

Permaculture Cairns September Newsletter

EMPOWERING COMMUNITIES WITH SUSTAINABLE SOLUTIONS



Care for the Earth, Care for people, Share the excess

Permaculture Cairns Incorporated - Web Site: www.permaculturecairns.org.au

September Meeting & Information Exchange Night

Tuesday 15th at 6pm for a 6.30pm start

Meeting Venue: ARC Disability Centre – 92 Little Street Manunda

Members please bring a plate of finger food to share and a friend or two!

Financial Members are free, Non Members \$5 Why not join up - only \$10 for singles and \$15 for a household until 1st January 2016

AGENDA

Welcome to new members and visitors

Upcoming workshops and event for this month and beyond

Permaculture Principle Number 9, a practical explanation.

Guest Speaker: - Dr. Todd Lizon will talk about Stress Management - The Speed Trap – If you can't measure it you can't improve it. "Let's take the guesswork out of stress management. Two easy to access and use technologies now allow us to measure our stress and make the corrections that bring true success, health and balance"

Guest Speaker – Jason Webber will give us an insight into how effective his environmentally sensitive cleaning products containing Eucalyptus Oil are to use.

Then- Book of the Month, Plant of the Month, Tool of the Month, Gardening Tip of the Month

8.15 we break for a cuppa and nibbles and a chance to network with like minded people.

Check out the books in our Members Library - All finished and on the way home by 9.00pm

Last month guest speakers - Jeremy Winer of Weedtechnics gave a very interesting talk on how to control weeds using Saturated Steam Technology. Check out his web site for more information.

www.weedtechnics.com.

And Alan Louis the Senior Engineer Distributed Energy at Ergon Energy gave a very enlightening talk about what Ergon has been doing over many years in the field of alternative energy and storage systems for households. Watch out for more information on this in the future. Batteries are coming.

Permaculture Principle No. 9 – Use small and slow solutions

The bigger they are, the harder they fall “Slow and steady wins the race”

The snail is both small and slow, it carries its home on its back and can withdraw to defend itself when threatened. The proverb “the bigger they are, the harder they fall” reminds us of the disadvantages of excessive size and growth while “slow and steady wins the race” encourages patience while reflecting on a common truth in nature and society.

A message from the Permaculture Cairns Management Committee

A Special Resolution will be put to the members at the September General Meeting to amend the rules of the Constitution of Permaculture Cairns. The current rules state in

“ Classes of membership - Description of Membership - Membership Limitations – Class of Member

Ordinary Unlimited - This refers to the voting rights and election to committees.

2. Election to Management Committee is subject to successful completion of a recognised Permaculture Design Certificate Course.

And

Family Unlimited – This refers to the voting rights and election to committees

2. Election to management committee is subject to successful completion of a recognized Permaculture Design Certificate Course”

The amendment:- “To delete the requirements that membership of the management committee requires members to have successfully completed a recognized Permaculture Design Certificate Course.

Explanation for the amendment :

Under the present rules, we would find it difficult to form a Management Committee of all Permaculture Design Certificate Course holders as there are not many in the area wishing to take part in the running of Permaculture Cairns.

The Management Committee intends to add a clause to our Policy document to state that at least one member of the management committee must have successfully completed a recognised Permaculture Design Certificate Course and all members of the management committee must support the objects of the Association.

SEPTEMBER LOCAL WORKSHOPS AND EVENTS

Sustainable House Day – Sunday 13TH September 2015

Great to see people planning their day by favouriting the houses they want to attend. Once you have clicked favourite on the house description page they will appear on your "favourites" page. Remember to [register to attend](#) so that you see the addresses of the homes.

Register online at - sustainablehouseday.com

Biodynamics FNQ Workshop-

Lifting Horn Manure 500 Workshop

Sunday 13th September

Adam and John Collins, 709 Kaban Road Kaban.

BAMBOO WORKSHOPS

RAVENSHOE

THE CRAFT SAT & SUN SEPT 12TH & 13TH

THE CRAFT: Working with bamboo



This 2 day workshop covers the basic skills required to make bamboo joints, to split and weave bamboo. Both high and low technology tools and techniques will be used.

Day 1: learn bamboo pole selection and anatomy, bamboo tools and their uses, the basic joints, lashings and how to split bamboo for weaving or slats.

Day 2: participate in a number of projects, practicing the essential skills while creating a range of craft items.

Where: Bamboo Solutions, 1 Ascham St., Ravenshoe, Far North Queensland

When: Saturday 12th and Sunday 13th September 9am to 5pm

Cost: \$200

Bring: Hat, good footwear, gloves, notepad, lunch to share and a smile.

Please book with : j.hartmann@ozemail.com.au 0740977645

www.bamboosolutionsfnq.com

Kanjini Co-Op Annual Gathering – Mareeba – 18-20 September

The 2015 Kanjini Co-Op Annual Gathering will be from Friday 18th to Sunday 20th September 2015. Please mark it in your calendars so you can come along and meet us and share in our dream for three days and two nights or you can come for part of the weekend or even just a few hours if your life is too busy for a short holiday! The intent of the gathering is to invite everyone in the wider community, who would support our vision for this land in any way, to come and experience this amazing property first-hand and share a weekend with old and new friends.

We'd love you to come and camp on the property; meet the members; explore the property by bush-walking and/or guided tours; participate in workshops or put your own on the white board; swim in the 20 acre lake or jump into the refreshing Emerald Creek; check out some of the new camp grounds; share your ideas and thus help shape the common dream; ask us any questions; sit around the fire and look at the moon and the stars; listen to or make live music; celebrate and meditate; and have a great time with wonderful people on our magic piece of paradise.

If you have a minute, please reply to this email with your input on:

-Is there anything you would like to see at the gathering this year.

-Was there things you would change from last year's gathering.

-If you are a teacher or musician or have something you would be willing to contribute (for example a small presentation or workshop), we would love to create space for these kinds of events too, so let us know what you might like to do so we can help get what you need.

-would you like to help with set up, planning, getting the word out or any kind of volunteer work you can think of.

We are growing this gathering and hope to make new improvements and more activities each year and we need your help to do so.

Please mark Friday the 18th to Sunday the 20th of September 2015 on your calendars and RSVP us your attendance as soon as possible so we can get an idea of numbers and can plan for sufficient facilities.

We will send more details about what will be happening and what you'll need to bring and directions etc closer to the event.

Bungalow Community Garden - General Meeting

Date: Sunday 13th September 2015

Time: 10.00am

Venue: The Bungalow Gardens on Spence St

Earth Bag Water Tank DIY 3000L Workshop – KOAH

Friday 25th – Monday 28th September

4-day course to learn the theory and gain practical experience to build a water tank using the Earthbag natural building technique. Water is essential to life and storing it for self-sufficiency is important. Tanks are often expensive and require transport to deliver it, so this is an exciting opportunity to gain the skills to confidently build a water tank on your property Do It Yourself (D.I.Y), whatever size you need and with a minimal cost. As minimal as \$300 for a 3000L tank!

Limited spaces available for 50% Bartles! EVENT HOST: Blake and Toddi – 042206899

L.E.T.S. September Calendar

TABLELAND LETS - Relocalising all of Far North Queensland

LETS is a Community Trading System which uses "Bartles" for trading.

KOAH & KURANDA – Saturday 5th 10 – 12 noon Trade Morning Koah Community Hall, Koah Road, Koah.

Bring along morning tea to share and something to trade, a table or blanket to display your wares. Car Pooling advised for those who are keen to make the trip from the Tablelands or Kuranda. EVENT HOSTS:
Blake and Toddi - 0422068995.

CASSOWARY COAST – Sunday 6th from 9am September Picnic Celebrating Fathers Day @ Johnstone River Community Gardens. Riverbank planting activities begin at 9am with a garden harvest lunch at noon.

Everyone is welcome to come along. Car Pooling advised for those who are keen to make the trip from the Tablelands. EVENT HOST: Bernie – 0403523244.

MAREEBA - Saturday 12th 11am – 1pm, 7 Keneally Road, Mareeba. See event host on arrival before setting up, bring a plate to share for lunch and something to trade, a table or blanket to display your wares. Child friendly event. EVENT HOST: Tash – 0432984977.

MALANDA - Saturday 12th 9am – 12pm, Trade Morning in the Park, Eacham Memorial Park, opposite the post office, picnic / playground area. Bring a plate to share for morning tea. There's heaps of space to set up your tables or blankets for your goods to trade. Bring instruments if you feel like entertaining and busking for Bartles. EVENT HOST: Katrin – 40966755.

ATHERTON – Sunday 13th 7.30 - 11.30am Trade Morning, Lions Markets, Merriland Hall, Atherton. EVENT HOST: Irene - 4091 4876.

CAIRNS Tuesday 15th starts 6.30pm Permaculture Cairns welcomes LETS trade at their monthly meetings. 92 Little St, Manunda. 5 Bartles for non-members.

CAIRNS NORTH – Friday 18th 5.30 – 8pm Kewarra Beach Trade Evening. Address TBA with RSPV to host. Its happening again folks! Yippee these trade arvo's go off!! We don't have them often but when we do they are FANTASTIC! EVENT HOST: Ilona – 40578897.

RAVENSHOE – Saturday 19th 12 – 2pm Trade afternoon Youth Shed, Ravenshoe Community Centre, 3 Bolton Street. Following Community Gardens gathering - come and check it out. Child friendly event. Bring something to trade and some lunch to share. Event host: Kathy – 40977864.

JULATTEN – Saturday 19th 12 – 3pm Lazy Sunday Afternoon Trade 1141 Euluma Creek Road, Julatten Primary School. Bring a plate to share if you can for lunch or afternoon tea. All Welcome. EVENT HOST: Germaine – 40941331.

CASSOWARY COAST Sunday 20th 11am-3pm Trade & Social Gathering - Johnstone River Community Gardens. Bring a plate to share, something to cook on the BBQ if you wish, your own plate and eating utensils. Lunch will be at 12 noon. Tea/Coffee by gold coin donation. A child-friendly venue. Car pooling/collection serviced encouraged from the Tablelands and Cairns! Weather permitting - Event Host: Suari – 0403115261.

KOAH - Friday 25th – Monday 28th WORKSHOP DIY 3000L Earth Bag Water Tank 4-day course to learn the theory and gain practical experience to build a water tank using the Earthbag natural building technique. Water is essential to life and storing it for self-sufficiency is important. Tanks are often expensive and require transport to deliver it, so this is an exciting opportunity to gain the skills to confidently build a water tank on your property Do It Yourself (D.I.Y), whatever size you need and with a minimal cost. As minimal as \$300 for a 3000L tank! Limited spaces available for 50% Bartles! EVENT HOST: Blake and Toddi – 0422068995.

What to bring to Trade Events where not specified above: food & drinks for yourself or to share, or money and/or Bartles at some venues, friends, Trading Record Sheet and pen, any goods you wish to trade, table/rug to display them upon is often useful, your own chair at some venues, promotional material of any services you are offering if applicable, \$20 to join LETS if you are not yet a member.

tablelandlets@gmail.com - 4096 6972 - www.tablelandlets.org - www.communityexchange.net.au

PERMACULTURE CAIRNS OCTOBER WORKSHOP

Learn to make your own bird feeder

Saturday 24th October 2015 - 9.00am for 9.15am start 12.30pm finish

Workshop Presenter :- Peter Spooner

In this workshop you will learn: -

How to use your power tools to make a beautiful bird feeder.

BYO your own tools (or borrow Peter's tools), covered in shoes, protective safety glasses.

Materials will be provided.

Members of Permaculture Cairns \$45.00 Non-Members \$50.00

Registration and payments is essential to confirm your place.

Register at workshops@permaculturecairns.org.au

Payments may be made at Cairns Penny in Grafton Street or online to Permaculture Cairns

Account: BSB 704-966 A/C 100009440

VENUE: Mt Sheridan address to be advised once registered

NEWS & INFORMATION FROM HOME AND AROUND THE WORLD

Fruit Flies – there are all sorts – check them out

Fruit flies (Family Tephritidae) *Prepared by Jane Royer, Entomologist, QLD DAFF, Cairns.*

Fruit flies that infest sound fruit and vegetables in your garden are in family Tephritidae and look like small wasps. They are different from the much smaller 'fruit flies' or 'vinegar flies' which are in family Drosophilidae that hang around compost bins or old fruit. Tephritids are about 6mm long, whereas Drosophila flies are only about 2-3mm long.

Pest fruit flies in North Queensland

Queensland fruit fly (*Bactrocera tryoni*): Infests over 100 different fruit and vegetables so is the most likely culprit if anything in your garden is getting stung/ infested with maggots.

Control: Cue-lure traps which attract the males. Protein lure traps can also be used and attract mostly females but are less attractive (see Lures & products next page).



Queensland fruit fly

Banana fruit fly (*Bactrocera musae*): This species only really infests bananas. It can sting them when they're still green.

Control: Banana fruit fly males respond to methyl eugenol and unfortunately there are no commercially sold products containing this. As this species only infests one fruit type the best non-chemical management is to bag your fruit to exclude the flies.



Banana fruit fly (image SPC)

Cucumber fruit fly (*Bactrocera cucumis*): This species mainly infests cucurbits, but will also infest guava bean, tomato, papaw and passionfruit. It does not respond to cue-lure or methyl eugenol.

The cucumber lure trapping trial which ran in early 2013 at some households in Cairns was testing a new lure developed in Hawaii that is based on volatile odours from cucumber. It is a 'host volatile lure'. Such lures only attract from a short distance of about 20 metres, compared to the male lures which can attract flies from up to several hundred metres. This lure isn't commercially available in Australia yet and is still being trialed.

Control: Bagging fruit or using a protein fruit fly lure.



Cucumber fruit fly

Lures and products for fruit fly control

Male fruit fly lures: Most fruit fly species respond to one of two male lures: cue- lure or methyl eugenol. A fruit fly species will only respond to one or the other, not both. Some species won't respond to either of these lures. Although it's the female that 'stings' the fruit (lays her eggs in the fruit with her ovipositor) and causes the damage, by trapping the males the females find it harder to find a male to mate with. If they can't mate they can't lay eggs into the fruit. Therefore trapping the males will reduce the damage in your fruit.

Cue lure.

Products containing this lure that can be purchased at garden shops and hardware stores and include Dakpots or Wild May Fruit Fly Trap Attractant or Eco Naturalure Fruit Fly Trap (note this is different from the Eco Naturalure Fruit Fly Bait Concentrate). These products won't actually say they contain cue-lure but will mention the chemical name which should look something like: **4-(p-acetoxyphenyl)-2-butanone** (chemical names can be written in several different ways to describe the sample chemical so it may not be exactly this). Basically if it contains a chemical name and says it attracts Queensland fruit fly then it should be cue-lure.

There are a few other pest species that infest dozens of different fruit and vegetables that also respond to cue-lure (lesser Queensland fruit fly, mango fruit fly), so using a product with cue-lure in your garden is a good start for fruit fly control.

Methyl eugenol

The only pest species in Australia that this male lure attracts is the banana fruit fly. It can't be purchased commercially. However as banana fruit fly is only a problem for bananas, bagging fruit can be used to prevent flies stinging the fruit.

This lure also attracts the 'Asian papaya fruit fly' that invaded north Queensland in the late 1990s and was eradicated. The Queensland & Federal Departments of Agriculture Fisheries and Forestry (QDAFF was formerly DPI) still monitor for it throughout Queensland to make sure it hasn't invaded again.

Protein lures

Protein lures mostly attract females and are attractive to any species of fruit fly so are a good option for fruit flies that don't respond to cue-lure or methyl eugenol. Immature females need to feed on protein to be able to develop their eggs, so are attracted to things that contain protein or ammonia (which proteins such as bacteria give off). By killing the females you are directly controlling the damaging sex.

Products available include Eco Naturalure Fruit Fly Bait Concentrate, or you can make your own trap by using a plastic drink bottle with a hole cut in the side with a solution of vegemite & water or beer.

More information can be found at: http://www.daff.qld.gov.au/26_17800.htm
http://www.daff.qld.gov.au/26_17828.htm

Reporting on the

2015 National LETS Conference

The 2015 National LETS Conference was held at Quinola Lakes, Malanda, over the weekend of May 15th to 17th. This year's theme was Local Abundance – LETS Share, with members showcasing LETS and its role in relocalisation.

Seventy-two people came and enjoyed the whole weekend, with more than 120 attending the social event on Saturday. LETS members enjoyed trading, networking, music, dance and sharing great food with new friends. Visitors came from as far away as South Africa and New Zealand, as well as all states of Australia. Most extended their holiday and stayed at least a week in the area.

Feature entertainment on Saturday night was the fabulous Charlie McGee of Formidable Vegetable Sound System. Charlie came to the area early from Western Australia to perform at the LETS Conference during a tour of the Far North. Charlie's appearance was sponsored by Permaculture Cairns, RegenAG, that retro cafe, Gallery Coffee Shop and Love Lee Cooking.

One of the highlights of the 2015 conference was the presence of Tim Jenkin, creator of the Community Exchange software and international community currency advocate. Tim was able to attend an Australian conference for the first time as part of a month-long speaking tour. Tim is also a monetary activist from South Africa, with some amazing stories of the situations which drive his desire for change.

Speakers included Annette Loudon, Karel Boele, Tania Brookes, Robin Krabbe, Catie-Lou Manson, Alison Bird, Christine Doan and Bel Moore. Throughout the weekend, everyone enjoyed music by Charlie McGee, Gary Moore, Katie Wilson and Charmaine Silk, superb local food, workshops, social sessions, forums, yoga, walks, swimming, and LETS trading.



LETS Admin Report

*How amazing it is to see our system grow from strength to strength! We got a glimpse of the potential of our system at the 2015 National LETS Conference when we discussed the possibilities with our guests from afar. **Tim Jenkin encouraged us to imagine "a BIG LETS" – he has always seen the potential for Community Exchange in enabling communities to thrive. It has also been interesting to see various exchange systems emerge from the crisis in Greece – the true test of a system is the use of it in extreme circumstances.***

I am really inspired and have some great plans on changes and improvements I can make with our amazing team of admin and area contacts. It is so easy for us to do great things, compared to most other groups, because we have a really strong team of enthusiastic helpers who love LETS!

We have grown from 12 trades in November 2008 to 648 trades in July 2015... and a total of over 676,000 Bartles traded in that time! An average trade for our group is about 30B. But only about 60% of registered traders have ever sold anything for Bartles...

Do you hold a LETS account, but you haven't traded, or haven't traded much? Have you logged in and checked out the Offerings lately? You can look at them by category – eg: Food & Drink, Garden, Labour, etc. Have you got any Wants on the system? Is there something in your everyday budget, or a luxury item/service you'd like to spend Bartles on? Join us! It's easy and fun to participate in LETS, and every transaction helps to grow a strong, connected community. If you need help with your LETS account, never hesitate to contact us.

I hope to see you at an event soon!

Bel

*Banter's is printed FREE OF CHARGE at Shane Knuth's Office
Silo Shopping Centre Atherton*

This newsletter is compiled and edited by Starr West and Bel Moore, with contributions from LETS members.

Submissions to: tablelandlets@gmail.com Newsletter submissions are always welcome

Tell your friends about LETS

LETS Website:

www.tablelandlets.org Keep up to date with LETS events and discover the doorway to the CES site.

CES is where members list their offers and wants and record transactions.

Check it out!

www.communityexchange.net.au/

Facebook

<https://www.facebook.com/groups/tablelandlets/>

To read the full LETS community news and updates in the “Bartles Banter” Winter editions go to:

http://www.tablelandlets.org/wp-content/uploads/2014/05/Newsletter_2015_winter_online.pdf

Snippets of news releases from our Government

TITLE: Infinity cables could cause house fires next year if not made safe | ACCC

PORTFOLIO: Treasury

URL: <http://www.accc.gov.au/media-release/infinity-cables-could-cause-house-fires-next-year-if-not-made-safe>

SNIPPET: Time is running out for thousands of Australian homes and businesses to find out if they have faulty electrical cabling before it poses a serious danger, the Australian Competition and Consumer Commission has warned. The ACCC is extremely concerned that over 70 per cent of the cable supplied has not been accounted for under the recall, ACCC Deputy Chair Delia Rickard said. The ACCC is urging electricians, builders, and contractors to notify their customers and cable suppliers if they installed Infinity cables between 2010 and 2013, Ms Rickard said.

TITLE: Testing a model for residential solar and battery storage | Australian Renewable Energy Agency

PORTFOLIO: Industry

URL: <http://arena.gov.au/media/testing-a-model-for-residential-solar-and-battery-storage/>

SNIPPET: The Australian Renewable Energy Agency (ARENA) today announced \$400,000 support for Ergon Energy Queensland (Ergon Energy Retail) to explore a new approach for providing solar PV and battery storage systems to residential customers. Ergon will undertake a 12-month pilot demonstration using 33 systems consisting of a 4.9kW SunPower PV array and a 12kWh/5kW Sunverge battery storage and control system. Ergon Energy Retail will also explore how its solar PV and battery storage systems can achieve the greatest value on the grid, with a view to proceeding to a commercialisation phase and product launch.

TITLE: Changes proposed to mandatory allergen labelling requirements

PORTFOLIO: Health

URL: <http://www.foodstandards.gov.au/media/pages/changes-proposed-to-mandatory-allergen-labelling-requirements.aspx>

SNIPPET: Applications to change the Code. Food safety standards information. Food safety and recalls.

TITLE: Calling for local people and local projects for Green Army Round Four - media release 12 August 2015

PORTFOLIO: Environment

URL: <http://www.environment.gov.au/minister/hunt/2015/mr20150812a.html>

SNIPPET: Minister for the Environment. The Australian Government is calling for more local people to join the Green Army to work on local projects that will make a real difference to our environment. We want local people to join the Green Army to work on local projects in our community, and we want local groups to come forward with ideas for projects.

From CSIRO

Seabirds are eating plastic litter in our oceans – but not only where you'd expect

Posted: September 1, 2015 | Author: [Nicholas Kachel](#) | Filed under: [Environment](#), [Oceans](#) | Tags: [Marine Debris](#), [plastic](#), [seabirds](#) | [Leave a comment](#)



[Chris Wilcox](#), [CSIRO](#); [Britta Denise Hardesty](#), [CSIRO](#), and [Erik van Seville](#), [Imperial College London](#)

Many of you may have already seen the photograph above, of an albatross carcass full of undigested plastic junk. But how representative is that of the wider issue facing seabirds?

To help answer that question, we carried out the first worldwide analysis of the threat posed by plastic pollution to seabird species.

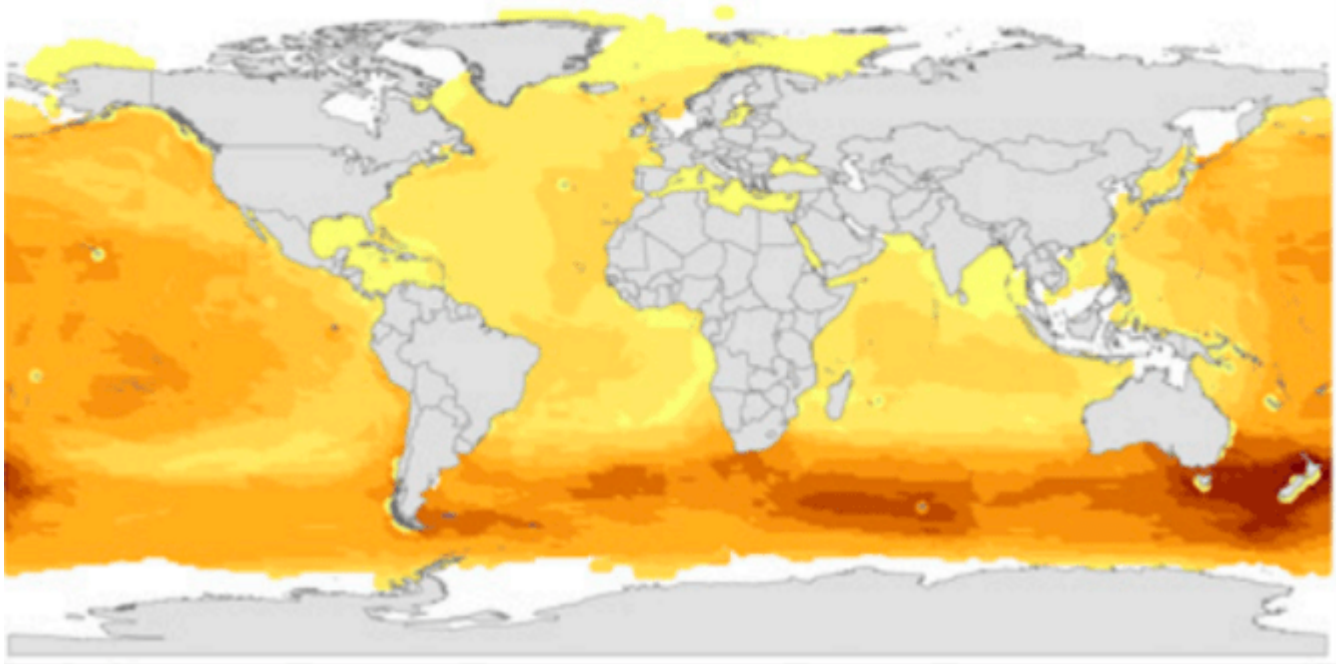
Our study, [published today in Proceedings of the National Academy of Sciences](#), found that nearly 60% of all seabird species studied so far have had plastic in their gut. This figure is based on reviewing previous reports in the scientific literature, but if we use a statistical model to infer what would be found at the current time and include unstudied species, we expect that more than 90% of seabirds have eaten plastic rubbish.

Rising tide of plastic

Our analysis of published studies shows that the amount of plastic in seabird's stomachs has been climbing over the past half-century. In 1960, plastic was found in the stomachs of less than 5% of seabirds, but by 2010 this had risen to 80%. We predict that by 2050, 99% of the world's seabird species will be accidentally eating plastic, unless we take action to clean up the oceans.

Perhaps surprisingly, we also found that the area with the worst expected impact is at the boundary of the Southern Ocean and the Tasman Sea, between Australia and New Zealand. While this region is far away from the subtropical gyres, dubbed "ocean garbage patches", that collect the highest densities of plastic, the highest threat is in areas where plastic rubbish overlaps with large numbers of different seabird species - such as the Southern Ocean off Australia.

Species Impacted



Expected number of seabird species ingesting plastic. PNAS

Seabirds are excellent indicators of ecosystem health. The high estimates of plastic in seabirds we found were not so surprising, considering that members of our research team have previously found nearly 200 pieces of plastic in a single seabird. These items include a wide range of things most of us would recognise: bags, bottle caps, bits of balloons, cigarette lighters, even toothbrushes and plastic toys.

Seabirds can have surprising amounts of plastic in their gut. Working on islands off Australia, we have found birds with plastics making up 8% of their body weight. Imagine a person weighing 62 kg having almost 5 kg of plastic in their digestive tract. And then think about how large that lump would be, given that many types of plastic are designed to be as lightweight as possible.

The more plastic a seabird encounters, the more it tends to eat, which means that one of the best predictors of the amount of plastic in a seabird's gut is the concentration of ocean plastic in the region where it lives. This finding points the way to a solution: reducing the amount of plastic that goes into the ocean would directly reduce the amount that seabirds (and other wildlife) accidentally eat.

That might sound obvious, but as we can see from the stomach contents of the birds, many of the items are things people use every day, so the link to human rubbish is clear.



Plastic from a dead flesh-footed shearwater, amounting to 8% of the bird's body weight. Britta Denise Hardesty, Author provided

Our study suggests that improving waste management would directly benefit wildlife. There are several actions we could take, such as reducing packaging, banning single-use plastic items or charging an extra fee to use them, and introducing deposits for recyclable items like drink containers.

Many of these types of policies are already proving to be locally effective in reducing waste lost into the environment, a substantial portion of which ends up polluting the ocean.

One [recent study](#) of industrial practices in Europe found that improved management of plastic led to a clear reduction in the number of plastic items found in seabirds in the North Sea within a few decades. This is encouraging, as it suggests not only that the solutions are effective, but also that they work in a relatively short time.

Given that most of these items were in someone's hands at some point, it seems that a simple behaviour change can reduce a global impact to our seabirds, and to other marine species as well.

This work was carried out as part of a national marine debris project supported by CSIRO and Shell's Social investment program, as well as the marine debris working group at the [US National Center for Ecological Analysis and Synthesis](#), University of California, Santa Barbara, with support from [Ocean Conservancy](#).

Chris Wilcox is Senior Research Scientist at CSIRO: Britta Denise Hardesty is Senior Research Scientist, Oceans and Atmosphere Flagship at CSIRO and Erik van Sebille is Lecturer in oceanography and climate change at Imperial College London.

This article was originally published on The Conversation.

Food borne illness in Australia falling except salmonella which is increasing

ABC Rural

By [Sarina Locke](#)

Updated Thu at 9:05am Thu 13 Aug 2015, 9:05am

Despite more than four million Australians getting sick from contaminated food each year, the overall national rate of food poisoning is falling. Except, that is, when it comes to salmonella.

A glance at [Victoria's Department of Health figures](#) for example, shows a 50 per cent increase in salmonella in poisoning since 2012.

[Queensland](#) has seen a doubling of salmonella poisoning cases in the past 12 months.

Salmonella can be found in soil and water, and multiplies rapidly if food is not handled properly, including washing and refrigeration. It is one of the reasons the independent [Fresh Produce Safety Centre Australia New Zealand](#) has released new guidelines for everyone involved in food to try to lift standards.

The case of Hepatitis A in [frozen berries imported by Patties Foods](#) focussed attention on food safety and experts agree it was preventable.

"It made 30 people ill. It could have had significantly greater impact if it wasn't nipped in the bud as it was," said Richard Bennett, technology manager for the Fresh Produce Safety Centre and the Fresh Produce Marketing Australia New Zealand.

"Salmonella certainly, according to Department of Health, is one of the few areas of food-borne illness that's increasing. "Overall, despite more coverage, food borne illness is declining, from 4.3 million cases a year in 2000 to 4.1 million cases in 2010.

"Our supply chains have become more complex, our meal solutions have become a lot more complex. It's not just chops and three veg as it used to be. "Shelf life is stretched to the limit.

"It's across all food items, and Australian consumers can expect to fall ill from food contamination every four or five years on average due to contaminated food."

On its first anniversary, the Australian Fresh Produce Safety Centre Australia, New Zealand in Sydney has launched new guidelines to make growing and handling food safer. "Our aim was to reinvigorate the safety, to give it greater focus, make information available to industry.

"It is a combination of the best knowledge, experience and research pulled together in one document, applies through the supply chain, from farm to retail, and trans-Tasman, with Australian and New Zealand expertise.

"Industry put this as their Number One priority for what we actually needed."

Mr Bennett said food safety had nothing to do with Country of Origin labelling. "The food standards code applies equally to domestically produced food as imported food," he said.

"They are the same set of standards, no matter where it's from.

Microbes not chemicals causing problems

"The public perception of the main risk is pesticide or chemical contamination, but the main threat is microbial contamination," said Joseph Ekman, technical director of the private fruit company, grower and distributor Fresh Produce Group.

Mr Ekman helped develop the food safety guidelines. "We're seeing an increased compliance on chemical use, and growers are more diligent," he said.

"The main threat is microbial contamination because it can grow and multiply through the supply chain."

Mr Ekman said the guidelines did not add red tape for food producers. "If there's a food safety issue, it doesn't just affect all growers, not just one retailer or grower. Consumers get the message that that product is risky," he said.

It is thought that consumption of frozen berries in Australia is now 30 per cent of where it was when Hep A struck earlier this year.

"While salmonella bacteria are most commonly associated with livestock and chickens, they have also been responsible for food safety outbreaks associated with fresh produce," says the new Food Safety Guideline.

"Large numbers are shed in the faeces of infected humans and other animals both before and after symptoms of disease.

"In most cases, gastroenteritis symptoms are relatively mild, including cramps, nausea and diarrhoea, although severe disease and even septicaemia can occur in susceptible individuals."

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Soil as Medicine

13 August 2015

During my diverse travels and research I am constantly seeking new tools to improve the lives and productivity of food producers. There is compelling research to suggest that soil is more than just the fragile layer that produces our food. It is also good for us in other ways.

Soil Life Boosts Your Life

I have always felt at peace with the world when surrounded by the sweet smell of healthy soil, with the sun on my shoulder and the sweat on my brow. I figured that my meditative gardening vibe related to communing with nature, but who would have thought that it could have a microbial link? It now seems that growers have yet another motivation to restore their soil life with Nutrition Farming® strategies. Healthy, living soils contain thousands of different species of bacteria and several of these are important for our own health and happiness. Look after your soil and it will look after you, in many unexpected ways.

London oncologist **Dr Mary Marsden** experimented with inoculating cancer patients with a beneficial bacterium found in healthy soils, called *Mycobacterium vaccae*. She soon realised that the treated lung cancer patients suffered less symptoms, but they also had more energy, they felt happier and their cognitive function improved.

Dr Chris Lowry from Bristol University in the UK decided to further explore this remarkable new finding. He hypothesised that the "feel good" hormone, **serotonin**, might be produced as a by-product of our immune response to this particular bacteria. In studies involving injected mice, he found increased cytokine levels (a precursor to serotonin) in the treated animals. He also found a marked stress reduction in those that had been injected.

Then, two US researchers, **Dorothy Matthews** and **Susan Jenks**, decided to directly feed the bacteria to the mice in their study, rather than injecting it. They subjected the treated mice and the untreated control group to a challenge involving difficult mazes. They found that the mice who had consumed *Mycobacterium vaccae* "navigated the maze twice as fast and exhibited half of the anxiety behaviours". Serotonin is thought to play a role in learning and concentration, along with its many other benefits.

Serotonin, or the lack of it, is very often the root cause of anxiety and **depression**. Antidepressant drugs are generally based upon boosting serotonin. There are other ways that we can help ensure adequate serotonin production. For example, it is important to sleep in **complete darkness** because that is a primary requirement for your pineal gland to manufacture serotonin and melatonin. I carry masking tape in

my suitcase to silence the LED lights in the many hotel rooms I visit during my seminar tours. I need sleep to maintain my hectic schedule and, if melatonin production is slowed, it is a recipe for insomnia.

Tryptophan is the amino acid 'building block' for serotonin. Supplementation with this natural substance has outperformed antidepressant drugs in several published studies.

This new research suggests that farming or gardening in living, healthy soils may boost our wellbeing – particularly if we consume a little of that healthy soil from time to time. There are other beneficial organisms in soil that can effectively make healthy topsoil a **probiotic-like** input. It has served this purpose for centuries prior to our obsession with "germs". Root vegetables were once coated in a little of the soil that produced that crop. Now we scrub and wash them sparkling clean; although it is probably a good practice, considering the nematicides, pesticides and herbicides that are now used in industrial agriculture.

Bacillus subtilis is a wonderful example of the possible probiotic effect of soil. This creature protects from mould diseases on plants and helps to solubilise phosphorus in the soil, but it is also a powerful immune elicitor. Anything that boosts plant immunity also boosts yield.

Interestingly, **Bacillus subtilis** is also an important component of our personal protective biology. This organism is remarkably tough. It can survive the bile salts and hydrochloric acid and successfully colonise the digestive tract. Studies have shown that it can help counter Irritable Bowel Syndrome (IBS). It can also help neutralise a variety of unwanted pathogens, while supporting and enhancing the growth of protective Lactobacillus.

In Conclusion

The message is clear. Let your children play in chemical-free soil and eat organic, fresh vegetables. The words "humus" and "human" mean the same thing – "of and for the earth". We are increasingly recognising the wisdom in this ancient definition.

Written by [Graeme Sait](http://www.nutri-tech.com.au) Nutri-Tech Australia <http://www.nutri-tech.com.au>

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Some farmers say carbon emissions reduction target does not go far enough

[ABC Rural](#)

By [Catherine McAloon](#)

Farmers who urged the Federal Government to act strongly to cut carbon emissions are disappointed by a target they say will do little to stem rising temperatures.

The government has announced an [emissions reduction target of 26 to 28 per cent](#) by 2030.

It falls well short of a 40 per cent cut by 2025 nominated by a group of [farmers who wrote to the Liberal Party](#) ahead of its national conference earlier this year.

Farmer Sid Plant, from Queensland's Darling Downs, was among those who signed the letter and said he was frustrated and disappointed.

"Their targets, I think, are just nowhere near the mark and as a farmer we're feeling the effects of climate change as hard and as early as anybody in the world," Mr Plant said.

"We are already dealing with the world's highest rainfall variability."

He said farmers in his region had experienced a rainfall decline of about 50 millimetres per decade since the 1950s, which he believed was attributable to climate change.

Cost of climate change

Marian Macdonald, a dairy farmer from Victoria's Gippsland region, who was also among the group of farmers who had urged strong action on reducing carbon emissions, said the Federal Government's target of 26 per cent would not be enough to stop temperatures rising.

"What we are asking for is for the government to take action which would avoid us hitting greater than two degrees of global warming ... and Australia promised that we would do our bit to keep warming below two degrees when we signed the Kyoto agreement," she said.

"From what I understand, 26 per cent (reduction of carbon emissions) is about a third of a way to keeping our promise to the world."

Ms Macdonald said if temperatures kept rising her dairy business risked becoming unprofitable.

"Scientific modelling suggests that we are already losing a tonne of dry matter per hectare. That basically means we need to buy in a heap more grain and hay here, which wipes as much as \$60,000 off the bottom line of an average dairy farm like mine," she said.

"We simply can't afford to do that."

Noel Campbell, president of industry group Australian Dairy Farmers, acknowledged that climate change caused problems for dairy farms, but he cautioned against adopting large cuts to carbon emissions targets.

"If our competitors aren't committing to the same thing (reduction target), we've got a competitive disadvantage," he said.

With the dairy industry using large amounts of power, both in milking sheds and processing plants, Mr Campbell said he was worried that Australian farms would be adversely affected if emissions cuts led to higher electricity prices.

"Our (milk) price is driven on the world price. We are a first world country with first world costs, and we've got to somehow remain competitive with our other competitors around the world, because otherwise we haven't got an industry," he said.

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Look what is happening in the USA – the awful truth about coal mining

The King is dead

On August 5th, West Virginia Attorney General Patrick Morrisey banded together with 15 other state attorneys general to [demand](#) that the Environmental Protection Agency (EPA) suspend the implementation of new rules devised by the Obama administration to slow the pace of climate change. The regulations, [announced](#) just two days earlier, sought to reduce power plant emissions of carbon dioxide -- a major cause of global warming -- by 32% from 2005 levels by 2030. Because the rules are likely to fall most heavily on coal-fired power plants, which emit more carbon than other forms of electricity generation, states that produce and burn coal (mostly led by Republicans) are adamantly opposed to them. Because West Virginia is especially dependent on coal production, it has been [selected](#) by Republican leaders and industry lobbyists to lead the charge against the new rules.

"These regulations, if allowed to proceed, will do serious harm to West Virginia and the U.S. economy," Morrisey [said](#). "That is why we are taking quick action to bring this process to a halt."

Although pleading the case for West Virginia, which has suffered a sharp rise in unemployment due to the closing of many of its coal mines, Morrissey is clearly acting as the mouthpiece for a larger alliance of coal producers, power utilities, and Republican strategists who seek to sabotage any progress on climate change. As the *New York Times* revealed recently, this alliance (don't call it a conspiracy!) originated at a meeting of some 30 corporate lawyers, coal lobbyists, and Republican strategists at the headquarters of the U.S. Chamber of Commerce in Washington last year.

"By the time Mr. Obama announced the regulations at the White House on [Aug. 3rd]," the *Times* [reported](#), "the small group that had begun its work at the Chamber of Commerce had expanded into a vast network of lawyers and lobbyists ranging from state capitols to Capitol Hill, aided by Republican governors and congressional leaders. And their plan was to challenge Mr. Obama at every opportunity and take the fight against what, if enacted, would be one of his signature accomplishments to the Supreme Court."

This process gained further momentum on August 13th, when Morrissey and 14 other state attorneys general [petitioned](#) a federal court in Washington to block action on the EPA rules, in the first of several expected legal challenges to the Obama administration measure.

As Laura Gottesdiener demonstrates so graphically in today's post, many West Virginians are indeed suffering from the decline of the coal industry. But if they allow themselves to be used as pawns in a struggle by King Coal, corporate lobbyists, and Republican hard-liners to fight progress on climate change, they are doing themselves (and the rest of us) an enormous disservice. Nothing can save the coal industry in the face of [market forces](#) -- especially the boom in natural gas extracted from shale deposits via fracking -- and the relentless advance of climate change. If Morrissey and his cohorts had West Virginia's true interests at heart, they would be petitioning for federal funds to turn the state into an innovation center for clean energy -- the only sure path to economic growth in a climate-ravaged world. In the meantime, let [TomDispatch regular](#) Gottesdiener take you on a tour of what's left of King Coal's once mighty domain. *Michael Klare*

Coal Dethroned

In Appalachia, the Coal Industry Is in Collapse, But the Mountains Aren't Coming Back

In Appalachia, explosions have leveled the mountain tops into perfect race tracks for Ryan Hensley's all-terrain vehicle (ATV). At least, that's how the 14-year-old sees the barren expanses of dirt that stretch for miles atop the hills surrounding his home in the former coal town of Whitesville, West Virginia.

"They're going to blast that one next," he says, pointing to a peak in the distance. He's referring to a process known as "mountain-top removal," in which coal companies use explosives to blast away hundreds of feet of rock in order to unearth underground seams of coal.

"And then it'll be just blank space," he adds. "Like the Taylor Swift song."

Skinny and shirtless, Hensley looks no more than 11 or 12. His ribs and collarbones protrude from his taut skin. Dipping tobacco is tucked into his right cheek. He has a head of cropped blond curls that jog some memory of mine, but I can't quite figure out what it is. He's pointing at a peak named Coal River Mountain. These days, though, it's known to activists here as "the Last Mountain," as it's the only ridgeline in this area that's still largely intact.

p>We continue picking our way along a path on topless Kayford "Mountain," a few miles from Hensley's hometown (population 514, according to the 2010 census), as he resumes chronicling his adventures on ATVs. Nearby is the Seng Creek mine, still semi-active and one of Hensley's favorite racing spots. Active mines are always the best race tracks, he assures me, since you get the added thrill of outrunning security guards and watching explosions, which sound, he tells me, like hundreds of dump trucks emptying their loads all at once.

As we walk, we're careful to step over crevices known as "mine cracks" -- deep narrow drops into the earth most often formed by the caving in of old underground mines. Hensley stops to peer into one crack filled with broken Bud Lite bottles and I joke that it leads straight through to China.

But Hensley knows better. At his young age, he's already an expert on everything about mountain-top removal: how companies blast the peaks with [ammonium nitrate and fuel oil](#) -- the same chemical combination that Timothy McVeigh used to detonate the Alfred P. Murrah Federal Building in Oklahoma City in 1995. He knows that the [process fills](#) the air with toxic coal dust, benzene, and carbon monoxide, while contaminating nearby streams with arsenic.

However, Hensley doesn't know and can hardly imagine what this region -- his home -- was like before the peaks were removed. "I wasn't alive when those mountains were there," he observes a few hours later. And even though the industry in West Virginia is in the grips of an unprecedented collapse that threatens to dethrone King Coal once and for all, this 14-year-old and all the other children growing up in the shadow of these "blank spaces" will never see the decapitated peaks return to thickly forested mountain tops.

The King Is Dead

In the first half of this year, [at least six](#) domestic coal companies filed for bankruptcy. In February, West Virginia's Covington Coal fell, followed by Xinerdy and Grass Creek Coal in April, Patriot and Birmingham Coal & Coke in May, and A&M Coal in June. In August came the biggest announcement of all: the \$10-billion coal giant Alpha Natural Resources had [entered](#) the bankruptcy sweepstakes, too.

Only four years earlier, Alpha had secured its position as one of the [world's largest](#) coal outfits by purchasing the Appalachian company Massey Energy for \$7 billion and expanding its operations to 60 mines, many in Appalachia. But its reign would prove short-lived. The price of coal has been plummeting as utility companies shift to significantly cheaper shale gas, extracted through the drilling process known as hydraulic fracturing, or fracking, to produce power. This April, for the first time since the U.S. Energy Information Administration began collecting data in 1973, gas [surpassed](#) coal as the nation's number one producer of energy.

By late July, the New York Stock Exchange announced that it had [suspended](#) trading of Alpha Natural Resources' stock because it was worth next to nothing.

In August, the inevitable occurred. Alpha submitted a bankruptcy filing which [read](#) in part: "The unprecedented changes facing the coal industry run deep and are occurring at a frenetic and unpredictable pace...The U.S. coal industry as currently structured is unsustainable."

By now, the funeral was underway and the first obituaries were appearing. Headlines in various papers not only announced Alpha's demise, but offered autopsies for the entire industry. As the *New York Times* put it in its [headline](#) three days after the filing: "King Coal, Long Besieged, Is Deposed by the Market."

Causes of death: the explosion of cheap natural gas, the rising costs of new environmental and worker safety regulations, and a simple geological reality -- the industry has already mined out the majority of all economically recoverable coal.

This energy version of regime change had been long in the making. The coalfields are filled with now-abandoned company towns, where the industry once employed hundreds of thousands of men to work in underground mines. The extraction process generated massive wealth, at least for the mine owners. In the late 1880s, Bramwell, West Virginia, was reputedly home to the [highest concentration](#) of millionaires per capita of any town in the United States. Today, its high school still boasts of that legacy through its teams' [nickname](#): the Bramwell Millionaires.

In the second half of the twentieth century, many of those towns all but evaporated as the industry turned to strip mining, a mechanized process that uses heavy machinery rather than muscle power to carve away rock and expose seams of coal running along hillsides. The town of Kayford, which sits at the base of its namesake mountain, is one such example. Once a company town for men employed in the mines, its main road is now lined only with poplars, sycamores, and basswood, a few poured-concrete foundations, and a crumbling single-story brick wall. The town's last building is said to have burned down toward the end of the 1970s.

The former town is still, however, home to an active strip mine called Alpha's Republic #1, which employs few people but has managed to extract a considerable amount of coal. In 2012, organizers with the climate justice group Mountain Justice formed a human blockade to shut down work traffic going in and out of the site. It was just one of dozens and dozens of blockades, "tree-sits," and other direct actions Mountain Justice has executed as part of a decade-long campaign, which has won regulatory improvements to reduce water contamination, shielded schools in the coalfields from the worst health impacts of mining, moderated flooding caused by that mining, and demanded the industry do more to replant trees and grasses on old mine sites. That campaign also helped inspire almost all the major environmental activism in the nation today -- from the [university divestment movement](#) to [tree sits in Texas](#) to block the Keystone XL pipeline to the [arrest this month](#) of people seeking to halt the construction of the first commercial tar sands mine in this country.

In many ways, however, Mountain Justice's protests were among the least extreme in the state's long history of organizing. Drive farther up the mountain and you'll find [concrete bunkers](#) built by hired guns from the Baldwin-Felts Detective Agency sent in to quell a powerful miner's strike in 1912-1913. Less than 10 years later, as many as [10,000 armed miners](#) from West Virginia would launch the largest labor uprising in the nation's history.

The Mountains at the Center of the World

Even higher up the mountain, past the bunkers, lies Stanley Heirs Park, a 50-acre swath of land surrounded by the final stage of coal extraction: mountain-top removal.

In the 1970s, as more and more of the readily available coal was extracted from West Virginia's underground mines and ridge lines, companies decided to take strip mining to its logical conclusion: they would simply blast away the entire tops of mountains to get at the remaining coal. The results are visible in the flattened, barren mines that surround the park, including the Seng Creek mine where Ryan Hensley likes to ride his ATV.

Hensley and dozens of others converged here for an annual Fourth of July celebration, an event hosted by the family of the late Larry Gibson, a prominent organizer against mountain-top removal. His family has lived here on Kayford Mountain since the late 1700s and this section alone has remained unblasted because Gibson turned the family plot into a land trust in order to fend off the industry.

Before his death in 2012, Gibson was much hated in the area for taking on the coal companies, so his friends and neighbors tell me as we share fried chicken and Budweiser. His house was riddled with bullets. His dogs were poisoned or shot. But he succeeded in protecting at least his small plot of land from the explosives. Now, as his family points out, the land that used to lie in the shadow of surrounding taller peaks has become, after 30 years of mountain-top removal, the highest site in the area.

Few know more about the impact of the mining industry than Elise Keaton, a 30-something native West Virginian with the enthusiastic, commanding voice of a camp counselor. Years ago, she did what many of the state's residents do if they can: she left. She earned a law degree in Texas and later helped with disaster relief in post-Katrina New Orleans.

"But being from West Virginia is like having a fishhook in your heart," she tells me. So she returned and, following Gibson's death, took over the role of educating newcomers about Kayford. Standing at the edge of the Seng Creek mine, owned by the now bankrupt coal company Patriot, Keaton explains that the surrounding mountain peaks have been reduced by at least 400 feet, if not more. The removed earth -- known in industry parlance as the "overburden" -- was dumped into the nearby valleys, where it covered streams, reducing the region's fresh water supply.

Before coal companies came along, Appalachia had been "burdened" by these mountains for more than 400 million years. They were [formed](#) by the same collision of tectonic plates that produced the single supercontinent Pangea. The Appalachian mountain range then lay at the heart of the world's only unified landmass.

Today, the unblasted sections of West Virginia's mountains are blanketed by a temperate forest so diverse that researchers are [still discovering](#) new species, including a reddish-orange crayfish that was plucked out of the water in 2013 and dubbed *Cambarus hatfieldi* -- a Latin play on the name of the famed West Virginia family, the Hatfields, who feuded with their neighbors across the river in Kentucky, the McCoys.

Keaton recently invited a forest expert to visit Kayford Mountain and survey the decommissioned mines. The coal companies have made only the most meager efforts to reclaim this devastated land by planting quick-growth pine trees, black locust, grass seed, and other plants that can live with high levels of acids in the soil. Keaton wanted to know how long it would take for these stands of identical pines to be transformed into a diverse rainforest, so she took the expert to one of the ridges and asked him when the real forest would grow back.

"And he said," Elise recalled, "'About 100 million years.'"

Before his death, Gibson dubbed the entrance to the Seng Creek mine "Hell's Gate," since for many years this site looked out across a vast expanse of gray broken only by the movements of massive machines and those explosions, which occurred every day of the year. A writer for *Smithsonian Magazine* who visited Kayford in 2009, while this mine was still being blasted frequently, [wrote](#) that "entering a mountaintop site is like crossing into a war zone."

Now, few are the explosions at Seng Creek, but the nothingness remains.

There's almost no sound down in the mine itself except for the muffled rush of the wind unshielded by trees. Heaps of sandstone and fragmented shale rock stretch for what looks like miles. Much of the surface dirt has been packed down into undulating wide roads by the giant wheels of coal trucks. Most of the birds long ago left this desolate spot, although you can hear the occasional singing of meadowlarks from nearby reclamation sites. ("We've never had meadow larks here before," Keaton later tells me, as she stands on a nearby ridge overlooking a decommissioned mine seeded with grass. "But this is more like a meadow now.")

I walk to the far edge of the mine, sit down, and peer into some of the cylindrical holes, about 11 inches in diameter, that workers once drilled into the shale rock as places to pack full of ammonium nitrate. I recall what one of the festival's musicians said about coal -- that he liked to think of it as old sunlight trapped inside rocks as long decomposed organic matter. Maybe it would be simpler, he added, just to use new sunlight, as the weekend's solar-powered event was, in fact, doing.

Finally, hours later, I conclude that there is very little else to be written, at least by me, at the edge of a mountain top that's been transformed into blank, dead space. After all, I'm new to West Virginia, which gives me something in common with Ryan Hensley: I never saw the mountains here, either. And I never will.

There is more to this story – find it at <http://www.resilience.org/stories/2015-08-26/the-king-is-dead>

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What is happening in India

FactCheck Q&A: Will India no longer buy Australian coal?

August 24, 2015 5.42am AEST

LEADER OF THE GREENS, RICHARD DI NATALE: We've got India no longer buying our coal...

TONY JONES: I don't think it's true that India is no longer buying our coal. I think you must have that wrong... It's about to build one of the biggest mines in Queensland.

RICHARD DI NATALE: India in the next decade have made a statement that they will no longer buy not a kilo of Australian coal. They will be out of the coal business as far as Australian imports is concerned in the next decade.

India's electricity demand has been steadily [increasing](#) over the last decade and will continue to do so. The country still has around [300 million people](#) who aren't connected to the electricity grid, with the current government saying they're determined to fix that.

Senator Di Natale is right about India's coal import intentions. Indian Energy Minister, Piyush Goyal, is [on the record stating](#) in 2015 that

We are confident that in the next year or two, we will be able to stop imports of thermal coal, while imports of coking coal will continue until we are able to explore more reserves.

The government aims to protect the environment as well as make India's power supply more self-sufficient.

This is a rather optimistic objective, considering coal still makes up [nearly 70%](#) of India's current generation capacity and demand is [still 10% greater](#) than the capacity to supply.

India's Coal Secretary Anil Swarup recently [told](#) Reuters that India's coal imports are expected to increase 19% to a record of about 200 million tonnes this fiscal year.

The evidence

When asked for data to support his statement, a spokesman for Senator Di Natale said by email that "the new Indian federal government was elected among other things, to revolutionise their country's electricity system." He said:

- They are [aiming](#) for 175 gigawatts of renewables to be built by 2022. This is the equivalent of building four times Australia's energy infrastructure.
- They are also ramping up domestic coal production in order to create jobs and they want to reduce imported thermal coal because it has been [identified](#) as the most expensive source of energy.
- In November 2014, Energy Minister Piyush Goyal [said](#) it was his intention to stop importing coal in two to three years.
- In February 2015, the government released a commissioned [study](#) that found only two or three coal plants near the coast would benefit from imported coal. The transport costs are too high to justify moving it to the rest of the coal generation fleet.

If anything, the decade timeframe was being generous, the spokesman said.

These commercial realities are of course completely at odds with the development of the Carmichael Mine proposed to be developed by vertically integrated Indian power company Adani. Major international and Australian banks have [refused to fund it](#).

India's optimism

Experts [expect](#) India to surpass China's population and it may become the world's second largest economy by 2050. Power demand has grown astronomically in the last few decades and is [projected](#) to grow further in future.

To meet their stated objectives, India's government must not only continue to increase generation capacity, but replace existing generation with alternative renewable technologies.

The Indian government has a major [plan to reduce carbon emissions by 20-25%](#) of 2005 intensity by 2020, as well as one of the largest renewable energy deployment plans in the world.

As well as adding new capacity to the grid, India will also need substantial additional infrastructure if it's to have any hope of meeting its goals. More distribution network assets – things like poles and wires - will be required in areas where there is existing electricity supply. New transmission and distribution infrastructure will be required in areas of new supply. These can be substantial projects, with planning alone taking a number of years.

Using renewable technologies located close to places where the electricity is to be used will substantially cut down on time lags.

Major Indian coal companies such as Adani are still aiming to acquire Australian coal assets such as the much publicised [Carmichael coal mine development](#) in Queensland, but they are also [looking at other options](#).

Adani has also recently entered into a joint venture to build one of India's [largest solar PV manufacturing plants](#), fleshing out the firm's coal interests with renewables.

India is not ceasing electricity generation from coal. In fact, it intends to increase local coal production and use their local resources rather than rely on imports (local coal costs around US\$24 a tonne, [compared to](#) US\$62 a tonne for imported Australian coal).

Prime Minister Narendra Modi has already overseen India's [largest solar project](#) and does have a passion to see the electricity generation mix move towards more renewable resources.

However, private enterprise will always seek out the lowest cost option. If growth in the electricity sector is through private rather than government-owned projects, growth in renewables will likely slow down and coal generation will likely continue.

India wants to be able to produce enough local coal to meet their generation needs – whether they'll be able to achieve that is not known.

The timeframes set out by the Indian government seem very optimistic, given the substantial task it has set itself of increasing access to grid-connected electricity and reducing fossil fuel-based power at the same time.

The [Coal in India](#) report, published this year by the Australian government's Office of the Chief Economist, said that:

... India is likely to continue to rely on imports. The expansion in India's coal use presents some opportunities for the Australian industry, which is not currently a large supplier of thermal coal to India. Australia has large deposits of high-energy, low ash coal that is suitable for use in advanced coal-generation technologies. The roll out of advanced coal generation technologies in India presents a significant long term opportunity for coal producers

Verdict

It is true India is on record saying they will stop importing coal within two to three years.

However, some analysts see this as an optimistic and perhaps unrealistic goal for India.

Review

The fact checker is correct. As the sources identified show, the Indian government has indeed declared its intention to stop importing foreign coal in the near future. India has larger anthracite coal reserves than Australia, and is exploiting those reserves at rates comparable to those in Australia. So India does have the ability to supply its own coal at current consumption rates.

However, as the author has identified, the increase in appetite for electricity and other forms of energy will increase dramatically, so the challenge of meeting those demands with local fossil fuel will be significant. India has demonstrated a rapid uptake of renewable energy technologies, but to continue that expansion at required rates is also a massive challenge.

Have you ever seen a "fact" that doesn't look quite right? The Conversation's FactCheck asks academic experts to test claims and see how true they are. We then ask a second academic to review an anonymous copy of the article.

You can request a check at checkit@theconversation.edu.au. Please include the statement you would like us to check, the date it was made, and a link if possible.

This article is from The Conversation.

PERMACULTURE WORLD EVENTS

South East Asian Bioregional Permaculture Convergence

November 16th to 30th 2015

Ilagan Capitol, Isabela, Philippines

http://www.seapc2015.com/program_proper.php

The 13th Australasian Permaculture Convergence – PERTH W.A 2016.

Still in planning but start marking your calendars with the following tentative dates:

3rd October 2016 - Permaculture public EXPO/Fair

3rd October 2016 - Convergence Welcome Dinner

4th October 2016 - Part 1 of 2 Day Permaculture Convergence

5th October 2016 - Part 2 of 2 Day Permaculture Convergence

6-7th October 2016 - Concurrent Tours (Tentative: Two day south tour, two day north tour, 1 day Perth Tour, 1 day Hills Tour)

8th October 2016 - Post APC Master Classes (booked by us)

9th October 2016 - Rest Day

10-14th October 2016 - Concurrent Courses - Advanced Teacher training and Dynamic Groups (or similar)

For more information join the Facebook group:

<https://www.facebook.com/groups/1625742390991220/>

CHECK OUT THE STORIES AND VIDEOS from the recent LONDON
International Permaculture Conference and Convergence on the web site:
- <https://ipcuk.events/article/permaculture-videos>
Top videos that show permaculture around the world

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Eleven Monthly meetings, with information, movies/videos and presentations from informative and interesting guest speakers and members. Plant of the month, Tool of the Month, Tip of the Month, Book of the Month, Cuppa and nibbles and networking time

Discount on most Workshop Fees organised by Permaculture Cairns

Learn more skill by attending Workshops, Permibeers, information nights and events

Learn more about Permaculture Practices and Principles by attending Meetings, Workshops, Permibeers.

Access to tropical vegetable plants and seeds and other resources.

Monthly Newsletter with local info on workshops and events and Permaculture news from around the world

Networking with people of similar interests from other organisations in the area eg. Seed Saver Groups, BioDynamic Group, Local Exchange Trading System aka LETS, Community Garden Groups, Non Government Organisations like Terrain and Northern Gulf Resource Management Group.

Receive email notices of Events/ Courses by Permaculture Cairns, other relevant businesses/organisations - not all of these notices will be in our newsletters if the news was received after the issue date.

Free access to our Library books on a wide range of Permaculture subjects
Continue learning about Permaculture through shared knowledge and experience
Learn how to live gently on this earth – Care for the Earth, Care for People and Share your excess plants, seeds, knowledge, produce and skills.

Meet and make new friends.

MEMBERSHIP FEES FOR 2015 ARE HALF PRICE TILL THE END OF THIS YEAR.

TOMATOES AND BACTERIAL WILT

Have you had your Tomato plants grow beautifully and then when they have set fruit and are ready to produce then suddenly one day they start to droop and within a few days the plant dies.

This is Bacterial Wilt – the pathogen *Ralstonia Solanacearum* is found in the soil and can be transmitted through water as well as through the soil.

This year in Cairns seems to be turning out really bad for Bacterial Wilt, I have heard people with Aquaponics having bacterial wilt in tomatoes. I have had plants die in three areas this year.

It not only affects Tomatoes, it will kill any of the Solanaceae eg. Capsicum, egg plant and potato. I have done some research on this subject and found this articles on how to combat this pathogen.

Control of tomato bacterial wilt through the incorporation of aerial part of pigeon pea and crotalaria to soil*

The use of organic matter that improves the physical, chemical and biological soil properties has been studied as an inducer of suppressiveness to soilborne plant pathogens.

The objective of this work was to evaluate the effect of different sources and concentrations of organic matter on tomato bacterial wilt control. Two commercially available organic composts and freshly cut aerial parts of pigeon pea (*Cajanus cajan*) and crotalaria (*Crotalaria juncea*) were incorporated, in concentrations of 10, 20 and 30 % (v/v), into soil infested with *Ralstonia solanacearum*.

The soil with the fresh organic matter of pigeon pea and crotalaria was incubated for 30 and 60 days before planting. Tomato seedlings of cv. Santa Clara were transplanted into polyethylene bags with 3 kg of the planting substrate (infested soil + organic matter). The wilting symptoms and percentage of flowering plants were evaluated for 45 days.

All evaluated concentrations with incorporation and incubation for 30 days of aerial parts of pigeon pea and crotalaria controlled 100% tomato bacterial wilt. With 60 days of incubation, only the 10 % concentration of pigeon pea and crotalaria did not control the disease. These results suggest that soil incorporation of fresh aerial parts of pigeon pea and crotalaria is an effective method for bacterial wilt control.

Other things worth trying – don't plant tomatoes in the same soil for three years, add lots of organic matter which will increase soil microbial activity, plant green manure crops especially the brassicas like Mustard and dig into the soil so the fresh leaves give off a gas which kills nematodes and howfully *Ralstonia* as well, apply compost and worm teas.

And just to be sure you have tomatoes – plant some in pots – Roma makes a great plant for growing in a pot as they are a determinate variety and therefore don't grow too tall.

Carol

PLANT OF THE MONTH - Brazillian Spinach

Althernanthera triandra sp.

This plant is so easy to grow and the bugs seem to leave it alone. It is always there in the garden, ready for picking when you need it.

It is also useful as a ground cover plant to stop weeds from growing in difficult areas, such as the edge of a gravel driveway where it dosnt get much attention but still performs well as a weed stopper. Brazilian Spinach can be planted as a solid border or left to ramble on its many branches to cover an area up to a metre wide.

It is evergreen and loves water, but will also grow without very much water or attention.

The plants that I grow for food are well watered and the leaves are lush and tender and tend to lose some of the crinkles in the leaf especially when in a shady spot. It will grow in part shade.

It grows easily from cuttings which may be taken at any time of the year in the tropics.

Brazilian spinach is a prolific source of greens in the garden; it can be used in salads with other greens; it can be used as a spinach substitute – try it in combination with Tahitian spinach and arrowroot leaves to make a spinach and feta pie.

Green Ants in the garden

We in the north are fortunate to have green ants in the garden, yes, they can bite and can be a nuisance, but once you have learned to live and respect them they do great things for us in the garden.

For instance, they are continually working during the day and they eat a lot of very small insects before they can do any harm. Most of these small insects are too tiny for us to see.

They also help pollinate our fruit trees, like Grumachama, Papaya, Guabana (Soursop), Mango, Cashew. Until they moved into my Guabana tree, it never set fruit. Now there are many small green ant nests in the tree and the flowers are setting fruit.

They also keep the insects and aphids off my Jade Vine, but be aware of low hanging flowers.

And it has been reported that cashew and mango growers are using them as pest controllers in their orchards. And that means a reduction in chemicals being used.

I have found if you need to remove greenery that the ants are on, cut it down quickly early in the morning when it is cool and then leave till next day to clean up. The ants have usually left the scene by then.

I notice the Vanilla vine has just started putting out the flowering shoots.

That's all from me for this month. Cheers Carol

Please PRINT – SIGN – SCAN and RETURN by email to
treasurer@permaculturecairns.org.au.



Permaculture Cairns

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Permaculture Cairns Public Meetings - All Welcome Third Tuesday of month Feb to Nov (Second Tuesday Dec). Doors open 6pm, meeting starts at 6.30pm at: ARC Disability Centre, 92 Little Street, Manunda

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