

GREETINGS LANDCARERS

Brunswick Valley Landcare and the locality groups have been busy with working bees, enjoying the cooler, dryer weather.

This month you will find opportunities for landholders to get support with landslip assessments (see p.3&4) and help protect koalas through private conservation agreements (see p.5-6).

Our projects are progressing with some winding up at the end of 2022, whilst new projects are emerging, in particular Stage 3 Broken Head corridor funded by NSW Environmental Trust (p.2).



R Meredith: *Eleocarpus grandis* Blue Quandong

BROKEN HEAD COASTAL CORRIDOR RESTORATION STAGE 3 – LINKING TO COOPERS SHOOT \$170,000 NSW ENVIRONMENTAL TRUST

Stage 3 aims to improve condition and connectivity of a critical wildlife corridor from high biodiversity areas of coastal Broken Head to Coopers Shoot ridge, including the isolated Hogans Bluff Big Scrub rainforest remnant. Working on seven properties in Midgen Creek catchment, Byron Shire, the project will include fencing, assisted regeneration and plantings to improve water quality, create and improve habitat and linkages to support threatened species. Increased ecosystem health and connectivity will in turn help to mitigate the impacts of climate change. The project expands previous successful Environmental Trust funded projects covering stage 1 (2014-2017) and stage 2 (2018-2021). These projects inspired other landholders to become involved in this new project.

Link to all the successful projects

<https://www.environment.nsw.gov.au/funding-and-support/nsw-environmental-trust/grants-available/environmental-restoration-and-rehabilitation>



Broken Head looking towards Hogan's Bluff. Credit: Annette McKinley



Local Land
Services

Landcare Networks working together to support Landslip Recovery in the Norther Rivers

The severe rain events that impacted the Northern Rivers in February and March 2022 caused thousands of landslips across the region. A group of Landcare Networks are working together to support landholders to stabilise slips, prevent further soil erosion and minimise the impact of landslips on threatened species and ecological communities.

'Landslips are a massive concern in the Northern Rivers since the February- March 2022 severe weather event. Many people have experienced impacts to infrastructure and access to their properties. Landslips also pose an ecological threat opening up the landscape to weed dispersal and erosion.' says Emma Stone Local Landcare Coordinator for the Border Ranges Richmond Valley Landcare Network (BRRVLN).

The Landslip Recovery project is funded by North Coast Local Land Services. **The project will offer support to landholders where landslips on their properties threaten the conservation values of threatened ecological communities** such as Lowland Subtropical Rainforest and Coastal Swamp Oak Forest.

The Border Ranges Richmond Valley Landcare Network are working in partnership with Brunswick Valley Landcare, Richmond Landcare Inc and Tweed Landcare Inc to deliver this project.

Eligible sites will be assessed by qualified professionals which may include engineers, soil conservationists and/or bush regenerators. Landholders will be provided with a tailored remediation plan that will outline strategies that can be undertaken to mitigate soil erosion and future movement and consideration to revegetating slips which may include tree planting and direct seeding techniques.

At this stage there is no assurance of financial support for undertaking on-ground works outlined in the remediation plans. Our intention is that landholders can use these plans to undertake self-funded works or to apply for future funding opportunities.

For more information visit <https://www.brrvln.org.au/news/northern-rivers-landslip-recovery-project>

Landholders can register their landslips via an electronic form <https://form.jotform.com/221858076283867>

Please address enquiries to Project Officer - Tamar Cohen
tamar.cohen@brrvln.org.au or phone 0438 752 233

NSW Flood Recovery Response



[Holding Hands Under Ground \(HHUG\)](#) has formed a partnership with [Engineers Without Borders Australia \(EWB\)](#) to mobilise professional engineers able to offer voluntary support to flood-affected communities in the Northern Rivers region.

Have you been impacted by the floods and need our support?

If you require engineering support such as assessments for damage to your house, road or causeway, please email info@ewb.org.au and we will get back to you as soon as we can with a form to fill in. Please note this initiative is kicking off in the Tweed and Byron Shires, though is committed to supporting all Shires of the Northern Rivers.

Call for additional support

If you are a professional engineer with a background in civil, structural, geo-technical engineering and/or program management, we need your help! Please consider signing up as one of our recovery volunteers and help support recovery efforts for flood-affected communities.

If you live in the Northern NSW region and can provide short-term accommodation for our volunteers, we'd love to hear from you. We're looking for community members to host our volunteers anywhere from a few days to a couple of weeks whilst they contribute to the flood recovery response. If you have available accommodation, please contact HHUG at ella@hhug.org.au.

If you are from a local Council or organisation, we would welcome a conversation with you to discuss how we can work together to support flood-affected communities in the Northern Rivers region. Please contact EWB and HHUG at info@ewb.org.au to discuss.

If you're a photographer, videographer or journalist based in Northern NSW, please consider volunteering your time to assist EWB Australia and HHUG in our storytelling efforts. Images and footage captured will be used in blog posts and social media. If you are interested in volunteering your time and expertise to tell the stories of communities impacted by the floods, please click [here](#), then scroll down to click on 'Videographers, Photographers and Journalists (Northern NSW Region).



AUSTRALIA

Leave a lasting legacy for future generations by protecting koala habitat

PROTECTING KOALA HABITAT IN THE NORTHERN RIVERS THROUGH PRIVATE LAND CONSERVATION AGREEMENTS

East coast koalas have recently been listed as Endangered - one step closer to extinction due to the massive decline in populations.

Your support to restore and protect their habitat will help reverse their decline.

To the Landholder,

Seeking Expressions of Interest: Protecting koalas in the Northern Rivers

Are you interested in helping to maintain the local koala population and increase the quality of their habitat?

WWF-Australia, the NSW Department of Planning and Environment, the Biodiversity Conservation Trust and Envite Environment have partnered to invest funds and further incentivise permanent conservation agreements for private landholders to protect, restore and manage koala habitat on their land in the Northern Rivers region of NSW. The Northern Rivers supports key koala populations that are of statewide significance. This project will contribute towards securing these populations for future generations through private conservation agreements developed with the NSW Biodiversity Conservation Trust (BCT).

What is a Conservation Agreement?

A Conservation Agreement is an in-perpetuity voluntary agreement between the landholder and BCT to conserve and manage biodiversity on an area of your land. These agreements are registered on the land title and are binding on subsequent landholders. This option may suit you if you have areas on your land that contain high quality koala habitat and you wish to ensure those values are protected into the future.

Eligibility Criteria

- Privately owned land within the Northern Rivers shires or Councils - Lismore, Tweed, Byron, Ballina, Kyogle, Richmond Valley and Clarence Valley
- Minimum 20 hectares of moderate to good condition high quality koala habitat (koala sightings/records, mapped koala habitat and or presence of preferred koala food trees)
- Exceptions will be considered for smaller sized properties with resident (breeding) koala populations and other conservation values
- Be willing to enter into an on-going conservation agreement with BCT

Funds Available

Funding of up to \$45,000 over three years is available for eligible activities within the conservation area, delivered through Envite Environment, with on-going support options thereafter. You may also be eligible for discounts on Council Rates and Land Tax.

Activities Eligible for Funding

Qualified contractors will undertake works, which may include:

- Weed control
- Fencing
- Pest animal control
- Revegetation
- Fire management
- Habitat restoration (nest box installation)
- Repairs to existing features such as tracks to maintain the conservation area
- Native vegetation restoration planning
- Project or grant management support

For more information

Fiona Dawson | Koala Habitat Restoration Ecologist

Envite Environment

0427 957 277 | fionad@envite.org.au

Report sick, injured, or orphaned koalas to Friends of the Koala on 6622 1233 and sightings online at friendsofthekoala.org. For Clarence Valley, phone WIRES on 1300 094 737 and report sightings via the Clarence Valley Council Koala Register. An additional sightings tool is the NSW Government "I Spy Koala" app.



**REGENERATE
AUSTRALIA**



WILDLIFE SAFE HAVENS GLIDER CONSERVATION PROJECT BYRON SHIRE

The endangered Greater Glider has been recorded near Byron Bay, NSW for the first time in over 20 years.

A female and joey were spotted by the Wildbnb Wildlife Habitat team while working on a project for Brunswick Valley Landcare and Landcare Australia.

The extinction risk for Greater Gliders in NSW and Victoria was this month (5 July 2022) upgraded to Endangered (EPBC Act).

Habitat loss from logging, land clearing for agriculture, intensifying bushfires and rising temperatures have combined as major threats and finding the largest gliding possum in eastern Australia has become a rarity.

Wildbnb's Locky Cooper said the discovery of Greater Gliders was a significant find for the region and provided some hope that pockets of suitable habitat remained for this threatened species facing extinction.

'Greater Gliders need big trees with large hollows and are the original real-estate moguls, using up to 20 hollows to shelter and reproduce' Locky said.

'To see the female and joey was monumental, and such a rare sight'.

The Southern Greater Glider is now listed as endangered, which means the species is at high risk of extinction in the short-term'.

'There's a real sense of urgency to this important work, and the Wildbnb team is motivated more-than-ever to identify ways to protect habitat for Greater Gliders and to better understand, and respond-to, the local challenges impacting their survival'.



A female Greater Glider with joey, *Petauroides volans*, detected at Upper Main Arm, NSW, as part of the Landcare Led Bushfire Recovery Grant-funded project for Brunswick Valley Landcare. This is the first recorded sighting of Greater Gliders in the Byron Shire since 2002 (BioNet Atlas). This month (5 July) the conservation status for this species was upgraded to Endangered (EPBC Act).

Image credit: Locky Cooper, pixofnature.com, Wildbnb Wildlife Habitat

Greater Glider facts:

- Greater gliders were once abundant along the east coast, but populations have crashed by 80% in the last 20 years
- Greater Gliders have been recorded living up to 15 years
- Greater gliders are nocturnal, spending their nights foraging on young leaves and flower buds of select eucalypt species in the highest parts of the forest canopy
- During the day, they spend most of their time in tree hollows, with each individual inhabiting up to 20 different dens within their home range
- Greater gliders can glide up to 100 metres in a single glide and can change direction at 90-degree angles mid-flight
- They steer by using their long tails and altering the curvature of their gliding membranes
- Their fur is soft and grows up to 6cm thick, and can range from white to brown to charcoal in a single population
- They're also the largest species in the ringtail possum family, and the only one that doesn't have a prehensile, grippy tail. But what they lack in grip they make up for in gliding.
- Some Greater Glider's tails can be twice the length of their body. An adult greater glider can be anywhere between 30 cm from 45 cm long, with their tail extending another 45 cm to 60 cm
- Baby gliders are born once a year, in late autumn or early winter, and stay in their mother's pouch until nine months of age
- Greater gliders are completely silent and have no distinctive calls and never chat with one another. It is thought that they communicate through scent-marking. Apart from using their patagia, or gliding membranes, to glide through the air they also use them as a blanket to keep warm during cold nights.
- Scientists recently discovered that there are actually three species of the Greater Glider, not one as previously assumed
- The Southern Greater Glider, *Petauroides volans*, which lives in NSW and Victoria's eastern forests, is the largest of the family.

The Brunswick Valley Landcare & Wildbnb Wildlife Habitat Project:

- The Brunswick Valley Landcare project was funded by the Landcare Led Bushfire Grant
- Mullumbimby-based Wildbnb Wildlife Habitat designed and implemented the project
- 60 artificial hollows across the Byron Shire which were designed specifically for gliders. A total of 97 artificial hollows were monitored across the Byron Shire
- Together with monitoring these hollows, the team scanned the forest for large trees, suitable habitat and used plenty of detective skills to methodically search for Gliders
- The Wildbnb team also used a range of cutting-edge technologies to assist in the monitoring process including hollow-mounted cameras, nest box-mounted cameras, pole cameras, Audio Moth recording devices and borescopes.
- Together with the significant discovery of Greater Gliders in the Byron Shire Hinterland, the project team monitored Sugar Gliders, *Petaurus breviceps*, at The Pocket, McLeods Shoot, Mullumbimby, Ocean Shores, Myocum, Mullumbimby Creek and Upper Main Arm.



BOTANISTS ARE DISAPPEARING – JUST WHEN THE WORLD NEEDS THEM MOST

By Sebastian Stroud PhD Candidate in Ecology and Botany, University of Leeds

As a species, we are not programmed to recognise and register everything we see within our field of vision. This would be an overwhelming amount of information for our brains to process.

Most people suffer from what is commonly known as “plant blindness”, a term coined by US botanists Elisabeth Schussler and James Wandersee. They described it as “the inability to see or notice the plants in one’s own environment”. Unless taught, people don’t tend to see plants – despite the fact that at any given moment, there is likely to be a plant – or something made by plants – nearby.

Reviving botanical education is possible by presenting students and the public with evidence of how plants can combat the challenges of the 21st century. An invested and knowledgeable public is one well-equipped to demand environmental policy reform.

You can however, with a little time and practice, be trained to read the plants around you: to recognise which species they belong to and their names, their relationships with other organisms and what they are telling you about the environment they live in. This is to develop what some call a natural literacy.

Botany, once a compulsory component of many biology degrees and school programs, is disappearing fast. It has been over a decade since a student was enrolled in a botany degree in the UK. We believe there has been a gradual erosion of knowledge about plants among biology graduates and the general public as a result.

Plants are relevant to every person on the planet – most just don’t know it yet.

<https://theconversation.com/botanists-are-disappearing-just-when-the-world-needs-them-most-186849>



Credit: Cassandra Lord/Shutterstock

PROTECTED

LITTLE AUSSIE BATTLERS: OUR PRECIOUS SKY FARMERS

Our flying foxes are the ultimate sky farmers, they are **keystone pollinators** and critical in ensuring the survival of our great Australian Eucalypt forests and the overall health of our ecosystem. When they feed on nectar found in flowering trees and shrubs, the pollen sticks to their fur and as they fly off, they are able to pollinate many trees over long distances.

Flying-foxes create new forests by dispersing seeds from the fruit they eat.

Their excellent vision and keen sense of smell helps them navigate their way over vast landscapes.

Each flying-fox can spread up to 60,000 seeds across a 50 kilometre stretch of land in one night.

Flying-foxes feed on >100 species of native plants; approximately evenly divided between nectar/pollen of flowering trees and fruits of rainforest trees and vines.

The four flying-fox species found in Australia are the **Grey-headed Flying Fox, Black Flying-fox, Little Red Flying-fox and the Spectacled Flying-fox** are all protected under various state environmental legislation as native animals. Species in NSW are protected under the National Parks and Wildlife Act 1974.

As such, **it is an offence to harm these animals**. The Grey-headed Flying-fox and Spectacled Flying-fox receive further legislative protection under the Environment Protection and Biodiversity Conservation Act 1999 due to their National and State threat-listings that have categorised both species as Vulnerable to Extinction due to their rapidly declining populations.

Flying-fox numbers have decreased dramatically over the last 50 years due to a continual loss of habitat and changing climatic patterns. Grey-headed flying-foxes are now listed as vulnerable to extinction. **Urban encroachment, land clearing, agriculture and drought have led to flying-foxes seeking alternative habitat such as patches of bushland in urban areas** in which to roost and forage. This has brought them increasingly into conflict with their human neighbours. **Now, more than ever, we need to find ways to co-exist with this incredibly important native species.**

And it is not just their survival that is at stake. The 2009 Federal Draft Species Recovery Plan for the Grey-headed Flying-fox identified that protection of the species would benefit 6 threat-listed plant species and populations, 57 threat-listed vegetation communities, 26 threat-listed birds and 19 threat-listed mammals.

Flying foxes are clean animals, they constantly groom themselves, but use scent to locate family members, offspring and for breeding. They also invert themselves to go to the toilet to avoid messing up their fabulous fur.

<https://littleaussiebat.com.au/flying-fox-facts>



Spectacled



Little Red



Black Headed



Grey Headed

BUSH STONE-CURLEWS IN BYRON AND BALLINA SHIRES

Bush Stone Curlews are extraordinary birds with large light coloured eyes and an unmistakable call. They are monogamous and co-parent when raising chicks.

They have been observed in Byron Shire at Brunswick Heads and Ballina in a fenced electrical sub station.

In the past Bush stone curlews were in far greater numbers, but have declined due to habitat loss, fox, cat and dog predation.

By day they use camouflage as a survival tactic, sitting still and blending in with their surrounds.

Bush stone curlews are nocturnal preying on insects and lizards, seeds, small mammals.

Can you see the chick in the photo on the bottom right?

This photo was captured on Macleay Island.

Whilst observing and photographing the parent, I was not aware the chick was there.

The parent was making a low growling hissing sound warning me to stay away and after taking these photos I promptly moved away.

If you see an injured bush stone-curlew or any injured bird please call Wires Northern Rivers 0409 170 062.

This article was inspired by Jan Olley's article in the <https://www.echo.net.au/2022/06/bush-stone-curlews-in-byron-shire/>



Credit R Merdith

DOUBLE BANDED PLOVERS SPOTTED IN BALLINA

Double banded plovers have been spotted in North Creek, Ballina.

Double Banded Plovers are the only plover in Australia with two breast bands or two broken bands or tabs when not breeding.

These beautiful little Plovers migrate east west from New Zealand in March after breeding, rather than north south like many other migratory species.

They spend the winter in Eastern Australia foraging on mudflats and estuaries feeding on molluscs, crustaceans, insects, and occasionally seeds and fruit.



Credit: Birds in backyards & birdlife Australia

DO WATER CRYSTALS ACTUALLY WORK?

By Mark Dunphy and Joe Harvey Jones

Water crystals or hydrophilic gels, or “hydrogels”, which are also commonly known as superabsorbents, are crosslinked polymers that can absorb 400 to 1500 times their dry weight in water.

The exact chemical composition of hydrogel products are trade secrets and many are simply described as “polymers” or “polyacrylamide”.

Do hydrogels work?

The research says they definitely work. They are an effective way of increasing survival rates in those critical first few months, according to the majority of research conducted, particularly in sandy and heavy clay soils or arid and semi-arid environments. Less research has been conducted in tropical areas and loamy soils, however findings suggest the results are still positive.

How to use hydrogels

1. Fully hydrate before use

The hydrogel must be fully hydrated before use, which can take up to 30 minutes. To ensure this is the case keep adding water and mixing till water is sitting unabsorbed on the surface. Placing the unhydrated powder in the hole will result the hydrogel taking in water, expanding and pushing the planted tree out of the ground.

2. What can I mix with hydrogels?

All fertilisers effect the structure of the polymer and reduce the water holding capacity of the hydrogel, however slow-release fertilizers such as Nutricote are significantly better than liquid fertilizers such as Aquasol or Charlie Carp.

3. How much do I use?

300mm to 600mm is commonly used for tubestock.

4. Where should I place the crystals?

This is critical to the hydrogels effectiveness. Do not mix it into the soil or put it in the bottom of the hole with soil on top. It is important to place the hydrogel in direct contact with the root zone of the planted tree. On a dry site or season completely surrounding the root ball is desirable, while in a wet year it is best to keep it all to one side to allow some of the root ball to drain.

For the full article see: <https://www.bigscrubrainforest.org/fact-or-fiction-do-water-crystals-work/>





CSIRO NEWS

AUSTRALIA TO LAUNCH NEW PLASTICS INNOVATION HUB IN VIETNAM

Globally, 75 per cent of plastic produced is becoming waste. To help address this, the Plastics Innovation Hub Vietnam will aim to significantly reduce plastic waste in Vietnam by driving collaboration and using science and innovation to develop real-world solutions.

The Plastics Innovation Hub Vietnam (the Hub Vietnam) is an initiative of Aus4Innovation, a development assistance program sponsored by Australia's Department of Foreign Affairs and Trade (DFAT), managed and co-funded by CSIRO and delivered in partnership with Vietnam's Ministry of Science and Technology.

CSIRO Southeast Asia Counsellor, Amelia Fyfield said that collaboration was the key to solving the global plastic pollution challenge.



<https://www.csiro.au/en/news/News-releases/2022/Australia-to-launch-new-plastics-innovation-hub-in-Vietnam>



NATIONAL HERBARIUM TO BE DIGITISED - CSIRO

The Australian National Herbarium in Canberra is imaging nearly a million plant specimens using an automated system developed by Netherlands company Picturae.

CSIRO Group Leader for Digitisation & Informatics, Pete Thrall, who oversees digital assets at the National Research Collections Australia, managed by CSIRO, Australia's national science agency, said the project would help inform bushfire recovery and biosecurity.

"Digitising the herbarium is a huge leap forward for sharing specimens for research. As a result, we'll be able to provide information quickly for projects like bushfire recovery and biosecurity," Mr Thrall said.

"Creating a digitised replica also provides security for the herbarium's irreplaceable physical specimens," he said.

Parks Australia imaging manager Ms Emma Toms, located at the Australian National Herbarium, who is coordinating the Picturae project, said the work would be completed over the next 9 months.

<https://blog.csiro.au/digitising-the-australian-national-herbarium/>



Machine learning and artificial intelligence (AI) enables researchers to extract trait information from images.

THE INDIGENOUS SEASONAL CALENDARS

SHARING AND LEARNING ABOUT INDIGENOUS KNOWLEDGE AND MANAGEMENT OF COUNTRY

Aboriginal and Torres Strait Islander peoples, Australia's First Scientists, have always held a deep understanding of the seasons, and of how to tell when seasons are changing.

Seasonal understanding of Country underpins many activities on Country. Recording this knowledge provides a powerful tool for Indigenous knowledge holders to demonstrate and communicate their connection to, use and management of Country.

Over the past fifteen years CSIRO has co-designed, refined and tested the application of a season calendar methodology with our Indigenous partners as a way of documenting and presenting seasonal understanding of Country.

The co-produced seasonal calendars have proven to be powerful tools in representing Indigenous understanding of, and connection to Country.

Importance of recording Indigenous seasonal knowledge

The calendars provide insight into the wealth of ecological, meteorological and hydrological knowledge Indigenous peoples in Australia hold for the environment.

<https://www.csiro.au/en/news/News-releases/2022/Indigenous-seasonal-calendars-showcased-in-new-series>



The seasonal calendars were created by senior Aboriginal knowledge holders, with support from CSIRO.



BREEDING OUT THE FERAL CAT PROBLEM

By Sophie Schmidt

A new type of genetic technology using CRISPR-Cas9, called 'gene drive', offers some hope.

It could theoretically be used to suppress populations of invasive pests in parts of Australia.

Gene drive is one of several potential applications of synthetic biology, an area of research that CSIRO has invested in, to build greater scientific capability within Australia over the past five years. Dr Aditi Mankad, Senior Research Scientist at CSIRO, leads a team of social and behavioural scientists exploring the social and economic research aspects of this program.

How gene drive works to control invasive species

Gene drive works by influencing the likelihood of offspring to inherit a certain genetic trait. An enzyme called Cas9, which can cut DNA, could, for example, deliver instructions to shed the X chromosome. This would virtually guarantee the cat's offspring would be only male. With each generation, the sex imbalance would tip in favour of males, with fewer females left to reproduce. A common misconception is that gene drive might affect other species upon release, which scientists can conclusively rule out.

<https://ecos.csiro.au/feral-cats-gene-drive/>



New research by CSIRO shows almost 90 per cent of Australians support the development of genetic technologies to protect our native biodiversity against the growing threat of invasive feral cats. Credit: Unsplash

THE OCEAN IS A CHAOTIC AND ENERGETIC STRATIFIED FLUID ON A SPINNING PLANET WITH CASCADES OF ENERGY ACROSS SPACE-TIME SCALES.

By Jessica Sweeney, Tracey Pitman

Predicting the ocean requires mind-boggling technology, from salty robotic drifters and pristine supercomputers.

Scientists around the world are being challenged to develop 'the science we need for the ocean we want'.

Better predictions will bring benefits to many areas. In particular, ocean economies, coastal resilience, and our understanding of the ocean-climate nexus.

A large fleet of drifting robots called Argo helps us measure ocean temperature and salinity from the surface to 2000 m depth. When each Argo float surfaces every 10th day it transmits its measurements via satellite. The data is then shared with the global user community.

Satellites measure height by emitting a radar pulse and measuring the time it takes to go down to the ocean surface and back again. Altimeter data are then adjusted for waves, tides, water vapour and many other things.

<https://ecos.csiro.au/bran2020/>



Forecasting the ocean for tomorrow requires a good understanding of what state it is in today.



The most recent Wilson's Creek Huonbrook Landcare newsletter is now available. There's a great summary of the recent Seedy workshop and also the story of the Wilson's Creek Swing bridge that sadly didn't survive the floods.

[Final-Master-July2022-WCHL-newsletter-bs.pdf \(brunswickvalleylandcare.org.au\)](https://www.brunswickvalleylandcare.org.au/Final-Master-July2022-WCHL-newsletter-bs.pdf)



MANGROVE AND REEF RESTORATION YIELD POSITIVE RETURNS ON INVESTMENT FOR FLOOD PROTECTION, STUDY SHOWS:

**A robust analysis demonstrates that nature-based solutions to reduce the damage caused by coastal flooding are cost-effective -- ScienceDaily
Source: University of California - Santa Cruz**

Restoration of mangroves and coral reefs can be a cost-effective solution for coastal flood reduction. Researchers used methods from the risk and insurance industry to provide rigorous valuations of these natural defenses and show that they can deliver a positive return on investment, with the benefits from reduced flood damage exceeding the costs of restoration. The results point toward new opportunities to support restoration efforts with funds from sources that support hazard mitigation, climate adaptation, and disaster recovery, including FEMA.



Credit: Jurgen Freund/NATURE PICTURE LIBRARY/SCIENCE PHOTO LIBRARY

<https://www.sciencedaily.com/releases/2022/06/220617122305.htm>

REGENERATIVE AGRICULTURE

GRAPE GROWERS ARE ADAPTING TO CLIMATE SHIFTS EARLY – AND THEIR KNOWLEDGE CAN HELP OTHER FARMERS

Bill Skinner, Douglas Bardsley, Georgina Drew

Farmers are on the front line of a shifting climate. In regional Australia, many farmers are already responding to climate change threats and finding ways to adapt.

Wine grape growers are among those who are responding fastest. That's because their crop is extremely sensitive to weather and climatic shifts. Growers have had to learn quickly how to adapt to safeguard their industry. Pruning for better canopy management, growing cover crops to keep the ground cooler and promote soil health, and reduce water use in irrigation.

<https://theconversation.com/grape-growers-are-adapting-to-climate-shifts-early-and-their-knowledge-can-help-other-farmers-183636>



Vineyards have to reduce water use. Credit: Shutterstock



CHECK OUT THIS INSPIRING VIDEO FROM FARMERS FOOTPRINT AUSTRALIA

Meet some inspiring Australian's at the forefront of the regenerative farming movement, who through their own unique experiences have come to find themselves on a journey towards improved human and planetary health. This short film gives a snapshot of the issues our farmer's face as stewards of our land, as well as the solutions that adopting principles of regenerative agriculture can provide to some of our greatest environmental challenges.

<https://www.youtube.com/watch?v=xW7Hcn3ZDjU>

[We are Farmer's Footprint Australia - YouTube](#)



INDUSTRY EXPERTS URGE PRODUCERS TO BE CAUTIOUS ABOUT SIGNING UP TO CARBON FARMING SCHEMES

ABC By Liz Rymill and Eliza Berlage

Soils Advocate Penny Wensley issued the warning during her visit to the South East region of South Australia.

Ms Wensley said soil had been "moving up the agenda" of governments in Australia and overseas because of wider recognition of the importance of soil organic carbon, as well as increasing interest in carbon sequestration and using soil to adapt to a changing climate.

<https://www.abc.net.au/news/rural/2022-07-04/producers-warned-to-look-before-they-leap-into-carbon-neutral/101205884>



National Soils Advocate Penny Wensley AC met with agricultural industry stakeholders in Coonawarra. (Supplied: Tony Pasin)



COULD FLIES BE THE BACK-UP SPECIES TO POLLINATE CROPS IN PLACE OF BEES?

ABC By Georgia Hargreaves

Researchers in Western Australia have confirmed a blowfly species to be as good at pollinating as bees. Since the Varroa mite outbreak in New South Wales, the threat of losing bee populations has become even more significant for beekeepers and farmers alike.

Scientists from the Department of Primary Industries and Regional Development (DPIRD) have been undertaking this research since 2019 as part of a national project funded by Hort Innovation.

The premise of the trials was that the industry was worried that it was solely reliant on one species of pollinator — bees — according to DPIRD senior entomologist David Cook.

[Could flies be the back-up species to pollinate crops in place of bees? - ABC News](#)



Right top: Native flies are "accidental" pollinators, and in some instances stay on flowers longer than bees. (Supplied: DPIRD)

Right bottom: Flies are hoped to be a back-up pollinator species to bees. (Supplied: DPIRD)



EVENTS AND SEMINARS

How to monitor your Soils
WORKSHOP
SATURDAY 20TH AUGUST 2022
9:00 - 2:00 Myocum

Want to know more about your soil health?

Learn the practical how to's of using the Soil Health Card system and interpreting soil laboratory analyses

workshop leaders (and desingers of the soil health card):
Dr John Grant - Southern Cross University
David Forrest - Organic Forrest

\$10 per ticket includes lunch

More information and ticket booking
<https://monitoryoursoils.eventbrite.com.au>



This project is supported by Byron Shire Council through funding from the Australian Government's National Landcare Program Smart Farms Small Grants



<https://monitoryoursoils.eventbrite.com.au>



SAVE THE DATE

Australian Biological Farming Conference and Expo 2022 Lismore SCU campus-December 2022

Friday, 2 December 2022

- 1.Pre-conference farm tours
- 2.Conference registration and welcome reception 5.00PM
- 3.Expo opening 5.00PM

Saturday, 3 December 2022

- 1.Conference sessions
- 2.Expo open
- 3.Conference Dinner

Sunday, 4 December 2022

- 1.Conference sessions
- 2.Expo open

Monday, 5 December 2022

- 1.Post-conference workshops

Details for delegate registration coming soon.

BYRON BIRD BUDDIES PROGRAM JULY 2022

General Info - This program may change, but will be up-dated as much as possible. If you wish to attend any outing, please phone or email the contact number provided. If it's raining the event may also be cancelled.

What To Bring - Always wear covered shoes and bring water, hat, sunscreen and insect repellent and something to eat for morning or afternoon tea and lunch if it's over the lunch period.

Contact - for all BBB Activities - byronbirdbuddy@gmail.com Mobile 0428864378. All welcome.

Wet Weather Policy - Take a risk or phone 0428864378

Tuesday 26th

08.00 start

Koonyum Range - details to be advise but meet at the junction of Wilsons Creek Road and Koonyum Range Rd - contact: byronbirdbuddy@gmail.com or phone - Mobile 0428864378

BBB - KBA

Wednesday 27th

08.00 - 13.00

To be advised - for more information

richmondbrunswickbirdwatchers@gmail.com

bandjmcnaughton@bigpond.com

RBB - outing will be decided at the end of the previous survey.

Saturday 30th

High Tide 9.17am

Ballina - Several sites to choose from or a site will be allocated - Contact Hans Wohlmut hwohlmuth@gmail.com

Ballina - BirdLife National Shorebird Monitoring



Barking Owl at Byron Wetlands. Photo by Bruce McNaughton.

BIOLOGICAL REGENERATIVE FARMING FIELD DAY

Local Field Day Ross Arnett Biological Macadamia Farmer Friday July 22nd

We are very fortunate to have Ross Arnett invite us to his farm to learn about his macadamia enterprise using biological regenerative farming methods involving **cover crops integrated pest management and fish emulsions** to name a few. We will discuss how you can reduce costs and chemicals to steer your farm to a lower input operation and definitely not just for Macca farmers.

Landowners who are looking at more biological processes to their farming practice will benefit.

It will be a great morning with likeminded farmers. Learn from some great knowledge and wisdom and bump heads with fellow farmers and landholders. There will be plenty to learn no matter what it is you grow.

There will be time for Q and A and a chance to get to know some of your fellow farmers in the area. It will be a great morning of learning and knowledge sharing.

If you are not familiar with Ross Arnett check out the landline link - **Meet the beneficial bugs helping this macadamia farm keep pests at bay | Landline**

<https://www.youtube.com/watch?v=XvPP6W0m1GA>

WHEN Friday July 22nd 8.45am – 12.30pm

WHERE: 292 Alphadale Rd Lindendale NSW

COST: free

There will be a good amount of walking so ensure you have sturdy shoes, in good health, raincoat, hat sunscreen. If you have a camping chair please bring that.

Tea and coffee and snacks will be provided.

Please RSVP to agriculture@byron.nsw.gov.au by July 15th be mindful that **spaces are limited** so be quick, we also ask that by RSVPing you commit to the day and ensure you can make it. Or please let us know if you cannot. 😊



Beneficial predatory insects

FUNDING



PILOT SOIL MONITORING AND INCENTIVES PROGRAM

Southern Cross University has been engaged by the Australian Government to deliver the Pilot Soil Monitoring and Incentives Program.

The Australian Government is providing \$54.4 million over two years to support farmers and land managers to access low-cost soil sampling and certified testing in exchange for sharing their data under the Pilot Soil Monitoring and Incentives Program.

Farmers and land managers may be eligible for benefits of up to \$10,000 and receive assistance from Commonwealth-funded soil extension officers to interpret their soil test results.

The program may assist farmers to gather data for Emissions Reduction Fund projects.

Southern Cross University will be working with farmers and scientific labs, including the University's Environmental Analysis Laboratory (EAL), to offer a comprehensive suite of soil sampling and testing, as well as putting land managers in touch with soil extension officers to interpret soil test results to better manage their valuable assets and enhance soil productivity, health and resilience.

Additional information on the program including eligibility criteria is available in our FAQs here.

Interested land managers can get in contact with Southern Cross University to apply.

<https://www.scu.edu.au/pilot-soils-program/>



**NATIONAL
GRANTS
PROGRAM**

Applications for the next round of National Grants are now open until 19 August 2022.

Have you got a project that will improve outcomes for native wildlife and their habitats?

WIRES has committed to a \$5 million dollar National Grants Program to be rolled out over five years. The WIRES National Grants Program (WIRES NGP) has been designed to support best practice rescue and rehabilitation of wildlife, an increase in emergency preparedness in the sector, along with native species recovery projects to improve long-term outcomes in Australia.

The challenges currently faced by our wildlife and the wild places they call home are immense. At WIRES, we believe that collaboration is the key to delivering tangible project outcomes to effectively tackle these challenges. Projects that utilise the expertise of and share knowledge between wildlife rehabilitators, researchers, conservation professionals, citizen scientists and community groups will lead to the best outcomes for our precious native species.

A total funding pool of \$1,000,000 is available across four tiers or categories each year.

Eligible applicants are invited to submit proposals for:

Tier 1: Individually Licenced Wildlife Rescuers and Carers (maximum \$1,000)

Tier 2: Licenced Wildlife Rescue and Rehabilitation Organisations (maximum \$5,000)

Tier 3: Environmental NGOs and Community Groups (maximum \$20,000)

Tier 4: Consortia/Multi-partner Collaborations (maximum \$50,000)

[WIRES National Grant Programs 2022 \(grantplatform.com\)](https://www.wires.org.au/grantplatform.com)

WEED OF THE MONTH

Giant Devil's Fig *Solanum chrysotrichum*

The aptly named Giant Devil's fig originates from Central America. An unpleasant upright and spreading shrub or small tree with prickly stems and leaves to 4m.

Young stems and leaves have small spikes.

Older parts of the plant have 3-9mm nasty thorns. Large leaves (9-35 cm long and 5.5-30 cm wide) are usually deeply lobed.

White star-shaped flowers (3-4.5 cm across) are borne in large branched clusters.

Globular fruit (10-15 mm across) turn yellow as they mature.

Spread by birds and flying foxes.

Adventitious roots grow out of the stem and plant can spread vegetatively from cutting and leaving on the ground, be sure to hang up cut plants.

Threats to the environment

Suspected of poisoning livestock.

Rapidly becoming a serious threat to native vegetation.

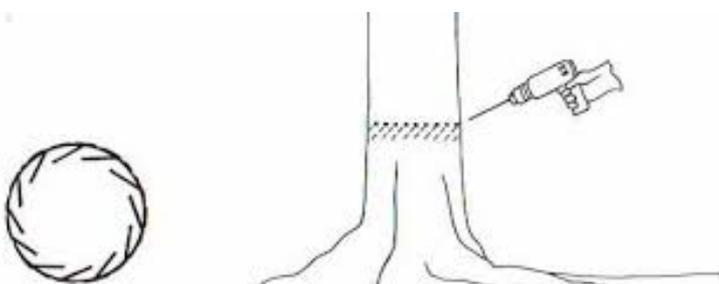
Treatment

Cut, scrape, paint with 1:1 Glyphosate + 1g Metsulfuron methyl. Also scrape cut stem and apply herbicide.

Stem inject larger specimens with the above formula.



Credit: Weeds of Blue Mountains



Credit: DPI

Credit: Brisbane city Council

<https://weeds.brisbane.qld.gov.au/weeds/giant-devils-fig>

WORKING BEES

-Why not get out and get involved in one of our local groups?

For all Landcare Working Bees please wear protective clothing - long pants, long-sleeved shirt, closed-in shoes, hat, gloves and bring water, sunscreen, and insect repellent. Please always contact the group co-ordinators before attending a working bee as plans do change!

Bangalow Land and Rivercare, Bangalow

WHEN: every Saturday 8:30am

WHERE: find out from

CONTACT: Noelene Plummer bangalowlandcare@gmail.com 0431200638 66874470

Green and Clean Awareness Team, Byron Bay

WHEN: 3rd Sunday of the month 9:00am

WHERE: Meet Main Beach, Byron Bay

CONTACT: Veda Turner vedaturner@gmail.com 0427 857 991

Heritage Park Landcare, Mullumbimby

WHEN: Saturdays 9:00am – 11:00 am

WHERE: Heritage Park, Mullumbimby

CONTACT: Diana Hughes bromspot@gmail.com

Jinangong Landcare, Ocean Shores

WHEN: 1st Sunday of the month

WHERE: The Tunnel Road, Ocean Shores

CONTACT: Ian Parer ianparer@hotmail.com

Mullum Town Landcare, Mullumbimby

WHEN: last Sunday of the month

WHERE: find out from John Tann

CONTACT: John Tann johntann99@gmail.com

Ocean Shores Landcare, Ocean Shores

WHEN: each Friday at 8.30 – 11.00 am (8.00am DST)

WHERE: corner of Yallakool Drive and Warrambool Road, Ocean Shores

CONTACT: David Kemp dnkemp77@gmail.com 0427 650 861

Tallowood Ridge Locality Landcare, Tallowood Ridge Mullumbimby

WHEN: Second Saturday of the month from 3pm (winter), 4pm (summer).

WHERE: Gathering Tree Pocket Park, Cockatoo Cres Tallowood Ridge Estate

CONTACT: Joanne McMurtry jmcmurtry@bigpond.com

South New Brighton Dunecare

WHEN: 1st Friday of the month 1:30pm - 4:30pm

WHERE: Meet at southern end of the Esplanade at the Strand beach access point.

CONTACT: Robyn Bolden robyn.bolden@optusnet.com.au 6680 1970

Suffolk Park Dunecare

WHEN: 1st Saturday of the month

CONTACT: Helen Brown hellyh@bigpond.com 6685 4964

Tyagarah Landcare

WHEN: Each Thursday 9:00am – 11:00am

WHERE: 23 Prestons Lane, Tyagarah

CONTACT: Bela Allen bela_allen@yahoo.com 6684 7113

Can't find a group near you? We have many other groups who meet on an ad hoc basis (contact us for more details) or if there isn't an existing group in your neighbourhood or you are interested in looking after a particular area, BVL can help you to form a locality group under the BVL umbrella.

LINKS

- Arakwal <http://arakwal.com.au/>
- Border Rangers Alliance http://www.greasternranges.org.au/border_ranges/overview/overview
- Bangalow Koalas <http://www.bangalowkoalas.com.au/>
- Bangalow River and Landcare <http://www.bangalowlandcare.org.au/>
- Big Scrub Landcare <https://www.bigscrubrainforest.org.au/>
- Brunswick Valley Landcare <http://www.brunswickvalleylandcare.org.au/>
- Byron Bird Buddies <http://www.byronbirdbuddies.com.au/>
- Byron Community College <http://www.byroncollege.org.au/>
- Byron Shire Council <http://www.byron.nsw.gov.au/>
- EnviTE www.envite.org.au
- Environmental Trust <http://www.environment.nsw.gov.au/grants/envtrust.htm>
- Friends of the Koala www.friendsofthekoala.org
- Federal Landcare Inc federalandcare@gmail.com
- Local Land Services www.northcoast.lls.nsw.gov.au
- North Coast Local Land Services <http://northcoast.lls.nsw.gov.au/>
- Border Ranges Richmond Valley Landcare www.brrvln.org.au
- Mullumbimby Community Gardens <http://mullumcommunitygarden.wordpress.com/>
- North Coast Nature <http://www.northcoastnature.org.au/>
- Richmond Landcare Inc. <http://www.richmondlandcare.org/>
- Rous County Council (formerly Far North Coast Weeds) <http://rous.nsw.gov.au/>
- Soilcare <http://www.soilcare.org>
- Tweed Landcare Inc. <http://www.tweedlandcare.org.au/>
- Wilson's Creek Huonbrook Landcare <http://www.wilsonscreeklandcare.mullum.com.au/>

**For information about Landcare or other natural resource issues in Byron shire please contact
Landcare Support Officer, Alison Ratcliffe 6626 7028**

(Mon, Tues, Wed)

aratcliffe@byron.nsw.gov.au

Project Officer, Rochelle Merdith 6626 7201 rmerdith@byron.nsw.gov.au

www.brunswickvalleylandcare.org.au

