

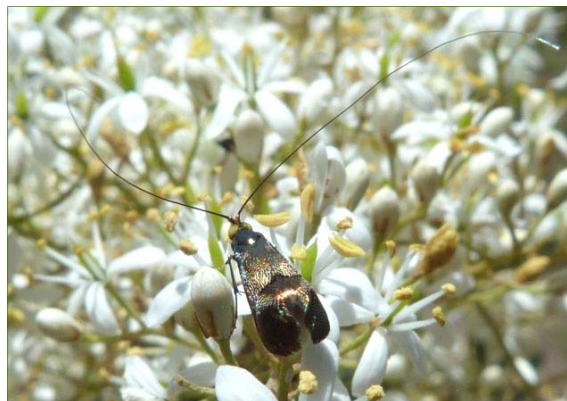


Supporting landholders with native vegetation

Love your Bursaria!

When planning revegetation projects landholders can sometimes be reluctant to include plants that aren't so pleasant to be near or aren't as attractive in habit as other species.

Bursaria spinosa (or Blackthorn) often gets a bad rap in this regard due to its spines and sometimes 'leggy' habit. Farmers have cursed and removed it for scratching browsing cattle or snagging the wool of passing sheep. Blackthorn and black wattle are sometimes regarded as weeds due to their prolific colonisation of cleared or disturbed terrain.



However, there are some great reasons for either including it in your planting mix or leaving it as part of your forest understorey.

First of all, it is hardy, tolerating drought, frost and partial shade and regenerating foliage after fire. Once established it can live from 30-50 years and can form good windbreaks.

Bursaria spinosa is of high wildlife value; as a habitat for smaller birds, protecting them from predators, and as a nectar source for butterflies, birds and wasps. The thorns and twiggy foliage provide the ideal structure for spiderwebs, used by many smaller

Photos: Martin Butterfield



native birds such as Thornbills and Robins for nest building.

Some species of parasitic wasps and flies, which help control insects, depend on a close source of nectar from plants such as *Bursaria spinosa*. For example, *Bursaria spinosa* plays host to a small wasp, a limited distance flyer which helps control the Christmas Beetle by parasitising the larvae. (Adult Christmas Beetles

can cause great devastation to Eucalypt species whilst the larvae feed mostly on the roots of native grasses and in agricultural and urban areas on the roots of pasture, crops and turf, causing plants to turn yellow and wither).

It flowers from late spring to summer providing nectar when many other plants

have finished their spring flowering.

It is a useful honey plant in poor seasons, producing medium to heavy quantities of pollen and average amounts of amber honey. If you're still not a fan, just look at these beautiful photos!



Bursaria attracts beneficial predators

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Community Action Grants

The 2012-13 Community Action Grants round is now open.

Applications close at
5pm (AEDT)
27 March 2012.

For more information about applying for Community Action Grant funding see

<http://www.nrm.gov.au/funding/cag/index.html>

Contact the FSCCMN

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Coordinator's column

Greetings landholders!

Although it hasn't been a particularly hot summer, this season seemed like the right time to start a CMN conversation about climate change and its impacts on the land we manage in this area. It's something we're all facing and, on top of what we're already doing to look after our land, it can feel daunting to think about.

What I realised when writing the article was that so many landholders in this area are already on the right track. Your efforts to control weeds and pest animals, protect wetlands, monitor flora and fauna, protect and improve the quality of the vegetation you have and your voluntary efforts for community groups such as Landcare are keeping the landscape in the best shape possible to cope with the impact of climate change. They will make a difference, particularly when combined with the efforts of other landholders

and land management agencies. Private landholders are a very significant part of the landscape jigsaw puzzle. So keep going, take up funding opportunities as they arise and keep in touch with Landcare and your catchment management authority about where your land and your vegetation fits in, and what steps would have the greatest impact on the wider landscape.

The CMN is planning a couple of great workshops so look for information about these in upcoming emails.

All the best with your autumn plantings. Our local nurseries are looking forward to hearing from you. Ali



Megan and Julie - local Landcare members planting near the Bega River

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.



Southern Rivers
Catchment Management Authority



'Bonking on the Coast' begins!

A six year study of the frog communities of the NSW far south coast is underway with the first of four major surveys now complete.

The study, called 'Bonking on the Coast', aims to develop a detailed understanding of habitat requirements, distribution, abundance and ideal conditions for detection of frogs as well as key factors influencing their long term survival in the region. The study will fill a major gap in biodiversity knowledge within the region.

The project is being supported by local landholders, Southern Rivers CMA, Charles Sturt University, Bega Cheese, Bega Valley Shire Council and the NSW Office of Environment & Heritage.

Ecologists from Envirokey have been conducting frog, tadpole, habitat and water quality surveys at 53 sites across the Bega Valley from Tilba in the north, Pambula in the south and Nunnock Swamp to the west primarily on private land.

Landholders across the region have been overwhelmingly supportive and interested, wanting to participate in the study. Unfortunately not all properties could be included. Given the range of different habitats across the region and the number of potential study sites, the focus needed to be on a particular group of water bodies. Natural and artificial wetlands were chosen due to their vulnerability to changes in hydrology and rainfall.

The first survey has revealed a total of 13 frog species with some sites hosting as many as seven different species. Records have been collected for almost 3,000 frogs across the region with around 8,000 pieces of data now



Common froglet in 'amplexus' at Panboola

Photo: Steve Sass

by Steve Sass

to sites where no Mosquito Fish were present.

The most common species recorded were the Common froglet, *Crinia signifera*, and the Southern brown tree frog, *Litoria ewingi*.

The Jervis Bay tree frog, *Litoria jervisiensis*, was only found in a couple of locations and has historically been recorded across the far south coast so there are concerns that it may be in decline in the region.

entered into the database. The surveys will continue in May 2012 and again in Nov/Dec 2012 with a final survey scheduled for May 2013.

While data analysis is only just beginning, a key threat was found operating in the region. The Mosquito Fish (*Gambusia holbrooki*) predate on tadpoles and a number of sites were located where this predatory fish was very abundant. Frog diversity was very poor at these sites in comparison

The most surprising aspect of the survey was a general lack of diversity with 13 species identified compared to historical records which have shown 24 local frog species. However, winter surveys and repeated surveys at the 53 study sites may reveal more.

If you would like more information on the study, or if you have images or sound recordings of frogs that you would like identified, Steve can be contacted by email (frogs@envirokey.com.au) or on 0432 414845.



Steve doing tadpole surveys with a sweep net

Taking Action for the Future by Alison Rodway

We've read the reports, listened to the scientists and know the climate is warming. We also know this will have impacts on many areas of our lives, from rising food costs, loss of property to adverse health effects. But what does this mean for the landscape around us? What are the predicted changes for our natural environment and for biodiversity in our region? And what difference can we make as land managers?

The *NSW Climate Change Action Plan* provides a useful summary of how South East NSW could be affected by climate change in 2050. Rainfall is projected to increase in summer and decrease in winter. Sea levels will rise, changing flood patterns and affecting the coast. Maximum temperatures and minimum temperatures are projected to increase throughout the year. The impact of the El Niño–Southern Oscillation is likely to become more extreme. In El Niño years, water stress is likely to be more intense due to higher temperatures. During La Niña years, storms with heavy downpours are likely to become more frequent. Increases in temperature, evaporation and high fire-risk days are likely to increase fire frequency and intensity.

As a result, we can expect to see widespread changes in natural and semi-natural ecosystems in our region. Many low-lying

coastal ecosystems are likely to be vulnerable to inundation and saline intrusion into the water table. Fire is likely to have substantial impacts, particularly in ecosystems not typically burnt, such as rainforest gullies. Grazing pressure from native herbivores is likely to increase on grasslands and grassy woodlands. Heavier summer rainfalls and sparser groundcover are likely to increase erosion of soils.

We have a large number of threatened species and endangered ecological communities (EEC's) in our region which are already significantly affected by factors such as land clearance, fragmentation, water



extraction, overgrazing, pests and weeds. Climate change is expected to exacerbate these existing impacts (for example, the range of pest animals and weeds will generally move southwards and shift to higher altitudes as a result of warming trends) and this will increase stress on these fragmented and degraded

ecosystems and on threatened species.

Some of the EEC's in our region which will be particularly affected by climate change include the lowland grassy woodlands, freshwater wetlands on coastal floodplains, salt marsh and, littoral rainforest.

Species that have survived previous climatic changes by evolving, changing their behavior, taking refuge or moving may find it more difficult to use these coping strategies when the change is rapid, especially where their habitat has been degraded, isolated or lost. Generalist species with wide geographic ranges and broad environmental tolerances will be likely to cope better than those with narrower, more specific ranges and less tolerance to environmental changes.

What can landholders do?

Around 30% of land in the Bega Valley Shire is managed by private landholders. Their contribution to maintaining and improving native vegetation is significant and will have an impact on the health of ecosystems and the survival of many plants and animals. Some of the things that landholders are already doing and which will help are:

Build resilience. Managing your land to reduce threats such as weeds, pest animals and fire and maintaining good species diversity can help species and ecosystems resist climate change impacts.

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Create networks linking native vegetation across regions.

These may be corridors or closely linked patches of vegetation that connect larger protected areas such as National Parks or conservation reserves. Healthy riparian vegetation along water courses can form corridors linking different parts of the landscape. These networks will enable some plant and animal species to migrate as climate changes.

Create refuges by maintaining and enhancing native vegetation on your property. These are places where plants and animals can survive extreme weather events and then disperse to other areas as conditions allow.

Put in place a Conservation Property Vegetation Plan. This agreement can be registered on title and protect biodiversity in perpetuity on a property. Contact vegetation staff in your local Catchment Management Authority for details.

Create buffer zones around core remnants of existing healthy native vegetation to provide protection from threats such as weeds. For example, landholders adjacent to conservation reserves can contribute to the health of those areas by maintaining healthy vegetation on their own properties.

Maintain groundcover and pasture health. Utilise techniques such as rotational grazing and monitoring groundcover to ensure that the soil is always protected from large rainfall events and to maximise infiltration of moisture. Rotational grazing will also improve plant health by maximising root systems. It also helps maintain grassland diversity. Creating local micro-climates using paddock trees and native shelterbelts will also improve grassland growth and protection and provide shelter for livestock and native fauna.

Protect wetlands and hanging swamps from erosion. These vital parts of the landscape are

becoming more and more important in both a drying climate and a landscape with more severe weather events. They buffer flood events by absorbing large amounts of rainfall and then release it slowly over dryer times.

Participate in community monitoring efforts to measure changes in biodiversity that may be a result of climate change.

Mitigate against climate change. Since carbon is removed from the atmosphere and stored in plants, maintaining and expanding areas of existing native vegetation will contribute to reducing levels of carbon dioxide in the atmosphere. And keeping up personal efforts to reduce our carbon footprint are important.

For more detailed information about the issues raised in this article and for funding opportunities see the Climate Change Page of the CMN website: fscmn.com.au/fscmn_resources.html

Seedbank

by Karen Walker

Since the last newsletter I have experienced a fast and furious festive season which has had nothing to do with religious celebrations!

Following a slow, cool spring the fruit formation on most species has been fabulous, so that my festive season was dedicated to collecting as much variety of seed as possible (30-40 different seed lots). Predation by insects and animals was less than previous years, presumably due to generally greater supplies of green vegetation. Thankfully I was able to beat the short spate of really dry conditions which finished off anything that was ready for harvest.

The seedbank now has good supplies of *Acacia implexa* which has flowered abundantly this season, with previous season's seed ready to pick



Brachychiton populneus - Kurrajong

Photo: Jackie Miles and Max Campbell

at the same time as flowering which is a bit unusual for wattles. A freak lightning strike/fire event allowed me to collect a small amount of *Eucalyptus bosistoana*, though someone has suggested that wood/seed could be altered as a result of the energy surge – if anyone knows more about this I would be keen to hear.

I am still waiting for flowering/fruitletting on kurrajongs so please keep me posted if anyone sees action in this department.

Now comes the more tedious work of drying, processing and storing all that seed plus beating the mice to it! As it cools down I'm looking forward to more leisurely collection of species such as *Lomandra* (mat rush), *Bursaria* (blackthorn) and *Tristaniopsis* (water gum/Kanooka). Read more about *Bursaria* in Ali's article on this much maligned species.

Sagittaria in the Brogo

by Jamie Dixon-Keay

Sagittaria (Sagittaria platyphylla) is a broad-leaf aquatic plant that has the potential to alter the ecology of rivers and impact on the biodiversity of creeks and wetlands. With sagittaria still at a relatively low density in the Brogo River system it is at a critical point for effective future control.

Sagittaria was first sighted in Brogo Dam in 1997 and formally documented in 2000 in the State of Vegetation Report for the Bega Valley Shire by Jackie Miles.

Spreading rapidly in slow moving waters it has the potential to choke out watercourses, wetlands and irrigation channels, impacting on environmental values of river systems and agricultural farming practices.

Sagittaria spreads via rhizomes or tubers expanding from existing colonies or it can float as mats that break away from the parent body and come to rest downstream. It also spreads efficiently by seed with each plant producing more than 10,000 seeds. It is a perennial plant that can grow up to 1m in height. Stems are triangular in cross section and leaves have a lance or arrow shape with a distinctive green colour. It germinates in spring and flowers in summer with white flowers up to 3 cm in diameter.

Sagittaria is similar to the white-flowered native water plantain (*Alisma plantago-aquatica*). It can be distinguished from water plantain by the following features: sagittaria has submerged strap-like leaves as

Photos: Jackie Miles and Max Campbell



Sagittaria platyphylla in the Brogo dam

well as emergent spoon-shaped leaves, and has larger flowers (3cm diameter compared with 1cm in water plantain).

Sagittaria is declared a Control Class 5 noxious weed across NSW. It must not be bought, sold or knowingly distributed.

Mapping of the infestation area in February 2011 revealed a widespread infestation across Brogo Dam and along the Brogo River some 15 km downstream of the dam wall. As the Brogo River is a major tributary of the Bega River Catchment, it has the

potential to spread to other major river systems on the South Coast as well as the 86 wetlands that occur across the Bega River floodplain.

Bega Valley Shire Council, Southern Rivers Catchment Management Authority and State Water Corporation have joined forces to contain and reduce the infestation over the next 10 years.

What can landholders do?

Learn to recognise the plant and check your watercourses, wetlands and dams for infestations.

If you find this weed, help prevent its further spread by contacting Bega Valley Shire Council Weeds Officers on 6499 2222 for positive identification and assistance.

Read more about sagittaria on the CMN website: fscmna.com.au/weedsresources.html



Sagittaria platyphylla flower

Merimbula Star-hair in a suburb near you

by Steve Sass

When you mention Tura Beach, most people think of popular residential area and great beaches. Indeed, more than 2700 residents call Tura Beach home, but the area also is also home to one of the regions most endangered plants, the Merimbula Star-hair (*Astrotricha* sp. *Wallagaraugh*).

The Merimbula Star-hair is an inconspicuous single or multi-stemmed shrub that grows up to 2 metres in height with the undersides of their linear leaves being woolly or hairy in appearance. Plants generally flower between October and December however this season, flowering was recorded through to mid-January. Currently, the species is known from only two locations in New South Wales – one within the Yambulla and Timbillica State Forests around the upper reaches of the Wallagaraugh River (known as the Yambulla/Timbillica population), and the second at Tura Beach (known as the Tura Beach population).

On the 16th February 2007, the Merimbula Star-hair was listed as Endangered under the NSW Threatened Species Conservation Act 1995 as, in the opinion of NSW Scientific Committee, the species was facing a very high risk of extinction given the small population size and the fragmented nature of its distribution.



Photos: Linda Sass

EnviroKey have been conducting surveys for Merimbula Star-hair on private and public land over the past two years and we are beginning to develop a good understanding of the current distribution at Tura Beach. This data, once complete, will allow both an analysis of distribution over time and identify key threats to the population.

While generally considered detrimental to some flora species, disturbance appears to play a role in the presence of the Merimbula Star-hair. We have found that at some sites, this endangered species is also the most abundant plant and this is likely an artefact of previous slashing or clearing of vegetation (ironic for an endangered species). However, in areas where noxious weeds such as African lovegrass are more abundant (easily spread by slashing equipment), Merimbula Star-hair is virtually absent.

Although it is highly probable that disturbance frequency plays an important role in the future management of the Tura Beach population, and future research is likely to reveal the finer details, there are significant penalties for picking, mowing, or removing Merimbula Star-hair without consent, even unknowingly.

There are numerous 'hot spots' around Tura Beach where Merimbula Star-hair occurs and can be easily observed. The road reserve along Sapphire Coast Drive and adjoining land as well as the land bounded by Golf Circuit and Pacific Way support a major proportion of the population. There are also a couple of plants growing in cracks within the concrete gutter of Golf Circuit.

So next time you are in Tura Beach, think Merimbula Star-hair.