

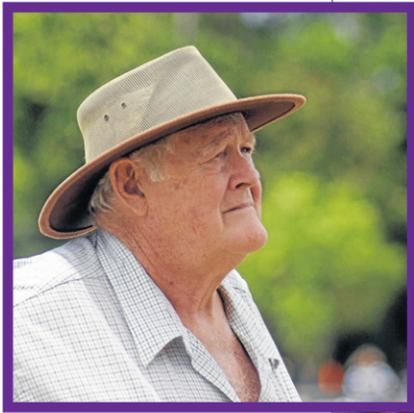
# Farming & caring for the Reef

**H**E WAS heralded as the nation's Individual Landcarer at the 25th anniversary National Landcare Awards last year but Russell Fry – who died soon after from a long-running illness – had long set in motion changes bringing together farmers and Landcare in Queensland, with the awards now set to recognise the crucial role of sustainable farming in conserving the Great Barrier Reef.

The State and Territory Landcare Awards have opened for nominations and the Queensland awards will be run in conjunction with Queensland Farmers Federation's first-ever Australian Government Reef Awards categories.

It is also the first time that Queensland Water and Land Carers, the Regional NRM Groups and Australian Coastal Societies have combined to offer a joint conference – the Reef, Range and Red Dust Conference at Caloundra – of which the awards gala dinner is a key element.

To celebrate the outcomes of the Australian Government Reef Programme and acknowledge the innovative primary producers who contributed, five new reef



ABOVE: The late Russell Fry, last year's winner, died soon after receiving his award – the National 2014 Individual Landcarer. The pioneering Queensland farmer believes sustainable resource use is good for farms as well as the environment.

program award categories will be added to the Queensland awards at the Reef Range and Red Dust Conference. Information on Queensland's conference and awards can be seen at [qwalc.org.au](http://qwalc.org.au).

Landcare leaders will also be recognised at other awards events during Landcare Week in September and beyond.

Since 2008, the Australian Government Reef Programme (previously Reef Rescue) has encouraged farmers and



Angle Mustafa, who farms at Babinda, Queensland, places fertiliser underground and uses air-induced nozzles for herbicides, ensuring the creeks remain free of contaminants.

graziers to improve farm practices that deliver water quality benefits in the Great Barrier Reef catchments.

Even before this, North Johnstone and Lake Eacham Landcare group on the Atherton Tableland in far north Queensland developed practical methods to accurately calibrate farm irrigation equipment and pass knowledge on to fellow farmers.

The group's Russell Fry and

Russell Molloy led extensive trials to gauge efficient use of water for irrigation for maximising production and minimising loss of valuable nutrients in run-off water.

Overwatering can take fertiliser below the root zone of pastures and crops, with nutrients moving via ground water into streams and out to the Great Barrier Reef.

Water allocation plans implemented in the past decade have led to significant

changes in the way that water resources are allocated. In some cases the volume of irrigation water allocated to each farmer has been drastically reduced.

But with practical tools to monitor irrigation demand, and greatly improved efficiency, farmers have gained savings in energy costs and fertiliser costs, as well as providing gains for the environment.

Celebrating a silver

Russell Fry and Russell Molloy led extensive trials to gauge efficient use of water for irrigation.

milestone this year, the State & Territory Landcare Awards celebrate the achievements of Landcare across a number of diverse areas.

These include Coastcare, Junior Landcare, Indigenous Land Management and Innovative Community Group categories.

Winners will proceed as finalists to the 2016 National Landcare Awards.

The State & Territory Landcare Awards are supported by Landcare Australia through funding from the Australian Government's National Landcare Programme.

● Entries for the State & Territory Landcare Awards close on 31 May, apart from in Victoria, where they close on 21 June, Tasmania where they close on 30 June and the Northern Territory, where they close on 28 August. For criteria and to make a nomination, go to [landcareonline.com.au/landcareawards](http://landcareonline.com.au/landcareawards).

## Reducing nitrous oxide in irrigation water

**N**ITROUS oxide – released as a result of microbial processes after nitrogenous fertilisers are applied to soils – accounts for about 17 per cent of agricultural emissions or 15pc of Australia's total greenhouse gas (GHG) emissions.

Nitrous oxide emissions are useful indicators of overall losses of nitrogenous fertilisers, leading to higher farm input costs. Reducing these highly potent emissions can lead to an overall reduction in on-farm fertiliser use, and contribute to Australia's efforts to reduce GHG emissions, mitigate climate variability and lift productivity.

Surface water run-off, particularly from flood-irrigated farms, is a significant source of Australia's agricultural nitrous oxide emissions. The Australian

government is a funder of research projects in partnership with state governments, universities, private companies and industry bodies that aim to reduce emissions by improving water and fertiliser efficiency, maintaining production and lifting farm profitability.

### Current projects:

**1** Assessing Opportunities for Mitigating Greenhouse Gas Emissions from Irrigated Broadacre Cropping Systems in the southern Murray-Darling Basin. Conducted by the CSIRO, it aims to identify nitrous oxide abatement opportunities for irrigated grain systems in the southern Murray-Darling Basin by comparing the effects of water and fertiliser management strategies on soil surface and sub-surface nitrous oxide emissions. The outcome

of the project will be to identify optimum strategies to reduce GHG emissions and farm inputs in a summer-winter irrigated cereal crop rotation.

**2** Indirect Emissions of Nitrous Oxide from Broadacre Irrigated Agriculture. Run by Cotton Research and Development Corporation, it aims to quantify indirect emissions of nitrous oxide and nitrate losses from surface water to deep groundwater.

The project measures the effects of water and fertiliser management on emissions from flood-irrigated cotton. Measurements are made in individual components of the irrigation network during filling and emptying stages of multiple irrigations during the season.

The outcome of the project will be to quantify the relative contribution of indirect

emissions from irrigation water to the total emissions of irrigated cotton farming.

**3** Reducing nitrous oxide emissions in key perennial tree crop industries. Run by the University of Tasmania to determine nitrogen fertiliser and irrigation (fertigation) application products and practices most likely to reduce nitrous oxide losses, while also improving fruit quality and tree productivity in apple and cherry orchards.

The outcome will be to develop management strategies to cut GHG emissions in intensive apple and cherry production. Preliminary results demonstrate that irrigation and nitrogen management strategies, such as avoiding water logging and leaching, are likely to mitigate nitrous oxide emissions.



Irrigated wheat growing in weighing lysimeters coupled to automated greenhouse gas chambers, at CSIRO, Griffith, NSW. – Source: JOHN HORNBUCKLE, CSIRO.

Water for Agriculture – the first themed four-page liftout for Landcare in Focus – is on p5-8.



## 2015 STATE & TERRITORY LANDCARE AWARDS

## NOMINATIONS CLOSING SOON!

If you or someone you know is working to protect or restore your local environment, farm, coastline, bushland, wetland, school, catchment or backyard, nominate them soon for a Landcare Award. Entries close from 31 May.



[www.landcareonline.com.au](http://www.landcareonline.com.au)

#landcareawards

By TESSA JAKSZEWICZ  
Landcare Australia CEO



## Major projects include millions of trees

**LANDCARE** Australia has secured a significant role as one of three service providers in the federal government's 20 Million Trees Programme – to manage multi-stakeholder, large-scale sustainable revegetation.

We will plant trees and associated understorey until at least 2018 to establish healthy self-sustaining communities that create habitat for threatened species.

We're looking forward to working with Landcare groups to get this important job done.

Further information is available on our website [landcareaustralia.com.au](http://landcareaustralia.com.au) and via [nrm.gov.au/20-million-trees](http://nrm.gov.au/20-million-trees).

Carrying out our commitment to renewal of our board, we have appointed three directors who will replace our longest-serving members: Bridget Dowsett, a dedicated bush regenerator who has worked in public policy for conservation; Hume Macdonald, a farmer and agribusiness expert who has had long-standing ties to Westpac, and; Alex Arbuthnot AM, a former president of the Victorian Farmers Federation.

I would like to thank them for their significant contribution to Landcare Australia and for the guidance they have provided me.

Our new directors are: Jan Davis, former CEO of the Tasmanian Farmers & Graziers Association and identified as one of our top 100 women in agriculture; Natalie Collard, outgoing CEO of Australian Dairy Farmers, and now corporate affairs Telstra, Victoria and Tasmania; and Adele Beachley, who has a wealth of business, mobile and digital technology experience including as a former head of Blackberry Australia.

We look forward to their generous contributions and thank our outgoing board members for their many years of service.

Our recent Coles Junior Landcare grants have been overwhelmingly popular with more than 1700 applications from schools and youth groups to create school gardens and associated programs.

It shows the strong demand for programs that connect kids with Landcare and creates a better understanding of where food comes from.

We are seeking to build this program further.

Landcare Australia has also developed a fundraising strategy with our first-ever fundraising manager to help us raise money for Landcare activities.

We have already launched a number of campaigns, including our financial year tax appeal – see the back page of this edition.

We are also again co-ordinating the state and territory Landcare Awards with support from the National Landcare Programme.

Nominations for some areas close as early as May 31 but others are open for several months.

Landcare in Focus is now available in electronic form via online subscription and it's free.

● Visit [landcareonline.com.au/resources/landcare-in-focus/landcare-in-focus-magazine/](http://landcareonline.com.au/resources/landcare-in-focus/landcare-in-focus-magazine/)

### AROUND THE NATION

#### ABARES meets

ABARES Outlook Conference was held on March 3-4 in Canberra with the theme The Business of Agriculture: Producing for Profit. The 16 sessions examined the key issues that will drive the profitability of the Australian agriculture sector.

● Transcripts, presentations and session videos are available from [agriculture.gov.au/abares/outlook-2015](http://agriculture.gov.au/abares/outlook-2015)

#### Aquaculture in view

THE federal government has committed to work with industry to develop a national aquaculture strategy. The National Aquaculture Statement was released by Senator Richard Colbeck, parliamentary secretary to the Minister for Agriculture, on June 8, 2014. The strategy aims to identify goals and action areas, timelines, responsibilities and reporting requirements. The strategy will include a comprehensive consultation process.

● If you want to participating in the strategy development or would like a copy of the terms of reference, email [aquaculturestrategy@agriculture.gov.au](mailto:aquaculturestrategy@agriculture.gov.au)

#### Forestry analysis

OUTLOOK scenarios for Australia's forestry sector: key drivers and opportunities, was recently released by the Australian Bureau of Agricultural and Resource Economics and Sciences. The report describes a range of outlook scenarios for the forestry sector and analyses the availability and use of logs, opportunities for primary processing, and factors affecting these outlooks to 2050.

● This publication is available at [agriculture.gov.au/ABARES/publications](http://agriculture.gov.au/ABARES/publications)

#### Farm biosecurity check

AUSTRALIA is free from many pests and diseases that can cause damage to our agriculture and environment industries. However, given recent plant pest and animal disease incursions, now is a good time to have a look at what biosecurity measures you can put in place to protect your property. [Farmbiosecurity.com.au](http://Farmbiosecurity.com.au) provides free information and tools to help prevent the spread of pests, diseases and weeds.

● If you spot anything unusual, call the Exotic Plant Pest Hotline 1800 084 881 or the Emergency Animal Disease Watch Hotline 1800 675 888

#### Land use data out

ABARES has released Catchment scale land use of Australia – update March 2015 data product and the Addendum to the guidelines for land use mapping in Australia: principles, procedures and definitions, 4th Edition report. This catchment-scale land use dataset for Australia provides the best available land use mapping information for Australian regions. It is used by the Department of Agriculture, state agencies and regional natural resource management groups for monitoring and reporting on natural resource conditions and trends, planning and risk assessment and modelling.

● Visit [agriculture.gov.au/abares/publications](http://agriculture.gov.au/abares/publications)

# Vision for water shared

By BARNABY JOYCE  
Agriculture Minister



FOR many who live in big cities, water is something that's easy to take for granted. Fresh, clean water is always available at the turn of a tap. But those of us who work on and care for our land know what a precious commodity water really is, and the vital importance of managing it well.

The origins of modern water infrastructure lie in ancient Rome. When the city's population grew too large to rely solely on local rivers and groundwater, a system of canals and aqueducts was built for transporting water around the city. Aqueducts were also used to supply water for agricultural purposes such as land irrigation and watering livestock. Now farmers use sophisticated and technologically-advanced water infrastructure and irrigation systems to manage their land.

In Australia's harsh and often unpredictable climate, managing

industries, our environment, and the broader Australian community. This is why managing our water resources is a major priority for the Australian government, and water infrastructure will be a key consideration in the forthcoming white papers on agricultural competitiveness and developing northern Australia.

The right infrastructure in the right place will help us meet future challenges by allowing us to better manage this vital resource. It will also help grow our economy in the long term, opening up new areas of production and bringing better returns to the farm gate.

In February, the Australian government announced \$60 million in funding to support water infrastructure projects in Tasmania. This investment will help secure the state's water supply and deliver strong benefits to the local economy and community.

These projects were identified by the Water

Infrastructure Ministerial Working Group and outlined in the Agricultural Competitiveness green paper which I discussed in the November 2014 issue of Landcare in Focus. You can see the final options paper presented to the prime minister at [agriculture.gov.au/ag-farm-food/natural-resources/waterworkinggroup](http://agriculture.gov.au/ag-farm-food/natural-resources/waterworkinggroup).

I appreciate the dedication and passion of Landcarers across Australia to making practical changes that deliver benefits for our sustainable land management practices, environment, and communities.

That is why I encouraged Landcare groups to get involved in the development of the Agricultural Competitiveness white paper. I am pleased to see numerous Landcare groups and networks around Australia made submissions, and I thank you for your contribution.

The Landcare movement's commitment to real, practical changes with tangible outcomes

is something the government shares, and I am proud to be part of a government that puts ideas into action.

The recently announced projects in Tasmania, along with \$18 million for the Chaffey Dam upgrade, \$15.9 million for the Great Artesian Basin Sustainability Initiative, and further work along the Murray-Darling including the \$180 million Menindee Lakes Project, are just some of the ways that the Australian government is putting ideas into action and delivering on its commitment to improve Australia's water infrastructure.

I encourage you to stay up to date on the development of the white papers on Agricultural Competitiveness and Developing Northern Australia at [dpmc.gov.au/taskforces](http://dpmc.gov.au/taskforces).

I look forward to the continued involvement of the Landcare movement as we work towards realising our vision for the future of Australian agriculture.

LANDCARE in Focus is produced by Landcare Australia through funding from the Australian government's National Landcare Programme.

For more information or to submit an article, email [enquiries@landcareaustralia.com.au](mailto:enquiries@landcareaustralia.com.au).

Please note that due to space restrictions we cannot guarantee that all



Australian Government

submissions will be included.

Submissions must adhere to the following guidelines and the deadlines below and

National Landcare Programme



must include:

■ One article of no more than 300-600 words saved as a Microsoft Word document or a PDF.

■ No more than 2 or 3 high resolution (must be at least 1MB in size) images that clearly illustrate the accompanying article.

■ Full captions for each attached image that explain who is in the photos and/or what they illustrate. Also, please ensure that we have permission from any people featured in the photos to use these photos in

Landcare in Focus.

■ Contact information for more information if required.

The next issue will have a focus on soil quality and erosion and nutrient management.

DATES FOR 2015:

■ Publication date: August 20, deadline – July 16, theme – soil.  
■ Publication date – November 19, deadline – October 15, theme – pests and weeds.



Australian Government  
Department of Agriculture

## Drought and rural assistance for farm businesses and families

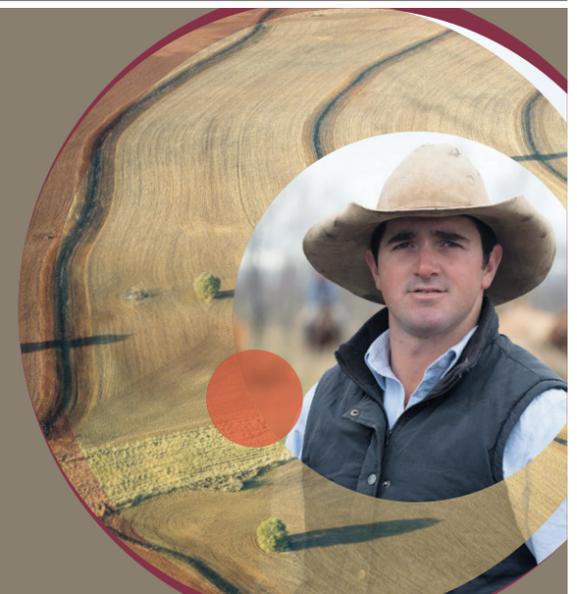
The Australian Government provides a range of assistance measures to support farm families and farm businesses in hardship.

You may be eligible for Farm Household Allowance, a fortnightly income support payment for farmers and their partners.

There are also a range of concessional loans to help farmers across Australia manage debt servicing difficulties or who are experiencing drought conditions. Applications close 30 June 2015.

Visit the Department of Agriculture website to view the full range of assistance measures available in your state or territory.

[agriculture.gov.au/assistance](http://agriculture.gov.au/assistance)



# Gold Coast youth get with program



**F**EW Landcare events can attract 900 people with a relatively young average age of 30 years and who go on to plant 27,000 trees over three annual events. But that was the achievement of the aptly named Gold Coast's Biggest Tree Planting Day.

The event planted a mere 5000 trees when it started three years ago and since has grown into a tree-planting festival, transforming a wetland and creating habitat.

The secret of success? "Fun, accessibility and providing people with a connection to local and global causes," said Naomi Edwards, a young adult who is passionate about Landcare and getting more people involved.

Ms Edwards leads many Landcare initiatives on the Gold Coast and is among a few recently engaged ambassadors for the national Younger Landcare Program, launched at the National Landcare Conference in September.

She says being on the Gold Coast in no way hinders her cause – the district has no fewer than 40 Landcare or related groups.

The 'biggest' tree-planting day is part of an active Gold Coast-wide catchment care

**ABOVE:** Highschoolers included in outreach to engage the next tranche of Landcare leaders – City of Gold Coast Mayor Tom Tate with Southport State High School students.

**RIGHT:** Naomi Edwards is keen to show the scope of the project in this selfie at the site.



**The secret of success? "Fun, accessibility and providing people with a connection to local and global causes."**

initiative to inspire the community to connect to the waterways – including its famed beaches – and tapping into the younger generation.

Ms Edwards began working with Landcare as a 19-year-old almost a decade ago, and the self-described "community mobiliser" now keeps firm links with the Landcare world.

"Not everything we do might be under the Landcare banner,

but it comes out of the legacy of Landcare," she said.

"That is how the Gold Coast's Biggest Tree Planting Day was imagined – do what we do best times 10."

Attracting young people to Landcare and associated activities is a passion that Ms Edwards shares with Megan Rowlett, who works with youth in the Illawarra area, NSW.

The Illawarra development of 'Intrepid Landcare' – which combines Landcare activities with a splash of adventure – is being adopted in the form of Gold Coast Intrepid Landcare, set to be launched this month.

The seed to set up the first Queensland Intrepid group was planted at a Gold Coast Landcare leadership retreat held this year as part of the new Younger Landcare program

initiatives. The youth who were involved in the March retreat have already started their own initiatives such as Youth4Beaches, Responsible Divers and mass tree plantings at schools.

As more young people become aware of the potential and pleasure of Landcare, other activities benefit – including BeachCare's Currumbin to Cobaki wetlands rehabilitation project, which Ms Edwards was instrumental in driving.

Sponsored through a Landcare Australia grant, all Gold Coast projects aim to improve urban water management, while inspiring youth to lead their own Landcare initiatives.

Using social media extensively, Ms Edwards' links with Griffith University and Landcare networks, are helping to make larger attractions such as the Biggest Tree Planting Day an everyday possibility on the Gold Coast.

The Younger Landcare program is co-ordinated by Landcare Australia with support from the Australian Government's National Landcare Program.

For information on mass activities on the Gold Coast, email [info@goldcoastcatchments.org.au](mailto:info@goldcoastcatchments.org.au)



Green Army Warringah graduates Dominic Fubelli and Kristi Matea in front of the dune care work at Freshwater beach.

**Y**OUNG people involved in the Coastal Custodians Green Army are seeing their hard work come to fruition after completing the first project of its kind managed by Landcare Australia and workforce expert Manpower Group. Their work has also been acknowledged by a team including Prime Minister Tony Abbott.

Referring to the graduation of the project sponsored by Warringah Council this month, Mr Abbott said Sydney's Northern Beaches had seen significant benefits from the rehabilitation around Manly Lagoon and the restoration of dune sites within the coastal lagoon landscapes of Freshwater Beach and Dee Why.

"During the past six months, Green Army participants have made a significant contribution and through their dedication and teamwork, we can see firsthand the tangible results of their activities," Mr Abbott said.

"These participants have not only generated real environment and conservation benefits for our community, but they have gained valuable practical training and experience to help them prepare for the workforce, pursue further training or improve their career opportunities."

Landcare Australia CEO Tessa Jakszewicz, who attended the graduation along with Parliamentary Secretary for the Department of the Environment, Bob Baldwin, service provider partner Manpower Group and project sponsor Warringah Council, said projects had great potential to be taken up by local council and Landcare groups to continue the work – as was the plan for the site at Freshwater Bay. As well, Green Army

## Green Army to rescue

resources could be directed to rehabilitating areas affected by natural disasters.

"Here at Freshwater, the Landcare that this Green Army team has done provides a great visual illustration of the benefits of dedicated efforts towards a tangible project. The team tackled hardy weeds such as lantana, planted seedlings and erected fencing to keep rabbits out while the native vegetation takes hold," Ms Jakszewicz said.

"Not only can residents and visitors now enjoy this popular area at Freshwater Beach, for example, with dunes that are healthier ecologically, but Landcare looks set to continue on-site through local initiatives."

She said as a result of this project, Warringah council was talking with Bushcare and schools to care for and develop the site in the long term.

"It's important to remember that Green Army teams are helping out on projects throughout Australia, including regional and rural areas, so groups looking for resources are encouraged to sponsor a project and benefit from Green Army team work, including undertaking Landcare on private land," Ms Jakszewicz said.

Green Army groups can apply for other projects, including in supervisory roles.

Mr Baldwin said that the program would support 15,000 young Australians.



Freshwater dune site overrun by weeds before the Green Army work

## BEARDSON WINTER BLANKET CHALLENGE

NEVER GROWN A BEARD BEFORE? HERE IS YOUR CHANCE TO RUG UP YOUR FACE FOR WINTER USING THE BEARD AS A TALKING POINT!

ALREADY GOT A BEARD? GET SPONSORED AND KEEP GROWING! BE PART OF THE WOLF PACK THIS WINTER, THROW YOUR RAZORS AND SHAVING CREAMS AWAY AND RAISE FUNDS TO SUPPORT LANDCARE AUSTRALIA IN PLANTING NATIVE AUSTRALIAN TREES. REGISTER TODAY.



#WINTERBLANKETCHALLENGE

WWW.BEARDSON.ORG

# Plants to protect against bushfires

VISITORS to this year's annual Toronto Fire Station Open Day on May 30 will have the opportunity to stroll through this multi-award-winning demonstration garden and see for themselves how native fire-resistant plants can make an attractive and potentially life-saving buffer around their homes.

Initiated by local landcarer Lois Simpson, the Toronto Fire Station Model Fire-Retardant Native Garden in NSW demonstrates what can be achieved when inspired individuals, groups and agencies work together to build local natural disaster resilience.

The project came about when Ms Simpson, armed with a list of local fire-retardant plants, had a vision to transform the garden at her local fire station into an attractive and engaging education centre. In just two years she had brought together the right mix of government agencies and community groups, secured essential funding and inspired dozens of people to get involved in creating a garden that would demonstrate the role of native species in reducing bushfire risk.

Treasuring bushland is often considered at odds with protecting the community from bushfires but this award-winning Landcare partnership project shows how planting the right native species in the right places can actually help safeguard homes and other assets.

The partnership included the Toronto Fire Station Landcare Group, which formed in 2013 to coordinate the project, Toronto Area Sustainable Neighbourhood Group and Fire and Rescue NSW.

Together, they worked throughout 2013 and 2014 to create the 80-square metre model fire-retardant garden, with the benefit of funding from Lake Macquarie City Council's Sustainability Grants program and in-kind support from Lake Macquarie Landcare.

Landcare Lake Macquarie Coordinator, Jason Harvey, said the project demonstrates the positive effect of native plants, not only in beautifying a garden, increasing biodiversity and providing habitat but also in protecting lives and property.

"The [judicious] planting of fire-retardant species can provide shade, privacy, erosion control, habitat and bushland views but most importantly, when bush fire strikes, these plants and trees can function as



LEFT: Project initiator Lois Simpson with members of the Toronto Fire Brigade.

## THE TRANSFORMATION



Before and after images of the garden beds at the station entrance reveal the transformation of the site.

These plants and trees can function as a protective ember curtain.

a protective ember curtain. This wall of less flammable vegetation helps to trap embers before they spread," Mr Harvey said.

"One of the greatest bushfire hazards is when live embers are carried on hot winds." The species chosen for the demonstration garden have characteristics that make them harder to burn, such as smooth bark and leaves with high moisture content.

The garden includes attractive specimens such as Swamp Lily (*Crinum pedunculatum*), Native Frangipani (*Hymenosporum flavum*), Magenta Lilly Pilly (*Syzygium paniculatum*) and Bleeding Heart (*Homalanthus populifolius*).

Toronto Fire Station commander Tim Brown said

Toronto Fire Station is surrounded by bushland, so reducing risks on-site has been a high priority.

"As part of the project we removed some very flammable tea-trees in the station grounds and replaced them with more than 700 fire-retardant native plants," Mr Brown said.

"We also installed special signage in the garden to educate visitors about the benefits of fire-retardant native plants and explain the principles of an asset protection zone."

At an initial planting day at the fire station in September 2013, a keen group of local community members worked alongside firefighters to get more than 200 fire-retardant plants in the ground.

A second planting was timed to coincide with the annual Toronto Fire Station Open Day which is popular with local families. More than 100 members of the community came along to meet the firefighters, look over the station, explore the fire

engines and learn about fire safety. All were invited to plant a tree or shrub. Dozens volunteered and, in just four hours, added another 500 fire-retardant plants to the garden.

One year on, the garden has continued to mature and become more established, and plans are in place to further enhance the garden with the installation of a frog pond.

This inspired and inspiring project has received wide recognition, with Toronto Fire Station Landcare Group winning the 2014 NSW Tidy Towns Environmental Education Award and the Toronto Area Sustainable Neighbourhood Group receiving the Lake Macquarie 2015 Community Group of the Year Award for their role in the project.

The efforts of Lois Simpson were also recognised when she was awarded the 2014 Lake Macquarie Environmental Excellence in Landcare Award and the 2014 Charlton Environmental Volunteer Award.

## USE FIREFIGHTERS, NOT FIRELIGHTERS

FIRE retardant plants have the following features:

- High moisture content: Leaves that are larger and thicker with smooth edges take more heat to dry out and ignite.
- Low volatile oil content of leaves.
- Smooth bark: Trees with loose, fibrous or stringy bark can ignite more easily and encourage fire to spread through the crowns of the trees.

Native tree species can also be helpful in property protection by forming a fire and windbreak.

It is important to note that no plant is fireproof and all plants will burn if they dry out and are exposed to enough heat.

### Native fire retardant species

#### TREES

- *Acacia melanoxylon* – blackwood.
- *Alphitonia excelsa* – red ash.
- *Acmena smithii* – creek lillypilly.
- *Alectryon subcinereus* – native quince.
- *Baloghia lucida* – brush bloodwood.
- *Cassine australis* – red olive berry.
- *Cryptocarya glaucescens* – jackwood.
- *Casuarina glauca* – swamp oak.
- *Diospyros australis* – ebony myrtle.
- *Diploglottis australis* – native tamarind.
- *Elaeocarpus obovatus* – hard quandong.
- *Ficus macrophylla* – Moreton Bay fig.
- *Ficus oblique* – small-leafed fig.
- *Ficus rubiginosa* – Port Jackson fig.
- *Glochidion ferdinandi* – cheese tree.
- *Guioa semiglaucula* – Guioa.
- *Hymenosporum flavum* – native frangipani.
- *Pittosporum undulatum* – sweet.
- *Pittosporum* – native daphne.
- *Podocarpus elatus* – plum pine.
- *Pouteria (Planchonella) australis* – black apple.
- *Synoum glandulosum* – false rosewood.
- *Syzygium paniculatum* – magenta lillypilly.

#### SHRUBS AND HERBS

- *Allocasuarina distyla* – scrub she-oak.
- *Backhousia myrtifolia* – grey myrtle.
- *Breynia oblongifolia* – coffee bush.
- *Carpobrotus glaucescens* – pigface.
- *Cordylina stricta* – narrow-leaved palm lily.
- *Crinum pedunculatum* – R.Br swamp – lily, river lily.
- *Doryanthes excelsa* – correa giant lily, Gynea lily.
- *Elaeocarpus reticulatus* – blueberry ash.
- *Eupomatia laurina* – Bolwarra.
- *Lomandra longifolia* – spiny-headed matrush.
- *Myoporum acuminatum* – boobialla.
- *Omalanthus nutans* – bleeding heart.
- *Pittosporum revolutum* – rough-fruited Pittosporum.
- *Rapanea variabilis* – muttonwood.
- *Trema tomentosum* – poison peach.
- *Wilkiea hugeliana* – Wilkiea.

Pictures: Courtesy & copyright of Australian National Botanic Gardens, D. Greig (*Hymenosporum*), other pictures Murray Fagg. References and further information: Trees in Newcastle, Fire Retardant Plants, TIN Topic #13, www.treesinnewcastle.org.au/page19330/Landcare.aspx, Lake Macquarie Backyard Habitat Planting Guide, www.lakemac.com.au/downloads/408BCAFE6E12D47E321A27A6D9B043621D0DFAC0.pdf



Lillypilly – *Acmena smithii*.



Pigface – *Carpobrotus glaucescens*.



Magenta lillypilly – *Syzygium paniculatum*.



Native frangipani – *Hymenosporum flavum*.



Strappy palm lily – *Cordylina stricta*.



Swamp lily – *Crinum pedunculatum*.

● This is an excerpt from a fact sheet from Lake Macquarie Landcare, which is supported by Lake Macquarie City Council.

# Wetlands key to ag landscape

**W**ETLANDS have been supporting agricultural production for thousands of years by replenishing groundwater supplies and reducing waterflow rates during floods to prevent infrastructure damage.

Wetlands also support farm management more broadly by: providing high-nutrient fodder, shade for livestock and habitat that supports pest-control species; acting as windbreaks to protect crops and property; providing a source for domestic water consumption; improving water quality; and helping to prevent issues related to acid sulphate soils.

There is growing recognition among landholders that wetlands can help, instead of hinder, production.

They can contribute to the production values of properties while providing environmental benefits.

In recognition of these values, some farmers are investing in wetland restoration that supports and



Wetlands support irrigated agriculture by providing a water source, replenishing groundwater supplies and reducing waterflow rates during flood. – Picture: ARTHUR MOSTEAD, Department of the Environment.

complements their existing farm management.

For example, in the Wimmera a farmer has restored a five-hectare wetland that has produced environmental and

financial benefits – including providing shelterbelts for stock and protecting a large part of the farm from wind because of its central position. During the dry season, the native

vegetation cover prevents wind erosion of the surface soil.

The restoration work has also encouraged the return of birds and frogs.

Elsewhere in the Murray-Darling Basin, farmers are revegetating farm dams that contribute to better water quality and healthier livestock while also encouraging the return of wildlife.

Targeted wetland conservation such as this is providing indirect benefits for landholders.

For instance, it has enabled them to service the wider community by: providing benefits for downstream users; improving the aesthetics and value of properties; helping to

**Wetlands can contribute to the production values of properties while providing environmental benefits.**

wetland management on private land, including through the use of environmental water.

By mimicking natural flows, environmental water can help to protect and restore the resilience of wetlands in the basin.

The maintenance of a healthy wetland on private land can have significant benefits for agricultural production and environmental conservation, and an increasing number of farmers are coming up with innovative ways to use their wetlands to complement their agricultural production while simultaneously supporting healthy wetlands.

## AUSTRALIA'S SIGNIFICANT SITES ARE MASSIVE

AUSTRALIA boasts an impressive network of wetlands throughout its diverse landscapes – from the mangroves and reefs of its coasts to the expansive floodplains of inland rivers.

Wetlands provide significant economic, environmental, and social benefits.

They supply water, help to improve water quality, provide flood and storm mitigation, offer climate change mitigation and adaptation opportunities

and provide communities with recreation and tourism. They also provide habitat for animals and plants and contain a wide diversity of life.

Wetlands are generally beautiful places to visit and are popular locations for tourism and recreational activities, particularly in regional and remote locations. They are magnets for swimming, boating, fishing, camping and birdwatching.

Many wetlands are also special places for Australia's first people and are often an important feature of their cultural and spiritual practices.

Australia now has 65 wetlands of international significance (Ramsar sites) that cover more than 8.3 million hectares. Many wetlands across Australia are on private land and include rivers, lakes, floodplains, swamps, waterholes and farm dams.

## Improving the Great Barrier Reef's water quality

**C**AREFUL targeting of expenditure is needed to improve the quality of water flowing into the Great Barrier Reef lagoon.

The Australian government's prioritisation project report, Reef Water Quality Protection Plan 2013, provides information to support decisions on funding priorities

in the Great Barrier Reef region.

The report analyses water quality data for the major land uses in the Great Barrier Reef's 35 sub-catchments, reviews the likely impact of the herbicide, nutrient and sediment loads on the reef's corals and seagrasses and the changes in land management practices needed for better

water quality outcomes.

It identifies investment priorities that could deliver the biggest water quality improvements for the reef.

The report focuses on sugarcane and grazing – the two main industries contributing to anthropogenic pollutants in the lagoon.

The report contains

recommendations to improve land management practices.

Investment priorities for the grazing industry include supporting adoption of better herd management practices, and investment to reduce sub-soil loss through gully and stream bank erosion.

In the sugarcane industry, there are opportunities to

reduce dissolved inorganic nitrogen loads when calculating applications for nitrogen fertiliser.

The report will be used by natural resource management organisations to better target hotspots for pollutants and by the Department of the Environment to prioritise Reef Trust funding.

The report was jointly funded by the Department of Agriculture and the Department of the Environment, with assistance provided by a working group of scientists from the Australian and Queensland governments, CSIRO and Australian universities.

Download the report or find out more about the Australian Government Reef Program at [www.reefplan.qld.gov.au](http://www.reefplan.qld.gov.au)



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# Making the most of a river paddock

Contributed by ANITA BRADE MANN, Cooma Region Waterwatch

**P**RODUCTION, biodiversity and water quality can fit together in the river paddock to achieve a resilient farming system.

Cooma Waterwatch and South East Local Land Services recently organised three field days on this topic on the Cooma Creek, Murrumbidgee and Snowy Rivers.

Tips included:

- Fertilising at the right time and in the right amount will mean more for your crop and none for the river, where it will just wash away and perhaps even cause algal blooms.

- Grazing the river corridor only very selectively and never letting young stock graze will prevent high pathogen loads in natural water supplies.

- Providing off-stream

water can help reduce risk of livestock diseases such as liver fluke.

- Encouraging native vegetation along river corridors increases biodiversity and maximises the resilience of your farm.

These were just some of the ideas discussed at the River Paddock field days held across the Monaro.

The focus for the field days was how to get the most from the river paddock – which can be one of the most productive areas of the farm for grazing, hay or cropping, especially on the Monaro.

Given that these areas have the ability to be most productive, it makes sense to try maximising return from these areas, and this may give us more choice to use other, more marginal areas of the farm more selectively.

Another function of floodplain paddocks and land

adjoining rivers or watercourses is filtering runoff into rivers, creeks and dams so these areas of the farm can directly influence the availability of clean water.

Discussion included how to use buffer strips, maximising groundcover and selective

**The big message of the day was that production and clean water are not mutually exclusive but can be integrated.**

grazing as some tools that farm managers can integrate to help clean water on the farm.

The big message of the day was that production and clean water are not mutually exclusive but can be

integrated. Better still, additional benefits include opportunities to increase biodiversity on the farm, reduce erosion and implement drought proofing – which are also important aspects of a well-functioning, productive and resilient farm.

The River Paddock field day was jointly held by Cooma Waterwatch (funded by Icon Water, formerly called ACTEW Water – a finalist in the 2014 National Landcare Awards) and South East LLS.

The field days were held on local farms in an actual river paddock, which allowed attendees to talk soil and production issues in the context of a real site.

The events also featured local projects along the river corridor, which provided examples of what others are doing and what assistance there is available.

Projects included Bredbo



RIGHT: Landholder Sarah Glauert and ACT government NRM facilitator Anna van Dugteren observe waterbugs from the Murrumbidgee.

Landcare's Bredbo River Wattle Park project and the work of SE LLS's Snowy River Weaving the Web biodiversity project, which is working to

rehabilitate the Snowy River corridor to increase landscape connectivity and ecosystem resilience in the Snowy-Monaro region.

## Willow control and river recovery on the Meander

Contributed by QUAMBY BEND LANDCARE & LANDCARE TASMANIA

**O**NCE valued for riverbank protection, willows have the ability to propagate and grow vigorously and have caused serious damage and significant cost by displacing native vegetation and causing streambank erosion, blocking the main river channel and causing excessive flooding, erosion, log-jams and channel movement.

Crack willows (*Salix fragilis*) are widespread along the Meander River catchment in northern Tasmania and associated tributaries.

The Quamby Bend Landcare Group has been committed to the ongoing control and management of willow, along with gorse and hawthorn, for many years. More than \$20,000 from the philanthropic Tasmanian Landcare Fund in the past four years has been instrumental in allowing this to occur, along with funding from NRM North and crucial in-kind contributions.

The willow control program forms part of ongoing efforts by the Landcare group to remediate the Meander River and tributaries in the Quamby Bend and Selbourne districts and aims to control gorse, hawthorn and willow adjoining several sites where control activities have been completed.

The Quamby Bend Rivercare plan has provided strategic direction for all weed control and Landcare activities



Willow control in a tributary of the Meander River.

prioritised by the Landcare group.

Group members have developed and implemented property management plans to help determine priority areas for willow and weed control and revegetation activities.

These sections of the river retain some of its native vegetation.

Control programs have also built on existing control works and support areas that still have native vegetation, providing a good native seed source for natural regeneration.

Areas have been fenced to remove stock from native regeneration and existing native bush, and off-stream water troughs have been installed.



Willows along the Meander River in the Quamby Bend district.

### What was done

Several large sections of the river and tributaries have had primary control of gorse, willow and hawthorn with some areas also receiving follow up regrowth control.

Grasses have been seeded along the river banks until regrowth of native species such as silver wattle, teatree, native olive and eucalypts can establish.

The program has added several sections of healthy riparian vegetation to this stretch of the Meander River and links with numerous past activities undertaken on and adjoining Landcare member properties. The Landcare group has used a willow control contractor for primary control activities with great success.

Willows are initially cut by a contractor in February and March, using an excavator to open up thick infestations and

remove willows from the river and allow greater access.

Further control and cutting of stumps with chainsaws occurs with all willow stumps pasted with chemical.

Willows cut from the river are piled in heaps to dry out and then burnt in May and June. Areas cleared along the river are then seeded down with native grasses and local provenance seed is collected and germinated for revegetation of native species along the river.

The removal of gorse and willows has improved existing stands of native vegetation and allowed regeneration along the river as well as enhancing wildlife habitat and water quality and reducing river bed and bank erosion.

### The future

This project is part of a larger long-term project to improve the Meander

River's health. The Quamby Bend Landcare members are committed to the ongoing control of willows, gorse and hawthorn and followup weed control – with the ultimate aim of freeing the river of willows.

"We have managed existing sites with success and believe this project will improve connectivity to sites already completed and fit into our current farm maintenance regime," Quamby Bend Landcare member Ian Mitchelson said.

"We will also commit our own time to follow up and subsequent revegetation if required."

The Landcare group has a passion for this section of the river and combines the control activities with social activities on the river. Members have helped clear the swimming corner on the river and have held quite a few family days and BBQs on the river during the summer.

# Tamborine schools on board with Landcare group

**V**OLUNTEERS with Tamborine Mountain Landcare and local school children have been working to rehabilitate the Wilson Road wetland with the help of \$8000 from a Landcare grant.

Two mountain waterways associated with the wetland, Guanaba Creek and Cedar Creek, have been included in the south-east Queensland group's work, part of its Corridors Regeneration Project started the previous year.

Because of its success, project partner Coca-Cola agreed to extend the funding – taking the total to \$16,000. The group has undertaken dedicated work around creek areas for years.

Tamborine Mountain Landcare coordinator Judith Roland said this project concentrated on removing invasive weeds in the wetlands and waterways and replanting with appropriate native species.

Degraded creek banks were stabilised with mass plantings of reeds, rushes and trees.

It also leveraged the enthusiasm of teachers and students from Tamborine Mountain State School and St



ABOVE: Rehabilitated creek areas have resulted in platypus sightings, as ecosystems are reinvigorated with funding from corporate partners.



RIGHT: Tamborine has been working in the area for years, including engaging student volunteers from local schools.

Bernards State School, who tested water quality while learning about the macro invertebrates that live in the streams. The students caught water bugs in ponds in the area, and used a powerful micro-eye microscope to project enlarged images of the creatures onto a TV screen for closer scrutiny.

They also measured water quality parameters such as pH, dissolved oxygen, temperature and turbidity, to

gauge the health of the aquatic environments.

Thirteen bugs were identified using iPad apps, including the caddisfly larvae and mayfly nymphs, which are juvenile, sensitive water bugs and indicators of very good water quality.

Ms Roland said the program was a huge success, especially the education component.

Because of the encouraging results, the Landcare group

will continue regular water-bug testing days and water quality monitoring with the children.

Tamborine Mountain Landcare was formed in 2003,

has about 150 volunteers and has undertaken projects through Landcare Australia funding from corporate supporters.

Its success can be seen not

only in the changed physical environment but also in the reinvigorated ecosystems, including platypuses returning to the area.

# Dams – more than resevoirs

**L**OOKING across a rural landscape from an aircraft when the sun is low is often a reminder of just how many dams are below, and how much water is held on farms.

Dams tend to be regarded as just a means of holding inert water for stock or irrigation, but Jerrawa Creek Landcare Group in the Southern Tablelands of NSW has been working to make that huge, scattered water resource a valuable conservation asset.

In 2008, the group held a competition for a free "farm dam makeover" as part of a larger agenda to promote ways of improving water quality and biodiversity in farm dams and creeks.

Water quality also boosts farm productivity: livestock, like humans, do better when they drink clean water.

The exercise received 700 entries and led to dozens of landholders learning about



A farm dam water quality workshop previously drew attention improving water quality and biodiversity in farm dams and creeks. Jerrawa Creek Landcare Group has now secured new funding for a group project.

ways to put more life into their dams and waterways.

The Central West Local Landcare Services (formerly Lachlan CMA) used the concept to reach many other landholders outside Jerrawa Landcare's sphere of influence.

Jerrawa Landcare has now received a grant from the Jaramas Foundation via Landcare Australia to continue its work of making farm dams

more than just a place for holding water, while also encouraging landholders to improve the condition and habitat of creeks and rivers bordering farms.

In April Biala and Blakney Creek Landcare, a new Landcare group adjacent to Jerrawa, held a field day with Department of Primary Industries Fisheries Conservation manager Luke Pearce on the most suitable



aquatic species to improve native habitat in-stream and in dams. The field day aimed to encourage the local landholders to improve the condition and habitat of farm dams and creeks, especially those free of predators such as the introduced redfin.

The dams and creeks can then be used to improve the survival prospects of the endangered southern pygmy perch or the near-extinct

yellow spotted bell frog.

Southern pygmy perch (*Nannoperca australis*) were once widely distributed throughout the Lachlan, Murrumbidgee and Murray River systems as well as coastal streams in South Australia and Victoria, north-eastern Tasmania and King and Flinders Islands in Bass Strait.

But they have now been listed as a threatened species in NSW, with only three known populations remaining.

The field day aimed to encourage local landholders to improve ... farm dams and creeks.

Jerrawa Landcare members attended the field day as a first step to conducting a similar program in the group's own catchment area.

Leveraging on the groups' past experiences, Jerrawa Creek will work with the Biala and Blakney Creek groups, Gunning Scouts, South East Local Land Services, Greening Australia, the Upper Lachlan Shire Council, Luke Pearce and possibly also landcare groups in the neighbouring Yass Valley, to make farm water storages and creeks small ecosystems, instead of just reservoirs of water.



## APPLICATIONS NOW OPEN! Yates Junior Landcare Creative Gardening Grants

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The proposed Caragabal community water scheme is one step closer, with water security a hot topic in the area.

## Consultation at Caragabal

**W**eddin Landcare and Central West LLS have hosted a community meeting at the Caragabal Country Club, with climate variability and drought resilience a major focus.

At the meeting late last year, Weddin Landcare proposed the construction of a community-owned and managed stock and domestic water supply scheme.

ABOVE: Caragabal Landholders outline property boundaries and delivery points for water and extent of scheme.

In front of a large crowd guest speakers spoke on the various components involved in establishing a scheme of this size. Since this initial meeting, water security has become a hot topic in the area.

A committee has been formed and incorporated and is well on the way to making the proposed water scheme happen.

After consultation with Central West Local Land Services, state water, engineers, Weddin Shire Council and state and federal MPs, a concept design was constructed and the design process is under way.

The scheme will involve constructing a bore and pumping the water through a 160km pipe network to

37 landholders. About 150 megalitres of water will be required annually to service landholder water requirements.

There is also the opportunity for the Caragabal township to access the water during a drought. The development of this water scheme will ensure a secure stock and domestic water supply in the region and will

benefit more than 400 people.

It has the potential to drought proof many Caragabal properties (accounting for more than 10 per cent of the Weddin Shire land area) and increase local land values.

Thanks to this Weddin Landcare-funded initiative, the Caragabal community is one step closer to developing a water scheme and achieving long-term water security.

It has the potential to drought proof many Caragabal properties ... and increase local land values.

## African boxthorn now in retreat on Bass Strait islands

**F**riends of Bass Strait Islands has been treating African boxthorn on 18 sites in the Furneaux Islands over the past five years and Furneaux Landcare and local Aboriginal communities are also treating the weed in the Furneaux group, which includes Roydon and Flinders Islands and the nearby Pasco Islands, Sentinel Island and Settlement Point.

African boxthorn is an aggressive environmental weed in the Furneaux Islands, and has recently been recognised as a weed of national significance. It is mainly spread by birds that feed on the berries or through seed drop once the plants reach reproductive maturity. It establishes rapidly, forming impenetrable thickets.

The weed displaces native vegetation on the offshore Bass Strait Islands, threatening vulnerable vegetation communities and reducing their suitability as breeding habitat for shorebirds and making access difficult for humans and native animals. Large areas of the Islands have been treated to control African boxthorn. The aim is to control boxthorn and hopefully in time, eradicate the weed completely and return the islands back to their natural state.



Friends Of Bass Strait Islands undertaking boxthorn control. — Picture: KAREN ZIEGLER.

### What was done

Friends of Bass Strait Islands (FOBSI) has been undertaking on-ground control of African boxthorn within the 138-hectare Wybalenna historic site on Flinders Island as well as on the 38ha Roydon Island. Already, 23ha of has been treated on Roydon Island. This project will further extend treatment towards the goal of successful control across the entire island.

This builds on earlier boxthorn control efforts in the locality at Lillies Bay-Wybalenna in Settlement Point rookery, and at Lillies Bay foreshore. The projects were run in co-operation with the Tasmanian Parks and

Wildlife Service, the Aboriginal Land Council Tasmania and the Flinders Island Aboriginal Association Inc at Wybalenna. These projects also build on and link with past African boxthorn control works in the coastal reserve between Allports Beach, Emita, Duigans Beach and the Castle Rock coastal walk.

### How it was done

African boxthorn was treated using the cut-and-paint method. Volunteers used hand tools and chainsaws to cut the African boxthorn off at ground level, painted the stumps to kill the root system, then burn the cut material.

Volunteers play a significant



Volunteers making a dent in the boxthorn. — Picture: VICKI CAMPBELL.

role in the control program, with FOBSI running two multi-day volunteer working bees during the year to remove remaining stands of boxthorn and conduct follow-up control in previously treated areas. Working bees also incorporate collaborative field days with members of the Aboriginal community and members of the Furneaux Landcare Group to share weeding experiences and techniques.

### The outcomes

After control programs, native coastal vegetation re-establishes quickly, enhancing and improving the condition of shorebird rookery habitat,

protecting threatened seabird rookery vegetation and reducing the threat of seed spread to other nearby islands. The control works also remove host habitat for starlings, which are capable of distributing boxthorn seed over long distances, potentially reinfesting previously treated areas.

The Tasmanian Landcare Fund has provided \$13,250 to allow boxthorn control works at these sites, in addition to significant contributions made to the project by a number of other organisations.

### The future

The Friends of Bass Strait

Islands have a long-term commitment to Roydon and Flinders Islands and the Furneaux Islands generally.

These Islands are places that create a special place in people's hearts and inspire them to keep on working on the control of invasive species and to entice their friends along.

The Flinders Island Landcare group and the Friends of Bass Strait Islands in particular have a collaborative commitment to ongoing boxthorn control on Roydon Island. Both groups think it is a big but worthwhile job for nature conservation.

Access to Roydon is relatively easy compared with most of the Furneaux outer Islands because the island can be accessed by crossing a strait of about 2km in a relatively sheltered position.

The group will continue with the primary control work and continue with follow-up for areas treated. There is more work to do and with dedicated and committed volunteers the group has stayed abreast of the control.

The groups will continue monitoring and maintenance visits to treated sites on a three-to four-year cycle to ensure the treated areas remain free of boxthorn.

# Cape rangers care for future

**C**ARING for country and the environment lies at the heart of work by the Northern Peninsula Area Regional Council (NPARC)/Apudthama Land and Sea Rangers based on the tip of Cape York Peninsula, in Queensland.

"We see our work with country and the environment as being vital," said Warren Strevens, NPARC/Apudthama Land and Sea Ranger co-ordinator. "We do it for our future. We want to keep our culture alive and well, and our culture is intrinsically linked back to country."

Accordingly, the NPARC/Apudthama Land and Sea Rangers undertake a wide range of environmental and Landcare initiatives.

"One of our big programs is feral pig control. Last year we conducted three aerial shoots and killed over 800 pigs. The feral pigs do untold damage to the environment up here. They indiscriminately dig up a lot of native vegetation and destroy turtle hatcheries, seriously impacting on turtle numbers," Warren said.

"Another major undertaking we do is weed control. Last year we did pond apple (an invasive, exotic aquatic weed) work at Temple Bay and we also sprayed over 400 hectares of gambra grass and a further 60 hectares of lion's tale. Weeds are a major problem in Cape York. They can ruin good pastures and force out native plant species."

Some of the other environmental work the ranger group did last year included turtle work on the west coast of the Gulf of Carpentaria where more than 1000 turtles were tagged to track movements. The group also did a nest count and monitored the conditions of nesting sites.

"One of our great outcomes last year was the rediscovery of the Jardine River turtle – a freshwater turtle that was thought to have become



ABOVE: NPARC Apudthama ranger Lawrence Pablo checks driftwood in far north Queensland for the presence of exotic insects such as termites or borers.

**We do it for our future. We want to keep our culture alive and well.**

extinct. We're pretty excited about that," Warren said.

Then there's the ranger group's ghost net and fire work. "Ghost nets are a real menace all along the northern Australian coast. They are fishing nets that have been thoughtlessly discarded and they trap a lot of marine life that often die as a result of being entangled.

"We have just one road that runs up the middle of Cape York and some travellers light fires and don't properly extinguish them or throw cigarettes out of their windows and start spot fires," Warren said. "Our job is to get in early to minimise the impact of these fires by reducing the fuel load."

Like many ranger groups in northern Australia, the NPARC Apudthama Land and Sea Rangers work closely with many federal and state agencies, such as the federal Department of Agriculture.

"We do a lot of work on behalf of and in conjunction with the Department of Agriculture. Once a month we do cattle bleeding to test for the presence of exotic animal diseases; we do plant mapping; marine debris patrols along our shoreline and exotic termite work.

"We even use their facilities from time-to-time. Recently a couple of poison drums washed up on one of our beaches and we took the drums to the department's office in Bamaga and we used their facilities to secure the drums until they could be safely dealt with. We have a good relationship with the department. The department kick-started a lot of basic training and specialist weed-surveillance training and to this day when we find something of biosecurity concern we still go to them first. Also we know their staff up here really well – some of their officers are even related to some of our rangers. It's a very close relationship but one that's important to our ranger group, to the department, to our local communities and ultimately, to all Australians."



The planting project on Vince Critchley's Murray Bridge property.

**M**ANY dairy farmers are moving to more efficient pumping systems as power costs rise, but far fewer are planting trees.

Murray Bridge, SA, dairy farmer Vince Critchley has made environmental gains inside and outside his dairy shed with a Lion Landcare grant.

Mr Critchley considers good paddock trees a necessity, and backed the \$3800 he received from Lion for the job with \$8000 of his own in-kind contributions. The fires that ravaged the Murray Bridge area in late 2013-early 2014 burnt about 6000 hectares near Mr Critchley's farm.

Mr Critchley fought two fires on and near his family's Riverlight Dairies farms, an experience he said "could be best described as life changing".

"I spent days after the fires with front end loaders pushing fallen trees off the roads, trying to put out burning big old trees which burnt for weeks," he said.

"Like all farmers involved I saw and felt things that we never wish to speak of again."

Losses have been felt on many fronts, but Mr Critchley said the sadness over the loss of paddock trees was universal.

"Whether they be for shade for stock or they are seen as part of a sustainable environment for native birds, they are the missed the most," he said.

When he approached Lion for a Landcare grant, his application sought environmental gains from revegetation as well as the energy efficiency from better

## SA dairyman's trees a search for balance

### ABOUT SUPPORT

THE Lion Landcare grant also helped Riverlight Dairies on another environmental front. Inside the dairy shed, Mr Critchley used \$7000 of a Lion grant, plus a \$1500 in-kind contribution to retrofit a variable speed drive (VSD) on his vacuum pump. Because the VSD changes speed in order to maintain the optimum vacuum, rather than running at full speed all the time, the retrofit cut \$900 to \$1000 a quarter from Mr Critchley's power bill – plus an unexpected \$150 a quarter in savings on oil.

about my logic behind wanting to revegetate this area and were all impressed to hear of Lion's interest in the environment, and the professional way that the field staff acted in the time after the fires.

"It is a topic for many dairy farm morning tea discussions how cheap milk impacts on the community. I have much pleasure in reminding the volunteers how Lion takes the long-term approach to farming and addresses issues such as the environment and animal welfare. That includes sustainable returns to dairy farmers."

He said the trees were doing very well and volunteers left with a different take on the power of the consumer at the supermarket not only impacted themselves but had a profound effect on everyone involved.

It may be impractical to put a dollar figure on tree planting or quantifying bird habitat or biodiversity, but Mr Critchley's view is they are just as vital to the long-term sustainability of both the farmers and Lion's business into the future.

shed equipment.

With Lion's support, Mr Critchley and volunteers from the Eastern Hills Mount Lofty Plains Catchment Group, of which he is a member, planted 6000 trees last year.

Budgets had been "exceptionally tight" since the fires Mr Critchley said, and he doubted nearly as many trees would have been planted without Lion's help.

"All volunteers were told



LEFT: The team of volunteers from the Eastern Hills Mount Lofty Plains Catchment Group goes into action on the Riverlight Dairies paddock.

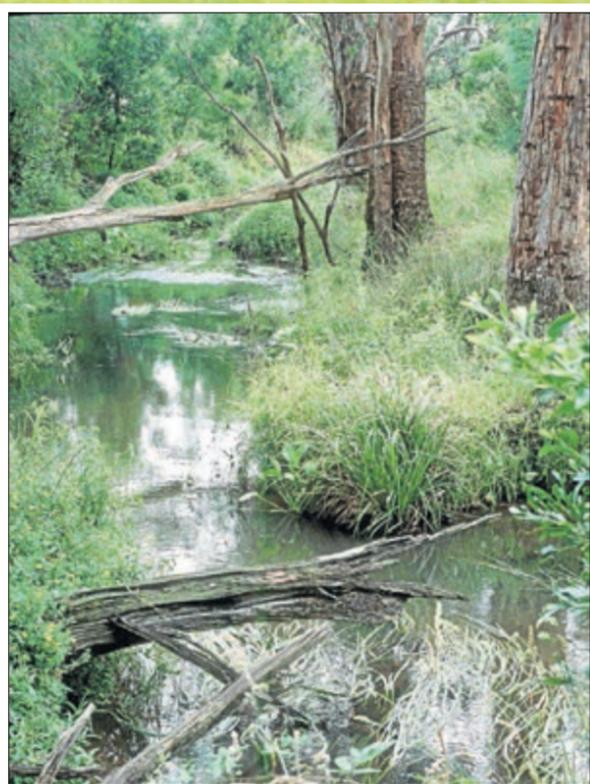


# HOLDEN

## A PROUD PARTNER OF LANDCARE AUSTRALIA.



# Drouin dairyman transforms his windswept farm



A creek runs through the farm.

West side dam on the Mills' property taken after regenerative work last year.

**L**IKE many farmers, Trevor Mills was so absorbed in the business of farming that he didn't pay much attention to the natural world on his family's dairy farm in Drouin, Victoria. Then he picked up a camera.

Watching through the lens, he became absorbed in the birds, animals and plants the farm hosted. He also became aware of the need to protect and support them.

That was in the 1980s, but the 122ha farm didn't come fully under his management until the late 1990s.

In the past 15 or so years, Mr Mills and his wife, Anne-Marie, have wrought a remarkable transformation on what was once an unremarkable farm.

**It's gone from an open, windswept place with trees being blown over all the time to having shelter all over it.**

He started with about three hectares of remnant bushland that he fenced off, using old posts and wire recovered from other fences.

The response to removal of stock was so fast and so gratifying that he kept finding more remnants to set aside. He started planting trees propagated from his own seed. Financial support from

Melbourne Water allowed him to fence off about 2km of creek frontage.

Looking back – and helped by his own pictures – he said the work had made “a massive change” to the property.

“It's gone from an open, windswept place with trees being blown over all the time to having shelter all over it.”

He no longer spends winters cleaning up fallen timber with a chainsaw because the extra vegetation has tempered the wind.

On timbered slopes that used to have problems with weeds, dense vegetation has shaded out most weed growth.

And when a cow is having trouble calving, it's no longer on a cold windswept expanse but in shelter, increasing her

chances of survival.

Others have appreciated the Mills' work.

At last count, 90 species of bird had been seen on the farm.

Mr Mills has also taken the opportunity to make the place easier to manage, tearing up old barbed-wire fences in inappropriate places and replacing them with single-wire electric fence in patterns that support livestock and pasture management while protecting remnant vegetation.

By creating 50 paddocks managed on a rotational basis, he has improved stock carrying capacity by 50 per cent without any additional inputs.

“We've taken a lot of pride in the place over the years,” Mr Mills said.

## Honouring pioneers of the Landcare movement

**T**O commemorate Landcare's silver anniversary, an online honour roll for veterans of 25 years or more was set up last year – but it was only as nominations drew to a close that couples uploaded stories of Landcare.

### Joan & Gary Wallis Victoria

One such couple was Joan and Gary Wallis, pioneers in Victoria before Landcare was launched at a national level in the late 1980s. The Wallises set up a group combining Landcare and primary production and provided an example for others to follow in the South Gippsland region and beyond.

On their farm, the Wallises planted thousands of trees while ensuring the property remained economically viable as a working farm.

Joan, who passed away late last year, was responsible for running farm planning workshops inspiring producers to develop whole-farm plans and strategically develop their farm. She and Gary were founding members of the Fish Creek Landcare group and had remained driving forces behind



Joan and Gary Wallis.

the group's success.

They became involved with sustainable farming and tree groups immediately after moving to South Gippsland in 1987.

### Les & Mary Boyce Queensland

Rainbow Beach was only gazetted in 1969, an outpost town of Queensland's Widege Shire (Gympie).

The Beach Protection Authority (BPA) collected shoreline data there from 1977 to 1988, enlisting local volunteers, in particular the late

Les Boyce, who continued for a few more years until the BPA was eventually dissolved.

Les had extensive knowledge of the state's coastal wallum and rainforest species and initiated plantings at Rainbow Beach to manage erosion and reduce the effect of salt laden wind on an exposed high dune.

Mary Boyce worked with Les in planting dune species and both were active members of Rainbow Beach Coastcare, now Cooloola Coastcare.

Mary continues water quality monitoring of local creeks, stormwater and

patterned fens, and has volunteered at the Cooloola community native plant nursery for 15 years.

### Dennis & Rosalie Stringer Victoria

Dennis and Rosalie Stringer have been farming on their property beside the Gippsland Lakes for more than 50 years. They have managed their property following Landcare practices for much of this time.

Landcare on their farm has included weed control, rabbit control, shelter belts, retaining stands of magnificent old red gums, rotation grazing and managing soil health.

Dennis and Rosalie proactively farm their predominantly beef property following whole farm planning principles and practices, including extensive shelter belts, rotational grazing, exemplary weed control, critical analysis of soil health and pasture development.

They are leaders in their field, managing their farm and stock in an ecologically friendly and financially viable manner.

Dennis was the inaugural president of the Romawi Landcare Group in June 1995.

He and Rosalie were founding members.

The couple has dedicated themselves to the group, becoming heavily involved in projects such as African love grass and serrated tussock control, and were a driving force behind the introduction of dung beetles to the region.

### Peter & Wilma McKay Victoria

Peter and Wilma were co-founders of the Triholm Landcare group in 1991, with the first meeting being held on their property.

Heavily involved with the local dairy industry, they have greatly improved sustainable practices on their own dairy farm in Poowong, planting about 15,000 trees and actively applying best-practice environmental management.

Wilma and Peter have also been a driving force of environmental programs and policy.

Wilma is a member of the South Gippsland Community Weed Taskforce and has been a representative of the Slow the Flow program and a board member of the Sustainable Strzelecki's group.

In the Landcare group they co-founded Wilma has been secretary/treasurer since 1995 and Peter president for many years.

### Richard & Zoe Baillie Victoria

Zoe and Richard Baillie were founding members of Jindanook Landcare group, which formed in 1988 – Richard serving as president and Zoe as equipment officer during their time with the group.

The Jindanook LC group planted 25,000 trees a year during this time – many as part of the group's Green Web project, which aimed to establish bio-links between river reserves, remnant bush and community plantings.

Richard was responsible for the co-ordinating the group's ragwort aerial spraying program, the FoxOff fox control program and dung beetle control projects.

The Landcare Hero Honour Roll is supported by Landcare Australia with funding from the Australian government's National Landcare Programme.

● Read more online at [www.landcarelife.com/25years](http://www.landcarelife.com/25years)



### THE CANVAS

BEFORE: Swamp 2002 before revegetation work – not ideal conditions for farm animals.



### THE ART

AFTER: Swamp area revegetated and no longer muddy 11 years later.

### WILDLIFE IN ACTION



A bird mother feeds its young.



ABOVE AND NEAR RIGHT: At last count, 90 species of bird had been seen on the farm.

FAR RIGHT: Portrait of a possum. – Wildlife in action photographed by dairy farmer TREVOR MILLS on his property.



The perfect mascot for a wise approach to landcare.



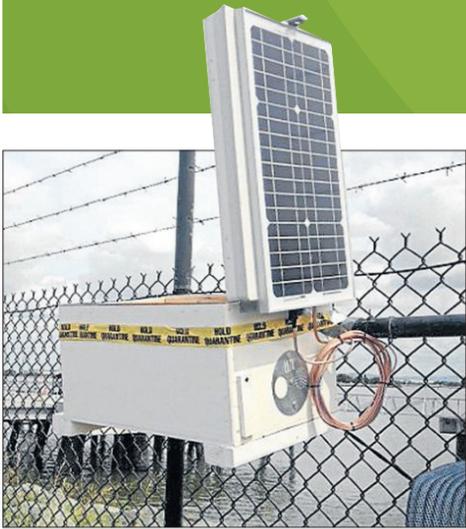
The Australian Home Heating Association is a long-time supporter of Landcare Australia and represents manufacturers committed to creating wood heaters that are as environmentally responsible as possible.

We are proud to contribute to Landcare's farm forestry and regeneration projects that encourage the planting of native trees to improve soil and provide sustainably-harvested firewood to the community and are committed to educating the community on the best ways to use wood heating.

Wood heaters leave the smallest greenhouse footprint and provide one of the cheapest running costs for domestic heating in Australia.

To find out more about the Australian Home Heating Association visit [www.homeheat.com.au](http://www.homeheat.com.au)





Remote surveillance has a major role in protecting three nation's bees.



The Varroa mite (Varroa destructor, V. jacobsoni) is among the exotic pests targeted by the biosecurity tools.



The program relies on an early warning system.

**S**OLAR panels, smartphones and look-alike monitored hives that snare feral bee intruders. It may sound like something from a science fiction movie but the technology is already here – with scientists now hoping for sufficient funding to implement nationwide protection for Australia's agricultural industries.

In the past three years, researchers have developed systems that use smartphone technology to provide a low-cost form of surveillance to improve the likelihood of early detection, containment and eradication of exotic bees and associated pests. With manual surveillance, there is a risk that bees carrying pests may have moved on before they are detected, and not all ports have biosecurity officers nearby.

Exotic bee pests targeted include the devastating Varroa mite (*Varroa destructor*, *V. jacobsoni*), while exotic pest bees include the exotic Asian honeybee (*Apis cerana*) and exotic strains of the European honeybee.

Successful trials of new surveillance technology in Brisbane and Cairns have shown catch boxes can be fitted with a cheap smartphone, battery, and a solar-powered charger. The phone takes photos at regular intervals and uploads them straight to the internet, where they can be checked for bees.

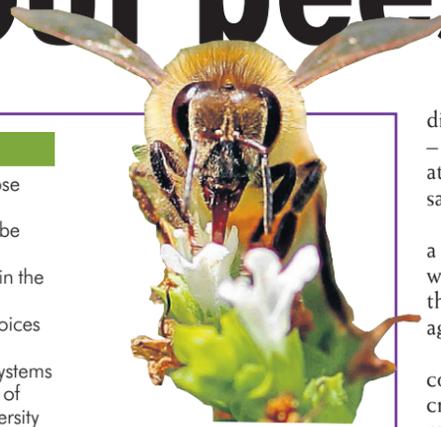
# Border security call to save our bees

## A WORLD WITHOUT BEES

A WORLD without bees would affect everyone:

- Diets would change significantly, with less food available to feed large animals, meaning less meat and milk.
- There will be economic and social impacts on farmers, industries and retailers Australia-wide.
- Little things like coffee or going out for a meal will cost more.

- There will be less to choose from in the supermarket.
- Fruit and vegetables will be more expensive.
- The variety of medicines in the chemist would decline.
- There would be fewer choices for clothing materials.
- Significantly, whole ecosystems will alter, eliminating some of Australia's beautiful biodiversity habitats.



— Picture: Angela Wylie.

The smartphone technology allows for constant monitoring and provides alerts if bees are detected in the bait hives, rather than relying on inspection visits that are time, labour and energy intensive. It also allows for monitoring on remote areas of the coastline.

The program uses surveillance techniques such as catch boxes (empty hives), log traps and swarm capture of bees at ports in order to detect the

possible incursion of exotic bees carrying pests. Ports are the most likely entry point, so the hives are placed close by.

Australia is the last continent left in the world without the presence of the Varroa mite, which has devastated honey bee populations in countries as close as New Zealand and Papua New Guinea. No country has eradicated a bee pest such as the Varroa mite, so investment in early detection is critical in

having any chance in preventing the decimation of our pollination and honey bee industries and maintaining Australia's food security.

Leading beekeeper James Kershaw, a fifth-generation in the vocation, told Landcare in Focus that the pinhead-sized mites that transmitted from bee to bee, had resulted in entire colonies being wiped out.

"The biggest threat to bees at the moment would be pests and

diseases such as the Varroa mite – a blood sucking tick that attaches itself to the bee," he said.

"The Varroa mite has caused a massive impact throughout the world with major destruction to the beekeeping, pollination and agriculture industries.

"With insufficient bee colonies, pollination of food crops has declined. This has resulted in a dramatic decrease of food production."

The effect on Australian households would be dramatic: "No bees means no food," Mr Kershaw said. "Three out of five pieces of food you put in your mouth have a pollination link to bees. And we would see a dramatic decline in the pollination of two thirds of Australian agricultural output."

According to the Rural Industries Research and Development Corporation (RIRDC) in Australia, 65pc of

Australia's food production is dependent on bee pollination.

RIRDC senior program manager for animal industries, Dr Dave Alden, said honey bees were vital to food production – including the pollination of backyard fruit and vegetables.

"Varroa mite is expected to wipe out the feral colonies of European honey bees in the Australian bush and make it more expensive for beekeepers to manage their hives. This is likely to reduce the quality and quantity of not just honey, but the many horticultural and agricultural crops that rely on bees for pollination."

Without pollination by bees, farmers, food processors, retailers and even crop protection and seed companies would find it hard to develop and grow their businesses.

Landcare Australia aims to fund the RIRDC's National Bee Pest Surveillance Program – an early warning system to detect incursions of exotic bee pests and pest bees.

At the fake hives the photos are triggered by an app, which traps the insect then activates an alarm so a local government apiary officer can visit the hive within 24 hours. The cost to build and deliver each hive is \$800 and 378 hives are needed in 42 ports.

● To safeguard bee populations and help keep Australia free of varroa mites, donate to the Protect Our Bees (see form below) or online at [www.protectourbees.org.au](http://www.protectourbees.org.au)



**Yes! I want to protect the bees and secure Australia's food future.**

Your donation will help purchase hives for the National Bee Pest Surveillance Program and protect Australia from the Varroa mite.



### 1. Please accept my gift of:

- \$20       \$100  
 \$50       \$\_\_\_\_\_ (my choice)
- I would like to make a special donation of \$800 to purchase one hive for the National Bee Pest Surveillance Program.
- I would like to make a monthly donation of \$\_\_\_\_\_ to help protect our agricultural industry in Australia. (Credit cards only)

All donations of \$2 or more are tax deductible.

### 2. My donation method:

- My cheque/money order (made payable to Landcare Australia Limited)
- Or, Please debit my:     Visa     Mastercard
- Credit card number: \_\_\_\_\_
- Expiry Date:  /  CVV:
- Name of Cardholder: \_\_\_\_\_
- Signature: \_\_\_\_\_

### 3. My Details:

Title: \_\_\_\_\_ First Name: \_\_\_\_\_  
 Surname: \_\_\_\_\_  
 Street Address: \_\_\_\_\_  
 Suburb: \_\_\_\_\_  
 State: \_\_\_\_\_ Postcode: \_\_\_\_\_  
 E-mail Address: \_\_\_\_\_  
 Phone Number: \_\_\_\_\_

**Donate today at [www.protectourbees.org.au](http://www.protectourbees.org.au)**

Please cut this form and send it back to:  
 Landcare Australia, Reply Paid 87929, WEST  
 CHATSWOOD NSW 1515 or call us on 1800 151 105