

Stewardship marches on

By COLIN
BETTLES

NATIONAL Farmers Federation (NFF) president, Jock Laurie, says farmers are “tremendous” custodians of their land, having adopted sound land management practices over time to produce positive results, for not only agricultural productivity but also for the environment.

Mr Laurie said the Landcare program was initiated by the NFF and the Australian Conservation Foundation more than 20 years ago, to deliver projects with mutual benefits.

Those benefits ensure farm production is boosted while increasing the environmental focus and outcomes of land management practices, over time.

“The Landcare movement across Australia has provided some great environmental benefits,” he said.

“It has also made a lot of people re-focus and consider how they can care for their land and manage their land while incorporating better agricultural production.

“A lot of Landcare groups around Australia have done some fantastic work over the years dealing with erosion issues, planting trees and fencing different areas for environmental benefits.

“It has provided some great environmental benefits; the kind it was set up to achieve some 20-odd years ago.

“The government funding and programs have been extremely active in the development of these benefits.

“The Caring for our Country program is the latest component of the program, which provides funding on a competitive bid basis for various projects that people can run on their properties.”

This year’s Federal budget provided a positive outcome for the Caring for our Country environmental stewardship program, with a review

leading up to the budget allowing the Federal Government to stamp a four year extension with \$80 million funding.

Mr Laurie said the partnership between governments, farmers and natural resource management groups, would help to achieve ongoing environmental outcomes, while providing a fair outcome for primary producers.

“To expect the industry to continue funding and provide environmental services on behalf of the community out of their own pocket is a bit difficult at times, especially after 10 years of drought,” he said.

“It’s important the Government, on behalf of the community and the farmers themselves, deliver those outcomes on a shared basis.

Mr Laurie said farmers were conscientious custodians of their land, but they were not acknowledged for it often enough.

“There have been many changes in Australia’s agricultural environment, especially over the last 30 to 50 years,” he said.

“People are working with the environment a lot better now.

“They understand the importance of planting trees to manage erosion and the value of putting carbon back into the soil and how to do it.

“They have found strong links between agricultural productivity and healthy soil carbon which has also delivered good environmental outcomes, by helping with water retention and all those sorts of things.

“We are now seeing strong links between healthy productivity and strong environmental outcomes.

“All the debate we are having now with climate change and taking carbon emissions out of the atmosphere, the industry has been involved in doing that for many years with zero till rotational grazing and these types of activities.

“They all deliver good environmental outcomes while maintaining strong agricultural productivity.”



National Farmers Federation president, Jock Laurie (pictured with his son, Alexander), says the Landcare movement has helped many landholders to care for their land while incorporating better agricultural production.

Holbrook’s \$6 million baby

AFTER 23 years of bringing its community together around the environment, and a near-death experience, the Holbrook Landcare Network will celebrate Landcare Week 2011 as a survivor and an innovator.

Within a decade of its founding in 1988, the southern NSW network had completed 57 Landcare projects worth some \$1.2 million.

The value of all its projects to date is now pushing toward \$6m.

Along the way, it has engaged up to 80 per cent of the region’s farmers in Landcare activities, maintained five staff and an office, and recognised with many awards including with two National Landcare Awards and the Prime Ministers award.

In 2010 it won a State Landcare award and was a finalist in the National Awards.

But even this record of achievement failed to prevent Holbrook Landcare Network nearly foundering after 2005, when natural resource management funding models moved emphasis from resourcing groups to individuals.

In 2008, faced with the prospect of losing a central thread of the community, the members of Landcare groups from several sub-catchments decided to work with the new realities.

It appointed a chief executive, Chris Cumming, and expanded its focus to include a range of agricultural research, demonstration and extension activities in addition to its environmental restoration work.

Projects focus on providing information to support a productive and resilient agricultural community with a strong culture of environmental care.

Recent projects have addressed stubble management, ewe ovulation, biochar, grazing management strategies, soil and water management, and property planning in addition to environmental restoration and awareness programs.

Ms Cumming indicated this new approach was servicing a major gap in the community and had been of enormous benefit to members and the organisation.

But, she said sourcing funding remained a constant struggle even for the larger Landcare networks, with co-ordinator positions the hardest to source funding for – and yet these were central to organisations’ capacity to contribute.

The revitalised network recently secured one of 17 Woolworths Fresh Food Future grants (see story p10) to help it explore nutrient management.

Holbrook Landcare Network’s Dougald Frederick, said the new nutrient management project will provide a training program to help farmers be more strategic in their use of nutrients, particularly matching “nutrients in” to “nutrients out” so increasing efficiency of capital input while minimising the loss of nutrients into air and water.

Want to get involved?

INSTEAD of donating money to your favourite movement during Landcare Week 2011, don’t forget to donate yourself.

Landcare needs people who care about the environment to use whatever time they have to donate themselves to the Landcare community.

Landcare Australia is gathering information from groups across the

country in order to showcase Landcare Week events on its website.

People who are interested in seeing exactly what Landcare is all about in their locality can visit the website and see if there is an event taking place nearby that they can get involved in.

For groups that are planning events, Landcare Australia has an online events kit that can be downloaded, to help spread the word of

Landcare around their communities.

Using this kit, groups can get hints on promoting events in their communities and attracting media, as well as posters and flyers that will help spread the word about Landcare Week.

Groups organising events for Landcare Week can let Landcare Australia know what they are planning by emailing

events@landcareaustralia.com.au

Please include the date, time and location of your event, as well as what type of event you are hosting, and what people need to do to be able to take part.

■ For more information visit www.landcareonline.com.au, ‘like’ Landcare Australia on Facebook, or follow @LandcareAust on Twitter.

Connecting keen Illawarra youth to a world of caring

LANDCARE has always worked to encourage new vegetation in areas that need it, but sometimes Landcare’s encouragement of new blood in areas that need it has been less effective.

Megan Rowllatt is out to change that.

With an environmental science degree behind her and a burning desire to work with the environment, Ms Rowllatt undertook some volunteer work in national parks in her native Illawarra, NSW, region, which led her naturally to Landcare.

She recognised, she said, that the organisation “is not just relevant to the health of the environment, but to the health of the community”.

Ms Rowllatt (pictured) also noticed however, that as Landcare members worked to regenerate bushland, its own regeneration was less than ideal.

Aiming squarely at youth, the missing demographic among Landcare ranks, she sent out a

press release to local papers, put in a call to people she knew, and approached a local Bushcare group asking if they would like a hand.

That drew 18 young volunteers to work on a Landcare project in mid-2009.

Illawarra Youth Landcare was born.

“A lot of young people want to give something back to the environment, but they just don’t know how to,” Ms Rowllatt said.

The group’s membership is made up of about 30 young volunteers ranging from late teens to early thirties.

It works with a different Landcare or Bushcare group for a few hours, one weekend day a month.

“A lot of the established groups have worked on the ground for many years, and have built up a lot

of expertise. It’s really important we pass on that intergenerational knowledge, as well as having the community interactions of different age groups working together.”

Ms Rowllatt quickly realised most Landcare groups are populated by older people, and operate to suit the way those members work.

Young people are different, she observed.

For instance, they get bored easily, so plugging away at the same project week after week is likely to quickly lose younger volunteers.

Variety is important. They also need a lot more flexibility.

The demands of sport and social life get in the way of regular commitment, so Illawarra Youth Landcare operates as non-committally as possible.



It has five core members, and the remainder engage as often as other commitments allow.

Some members might only turn up to a couple of meetings a year, Ms Rowllatt said, but that doesn’t matter: they are still learning and contributing.

Ms Rowllatt is the glue that holds the group together.

As the group’s co-ordinator, she maintains an email list that connects members with other Landcare and Bushcare groups in the Illawarra and beyond, updates the “Illawarra Youth Landcare” Facebook and Twitter pages she created, applies for grants and funding opportunities, and promotes the group at open days, forums and schools.

For her efforts, she has been nominated for the Be Natural-sponsored “Young Landcare Leader” award in the 2011 NSW State and Territory Landcare Awards.



Building on ag's future

UNIVERSITY students will be able to bring their skills to bear on rural and regional issues thanks to the Farming Future Scholarships.

Parliamentary Secretary for Agriculture, Fisheries and Forestry, Dr Mike Kelly, this year presented two of the scholarships, worth \$15,000 combined, to students whose work will contribute to a better understanding of rural and regional communities and their importance to agriculture.

An initiative of the National Institute for Rural and Regional Australia (NIRRA), the scholarships mean the Department of Agriculture, Fisheries and Forestry (DAFF) is funding two honours-level research projects run as part of the NIRRA strategy.

These projects will investigate the social aspects of productivity and climate change in primary industries.

"This year's recipient of the DAFF-funded scholarship, Pele Cannon, will undertake research on socio-cultural influences on agricultural systems," Dr Kelly said.

"Megan Bevan, last year's recipient, will commence her research this year on the social aspects of drought policy.

"We are very proud we can support people through the DAFF scholarship and I congratulate all the people that are involved in this critical research activity.

"I also congratulate the other students who are involved in this project and are funded through the Australian National University – Alexander Readford, who completed his research, 'A social impact assessment, adaptive capacity and mine closure: A case study of Kandos NSW', and Michelle Knight, who will undertake research on Australian farmers' conceptions of food security."

Dr Kelly said social research like the NIRRA AFF Scholarship award may assist government in developing future policies.

Recognising and growing land efforts

Comment by Federal Agriculture Minister, JOE LUDWIG

I WOULD like to take this opportunity to emphasise how committed the Gillard Government is to Landcare and a sustainable agricultural sector.

Through Caring for our Country, our flagship natural resource management initiative, we are investing more than \$600 million over five years (from 2008 to 2013) in sustainable agriculture activities.

Under this initiative, we have already helped more than 29,000 farmers to adopt improved sustainable farm and land management practices.

Other achievements have included funding to control or manage Weeds of National Significance across more than 4.7 million hectares of land and supporting projects that have engaged more than 40,000 volunteers to protect, rehabilitate or improve natural resource and environmental assets.

These significant outcomes are being achieved through the work of grassroots groups in partnership with land managers and industry.

This year the government has made \$5 million available to Landcare and other community groups through Community Action Grants.

These grants, of between \$5000 and \$20,000, help local community groups undertake activities such as revegetation, sustainable farming practices, dune rehabilitation, field days and co-ordination services.

Applications closed August 1 and the assessment is now underway and successful projects will be announced in the coming months.

I have been looking at how the Gillard Government can support Landcare, in addition to grants and Regional Landcare Facilitators.

One such area is through supporting the sharing of information and recognition of the work being done.

As such, the Gillard Government

is also supporting State and territory Landcare conferences and awards.

I encourage Landcare groups to take advantage of the networking opportunities these conferences offer.

Landcare Week is fast approaching, held September 5 to 11.

There are currently more than 6000 Landcare groups in Australia and Landcare Week is a wonderful opportunity to get involved or introduce others to Landcare.

To find out about activities in your area, including when your State or territory Landcare conference is on, visit the Landcare Australia website at www.landcareonline.com.au.

I will shortly be calling for nominations for the McKell Medal – the natural resource management equivalent of the Oscars.

The medal honours people who have shaped community attitudes and practices about Landcare through education, research, action or other development activities.

The award commemorates the contribution made to soil and land conservation by Sir William McKell, Premier of NSW from 1941 to 1947 and Governor-General of Australia from 1947 to 1953.

If you know somebody who would be a contender for this award, I encourage you to nominate them by the end of September 2011.

Further information is available at www.daff.gov.au/natural-resources/landcare/mckell.

Finally, thank you for your input into the action plan for the Landcare Framework and to the review of Caring for our Country.

We received about 200 submissions and more than 3700 people visited the Caring for our Country review's online forum.

Your feedback is vital to help make sure we are delivering the best program possible that will help support our agricultural sector and protect our environment.

You can view the submissions at www.caringforourcountryreview.com.au

Federal agriculture minister, Joe Ludwig, says through the Caring for our Country flagship, the Gillard Government is investing more than \$600 million in sustainable agriculture activities.



Leg up to get FarmReady

PRIMARY producers, wild game harvesters and Indigenous land managers are being assisted to undertake training through the support of the Australian Government's FarmReady Reimbursement Grants program.

The popular scheme reopened on July 1, 2011, and began pre-approving training for the current financial year.

The FarmReady program has also been expanded and now includes support for training of agritourism and food tourism management – its marketing, customer relations, product development and co-ordination.

This extension of FarmReady will help fill the gap between agricultural sector skills and the skills required for tourism.

This gap was identified in an ABARES 2010 study, drivers of regional agritourism and food tourism in Australia, where it was found that agritourism opportunities are often underutilised on farms.

To encourage investment in training, participants will now contribute 35 per cent of the cost of the approved course to be eligible for a

FarmReady Reimbursement Grant.

This decision will make the FarmReady program accessible to more primary producers, with reimbursement grants of up to \$1500 per financial year and funding of up to \$500 each financial year also available to assist with excess travel, accommodation and child care expenses.

Indigenous land managers will not need to make a co-contribution to attend approved FarmReady training.

With a budget of \$34.4 million over four years, the Australian Government's FarmReady program aims to boost training opportunities for primary producers, wild game harvesters and Indigenous land managers, enabling industry, farming groups and natural resource management groups to develop strategies to adapt and respond to the impacts of climate change.

To apply, contact the training provider and the program administrator for pre-approval before attending the course.

For further information about FarmReady Reimbursement Grants visit www.farmready.gov.au.



Landcare In Focus is proudly supported by the Australian Government Caring for our Country program and published by Landcare Australia Limited.

For more information or to submit an article, email enquiries@landcareaustralia.com.au. Articles should be 300 to 600 words in length. An article should explain why the project is important, and the methods being used to carry it out. Only report on projects that have produced tangible results and include a good photograph – or preferably a selection – that show some of the people involved in the project. The objective is to highlight the diverse ways in which "Landcare" is being interpreted around Australia. Submissions should be accompanied by no more than two high resolution (at least 1MB in size) images that illustrate the article.

The Australian Government is proud to continue its support for Landcare by funding a range of initiatives including Caring for our Country Community Action Grants; Regional Landcare Facilitators and Landcare in Focus.

This year \$5 million will be available to Landcare and other community groups through the 2011-12 Community Action Grant round.

To find out more, or to contact your nearest Regional Landcare Facilitator, Caring for our Country Regional Officer or Weeds of National Significance coordinator go to www.nrm.gov.au or call 1800 552 008 toll free.



Australian Government

Inspiring green through thick, thin

After the Australian Conservation Foundation (ACF) joined forces with the National Farmers Federation (NFF) in the '80s to kick-start Landcare, the humble environmental venture has come a long way. But ACF chief executive, Don Henry, says some of Landcare's most challenging years are still to come. LOUISE PREECE writes.



Australian Conservation Foundation chief executive, Don Henry, says Landcare will play a vital role in helping producers to take advantage of the Carbon Farming Initiative.

DON Henry is not one to sit still, but he does appreciate the beauty in nature.

ACF chief executive has spent the past two decades spreading the environmental message around the world.

He was instrumental in campaigning for the protection of Moreton Island, Great Barrier Reef Islands, the rainforests of north Queensland and Cape York.

And on top of all this, the green enthusiast was also one of the original leaders to push for the establishment of Landcare more than twenty years ago, with the goal of recognising and promoting sustainable land practices.

"The original thinking behind the formation of Landcare was to encourage good land management practices on-farm," Mr Henry said.

"It was tailor-made for rural Australia. We really wanted to share lessons across farms and engage the community."

From its modest "grassroots" beginnings, Landcare has blossomed into a national network of literally thousands of community groups, he said.

At present the movement boasts 4000 Landcare groups and 2000 Coastcare groups.

It has repaired and restored waterways, wildlife habitats and farmlands all over Australia.

In fact, it has done more than engage the community – it has motivated many others around the globe to take a stand for nature.

"It started with a core group of committed people, but now other countries have seen how successful Landcare has been as a way of bringing communities and individuals together," he said.

But the environmental organisation's goal has remained the same.

"Looking after the land is as important in 2011, as it was back then," he said.

Over the years it has dealt with problems such as soil erosion and salinity through dry years, but new challenges have emerged.

The issue of climate change, and more recently the Gillard Government's carbon tax and the Carbon Farming Initiative (CFI) have emerged on the Landcare agenda.

Mr Henry said the NFF, ACF and Landcare had been strong contributors in developing the CFI.

And while it would be steep learning curve for farmers, it would be a great opportunity for value-adding, he said.

"The CFI is an important new challenge for the Australian farming community and Landcare," he said.

"I think the most exciting element of the CFI is it holds the double ben-

efit of creating a new stream of income on farm and it will help to reduce the impact of greenhouse gases.

"We are living in a changing world.

"Who would have thought that we would be looking at earning money for land management that helps hold

"It will have to be trialled and farmers will have to learn about what works and what doesn't.

"I can see Landcare playing a very educational role."

He said the discussion about carbon reduction was imperative to the future of Landcare, but he did realise

There is always financial pressure on farming, but it's important we don't abandon good land management. The challenge for Landcare will be to keep this issue front and centre

– Australian Conservation Foundation chief executive, Don Henry

carbon in soils?

"It is good news."

In the future, he said Landcare would play a fundamental role in helping producers understand how they would be able to take advantage of the CFI.

"This is a brand new venture," he said.

there was opposition to the carbon tax, which is set to start in 2012.

"It is a difficult debate," he said.

"There are many ways to tackle climate change, but something has to be done."

Aside from the climate discussion, he said it was important for Landcare to keep the "green" message at the

front of farmers' minds in the face of other difficulties.

"The high Australian dollar is making things hard across many agricultural industries," he said.

"There is always financial pressure on farming, but it's important we don't abandon good land management.

"The challenge for Landcare will be to keep this issue front and centre."

And after more than two decades of improving land across the country, Mr Henry said the organisation had plenty of experience to equip them for what lies ahead.

"It comes down to the people," he said.

"That's why Landcare has been so successful.

"People from all walks of life have helped to make a difference and put in the extra yards to help educate others.

"I think we have a lot of unsung heroes around Australia."

Capable carer takes Queensland reins

LANDCARE Queensland looks to have a bright future under Darryl Ebenezer as its new general manager.

Formerly of Barung Landcare, Mr Ebenezer brings years of Landcare experience to the position, and says he plans to continue building the momentum that Landcare Queensland has established.

"I want to continue the work that's been going on in Landcare Queensland – gaining funds and resources for local groups," he said.

"Landcare in Queensland goes from a single person undertaking weed control to groups with hundreds of members, and when you have that kind of range, there's a lot of scope for projects."

It was the social aspect of Landcare that Mr Ebenezer (pictured) said inspired the most optimism about the future of Landcare Queensland.

"We're aiming to continue to enhance the

profile of Landcare as a social movement," he said.

"It's a movement with enormous potential, whether it's cleaning a beach, planting in the dunes or planting rainforest trees."

Mr Ebenezer's experience at Barung Landcare has given him a proven track record, from the award-winning Maleny Wood Expo to hosting the Bunya Dreaming Festival, organised by Beverly Hand of the Gubbi Gubbi people.

With Mr Ebenezer's management, Barung Landcare established a significant relationship with Montville Coffee.

Donations from the company generated over \$15,000 a year for Landcare programs and education.

He hoped to continue to work closely with corporate partners at Landcare Queensland, but acknowledged there were issues.

"The global financial crisis has affected all organisations such as ours – people care

about the environment, but they're also very concerned about where their money's going."

He also has experience in managing the more practical aspects of Landcare.

Under his management, Barung Landcare planted thousands of trees and established three native plant nurseries to source tube stock as well as donating tens of thousands more to local community groups for plantings.

"It was a very exciting time with Barung – the time working with communities and people who want to achieve something gives you a real optimism about what groups can do, from the back of Queensland right up to the coast."

Mr Ebenezer said he was looking forward to building closer relationships with Landcare Queensland's partner groups, including government agencies and Landcare Australia.





Landcare approach going global

By MATTHEW CAWOOD

AUSTRALIANS may think of Landcare as a home-grown product, but the concept is playing a key role in boosting food security and incomes in some of the poorest countries of the world.

How Landcare works in a variety of countries, and under a variety of conditions, to deliver on-ground solutions will be discussed at the 5th World Congress of Conservation Agriculture in Brisbane from September 26 to 29. The conference incorporates the 3rd Farming Systems Design Conference.

The Landcare approach, where individuals, groups and networks come together and take responsibility for solving environmental, production and other community issues, has long been a passion of conference key note speaker, Dr Dennis Garrity.

Dr Garrity, who heads up the World Agroforestry Centre in Kenya, has been involved in a global effort to examine ways of creating more productive and environmentally sound farming systems.

One system, Evergreen Agriculture, integrates trees into annual crop farming. It has been adopted by farmers in 21 countries in Africa, as well as in India and Asia.

The congress will include other scientists, farmers and policy makers from around the world in discussing issues around conservation agriculture, farming systems, extension, adoption and Landcare.

Its demonstrated success in these areas places Australia at the vanguard of nations working toward sustainable land management systems for increased food security.

The aisles of the local supermarket don't give the impression that there will ever be a food shortage in Australia: our farmers produce enough food for about 60 million people.

Yet the continuous expansion and intensification of land and water use in Australia, and worldwide, are beginning to strain resources.

Elsewhere, tillage-based farming practices have accelerated erosion, degraded soil struc-



The Agroforestry Food Security Program in Malawi is providing farmers with trees for fuelwood, fruit, fertilizer and fodder. Photo: World Agroforestry Centre

ture, and depleted soil quality and nutrient status while increasing emissions of greenhouse gases (GHGs).

However, innovative farmers have played a key role in developing techniques and practices to tackle these issues.

At the forefront is conservation agriculture (CA) – no-till farming with permanent soil cover and crop rotation – which focuses on minimal soil disturbance, improved water use efficiency and better nutrient cycling.

Farmers are also quick to adopt CA because it significantly lowers production costs and energy needs, especially in the low-medium rainfall farming areas.

Australia has been a significant contributor to research on conservation agriculture systems and currently leads the world in terms of the proportion of cropped area under no-till.

Australian farmers, researchers and extension officers have identified homegrown solutions that restore soil health while profitably increas-

ing crop productivity, sequestering carbon in soils, and reducing GHG emissions.

Landcare is the ideal vehicle for delivering the conservation agriculture message.

The World Congress of Conservation Agriculture is jointly hosted by the Australian Centre for International Agricultural Research and the Grains Research and Development Corporation.

■ For more information and to register visit www.wcca2011.org

Don't lose sight of the importance of biodiversity: Beattie

WHILE conservation focuses on "charismatic organisms" – squirrel gliders, glossy black cockatoos, waratahs – it's missing much of the world's biodiversity, Andrew Beattie says. Ninety-five per cent of it, in fact.

An emeritus professor at Macquarie University's School of Biological Sciences, Professor Beattie wants more recognition that the world's more complex life is wholly dependent on an invisible army of microbes.

"Most conservation effort is focused on vertebrates and flowering plants, yet these species constitute at most 10pc of the total on Earth," Professor Beattie says.

"The other 90pc, the microbes and

invertebrates, are largely ignored. The immense and damaging irony of this is that among that 90pc are the organisms that constitute the species and genetic biodiversity of soils that provide the world with food."

Professor Beattie (pictured) describes this hidden iceberg of the living world as "production biodiversity".

"While the conservation of this 'production biodiversity' has been neglected, technology now allows us to document positive feedbacks between conservation and production lands.

"One prominent example is the demonstration that economically

valuable pollinators emerge from native vegetation to service dozens of crops worldwide, significantly raising yields and profits and leading to a better balance between cultivation and natural vegetation.

"Biodiversity conservation is the concern of agriculture everywhere. Genera such as *Aspergillus*, *Trichoderma* and *Rhizobium* and their functions should be as widely recognised as *Bos* (cattle), *Ovis* (sheep) and *Zea* (maize)."

Professor Beattie (pictured) hopes that the newly-formed Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem



Services will help put microbial species "front and centre" of conservation policy, which will in turn inform on-ground conservation efforts like Landcare.

Making microbiology sexy is challenging, Professor Beattie admits, but he thinks he knows how: via money.

"Regardless of the current success of industrial chemicals in agriculture, in the long term farming's profits and sustainability lie with microbiology."

Until recently, it was difficult, if not impossible, to assess the microbial content of a soil sample, and make assumptions about interactions between that soil life and production.

But in this area, as with most technology, huge strides have been taken. Professor Beattie was recently sent a dead insect covered in fungi by a Queensland agronomist specialising in integrated pest management.

Within two days, using a rapidly-expanding global database of soil microbe DNA, his Macquarie University lab had identified four previously unknown species of fungi that specialise in preying on insects.

If just a fraction of the budget spent on research into agricultural chemicals was diverted to exploring agriculture's friends and foes in the microbial world, Professor Beattie asks what would we find?

coles Supporting School and Community Gardens

Every time our customers buy a green reusable bag from Coles, we make a donation to fund more gardens. There are many great stories about the gardens that have grown and flourished and are enjoyed by schools and communities around Australia.

Binya Public School from the ACT and their project "Organic Gardening", are one of over 1,000 schools who have received a Coles Junior Landcare School Garden Grant. Binya Public School used their funds to create a sustainable vegetable garden.

"We would like to thank Coles and Junior Landcare for giving us the means and opportunity to embark on this program that has now become an integral part of our school culture."





Art blossoms in the garden



People's Choice



Australian Geographic Choice



Intermediate winner

A WEALTH of photographic talent was on display in the 595 entries in the national photo competition, "My Favourite Thing in The Garden", supported by Coles, Junior Landcare and Australian Geographic.

The photo competition celebrated the milestone of 1000 school and community gardens established through the Coles Junior Landcare garden grants program since its launch in 2008.

It was a challenge that captured the imagination of hundreds of children from around Australia, who uploaded a photo of their "favourite thing in the garden" to the competition website.

From flowers and insects, to pets and younger siblings, an amazing collection of photos were uploaded to www.1000gardens.com.au

During the competition, parents, family and friends were also invited to vote for their favourite photo in the People's Choice category, with a total of 6222 votes received.

Landcare chief executive, Heather Campbell, was impressed by the high calibre of the photos and the number of entries from across Australia.

"It's great to see a new generation of Australians learning about the environment and getting excited about nature," Ms Campbell said.

"It's been very difficult to judge, however, we're confident that our winners each display a unique approach to capturing what they believe is special about their local environment."

Launched in March, the competition was open to three age categories – up to 7 year olds, 8 to 12 and 13 to 18 year olds – and included the People's Choice Award and the Australian Geographic's Choice Award.

Applications are currently open for the next round of the Coles Junior Landcare school garden grants.

The closing date is Friday, August 5, at 5pm (EST).



Senior winner



Junior winner

Holden gives a HELPing hand

HOLDEN and Landcare Australia have recently expanded the national H.E.L.P initiative – Holden Environment Landcare Partnership – into South Australia and NSW.

The South Australian H.E.L.P initiative will support restoration of the native vegetation and wildlife habitat affected by the 2007 and 2009 bushfires in the Friends of Englebrook Reserve, Bridgewater, in the Adelaide Hills.

The NSW H.E.L.P initiative forms part of a national H.E.L.P program

funded by Holden and will provide support to Billyrambija Landcare Group, the University of Sydney and the University of Western Sydney as they bring five koalas to the Tarlo River National Park and help establish a founding colony.

The South Australian H.E.L.P project will be championing habitat restoration and research into the nationally endangered southern brown bandicoot.

Bushfires removed much of the bandicoots' natural shelter and left it exposed to predators.

As well as restoring shelter, the project will enable monitoring by scientists and the community to assess the bandicoots' exposure to risk and explore behaviour patterns.

In NSW, H.E.L.P will help rescued and rehabilitated koalas settle into a new habitat and re-establish populations in the fire-affected national park.

The H.E.L.P program has already provided support for the purchase of

satellite radio collars to track the koalas.

These collars will help researchers from the University of Sydney and the University of Western Sydney answer questions about koala translocation and improve future attempts to rehabilitate koala populations in bushfire-affected areas.

Holden Director, Energy, Environment and Technology, Richard Marshall, said this was an exciting initiative that had the potential for Holden to build further on its long-term partnership with Landcare Australia.

"Our sponsorship of Landcare Australia has continued since 2002 because of Holden's strong belief in seeing our environment survive and thrive for future generations," Mr Marshall said.

"This is also a wonderful opportunity for Holden to support the habitats of native fauna that have suffered due to bushfires.

"We have worked with Landcare for



Rob Close, UNWS; Blair Blashki, Holden NSW zone manager; Jorgen Nielsen, Billyrambija Landcare; David Phalen, University of Sydney; with Laura from Taronga Zoo and Yindi the koala.

over eight years to protect the environments around our facilities in Victoria and South Australia and we are very pleased to extend that partnership into NSW."

Landcare Australia chief executive,

Heather Campbell, said "Holden's ongoing commitment to Landcare projects in South Australia is not only financial; their contribution includes staff getting their hands dirty by volunteering at project sites."

H.E.L.P.

- Friends of Englebrook Reserve, Bridgewater in the Adelaide Hills, South Australia
- Wildhaven Refuge, St. Andrews, Victoria
- Redlands City Council Bushcare – Station Street Bushcare Group, Queensland
- Billyrambija Landcare Group – Tarlo River, west of Goulburn, NSW

Landcare Week 5-11th September 2011

Get involved and donate yourself to Landcare

Landcare volunteers play a vital role in restoring, improving and maintaining our environment – on their farms, in urban and rural communities, on the coast and near rivers, creeks and wetlands.

Groups work all year round on projects that are making a real difference in your community. However they need your help.

It can be as simple as donating yourself for a few hours of weeding, tree planting, revegetation projects, building nest boxes for wildlife, litter removal, building walkways, web site support, writing newsletters, assistance with applications for funding and much more.

To find your local Landcare, Bushcare, Coastcare, Rivercare, Dunecare, Friends of Group or any other voluntary environmental organisations visit www.landcareonline.com.au

Find us on



Photo: Catriona Rowntree - Landcare Ambassador and volunteer at the Geelong Landcare Network >>





Have you seen this ant?

EVERYBODY is encouraged to report any suspected sightings of Yellow Crazy Ant.

The ant is medium-sized (about three to four millimetres long), yellow, fast-moving ant that is quite distinct from most native ant species and can be easily confused with the native Yellow Tyrant Ant that is similar in size and colour.

The main distinguishing features of Yellow Crazy Ants are: very long antennae and legs, no smell when the ant is crushed, they do not bite when disturbed, and the nests have no mounds of soil.

The spread of Yellow Crazy Ants requires accidental transport, so it is important to ensure that this does not happen.

You can help by being vigilant when transporting anything, especially pot plants, house goods and machinery to ensure that they are not spread to new locations.

The ant readily nests in all kinds of material, from potting mix, to swags and gaps in vehicles, making it very easy for them to be accidentally transported by people. Information and identification sheets are also available at the Dhimurru office.

Dhimurru rangers, Daryl Lacey, Butjarri Mununggurritj and Arian Pearson, are pictured making plaster casts of crazy ant nests.

■ If you think you have seen this ant, or would like further information, please ring the Dhimurru Office, (08) 8987 3992 or email nhamirri@dhimurru.com.au

Top End takes on ants – and wins

By MATTHEW CAWOOD

THE most successful ant eradication program in the world is taking on one of the world's worst ants in the Northern Territory, and winning.

Since 2004 the Dhimurru Aboriginal Corporation of Northeast Arnhem Land has been at the forefront of efforts to eradicate the Yellow Crazy Ant, a native of South-East Asia, to such effect that it won the Department of Sustainability and Environment's 2011 Biodiversity Award, part of the World Environment Day Awards.

The Yellow Crazy Ant (*Anoplolepis gracilipes*) is believed to have made its way from South-East Asia to the Gove Peninsula, about 600 kilometres east of Darwin, during the Second World War.

Although it is so far confined to Arnhem Land, the Yellow Crazy Ant is capable of spreading west to the Indian Ocean and east to the Pacific.

It is an environmental and economic nightmare. An insect imperialist, it builds up to very high numbers in "super colonies" and is capable of killing off or driving away most of the native animals in the areas it occupies.

"They move in, they take over, they kill all the invertebrates and ultimately you end up with nothing but Yellow Crazy Ants," said the corporation's executive officer, Steve Roeger.

It also causes outbreaks of sap-sucking insects, which can kill plants, and can be a serious pest around homes.

CSIRO ecologist, Dr Ben Hoffmann, rates the Yellow Crazy Ant as a serious threat to agriculture and the natural environment, and it is ranked among the top 100 worst invasive species in the world by the UN Invasive Species Specialist Group.

Dhimurru Aboriginal Corporation took the lead role in a collaborative thrust toward Yellow Crazy Ant eradication in 2004.

Within five years, this program has

declared the ant eradicated from 21 sites covering 246 hectares.

This is twice as many eradications, covering five times more area than all ant eradications published globally for the past 100 years.

The ant is also believed to be eradicated from another 14 sites that await assessment.

In addition, ecological monitoring at 17 sites has quantified full ecological recovery within 12 months.

In total, 8127 locations have been assessed through the region for the presence/absence of the ant, 238,454 assessments have been made to accurately map 35 infestations, and an additional 221,624 tuna lures have been used to assess Yellow Crazy Ant eradication.

Treatment involves the delivery of a bait designed specifically for Yellow Crazy Ant, from a motorised hopper underslung from the Laynhapuy helicopter. This method has proven to be highly successful.

The bait used has a very low toxicity which does not affect birds, mammals or reptiles.

Few other ants and other invertebrates are known to consume the toxic bait.

In most cases, Yellow Crazy Ant have killed most of the fauna within infested areas.

Monitoring of non-target impacts is also a focus of the eradication project.

The project is set to continue with annual funding from Rio-Tinto Alcan and in-kind contributions from other key stakeholders. The goal is to achieve regional containment within three years thereby negating the need for continual ongoing work.

Dhimurru would like to acknowledge the keen support shown for this program over the years with key players including, Rio Tinto Alcan Gove, CSIRO, traditional land owners, the Northern Territory Government, the Commonwealth Government, Conservation Volunteers Australia, the Indigenous Land Corporation, and the Aboriginal Benefits Account, as well as Yirrkala Dhanbul Association, Nhulunbuy Corp. and Northern Land Council.



Dhimurru senior ranger, Balupalu Yunipingu, erecting a bilingual crazy ant site sign.

Old phones, more trees.

Recycle your old mobiles and accessories before 30 September to help community groups regenerate our coastline. Grants of up to \$2,000 each are now available to Coastcare and Landcare groups.*



Hand'em in at these mobile retailers or call: 1300 730 070
www.mobilemuster.com.au



mobilemuster
Official recycling program of the mobile phone industry

* A maximum of \$50,000 will be made available to revegetate and protect our coastline. Applications close 5pm (EST), Friday 30th September, 2011. Apply for a grant online at www.landcareonline.com.au. All mobiles are recycled to the highest environmental standards, none are refurbished or sold into developing countries. MobileMuster aims to collect 250,000 mobiles and plant 25,000 trees.

WA students injecting life into bushland

By JEAN
EKEROTH

CONTROLLING the spread of dieback has become a key learning platform for one outer suburban Perth primary school. An education program, Discovering Dieback, was first started at Armadale Primary School (APS) six years ago to help prevent the spread of dieback in the area.

The idea of the Discovering Dieback program started when APS teacher, Marion Colquhoun, whose husband is a dieback scientist, thought it would

be a good idea to educate children about the serious threat dieback posed to WA bushland.

Ms Colquhoun and two other APS teachers entered the primary school equivalent of the Rock Eisteddfod, JRock, with Stop the Rot.

The kids enjoyed the production so much that, with help from the Dieback Working Group (DWG), the Discovering Dieback program was put together.

It teaches children all about the plant disease before they go out to the bush and inject trees with a phosphite salt solution that gives plants immunity.

Ms Colquhoun said the chemical did not kill the fungus but they still did not know how it actually worked. "All scientists know is that the tree is pretty much guaranteed to survive if you treat it," she said.

When the program first started, Sidewinder backpacks were used to inject trees but they were heavy and hard to use and students had to stand



Armadale Primary School Year 7 students, Tyla Lovell, Kenneth Schottli, Caleb Fetterroll and Stephanie Scarvaci with a tree that has been treated with phosphite.

there and wait for the tree to take up the phosphite solution naturally.

Today they leave spring-loaded syringes inserted into holes drilled through the bark into the living wood about a hand span apart and collect them later.

"It's much more efficient as it's a very labour-intensive job," Ms Colquhoun said.

Shrubs are sprayed with the same chemical as they are not big enough to inject.

"Phosphite is like very salty water so it hurts a bit if you get it in your eyes but it's nothing serious," Ms Colquhoun said.

"We've got about 60 kids and parents who work for about four hours, so that's 240 man hours on the day."

In 2008, Armadale Primary School won the WA Westpac Landcare Education Award for the dieback program.

APS students have now treated several areas that have been identified as

free of dieback, including the old Cohunu wildlife park which is now a black cockatoo sanctuary.

This year the kids are returning to the first treated site at Settlers Common, Armadale, near Churchmans Brook Estate, which is still dieback-free.

"It's pretty exciting as some of these kids had brothers and sisters who went on the first excursion and they are going out to the same trees that their brothers and sisters injected," Ms Colquhoun said.

Want to know more?

Dieback Working Group

Phone: (08) 9424 2222
Email: Brendan.Nock@emrc.org.au,
iancolquhoun@iinet.net.au
Web: www.dwg.org
School program:
marion.colquhoun@det.wa.edu



Yates Junior Landcare Watermelon Challenge ambassadors, Sofia and Isabella Bliss.

Little carers to master melon challenge

JUNIOR Masterchef winner, Isabella Bliss, and her twin sister, Sofia, a top four finalist, are encouraging children across the country to get into the garden and harness their inner greenie by attempting to grow Australia's heaviest watermelon.

As part of the Yates Junior Landcare Watermelon Challenge, a free packet of Yates Candy Red Watermelon seeds will be sent to everyone who registers on the challenge website by Sunday, September 25th.

The challenge is open to all children aged 16 years and under and living in Australia, and includes a category for schools and youth groups, and one for individuals and families.

The free seeds will be sent out in October and can be planted anytime from October through to December. Yates Candy Red Watermelon seeds are regarded as one of the fastest growing and largest watermelon varieties.

Kids can grow their watermelons at home or at school and will need to care for their plants during the hot summer weather.

Once their watermelon has reached maturity, they will have to log onto the Yates Junior Landcare Watermelon Challenge website to upload the weight of their melon and their favourite watermelon photograph.

There will also be a creative photo category as part of the challenge, so everyone can be in with a chance of winning a prize!

"The Yates Junior Landcare Watermelon Challenge is such a fun activity for kids to get involved in, either at home or at school," Isabella said.

"Getting out into the garden and growing your own food is one of my favourite things, and you can make some really tasty treats from watermelons."

Yates Communications Manager, Judy Horton, understands the importance of encouraging young people's interest in gardening.

"The challenges we run with Junior Landcare have become increasingly successful each year, and we hope this challenge will continue to encourage a new generation of junior gardeners," she said.

"We look forward to seeing the enthusiasm of the participants as they discover the amazing results they can achieve with their watermelons."

The 2010 Yates Junior Landcare Sunflower Challenge was very successful, with more than 66,000 children around Australia taking part in a competition to grow the tallest sunflower and the sunflower with the widest head.

Eight-year-old Lachlan Hillas from Wodonga, Victoria won the tallest sunflower prize in the individual and family category with his 270cm giant.

The widest sunflower head was grown by six-year-old Sam McVilly of Wy Yung, Victoria, and his sister Tess, 10, with a very impressive head width of 46cm.

To register for your free seeds and participate in the Yates Junior Landcare Watermelon Challenge simply go to www.juniorlandcarechallenge.com.au.

Registrations close on Sunday, September 25, and the winners will be announced March 5, 2012.

Can you grow Australia's Heaviest Watermelon?

Yates
**Watermelon
Challenge**

www.juniorlandcarechallenge.com.au

Registrations Open!





Victorian effort wins international award

CONSERVATION Volunteers, Australia's largest practical conservation organisation has been recognised by the United Nations World Tourism Organisation (UNWTO).

The W. James Whyte Island Reserve project run near Bacchus Marsh in Victoria has won the 2011 Ulysses Award for innovation in non-governmental organisations, described as the "Nobel Peace Prize of Tourism".

Nearly 5000 volunteers, a mixture of locals and international tourists, have planted trees, cleared weeds, built walking trails and collected native seed for future propagation.

"The W. James Whyte Island Reserve is an innovative case study demonstrating what volunteer ecotourists can offer in achieving practical environmental conservation" says Colin Jackson, chief executive of Conservation Volunteers.

Conservation Volunteers has partnered with individuals, businesses and governments in conservation projects since 1982.

From humble beginnings in regional Victoria, the organisation has grown into a national effort.

It has a permanent presence at 30 locations around Australia and New Zealand and a project presence in many countries around the world.

Conservation Volunteers will tackle any issues that affect the sustainability of our land, from salinity, erosion to invasive species, by working with Landcare groups, farmers, catchment and local authorities and other land owners.

Volunteers get involved in projects that include revegetation (including large-scale tree planting projects), weed and pest control, fencing and seed collection.

Programs also extend to helping those in need.

Following the devastating Queensland floods in January, the organisation has been working with other groups to assist landholders in the recovery process.

This program involves multiple teams of volunteers based in Southern and Central Queensland, and other affected regions of NSW and Victoria.

It provides land managers with practical assistance in environmental repair.

The teams either operate as a mobile taskforce from established accommodation centres in the region or from roving camps.

"We have significant resources to manage volunteer teams on practical recovery projects in the wake of a natural disaster," Mr Jackson said.

"Our teams will get involved in activities such as fencing removal and repair, cleaning up of previous revegetated sites, erosion repair and control, walking track restoration, tree planting or early intervention in weed seed spread."

Farmers like Sid Plant on the Darling Downs have seen the benefits of the teams.

"Personally, I was struggling to make a start on the job and wondered how I would ever get it all finished" he said.

"The volunteers were friendly and enthusiastic and it was a joy to work with them and their supervisors."

West's tree master

By MATTHEW CAWOOD

LAST December, the close of the driest year on the Western Australian record, David Kennett went out onto his wheatbelt farm and planted several thousand trees in bone-dry soil in 45 degree heat.

The survival rate?

"At least 90-plus per cent," Mr Kennett estimates.

That any trees survived, let alone nearly all of them, is testament to the powers of Mr Kennett's observation and persistence.

The driving force behind the Auria Forestry Project at Minnivale, north-east of Perth, Mr Kennett has persevered at the art of establishing trees in terrible conditions – whether they be hot, dry or salty.

Notably, Mr Kennett's methods specialise in "doing without". He establishes trees without chemical weed control, fertilisers, pest control or irrigation.

He hit upon the counter-intuitive idea that the best time to establish trees is in the WA summer, when there is no weed competition and therefore no need to apply sprays with the potential to damage soil fertility.

In fact, Mr Kennett likes weeds.

He aims to place new trees in aerated soil, full of tiny air pockets that insulate against temperature extremes as well as water movement away from the roots. Weeds help him achieve this.

Soil preparation starts months in advance.

Weeds are encouraged to flourish on the raised beds Mr Kennett prepares.

Their roots and decaying leaves contribute to the friability of the soil and they are dead by the time Mr Kennett gets to planting.

Grappling with the problem of water in the deadly WA summers, Mr Kennett noticed that as soon as sub-



David Kennett has been the driving force behind the Auria Forestry Project at Minnivale north-east of Perth, where he's mastered the art of growing trees in difficult conditions.

soil moisture appears at the hot soil surface, capillary action works with evaporation to rapidly suck moisture from down within the soil profile.

But if moisture is placed well below the surface, out of reach of evaporation, it can stay there long enough to help a tree to push its roots down into deeper water reserves.

After experimenting, Mr Kennett discovered last year that he could get water 25 to 30 centimetres into the ground, with no connection to the soil surface, if he injected it behind the ripper of his tree planter.

The survival rate of the trees he deep-planted (another Auria speciality) last December is testament to the effectiveness of his methods.

Over the years, he has found his best-performing trees were planted in September-October, when they could grow without challenge from other plants.

Mr Kennett studied civil engineering, but finding himself jobless in Perth after a government shakeup he

struck out in 2001 to buy a salty 174-hectare block at Minnivale.

He had, he says, a burning desire to find answers to WA's crippling salinity problem.

In his own estimate, he has planted more than 600,000 trees, encountering a number of "monumental" disasters along the way but gradually, inexorably, learning how to do it right.

His efforts made him a finalist in the 2009 United Nations Association of Australia World Environment Day Awards. This year he is an entrant in the Banksia environmental awards.

"Because of the soaring world population, we're going to be forced to grow forestry products in areas that in the past have been regarded as just too hard," he says.

"But if we can learn to plant trees in 45°C, and help them survive, it opens up huge new areas of possibility."

■ For more information on the Auria Forestry Project contact 0427 600 024, email: info@auria.net.au or visit www.auria.net.au

Ring a ding ding

RECYCLING an old mobile phone is free and easy, simply:

1. Hand 'em in at your mobile phone retailer / MobileMuster local collection point - to find your nearest one go to www.mobilemuster.com.au or call 1300 730 070
2. Post 'em in by either picking up a free MobileMuster recycling satchel from Australia Post, National Pharmacies or printing off a reply paid mailing label from www.mobilemuster.com.au



World champion surfer and Mobile Muster ambassador, Layne Beachley.

Turning old phones into a tonne of new growth

SEVEN times world champion surfer, Layne Beachley, has joined MobileMuster and Landcare Australia to give Australia's iconic coastline a helping hand by simply recycling old mobiles and accessories.

Through the 'Old phones, more trees' campaign, MobileMuster, the mobile phone industry's official recycling program, aims to collect 250,000 handsets and plant up to 25,000 trees around Australia's coastline. The campaign runs until 30 September 2011.

"Over 19 million Australians live within 50 kilometres of the coast and there are 19 million old and broken mobile phones lying in Australian homes unused. It seems we Aussies love the beach and holding onto our old mobiles," Ms Beachley said.

The surfing champ says many areas along Australia's iconic coastline are in need of a helping hand.

"Dune erosion, weeds and over-use can have a real impact on the health of the great beaches and coastal areas that we all love and enjoy."

She is encouraging all Australians to dig through their drawers at home and to hand in their old and unused mobiles to MobileMuster.

"Every old mobile phone recycled with MobileMuster will enable Landcare and Coastcare groups to make real a difference

to our coastline. The campaign will also keep old mobiles out of landfill and recover over 90 per cent of the materials in the phones to make new products."

The 'Old phones, more trees' campaign and partnership with Landcare Australia is now in its fifth year. MobileMuster aims to collect twice as many handsets as last year.

MobileMuster manager of recycling, Rose Read, said: "Recycling 250,000 old mobiles plus their batteries and chargers will recover enough materials to make 48,000 aluminium cans and more than 2,400 plastic fence posts."

"Recovery of these materials will also avoid the need to mine more than 728 tonnes of gold ore, 808 tonnes of silver ore and 178 tonnes of copper sulphide."

Since 2007 the 'Old phones, more trees' campaign has recycled more than 149,000 kilograms of mobile phones and accessories and enabled Landcare groups to plant more than 255,000 trees across Australia.

There are 3500 MobileMuster public drop-off points Australia wide, including all major mobile phone retailers, Officeworks and participating councils.

MobileMuster will donate 25 grants of \$2,000 each to Landcare Australia and Coastcare groups.

Grant application forms and criteria are available on www.landcareonline.com.au.



George Atkinson, Trudy Hobbs, Nathan King, Daniel Dicker and Di Eddy with some of the nest boxes built for Landcare at Bunnings.
Photo: Amanda McClaren, Goulburn Broken Catchment Management Authority.

Bunnings helps nail a new nesting plan

BUNNINGS in Victoria is leveraging its field of expertise by helping students build nest boxes for native animals.

The hardware giant is investing in sustainability by supplying materials, tools and lunch for students who visit Bunnings stores to build the boxes.

Landcare and Bunnings Shepparton started the program in 2010, with Year 10-11 students from Shepparton High School, and Bayswater and Pakenham have since joined the program.

The Shepparton project was co-ordinated by the Goulburn Broken Catchment Management Authority (CMA) working with Shepparton Bunnings.

In Shepparton, students built and painted 30 nest boxes for animals such as squirrel gliders and brush-tailed phascogales.

The Bayswater Bunnings store has also contributed to the building of 30 nest boxes with the Bayswater Secondary College.

The boxes are intended for kookaburras, brush-tailed possums and eastern and crimson rosellas. If the project continues, boxes will also be built for sugar gliders, king parrots and gang gang cockatoos.

The boxes, part of a larger project undertaken by Monbulk Landcare group, will be put up on private and public land by local Scouts and other volunteers. An information day will be held to inform the community about the wildlife that will use the boxes.

"The Bayswater store is very organised and the program was a great success" says Goulburn Broken CMA's

corporate Landcare partnerships co-ordinator, Karen Brisbane.

Following the success of this project, Bayswater Secondary College students have offered to work with Year 7 students next term building feathertail glider boxes, with Bunnings providing the materials.

Pakenham Bunnings has committed to donating materials to build 40 nest boxes for the Cardinia Catchment Landcare group.

Boxes will be built for feathertail gliders, owl nightjars, tree creepers and king parrots.

Bunnings will supply material for the boxes and cut the wood to size, and the local Cubs and Cardinia Catchment Landcare group will build and put the boxes up as part of a larger project to recruit volunteers for Landcare.

Waging war on kelp at Apollo Bay

ALTHOUGH the Landcare movement has come to be defined by the land, its work continues offshore, too.

In Victoria's Apollo Bay, volunteers are waging war on an invasion of Japanese kelp.

Better known to Japanese food enthusiasts as the edible seaweed wakame, Japanese kelp is an opportunistic marine weed which can rapidly colonise disturbed or new surfaces.

It tends to form dense forests, crowding out the light and space of other native plants and animals, including abalone, rock lobster and oysters.

The seaweed also fouls marine infrastructure like mussel lines, vessel hulls and fish cages. In rough seas, it washes up on beaches and rots.

Faced with an invasion of Japanese kelp in Apollo Bay, a call for divers was put out through dive groups, websites, forums, radio and the media.

Two volunteer dive days were run in November and December 2010. More than 60 volunteers (pictured) took part, including a group from Reefwatch South Australia.

Over three tonnes of kelp was removed over the two days.

"The two dive days were a great example of the community taking positive action against marine pests," said Mark Rodrigue, program leader of Marine and Coasts, Parks Victoria.

"Marine pests are a challenging area of marine conservation and the volunteer efforts were a fantastic example of what people power can do to reduce marine pest impacts and generate awareness."

The agencies and groups involved included the Victorian departments of Sustainability and Environment and Primary Industries, Parks Victoria, Colac Otway Shire, Southern Otway Landcare Network, Otway Coast Committee (which offered free camping for divers), Field Naturalists of Victoria Marine Research Group (which studied critters brought up through the dives), Apollo Bay Sailing Club, and the Apollo Bay Country Women's Association (suppliers of hot soup and food).

■ Contact DSE, 136 186, or to keep up with any new Japanese kelp updates contact Luke Hynes, solnluke@vicnet.net.au to subscribe to the Japanese Kelp mailing list.



Coastal communities dive into Merricks Creek project



PUTTING the "community" into Landcare, eight coastal community groups are banding together to undertake the Merricks Creek Coastal Banksia Project.

Merricks Creek is on the south coast of the Mornington Peninsula, in southern Victoria.

The area is a mixture of old sandy dune soils, steep cliffs and damp riparian sections.

The project is a "landscape scale" Caring for our Country project aimed at tackling weeds and native vegetation loss along the creek.

Extensive restoration is planned, to improve habitat and overall environmental quality for plants and animals in the river and its environs.

Banksia woodland is a major part of

the local natural vegetation, but other associated plant communities will also benefit from the combined restoration works.

Community links will be strengthened as members of the various community groups, who may not have met before, will be able to share and learn from each other around a shared challenge.

Spicers Paper and Landcare 'Recreate'

The Spicer's Paper Recreate partnership with Landcare Australia is a program that supports community groups across Australia in restoring and maintaining degraded landscapes.

The program gives Spicer's employees the opportunity to contribute to our local environment through volunteer Planting Days. Held annually in each state since 2003, Spicer's return to the same sites year after year. Now in 2011, the difference in these revegetated sites is incredible.

Funded through purchases of Tudor RP 100% Recycled Paper, an Australian made and certified carbon neutral product, Spicer's have contributed to date nearly half a million dollars to Landcare Australia.

Discuss with your print provider options for printing on Tudor RP 100% Recycled Paper. For more information please go to www.spicers.com.au



In Brief

Flood recovery: Landcare Queensland is working with ENERGEX to support four South East Queensland Landcare groups undertaking flood recovery projects.

In the third year of the Landcare Queensland-ENERGEX partnership, support is going to projects that focus on the long-term recovery of South East Queensland's natural environment following the severe flooding throughout the region earlier this year.

Landcare Queensland Project and Partnerships Co-ordinator, Justin Ward, has witnessed the severe damage caused by the flood events of early 2011.

"There is much work to be done to restore the environmental damage caused by the floods and no one is better placed to take on this role than local Landcare groups, with intimate knowledge of their local environment and incredible connections within the community," Mr Ward said.

"Community involvement has been interwoven into all four flood recovery projects.

"For example, Atkinson Buaraba Creek Landcare Group (ABC Landcare) will be hosting a community planting day involving local school children and volunteers to kick off work at Sandy Creek in the centre of Esk."

"The impacts of flooding have been incredibly severe in Esk.

"Many families are preparing to spend the winter living in caravans as their houses remain uninhabitable."

Support will also be provided to West Moreton Landcare group, Pine Rivers Catchment Association and Hel-

idon Hills Murphy's Creek Landcare. The partnership will also continue to support the successful ENERGEX Junior Landcare activity days in key areas across the region.

Since 2009 Landcare Queensland and ENERGEX have helped 24 Landcare groups to work with local school students.

Nearly 600 students have planted over 7900 native plants while learning about the importance of their catchment.

Watch for weeds: Widespread rainfall across Australia and recent flooding could set up the conditions for a weed explosion.

As well as boosting the growth of weeds, wetter conditions promote their spread via floodwaters, through movement of hay, grains and other animal fodder, and the transport of earthmoving machinery used for flood restoration works.

The Weeds of National Significance Program (WoNS) is a national program that focuses on 20 weeds selected because of their impact on production, human health, and the environment.

WoNS is producing information to help people identify weeds and provide options for control, containment and management.

The program has national co-ordinators for each of the 20 weeds, all based within State agencies (except Western Australia).

The WoNS Program does not provide financial support for weed management programs and projects.

For financial support/grants, contact your local government, local natural resource management agency, or a relevant State agency.

■ Visit www.weeds.org.au/wons for more details on the 20 Weeds of National Significance and information on available resources. Visit www.weeds.org.au/contacts.htm for contact details of the WoNS co-ordinators.



Woolworths Area Manager, Peter Craven, and Dr Shane Norrish (Landcare Australia) present the cheque to Holbrook Landcare Network board member, Dougald Frederick.

Sustaining the food chain

WOOLWORTHS has partnered with Landcare Australia since 2007 to support the Woolworths Sustainable Agriculture program, which has delivered funding to 150 projects around Australia.

The program was revised in 2010 to become the Fresh Food Future program, an ongoing investment from Woolworths to fund and promote new projects that improve the sustainability of the food supply chain.

As one element of this program, seventeen grants have recently been awarded to farming groups through an open grants round.

Holbrook Landcare Network in

southern NSW is just one of the successful recipients.

Members of Holbrook Landcare Network have completed some excellent projects since first forming in 1988.

Indeed, they have been one of the most successful community farming groups in Australia with up to 80 per cent of the district's farmers involved in Landcare farming activities.

As with other Landcare and farming systems groups around Australia, Holbrook Landcare Network has been an important part of the community fabric, sharing information, supporting each other through droughts and flood, and implementing great agri-

cultural and environmental improvements on the ground.

They have recently been successful in securing funding for a new project through the Woolworths Fresh Food Future program.

Woolworths area manager based in Albury, Peter Craven, recently presented Dougald Frederick of Holbrook Landcare Network with a cheque to launch the project.

Mr Frederick said the new nutrient management project will provide a training program to match land management and nutrient inputs, with a focus on phosphorus, nutrient budgets and soil testing.

The project is one of 17 funded in the most recent Woolworths Fresh Food Future grants round.

Other projects are addressing a wide range of issues and include understanding nutrient and irrigation interactions in establishing macadamias in central Queensland, biochar and composting in South Australian grain production, district-scale irrigation scheduling for sugarcane in southern Queensland, lower pumping and better water use efficiency in dairies on the south coast of NSW, fertiliser management for seed potatoes in Victoria and better fertiliser management on Western Australian pastures.

Woolworths Fresh Food Future 2011 grant recipients

Central West Farming Systems Inc (NSW) – \$10,600: To be run with the Southern Precision Agriculture Association (SPAA), a project to demonstrate precision agriculture on-farm. Includes use of satellite imagery to target more efficient variable rate fertiliser application, yield mapping, control traffic farming, and nutrient management decisions for crop water and crop production programs.

Far South Coast Dairy Development Group (NSW) – \$11,000: Will establish a demonstration and extension program based around increasing water use and electricity efficiency, and fine-tuning nutrient management of dairy farmers in the Bega and Eurobodalla regions of NSW. Local Department of Primary Industries staff will help set up six demonstration sites to illustrate best practice in maximising grass grown per unit of irrigation water, electricity and fertiliser used.

Grassland Society of NSW – \$9850: Will co-ordinate and deliver four regional grazier workshops presenting the latest technology for managing sustainable productive pasture systems, including the role of persistent legumes, new pasture varieties, new legume species and cultivars, development of sustainable perennial pasture systems and updates on the latest research.

Holbrook Landcare Group (NSW) – \$11,000: Engaging farmers to better understand how they can match land capability and efficient use of nutrient inputs. The project will deliver training programs, support co-ordinated regional soil testing and manage a focus site to measure, record and demonstrate better

nutrient management results. It aims to drive increased productivity and reduce the release of nutrients into the landscape.

CANEGROWERS Isis (Qld) – \$11,000: CANEGROWERS Isis will collect data on soil water status and distribute it to 250 growers, allowing them to make more informed decisions about their irrigation scheduling and reduce risk of lost productivity. Current approaches to irrigation management often leads to over- or under-water application.

Centre for Plant and Water Science, CQU (Qld) – \$11,000: Aims to significantly improve the productivity of macadamia growers in the inland area of Queensland, and open up opportunities for increased macadamia production in Australia. The major output will be a decision support system aimed at improving the irrigation water usage.

Agriculture Kangaroo Island (SA) – \$9990: A focus on practical, effective and innovate techniques that local producers can adopt to make their grazing systems both productive and sustainable. The project specifically focuses on nutrient management to boost pasture production.

MacKillop Farm Management Group (SA) – \$11,000: Investigating the sustainability of alternative summer crops under irrigation in the South-East region. The aim is to ensure the best return on investment on water use, economically and environmentally.

Northern Sustainable Soils Inc. (SA) – \$9800: To look at whole farm variation, and target management to match variation in land capability. Variation will be identified using precision agriculture technologies,

and variable rate technology used for adaptive management.

South Australian No-Till Farmers Association – \$4400: To assess the productivity increases derived from greater nutrient retention and microbial synergies after biochar is blended with organic waste prior to the composting process. The project aims to build on the strengths and minimise the weaknesses of both processes.

Bass Coast Landcare Network (Vic) – \$11,000: Aims to encourage landholders to adopt best land management practices and reduce their greenhouse emissions. An objective will be to develop techniques and strategies for a reduction in farm greenhouse emissions, including improved nutrient and irrigation management.

Hindmarsh Landcare Network (Vic) – \$11,000: Will contribute to developing and validating farming practices to improve water use efficiency and nutrient management across the northern Wimmera. Aims to demonstrate the problems and causes of hostile subsoils that inhibits crop uptake of nutrients and moisture.

Normanville Farm Advancement Group (Vic) – \$10,955: Group members will evaluate the Yield Prophet cropping model to help better understand decision making and risk management around understanding crop growth stages, root development, soil water and nitrogen use and calculating crop potential.

Perennial Pasture Systems (Vic) – \$9940: Will establish a series of plant

variety trials within the Upper Wimmera, Hopkins and Avon river catchments, to test newer varieties under a range of conditions. It will also contribute to an Australia-wide project on best current practice in phosphorus management.

Upper Murray Agribusiness Group (Vic) – \$10,900: An objective is to employ a network of automated weather stations built by the group, and linked to a purpose-built website, to develop detailed irrigation schedules for seed potato, matching irrigation inputs with indicators generated from crop, soil and climatic monitoring. The project will also provide for a full nutrient budget/audit via a regime of soil and foliar nutrient testing through the entire crop cycle.

Victorian No-Till Farmers Association – \$11,000: Aims to help farmers improve their water use efficiency in dryland agriculture through the use of soil water content data loggers to help understand water behaviour in the soil profile. Farmers will gain an understanding of how much rainfall is stored in the profile, where in the profile it is stored, how much is lost through deep drainage, the behaviour of different crop types in accessing soil water and the importance of crop residue for increasing fallow efficiency.

Katanning Land Conservation District Committee (WA) – \$9990: Aims to improve local fertiliser efficiency and reduce run-off from broadacre agricultural land in the Ewlyamartup catchment. The project will trial a range of fertiliser application practices on pasture, hosted on a farm within the Ewlyamartup catchment.

Dreaming of rich natural resources

Last October, 80 children from the southern New England regional primary and secondary schools took part in a gathering that connected them with one another and the land.

In preparation for the "Frog Dreaming" conference students from each school were asked to identify a local natural resource management issue of importance to them.

They then designed and developed a performance based on the issue and presented it to the

other students at the conference.

Students chose to cover native habitat protection in urban and rural areas, weed control, pollution control in school grounds and recycled art.

The second day of the conference provided a series of workshops aimed at understanding the richness and abundance of local biodiversity, and the skills to maintain it.

To complete the Frog Dreaming experience, the last workshop involved students planting native plants along the banks of Uralla

creek, the first steps toward an abundant and diverse frog habitat.

Finally, they each placed a totem rock around the frog dreaming log – a spot where they might all meet again to listen to frog calls and reminisce about their experience at Frog Dreaming 2010.

The next Frog Dreaming will be held at Uralla on October 18 and 19, 2011.

■ For more information contact Sara Schmude, sara@snelcc.org.au or Southern New England Landcare, (02) 6772 9123.



Reward for caring Scouts

AS ONE unique organisation to another, Scouts Australia has formed an association with Landcare to "do something practical" about protecting and repairing our environment.

Caring for our environment is central to Scouting: it is one of the Scout laws.

Since Scouting began, young people have been connecting with the outdoors, learning from nature and taking positive action for their local and global environments.

Every year, Scouts across Australia organise and participate in a huge number of environmental activities including erosion prevention works, energy and water saving projects, wildlife monitoring projects, tree plantings and environmental training courses.

Scouts can also work towards a variety of environmental awards and achievement badges.

One of these awards is the

Landcare badge, which can be earned by participating in approved Landcare activities.

To encourage more Scouts to complete the badge, Scouts Australia has recently devised new badge requirements.

Youth members can now achieve the badge by attending any three nationally supported Landcare programs over a 12-month period, or by registering with their local Landcare group and participating in 24 hours of service over a 12-month period.

The new requirements will be introduced in September to coincide with this year's Scout Environment Weeks.

Scout Environment Weeks (SEW) are a simple yet highly effective concept to encourage Scouts to learn more about our environment and be active locally, while working towards some of the many environmental awards available in Scouts.



Partnership brings together top advice for landholders

THE Communities in Landscapes project has set out to excite landholders about the boxgum grassy woodlands on their properties, to think across property boundaries and entice neighbours to work with them.

The project works on private land, and is aimed at increasing landholders' understanding and knowledge of the biodiversity and inter-relationships of the species in this endangered ecological community.

The project is extending farmers' understanding of the broader ecosystems in which they operate, and to develop management practices that enhance conservation while

maintaining or improving productivity.

Landcare NSW Inc led this major Caring for our Country project across three CMA regions in NSW.

The project gave Landcare NSW the opportunity to build partnerships with the nine other organisations: Conservation Management Network, NSW Primary Industry, National Parks and Wildlife, and Office of Environment and Heritage (formerly DECCW), Greening Australia, CSIRO, Sydney University, STIPA Native Grasses Association and Birds Australia.

Landcare NSW Inc chairwoman, Mandi Stevenson, says Landcare is

one of the few cultures that can effectively bring together these key partners in NSW without the barriers, real or imagined between government or quasi-government organisations and landholders.

"Keeping the team moving in the same direction has been interesting for Landcare NSW as a volunteer organisation, but working with people who have a passion for what this project is about is incredibly inspiring," Ms Stevenson said.

"We developed an innovative model of management that had teams working across the project in themes.

"This model ensured partners were involved in the project management

across all disciplines, as well as vertically in their own individual component of the project."

A unique component of the project was its Cross Property Conservation Planning aspect.

Landholders not only develop their own property plan, but work together as a group to consider how this will impact on the neighbours and develop cross-property solutions to manage woodlands.

"One of the participants was overheard to say, 'this is like the Landcare of old where people from either end of the valley get together to discuss things,'" Ms Stevenson said.

Finding out just how landholders

are engaged by these projects is providing an innovative aspect to this project that sets it apart from the norm, developing benchmarks for understanding and measuring social and landscape change.

"The major challenge farmers face is to balance production and conservation.

"This project enables them to integrate the advice and support from government agencies and other organisations in one collaborative approach as a one-stop-shop.

"This is what Landcare does best and will continue to be a highlight of the Communities in Landscapes project with Landcare NSW Inc."




Conservation
Volunteers

Connecting people with our environment



2011 State and Territory Landcare Awards Update

ACT

THE call for Landcare Award nominations in the ACT has closed. The ACT will be celebrating the efforts of local Landcarers on September 8 with a breakfast overlooking Lake Burley Griffin.

For more information about the ACT Landcare Awards or other Landcare events in the ACT contact Sally McIntosh, sally.mcintosh@act.gov.au or go to www.actlandcare.org.au

New South Wales

THE 2011 NSW Landcare Awards will take place in Parkes on Tuesday, September 6, as part of the 2011 NSW Landcare Catchment Management Forum.

The Forum, hosted by Parkes and Districts Landcare, will include field trips, workshops, networking functions and presentations from an outstanding cast of speakers.

The forum's theme, "thinking differently", is focused on environmental issues facing landholders, and will explore ways to improve the sustainability of our environment and its natural resources.

Registration is open to all members of the community and closes on Friday, August 19.

Forms and more information can be found at www.parkeslandcare.org.au

A NSW People's Choice Landcare Award will be presented as part of the 2011 NSW Landcare Awards and voting is now open to everyone on www.landcareonline.com.au.

If you are interested in voting, log on quickly as voting closes on August 5.

Northern Territory

THE 2011 NT Landcare Awards closing date for nominations is Friday August 26.

To coincide with the awards presentation, Territory NRM will be hosting a natural resource management forum in Darwin on October 13.

More information on the forum will be released as the date draws closer.

To receive Territory NRM's monthly e-newsletter, Network Notes, please contact your Territory NRM regional co-ordinators:

- Top End: chantal.bramley@territorynrm.org.au
- Gulf Savanna: madonna.wuttke@territorynrm.org.au
- Arid Lands/Tablelands: heidi.groffen@territorynrm.org.au

Tasmania

THE Tasmanian awards ceremony celebration (Sunday, October 9) will involve cheers and beers, dinner and dancing in the Stanley Town Hall in North West Tasmania.

The 2011 Tasmanian Landcare Conference the following day has the theme "From the Ground Up".

Presentations and discussions will range from support for non-profit groups to sustainable production and conservation on private land.

People from across Tasmania will meet to exchange ideas, socialise and recognise the huge achievements of the landcare community.

For more information, or to sponsor the event contact Margie Jenkin, email executive.officer@taslandcare.org.au or phone (03) 62347717.

Natural boost for communities

BE NATURAL Cereals and Snacks has supported the Landcare movement since 2010 by helping local Landcare groups tackle environmental issues.

Six groups were funded by Be Natural in 2010, and this support has since evolved into an open community grants round which is currently offering funding of up to \$5000 to 25 groups to continue work on an ongoing project. For groups to be eligible for this

grants round, they will not have received funding for the project in question in the past 12 months, and are encouraged to find innovative ways of attracting volunteers to their group or project.

The Be Natural Landcare grants round is open until October 10, and all information, criteria and application forms can be found on www.landcareonline.com.au

Victoria

THE 25th year of Landcare in Victoria will be celebrated with a range of activities, centred around the 2011 Victorian Landcare Awards Ceremony at Government House in Melbourne on Wednesday 16 November.

Groups and networks are encouraged to organise their own 25th Anniversary activities.

Resources to support their efforts are available on the Victorian Landcare Gateway at www.landcarevic.net.au

To find out more about the 25th Anniversary visit the Gateway or contact Monique van Wierst on (03) 9637 9804.



Western Australia

THE winners of the WA State Landcare Awards will be announced at the State NRM Conference, August 23 to 25, 2011, at the Perth Convention and Exhibition Centre.

The State NRM Conference for 2011 will combine global thinking and local action in an extensive program that merges the International Symposium of Digital Earth (ISDE) and the WA Land Information System (WALIS) Forum with natural resource management.

The combined communities of digital earth modellers, spatial scientists and those involved in conservation and sustainable management will come together for the first time to network and share their insights.

Some "must see" keynote speakers include Chris Holmes, OpenGeo; Elizabeth Lee, director for projects and development at CyArk; Ian Jackson, British Geological Survey and Dr Linlin Ge, University of NSW.

Various "streams" are available including a dedicated NRM (natural resource management) stream that will include presentations from the finalists of the State Landcare Awards, along with other "streams" such as health, social impacts and digital earth in space.

Further program information and registration available at www.isde7.net

South Australia

NOMINATIONS for the Premier's NRM and SA South Australian Landcare Awards have closed.

Finalists will be invited to attend an awards ceremony held at the Observatory Function room, Hackney Road, Wednesday, October 26, 2011.

For further information contact Deb Rav, email deb.rav@sa.gov.au or phone (08) 8463 7883.

Queensland

JUDGING has begun on the Queensland Landcare Awards, which closed at the end of July.

The Awards will conclude on September 6 with a ceremony and morning tea at Government House.

The Governor of Queensland, Ms Penelope Wensley AC, will present awards to the winners.

Growing green skills

ABOUT 90 Year 8 to 11 students from Denmark High School in Western Australia engaged with their local environment and its rehabilitation through two Green Skills projects in June.

Working with other groups, the Green Skills team finished two community re-vegetation projects by planting out thousands of plants grown from local provenance seed into sites prepared over the previous year.

As well as contributing to important biodiversity objectives, the revegetation projects linked with Denmark High's environmental education program and The Western Australian College of Agriculture, whose students helped with weed control and site maintenance.

One project on the Kwoorabup River foreshore involved the planting of about 2400

shrubs and small trees.

At the Wetland Education Centre site at the WA College of Agriculture, thousands more plants went in.

The site carries the Kwoorabup walk trail along the Denmark River.

The area is being cared for with Noongar elders and community.

The Denmark River is estuarine at the project site, and the revegetation will provide an important nature corridor, and buffer nutrients and sediment from reaching the waterways.

This project works within the science, sustainability and social studies components of the Year 8 curriculum of the Denmark High School as well as the accredited learning courses of the Year 12 forestry students at the WA Denmark College of Agriculture.

In the past nine years the

school has developed its environmental and sustainability education program around its 18 hectares of school grounds.

Local landcare groups are supporting and involved in the project, and Denmark Shire Council provided local provenance plants at a discount rate.

Local accredited spray and site contractors assisted with site works.

Adult volunteers were of vital help in guiding the students.

The Denmark Weed Action Group supplied earlier input into implementing a weed control program along the Denmark River foreshores, and local Noongar elders and trainees also had significant input into the river foreshore restoration.

■ For further information contact Basil Schur, Green Skills, email bschur@greenskills.org.au or phone (08) 98481019.



Plantings in action by Western Australian College of Agriculture Year 12 (Denmark) students.

Grants help Tas projects to prosper

RESPONDING to the call for more funding for on-ground work, the Tasmanian Landcare Association (TLCA) developed the Tasmanian Landcaring Grants (TLG) Program.

The program has run a series of devolved grant rounds that are open to individual landowners and care groups (including Landcare, Wildcare, Coastcare, Rivercare, "Friends of" etc).

Supported by the Australian Government's Caring for Our Country initiative, the TLG has run three grant rounds leading to funding for 44 projects (worth more than \$496,000) across Tasmania.

The funded projects vary in

scope from revegetation projects to the construction of an enclosure for the recovery of injured eagles, blackberry and gorse removal from the Tasmanian Wilderness World Heritage Area (with access by raft), a farm tour that explores new techniques in land and financial management and strategic feral cat control.

Projects are being worked on from Kingborough to King Island and Strahan to St Helens – a truly statewide achievement.

Injections of funds from the TLG have kept long running community group projects surging ahead.

Those who did not receive

funding also received ongoing support and in many cases were able to source the funds they needed through other avenues, reinforcing the benefits of TLCA's approach of helping landcarers find a way and not just administrate a grants program.

Landcare in Tasmania is more prosperous and stronger for the program.

■ For more information contact project manager, Alan Barton, Tasmanian Landcaring Grants, Tasmanian Landcare Association, email projectmanager@taslandcare.org.au or phone (0428) 222 816.



BE NATURAL LANDCARE GRANTS PROGRAM 2011

The Be Natural Landcare Story

At Be Natural, we believe our natural landscape needs to be nurtured and cherished. That's why we're supporting Landcare Australia. To help Landcare groups continue to tackle local environmental issues, we're offering 25 grants of up to \$5,000 so that local volunteer groups can carry on the great work that they do in helping breathe new life into our environment. The Be Natural Landcare grants round is open for applications until 10th October 2011. Visit www.landcareonline.com.au for more information or to find a local group near you. To read more Be Natural Landcare stories, please visit www.benatural.com.au.

