness of plantings and the lack of overlap of flowering times for different species meant that seeds were hardly ever formed. However, as the numbers of willows increased, particularly as a result of planting programs during the 1950's to 1970's, willow populations became closer, trees grew older and flowered for longer, sexual reproduction was able to take place and hybridisation between different species occurred. These hybrids can now be more invasive than their parent species.

As willows come to dominate rivers, streams and wetlands, they

provide less habitat and food for fish, birds, frogs, insects, mammals and reptiles than native vegetation. For example:

- Willows form very few tree hollows which are relied upon by many native animals and birds.
- The massive leaf drop over a short period changes the water quality and food available for animals living within the water body such as insects and fish, reducing species richness.
- When willows fall into the stream, their light wood breaks down very quickly leaving fewer snags than heavier, denser native trees which provide woody debris to shelter fish and macroinvertebrates (waterbugs).
- The seasonally dense shade of willows does not allow other plant species to establish underneath. This means an absence of diverse grass, shrub and tree layers relied upon by native animals and birds.

Although attitudes to willows have changed significantly, the community is not unanimous about the need to control them. For example, Natural Sequence Farming advocates their benefits in specific agricultural landscapes and they still hold social significance in some local communities.

Locally, Shannon Brennan from the Southern Rivers Catchment Management Authority is aware of the complex issues involved in willow control. "In our current willow control programs along the Bega and Brogo Rivers

we are looking at the catchment as a whole when we decide where works are to take place. We also assess the needs at each site. For example, willows are being retained on the sand sheet sections of the Bega River below Kanoona to provide stabilisation whilst banks are replanted with native vegetation to reduce erosion. Our focus in this section is on removing willows along the low flow channel to create and maintain a main flow path rather than multiple channels across the riverbed."

"Similarly, on the Brogo River willows are being controlled at 'choke points' to reduce the risk of channel diversion and bank erosion."

Shannon said "Total willow control is usually only employed in upstream reaches where willows are scattered and native vegetation cover is good. We are aiming to keep the high quality native environments intact and reduce the source of infestation downstream."

"We have plans for each site that include follow up control and revegetation where this would improve habitat, stream health and stability."

To find out more about management approaches to willows visit www.weeds.org.au/WoNS/willows/ or talk to your local Catchment Management Authority (in Bega call 64918200).



Leon Miners stem-injecting willow trunks

Seed Collection Workshop

by Alison Rodway

Photos: Alison Rodway



Ripe *Lomandra longifolia* seed



Themeda triandra seed (Kangaroo grass)



Eucalyptus capsules and seeds



Acacia longifolia (Coastal wattle)

Karen Walker's breadth of experience in native seed collection was shared at a recent workshop in Nethercote. Her message was that with some basic knowledge and equipment, anyone can easily and inexpensively collect native seeds.

Seed collection from local indigenous plants for local revegetation projects can be a very satisfying activity. It's a great way to learn more about the plants from your area and gives a sense of ownership of the whole revegetation process. It means being able to grow plants that are adapted to your local area so that they will have the best chance of survival. They will also complement other plants and animals in your area, both ecologically and genetically.

Karen showed examples of the variety of fruits produced by our local native plants. These included woody fruits like Eucalypts and Tea Trees, cones like Casuarinas, pods like wattles, fleshy fruits from rainforest plants like Lilly Pilly or berries like Dianellas, papery capsules like hop bush, seeds packed tightly into flower heads like daisies, follicles like Banksias, nuts like Ghania and papery glumes surrounding the seed heads of grasses.

Karen described how to tell when seeds are ripe, how to harvest and dry seed and how to extract and store it. She stressed how important it is to keep good records of what, when and

where you collected the seed.

Some people were surprised to learn that permission from the landholder or land manager is required before you collect seed. For example, for collection in National Parks and State Forests you need to obtain a licence or permit.

One of the tricks of the trade shared by Karen was to use old stockings to cover peas that open explosively whilst on the plant.

There was keen interest for a native plant propagation workshop to learn how to grow the seeds people have collected. Karen will be leading a practical workshop on Friday 12 April in Bega. Contact the CMN to register.

A useful resource for seed collectors recommended by Karen is the Florabank Guidelines and Code of Practice which can be found at www.florabank.org.au/

You can find Karen's notes from the workshop on the [CMN website](#). To contact her at the Far South Coast Community Seedbank Phone: 02 64918224 or email: karen.walker@cma.nsw.gov.au



Karen sieves and separates *Lomandra* seeds from seed heads



Members of Dry River Landcare Group

Tending to the Grass Roots in the Dry River Catchment



The Dry River Landcare Group based near Quaama is getting works on the ground as part of the Caring for our Country Grant they received last year through South East Landcare.

The grant is to work on local land management issues that affect farm productivity and the environment, like water quality, river bank erosion, grazing management, tree cover and weeds.

The project includes both farmers and small landholders and extends over 11 properties.

Community working bees will assist landholders with their works. These works include fencing of waterways and installing new watering points, planting native species to stabilise banks and provide habitat, paddock subdivision to improve grazing management and controlling willow chokes to reduce erosion.

Landholders will also receive training in best practice techniques for all on ground works.

If you'd like to get involved in the group or in future projects, contact: Chris Post on 0411 594 092 or email dryriverlandcare@gmail.com

Funding for Habitat and Corridors

The Southern Rivers Catchment Management Authority (SRCMA) has received funding from the Australian Government's Clean Energy Future Biodiversity Fund to support landholders over the next 5 years to increase and improve native vegetation and habitat on their properties.

Funding support on a 50:50 basis is available for activities such as fencing, site preparation, revegetation and weed and pest control. These activities aim to:

- create and enhance vegetation corridors for connectivity and habitat for native animals;
- increase the area of Koala feed trees;
- increase carbon sequestration; and
- protect Potoroos and other small native animals from fox predation.

The project area covers private land across the Bega River catchment, extending north to the southern shores of Wagonga inlet and from the coast to the eastern edge of the escarpment forests. Current target localities are Tanja, Wapengo, Coolagolite, Murrah, Tilba, Tantawangalo, Numbugga, Brogo, Reedy Swamp and river and creek banks across the project area.

Landholders are encouraged to contact the SRCMA on 02 6491 8200 to express an interest in receiving support for projects on their property.

