Neds Corner Station wins rabbit battle

WHEN station manager Peter Barnes came across four Australian bustards while out watering new plantings, he couldn't believe his eyes.

The threatened birds, once common in southern Australia, hadn't been recorded on the property since it was bought by Trust for Nature 16 years ago.

The bustards are a testament to the dramatic rehabilitation the 30,000 hectare Neds Corner Station has undergone since 2002.

Had the birds flown across back then, they would have looked down at a heavily grazed property, blowing red dust with bare clay pans and lots of rabbits, and kept flying.

Neds Corner Station in North West Victoria is one of 43 conservation reserves owned by Trust for Nature.

The property has had a long battle with rabbits: they prevented natural regeneration and de-stabilised the soil and sand dunes.

When the Trust purchased the property there were more than 30 rabbits per spotlight kilometre.

After more than a decade of work the average is now 0.4 rabbits per spotlight kilometre.

This success is due to a range of controls including destroying warrens, laying poisoned baits, shooting, releasing the calicivirus and installing vermin-proof fences.

More than 20,000 warrens have been treated, 13,000 of them destroyed.

Knowing how to most effectively control the rabbits on Neds Corner was initially a process of trial and error and methods have changed and refined over the years. The property's sheer size makes the job difficult.

"We were good at killing them, but not so good at controlling them," Peter said.

"We used to get straight into ripping up warrens which would only leave the rabbits homeless and force them to live on the surface, finding homes in bushes and anywhere they could hide."

Reducing the number of rabbits before destroying warrens was a more effective approach.

Neds Corner is on Ngintait country and the first people of Millewa Mallee.

The property features numerous important cultural heritage sites including ancestral burials, scar trees, fireplaces and shell middens.

Warrens cannot be mechanically ripped in some areas and instead more creative and sensitive ways of making them unusable are deployed such as covering entrances or collapsing them by hand.

Five hundred hectares of the property has also been fenced to keep predators and rabbits out.

This enables Trust for Nature to explore the potential of reintroducing regionally extinct animals to the property.

Rabbit control is ongoing, and is likely to continually play a part in managing this important conservation property.

"Once you get down to low numbers you just cannot stop working. Now if we notice rabbits in a spot or re-infesting, we'll treat that as it comes up," Peter said.

Controlling the rabbits has completely transformed Neds Corner Station and allowed indigenous species to move back in.

As one of Victoria's largest conservation reserves, it is now home to more than 1000 native plant and animal species, including 77 threatened plants, 24 reptiles and 112 types of birds.


A bustard sighted at Neds Corner Station. Photo: Peter Barnes.

Researchers have found 21 species not previously known to science and among its many wonders is a new species of daisy for Victoria.

"And, fingers crossed, the bustards will like what they see and permanently call Neds Corner Station home," Peter said.

New skills and partnership to fight feral pests


Networking and engagement are new tactics being used to manage foxes and other feral pests.

FOR the first time the unique skills and expertise of the Landcare network are being harnessed to tackle feral pigs, dogs, foxes and other pests on the Central Tablelands.

Central Tablelands Local Land Services has contracted local Landcare groups to provide pest animal group coordinators, utilising their networking and engagement skills to increase landholder participation and support effective pest control.

Agencies across the state are closely watching the pilot project.

Central Tablelands senior land service officer Paul Gibb said it is the first Local Land Services region in New South Wales to launch a formal joint pest management project with Landcare.

"This partnership is funded by Local Land Services, where we're working together to achieve the goals of the recently released Regional Pest Management Strategy," he said.

Feral pests are a big problem for both agriculture and the environment, and pest control works best when landholders and agencies work together with a coordinated strategy.

"Landcare is brilliant at doing that sort of thing – networking and planning – so we expect this initiative to bring new people into a more strategic approach to pest management," Paul said.

"The idea is to get community members engaged in a structured format, with the help of pest animal coordinators to bring them to the table."

Beth Greenfield is the first pest animal group coordinator to be employed under the new Landcare and Local Land Services pilot project. She started her new role in July, working in the Watershed Landcare region covering Mudgee, Gulgong, Rylstone and Hill End.

"I've been getting to know landholders in this region and identifying the key challenges we need to tackle, including overcoming some of the basic problems for landholders engaging and communicating with their local pest groups," Beth said.

Beth also worked with the newly formed Piambong Yarrabin Pest Group to help coordinate their first wild dog baiting program held between August and September this year.

"We had 20 landholders take part in this group's first program," she said.

"The majority of these people had not taken part in a coordinated baiting on this scale before, so that was a great result."

Four new pest animal group coordinators have now been engaged by Central Tablelands Local Land Services, including Beth Greenfield, Watershed Landcare; Mel Kiel, Little River Landcare; Sally Kirby, Central Tablelands Landcare; and Jayden Gunn, Mid Lachlan Landcare. A new pest animal group coordinator will also be appointed to the Lithgow Oberon Landcare region.

"Landcare and Local Land Services have already been working with each other on a regular basis, but this new project will formalise and enhance that process, combining our biosecurity expertise with Landcare's knack for networking and community engagement," Paul said.

Clean4Shore voted Australia's favourite Landcare project

NEW South Wales Coastcare group Clean4Shore won the coveted People's Choice Award at the National Landcare Awards held in October.

Operating on the Central Coast, Clean4Shore was chosen above 64 other national finalists by receiving the most votes from the Australian public in an online poll in the lead-up to the 2018 National Landcare Awards gala dinner.

It is the only award among all 11 handed out that is voted on by the public and not a judging panel.

Each year, Clean4Shore leads up to 70 field trips: engaging the community, schools, disability, indigenous and business groups in the removal of plastic and polystyrene around the Hawkesbury River, Brisbane Waters and Tuggerah Lakes.

Volunteer groups led by Clean4Shore remove garbage from waterways while simultaneously educating themselves about the Central Coast foreshores and mangroves.

Graham Johnson was very excited to win this esteemed award on behalf of the group.

"I'm very proud that Landcarers have voted for litter management," Graham said.

"I have a great support group from my Facebook page, and from people that follow our program who are willing to get out there and do something about the litter in our waterways.

"This is a pretty big achievement for us. It makes it all worthwhile."

For all the 2018 National Landcare Award winners, see inside.

Graham Johnson receiving the People's Choice Award on behalf of Clean4Shore.

Managing the pest animals and weeds that hurt farmers' pockets

By Minister for Agriculture and Water Resources, David Littleproud MP

PESTS and weeds are unfortunate realities that cost farmers money.

The bill for weed control is around $4 billion a year including production losses. Pests cost up to $800 million.

It's a huge drain on the rural economies where about $18,000 is spent on the average farm every year keeping weeds under control.

Australia has about 3200 introduced plants. Around 500 are weeds.

At least 73 introduced animals now have feral populations, including 25 mammal species, 20 birds, four reptiles, one amphibian and at least 23 freshwater fish.

The stats show the size of the problem but the toll on the environment is harder to measure.

Farmers are waking up to a trail of destruction left by wild dogs on sheep flocks and Landcarers find themselves battling weeds invading native habitat.

It would be easy to give up - especially when weeds are growing resistant to chemicals.

But the government is committed to fight harder and smarter. As pests and weeds adapt, we've got to find new ways to take back control. There's too much at stake.

Even though pest and weed management is the responsibility of landholders and the states, the Coalition Government is making big investments.

We've invested $76 million through the Agricultural Competitiveness White Paper to tackle pests and weeds, with $25.8 million going to drought-affected areas.

We put an extra $30.3 million over four years from next year for established pest and weed control tools and another $15 million this year for communities in drought.

Pests and weeds are an even bigger threat in a drought where farmers struggle to keep them under control and when livestock is under stress.

They are a drag on drought recovery.

We've set up our command centre in this war. We're investing $20 million in the Centre for Invasive Species Solutions.

The centre is running 21 new projects to help prevent, detect and manage invasive pests.

This includes a project to investigate how viruses can be used to control rabbits - one of the most costly pests for Aussie farmers.

We're developing technology to get pests and weeds off our land.

The government will keep working alongside our farmers and land managers as we take on pests and weeds together.

Minister for Agriculture and Water Resources, David Littleproud MP.

National conference a celebration of Landcare

By CEO Landcare Australia, Dr Shane Norrish

WITHOUT a doubt, the National Landcare Conference and Awards is a highlight in the Landcare calendar.

It is an incredible experience joining together with so many passionate, talented, and insightful Landcarers to encourage one another and celebrate our achievements.

This year's conference and awards was no exception.

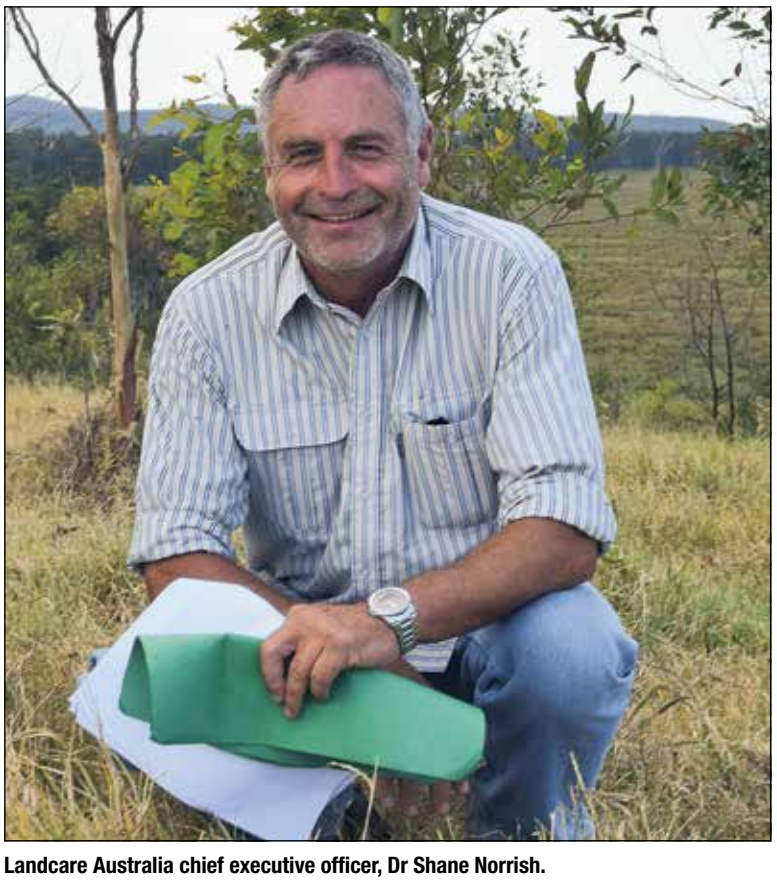
Last month, 500 delegates from across Australia gathered in Brisbane for three days to learn, share knowledge, and network with experts, peers, and the community.

Exploring the theme *Landcare: building a better tomorrow,* we were challenged to think about our country's future and the important part we all have to play in caring for it.

The conference's keynote speaker, Australian National University's Climate Change Institute director Professor Mark Howden was inspirational in his presentation on the need for a climate change strategy for Landcare.

Landcarers have an important part to play in acting on this issue. We need to be at the forefront, especially regarding the restoration and management of Australia's natural assets.

Our 11 national award winners are fine examples of this and it was a great honour for Landcare Australia to recognise their achievements.



Landcare Australia chief executive officer, Dr Shane Norrish.

Congratulations to all the finalists and winners not just on their achievement but for the enormous difference they are making.

As with all things Landcare, many people have helped make this event happen.

I'd particularly like to thank the Australian Government's National Landcare Program, the National Landcare Network, Queensland Water and Land Carers, the working groups, awards judges, and our sponsors for the part they have played.

Putting an event on of this size would not have been as successful without this valued support.

If you didn't get to join us this year, I hope you can make it in 2020.

Annual report sums up tremendous plant biosecurity

THE 10th edition of the National Plant Biosecurity Status Report reveals the tremendous effort being made across the country to sustain our plant industries and our unique ecosystems.

The report, produced annually by Plant Health Australia (PHA), is a go-to reference for anyone seeking to understand Australia's plant biosecurity system and its performance.

The 2017 report was developed with input from 90 contributors and details the efforts being made by Australian and state governments, industries, research agencies and the community.

"This year the National Plant Biosecurity Status Report displays the system through the three layers of protection: pre-border, at the border and post-border, with examples of how this works in specific circumstances," said PHA chair Steve McCutcheon.

The report profiles 40 plant industries, providing information on the value of the crop, main growing areas and priority pests.

It identifies the greatest exotic pest threats and explains the mechanisms in place, including surveillance and diagnostics, to maintain the pest status of plant industries.

31 case studies highlight facets of the biosecurity system including eradication efforts, surveillance programs, regionalised and priority pests, innovations and events.

This includes aspects of the $200 million investment in improving biosecurity surveillance and analysis through the Australian Government's Agricultural Competitiveness White Paper to better target critical biosecurity risks and help improve market access for Australian producers.

"The report also details 700 scientific projects being undertaken around Australia by researchers and funders seeking to solve challenges affecting plant industries and our unique environment," said PHA executive director and chief executive officer Greg Fraser.

"Each project sheds light on some aspect of plant or bee biosecurity that will inform better management of pests, crop production and the environment," Mr Fraser said.

Plant Health Australia is the national coordinator of the government-industry partnership for plant biosecurity.

- *The report is available to read or download at: planthealthaustralia.com.au/NPBSR*

Baxter the border collie has a nose that knows

BAXTER the border collie is living proof that you really can teach an old dog new tricks.

The fun-loving canine is the first in Australia to sniff out fireweed – an invasive plant threatening the environment and cattle industry.

Baxter spent seven days in training with owner Jacqui Diggins before showing off his new skills on the Atherton Tablelands in Far North Queensland.

"He took off, smelt the weed and dropped to the ground in a spot where we could see nothing," Jacqui said.

"We found a tiny fireweed the size of my thumb, and that was the first of three. We would have walked straight over the plants."

Fireweed is a daisy-like plant that competes with pasture and is toxic to livestock.

Wet Tropics natural resource management organisation Terrain NRM hopes Baxter will help fight its spread as part of an initiative funded by Queensland Government's Natural Resource Management Investment Program.

Terrain NRM's Evizel Seymour said Baxter had buoyed spirits.

"We've been working with the Tablelands Regional Council for more than two years and the project has been very effective, but we struggle to find the plants before they flower," she said.

"With Baxter now part of the team we can detect seedlings and remove them before they flower and their seeds spread on the wind and via livestock."

Baxter trained several years ago as an urban search and rescue sniffer dog to find missing people. But he was never deployed.

Jacqui said her border collie was born blind in one eye.

"It has never stopped him, or slowed him down," she said.

A Churchill Scholarship recipient for research into using detection dogs to support conservation programs, she has visited New Zealand and America to see the wide range of uses for detection dogs.

"In Australia dogs are now being used for everything from feral cat detection to quoll surveys, koala and frog detections and in some cases weed detection," she said.

"A dog's sense of smell is believed to be between 1000 and 10,000 times better than ours. Humans can smell baking bread about a block away but dogs can smell every ingredient."

Baxter's reward for finding fireweed is 'ball time'.

Baxter the border collie is rewarded with ball time after detecting fireweed, in trainer Jacqui Diggins' hand.

"He knows there will be play – his ball comes out and usually it's tug of war," Jacqui said.

Fireweed is listed as a restricted invasive pest in Queensland. First detected in New South Wales, it has spread rapidly over the past 30 years and is now found along the entire coastline of NSW, along the coast to Brisbane and as far north as the Wet Tropics.

Even light outbreaks can produce one million seeds per hectare.

Evizel said intensive work at three isolated sites on the Tablelands had reduced fireweed infestations over the past 18 months on private land and along roadsides.

"Having Baxter come in at the end, when plant numbers are low, will build our confidence of removing all plants in the area" she said.

Working together to determine threats to Australia's environment

PROTECTING Australia from exotic pests, weeds and diseases that could negatively impact the environment is a national priority.

Previous introductions of pests, weeds and diseases, examples including foxes, lantana, myrtle rust and the amphibian disease chytridiomycosis, have negatively impacted Australia's unique environment, biodiversity and our way of life.

The Department of Agriculture and Water Resources, the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), as well as experts from state and territory governments,

New Zealand government, universities and other organisations are working together to identify and determine high priority exotic pests, weeds and diseases that could harm Australia's environment and social amenity should they arrive here.

The project, due for completion by the end of 2019, will identify high risk species across all taxonomic groups and ecosystems, including terrestrial and freshwater vertebrates, plants, marine pests, terrestrial and aquatic invertebrates, plant pathogens, wildlife diseases, and aquatic animal diseases.

This is to ensure that Australia's native flora and fauna, unique environments (from our tropical rainforests to our reefs and oceans, national parks, deserts, estuaries and heritage sites), and the social amenity they provide to the Australian public, are adequately protected from future biosecurity threats.

A national priority list of environmental pests and diseases, developed in partnership with biosecurity system participants, was one of the key recommendations in the 2017 *Priorities for Australia's biosecurity system* report.

Collaboration is an important component of the project, where joint decisions have been made with key stakeholders from governments and other organisations throughout the entire process.

Two workshops were held in March and June 2018 to facilitate the development of stakeholder networks and to inform the development of the national priority list.

Project participants are currently in the process of assessing species for the national priority list.

A consultation process is expected once the assessment period is complete, likely around mid-2019, with the final list anticipated to be published by the end of 2019.

The list and prioritisation process will be initially reviewed after three years, and there will be the flexibility to add or delete species as needed to keep the list current.

• *For further information on the national priority list of exotic environmental pests and diseases project, contact environmentalpestlist@agriculture.gov.au.*

More sustainable crops just an application away

SCIENTISTS are investigating whether a clay-based 'vaccine' for plants could safeguard the nation's $5.5 billion-combined cotton and vegetable industries against pest infestation and crippling crop losses.

Funded by Hort Innovation and the Cotton Research Development Corporation, the project is being delivered by the University of Queensland (UQ) in partnership with Nufarm, and involves trials of the non-toxic, biodegradable product BioClay on farms in Queensland and other locations across the country.

Hort Innovation research and development general manager David Moore said the new work followed more than four years of research into developing the product, and the trials presented an exciting step toward the commercialisation of BioClay.

"The Australian vegetable industry is among Australia's largest horticultural industries with an estimated annual gross production value of $3.7 billion, and exports to Asia and the Middle East valued at over $270 million," he said.

"Globally, an estimated 40 per cent of food grown is lost to crop pests and pathogens.

"Pest and disease management is increasingly challenging for both the fruit and vegetable and cotton industries, who are facing climate change, pesticide resistance and chemical use limitations.

Professor Neena Mitter (centre) and QAAFI researchers test the non-toxic, pathogen-free BioClay spray on cabbages. Photo: University of Queensland.

"The high-tech BioClay spray responds to these challenges by priming the plant's own defences, helping the plant to naturally attack specific crop pests and pathogens."

UQ research arm, the Queensland Alliance for Agriculture and Food Innovation, is leading the trials, and while the project is not due for completion until 2021, agricultural biotechnologist and research leader, Professor Neena Mitter, said early signs were promising.

"Through large-scale trials we know that BioClay works, and the work we have done to date provides a great foundation for pest and disease management across vegetable and cotton crops," she said.

"BioClay offers sustainable crop protection and residue free food produce – which consumers demand.

"There is no genetic modification of the plants, and the process does not involve chemicals that might affect untargeted insects.

"BioClay is the first step towards revolutionising how we manage pest control organically for increased sustainability and resilience of crops and industry at large. This is an exciting project that has the potential to ultimately reshape industry approaches to pesticides."

Hot on the tracks of feral animals in the Top End

FERAL buffaloes, pigs and cattle are having a devastating impact on wetlands and important cultural sites across the Top End.

They destroy wetlands and creeks, cause declines in water quality, spread diseases that could be passed on to livestock, and destroy infrastructure like roads and fences which are so important in remote areas.

Past attempts at controlling these introduced pests have had limited success, but recent advances in digital technologies might be about to change that.

A team of scientists and Indigenous Rangers have been connecting feral animals up to the internet.

New technology developed by CSIRO with James Cook University and Indigenous ranger groups in Arnhem Land and Cape York is bringing invasive species monitoring into the data age and allowing for real-time monitoring of the animals.

The system uses electronic GPS trackers attached with animal collars and an array of environmental sensors embedded in the landscape.

Telecommunication infrastructure then receives the signals from the trackers and sensors to deliver information about the feral animals and the habitats they frequent.

The GPS trackers, developed by CSIRO's Data61 researchers, are made at a fraction of the cost of commercially available alternatives.

This has opened up the prospect of conducting large-scale tracking projects that have not been economically feasible before.

Using a low-power and long-range communication system, called LoRa, the GPS trackers and the environmental sensors upload their data to CSIRO's Senaps cloud service in near real-time, as the animals are roaming around.

The local expertise of Indigenous rangers has been instrumental in the effectiveness of the technology.

Initial tests of the equipment at the Djelk Indigenous protected area in east Arnhem Land showed that the use of digital technology in remote areas presents a unique set of challenges.

While the system worked in the town of Maningrida – 500 kilometres east of Darwin – mobile networks in areas beyond, where buffalo and pigs inhabit, were patchy.

With the assistance of the Djelk Rangers, the system was connected to their communications infrastructure and placed close to the animals, allowing the sensors to pick up the signals of the GPS trackers.

The GPS tracker designed by Data61. Photo: Chris McKay, CSIRO.

The Rangers' intimate knowledge of the landscape also enabled them to advise on where to place sensors and communications equipment where feral animals most frequent.

As of October 2018, 22 buffaloes in east Arnhem Land, and 20 pigs on Cape Yorke have been fitted with the GPS tracking collars.

The data collected by this system will feed into a model that is able to 'learn' the behaviour of the animals over time.

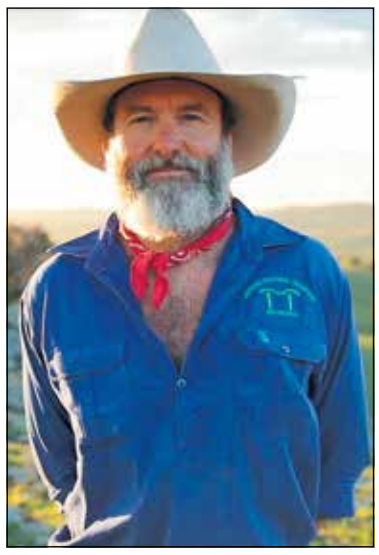
Using machine learning, the data will help predict the animals' future behaviour by measuring the temperature and humidity of different parts of the landscape against their movements.

Understanding where feral animals go under specific weather conditions will help to better manage their impacts.

Working with environmental managers, like the Indigenous ranger groups, is also ensuring that the new tracking system is co-designed by the people who will use them.

This means the technology and insights it delivers will be available sooner in the areas where it is most needed, offering the potential to change long-term management strategies.

Charlie Arnott wins Bob Hawke Landcare Award



Winner of the prestigious Bob Hawke Landcare Award, Charlie Arnott.

NEW South Wales biodynamic farmer and grazier Charlie Arnott was honoured at the 2018 National Landcare Awards as the winner of the prestigious Bob Hawke Landcare Award.

Charlie was chosen amongst an exceptional group of finalists which included Victorian farmer Simon Falkiner and Tasmanian poo-ologist, Dr Graeme Stevenson.

The award acknowledges a person who has demonstrated a remarkable commitment to caring for the land, champions better practices, and gives their time to share knowledge with others so that they too can prosper.

With a $50,000 prize package, the award enables Charlie to further develop his knowledge and skills in Landcare and sustainable land management practices.

Charlie was ecstatic to win the prestigious award.

"The other finalists, Graeme and Simon, have made such huge contributions to Landcare, and both have had a positive impact working with their local communities," Charlie said.

"I was completely surprised when I heard my name being called out. It's a real honour to have what I do for a living – my passion – being acknowledged and celebrated."

By winning this award, Charlie hopes to inspire more farmers to adopt organic and biodynamic practices on their properties so they too can benefit from enhanced landscape biodiversity, healthy plants, and animals.

He also plans to use his award to facilitate more on-farm workshops and training for farmers and others interested in biodynamics.

"The biggest impact I can have is teaching farmers how to do things differently," Charlie said.

"I'm a firm believer it's much better to give a man a fishing rod and teach him how to use it, rather than just giving him fish.

"Helping other farmers to focus on what we can control is the biggest barrier.

"While we still face the same challenges, what we do differently is how we approach them."

Charlie practices regenerative farming, organic, biodynamic and holistic grazing principles on his 5000-acre mixed farming property, Hanaminno, at Boorowa NSW.

Passionate about growing clean, healthy meat, Charlie's approach and practice of biodynamic and holistic principles demonstrate every aspect of the Landcare ethic.

The Bob Hawke Landcare Award is not the first time Charlie's farming practices have been recognised.

He has won several agricultural industry awards for leadership, resource management, and conservation.

Charlie has been an active Landcarer since the inception of the Landcare movement in 1989, with previous roles in all levels of Landcare, from district groups to the Sustainable Farming ambassador for Landcare Australia.

Suspicious stink bug sparks response

WHEN a staff member walked into Warren Birchmore's office with a suspicious looking bug on her jumper, Warren immediately thought of the brown marmorated stink bug (BMSB).

Warren is viticulture systems manager at Accolade Wines, based at Reynella.

"I was aware of the BMSB problem due to the recent publications and alerts, so I had heightened awareness," Warren said.

"When I pointed out the bug on her jumper, she instinctively flicked it off and it flew away.

"But I knew I needed to catch it for identification.

"I managed to catch it and contain it in a jar, which was hard to do as the bug was very active."

The next step was finding information to assist with identifying the bug.

Warren contacted Vinehealth Australia's technical manager Suzanne McLoughlin.

Together they identified some of the distinguishing features of the bugs that Warren could use to initially discount the bugs it was likely not to be.

"Suzanne also suggested putting the bug in the fridge to slow it down, which was a great tip," Warren said.

"Once the bug was sluggish, I put a ruler under the jar for scale, and took photos using the flash function.

"This was also a good move, because the colours and markings on the bug showed up vastly different in the photos when I used flash.

"I thought the bug was a brown grey colour, but it was actually dark brown to black, with yellowish spots.

"That was a real eye opener – the colour differences between the naked eye and the camera."

The markings on the bug and the number of antenna sections were also helpful in identification.

"The bug we caught had four antenna sections, while the BMSB has five. I was fairly certain it wasn't a BMSB, but I wanted to be sure," Warren said.

Suzanne put Warren in touch with South Australian Research and Development Institute (SARDI) entomologist Greg Baker who was able to confirm that the stink bug in question was a native gum tree shield bug.

"It was a relief that our bug wasn't the BMSB, which is exotic to Australia and we really don't want it here," Warren said.

"It was a good process to go through for me, because now I'm familiar with the steps for identifying or reporting a suspicious pest."

Warren said vineyard staff are key to monitoring for unusual pests, as they are looking at vines every day.

"Our vineyard managers are well versed in knowing what pests and diseases could appear and are always on the lookout for something unusual," he said.

"If they do spot something, they immediately investigate it, either internally within Accolade or outside with organisations such as Vinehealth or SARDI.

"And all of us in the industry need to be vigilant.

"It's much better to be alert and get unusual insects or diseases identified, than to ignore the problem, and suddenly it is everywhere."

Suzanne said Vinehealth Australia is constantly looking at ways to make the pest and disease identification process easier for growers.

"With new pest pressures on our doorstep, we're focused on preventing the entry of exotic pests, as well as ensuring growers know what to do if they find something unusual. We're here to help," Suzanne said.

• *If you think you've found an exotic pest or disease, call the Exotic Plant Pest Hotline on 1800 084 881.*

The gum tree shield bug. Photo: Warren Birchmore.

Monitoring is vital for best practice farm-gate hygiene. Photo: Vinehealth Australia.

The need for change in rangeland goat management in the Western Division

By Marwan El Hassan

GOATS in Australia are a source of conundrum and conflict.

On one hand, they can exert significant pressure on native biodiversity, and are therefore considered by many as pests.

On the other hand, they are a significant resource for a growing goat meat industry that has put Australia on top of exporters in the world, and that relies on the wild goat population for around 95 percent of its supply.

Large-scale eradication is not feasible for many reasons.

In fact, we have so far failed to control the growth of the rangeland goat population to an estimated 5.8 million in the western division of New South Wales alone.

Siloed approaches to manage goats have so far failed.

Localised eradication in protected areas is not working given the high mobility of goats from neighbouring pastoral areas.

Commercial goat harvesting is sporadic and opportunistic and depends solely on favourable markets as an incentive for uptake.

The tendency among some pastoralists to release underweight and pregnant goats back in the wild after mustering to ensure a 'reserve' for hard times make things worse and effectively counteract attempts to reduce numbers in the wild.

It's important for conservationists to appreciate the value of goats to rangeland producers in hard times, such as droughts.

Many producers have survived and stayed on their land thanks to goats when all other animals simply died or had to be sold.

These same pastoralists are also the stewards of the land that conservationists rely on to manage resources in the rangelands.

Pastoralists also need to acknowledge the critical importance of natural resources not only for environmental purposes but also for their own livelihood and wellbeing in the future on the land.

Collaboration is therefore key for success in the future.

Adaptive management, whereby goat numbers are continuously controlled not only for commercial purposes but also for resource protection, is needed.

Both conservationists and pastoralists should work together to achieve this goal.

It is certainly not an easy task and requires ongoing dialogue until a shared understanding of the 'problem' is reached.

However, I believe it's doable. And even more, I believe it's the best way forward.

There are encouraging signs that things are indeed changing in the western division.

The majority of stakeholders from both 'pest' and 'resource' groups have a better appreciation of each other's position.

For example, the Western Local Land Services (LLS) now acknowledges the value and potentials of the goat meat industry, in light of growing demand on the product globally. Some signs of this change in attitude has been reflected in the latest management plan of the Western LLS where goats are called 'unmanaged rangeland goats', rather than 'feral'.

Rangeland goats in their very suitable habitat.

The industry, represented by the Goat Industry Council of Australia and Meat and Livestock Australia also recognise the critical need to protect natural resources and work on sustainability of the goat industry in the west.

The industry is slowly moving towards semi-management of goats, which creates continuous and steady supply and contributes to the protection of resources.

The timing for collaborative, adaptive management seems perfect.

A seemingly sustainable global demand and the possibility to reach new markets form an opportunity to control and harvest larger numbers of goats to supply the exports markets. Thus collaborative management can lead to a win-win scenario for all stakeholders in the rangelands.

A bright future for Fishery Falls farmer

By Sam Moore and Toneya McIntosh, Cane Changer Project

FOR over 30 years, Lenny Parisi has grown sugarcane on the banks of the Mulgrave River in Fishery Falls, Queensland, with his family. Like most sugarcane growers, he has been making significant on-farm changes to improve productivity and protect the environment.

Lenny has a strong connection to the environment and often spends time fishing or diving on the Great Barrier Reef in his local area and further north near Cooktown.

"I've got my hands in the reef which probably makes me a better farmer," Lenny said.

"I'm looking at the problem from both ends – I'm making on-farm changes to reduce runoff and improve sustainability, but I'm also seeing the effects on the reef at the other end."

Lenny's grandfather originally planted cane during the war when times were tough. A lot has changed since then and one of the things Lenny is doing is restoring vegetation that was cleared during those early years.

"I'm working with the Mulgrave Landcare and Catchment Group to revegetate areas of my farm that aren't suitable for cane," Lenny said.

"We've now planted trees over seven hectares and hope to restore the area back to its original state."

But as he will tell you, large-scale revegetation doesn't come without its challenges. Like most farmers, Lenny spends a lot of his time controlling the spread of invasive species.

"We're always doing what we can around the farm to stop the spread of introduced species or remove things that shouldn't be here," he said.

"For me, I've got pond apple and Singapore daisy that I'm working hard to clear."

Both species are major weeds, particularly in Queensland's Wet Tropics, and can rapidly out-compete native species.

"I had Singapore daisies right throughout the block when we first started," Lenny said.

"We've worked hard to keep them under control, sometimes spraying them out if we really need, but we always try natural methods first."

For Lenny, it's the natural methods that sometimes make all the difference.

Like many growers in the area, he had problems with wild pigs eating and damaging his sugarcane before he adopted green cane trash blanketing.

"The pigs still like the cane, but they often get diverted to the worms that live in the trash," he said.

"At least the damage is now spread out and not focused just on the cane."

Green cane trash blanketing also helps to retain valuable soil moisture and nutrients. Because of these benefits to soil health, growers can also apply less fertiliser and undertake less groundwork to control weeds on their property.

While he's certainly got a lot to be proud of, Lenny has no plans to slow down any time soon.

Looking towards the future, he hopes to continue re-purposing areas of his farm to benefit the environment.

"With Landcare, we're looking to build a larger lagoon on another swampy region of the farm that isn't great for growing cane," he said.

"Over time not only will this bring more wildlife and local vegetation into the area, but it will help to improve the water quality flowing to the reef."

Lenny Parisi is building lagoons on his property to help improve the water quality flowing into the Great Barrier Reef.

Landcare volunteers visited his farm to plant another 1500 trees along areas of his riverbank that were lacking vegetation.

"This will help to rebuild the banks of the river and establish a wildlife corridor," Lenny said.

"We're already starting to see an increase in birdlife in the area which will continue to increase after the second lagoon is completed."

With all of these changes taking place, it certainly seems like a bright future is on the horizon for this Fishery Falls farmer.

New appointment shines spotlight on environmental biosecurity

THE environment has always been a big factor in managing biosecurity risk, but a new Chief Environmental Biosecurity Officer (CEBO) is enhancing Australia's capability to provide national leadership on environmental biosecurity.

In June 2018, the Australian government announced it would establish the role – within the Department of Agriculture and Water Resources – in response to the 2017 report, *Priorities for Australia's biosecurity system: an independent review of the national biosecurity system and its underpinning intergovernmental agreement*.

Ian Thompson was appointed as the inaugural Australian CEBO in October. He has extensive experience in this area and has the strong networks and relationships in the environment and natural resources management community required to make it a success.

The CEBO will be the primary representative and advisor to the Australian Government on all matters relating to Australia's environmental biosecurity risks. This national leadership role is similar to those of the Chief Veterinary Officer, the Chief Plant Protection Officer or the Threatened Species Commissioner.

Ian hopes the role will ensure a more strategic and transparent approach to national environmental biosecurity preparedness and investment.

"I'll be working to strengthen engagement with community and environmental groups, including on their role in biosecurity and how they contribute to the national biosecurity system," Mr Thompson said.

An ongoing $825,000 a year project fund will also be established to drive investment in building environmental biosecurity capability and capacity, and to improve ability to detect and eradicate environmental pests and diseases.

"Managing biosecurity risk to the environment is a key part of the biosecurity system. It should be managed along with animal, plant and human health," Mr Thompson added.

The key objectives of the CEBO role are to:

- enhance understanding and oversight of environmental biosecurity risks;
- perform a national policy, engagement and leadership role;
- ensure that Australia's environmental and community biosecurity risks are better defined and prioritised; and
- improve the maturity of Australia's environmental biosecurity preparedness, surveillance and response capacity.

The department, now working with the CEBO will to continue to:

- collaborate with the Department of the Environment and Energy – including the Threatened Species Commissioner – to develop and implement policies and programs that protect the environment;
- conduct risk analyses, including import risk analyses, so that goods and people arriving in Australia do not pose an unacceptable biosecurity risk;
- provide inspection and certification services to facilitate the safe movement of people, goods and conveyances into and out of Australia;
- partner with state and territory governments, industry and communities to manage pest and disease outbreaks that threaten Australia's environment.

Australia's inaugural chief environmental biosecurity officer Ian Thompson.

Protecting the environment from pests and diseases is important so that all Australians can enjoy our unique biodiversity – now and into the future.

- *For more information visit: www.agriculture.gov.au/biosecurity/environmental.*

New centre's projects creating invasive species solutions

LANDCARERS will have more tools in the fight against pest animals thanks to a suite of innovative projects launched by the Centre for Invasive Species Solutions (CISS).

The new centre has established a powerful member and partner collaborative research, development and extension platform that has brought together state, territory and federal government agencies, industry research development corporations – including Meat and Livestock Australian and Australian Wool Innovation – the CSIRO and universities to focus on the development of improved tools and strategies that will strengthen the management of vertebrate pests.

Twenty-one projects have been co-developed with CISS's members and partners, and are focused on developing solutions to managing problematic species such as rabbits, wild dogs and deer.

The Australian Government has contributed $20 million towards the CISS to fund the projects and develop detection and surveillance techniques to combat potential new threats.

The centre was launched by Minister for Agriculture David Littleproud on the 18 September 2018 at Parliament House.

"Farmers face huge costs, productivity losses and the spread of diseases at the hands of pests and weeds, and continue to keep fighting to stop them in their tracks," Minister Littleproud said.

"The 21 projects target pest animals in particular, and will look at new management tools, better strategic decision making, as well as community engagement and education."

Notable environmentalist and Invasive Species Council's chief executive officer Andrew Cox has praised the establishment of the new centre, highlighting the danger invasive species pose to Australia's threatened native species and the importance of continuing to combat this problem.

"A critical part of this load falls on our researchers and national research collaboration works," Mr Cox stated.

"From an environmental point of view and for agriculture, we desperately need a Centre for Invasive Species Solutions."

The CISS is maintaining the momentum built by the Invasive Animal's Cooperative Research Centre which finished its research projects in mid-2017.

CISS will continue the work of its predecessor, collaborating nationally to deliver a rabbit biocontrol research pipeline. Two of the centre's rabbit specific biocontrol projects will be looking at ways to optimise current strategies in order to ensure future management benefits within the environment and agriculture sectors.

Another of CISS's projects include Australia's largest research collaboration to tackle feral deer. Feral deer are an emerging problem in nearly all jurisdictions of Australia, impacting agriculture and threatening precious native ecological communities, particularly those within national parks.

Fiona Simson (National Farmers Federation), David Littleproud (Federal Minister for Agriculture), Helen Cathles (Centre for Invasive Species Solutions) and Andrew Cox (Invasive Species Council) launch the new centre.

Together with five state and territory governments, three local councils, three universities, and three private environmental groups, CISS is working on creating a series of priorities for deer research and management, including best practice management, understanding their role as vectors of exotic disease, and looking at new tools to tackle the problem.

- *For more information on the Centre for Invasive Species Solutions visit invasives.com.au.*

'Trojan Y' will be the downfall of pest fish


Gambusia holbrooki female and male. Photo: Massimiliano Marcelli.

By John Duggin, Tamar Island Wetlands Centre Volunteers Group

FOR 18 years the Tamar Island Wetlands Centre (TIWC) Volunteers Group in Riverside, Tasmania has been educating people about wetlands ecology, wetlands fauna and flora, and the pest fish Gambusia holbrooki.

Each year the group of 26 volunteers provide more than 5500 unpaid hours to the TIWC and the local community, acting as the first point of contact in interpreting the Tamar Island Wetlands.

A large part of our work involves partnering with the University of Tasmania's (UTas) 'Trojan Y' research project to eradicate gambusia from within the wetlands.

Gambusia was introduced to Australia in 1925 as part of an international malaria control program.

The fish was believed to decrease the population of mosquitoes that carried the disease by eating the mosquito larvae and pupae.

Gambusia was first reported in Tasmania in 1993 when it was released into a farm dam in close proximity to the Tamar River in northern Tasmania.

It was later found in the Tamar Island Wetlands in 2000.

With the ability to establish quickly in freshwater ecosystems, gambusia is an enormous threat: competing for food with native species such as the vulnerable green and gold frog.

It also attacks other fish and tadpoles, reducing their survival rates.

Concerned with the impact of this pest fish, the TIWC Volunteers Group were involved in implementing control programs, experimenting with different netting and trapping techniques, and modifying habitats to make channels less favourable to gambusia.

We also undertook routine sweep-netting sampling for population assessments and dip-netting for eradication.

Unfortunately, these standard techniques for population control were limited in their success.

'Trojan Y' was established by UTas in collaboration with Inland Fisheries Service Tasmania, NRM North, and TIWC Volunteers Group.

The aim of 'Trojan Y' is to manipulate sex ratios so that successive generations of the fish become almost entirely female, reducing reproduction and continuity of the population.

Using hormones, the sex of these species are able to be reversed – male to females and females to males – without involving genetic modification, mass killing or causing ecological harm.

TIWC Volunteers Group assist this project by undertaking weekly population monitoring, maintaining fish stock, and educating the community on the impacts of introducing unwanted species.

So far current results are demonstrating great promise.

However, 'Trojan Y' requires further controlled laboratory studies, tank tests, and environmental assessment that are beyond the current project, but we continue to explore other options and hope that one day gambusia will be a thing of the past.

Exclusion a solution in the face of extinction

NEW South Wales is home to one of the world's most diverse natural environments. However, among this natural beauty, many species are on the verge of extinction.

The malleefowl is an iconic endangered species within the NSW area.

It's a ground-dwelling bird about the size of a domestic chicken.

Malleefowl make easy prey for foxes and are under threat from feral goats and pigs that destroy their nests.

A collaboration between Local Land Services, Waratah Fencing and regional property owner Des Lush, has resulted in the installation of 30 kilometres of fencing at Mount Hope, west of Condobolin.

Using a unique one-exit system, an exclusion fence was built to help protect malleefowl on Des' property, keeping the birds separate from their predators.

For Des, managing feral animals on his property is a high priority.

"Feral animals are one of the greatest threats to our wildlife and national parks," he said.

"Goats compete with native animals for food and cause erosion in steeper country."

Malleefowl chicks are abandoned before they hatch, making them an easy target for predators.

Since the installation of the fence the malleefowl population has rapidly increased.

Good fencing is an effective place to start when managing feral animals and protecting native species.

A broad range of fencing solutions can help keep animals contained, whilst protecting them from predators, including the choice of wires and posts, or installing aprons and umbrella extensions.

"Malleefowl are amazing creatures and don't deserve to be wiped out by people and feral animals," Des said.

Exclusion fencing is an effective method of protecting the endangered malleefowl.

Umbrella extensions stop vermin from climbing over fences.

"We are trying to help as much as we can. At the end of the day, I think anything we can do to help them is positive."

- *For more information about Waratah fencing technology or to find out about exclusion fencing tactics, visit www.waratahfencing.com.au or talk to your local distributor.*

Fun facts about malleefowl:

The unusual breeding habits of the malleefowl see the mated pair spend between six and 11 months per year building and maintaining mounds that are approximately four metres wide, by one metre high. The male and female pair work together to ensure the temperature of the mound stays at a constant 33 degrees whilst the female lays up to 18 eggs per breeding season. Just before the eggs hatch, the malleefowl abandon their nest forcing the chicks to fend for themselves.

Ecological communities to thrive from restoration

A THREE year project, revegetating 1190 hectares of cleared land, has come to completion at Dakalanta Wildlife Sanctuary on the Eyre Peninsula, South Australia.

The Dakalanta Revegetation Project is part of the Australian Government's 20 Million Trees Program and has been delivered in partnership between Landcare Australia, Australian Wildlife Conservancy (AWC) and WildEyre, a consortium of regional natural resource management organisations.

Commencing in June 2015, the project involved 2380 kilometres of direct seeding, with over 50 locally-sourced native plant species, including drooping sheoak and mallee.

Previously farming land, the southern area of the sanctuary was severely degraded by fire and stock grazing, and incapable of regenerating naturally.

Based on Landcare Australia's monitoring program, the project has generated exceptional results, delivering and exceeding the project's targets with over 2 million trees, shrubs, and groundcovers established on the site.

Though small now, these seedlings will re-establish green corridors, providing habitat, dispersal, and food availability for regional and national threatened species.

They will also reduce Australia's greenhouse gas emissions and reinstate ecological connectivity in this part of the Eyre Peninsula region.

Dakalanta Wildlife Sanctuary forms an important connectivity area as it is bounded to the north by Cocata Conservation Park, with adjacent areas nearby forming part of the WildEyre Biolink program.

Landcare Australia's direct seeding lines on Dakalanta Wildlife Sanctuary are thriving with a diverse mixture of local native flora.

It also protects a number of important species including a large population of southern hairy-nosed wombats, western pygmy possums, and little long-tailed dunnarts, and is home to over 118 species of birds, some of which are declining and are regionally significant.

According to Landcare Australia's national 20 Million Trees program manager James Walsh, the large-scale restoration project has been delivered in accordance with best practice management and ecological standards.

"Our methods included deploying a science-based and landscape-scale approach to pest and weed management," James said.

"We also successfully negotiated with local landholders within five kilometres of the project site to turn off all artificial watering points for two years after revegetation."

This effective project management was essential to delivering the project, due to extremely tough and challenging conditions created by the area's limestone calcrete soils.

Custom seeding units were designed to cope with the hard ground.

"An enormous effort has gone into Dakalanta – from all parties involved – and the great results speak for themselves," Landcare Australia chief executive officer Dr Shane Norrish said.

"We are extremely pleased to be part of this significant project.

"The exceptional results could not have been achieved by us alone. It has taken partnership, collaboration, and working together towards a common goal, which is what Landcare is all about."

National Landcare Program Smart Farms Small Grants

THE National Landcare Program is the Australian government's natural resources management program.

It aims to protect, conserve and provide for the productive use of Australia's water, soil, plants and animals and the ecosystems in which they live and interact, in partnership with governments, industry and communities.

Smart Farms Small Grants is a sustainable agriculture element of the National Landcare Program.

It is an open, competitive grants opportunity offering up to $50 million over six years (2017-18 to 2022-23) to fund short-term (up to two years) projects to support farming communities to increase awareness, knowledge, skills and capacity to adopt best management practices.

The first round will be followed by subsequent calls for applicants through to 2022-23.

The first funding round under Smart Farms Small Grants received 800 applications.

It was excellent to see the interest shown by stakeholders in the program, however, this made the first round highly competitive.

After assessment, less than 10 per cent were selected for funding.

A list of the successful projects can be found on the Department of Agriculture and Water Resources website.

The main weaknesses with applications in Round 1 included:

- Applications should clearly and concisely address the selection criteria. It is difficult to assess poorly written and verbose applications, so careful editing is advised;
- Many unsuccessful applications did not describe what it is their project would achieve and what project activities they would do and how they would be done. Many unsuccessful applications did not demonstrate how their project would contribute to program outcomes. Many projects had limited relevance to the program.
- Projects were not well described and applications were often poorly written. Often it was difficult to understand what the project planned to achieve and what activities were being proposed. Applications did not sufficiently demonstrate how a project would contribute towards the Smart Farms program outcomes or show value for money.
- Many applications applied for funding for ineligible or inappropriate activities. Others did not demonstrate they would achieve a worthwhile public benefit. Many unsuccessful applications would have delivered a high level of private benefits (that is, demonstrations being carried out on private land and/or demonstrating the use of a specific commercial product or machine) to the applicant without offsetting them with a private co-contribution.
- Many unsuccessful applicants did not demonstrate that they had the capacity to deliver the project.

After the Round 1 assessment, the Department of Agriculture and Water Resources and the Community Grants Hub provided some feedback.

This is to enable future applicants, whether they had applied previously or not, to write better applications.

Writing applications is time consuming and missing out on funding is disappointing. Future applicants should consider how the information above and the general feedback can be used to strengthen their application before they apply for Round 2.

New tech trials real-time fruit fly monitoring and alert system

NEW technology developed by scientists from CSIRO could change the way we monitor the world's biggest biosecurity barrier to trade: the fruit fly, which costs Australia more than $300 million a year.

The technology, known as RapidAIM, uses low-powered smart sensors to detect insects such as fruit fly from their characteristic movements.

The sensors, which can be placed by the thousands, send data to a cloud using a radio modulated technique. Growers can then see real-time data flow of the pest on their farms and regions through a linked mobile app.

With the support of Main Sequence Ventures, who manage the CSIRO Innovation Fund, CSIRO are now taking this innovation to growers around Australia.

RapidAIM CEO and former CSIRO researcher Dr Nancy Schellhorn said the new technology can reduce crop loss and provide early warnings of future pest hotspots.

"Growers rely on weather radar and take action accordingly, but until now there hasn't been any pest 'radar' to support them against pests like fruit fly," Dr Schellhorn said.

"This new technology can reduce the time spent manually checking fruit fly traps by more than 35 per cent, and provides and immediate picture of fruit fly presence in specific locations to enable a rapid response for control."

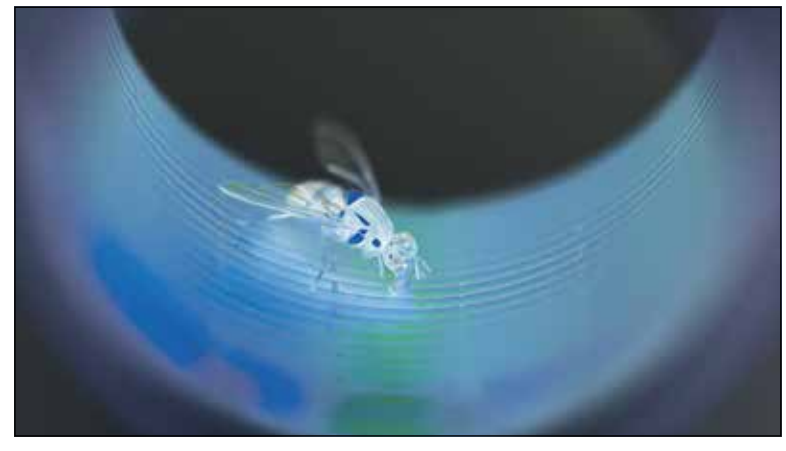
RapidAIM was successfully trialled by some of Australia's biggest fruit producers in Shepparton, Victoria last year, with positive feedback from trial participants and requests for a similar system against pests such as codling moth.

Dr Schellhorn said the technology has huge potential for managing a range of food and fibre pests, and that it could help growers target their pest management efforts.

"Around the world, more than 900 million tonnes of insecticide is used to control insect pests every year, but 98 per cent reaches a target other than the intended destination," Dr Schellhorn said.

"With RapidAIM technology, crop-protection products can be used in a more targeted way."

With trade tipped to more than double over the next 20 years, CSIRO is working towards introducing more real-time, autonomous digital biosecurity systems such as RapidAIM, to manage pests and help Australia maintain its high level of biosecurity into the future.



Fruit fly in a trap. Photo: Andy Wang.

A further trial comparing RapidAIM traps to existing manual traps will soon begin in locations in SA, WA, NSW, VIC and Tasmania, before the technology is fully commercialised in coming months.

- *To find out more or to stay updated about RapidAIM's progress, visit http://rapidaim.io.*

Kind acts of rescue inspiring care for the land

FOR centuries storytelling has been a constant part of life.

In fact, stories have existed long before recorded history and while the methods may have changed, humans still desire to connect with one another through storytelling.

Stories are a way information can be shared, often reaching places that facts can't reach, something former ABC Radio documentary maker and storyteller Gretchen Miller is exploring through her PhD studies at the University of New South Wales.

In partnership with Landcare Australia, Gretchen has created the Rescue Project – a website where stories of connection to the environment can be shared.

According to Gretchen, the idea behind to project is to explore the power of citizen storytelling in environment communication.

"In the act of environmental rescue we nurture a tree through drought or restore a place or native animal to health. But this is not a one-way encounter," Gretchen said.

"In rescuing we too receive something in return. In the act of giving back, there is a quiet emotion we might feel that nourishes ourselves and sometimes whole communities."

It is these positive feelings of rescue that Gretchen is particularly intrigued by.

"We know that bad environmental news stories have an alienating effect. They make for burnout and compassion fatigue," she said.

"By sharing positive stories about connecting with our environment the Rescue Project aims to inspire and encourage others especially those who many not be environmentally active or concerned, but who live and work in a close relationship with the natural environment, such as farmers and small town communities."

For Kate Read, her story of rescue involves her and her son getting their hands dirty, planting hundreds of trees in the ancient Capertree Valley in NSW.

Kate describes the experience as restorative.

"Replanting the habitat works its own restorative magic on me. There's an interconnectedness and a hopefulness to planting trees that reminds me of Jean Giono's *'The man who planted trees'*, Kate said.

Capertree Valley planting day. Photo: Virginia Beak, Little Gecko Media.

"I like to think of my boy in decades to come, taking his children and grandchildren to see the groves that we planted."

Once Gretchen has received enough contributions, she plans to create a podcast and audio documentary from the stand-out stories.

"It's just another storytelling method we can use to connect and share these inspiring experiences," she said.

- *To read more stories of rescue or contribute your own, visit the Rescue Project's website landcareaustralia.org.au/rescue. Story contributions can be made until 18 December 2018.*

Controlling Australia's carp pest

CARP are the worst freshwater pest in south-east Australia's waterways – dominating native fish and making rivers muddy and difficult for water plants to thrive in.

To solve this problem, the Australian Government is exploring the best way to control carp in our rivers, lakes and dams.

A range of research projects are currently underway by universities, CSIRO and other experts to test whether the carp virus is a possible solution.

The National Carp Control Plan, a project set up by the Australian Government, is using the best available science, research and information to investigate if the virus is safe and effective in Australian conditions.

One project includes testing of water samples near Berri, South Australia, after frozen dead carp were introduced into a secured body of water by scientists from the University of Adelaide.

Their results will show how the dead carp decompose in a real environment.

This will tell us how they affect oxygen and nutrient levels in the water, and how this impacts on native fish, plants and water quality.

Other projects are investigating the costs, benefits and risks of the carp virus if released in Australia, including how to mount an effective clean-up operation.

The results of all of this research will inform the development of the National Carp Control Plan which will be prepared for government consideration in early 2020.

In the meantime, no decision has yet been made on the carp virus. This means the virus has not been released in Australia.

Experience from overseas shows that the carp virus is known to infect only carp. Nevertheless, the decision whether to release the virus is an important one and consultation with stakeholders and potentially affected communities will continue to inform the development of the plan.

- *For more information on the National Carp Control Plan, or to give your feedback, see carp.gov.au.*

The Landcare community

Australian Government Individual Landcarer winner, David Marsh.

Brooke Collins and Jacqui Wandish accepted the Australian Government Partnerships for Landcare Award on behalf of Wandoon Estate Aboriginal Corporation.

Australian Government Innovation in Agriculture Land Management winner, Precision Pastoral.

THE 2018 National Landcare Awards held in Brisbane last month highlighted the inspirational work of 68 worthy nominees – all vying for one of 11 award categories.

For more information and full case studies of the winners, visit nationallandcareconference.org.au.

Australian Government Individual Landcarer Award, David Marsh, NSW

David is acknowledged for alerting primary producers to the fact that a healthy catchment and long-term profitability go hand in hand.

He was pivotal in the early establishment of the Landcare movement, and his property 'Allendale' has long been a proving ground for sympathetic land management.

David was delighted to win the Australian Government Individual Landcarer Award.

"Receiving this award is very humbling but also makes me feel very proud to be recognised in a roomful of peers who are all doing wonderful things," he said.

Australian Government Innovation in Agriculture Land Management Award, Wandoon Estate Aboriginal Corporation, VIC

Wandoon Estate Aboriginal Corporation represents the Wurundjeri people, the Indigenous owners of the historical property 'Coranderrk' in the Yarra Valley.

Through partnerships with Port Phillip and Westernport Catchment Management Authority, Wurundjeri Council's Narrap Team, Yarra4Life project and its partners, Melbourne Water, and volunteer group Friends of Coranderrk, Wandoon Estate's sustainable farming practices have delivered outstanding examples of productive beef cattle grazing, habitat restoration and waterway management and protection.

Jacqui Wandin was surprised to receive this award.

"We are really proud to receive this award because we've spent years and years trying to improve the property and it's really nice to be acknowledged," she said.

"We believe it's our inherent responsibility to look after our property."

Australian Government Innovation in Agriculture Land Management Award, Precision Pastoral, NT

Precision Pastoral developed pastoral management tools that help farmers integrate animal and pasture data, linking livestock performance to environmental conditions for more efficient pastoral management.

Farmers making decisions about stocking rates or land management have used the Precision Pastoral Management Tools to give them a better understanding of groundcover trends and animal condition, and reduce their monitoring costs.

Tim Driver was ecstatic to be presented the Australian Government Innovation in Agriculture Land Management Award.

"After seeing the fantastic work being done by others nominated in this category, it is truly an honour to receive this award on behalf of Precision Pastoral," he said.

Australian Government Excellence in Sustainable Farm Practices Award, Lake Baroon Catchment Care Group Inc, QLD

Lake Baroon Catchment Care Group was founded to improve water quality in the Baroon Pocket Dam, the most important source of water for the Sunshine Coast.

The group which supports 34 farms covering 1961 hectares, delivers agricultural, landslide, weed control, and dairy programs that have improved productivity for landowners while delivering broader environmental benefits.

Peter Stevens, who accepted the award, was delighted by the win.

"It's great to receive recognition for all the years of work we put into this project," he said.

"There are a lot of people that are going to be very proud of this amazing outcome."

Austcover Young Landcare Leader Award, Kathleen Brack, VIC

Keen to attract more young people to Landcare, Kathleen ran an Intrepid Landcare Retreat at Wilsons Promontory for 20 people aged 18 to 35.

Kathleen targets younger people through her effective use of technology

Australian Government Excellence in Sustainable Farm Practices winner, Lake Baroon Cacthment Care Group Inc.

celebrates its champions

and social media, including using Facebook, to create an online network of young people interested in Landcare in West Gippsland.

Followers share job opportunities, information on relevant field days, and feature case studies highlighting their concerns and barriers to adaptation.

"Landcare is such an amazing grass roots movement and I'm thrilled to receive this award," Kathleen said,

Fairfax Media Landcare Community Group Award, Birdlife Australia Gluepot Reserve, SA

BirdLife Australia Gluepot Reserve is Australia's largest community managed and operated conservation reserve.

Situated 64 kilometres from the River Murray in South Australia's Riverland, the reserve is managed and operated entirely by volunteers.

More than 54,000 hectares in size, it is home to 22 nationally threatened species of birds, 53 species of reptiles and 12 species of bats, some of which are nationally threatened.

Duncan MacKenzie was excited to receive the award on behalf of Birdlife Australia Gluepot Reserve.

"It's an honour to be receiving this award, and it's really encouraging to know that our work is being recognised by the Landcare community," he said.

Rio Tinto Indigenous Land Management Award, Spinifex Land Management, WA

The Spinifex Land Management Program is a collaboration between an Indigenous ranger team and the local community to provide direction, technical support and resources in the management of the northern fringes of the Nullarbor Plain and deep within the Great Victoria Desert.

Based in Tjuntjuntjara, the second most remote community in Australia, patrolling the region is a logistical feat and an adventure on country, requiring careful planning to ensure appropriate cultural and ecological outcomes and the safety of participants.

Ian Baird was delighted to accept the award on behalf of Spinifex Land Management.

"Receiving this award is an amazing honour for us," he said.

"We just manage the land our people have taken care of for thousands of years.

"It's a huge area between Kalgoorlie and the Nullarbor, so very challenging, but also very rewarding."

Sure Gro Treemax Coastcare Award, Hindmarsh Island Landcare Group Inc, SA

Hindmarsh Island Landcare Group aims to protect and rehabilitate saltmarsh areas, with a focus on reconnecting waterways.

The Murray Mouth Estuary Restoration Project has been the Group's major restoration project since 2001.

Seventeen years later, 500,000 plants have been planted on more than 100 sites.

Hindmarsh Island Landcare Group's work in increasing habitat connectivity, propagating local species, and mitigating erosion via fencing and strategic plantings has achieved long-term benefits for local flora, fauna, native fish, and invertebrates.

Richard Owen was excited to accept the award on behalf of Hindmarsh Island Landcare Group.

"The quality and diversity of projects across this category was very high and we are rapt to be signalled out to receive this award," he said.

Woolworths Junior Landcare Team Award, Mount Compass Area School Swamp Ambassadors, SA

Mount Compass Area School's Swamp Ambassadors are a student-led environmental program where students are the custodians of the school's critically endangered Fleurieu swamp.

The students worked hard to change the perception of the swamps, through partnerships with Fleurieu Swamps Recovery Program and undertook leadership and guide training to effectively share their knowledge and promote the importance of Fleurieu swamps in an engaging way.

"The students' passion and commitment to the school's swamp is epitomised by their willingness to give up their weekends and afternoons to take community groups on visits to the area," Jessica Sullivan, a staff leader for the Mount Compass Area School Swamp Ambassadors, said.

Austcare CEO Maria Parry presented Kathleen Brack with the Austcover National Young Landcare Leader Award.

Sure Gro Treemax Coastcare winner, Hindmarsh Island Landcare Group. Jo McPhee and Richard Owen received the award on behalf of the group.

Ethan Hansen and Ian Baird received the Rio Tinto Indigenous Land Management Award on behalf of Spinifex Land Management, with Landcare Australia chairman Doug Humann AM (centre).

Woolworths Junior Landcare Team Award winner, Mount Compass Area School Swamp Ambassadors received their award from Woolworths' general manager Queensland Matthew Franich.

Duncan MacKenzie received the Fairfax Media Landcare Community Group Award on behalf of Birdlife Australia Gluepot Reserve.

Landcarer: a social network with a purpose

By Manjari Fergusson

ATTRACTING and engaging the next generation to care for the land has been made easier with the creation of an innovative digital platform: Landcarer.

Several months ago, Landcare Australia embarked on a journey to address a few challenges faced by the Landcare community, and in doing so, help usher the community into the digital age.

Imagine a central repository of Landcare-related data – that's Landcarer.

Stakeholders can engage with the platform by utilising different tools, including a databank, project management, group management, eLearning, stories, events, polls, chat, and discussion forums.

Essentially, it is an all-in-one tool built to empower the Landcare community and address some of its challenges.

According to Landcare Australia chief executive officer Dr Shane Norrish every Landcarer deserves the tools to help their efforts in making a positive difference.

"Given the current success of social networks, we hope to attract and engage the next generation of Landcarers through this platform, encouraging them to step up and get involved with Landcare now and in the future," he said.

The platform allows for social networking, with users connecting, communicating, collaborating, and promoting their activities to aid the Landcare movement's important work.

Stakeholders can connect and engage with each other at a regional, state and national level, and create connections based on shared interests such as biosecurity risks, sustainable farming, and habitat restoration.

A key planned feature slated to be released in 2019 is the Biosecurity Identification and Alert system.

Through the platform, Landcarers who are active on ground can identify biosecurity risks and provide instant notifications and alerts to the community and authorities.

The platform aims to collaborate with research organisations and integrate other existing biosecurity tools into the platform.

Extending the reach of tools that currently exist and providing education and information, Landcarer is updated in real-time and through continuous engagement, making the platform smarter and more robust with each and every interaction.

Landcarer is an innovative digital platform helping to make a difference.

- *For more information and to pre-register, visit landcarer.com.au or email innovation@landcareaustralia.com.au.*

The story that changed the land: restoration in Mallee country

By Bron Willis, Parks Victoria

IF YOU didn't visit Victoria's Mallee Parks in the early 1990s, you might not be astounded by the image of native pine seedlings growing strong in Mallee country.

But when you hear what the Mallee once looked like, you will join us in celebrating this wonderful achievement. Small seedlings like this are the result of decades of hard work.

When the three Mallee parks in Victoria's north-west first came under Parks Victoria's care, they were a sorry sight.

After 150 years of pastoralism, young, native trees in the parks' semi-arid woodlands were unable to grow.

With booming feral rabbit and goat populations, an overabundance of kangaroos, and numerous water sources for these animals to drink from, native seedlings were fighting a losing battle.

For more than 100 years, native seedlings did not grow.

But thanks to landscape-scale management by Parks Victoria and its partners, the story is vastly different now.

Livestock has been removed, dams have been closed and kangaroo, feral rabbit and feral goat populations have been kept in check for over 20 years.

Parks Victoria has worked with partners to protect species such as the endangered Major Mitchell's cockatoo, and with traditional owners who provide critical expertise, helping recognise and protect cultural heritage.

Young pine, buloke and belah trees now grow healthy and strong, and in 12,000 hectares of formerly degraded woodlands, more than 1.6 million native seedlings have been planted.

This is the result of a decades-long, landscape-scale restoration project to return the Mallee to health.

Parks Victoria total grazing management coordinator Brendan Rodgers has been working for 14 years to protect the Mallee landscape by controlling invasive species.

He works with contractors to keep populations of rabbits, goats and kangaroos in check, and to revegetate degraded woodlands.

After years of careful park management, Hattah-Kulkyne National Park now provides healthy water systems, feeding areas and rest places for 12 migratory bird species.

Migrating birds are not the only species that benefit when rabbit, goat and kangaroo populations are kept in check.

Healthy riverine and mallee woodlands, which have begun to recover under Parks Victoria management, also support the nationally vulnerable regent parrot, which nests in the parks' towering river red gums.

Although only 500 of these birds were estimated to remain, a survey at nearby Annuello Flora and Fauna Reserve recorded 1600 in 2016, after an unusually wet season.

This was three times the estimated number of adult birds and is a good sign that the park and surrounding environments are healthy and providing good breeding and feeding habitats.

Vanessa Oxley and her team were responsible for planting 1.4 million native seedlings in the Murray-Sunset National Park in 2017. Vanessa works for CO2 Australia, a landscape revegetation company partnering with Parks Victoria.

As a project officer, Vanessa brings all the pieces of the jigsaw together, from collecting seed and growing indigenous seedlings that once grew here naturally – to preparing and monitoring the soil, ensuring that the conditions are just right to plant.

After 100 years of degradation, native pine seedlings are now thriving in the Mallee. Photo: Annette Ruzicka.

Brendan Rodgers of Parks Victoria inspecting a native pine seedling. Photo: Annette Ruzicka.

Pest bird no 'myna' problem in St George

INDIAN Mynas in the St George area are being targeted as part of the next step in Queensland Murray-Darling Commitee's (QMDC) regional control program.

Over the past five years, QMDC officers, community volunteers and rangers have led control programs funded by the National Landcare Program in Texas, Miles, Warwick, Yelarbon, Inglewood, Stanthorpe, Millmerran and Toowoomba with the St George region now in the spotlight.

In Australia, Indian mynas are considered a major pest, threatening biodiversity due to their territorial behaviours and nesting competition with native bird species.

A community consultation workshop was the first step in determining the local observations of pest mynas in the St George area, before a formal index of abundance is carried out. QMDC's Aboriginal Ranger team will be working on the project and local volunteers are being encouraged to help manage the trapping of the birds in the area too.

QMDC's regional coordinator for biodiversity and pests Holly Hosie said that the success of a pest removal project such as this one works well when there is committed community involvement.

"Indian Mynas are a durable pest bird species and they're moving further and further west," Holly said.

"We're trying to stay one step ahead of them and we've found this works best when local residents are willing to be actively involved."

The community workshop saw local twitching expert Sandy Robertson and one of QMDC's rangers, William Taylor, present information about Indian mynas and their effects on local biodiversity before opening the floor to locals to get their thoughts on populations and trapping information.

"While QMDC provide the technical support, information, advice and trapping materials to remove these pests, volunteer-lead action groups in each town are the key to greater success rates in removal efforts and monitoring the population," Holly said.

Inglewood is an example of a town where Indian myna trapping and removal has been extremely successful with a measured reduction in mynas directly resulting in higher numbers of native birds in the area.

An initial count in the Inglewood area before the control period began in 2013 revealed a count of 250 individuals and five roost trees.

Towards the end of the trapping period in 2015, pest myna numbers had dropped significantly to a count of 50 individual birds with just one roost tree observed.

Most importantly, numbers of hollow-nesting native parrots and cockatoos were observed to have more than doubled in the same time as pest mynas decreased.

- *Visit www.qmdc.org.au to find out more about the Indian Myna control project in the St George area.*
- *To discuss Indian Myna control in St George, contact QMDC's Holly Hosie on 0428 738 559 or hollyh@qmdc.org.au.*

Indian myna trapping and removal has been extremely successful in Inglewood, Queensland.

Indian Myna facts:

- Indian mynas are aggressive, territorial birds that actively compete with and displace native species;
- They are a declared pest in Queensland, introduced to Australia in 1862 in an unsuccessful attempt to combat insect pests in cane fields.
- Mynas compete with native birds such as boobook owls and many parrot species as well as mammals such as sugar gliders for food and nest hollows.
- Hollows abandoned by mynas are avoided by native species for years.
- Mynas prey on and evict the eggs and young of native (especially hollow-nesting) birds.
- They carry mites and diseases that can affect humans.
- Nesting mynas can block ventilation systems in buildings.
- Mynas feed on and foul horticultural crops, particularly soft fruits.