



earth • garden

AUSTRALIA'S QUARTERLY JOURNAL FOR SIMPLE LIVING



AFTER THE BUSHFIRES:

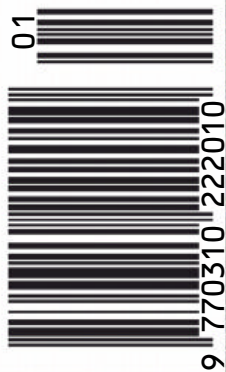
*young and
growing*

VISIBLE
MENDING

*Olive Gap
farm*

FINGER LIMES

\$11.95 INC GST
NZ\$14.95 INC GST
AUTUMN No 191
MAR-MAY 2020
No:100007480



CHOOKS + ORGANICS + SOLAR + HANDMADE HOMES + CULTURE + COMMUNITY

Create a garden to enjoy all year long

At the world-famous garden of **HERONSWOOD** we grow a range of unusual plants, providing flowers, fruit and produce all year.

Rarely available in nurseries, our range of perennial plants flower through the hottest summers, while fruit, herbs and dry-climate plants feature in autumn and winter.

Join today for free seeds, discounts and more.
From just \$59!

Diggers Club members gain FREE entry to the renowned gardens of Heronswood, The Garden of St Erth and Cloudehill

Diggers perennials ▼ Aerial view of Heronswood, Dromana ►



Evening Primrose



Delphinium 'Blue Sensation'



Achillea 'Hella Glashoff'



Agastache 'Blue Fortune'

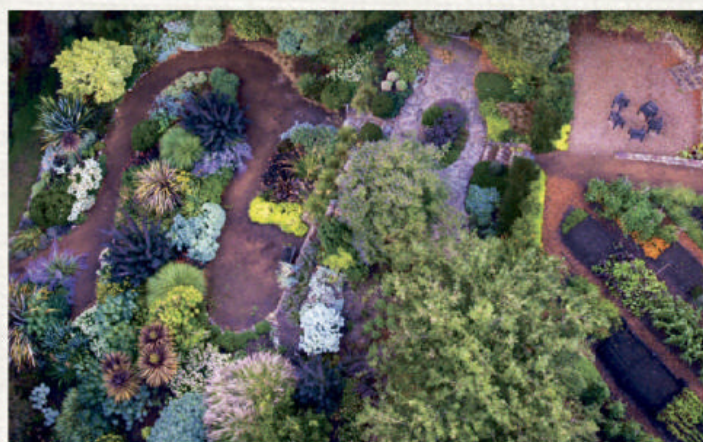
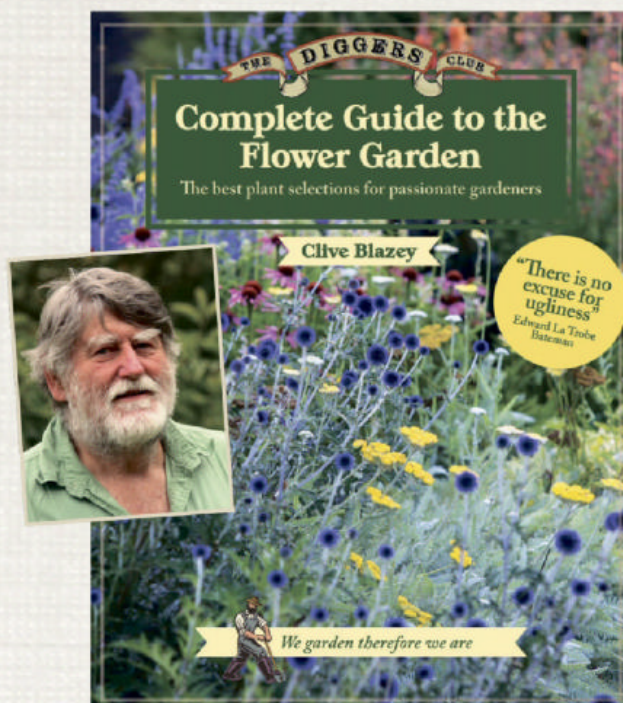


Pink Statice

Complete garden guide and plant selector

Create a cool and refreshing garden during the hottest Australian summer with Diggers selections of perennials and trees... "There is no excuse for ugliness" says Clive Blazey.

This book is Australia's most complete list of herbs, perennials, roses, bulbs, annuals, trees and shrubs that are anything but commonplace, and includes detailed growing descriptions for gardeners Australia-wide.



This book is for both beginner and passionate gardeners and explains the basics of garden botany for gardening success.

RRP \$29.95 (just \$19.95 with a two year membership).

◀ *Aerial view of The Garden of St Erth, Blackwood*

Shop inside our renowned gardens



HERONSWOOD

105 Latrobe Parade, Dromana VIC 3936
Garden Shop: 03 5984 7321

THE GARDEN OF ST ERTH

189 Simmons Reef Road, Blackwood VIC 3458
Garden Shop: 03 5368 6514

CLOUDEHILL

89 Olinda-Monbulk Road, Olinda VIC 3788
Garden Shop: 03 9751 0584

ADELAIDE BOTANIC GARDEN

Schomburgk Pavilion, North Terrace
Adelaide SA 5000
Garden Shop: 08 8232 8671

Join THE DIGGERS CLUB

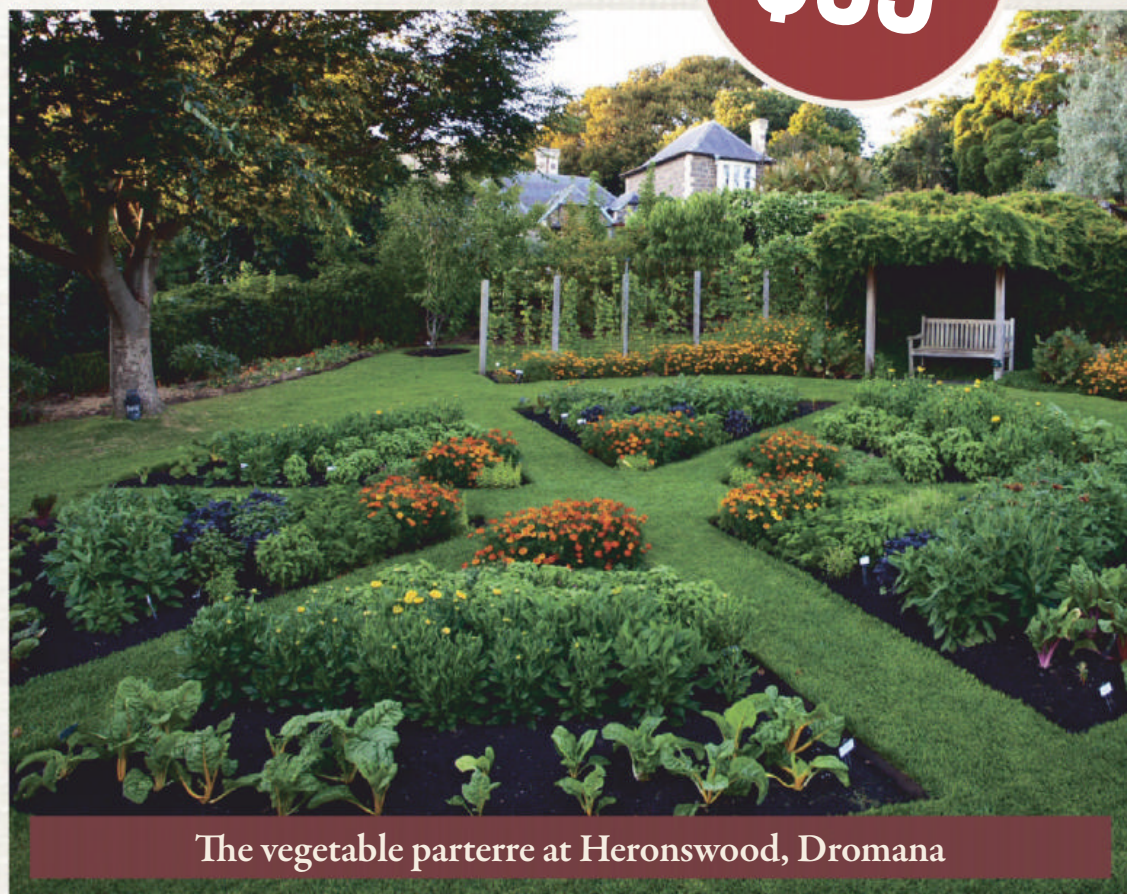
FROM
\$59

We are Australia's most popular garden club and magazine, created to help our members achieve gardening success. Our members are inspired by visiting three of Australia's finest summer gardens with espalier orchards and subtropical food borders full of heirloom produce.

We trial and grow more food plants and summer perennials than any other grower. We can show you how to grow heirloom vegetables, space-saving and subtropical fruit trees, as well as rare edibles like capers and wasabi – all delicious varieties, full of fibre and free of nasty chemicals.

Your membership includes a subscription to our bimonthly magazine which gives you access to innovative, informative and provocative ideas about how to become self-sufficient, whether your garden is in Brisbane, Darwin, Perth, Sydney, Hobart or Melbourne.

Other benefits include eight free packets of seed per year, membership discounts, exclusive offers and more.



The vegetable parterre at Heronswood, Dromana



Over 40 heirloom tomatoes



Over 30 different berries



Biggest citrus range



SAVE \$10
WHEN YOU
JOIN

"Just five hours gardening a week is all it takes to grow your tomatoes, avocados, citrus and flowers if you follow the advice from our best-selling books, including *Diggers 40 Years of the Best Garden Ideas*" says founder of The Diggers Club, Clive Blazey. "Grow heirloom fruit and vegetables organically – our varieties are full of fibre, never tasteless or bland like supermarket produce. All plants are sent directly to your door from our nursery."

3 easy ways to join! Call 03 5984 7900, visit DIGGERS.COM.AU/egs20 or use this coupon!

Membership options

- ☐ One year \$59.00
☐ Two year (SAVE \$39) \$79.00

Special book offer when you join for two years!

- ☐ *Diggers 40 Years of the Best Garden Ideas* (SAVE \$10) \$9.95
☐ *Complete Guide to the Flower Garden* (SAVE \$10) \$19.95
☐ Book postage \$8.95

Name _____

Address _____

Postcode _____

Email _____

Phone (_____) _____

Charge my ☐ Mastercard ☐ Visa

Total \$ _____

Expiry ☐ ☐ Signature _____

Mail this coupon to The Diggers Club
 PO Box 300, Dromana VIC 3936
 Phone: 03 5984 7900
 Email: info@diggers.com.au

The Diggers Club and our gardens are
 owned by The Diggers Foundation

Code:QEAG

THE DIGGERS CLUB

earth•garden

NUMBER 191 MAR–MAY 2020

PUBLISHED BY EARTH GARDEN PTY LTD

PUBLISHERS

Alan and Judith Gray

EDITOR Alan Gray

EG OFFICE

Judith Gray — info@earthgarden.com.au

ADVERTISING Email: ads@earthgarden.com.au

DESIGN & LAYOUT Tony Fuery & Julie Hunt

FACEBOOK ADMINISTRATOR

Green Dean — [greendean.com.au](mailto:green dean.com.au)

FACEBOOK EG GROUP ADMIN Danielle Jones

INSTAGRAM PAGE ADMIN Brydie Piaf

Founded
by Keith
& Irene
Smith,
1972



EARTH GARDEN is Australia's original journal of sustainable living for householders seeking a more eco-conscious lifestyle. For more than 40 years the supportive network of Earth Gardeners has been guiding and reflecting the movement away from high-consumption lifestyles.

CONTRIBUTIONS to EG are welcome. Stories must be no more than 700 words, good quality photographs are required. Please email info@earthgarden.com.au for the full Submission Guidelines.

SUBSCRIBERS are sustainers. See inside back cover to have EG home-delivered each season.

ADVERTISEMENTS appropriate to the ethics of *Earth Garden* are welcome. Email: ads@earthgarden.com.au for the rates, options and deadlines.

DISTRIBUTED by Gordon & Gotch Australia, EG is also available to buy as an emag. Search 'Earth Garden' in the Appstore: iTunes or Zinio

We respect and acknowledge the Yawuru and Djugun People as the Traditional Owners and Custodians of the land where we live and from where we publish *Earth Garden*.

EG is printed in Australia under ISO14001 Environmental Certification. The cover is printed on PEFC certified paper. The text is printed on FSC certified paper. The paper mill also has ISO14001 environmental management system certification. These pages are elemental chlorine free, and our words and pictures are printed with non-toxic, vegetable-based inks.

Printed in Australia by Printgraphics, Melbourne.
rod@printgraphics.com.au



Published by Earth Garden Pty Ltd

©2020 by Earth Garden Pty Ltd
ACN 086 043 567.

CONTACT

✉ PO Box 1318 Broome, WA, 6725

Email: info@earthgarden.com.au

please write or email

www.earthgarden.com.au for news, subscriptions and videos to help you live the good life.

SOCIAL MEDIA – Find EG on Facebook and Instagram, and check out EG on Vimeo.

While every care was taken during the preparation of this magazine, the publishers and authors cannot accept responsibility for the accuracy of the information or any consequence arising from it. Where opinion is expressed in Earth Garden it is not necessarily that of the publisher.

All content is subject to copyright and may not be reproduced in any form without written permission of the publishers, except in the case of brief quotation embodied in critical articles and review.



Rose with a family chicken.



Liz Ingham at a climate rally.



The Lazzarottos save their bee hives.

FRONT COVER: Monty (left) and Bailer with Bingo in front of their new 'farmhouse' in the garden where they grow all manner of delightful plants. See Tanya Jenkyn's story starting on page 12. Photograph by Tanya Jenkyn.

BACK COVER: the honey bee was recently declared the world's most important living being by the highly-respected Earthwatch Institute. The bees in Kerry Lazzarotto's family hives are now free from the dreaded hive beetle. See Kerry's story starting on page 59.

in this issue

EDITOR	4
EARTH MAIL	5
ON THE VINE	9
HOME IS WHERE THE HEART IS <i>by Tara Luca</i>	12
JILL'S HOW TO <i>by Jill Redwood</i>	16
HERBANISATION <i>by Tanya Jenkyn</i>	20
HANDS ON <i>with Jackie French</i>	24
HAZELCOMBE HAPPENINGS <i>by Dan and Nicki Power</i>	23
INQUIRE, PLAY, LEARN <i>by Rachel Altenbacher</i>	28
THE DRIVE TO GROW GREEN <i>by Brydie Piaf</i>	32
SPADE TO BLADE <i>by Gary Thomas</i>	36
WEEKEND HIPPIE <i>by Liz Ingham</i>	40
GIVE LIFE, LIVE LIFE <i>by Beth Wyatt</i>	43
THE COOP <i>by Claire Bickle</i>	44
EDIBLE GARDEN <i>by Keith Smith</i>	48
CHOOKIPEDIA <i>by Claire Bickle</i>	51
FOOD BASICS <i>by Wendy Bartlett</i>	54
VISIBLE MENDING <i>by Jo Roberts</i>	56
OXENFORD HONEY BATTLES HIVE BEETLE <i>by Kerry Lazzarotto</i>	59
FROM GARDEN TO TUMMY <i>by Jessie Kapitola</i>	62
UPCYCLING SATISFACTION - Part Two <i>by Julie Humphris</i>	65
PERMIE JOURNEY <i>by Bruce Hedge</i>	68
NOW AND THEN <i>by Steven French</i>	71
NEV'S INVENTION: THE DEEP RESERVOIR <i>by Nev Sweeney</i>	72
BEHIND THE SCENES - PART TWO	74
CREATIVE CULTURE <i>edited by Judith Gray</i>	76
POSITIVE ENERGY <i>edited by Alan Gray</i>	78
EARTH MARKET	80
LANDLINES	84



36



28

A student from St George public school in their food garden.



32

Mark and Suds in their bountiful Newcastle garden.

Dear readers,

Welcome to the Autumn issue of *Earth Garden*.

A heartfelt message to all Earth Gardeners and their families and friends who've been battling through this unprecedented fire season and drought: our thoughts are with you.

I'm writing this on 31 December. Today feels like crescendo day after months of burning, destruction, heartache, death of animals and humans, and now thousands of people in the path of the most destructive bushfires we've seen.

More than five million hectares have burned and we seem helpless in the face of this carnage. Thousands of people are sheltering on beaches in southern NSW today, waiting and hoping for the fire fronts to pass — even as they hear the sound of exploding gas bottles in the distance, knowing this signifies another home burned down.

Many of Earth Garden's favourite writers and many readers live in the paths of these terrifying bushfires. Jill Redwood lives in Goongerah in far East Gippsland. Jackie French and her husband Bryan have just built a fire bunker. Writers such as Rachel Altenbacher have been dealing with the fires and drought for months. Readers in the Adelaide Hills, Tasmania's Derwent Valley, north and south coast NSW, WA's South-West, plus Queensland and the rest of SA and Victoria — all have been battling an unprecedented fire season.

Although I emailed Jill Redwood to find out if she was okay, not getting a reply told me she was flat out defending her farm, its animals and buildings. And that of course turned out to be true. We are lucky Jill is smart and tough. I find out on 1 January (as I write this next section) that Jill and her farm survived the onslaught of flames, burning bark flying through the air, and all the other accompanying horrors that usually visit people only in nightmares.

Since *Earth Garden* began in 1972 many people have taken their energy and idealism to establish lifestyles in small bush communities all over the country. Now that very idealism is challenged by incineration as seasons and the climate have changed so quickly.

Here at *Earth Garden* we send you our strongest hopes that you will all act calmly, and stay safe, evacuate early, and not risk any life at all for the sake of any material object.

And because I've learned that the only thing permanent is impermanence, I know the rain will come — eventually. Once the immediate crisis has passed, then as a nation we can



Tara Luca sent this photo when writing her heartfelt story starting page 12. Thank you Tara and family.

discuss how to deal with the worsening climate crisis. Clearly, to keep doing nothing is no longer an option.

Stay strong.

6 February: writing today, it is hard to fathom the full extent of the devastation, the loss of wildlife, forests, properties, human life and businesses. I wonder if the rest of the nation is also in a state of shock?

'Think globally, act locally' is a slogan that I first saw on arrival at the Franklin River Blockade in 1982. It seems to be how we're starting to respond to this crisis. In our own town, a community fundraiser with local musicians raised \$20,000 for WIRES, the wildlife rescue service. It's going to take a long time to process what Australia has just gone through (let's hope February and March are mild).

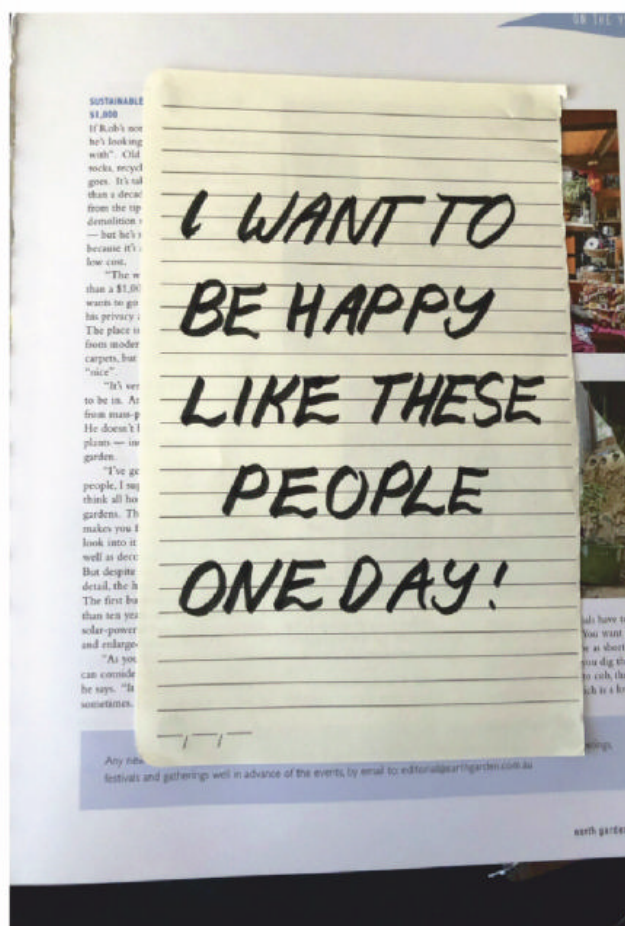
Our thoughts are not just with those readers who've faced this terrible season on the front line, our thoughts and best wishes go out to all readers.

This issue contains stories of renewal; of young children planting seeds and nurturing growth; of prospering after challenges even greater than your house burning down (thanks Beth); and stories that remind us we can dance in the rain, and we can rebuild.

Happy reading,

Alan

Email your letters, messages and snaps to editorial@earthgarden.com.au or post to PO Box 1318 Broome, WA, 6725.



REMEMBERING TO SMILE

Hello, my name is Aggie Thwaites and my noggin has a few problems, and with such severe mental illness, one needs inspiration. I spend a lot of time in hospitals, and seeing how happy everyone in *Earth Garden* is, makes me want to be that exuberant one day; that is why this note glued to an *Earth Garden* magazine sits on my desk and I flick through it, encouraging me to look forward to a good life full of smiles. Thank you,
Aggie.



SPRING ONIONS?!

Cut 'n come again spring onions are definitely still sproinging! Two years on, and growing strong. Thanks to whomever it was on Earth Gardeners who gave the tip to cut 'n come again.
Fiona Gibberd,
Hopetoun, WA.

They look like leeks.
Kate Green.

What did you actually plant in the ground?

Barbara O'Leary.

A punnet of spring onions. They grew like you'd expect the first season, then I chopped them right back in readiness to pull them out . . . I turned around and they'd taken off again — and have never looked back.

Fiona Gibberd.

EARTH MAIL is an open forum. The views expressed in letters from readers do not necessarily reflect the opinions of *Earth Garden*. Letters are always welcome, but please keep them concise. Good quality photos are also welcome.

EG IS EVERYWHERE! You can link up with other Earth Gardeners on Facebook, Instagram, Vimeo and the Earth Gardeners community group on Facebook. Go to earthgarden.com.au for all the social media links.



BLUE-BANDED CLOSE UP

I've always struggled to get a close up of a blue-banded bee, till I followed this one to its burrow and waited for it to re-emerge.

Daniel Hartwell.

Great shots! Like spy cam.
Sue Archer.

I love that you followed it home. Bee stalker!

Jo Bryant.

Thanks for sharing.

Linda Hendrix, Administrator, Earth Gardeners Facebook group.

Best 'upliftment' for the day. Lovely to zoom in on Bandy Blue's green eyes. Congratulations on your patience.
Paula Glenn-Bland.

I have been wondering where my blue banded bee lived. Beautiful; good on ya. I must try following mine! Made some accommodation for them today. Hopefully they will take up the offer.
Chantal Cordey.

So cool!! I've never seen this before.
Sarah Holliday.

Just great. Some of the best shots I've seen. Well done!
Jardine Loya.

FIRST-TIME HERB DRYING

My first year effort in drying my herbs.
Gail Gailey.

Congratulations. I would love to do that.
Linda Hendrix.



I picked it, and let it dry in the sun. So simple. Now I'm going to experiment with more flavours. Mainly to give as gifts through the year.

Gail Gailey.

FEELIN' PEACHY

23 kg of white peaches picked and probably another 40 still on the tree to pick. Best crop we have ever had because we used a fruit fly net this year. Now what to do with it all . . . jam, ice cream, purée, fruit roll ups, preserves.
Gizelle Tesoriero, feeling thankful with Rob Tesoriero.





Growing peaches:
guaranteed groans of
admiration tinged with
a touch of envy!



Congratulations on your successful harvest!

Amy Nicole.

How wonderful I can almost smell them, they look so good. Enjoy your harvest! Good job with the nets.

Rhelma Stewart.

This pic caused me to make noises that caused my son to ask what I was looking at.

Kandice Harkin.

Wow well done – just wondering which state are you in?

Diyanne Podhaczky.

Diyanne: Sydney.
Gizelle Tesoriero.

ARID RECOVERY

A water fountain strapped to a star picket and placed under a tree and amongst some bushes for shelter — at the Arid Recovery Reserve.

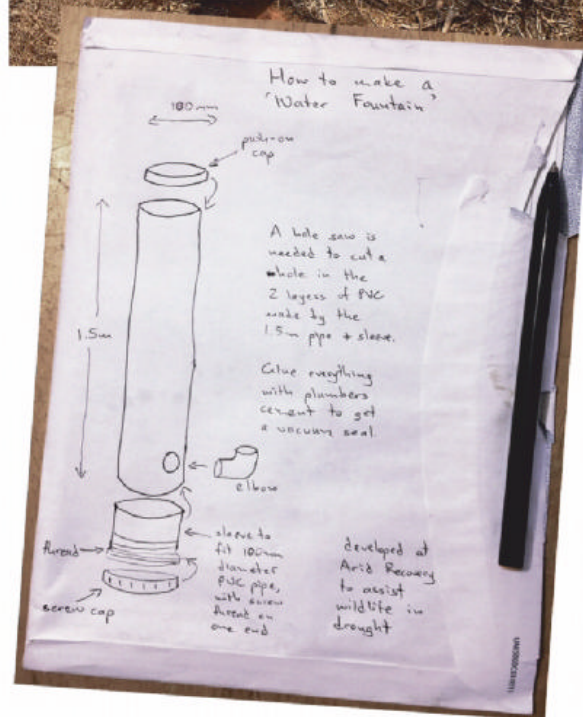
Arid Recovery author.

Fantastic idea. How much water do they hold and how are they refilled?

Margaret King.

Margaret: around 20 litres. Fill them by inverting and pouring water into the elbow spout using a hose or watering can with the rose off.

Arid Recovery author.



Does the water sit in that curved elbow at the bottom for animals to drink out of?

Julie Kay Nelson.

That's right.

Arid Recovery author.

Arid Recovery thank you!

Julie Kay Nelson.

This is a great idea. I'm going to set this up.

Lee Cecchin.

CHICKEN RUN QUESTION

Has anybody ever successfully made a chicken run unattractive to a bandicoot? I couldn't get a photo of our visitor, as it was dark, but he's actually massive! Think 2-3kg, and more than happy to dig under the run to get at the grain. I'm stoked that we have them on our property. It's lovely. But I'd rather not have it in there with the chooks, and making access holes for carpet pythons. Is there a way to keep



these little guys away?

Chris Searle.

I haven't seen one for decades. Sadly the only thing you can do is have your wire caging deeply into the ground and I mean a few feet! It may be better to have your girls aboveground of a night?

Julie Kemp.

We have snake/vermin mesh down into the ground and then out about 50cm. Because of quolls. We also have fat little bandicoots too, aren't they adorable!?

Jo Bryant.

Jo: adorable and very funny to watch.

Edwina Stuart-Archer.

We had the chook wire extended horizontally outside about 50cm wide and 15cm deep.

Judi Byleveld.

Our chooks share their run with a family of bandicoots. If anything the bandicoots clean up the unwanted scraps from the chooks and keep our other furry friends safe from ticks. Happy to have them here.

Shannon Bailey.

Try and grow sweet potatoes. They love bulldozing them!

Georgina Pickstone-Pearce.



SNIFFING OUT SURVIVING KOALAS

Special detection dogs have found seven koalas alive amid burnt out forest at Maryvale on Queensland's Southern Downs, and evidence of even more survivors. The search, which is ongoing, is being funded thanks to generous donations to the World Wide Fund for Nature from locals and people around the world plus corporate sponsors. This area of forest was the scene of high drama in November 2019 when a fire front caused the evacuation of the five-star Spicers Peak Lodge.

But it was a much more uplifting scene when English Springer spaniels Taz (brown) and Missy (black), who are

trained to sniff out koala scats, discovered surviving koalas.

Olivia Woosnam is a koala conservation ecologist and consultant at OWAD Environment which conducts koala surveys with their professional field detection dogs Taz and Missy. The dogs are 372 per cent more effective than humans at finding koalas, and are also far quicker. OWAD Environment is absorbing some of the search costs.

On their first morning at the Maryvale property, Mrs Woosnam said Taz quickly located fresh koala scats and when they looked up, there was a mother and her joey.

"The joey was out of the pouch and independent. They were in the same tree

and they were moving around and seemed okay. We did a visual check of them and we've got no immediate concern for their safety," Mrs Woosnam said. After searching more than 10 km on that first day, the team found another adult male and nearby an adult female without a joey. This female appeared thin and may be malnourished and dehydrated. A dead male koala was found on the Cunningham Highway with clear signs of road trauma. A second day of searching uncovered a further three koalas spotted, and evidence of even more survivors in the area.

Mrs Woosnam said the koalas haven't found their way out of the burnt areas yet so Spicers Peak Lodge staff are

Any news items of interest to Earth Gardeners may be submitted to **ON THE VINE**. Please send notice of meetings, festivals and gatherings well in advance of the events, by email to: editorial@earthgarden.com.au

leaving watering stations out for them.

“There isn’t much leaf and therefore not much moisture at all so they’d be getting thirsty,” Mrs Woosnam said. She said on this property the fire did not burn all tree canopies leaving some green leaf which likely explains the survivors. Amazingly, two months after the fire they found a stump still smouldering. There is also lush new leaf emerging in places and evidence that koalas are feeding on new growth.

Dr Stuart Blanch, Senior Manager Land Clearing and Restoration, for WWF-Australia, said donations to WWF will fund the dogs to search more bushland.

“Finding seven koalas alive amid the destruction in just two days is an encouraging start. It’s great to see that some koalas are surviving the fires and they can recolonise the forest as it regrows,” Dr Blanch said.

LOGGING MAKES FOREST FIRES WORSE: EXPERTS

Experts say allowing logging in national parks would increase the intensity of bushfires. Allowing logging in national parks would increase the intensity of bushfires by boosting the amount of flammable fuel and creating additional “kindling”, experts have warned. Millions of hectares have been scorched in raging bushfires across Australia since October last year and scientists claim fires burned at a higher intensity in heavily-logged forests.

Australian National University Professor David Lindenmayer, says while the main driver of fires is the climate, logging makes forests drier and leaves behind flammable debris on the ground.

“Forests that have been logged and regenerated are significantly more likely to burn at higher severity,” he told AAP. “Very substantial areas of forest which were logged in East Gippsland and southeastern NSW have been burnt this last summer.”

Prof Lindenmayer said scientists and the government have known about this for a long time. Researchers found logged forests burned at a “significantly” higher severity during the 2009 Black Saturday bushfires in Victoria.

“It’s not something we should be entertaining anymore,” he said. “It’s not a profitable industry. It’s adding dramatically



Clearfelled, oldgrowth forests regrow as fire-prone ‘wheat fields’ of young saplings.

to the fire risk. This is crazy.”

Recent calls by the forestry industry to selectively log national parks in a bid to reduce the bushfire risk are “lacking science”, Prof Lindenmayer argues. He says the industry proposal would actually make areas more fire-prone.

“If Scott Morrison is serious about keeping the community safe then you wouldn’t be logging more forests, you’d be logging a lot less,” Prof Lindenmayer said. One of the areas heavily impacted by bushfires this summer has been the NSW South Coast. The huge Border blaze burned more than 160,000 hectares south of Eden. Forest ecologist Andrew Wong says much of that area is the “most heavily logged land” in Australia.

“Intense logging for woodchipping to feed the Eden chip mill started in the 1960s there and it’s as intensive as logging can get,” he told AAP. “The map of the Border fire pretty much overlaps the same area that’s been logged.”

He argues older forests are harder to burn because the trees are wetter and further spread apart. Logging replaces the old giant trees with younger ones that look like toothpicks, grow closer together and dry out the soil, Mr Wong added.

“You’ve got your kindling. Logging removes most of the water from the landscape and replaces it with small dry kindling.”

The forests grow back more fire-

prone and remain that way until they become mature which can take 100 years or longer. Environmental group, the Colong Foundation for Wilderness, called on the NSW government to close down the native forest logging industry given the stress fires have caused to wildlife.

“Wherever the forestry industry interferes with wet old-growth forests, they dramatically increase the fire danger,” spokesman Harry Burkitt said in a statement to AAP.

Meanwhile, the boss of the New South Wales Rural Fire Service said hazard reduction is important but not a panacea for bushfire risk, and has “very little effect at all” on the spread of fire in severe or extreme weather.

Commissioner Shane Fitzsimmons on 8 January addressed the organisation’s hazard reduction activities after he federal Nationals MP Barnaby Joyce told the Seven Network that “green caveats” were hampering firefighting capacity. But Fitzsimmons said the biggest impediment to completing burns was weather. He said there was a “shrinking window of opportunity” for more favourable burning periods as fire seasons lengthened.

“Hazard reduction is absolutely an important factor when it comes to fire management and managing fire in the landscape but it is not the panacea,” Fitzsimmons told ABC News.



Activists from School Strike 4 Climate and Extinction Rebellion march towards the Parliament of Western Australia.

“When you’re running fires under severe, extreme or worse conditions, hazard reduction has very little effect at all on fire spread,” he said.

— *Australian Associated Press*

ACT TO LEAD PLASTICS BAN

Single-use plastics are to be banned in the ACT with the phase-out to begin this season.

“The ACT Government will introduce legislation to ban the sale and distribution of problematic and unnecessary single-use plastic products this year,” said The ACT Minister for Recycling and Waste Reduction, Chris Steel. The Minister said Canberrans were “overwhelmingly supportive” of regulatory action to ban single-use plastics. “Times have changed, and our community and our Government wants to reduce the legacy of plastic waste in our environment for following generations,” Mr Steel said.

Items to be banned immediately from the commencement of legislation include plastic cutlery, polystyrene takeaway food and beverage containers and plastic stirrers. He said items to be banned 12 months after the legislation included plastic fruit and vegetable barrier bags, oxo-degradable plastic products and plastic straws.

“Products like expanded polystyrene foam containers are a relic of the

past and will be banned immediately because they are not sustainable, and there are clear alternatives already available,” Mr Steel said. He said the ACT would become the only jurisdiction in the country to ban fruit and vegetable barrier bags. Minister for Disability, Suzanne Orr said disability representatives would be consulted as part of the bans to ensure that people with disability still had access to plastic straws if needed.

— *PS News*

AUSTRALIA RANKS LAST ON CLIMATE

Australia’s climate change record has been ranked among the bottom five nations in the world in a global assessment of countries’ emissions trajectories. The Climate Change Performance Index (CCPI) measures the emissions, renewable energy share and climate policies of 57 countries and the European Union.

It was released at COP25, the UN climate summit held in Madrid in November 2019, as nations attempted to thrash out the way forward on the global Paris framework responding to the crisis. Australia, Saudi Arabia, and the United States give “cause for great concern” over their performance on emissions, renewable energy development and climate policy.

Australia’s climate policy rating was

ranked the lowest in the world with analysts noting that “the newly elected government continued to worsen performance at both national and international levels.” Its policies were given a 0.0 rating; the United States held a 2.8 rating; and the top-performing nation Portugal received a 98.7.

“National experts observe a lack of progress in these areas with the Australian government failing to clarify how it will meet the country’s insufficient 2030 emissions reduction target, and inaction in developing a long-term mitigation strategy,” the report reads.

“While the government is not proposing any further targets for renewable energy beyond 2020, it continues to promote the expansion of fossil fuels and in April 2019 approved the opening of the highly controversial Adani coal mine.”

Australia has pledged to reduce emissions by 26 per cent below 2005 levels by 2030 as part of the Paris agreement. However, government projections show more than half that target will be achieved through carry over credits from achieving goals of the previous Kyoto protocol. The newly-released Emissions Projections report shows Australia will exceed its 2030 Paris target by 16 million tonnes of carbon dioxide equivalent.

— *SBS, AFP and AAP*

HOME

is where the heart is

Tara Luca was busy fighting bushfires when writing this story. Tara lives with her family on Olive Gap organic farm in northern NSW. As decades roll by, and the children of Earth Gardeners raise their own children, we start to see an inter-generational pattern of caring for the land in this first of a series of articles by Tara.

THERE'S nothing quite like a natural disaster to force you to take stock of things and reflect on what's truly important. When we packed up our cars to evacuate our bushland home last year due to local bushfires, we focused on two things. Our family collection of musical instruments and our tools. Building tools to be precise, should we be forced to return and (gulp) start over.

Like others who have followed the urge towards a more sustainable lifestyle on the land, our home has become so much more to us than we could have ever imagined. Driving away and

looking out of the rear-view mirror, I felt a surreal tightening in the pit of my stomach. When you are homesteading, you are building a life, not just a physical house, but a dream and a vision. And the question beckoned . . . "How the heck did I get here?"

I wasn't raised as a bushy and spent most of my childhood in urban areas thinking I would move to the inner city the first chance I got. I started working as a musician at around 16 and soon moved to Sydney with my band to launch into the original Indie scene and tour as much as possible. It was a wild time and a busy city lifestyle.

After a few years, I began to get restless and found myself yearning for something more, but I just didn't know what. I started feeling the pull towards the outdoors and wanted to be out in Nature as much as I could, camping and cooking over an open fire.

Around this time, I applied for university on a whim and found myself in Lismore within a few weeks, starting a degree in Contemporary Music. I met the most amazing people while I was at uni. Lismore is a melting pot for people from all walks of life, and before long, I was living out on a property with gorgeous people, growing vegies

"I began taking an interest in simple living and realised my Italian Nonna and Nonno had been living this way in the suburbs of Melbourne pretty much all of my life."



Enveloped in homegrown goodness: Cedar, April and Olive.



Tara and her family had to evacuate their home and farm.

and making cheese.

Aside from all the awesome music that was happening around me, I was learning a new lifestyle. I began taking an interest in simple living and realised my Italian Nonna and Nonno had been living this way in the suburbs of Melbourne pretty much all of my life. I asked my Nonna to teach me to make things like soap and homemade pasta and started collecting seeds from people's gardens. The deep sense of fulfilment was addictive.

It was then that I met Alex. He had transferred from an Environmental Science degree to a Music degree (majoring in drums and percussion), and we started playing music together. He arrived at our first rehearsal with a bag of vegies to share from his garden,



Tara met Alex at uni playing music.

and I was hooked!

Alex had spent the previous few years tree planting and hitchhiking across New Zealand, basically doing anything he could to just be outside and work in Nature. He'd grown up on an intentional community not far from Lismore and had homeschooled for much of primary school, giving him a solid foundation in practical life skills and connection to the land.

His parents were founders of the community, and he had grown up building, gardening and fixing things. The first time he took me home for a visit, I had an overwhelming feeling that I was stepping back in time to a 'village', unlike anything I had ever known.

We were married on the property

a few years later and had our first little girl, Olive. We rented a small mudbrick house on the community, and both continued to play music as much as possible. Life as a mother, however, invited me to dive even deeper into the realm of a slower, more introverted existence, and I started enjoying performing less. I began feeling much more creative fulfilment from things like gardening, knitting, and making things from scratch.

Alex was still working as a drummer and was working away a lot. We both felt the pull towards wanting to build our own home and have a place of our own. We decided he would take a teaching post in the Snowy Mountains where we could save some money and work out where we

wanted to settle.

We loved this little chapter of our lives. Our second daughter April was born at home there, in mid-winter by the fire, and we spent much of the next three years exploring different parts of Australia. We visited lots of different communities and explored ideas of where we might settle and eventually call home. After visiting some beautiful places, we both came to the final decision to return back to Alex's childhood home in the Northern Rivers of NSW. There were no other young people with children on the community at the time, and we hoped that other young couples or people with families would join in along the way.

Fast forward nine years, and we



Alex down and dirty on the building site.

are now part of a vibrant community. We've had another daughter, Cedar, who was the first to be born on the property (that we know of!). We also bought a farm down the road with Alex's sister where we grow and distil Certified Organic Tea Tree Essential Oil and seasonal slow flowers. We are homesteading, home educating, home building and running a home business all in one. It sounds like a lot (and it is!). Still, it has happened relatively naturally and what it actually looks like on a day to day basis is continually evolving, as are we.

**With love we will
regenerate.**



The recent fires came seriously close to the home we've spent years setting up. The basics of solar power, rainwater and a thriving garden in marginal native soil, all take years to establish on an off-grid property like ours. It left us displaced for almost a month with lots of coming and going, prepping the property and working closely with the RFS and National Parks to keep things contained.

I definitely had some wobbles: am I actually cut out for this whole 'living in the wilderness' thing? But the experience has heightened my sense of gratitude immensely, and I feel privileged to live such an abundant life. I know we were the lucky ones, and my heart goes out to all those who've lost their homes and bushland. Never more have I counted my blessings.



garbage to garden

PART TWO

EG's original Extinction Rebellion champion, **Jill Redwood** of Goongerah in Victoria, fresh from life-threatening firefighting all summer, presents the second article on turning discarded products into useful items for around the garden, yard or farm.

Part one appeared in the summer issue.

DISCARDED junk can be like rescue chooks – once rehomed in the right place, they can be the most valuable friend and assistant. Here are some more ideas for repurposing rubbish to become invaluable items for our gardens.

POLYPIPE – ALL DIAMETERS

Cut small rounds of 1-2cm wide and slit down the side to use as clips or 'pegs' for holding covers on buckets or for

holding plant stems to stakes or wires. Cut the soft half-inch (13 mm) poly into spirals and use them to wind around tomato stems and onto a mesh frame or similar as clips (*see photo above*).

Then there's the classic polypipe arch structure. Bend lengths over into a big arch and securing over a metal or wooden stake. They make great ribs for a hot house, shade house or temporary bird protection if covered in chicken wire. Please don't use the killer nylon

netting. If you use netting make sure it's fully stretched (holes no bigger than 5mm) and secure it with no floppy bits that can catch birds or flying foxes.

VENETIAN BLINDS

If you find broken plastic blinds, you and your friends/family/neighbours will have a lifetimes worth of UV stable garden tags. Cut to length with one pointed end and write on with a dark lead pencil.



MIRRORS

Broken or entire, fix them into in a greenhouse or place securely behind those vegies that would love more sunlight, especially in slightly shady areas (of course, some vegies like a bit of shade time).

LACE/GAUZE CURTAINS

Fantastic stuff to provide light shade in summer. They are most useful for keeping cabbage butterflies off cabbages and other brassica crops. They are light weight enough to drape over plants, they allow light and rain in and keep bugs out.

“Hot water services frequently end up at tips and only the copper is usually salvaged. The metal tops and bottoms are perfect as 44 gallon drum covers.”



SINGLE BED BASE FRAMES

I love these finds. They make instant mini-fences and sturdy climbing frames for beans and peas.

TRAYS

Drip trays for pots and for keeping gardening bits organised.

BREAD KNIFE

Not hard to come by in op shops, the serrated edges are especially useful to harvest vegies and trim tops off, or cut out well rooted weeds. You can slice down green manure with ease to feed the compost or mulch a bed.

ROCKS

Use as neat path/bed edging or stepping stones over wider beds. Rocks can weigh down covers on a compost heap, keep the gate open or can be used as thermal mass to retain heat in a greenhouse.



STAKES

Grab any metal or hardy wooden stakes at the tip, short or long. Their uses are endless but here are just three ideas: stake up climbing frames, shore up the timber edges of garden beds or secure a sprinkler.

POLYSTYRENE BOXES

Green grocers always have them to throw out. They are lightweight for keeping pots in. They are also well insulated to prevent soil temperature extremes if you want to start off seedlings in them. Place a sheet of plastic or glass over the top. Caution! Keep well away from chooks; they love eating polystyrene.

LARGER CRATES, PLANT TUBS AND BASKETS

If light weight, these are invaluable as weed containers to carry to the compost heap. They can be left until weeds die without holding rainwater.

WHEEL RIMS

They make perfect hose holders and on the ground as a strong platform to hold drums or tubs off the dirt.

WIRE BUCKET HANDLES

Plastic buckets die far too regularly and they leave behind a perfectly useful handle. The heavy wire is versatile and can be made into anything from a gate catch to a toasting fork or hanging hooks. I cut the bent ends off and poke two into the sides of a plant pot. The arched frame holds a plastic bag over cuttings that stop them from drying out while they take root. They are far more robust than coat-hanger wire.

LONG BENDY PRUNINGS

Make a short arched fence around a bed to keep ducks out or to just look cute.



HWS TOPS AND 44S

Hot water services frequently end up at tips and only the copper is usually salvaged. The metal tops and bottoms are perfect as 44 gallon drum covers.

44s make handy feed drums, compost tea 'pots' (if well cleaned), or to store dry leaf mulch in. The smaller HWS ends can have a handle or knob fixed on and used as bucket covers.

Our SECRET Garden



Inspecting the basil among the carrots.

Tanya Jenkyn of Esperance in WA helps her two sons to establish their very own garden on their new land.

A FEW YEARS ago I was reading *The Secret Garden* by Frances Hodgson Burnett to my sons. Early in the book, Mary Lennox turns to Mr Craven: “Might I,” quavered Mary, “might I have a bit of earth?” In her eagerness, she did not realise how queer the words would sound and that they were not the ones she had meant to say. Mr Craven looked quite startled. “Earth!” he repeated. “What do you mean?”

“To plant seeds in – to make things grow – to see them come alive,” Mary faltered.

At this point, both my boys turned

to me and pleaded: “Can we? Can we have our own bit of garden to plant what we want?” I couldn’t grant that wish at the time. . . not the way they wanted. I shuffled some pots in our rental house to allow them to keep a little potted garden but that place had difficult dirt and limited freshwater and my boys wanted to be farmers. They wanted to dig in the dirt and plant rows of things in patterns.

A couple of years on, after purchasing a block and building a house, finally I can give my boys what they want. As Mr Craven said to Mary, I can say to

them: “Take it, child, and make it come alive.” My boys are doing just that.

I gave them a head start. This end of the block was quite literally a sand mine for a while so you get the picture of what THAT soil profile looks like: gutless, lifeless, hydrophobic, sun-baked sand.

I wanted to set them up for success so I carted in barrows full of manure and good rich loamy soil clay blend from our friend Brad at Daly Downs. I scattered liberal handfuls of rock dust and topped the lot with pea straw. I pulled the first flush of non-beneficial weeds for them so



Monty digging with Bailer.



Can you spot the bee in the cosmos?



Lettuces growing in the sandy soil.

A few great quotes from *The Secret Garden*...

"If you look the right way, you can see that the whole world is a garden."

"And the secret garden bloomed and bloomed and every morning revealed new miracles."

"However many years she lived, Mary always felt that 'she should never forget that first morning when her garden began to grow'."

"At first people refuse to believe that a strange new thing can be done, then they begin to hope it can be done, then they see it can be done--then it is done and all the world wonders why it was not done centuries ago."

Frances Hodgson Burnett,
The Secret Garden



Bailer walking among the flowers.



Calendula's a vital part of the landscape.

their fledgling chosen plants could grow and I re-activated our worm farm to give them castings and worm tea on tap.

Both boys now scramble to take my spent coffee grounds to sprinkle around their patch. Each boy has his own bit of earth. Bailer has chosen to go hard into vegetable production with rows of carrots (some planted for eating and some planted to go to seed for collection) lettuce, corn, beetroot, melons, cucumbers and heirloom tomatoes. He has planted amongst it all edible flowers both for us and the bees but is passionately interested in basil and is aiming to collect every variety he can find.

Monty has chosen some vegetables but mostly strives for a sensory experience and has chosen to plant

strongly fragrant plants like rosemary, sage and lemongrass as well as lots of interesting or strange flowers and succulents.

If I lived in the middle of the desert I would garden. If I lived in a cave I would garden. I will and have gardened under whatever conditions are thrown at me because it isn't the end result but the act of gardening that gives me value. Value is in the movement and exercise, which can be as gentle as bending to pull a weed or hard graft carting loads of manure uphill in a wheelbarrow (pushing shit uphill, you could say) as well as the satisfaction of a job well done.

There is value in education: having an idea and trying out different ways to make it real, planning, researching,

experimenting. There is value in production, being able to produce herbs, fruit and vegetables for food and medicine, flowers for fragrance, friends or keeping beneficial insect numbers high. Saving seed and propagating to make more plants to share or grow your garden further.

Being in a garden allows you magical moments of optical ecstasy. The wonder of diamond dewdrops falling over the surface of a leaf, a rainbow glimmer of light through leaves, a flower turning its face to the sun. I am so chuffed to finally be able to pass the art of gardening back to my children. That was always the whole point of the garden we planned. They will inherit this bit of earth and they now know how to feed the earth that sustains them.

Hazelcombe Happenings

Hazelcombe Farm is an inspiring beacon of sustainable living located in a fertile valley about 50 km east of Mudgee in NSW. Hazelcombe is run by an indefatigable couple, **Nicki and Dan Power**. Regular readers will know that they have written for *Earth Garden* over the years. Nicki and Dan power through so many fascinating sustainable living activities in the course of an average year so we're continuing a regular series of snippets from Hazelcombe. For more details about the events at Hazelcombe, visit their website: www.hazelcombefarm.com.au.*

REHYDRATING THE FARM

Adon is going from strength to strength with all the work constructing bigger and better gardens, food forests, planting trees and creating edible landscapes. Nicki authored and presented a course for the local Watershed Landcare people with examples of rehydrating farms and Adon took them on a farm walk, explaining what we'd done so far.

We had followed Adon's advice several months previously and put in a big 2ML dam and hundreds of metres of swales. Now all we want is some rain! We're helping to build an extensive network of local farmers for ideas exchange and mutual encouragement. Our latest passion in our quest for rehydrating the farm and turning it into a Garden of Eden is forest gardens (highly productive forests) and silvopastures (grazing animals in a combination of grasses and trees – the most effective way of sequestering carbon).

There are lots of examples around



the world. We are particularly keen on the work of Ernst Goetsch with his syntropic farming and Well Springs Farm with their silvopastures.

• Nicki and Dan also somehow find time to run *Scythes Australia* and they send their beautiful crock pots by mail order all over Australia.

with Jackie French



The magical waterwheel: still Jackie's favourite piece of equipment on earth.

HANDMADE *with love*

Jackie describes a delightful range of household gadgets — handmade by her husband Bryan to greet her on return from the big wide world far from their bush property in southern NSW.

EVERY time I'm away for a few nights, in 33 years of marriage, Bryan has made something, and he has never, ever, told me what it was. I need to stumble over it, or, in one case, find it only when sitting on the loo. And as the editor has commanded that this is only 1,000 words, these are just a few.

THE DOOR CLOSER

Our house is fly proof, mouse proof, snake proof . . . except for the laundry by the back door. So the kitchen door is a screen door, and it must shut tightly, but also can be pushed open if my arms are full of produce for the larder. I'm sure there are doors on springs you can buy that do the job, but this door was

third hand and cost 20 cents, and I found the antique bottle in a mullock heap.

How it works. A human hand pushes the door open, thus pulling on the string tied around the bottle so the bottle rises. Then the bottle falls, its weight keeping the door firmly shut. The weight is partially the blue water: ordinary water with a few drops of food



The door closer.

colouring. Three year olds can play opening and shutting our kitchen door for hours. So did I when I first saw it.

THE DOOR OPENER

For when I want to go IN the kitchen door, but have my arms full of sweet corn or a large blue casserole. Place foot on thingy, flip door open, and there is just enough time to get inside before a fly can zoom past me.

THE WATERWHEEL

This was not a surprise. Bryan built it slowly over three years out of old bridge casing. I just happened to mention: "It's a shame we can't harness the energy of all that water," one day when the creek flooded.

Bryan began planning. In the days when we had copious water the wheel generated just enough electricity to power our lights, computers, music system and a few other necessities. The water ran back down into the creek. We did plan perhaps to sell the water, after it had pushed the buckets, to gullible exhausted city dwellers as 'de-energised water' as we had removed the electricity from it, but never got around to it.

The creek is dry now, and it would take an entire chapter to explain how the wheel works, from gears, and axle, to the recycled generator motor (which was once in the Honeysuckle Creek Tracking Station that saw men to the moon and back, and Bryan worked there on every

"In the days when we had copious water the wheel generated just enough electricity to power our lights, computers, music system and a few other necessities."



The bird feeder hard at work.

lunar mission).

And if you want a waterwheel hydro system you have probably already worked out how it's done. Bryan has just reminded me that you will also need plentiful water. But even without the shush shush shush of moving water the wheel is beautiful, and my favourite equipment on this earth.

THE BIRD FEEDER

How do you stop possums and bush rats eating the bird seeds, and stop the bigger birds from frightening away the small ones? I need a diagram to explain this. It is made from an inverted plastic pot with holes cut in it, so the small birds can feed inside and the large ones only cling to the edges, so their droppings go onto the ground, not among the seed. It hangs from a branch, and a sloping metal cap made from a bit of old spare tin bent into shape stops Possum X and his relatives from climbing down the wire to feast on the bird seed. If we forget to fill it the parrots and bower birds come and peck at the window where they can see



The sapling stair rail.

Bryan at his computer. And after he has finished a few more pages, Bryan obeys.

THE HAND RAIL

My recent back fracture means I need steadying going down stairs. I emerged one morning to find not a hand rail, but a friendly branch to hold onto. It had been a tree that had the temerity to grow in the driveway, and its width suited my hand. Trimming, smoothing, two coats of varnish, some firm brackets, and it was done.

THE LIGHT SHADES

We began our life here with no solar panels, then two solar panels, then four and we are now up to "I have lost count but some of the ancient ones still give a little power". But back then even electricity for light had to be rationed, with one only or two rooms lit at any time. The rooms are large, so instead of one powerful light for the whole room, we had them just above the chairs where we would read, talk, work or watch a video.

We have enough power now, and



Jackie's bedroom reading light.



The loo roll bracket.



Bryan's mouse trap.



Bryan bonding with granite in the early days.

even use the 'big' lights sometimes, but we have grown used to the pools of light among the dimness, rather than a world that is either dark or bright. Gradient light can have a million colours.

THE BEDROOM READING LIGHT

Find a branch the right shape, drill a hole through it for the wiring, nail it to the wall. The light's dangle angle means that I can read in a pond of light just large enough, while Bryan sleeps in dimness.

THE LOO ROLL HOLDER

I was so tired I didn't even notice this

the first night I was home. But next morning when I stumbled into the bathroom, there it was.

"Much better than one of those chrome things," says Bryan.

There is also the dining table extension; the leg heightener to make my office desk (an antique bank desk circa 1890 and \$10 at a clearing sale) the correct height for perfect typing posture; the vast stone Bryan took two years to move 200 metres using a series of winches and a lever and that is now our garden table with matching Stonehenge-

type rock seats, including the stone bench to watch the creek; the (almost) wombat-proof doormat and the entirely wombat-proof front door, back door and don't tell the wombats about the door into my study.

On my last couple of days away he made a new kind of latch for the larder. On my next two-day absence, he'll make... I have no idea, just that he has seen the need sometime in the last 33 years, worked out what to do and how to do it, and finally reached it on his list of projects. And every day I am surrounded by his magic and his love.



PURE ELECTRIC

THE POWER TO BE FREE

Integrated highest efficiency solutions, heat pumps & appliances, top quality installations, work with Australia's leading energy experts to free yourself from utility bills and achieve zero emissions

✓ HEATING

✓ AIR-CON

✓ HOT WATER

✓ STORAGE

✓ SOLAR

✓ EFFICIENCY

✓ CONSULTING

✓ COOKING

REDUCE YOUR ENERGY USAGE BY UP TO 93%

The Daikin US7 heater air conditioner, Sanden Hot Water heat pump and Methven Kiri Satinjet, powered by our best quality solar offering as your fully integrated home energy and comfort solution. All rated #1 in Australia for efficiency the Daikin, Sanden and Methven Kiri give you the most comfort for the least energy consumption.



DAIKIN



SUNPOWER™



METHVEN KIRI SATINJET



SANDEN

GET OFF GAS!!

MAKE YOUR HOME ALL-ELECTRIC TODAY

Your tailored planning, products and installation solutions. Run your home on Australia's most efficient heat pumps for heating, reverse cycle air-con & hot water, combined with trusted solar and battery storage. Your complete package giving you the power to be free.

CONTACT US FOR A QUOTE TODAY!

Sydney 02 9037 7311

Brisbane 07 3059 9729

Perth 08 6244 4348

Melbourne 03 8658 0733

Canberra 02 6181 0747

Adelaide 08 7123 6454

1300 86 7873

www.pure-electric.com.au

info@pure-electric.com.au

1300 TO PURE



Pool noodle puppets are easy to create and provide hours of entertainment for kids.

INQUIRE, PLAY, LEARN

Rachel Altenbacher, our energetic permie farmer from the NSW mid-north coast, enters a magical world of creative play and learning at the wonderful-sounding Mt George public school. Behold with wonder.

WHO COULD forget the day I put on an upcycled coffee bag hessian dress and spoke about eco-living at Envirofair? Charlotte who is six certainly didn't forget and when fate brought us together again months later, she remembered not only the dress but also my 45 minute community permaculture talk. Charlotte's compassion for the environment and her enthusiasm is such a joy. Recently we met under the trees at The Little Orange Farm to make flower crowns and I showed her I still had the little booklet in the shape of a love heart she made me as a gift. I carry it in my portfolio as a reminder of the

inspiration we can be to one another at any age.

With the help of a few of her school friends we constructed a statement piece of reverse garbage art which demonstrated the effects of plastic pollution on marine life. Families brought in bottle tops by the bucket load for a fundraising program and we repurposed the remaining plastic caps to resemble sea turtle shells by turning them upside down and cereal cardboard cut outs replicated their stubby legs, heads and tails.

Candyce used torn fabric for octopus tentacles to extend the sea-life theme and Isobelle drew a giant

fish outline to be filled with colourful trash. Our artwork instantly became a collaboration of thoughtfulness and recycled resourcefulness.

Within an hour of starting a new venture implementing sustainability in childcare I received half a dozen requests to tie shoe laces and realised quickly sustainability would have to wait. After many children insisted they just don't know how to perform 'life skills' we sat together and practised the same 'bunny ears and loops' analogy I remember learning as a child.

They were shown how to make damper, prepare their own Saos with real butter from scratch, and bake berry



Making flower crowns with friends under the trees at The Little Orange farm.



Candyce helping with collecting bottle caps for the re-purposed marine art sculpture.

muffins. The next day I arrived with a suitcase full of Nature and was surrounded immediately with curiosity. We started gardening with packs of seeds donated by local organic nursery Greenpatch, and built our own pallet gardens.

The menus I designed produced a lot of fresh food scraps so we implemented a worm farm to reduce waste and the nutrients enriched our tiny but practical garden. Every day the children took turns watering and most often Candyce and Isaac were the first to volunteer. They worked as a team to ensure no pot was left unattended and both helped decorate wooden signs donated by the local saw mill for the community garden. We grew wheat and sunflower seeds which lead to an idea of making grass heads. The children were delighted to return each day to see the grass growing through the stockings which were filled with parrot seed, sand and soil.

When I first met Principal Pete and teachers Kate and Jenn they impressed me beyond words! At Mt George public school a thriving kitchen garden is the talking point of the town. The children love being involved in planting, harvesting and cooking food and they even grew enough to each take home a vegie box. During a Nature mentoring course I completed we were invited to use observation journals to document our learning journey. Instead of buying one I made my own. The cover featured handmade leather binding and paperbark pieces I collected from a tree struck by lightning.

I cut the paperbark pages with pinking shears, covered in grated beeswax, placed baking paper over the top and ironed the wax until it soaked in, creating a fantastic flat surface. The first words I wrote were reflections from the children at Mt George public in



Rachel at Envirofair wearing an up-cycled hessian coffee bag dress she made for her community talk.



Charlotte wearing a flower crown her and Rachel made together at The little orange farm.



The leather and paperbark nature journal Rachel made to document reflections.

their outdoor classroom. "My favourite thing to do outside is build structures out of sticks, rocks and logs" – Malachi. "I like to play games bare foot and build shelters" – Adam. "I like pretending I'm surviving in the wilderness" – Ryan. "I love playing among the trees" – Emily. "I love being outside and getting dirty" – Tristan. "My favourite

thing to do is build huts and hunt pretend creatures" – Tom. "I like to lie in the grass with the leaves" – Shayla. "I love the feeling of the wind, and eating food from the garden" – Caitlin.

The proof is in the pancakes you might hear me say while awaiting a flame-fried serving at the most wonderful place on earth: 'Bush school'.

Roles of teacher and student are defined only by labels because here life lessons are guided by one's ability to problem solve and risk assess as an individual.

The educators and children sing songs, build forts, practise archery, use plant-based dyes, there is loose parts play, a slack line and mini trampolines. Bush school encompasses a philosophy

"Bush school encompasses a philosophy of nurturing empathy while encouraging free-thinking."

of nurturing empathy while encouraging free-thinking. The first time I visited the site at Tinonee one of the bush babies used a hand drill to make a wooden necklace and showed exceptional coordination. Seeing these principles in place reinforces the concept that gentle and kind ways do inspire accountability and positive behaviours and I refuse to believe that harsh discipline get results.

It does not matter how qualified or how many years experience one has, if you do not value children they will not lose respect for you, they question their own self worth. Cultivating positive self esteem in younger generations is the driving force behind change. First we care, then we take care of... and then they begin to care... for our land, our people, our planet.

For book week my colleague Beren and I dressed up in medieval re-enactment costumes and the children thought we were characters out of a fantasy novel. Together with Clair we constructed an interactive gold mine and water well where the children could



The children at Mt George public school busy in their kitchen garden.

discover real gem stones as well as mould clay figures. They spontaneously began developing trading systems and invented techniques to cover a large

surface area where sapphires and gold flakes were encrusted. Arona guided a hand sewing activity as well as wool felting and we drew artworks with biochar charcoal pencils. Jenny from 'Sweet Pea N Mumma' reminded us of the importance of storytelling in education while assisting the children with writing scripts and making bunting.

Then there is my dear old friend Henry who miraculously appeared one evening with a truckload of stage props and pool noodle puppets ready to dress for the theatre. Rachel, my lovely friend from 'Her.Art' shared ideas on crystal grids, flower petal art and the importance of cleansing energy in creative spaces.

I have found a fulfilment working with children that is not comparable to any other experience. Witnessing moments of self realisation where the holistic concepts we share become the core essence of their decision making is the definition of success. If we collaborate towards an abundant future we will find courage to withstand resistance and in turn communicate more assertively in our pursuit to become resilient.



Rachel equipped with nature craft ready to share skills with the local kids.

THE DRIVE

to grow green



Mark and Suds in the garden.

Brydie Piaf of Newcastle in NSW, gets a big dose of green inspiration in these parched, bushfire-burned, and smoky times.

IT'S THE COLOUR that hits you first. Everywhere you look, there are shades of green. Hidden from the street and coming from my own garden where it has all been a palate of brown for far too long. Mark's garden soothes like a balm to my sun-parched eyes.

Driving through the suburbs to get here, each block wearing the savage scars of a long, statewide drought – patches of

green are a novelty. Not here though. As I'm met at the gate by 'Suds' – an affectionate Jack Russell, I then step onto the back deck and it's enough to stop you in your tracks and give pause for a minute.

With potted plants adorning the sides of the deck, steps beckon you to meander down into the belly of the garden, eyes exploring every corner. Citrus trees line

the side; a sprawling mulberry tree holds the echo of clucking chooks that once were. A pizza-shaped garden takes visual centre stage, bursting with an assortment of colourful edibles, some easily identified, while others encourage a closer look.

Over the past 20 years Mark Evans, along with his wife Mandy, have created a home here that many folk dream of. With two (now adult) boys it's a space

*With radio murmuring in the background,
Mark sorts the seeds, creates compost, digs into beds,
and importantly – harvests crops.*



The pizza garden.

that has evolved over time, the backyard being an ongoing feature. It's a family effort in creating a space like this, however for Mark the garden has always been a special place to get lost over the weekend. With radio murmuring in the background, Mark sorts the seeds, creates compost, digs into beds, and importantly – harvests crops.

“We always have something fresh and something you can just go out and

eat. Whether it's handfuls of parsley or grated carrot. There's always something that you can add to your meal.” With a 15 year background as an ecologist and with permaculture roots, Mark's combination of science, practicality, and creative thinking is gently sown into the garden. At 50 metres long and 20 metres wide, the space seems far larger thanks to the clever use of plants dividing the space.

Keeping a yard like this productive during drought periods isn't easy. “You have to have water and good soil,” says Mark. Two tanks with a combined storage of 20,000 litres look after the precious water. Good soil however, that has to be worked on – and compost is key. Mark makes compost in batches of one cubic metre at a time, and there are always several piles on the go. Next? It's timing, and getting that right is as

important as great soil and precious water.

“You always want to be one step ahead of where you want to be,” says Mark. “Before spring comes, you’re thinking of what you want to grow, make sure you’ve got the seed, then get it sown out. Not early, not too late, keeping the garden full. You’ve always got to be thinking three months

in advance. That’s always been the juggle, making sure you are on the pulse. That’s the biggest challenge I reckon.”

In recent times, Mark’s garden knowledge has been shared with a broader audience and it’s something that he’s still a little surprised about: the popularity of his Instagram



Growing hops for home brew.



Hanging plants on the back deck.



Creating compost.

“The drive is always there for some reason, thinking about what’s coming up and getting some seeds in the ground.”

account. Starting as a casual joke, competing with his kids for followers, he concentrated on documenting what he knew best — his garden.

To compost more, to grow more, and certainly, to plant more. Anyone who has ever planted seeds in the ground knows that it’s done with a degree of hope. Hope that there will be the right amount of rain, hope that your seed will grow and hope that there will be a harvest at the end. That hope occasionally needs nurturing, just as my hope has, here in Mark’s (deliciously green) garden.

“It’s not the kind of thing where you go, ‘Nope, that’s it, I’m going to pack away the seeds forever.’ The drive is always there for some reason, thinking about what’s coming up and getting some seeds in the ground. You wander around the garden, see things getting bigger, or the fruits coming on . . . there’s always something to look forward to.”

FUTURE

The backyard was once a childhood haven kitted out with both a palatial cubby house and climbing ‘shoe’. The kids are now in their 20s will soon be enjoying the space in a different way. This year Mark will be farewelling his garden and joining his wife Mandy to tackle a new garden space on the NSW Sapphire Coast.

Coming away from Mark’s garden, that obvious enthusiasm for growing is evident.

● Follow Mark on Instagram:
[@thesuburbanservant](#)



Outdoor shower.

Someone GIVES A FIG



Blanched and marinated figs.

EG's garden chef, **Gary Thomas** from Daylesford in Victoria, knows how to reflect on his good fortune. What a rare and admirable trait in such a rich country as ours. Here Gary celebrates with a divine Italian pastry that you too can make and eat.

Photographs by Pete Swan.

TWO REALLY wonderful things have happened to me. Yes, that's right, another two really wonderful things.

Someone gave me a brand new commercial grade electric benchtop mixer of the highest quality from a renowned international manufacturer. The sort of place that produces exactly 57 completed units per day, from a single factory. Impeccable reputation.

And it's free. And it's red.

Then a lovely lady from nearby Clunes just walks in the door with

about 70 kilos of perfectly ripe figs, never met her before, she just thinks we might like them. And she is RIGHT!

Rushed straight off the tree, we eat about a gazillion each straightaway, and bottle the rest in homemade hazelnut liqueur. Hip hip HOORAY!

How good is that?

I mean, I have felt for some time the turn of the calendar and 2020 might send me some clarity of vision. I hope the whole human world gets a big dose of it actually, particularly all those old white privileged men who continue to

use every linguistic device available to deny and downplay our responsibility for a changing climate. Grrrrrrr.

Anyway, channelling the clarity of 2020 vision, it seems to me the mixer and the figs might have some entwined fate, some joint celebration of purpose, if only I can tease that purpose from my mind.

Thinking, thinking, thinking...

I also have a niece working in a large department store with impressive staff discounts. She kindly delivers me an automated pastry roller attachment



Nepitelles with a final dusting of icing sugar.

"I also have a niece working in a large department store with impressive staff discounts. She kindly delivers me an automated pastry roller attachment for my free mixer so now I can roll dough hands free."

for my free mixer so now I can roll dough hands free. I just need to work out why I'm mentioning these things all together now . . . the figs, the machine, the dough breaker, the machine, it's red, the figs, they're ripe, the dough roller, hands free, pastry, figs filling, guiding hands, red machine...

NEPITELLE!

I'm trying to make it sound like a word of exultation as in – Eureka, I have found it – because it suits my story; but the truth is that this is a dish from the southern area of Italy, sometimes fried, and here baked. The name means something like 'closed eyelid', which alludes to the traditional shape of the pastries.

NEPITELLE (MAKES 20)

For the dough

400g plain flour
150g caster sugar
170g butter, soft
3 whole eggs
1 egg, separated
Pinch salt

For the filling

300g figs, blanched
150g walnut pieces
150g ground almond
100g currants, soaked in orange or grapefruit juice
200g plum relish, marmalade, or similar
Rind of 2 oranges
1 tsp cinnamon, dash clove powder

Sift flour into a large mixing bowl. Stir in sugar. Add softened, but not melted, butter. Using the tips of your fingers, rub the butter into the flour until fully incorporated, and like a fine meal.

Make a well in the centre. Add eggs, egg yolk, salt. Combine all together. Knead until smooth. A vigorous five minutes or so. I like to push my knuckles into the back of the dough, twist, spread, recombine and repeat. Refrigerate.

Coarsely chop the blanched figs and mix together with the nuts, fruit, spices, rind and sweet relish.

Roll out the dough on a lightly floured board. Around 5 mm thick.

I went for mixed size rustic shapes. If you want something more precise, cut 10cm squares or circles. Brush all over the pastry pieces with the reserved egg white, place a good sized puck of the filling onto each sheet, draw up into a pouch, and nip all the edges to seal. Be generous but not too generous, if the edges can't seal the nepitelle will ooze and be too dry.

Egg white glaze the top of the sealed pastries. Bake at 160°C for 20–25 minutes. Serve with cream, custard, quince jelly or a mid morning coffee. My personal favourite is a quince jelly and it is so, so simple.



All the measured ingredients ready for mixing.



Rubbing butter into flour.



Kneading.

Peel, quarter and cook your quinces low and slow, with water and a little sweetener if you choose, at least 12 hours, until they are tender and plum in colour.

Pour all the liquid off into jars. It will be a naturally set jelly and keep refrigerated over a year.

And as I chew my pastry and sip my coffee, I close my eyes, and in clarity wish our Clunes fig tree owner might drop in again soon.



Filling pastry.



Gary falling in
love with his
automated roller.



Jars of figs.



Ditching Clark Kent

Our fave weekend hippie, **Liz Ingham** of Yarraville and Clydesdale in Victoria, reports cautiously from the frontline of corporate Australia.

AS EARTH GARDEN'S Special Envoy to Corporatalia, it behooves me to report periodically on that feared and alien culture. Chameleon that I am, by virtue of adopting corporate disguise and having laser surgery to stifle my eye-roll reflex, I have been able to blend in and observe behavioural habitat adaptations for several years without suspicion.

Earth Garden is prominently positioned in every magazine stand, but if anyone at canopy level in

the concrete and glass ravines has connected my email signature with this publication, my disguise is so convincing that they have (to date) reserved their suspicions.

HEALTHY FOOD IN PLASTIC BOXES

Supercilious opening paragraphs notwithstanding, it is interesting to experience the comfort of a well-functioning city support system. I want to stop thinking and just take advantage of how convenient everything can be.

If someone buys a salad in a takeaway container, there's a bin near where they finish eating, wherever they are — perhaps with a recycling logo on it. The container leaves their hand and disappears. The next day, the refrigerated shelves are dripping cool air over food in plastic boxes again.

So people think to themselves: "I fancy some lunch," or: "I'd like a coffee," and other people are walking around with a plastic box or a disposable cup in their hand and the



Our eco-Superwoman heavily disguised at a climate rally.

“But why? I don’t get it. I’m even more flummoxed that, despite all evidence to the contrary, women’s clothing is described as frivolous and men’s as sensible, especially when it comes to shoes.”

streets are clean, so it appears to be a normal thing to do when it should be aberrant.

Corporatalia’s understanding of the world is cushioned by well-run infrastructure. Public transport drops you a few blocks from your desk and the streets are lined with shops. You can wear the most ridiculous shoes because you never have to walk more than a few blocks.

I have no solution to that problem. I voted for the well-run infrastructure and I’m wearing the shoes.

MEN’S SUITS ARE MALADAPTED

Last time I worked in Corporatalia, I saw women in dresses and strappy heels struggling to stay warm in air conditioned offices and I thought they were fashion victims. But since then, my brain has reversed polarity.

When it’s 35°C outside, the best thing to wear is a sleeveless dress, bare arms, bare legs and the strappiest sandals you can find. Men in suits on the other hand are dressed so inappropriately that air conditioning systems must be cranked to the max to keep them alive.

Seriously, think about it. You know how hot the last summer was, yet half the residents of Corporatalia were dressed in a tailored jacket with batting, padding, interlining and lining on the inside, a long sleeved shirt with cuffs, a neck-tie, long trousers in the same

fabric as the jacket, a belt, socks that cover the ankles and solid shoes.

If he’s a real rebel he will nix the tie and leave the collar button of his shirt undone. He may even remove his jacket, but not in a meeting. The rules are so strict for men that, in some professions, any further departure would be career-limiting.

But why? I don’t get it. I’m even more flummoxed that, despite all evidence to the contrary, women’s clothing is described as frivolous and men’s as sensible, especially when it comes to shoes.

Because I’m sorry, men of Corporatalia, you don’t need covered shoes and socks. You are not stacking shelves. Your job is moving things around on a computer screen. Nothing is going to fall off the screen and hit you on the foot. Why must we burn coal to run air conditioners strong enough that your toes don’t cook like sous-vide?

The other idea is that suits are more business-like. Well, I have some impeccably tailored sheath dresses that can refute that argument, and which probably have a higher IQ and for all I know, AICD membership. The most generous interpretation of that sort of thermonuclear dog-whistle is that a man in a suit looks more businesslike than a man in whatever he wears on the weekend. And that’s the problem. Men’s fashion in Corporatalia is so

strictly codified, those are his options.

To be honest, much as it pains me to admit it, I don’t have a solution to the problem of men in suits, either. At the time of writing, one of them is running Australia while failing to notice the place is on fire and another one is tweeting conspiracy theories from his presidential toilet in the White House. Perhaps if they were allowed a little breeze over their ankles they might make better decisions.

SO, IN CONCLUSION

So, in conclusion, my grant application is to fund some of the great minds of the world to address this urgent problem which I just made up.

Getting back to my original point though, about disguising our environmental selves in the workplace – it is never necessary. Not any more. So I’m going to stop. Last year when I applied for an afternoon off for ‘personal reasons’, which was really to attend a climate emergency rally, half my co-workers saw the little protest sign I’d made. Some laughed at me, but good-naturedly. Others said if they’d known someone who was going, they would have gone, too, which is the thing I regret. There were 100,000 people marching on the streets of Melbourne that day. Enough that we can all drop the disguise.

Give life, live life

Beth Wyatt is (now) a certified permaculture designer and Educator following the ultimate in life-changing events. Here she explains how and why.

SIX YEARS ago, at the age of 29 I was given six months to live. I was diagnosed with AML, a very aggressive form of leukaemia. I was devastated. I had always tried to avoid chemicals, made my own washing liquid, never used anything that wasn't natural on my garden and constantly encouraged my friends and family to stay away from chemicals. So you can imagine how floored I was and how I felt like a hypocrite being pumped with nasty chemo as the only chance of survival.

After all the chemo I was given the news that unless they could find me a donor for a bone marrow transplant I would definitely be dead in six months. Then the miracle happened . . . they found me a donor. I don't know who my donor is, he has requested to stay anonymous. All I know is that he is an awesome person who has helped to give me extra time here.

So after four years in remission I decided I wasn't going to waste any of my extra time. I was going to achieve my dream to become a permaculture teacher, so I could get out there and do all I can to help heal the Earth for future generations.

I have recently graduated from Morag Gamble's Educators program



Beth with her chocolate kelpie, Penny.

and started my own business called 'Working Together Permaculture'. I hope to run workshops this year and have started social media pages where I can share information with everyone and also to continue to learn from others. Working Together I believe we can help to heal the Earth for future generations.

- You can read more about 'Working Together' on Facebook.





Chickens have always been a part of Rose's life, ever since she was a baby.

RECENTLY I read an article where the journalist was talking about her disappointing chicken-keeping experience, commenting that chickens don't pay their way and that they had been just a very frustrating and expensive exercise.

I felt saddened that this person had such a negative chook journey and wondered whether she had truly understood what chickens had to offer besides eggs. And what she could have done differently to maybe balance out her outlay of costs versus what she could

get back from her chooks.

Eggs are generally the main reason people embark on the chook keeping journey. But I've spoken to a lot of folks over 25 years of keeping chickens. And I've listened to them while delivering workshops and writing about poultry. Most chook keepers feel that their chickens bring so much more to their backyards than just eggs.

And some of these wonderful attributes you really can't put a price on, such as... it's fun! So, what do you get in return besides eggs?

The cluck **STOPS** *here*

Claire Bickle gets all forensic on the bottom line in the hen house — are your chickens paying their way? But does it even really matter that much to you?

- **Manure.** Yep, loads of poo. This is a great organic, nutrient-rich resource once composted down to add to the garden.
- **Pest removal:** chickens are great at consuming bugs and it is here that they get a good amount of their dietary protein requirements. Scratching up worms, munching caterpillars, grasshoppers and the like. Costs saved are that you will not be needing to buy garden care products to spray.
- **Weed removal:** chickens will quite happily eat a huge array of weed

"Maybe I'm biased but keeping a few backyard chooks I think is a wonderful pastime, even if there is sometimes an egg glut and then an egg famine."

species plants. Costs saved? Labour costs/your time, herbicides and the health of plants, as weeds can harbour pest insect species.

- Gardeners: chooks make great gardeners. Aerating soil, removing grass for garden creation, weed and pest removal, dethatching mulches, mobile feathered fertilising machines.
- Companionship: chickens are great for folks struggling with mental health issues and even just plain old loneliness. Caring for animals domestic and wild has proven to be therapeutic. We can see that in many situations such as aged care, children's hospitals and school ag programs.
- The Educational factor. Especially for children. Understanding that eggs don't come from a cardboard box. Plus, that there are a lot of wonderful skills to be learnt caring for and keeping livestock.

THE COSTS

When it comes to setting up, there is the initial cost of building the coop, the run and decking it out with nesting boxes, drinkers, feeders and of course chickens. So, let's break this down. Keep in mind these are estimates and will vary greatly.

1. The coop: you could buy a ready to go coop or pay someone to build it. That could cost anywhere from \$500–\$2,000. Or you could build one yourself from recycled materials at the cost of anywhere from \$0 to maybe at an estimate of \$200+.
2. The chickens. Starting with chicks will be cheaper than point of lay hens but there is the added effort of setting a brooder and heat lamp with chicks. Chicks can be



Chickens make the best gardeners - clearing areas of weeds, insects pests, all the whilst fertilising as they go.



Chickens are the ultimate backyard warriors on the war on waste. By turning kitchen scraps and garden refuse not only into eggs but more productive gardens via their manure.



Claire's greens galore thanks to chook-based compost.



Mucking out the hen house: it's great exercise and you get fabulous manure and bedding to compost.

anywhere from \$5 each to \$20. Heritage breeds will be more costly than hybrids. The average purebred heritage point of lay chicken can cost anywhere from \$30 to \$100, depending on breed and rarity. And there is always the option of ex-battery rescue hens, which, can be quite economic and the joy of giving

these hens a second chance at life.

- 3.** Interior design items. nesting boxes, roosts, drinkers, feeders... once again, the cost will vary greatly depending on whether you are going for homemade or ready to go. And ready to use items will vary depending on what they're made of and so forth.

Then there are the ongoing costs:

- Bedding: hemp, straw, lemon grass, sawdust . . . prices will vary depending on bag size and type chosen.
- Feed: grain, certified organic, pellets, meal worms, layer mash, shell grit. Drought will affect prices and of course your choice of feed and amount of feed eaten. This will be affected by whether your fowl have access to free range to supplement their diet or not.
- Replacement chooks: This can happen due to age, ill health and predation.
- Medicines and possible vet bills also need to be taken into consideration.

So, you can see it is impossible to put an exact weekly outlay cost on the keeping of backyard chickens. It depends on your choice of set up, breed and size of chicken purchased, feed choices. I do know though, that the average dozen of certified organic eggs these days is around \$12.

How to save dollars

- Lost feed. Don't allow wild birds to consume your chicken feed.
- Allow your chickens to free range and feed them unspoilt kitchen scraps to supplement their diet.
- Use a combination of leaf litter with your bedding choice to make it go further.
- Build your own coop and run with recycled materials.
- Buy ex-battery hens or start off with chicks.
- Maintain flock health and avoid disease by keeping your husbandry at a high standard within the coop and run with regular cleaning.
- Check poultry often for external parasites and treat. Early detection is key to halting any adverse effects



The joy of fresh egg collections.

- on your chicken's productivity.
- Maintain productivity by ensuring you are giving your poultry good quality feed and good levels of protein.
- When they are producing more eggs than you need, preserve the eggs by removing them from the shell and place into a container and freeze. Make quiches and the like and freeze. This means when they're off the lay you still have eggs on hand.
- Artificial lighting can also prolong

your chickens' laying into the shorter days of winter. Personally, I like to let them have a break.

Maybe I'm biased but keeping a few backyard chooks I think is a wonderful pastime, even if there is sometimes an egg glut and then an egg famine. Yes, there'll be some initial costs when setting up and the costs of ongoing care but it's all a part of the fun of subsistence living isn't it?



finger licking LIME

Fascinating — yet little understood — finger limes are on the mind this season of EG’s co-founder, **Keith Smith** of Artarmon in NSW.

Illustration by Daisy Gray

FINGER lime (*Microcitrus australasica*) is an edible Australian citrus, much smaller (as the modern botanical name suggests), than your common or garden lime or lemon. They’re just five to six centimetres in length and one centimetre in diameter. “*Citrus australasica*, vernacularly known

as the Finger Lime and Native Lime, is an evergreen shrub or small tree,” wrote horticulturist David Crichton in *The Australian Fruit Culturist*, published in Melbourne in 1893. Crichton classed finger limes as: “Among the few indigenous fruits that are deserving of attention”. The shape, he added,

“might be likened to a finger, hence the common name.” Indeed, finger limes are oblong, almost cylindrical and often curved like a small banana.

Finger limes are trending, as they say in other types of media. They are being ‘boomed’ by chefs who can’t resist the lure of a curious translucent fruit

“Finger limes grow on a thorny deciduous shrub or small tree, reaching four to six metres in height. They grow well under eucalypts.”



These native limes originate in lowland tropical and subtropical rainforests.

with little ‘pearls’ or ‘bubbles’ like caviar that go pop in the mouth and have a distinctively fresh, tart, sour, lemony flavour with a slightly oily aftertaste. Some growers and restaurants have rebadged them as ‘lime caviar’.

These native limes originate in lowland tropical and subtropical rainforests of northern New South Wales and southern Queensland, where they grow best. The wild berries or fruit, were traditionally eaten by the Bundjalung people of the ‘Big Scrub’, now mostly cleared. They were first named and described in 1858 by Ferdinand von Mueller, director of the Melbourne Botanic Garden, who suggested their use as a “scent plant”.

Early settlers in the bush picked finger limes as a thirst quencher. Like cultivated citrus fruits, finger limes are rich in vitamin C. They may be juiced, added to drinks, sprinkled into salads, fruit salads and desserts, used as a garnish or made into a tart marmalade. Why not substitute finger lime for lime juice in a sundown “gin and tonic”? They also go well with oysters and any kind of seafood. Best of all, finger limes will keep and stay crunchy for up to a year in the freezer and can also be sun dried.

GROWING

Finger limes grow on a thorny deciduous shrub or small tree, reaching four to six metres in height. They grow



Finger limes go pop in the mouth and have a distinctively fresh, tart, sour, lemony flavour.

well under eucalypts. The aromatic leaves are thick, oval and green, one to three centimetres long. They bear fragrant white or pink flowers in spring and summer. All kinds of birds are attracted to the prickly bushes. Individual fruits are usually green or might be yellow, pinky red, blood red or purple when ripe.

Some ‘experts’ say finger limes grow best north of Ballina, New South Wales and others that they will succeed anywhere in frost-free areas where oranges and limes thrive (even in Victoria). This is a matter of experiment and experience, otherwise known as trial and error.

In cooler places the limes need a partly shaded north-facing site, protected from wind. It’s best to obtain

plants grafted on citrus rootstock, usually *Citrus trifoliata*, which will bear first fruit in three to five years. Plant in well-drained and composted soil.

Add a layer of mulch around the shrubs in spring, and water regularly to keep the soil moist in summer. Finger limes grow well in pots and large containers and will succeed in a sunny greenhouse. You can trim bushes as a hedge or train them as espalier climbers. Fruit must be ripe when gently hand-harvested, but avoid picking when wet. Typically trees bear fruit every second year.

VARIETIES

There are now dozens of finger lime varieties.

‘Russell River Lime’ (*Microcitrus inodora*)

This citrus was named in 1899 by EM Bailey, Colonial Botanist of Queensland, while climbing Mt Bellenden Kerr. Juicy oblong fruits.

‘Mount White Lime’ (*Microcitrus garrowayi* or *M garrowayae*). A tropical green finger lime from the Cape York rainforests. Fruit is like a small lemon, with a sticky skin smelling of citrus when cut.

‘Alstonville’ is a tall-growing shrub producing pitted blackish-green skin and bright green flesh.

‘Pink-fleshed finger lime’ ‘Rainforest Pearl’ or ‘Blood Lime’ (*M australasica* variety *sanguinea*). This hybrid, crossed with a mandarin, has pink or red flesh, rather like that of blood oranges. Rind and juice might be red.

Chookipedia

Claire Bickle, EG's much-loved chook guru — and popular cover model from the summer issue along with the handsome Jean-Claude — imparts more chook wisdom answering the tough questions.



Q

Above is one of our eggs from one of our young chooks and next to it is one from our old rescue chook, which is all wrinkled. Any ideas please Claire?

Andy Hickson, Toowoomba.

A

The paper mâché type shell is usually caused by the fact that the

hen at some stage of her life may have had infectious bronchitis. It is also common for ex-battery hens to have this due to the excessive amount of egg laying they have endured. The whites of their eggs become far waterier inside as they age, and this apparently makes it difficult for the shells to form smoothly around the egg's internal contents. The eggs are perfectly fine to eat.

Q

What is going on? My bantam that has been laying eggs seems to be crowing. What do I do about it?

Lisa Johnson, Lismore.

A

This generally occurs when a rooster has been removed or is absent. A hen will take on the dominant rooster role and can take the job very seriously. For example, doing what we call mock



crowling and even trying to mount (mate) other hens. All this whilst still laying eggs. You could try removing her from the flock for a few days and then reintroducing her.

She will have lost her place in the pecking order and be too busy sorting herself out socially to be crowling (fingers crossed). If she starts to produce male plumage and larger wattles and comb it could be that she

actually has a damaged ovary and is becoming phenotypically male. Kind of like a sex change but not completely. This apparently occurs in 1 in 10,000 chickens.

Q I have a hen that has become blind in her right eye. I've read chickens have mono vision and the right eye is for food. Will I have to be more

cautious with her feeding? She knows where the feeder is.

Brodie Millsom, Brisbane.

A If she knows where her feeder is and appears to be eating as normal, she should be fine. I'd just watch the other hens to ensure she isn't all of a sudden being bullied.

WHAT IS AVAXHOME?

AVAXHOME-

the biggest Internet portal,
providing you various content:
brand new books, trending movies,
fresh magazines, hot games,
recent software, latest music releases.

Unlimited satisfaction one low price

Cheap constant access to piping hot media

Protect your downloadings from Big brother

Safer, than torrent-trackers

18 years of seamless operation and our users' satisfaction

All languages

Brand new content

One site



AVXLIVE:ICU

AvaxHome - Your End Place

We have everything for all of your needs. Just open <https://avxlive.icu>

“You can buy brooder boxes from produce stores or make one yourself, there are heaps of DIY designs online.”



Q

Please can anyone help me? My chook has been incubating fertile eggs and they’ve just started hatching. But she keeps kicking the chicks out of the nest area just as they’ve hatched. We’re at a loss what to do.

Naomi Allsop, Mount Crosby.

A

You can raise them yourself in a brooder box. This a box with a heat lamp to replicate the warmth and

cosiness of a mother hen. You can buy brooder boxes from produce stores or make one yourself, there are heaps of DIY designs online. You will also need to kit it out with a small drinker and feeder. And feed them a chick starter feed and then move onto a chick grower feed from 6-12 weeks of age.

Q

I have epic proportions of flies. Please help!

Karyn Abraham, Bellbowrie.

A

Prevention is probably the key factor here. Cleaning out the coop regularly — especially in summer — will remove the fly-attracting chicken droppings. There are also a variety of fly traps available at produce and hardware stores. They will need to be emptied regularly because the dead fly build up can be quite on-the-nose.

Rockmelon

TOUGH PLANTS, YUMMY FRUIT

Wendy Bartlett of Normanville in South Australia is our longtime contributor on fundamental food growing. Here she gives us the insider tips for growing this yummy vine fruit.

DEPENDING on where you live in Australia you may be more familiar with rockmelons as canteloupe, but regardless of the words, they both belong to the Cucurbit (melon) family, of several varieties. Rockmelon grows in the warmer parts of Australia or in the warmer months in the southern regions. They tend to need large areas to be able to sprawl about the ground as they wish, although some of the smaller heirloom varieties can be grown over or up a trellis to save space and are ideal for smaller gardens.

The supermarket variety we are used to is a poor example of the sweet, delicious, and easy to grow heirloom or organic varieties available to grow in our home gardens. Once you've tried homegrown – you can never go back to the supermarket varieties, which are often poor in flavour and texture.

Besides – it's so much more fun growing your own and trying all the different flavours and textures Mother Nature has provided us with. But to ensure the heirloom varieties are not lost altogether, we need to find

our favourite, save the seeds and give them away to family, friends and the community we live in, so more and more people can enjoy these wonderful aromatic and sweet-tasting fruits.

SOIL PREPARATION

Rockmelons enjoy a rich, fertile soil above pH 6, that's worked over with well-rotted manure at least a month or so before sowing seed. As plants can produce large crops, apply some slow release organic fertiliser at planting





Grow your own,
save the seeds, then
offer them around.

*“Once you’ve tried
homegrown – you can
never go back to the
supermarket varieties,
which are often
poor in flavour and
texture.”*

and reapply at six weekly intervals throughout the growing season.

SOWING SEEDS

Because rockmelons need warm soil, at least over 15°C, it’s a good idea to make hills and plant three or four seeds into the centre and water in well to ensure early germination in mid to late spring in the cooler areas of Australia. Choose the strongest seedling once they emerge and mulch well with old hay or straw to maintain soil moisture during the hot weather. I have a drip hose watering system which waters the plants beneath the mulch and therefore reduces chance of mildews developing on leaves during periods of rain or humidity.

CARE OF DEVELOPING CROP

Apart from six-weekly applications of organic slow release fertiliser, if you have access to your own homemade liquid fertiliser, as in run off from a worm farm, this can also be added for a quick nutrient boost.

They are relatively shallow rooted crops so water a couple of times a week in hot weather to ensure soil remains moist. Pull back on the watering when fruits are ripening as this will improve flavour.

If you are training a small variety up a trellis, gently tie in the vine as it grows and if the fruit is a little large, you can always support it using old stockings, which are flexible as fruit grows. Tie them to the support like mini hammocks and the fruit can rest in it.

WHEN TO HARVEST

Indications of ripeness include becoming aromatic (this is for scented varieties like musk melons); stalk starts to detach from the stem (this causes a slight incision in the fruit which can be a magnet for European wasps so keep an eye on plants to ensure wasps aren’t devouring them from the inside out); and the blossom end of the fruit (end opposite the stem) becomes soft and the skin takes on a waxy

appearance. If in doubt, tap the skin and it should sound hollow inside.

COMPANION PLANTS

Rockmelon loves growing in amongst sweetcorn and sunflowers as it can wind its way up plants for support. But avoid planting potatoes nearby as they inhibit each other’s growth.

BEST PICKS

For small gardens and earliest to fruit – Digger’s seeds – ‘Minnesota Midget’ – up to one metre of space and up to 18 fruits per plant.

Areas with cooler summers – Digger’s seeds – ‘organic sweet granite’. Superbly sweet tasting – Digger’s seeds – ‘Ha’ogen’ and ‘Delice de la Table’.

DID YOU KNOW?

Musk melons have a strong aromatic scent when ripe and were once carried around in the pockets of European ladies in the days when bathing was not a ‘common’ occurrence.

Visible

MENDING

Jo Roberts from northern Tasmania shows us a delightful Japanese method to mend old clothes – to make an attractive feature of what causes most people to throw them away. Show your visible mending with pride!

I AM someone who absolutely detests shopping for clothes. Some years ago I quit shopping for new clothes, for so many reasons – new clothes require considerable natural resources, mostly they are made by exploiting the labour of vulnerable people, and even then they are still ridiculously expensive.

The way I get my clothes now is by gladly accepting hand-me-downs (or hand-me-ups, from my children), and swapping out my own unwanted clothes the same way. As a last resort I drag myself to an op-shop and stand helplessly in front of the racks upon racks of clothes, in a kind of existential daze of despair, and more often than not decide to make do with what I already have and scuttle over to the books instead with a sigh of relief.

It was when I was faced with yet another pair of jeans with a worn

through patch on the bum (occupational hazard of being a writer and sitting down all day) and the terrifying prospect of going op-shopping again to replace them, that I did a little research and stumbled on the concept of visible mending.

Patched pants and mending in general have always been a necessity for those of us who can't afford to go out and buy a new piece of clothing every time something tears. Indeed, beautiful, almost invisible mending stitches were once an indispensable housekeeping skill. More recently, visible mending has emerged as a modern twist, making an art form of an age-old necessity.

A form of visible mending I am particularly enjoying experimenting with is a twist on a traditional form of patching old Japanese kimonos. Not the beautiful silk ones worn by the posh people, but the simple, indigo-dyed

clothing worn by the peasants, mended and patched so much, sometimes over generations, that eventually they resembled patchwork. This kind of mending is called boro, and the running stitch that is used to secure and quilt the patches is called sashiko. There are all sorts of beautiful and decorative variations on sashiko stitching, but in my experiments I have stuck with the basic running stitch, with the occasional bit of cross stitch when I was feeling daring.

I started experimenting with an old pair of pyjamas from the rag bag, patching them with pieces of other old pyjamas from the rag bag, and using a single strand of embroidery thread for the sashiko stitching. What I have discovered is that patched pyjama pants are warmer – so handy during a Tasmanian winter.

There are several basic techniques for visible mending. One is to add a

"It was when I was faced with yet another pair of jeans with a worn through patch on the bum (occupational hazard of being a writer and sitting down all day) . . ."



Jo uses a single strand of embroidery thread for the sashiko stitching.



Another patching technique is to patch behind the hole.



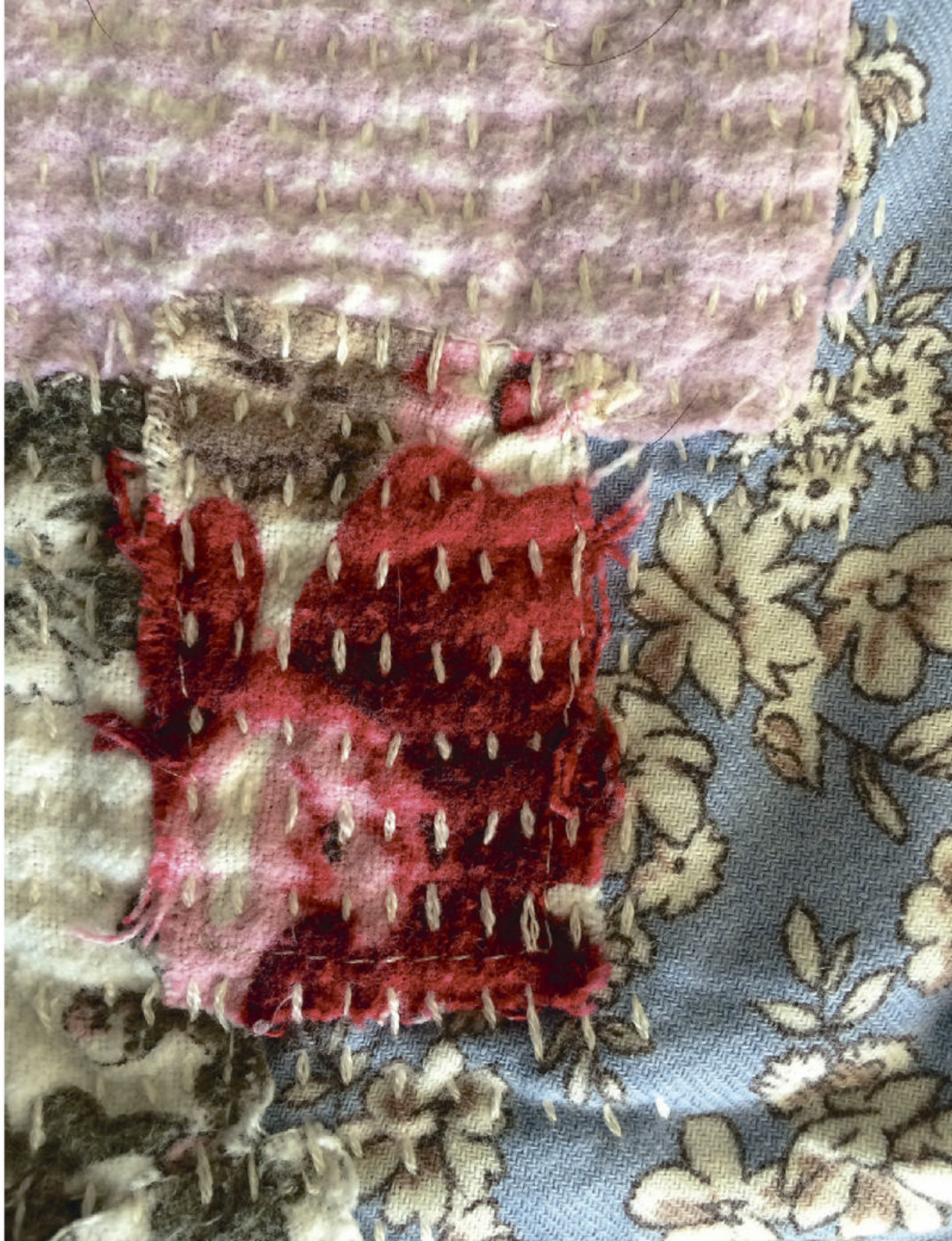
Darning socks is something our grannies did endlessly.



Use denim on denim. A heavy patch will rip a delicate fabric, and a heavy fabric will pull apart a delicate patch.



Why not make a feature of the mended hole?



Pyjamas from the rag bin mended pyjamas that avoided the rag bin.

patch over the top of a hole. This is good for covering an area with a few little holes, to cover stains, or where fabric has become thinner with wear. I fold the edge of the patch under and sew all the way around, then sashiko stitch across it for extra strength and general gaudiness.

Another patching technique is to patch behind the hole. Trim around the hole, fold it under and sew all the way around to neaten the edge. Then pin the patch behind, sew around the hole again with a running stitch to attach the patch, then again, the sashiko stitching across. This was how I mended my jeans, and it's such a relief that now I don't have to go out and try on numerous pairs at the op-shop — which makes me cantankerous for days.

One of the most important things to keep in mind when patching is to use

the same kind of fabric for the patch as the fabric of the clothing. Use cotton patches on cotton, flannelette patches on your flannelette pyjamas, and denim on denim. A heavy patch will rip a delicate fabric, and a heavy fabric will pull apart a delicate patch. If you want to patch your jeans with an adorable cotton patch, tack the cotton fabric to a denim patch then sew it all together with the sashiko stitches, and it will likely stay together for longer.

Visible mending techniques don't stop at boro patching, of course. Darning socks is something our grannies did endlessly, because natural fabrics like wool and cotton wear through fairly easily. My merino socks are deliciously warm, but I am always darning them. Recently though, I have stopped trying to darn them invisibly with matching thread, and have been using some

bright red wool from my wool stash. This makes them ever so much more cheerful, and it's a sheer delight to take your boots off after a day of gardening and see bright woolly mends in your socks. I am eagerly awaiting the day when I get holes in my knitted jumpers so I can darn them as well.

I love the idea of making old things new again, and I am really enjoying the notion that mending does not have to be invisible: it can be a way to celebrate thrift and creativity and can be joyful and fun. It's an added bonus that hand sewing is something you can do while chatting to friends or listening to Agatha Christie audiobooks. Absolutely the best outcome of creatively patching my clothes though, is that I am contemplating a delightful future that no longer holds the terrifying threat of shopping for clothes.

OXENFORD HONEY

BATTLES HIVE BEETLE



A bee box frame loaded with capped honey

Kerry Lazzarotto, from Cobram in northern Victoria, has a gripping tale about the destructive impact of hive beetle on her family's 50 year-old tradition of producing their own honey.

DRIZZLED across sourdough toast at breakfast or thrown into honey joys for the oven, few can deny the delectable taste of fresh honey straight from the hive.

Here on our family property in northern Victoria next to the beautiful Murray River near Cobram, our family has been reaping the rewards from extracting homegrown honey for 50 years. Amidst the heat, flies, stings and occasional cursing, it is the family's enthusiasm for real, natural and unadulterated food that ignites the passion for this 'backyard hobby'.

The property has nine hives, set

among red gum and box eucalyptus trees growing abundantly throughout the Murray River region. This year has been an unusually productive year with the hives overflowing with honey. However, this has not always been the case. Indeed the road to healthy production has been beset with problems, frustrations, apathy and resignation.

Amidst a growing awareness of drastically declining bee numbers worldwide, it came as some concern when, three years ago our hives too, had begun to die off. Thinking it was perhaps due to a couple of bad winters,

Richard recalls: "We would find swarms in the spring and replace those that had died until we managed to keep about three hives alive."

Then, in the summer, while attempting to extract the honey from the hives, they noticed a couple of unusual things – the first was that the hives were incredibly aggressive, and the second was the appearance of four or five little black beetles, sheltering in the corners of the box. "What was even more amazing was how the bees were attacking the beetles," Richard commented.

According to a study by the NSW

“For us a, chemical solution was out of the question — especially given that our land is currently in transition for organic status.”

Department of Primary Industries 2005, the Small Hive Beetle (*Aethina Tumida*), are located along the East Coast of Australia between Queensland and Victoria having come into the country from South Africa in 2002.

They are mainly found in humid regions. According to the study, the beetles are attracted to weaker hives and are spread mainly by the movement of beekeepers, of bee hives and bees, but will fly freely to contaminate a nearby hive.

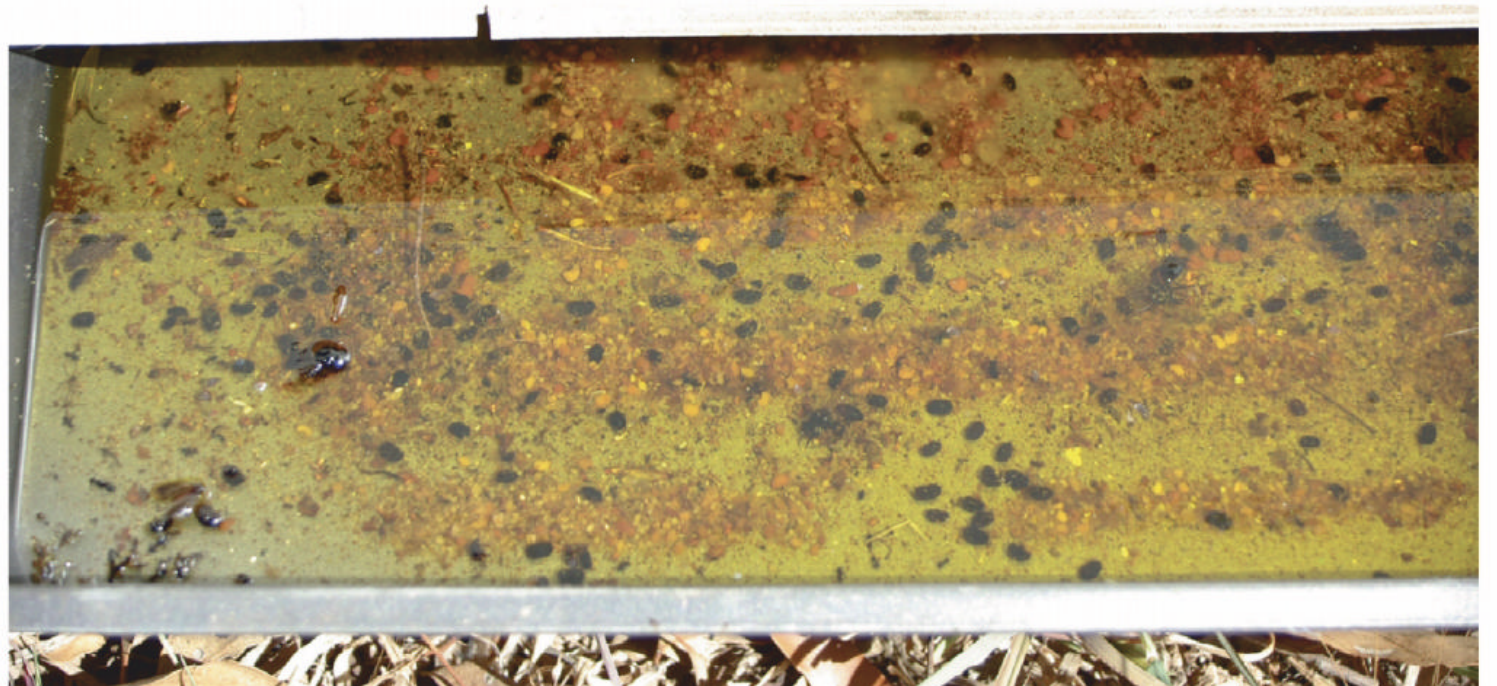
“The beetles will fly long distances, up to seven km, to follow a bee hive. Once they move into the hive they lay their eggs in the honey combs where their larvae feed on the hive wax and brood,” John commented.

They eventually weaken the hive either eating it out or releasing a yeast which causes the honey to ferment. The greatest challenge is to break the cycle which allows these ravenous little creatures to reproduce. Once the beetles lay their eggs, and the larvae reach about 10mm long, they will then seek out soil outside the hive in which to pupate (often underneath the hive), and once hatched, the new beetles will fly and infect new hives.

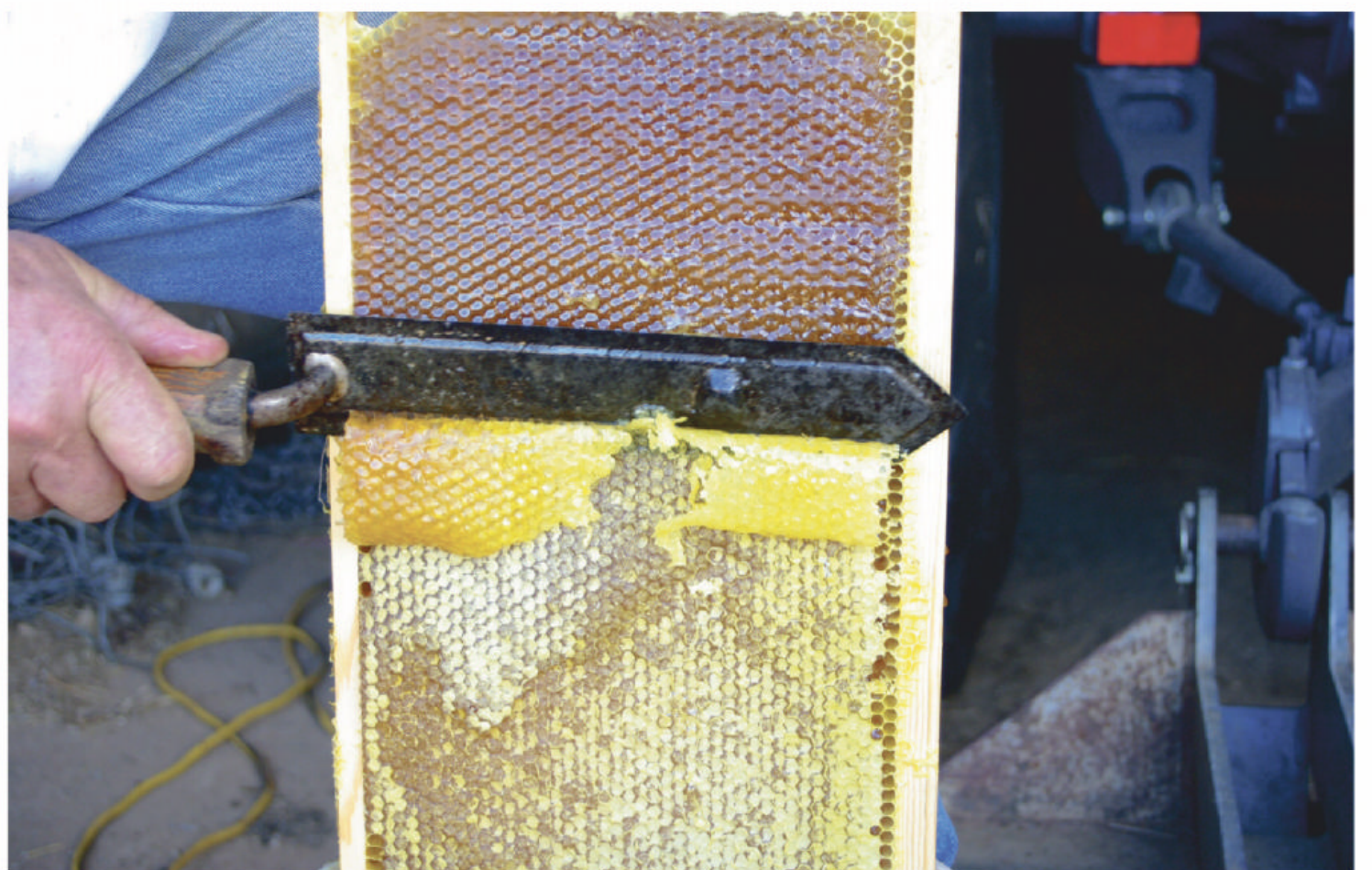
So where to from here? For us



Bees making honey comb on the lid of the box due to an overloaded hive.



The beetles drowned in a sea of olive oil.



Decapping the honey with an electric knife.



Father and son dynamic duo: Richard and his father counted every beetle.

a, chemical solution was out of the question — especially given that our land is currently in transition for organic status. The approach we took, rather than trying to eradicate the beetles altogether, was aimed at maintaining a balance between bee numbers and beetles, thereby strengthening the bee's capacity to fight back by cutting the beetle numbers down.

So after some researching on the internet, Richard got busy making his own traps, which involved fitting a large baking tray underneath each hive. "First I had to cut a square hole in the bottom of the boxes and then make grooves to slide the trays in underneath," he said. "With a cutting disc and grinder I

would first cut slots into the trays dotted all over the base," he commented.

This clever procedure was based on the premise that as the bees attack the beetles, they would either run or fall through the slots to escape the bees and drown in a tray of oil underneath. What of the bees themselves? Well they would remain safe as their size would restrict their ability to follow the beetles through the slots.

The results were incredible! Thinking we only had a small beetle problem, we were to find that after checking the trays over a month we had caught just under 1000 beetles across the three hives. And yes, Richard and his father counted every one of them.

The clearest indicator that the traps were indeed working, was the way the hives quietened down. "Previously these bees would ferociously attack and sting as soon as we opened the bee boxes, but as the beetles began to disappear they became calmer, almost serene," Richard commented.

To this day the bee boxes are producing honey at a healthy rate with hive numbers growing from strength to strength. Through a system of natural control, a balance has been re-established within the hive populations.

• *For more information on constructing your own traps check out the following website: www.oxenfordhoney.com.*

from garden to tummy

Nutritionist and mega-mum, **Jessie Kapitola** of Perth, continues her series on healthy kids by closing the circle: encouraging kids to cook whether grow.



First catch your tiger — or beans.



Tomatoes ready to roast.

OUR little people have such busy, active minds and bodies. The rate at which they grow and learn, especially in their first five years, is astounding. So the way their little bodies are fuelled and nourished during this time is really important. Not only does good food fuel them through busy days and help them focus at school, but it helps to set them up on a path towards good nutrition and food choices that care for their bodies for the rest of their lives.

As a nutritionist, it worries me just how much misinformation is out there around different diets and ways of eating. Despite their differences, the thing that almost everyone agrees on is that we

should be aiming to eat more plants — and where better to start a lifelong good relationship with plant food than in our own home gardens, with mum and dad setting the example?

We have already talked about how getting them out into the garden gives kids a great opportunity to explore and learn at their own pace. How seeing where their food comes from makes fresh fruit and vegies feel much less mysterious and scary. Well now we complete the circle by having our children learn to cook with what they grow. Straight from the garden to the kitchen!

I'll be the first to tell you that cooking with small children is not



Incredible
Hulk muffins
— down the
hatch.

INCREDIBLE HULK MUFFINS

These are great for breakfast or lunchboxes

- 1 1/2 cups flour (we use half wholemeal)
- 1/4 cup rolled oats
- 1/4 cup almond meal
- 1.5 tsp cinnamon
- 2 tsp GF baking powder
- 1/4 tsp bi carb soda
- good pinch salt flakes
- 1/2 cup coconut sugar
- 100g fresh spinach
- 3/4 cup milk of choice
- 1 medium banana, overripe
- 1 tsp vanilla bean paste
- half a medium avocado, very ripe OR 2 tbsp butter of choice
- 1 egg OR 1 flax egg

1. Mix together all of the dry ingredients in a large bowl then set aside.

2. Blend together the spinach, milk, banana, avocado, egg and vanilla until smooth.

3. Pour the wet mix into the dry mix and fold together until evenly combined.

4. Place mixture into muffin trays and bake in a preheated moderate oven for 20-25 minutes or until they spring back to a light touch.

Makes 14-16. Eat warm or cooled – these ones freeze well too!

exactly a relaxing activity. It is messy and it can be a little chaotic (especially if you are like me and you love order!) but it is FUN.

Children love to spend quality time with their adults, they love to get their hands messy and they sure are proud of their hard work and creations. Teaching them how to prepare food and cook for themselves is a crucial life skill. Their health and their budget will thank them long term. And it will certainly help them develop a respect and appreciation for anyone who

does the cooking for them!

Being involved in the preparation of the food gives amazing, gentle exposure – touching, holding cutting, stirring, shaping, smelling it as it cooks and maybe even licking a sticky finger gives more unpressured exposure to foods that they might not otherwise have comfortably popped in their mouths. Over the years, with my four little ones, we have experimented with lots of recipes to use our produce – so from my family to yours, here are two of our favourites to get you cooking!

“We have already talked about how getting them out into the garden gives kids a great opportunity to explore and learn at their own pace. How seeing where their food comes from makes fresh fruit and vegies feel much less mysterious and scary.”

PRESERVED TOMATOES

We love to add these to our Bolognese and pasta sauces for amazing, rich flavour.

- cherry tomatoes
- fresh herbs (I use basil, rosemary and thyme)
- garlic olive oil*
- salt and pepper

*If you don't have garlic-infused oil, use olive oil and scatter through a handful of crushed garlic cloves.

1. Wash and pat dry your tomatoes. Remove little stems. Place in a lined baking dish.
2. Tear herbs and scatter around the tomatoes. Drizzle very generously with oil, and season in salt and pepper to taste.
3. Place in a preheated 200°C oven for about 40 minutes.
4. Allow to cool for a few minutes in the tray and then scoop into a sterile glass jar, including all the juices. Top with a little extra oil before sealing.

Store in the fridge for up to a month.

Happy gardening and cooking!



Confit tomatoes.

UPCYCLING

satisfaction

PART TWO

Julie Humphris continues her two-part story about upcycling in her bush village in NSW. She attacks the task with evident gusto and brings her positive energy to a sometimes-challenging task.

THIS year I've attended batik and polymer-clay beadmaking workshops at a neighbouring town's creative festival where the sessions were heavily subsidised so the fee was only \$10 a class. Our local TAFE has run a free three-session course in clay teapot making run by a friend of mine who is an internationally-famous artist — wonderful fun. Another local TAFE offered a free eight week 'Introduction to Art' course. And I attended a free eight week beginner sewing class where I learned some great insider hints and

tips and made a pair of trousers from an old curtain.

Friends and I have also been to resin-pouring workshops and a felted hat workshop each costing my maximum spend budget of \$50 each. I had a great trade of teaching a one on one rag rug lesson for a huge bag of jabotica fruit . . . winning! It's great to share a skill you have that perhaps you didn't realise others would value so highly.

I joined my local CWA branch a while back and it was quite a giggle

when completing my membership application: the ladies crooned in chorus "Ohhhh, a young one!" That alone was worth the membership fee. I informed them all early on that I don't do "CWA quality craft, I'm a fan of the upcycled and imperfect". These ladies are an amazing group of skills brains trust, so even if you don't feel the need to join, ask them to be contacted when they run a craft, cooking or preserving session. It's great to remind them that their knowledge is valuable and worthy of being shared.



Learning pasta making from experienced hands at our local skill and produce swap group.

"It's great to share a skill you have that perhaps you didn't realise others would value so highly."



Saving old damaged t-shirts from landfill one rag rug at a time.

My wonderful and very knowledgeable grandmother is such an amazing woman, turning 90 this year (and still quilts). She shares her 80 years of sewing, cooking and preserving experience whenever I have a question or just can't get something to work out how I expect it to. There's nothing better than a cuppa and chat about her growing up on her family farm during the war and how they provided not only for themselves but also for the nation. These were of course very creative upcycling times with every item that came into the home being absolutely treasured and reused multiple times in many different forms. There was respect

and care for the luxury of items, no throw away society back then.

Concerns over excess contributions to landfill, unnecessary over-consumption and waste clothing is as we know a huge concern at the moment. A T-shirt in particular can be so versatile in its reinvention. It can become a scarf with one simple action of removing the area above the armpit; a couple of stitches and it can become a skirt; a pillow cover; makeup remover wipes; pieces for a quilt; softer-type hankies for those times when the nose is way too sore for the regular thinner and sometimes scratchy hankie.

I've taken some shirts in pretty

awful condition and cut out the best pieces to add to rag rugs, patch other clothing, make headbands, wine bottle cooler liners, plant ties, covering old metal bangles to create funky new jewellery and even completely going off the deep end and using an old shirt with a great print on the front to make new nickers. We also line brooder boxes, dog beds, fill cushions and use in place of wading in quilts with the scraps and any that are too far gone for anything else.

If you have upcycling, preserving, gardening or self sufficiency skills and experiences please know that those new to the journey see you as a wonderful resource. So share your skills no matter



Finding potential for beauty in an old opshop purchased curtain to create super comfy trousers.

how basic you think they are. It may be something most people didn't know that could make all the difference. It could make others see their world differently and open doors to the fun of self reliance and spark the flame of enthusiasm. Put your hand up to share your talents and pass them on to keep the skills alive. Many more than you will probably never know will be forever grateful.

Now, let's rescue old T-shirts from an unnecessary destiny of landfill before their time.

TSHIRT PILLOW

Find a tshirt with a great pattern or picture, again cut off the top part from the under arms up, turn inside out and see closed one end. Now sew closed half of the other end, turn it back in the right way and stuff with whatever you have handy until the pillow is to your liking then see closed the remaining gap. Lay out and admire your work. Don't forget to keep the pieces that you cut off somewhere safe as they are just as useful for other future projects.

THE BIG SORT



EG's permaculture expert, **Bruce Hedge** of Newham in Victoria, ponders the benefits and challenges of sorting piles of useful inherited goods.

WE HAD a barbecue last night. It was simply the most delicious food we've cooked outside in years. Homegrown vegetables, and free range chicken in a sensational marinade grilled slowly to delicious perfection on a much better gas barbecue than we ever expected to enjoy. There's a sad back story.

Alice's youngest sister died quite recently, and she and her sisters have been dealing with all the decisions that clearing a household demands. Long story short, we had space to inherit several nice items we'd never have bought ourselves. Including a really good barbecue. As we dined watching

the sunset we contemplated our 'slow living' lifestyle. I imagine most EG readers, who care for the earth, don't just go out and buy every latest labour saving or diverting gadget. By contrast, we feel personally responsible for many objects that come into our lives uninvited.

Is there any reader of EG who hasn't sighed and gazed at a pile of 'good' things that needed re-purposing otherwise they'd be tossed into landfill? It's hard work to sort and move on all that stuff responsibly! You really have to care a lot, and sadly most don't care enough, yet.

Our pondering at our sunset

barbecue reminded us that having space for what turns up brings delicious pleasures too. Slow living has meant that nicer things can just come along. We're appreciating a couple of beautiful artworks we'd never have thought would be on our walls. It's interesting to think that people who already have all the trimmings in their lives may not have room for inheritance of better items. Our 20 year old washing machine was on its last legs, and has been replaced with a much more efficient high quality one, which I hope lasts as long!

It's so nice when a found item works perfectly in our lives — and



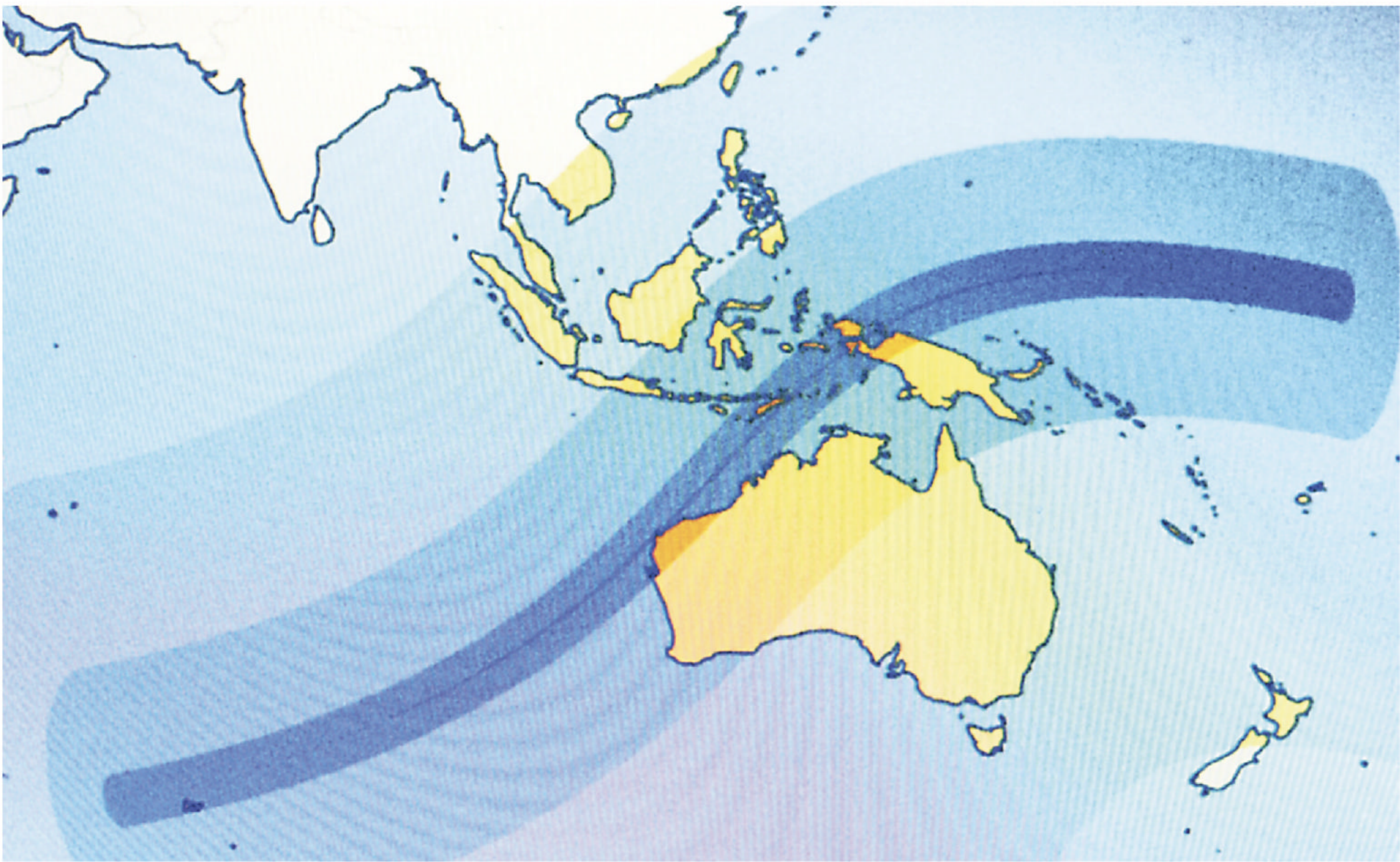
Stella helping Pop tie tomatoes up in the greenhouse.

we can enjoy it guilt-free! How refreshing to allow some good quality or interesting item that we'd never buy ourselves to live with us for a time. Our EG lifestyle has necessitated me expanding my skills in repairing things. When no one in the family wanted

the beautiful desk lamp because it had an electrical problem and apparently "couldn't be fixed", I brought it home, and three hours later I have a lamp I enjoy every day. I'm glad that by not buying every possible product that we 'need', we get to enjoy the unexpected

arrival of quality things of beauty, interest and comfort. It's a real joy to know we're recycling, reusing, and generally appreciating objects in a whole new way.

And one more pleasure . . . meaningful objects prompt memories



Path of the 2023 eclipse just skimming WA's west coast.

and stories; we talk about the one we lost, we tell stories of them to the children; we make meaning and keep our loved ones alive in our hearts and minds at a sad time.

My tomatoes this year are looking particularly good, and over last winter I renovated the beds in the greenhouse to accommodate this year's crop. A simple system using rings cut from inner tubes and baler twine supports the growing plants allowing them to grow very tall, and, with good a set of dripper lines on the ground, a large crop is almost guaranteed.

I keep being reminded of the advice from an old EG friend, the late Allen Gilbert: "... all you need for tomatoes is good soil, and water, water, and more water," he said. The old reliable Apollo Improved and Grosse Lisse are still main crop varieties, but early Sweet Bite and Black Russian are great favourites for taste.

And now for something slightly different. I'm celebrating a milestone birthday in 2023 and as a present to myself I'm going to do a bucket list trip to the point on the Australian mainland which is as far away from our home in Newham as you can get. That's

3,385 km, in a straight line to be exact. (Broome is only 3060 km!) I predict I won't be alone on 20 April. In fact I suspect there will be many thousands of us as we crowd together to observe a rare total solar eclipse on a thin path through the narrow Exmouth peninsula, 1100 km north of Perth. It's the last total solar eclipse in Australia until a big one in 2028 across Eastern Australia. If you haven't seen a total eclipse, it's one of the greatest natural phenomena you can experience. I've only ever seen one — in October 1976, just north of Melbourne. Never to be forgotten. Put it in your diary — I'll see you there!

Churning in the garden

Steven French continues his delightful series of snapshots from his family farm in northern Tasmania.

LIFE doesn't get much better than this. It was a stunning morning and I was churning butter on a table in the garden, listening to jazz while the magpies warbled in tune. The butter turned easily (which is not always the case) and our tribe of animals were



The butter goes into the freezer for use over winter.

hanging around keeping company.

Of course Missy (our little Irish jenny) tried to help, but she spilled the bucket that held the rinsing water.

Never mind, at least she was giving it her best shot. It would be great if she could turn the handle of the churn. She did watch what I was doing very closely so maybe she will grasp it one day.

This was only a small churning of butter – it made nine pats. Usually it is around 11. This butter will go into the freezer for use over winter. What we make now gets us through until the cows calve again in spring. My wife is also making yoghurt today – almost two litres at a time. Next week it will be cheese.

All of the milk comes from our two house cows. Surplus milk is currently being used to fatten some Muscovy ducks.

Because we live well inland my family and ancestors seldom ate fish and I could never figure out where they were getting their Omega 3 from. Research now shows that pasture-raised meat and dairy is high in Omega 3, in some cases higher than fish. Our milk is Type 2 protein, grass fed on organic pastures. I don't think we can do much better than that.



Stephen's two house cows.

Nev's invention:

THE DEEP RESERVOIR

Nev Sweeney of St Clair in NSW continues his long-running series of super-practical DIY projects that help us tread more gently on the Earth. Here Nev builds on the previous summer-issue story about the deep pipe irrigator with a clever reservoir enhancement.

HERE in Sydney (plus most of NSW and indeed almost all of Australia) we are in drought so I have been spending time working out ways to maximise our water use. One way allows us to use greywater from the house to deep water our perennials, working with our previously installed low tech, low cost but highly efficient deep pipe waterers (see previous issue of EG).

We gather water from the bathroom, laundry or kitchen, say if we wash and peel vegies into a bucket, or use a bucket to catch the water coming from the tap before it flows hot, or whatever, to apply the water to the garden. Our problem is if we toss it onto the well-mulched soil surface. As with any watering of the soil surface, it may or may not make it through the mulch, some will be lost to evaporation and what does make it into the soil will encourage surface root development rather than deeper roots, which makes the plants more susceptible

to droughts.

I wanted to come up with an easy way (gotta be easy or it won't happen!) to pour the water deep into the soil without standing around for 15 minutes pouring while the water soaks slowly into the soil. If it uses (for us) existing infrastructure, is quick simple and cheap to make, from parts which are readily available, so much the better!

The answer, it turns out, is the deep pipe reservoir or 'DPR'. (if you can think of a sexier, more catchy name, please let me know). The DPR consists of three parts:

1. 100mm x 50mm PVC taper level invert.
2. 1 metre length of 100mm diameter PVC pipe; and
3. 100mm PVC straight coupling to keep them both together.

Total cost for the setup is a bit over \$25. Add in a bit of blue glue to hold it together and a bit of shade cloth or

equivalent mesh and a 105 – 127mm hose clamp (at \$3.45). Admittedly, if you do not intend to put any water into the DPR which has solids which may clog the holes in the Deep Pipe waterer, such as vegie peelings or food residue from plates rinsed, the shade cloth and clamp are not required.

The manufacturing is easy as possible. Apply some PVC pipe glue to the outside of the taper level invert and the inside of the straight coupling, then insert the taper level invert into the straight coupling and hold it in place for a few seconds, then repeat the process with the 100mm PVC pipe, inserting it into the other side of the coupling. Cut a piece of 120mm square gauze or shade cloth (if used), place it over the top open end of the 100mm PVC pipe and secure with the hose clamp.

To use just remove the mesh and C-clip securing it from the top of the deep pipe waterer and slide the open

"I wanted to come up with an easy way (gotta be easy or it won't happen!) to pour the water deep into the soil without standing around for 15 minutes pouring while the water soaks slowly into the soil."



The large diameter PVC pipe will hold lots of grey water and means you don't need to stand around for 15 minutes filling up the deep pipe irrigator you built after Nev's previous story.

end of the DPR over the now open end of the deep pipe waterer. Now that it is installed, water can be poured from a bucket or whatever container is in use, through the top mesh, filling the inside of the DPR. Then it is just

a case of allowing the water to drain into the deep pipe waterer, thereby providing irrigation for the chosen plant. The DPR may be left in place for subsequent watering of the same plant, or transferred to another plant which

requires irrigation.

The DPR is light, strong, cheap to make and easy to use. If you have deep pipe waterers in place, make one today. If you don't, start making and installing them today, don't you know we're in a drought?



A 100mm PVC straight coupling keeps the taper level invert and the PVC pipe together.



The 100mm x 50mm PVC taper level invert.



The scrap of shade cloth and clamp will only cost you about \$3.50.

behind the scenes

NUMBER TWO IN A SERIES

TANYA JENKYN

Tanya is a diehard groupie for trees. A well-formed leaf makes her weak at the knees. Call her Chairperson of the Flower Fan Club and Secretary of Seeds. She roots for the tubers and rhizomes of the Earth. Whether there is mushroom or not, she'll fill it with plants. Maybe xylem and phloem courses through her veins because given the chance to speak for them, she'll convince you to help plants proliferate. Coming from a long line of gardeners, Tanya's childhood was spent wandering treelined pathways where she would make cubby houses from foliage and magical potions from flowers. Habits flow down the family tree so it will come as no surprise that Tanya's children also seek to make the world around them grow greener. As a herbalist and horticulturist, she never underestimates the power of plants to heal. Not just with their pharmacological activity and nutritional benefits, but their very existence makes the space around them vibrate with better health.



BRYDIE PIAF

Brydie is a Newcastle based storyteller and photographer. She is passionate about sustainability-focussed living and community strengthening activities. She works on a diverse range of projects. Teaching primary school children the benefits of keeping native bees, sharing her enthusiasm for all things fermented, rethinking community organic waste going to landfill and gathering the unique stories of local community members. She is passionate about connecting people to help create stronger, more resilient communities. With a background in healthcare, inspired by permaculture — and personal projects aside — days are often shaped by her three permanently ravenous children. She prides herself on being able to create a delicious meal with very few ingredients. As a keen gardener, cook and sourdough baker Brydie weaves as much creativity into the day as she can. Also being an enthusiastic thalassophile, Brydie is often found swimming at dawn where the combination of early morning light over the ocean appeals to her photographer's eye, whilst soothing her writer's mind.

JILL REDWOOD

Jill lives in a small remote valley nested in the forests of East Gippsland. She moved to the small settlement of Goongerah and created a magical and productive food park and animal sanctuary from a blackberry ridden cow paddock. Jill's apprenticeship in making-do and simple self-sufficiency began in her early 20s. Jill then built her pole-framed house: the 'house that Jill built'. She set up off-grid power, fenced, planted, adopted many animals and established a large food production system. Jill has been writing about self-sufficiency for EG since 1990.

While living in the remote Gippsland forests Jill also works tirelessly for our environment. As a key forest campaigner in regional Victoria she has been instrumental in protecting important forest areas and continues this work as the co-ordinator of Environment East Gippsland. Jill now runs a small eco-accommodation cottage. She continues to advocate for our wildlife and our forests and their critical role in climate moderation.



JUDITH GRAY

Judith has been the co-publisher and book review editor of *Earth Garden* for 30 years. She lives with her husband Alan and children on a solar-powered 'urban farm' at Cable Beach in Western Australia. Judith is an accomplished artist, art teacher, and yoga and meditation teacher. She is knowledgeable about food gardening, compost and chooks. Judith also runs the *Earth Garden* office, as well as being a Director of the Earth Garden Foundation Ltd, which she helped establish in 2008. Judith has been involved in many other projects and environmental campaigns, and home-schooled three of her children for three years. She was the main cook for a local emergency food charity in Broome, training other cooks for five years. She has travelled extensively throughout the remote deserts of Australia, and trekked in the Himalayas to the most remote Tibetan valleys to install solar lighting in health posts.



JACKIE FRENCH

Jackie French AM is one of *Earth Garden*'s most loved writers. She has written her column for EG continuously since 1986. She has written over 240 books and won more than 60 national and international awards. Jackie is one of Australia's most popular children's authors, but is also an historian and ecologist, writing across many subjects such as the award winning eco history *Let the Land Speak* and her historical novels for adults, all with a deep ecological recognition. Her books are part of the Australia Curriculum. *Diary of a Wombat*, illustrated by Bruce Whatley, has been translated into 34 languages. It was also on *The New York Times* bestseller list. Jackie was awarded the 2015 Senior Australian of the Year, and Australian Children's Laureate 2014-2015 as well as Australian Literacy Ambassador 2011. In 2016 she was appointed a Member of the Order of Australia for services to literature and youth literacy. In her early twenties Jackie moved to Araluen, near Braidwood, NSW, where she lives with her husband Bryan Sullivan. They have turned their property into a conservation refuge. Jackie is the director of The Wombat Foundation and patron of many organisations to help children and the earth.

KEITH SMITH

Keith Vincent Smith is a writer, historian and journalist. He and his wife, Irene Smith, co-founded *Earth Garden* in 1972. Keith has always maintained his column in *Earth Garden*, and has therefore been writing for the magazine for 47 years. Before *Earth Garden*, Keith worked as a journalist on the *Sydney Morning Herald* and *The Australian* and was a correspondent for Australian Associated Press in London, Saigon and Sydney. As a mature student, Keith gained a doctorate degree at Macquarie University. He is a notable historian of the Eora, Sydney's coastal Indigenous people, and author of *King Bungaree* (1992) and *Bennelong* (2001). Keith worked as senior researcher for Episode One of the acclaimed TV series, 'First Australians'. In 2018 he became an Emeritus Curator of the Library Council of NSW in recognition of his exhibitions 'EORA' and 'MARI NAWI: Aboriginal Odysseys' at the State Library of NSW in Sydney. His blog EORA•PEOPLE is online at www.eorapeople.com.au/.



ALAN GRAY

Alan has been the editor of *Earth Garden* since 1987. He lives with Judith (co-publisher) and their family on a solar-powered urban farm at Cable Beach in WA. Alan worked as a journalist in Melbourne before taking over *Earth Garden* from Keith and Irene Smith. He has always been an environmental and social activist, pre-dating the Franklin Blockade. Alan is the Chairperson of the Earth Garden Foundation, and has worked for 12 years with their Indigenous partners in the Himalayas to install solar lighting and power in more than 55 remote village health posts and regional hospitals throughout Nepal. Alan and Judith owned Australia's first commercial electric car, the first 'Blade Runner'. He is a keen organic food gardener and surfer, and has travelled extensively through remote desert regions of Australia with his family. Alan has an abiding interest in Aboriginal culture and works on projects to help remote Indigenous families solve their financial crises.

Edited by Judith Gray

SHAMPOO WITH A PURPOSE

Handcrafted soap

\$15

www.shampoowithapurpose.com/shop

I am going to be honest here and say I have been on a quest for quite some time to find a shampoo that doesn't aggravate my somewhat sensitive scalp. I live in the tropics where life is pretty sweaty. I have long thick hair so between dynamic yoga and gardening the task of keeping my hair fresh requires plenty of strategic thinking! So why the fuss? It's the plastic. I don't make my own soap, but I don't want to put up with all the plastic containers, wrappers, fillers and general muck associated with the bathroom.

In Australia alone 5.3 million consumers – that is, 27.1 per cent of the population – purchase single use plastic bottles every week. Including FMCG goods such as bottled water and food products, shampoo and conditioner bottles, body wash, and other non-descript plastic containers and lids . . . a mere 36 per cent of plastic bottles are recycled annually. This results in approximately 373 million bottles going to waste and damaging the environment irreversibly.

Not good, and here is what you can do. 'Shampoo with a Purpose' offer a range of all-in-one shampoo-conditioner bars, packaged in a beautifully illustrated cardboard box. Pure and simple. Shampoo with a Purpose have a unique manufacturing process, making their all-in-one bar worth up to six bottles of shampoo and conditioner. Without going mushy! No joke, it lasts forever.



This no nasties product is a naturally lathering bar with no harsh chemicals, palm oil, sulphates or animal by-products — and it's pH balanced for use on scalp and hair. Just what I've been waiting for. Amazingly economical and gentle on my scalp.

Thanks so much to the mother and daughter team Liz and Geneva at Shampoo with a Purpose, who have crafted such a lovely shampoo and taken the junk out of my bathroom. Get on their website to read their story: www.shampoowithapurpose.com/shop



THE EDIBLE GARDEN COOKBOOK & GROWING GUIDE

by Paul West

Published by Pan Macmillan Australia

Paperback 300 pages

\$39.99

River Cottage Australia host, Paul West, is passionate about family, community and the simple things in life. After reading Paul's wonderful guide to

THE ATTENTION REVOLUTION

by Alan Wallace

Published by Wisdom Publications

Paperback 200 pages

\$21.00 inc GST

and postage from

www.bookdepository.com

With so much discussion about stress management, and the magic of mindfulness meditation, it is difficult to know where a meditation practice could start. Here you will find a superb set of exercises that will truly deepen concentration.

Attending to, or staying focused on a single object sounds like a pretty simple instruction, but as we learn from the author and experienced meditator Alan Wallace, this is just the tip of the iceberg.

If there is one essential ingredient to beginning a meditation practice it is relaxing. Something that our fast-paced Western lifestyle doesn't really support. To be successful, don't I have to be doing something?

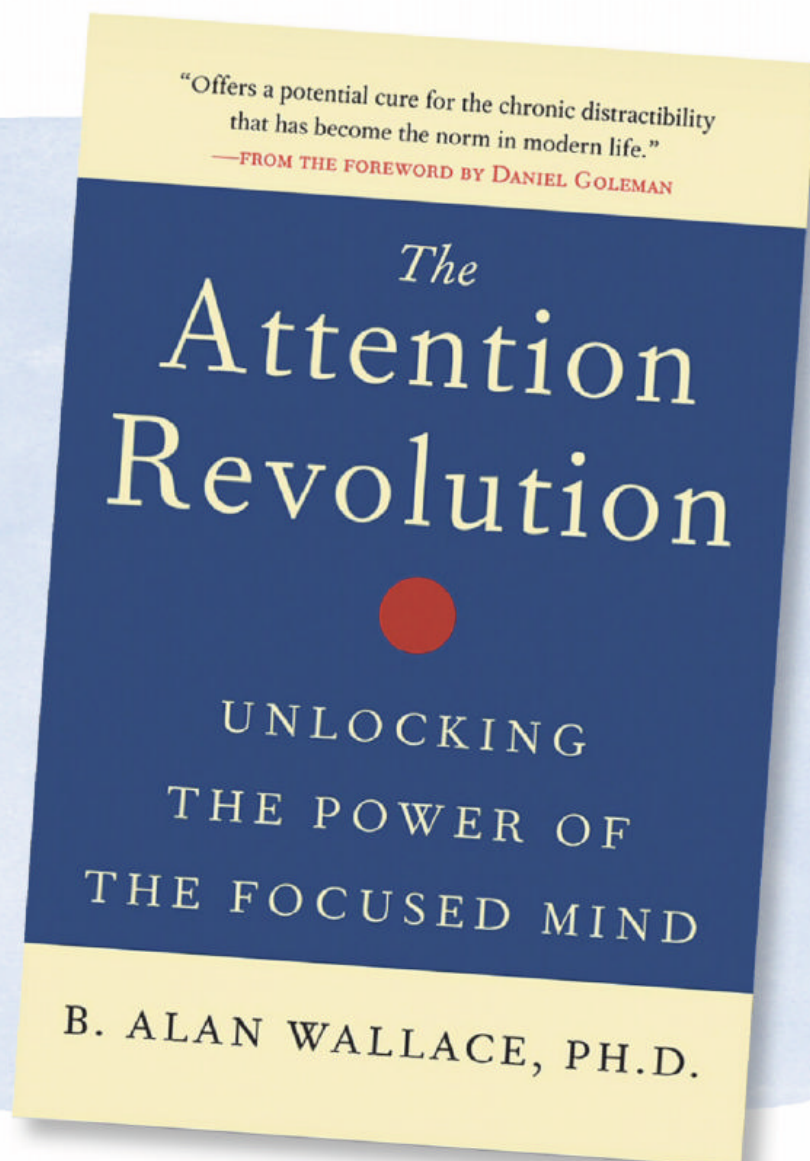
growing and cooking produce it is safe to say he understands what's truly important in life: connection to environment, family and community.

This book is presented in three parts, Grow, Cook and Community. Learn how easy it is to grow and cook some of your own food, no matter how much space you have. Grow micro-greens, try growing edible plants in pots or perhaps you would like to learn the basics of wicking beds. A cook's garden wouldn't be complete without a compost heap or a worm farm. Paul has some great first hand tips.

This book presents a number of ways to still the mind in its natural state. Use the focus on breath and awareness itself to explore the potential of your mind. Consider that in its natural state, the mind is calm and clear. It is our addiction to stimuli that keeps our minds imbalanced. See-sawing between dullness and excitement.

Enjoy more than 50 of Paul's favourite family recipes: simple, produce-driven dishes that are bursting with freshness and flavour. And then there are ideas for fun food activities to do with your community, whether it's hosting a pickle party or passata day, brewing beer with some mates or whipping up a batch of homemade snags.

This book is a first class how to manual, including an A-Z guide of the vegies that are easiest to grow. It celebrates real food and will inspire you to get your hands in the dirt, cook up a storm, and share.



This book was originally published in 2006, but with Alan Wallace's recent visit to Sydney I was reminded of what a valuable tool this book is for relaxing and releasing stress and anxiety associated with modern living. Steeped in ancient wisdom, translated into modern expression, this book is a classic.

Edited by Alan Gray



South Australia continues to lead the country in smashing renewable energy production records.

RECORD HIGH: 64 PER CENT OF SA POWER FROM ROOFTOPS

The Australian Energy Market Operator says South Australia's push towards "net 100 per cent renewables" is accelerating rather than slowing down, with the 2018-19 contribution of wind and solar providing 52 per cent of the State's total generation.

The State, since closing its coal generators in 2016, has become a net exporter rather than an importer, the report says, while emissions have fallen to their lowest levels ever, and wholesale prices in the last few months have been the lowest in the country.

The rise and rise of rooftop solar in the State has been the most astonishing, though, and at one point last year – on 10 November – accounted for 64 per cent of the State's 'operational demand', when the combined output from solar panels on homes and small businesses totalled 832MW.

Within four years, AEMO expects the output of rooftop solar to reach 100 per cent of operational demand, with the installation on big industrial roofs and some ground-mounted, behind-the-meter installations tracking at, or even above, its most optimistic forecasts.

AROUND \$1 PER WATT FOR SOLAR ROOFTOP

Longtime solar rooftop price comparison site, Solar Choice, has updated its figures for the start of 2020. The figures show that the actual out

of pocket cost of a 10kW solar rooftop varies between \$8,550 for Sydney and as high as \$11,320 for Hobart. This is a large system and reflects the long-held belief of experts like Matthew Wright of Pure-Electric, that householders should 'super-size' their pv rooftop arrays (if possible) to maximise their generation during peak sunshine hours.

These prices include both the up-front incentive available for small-scale systems through the Renewable Energy Target (STCs) and GST – they represent the total out-of-pocket cost of the system to the customer.

Solar Choice have now removed 2kW options from their comparisons and added 6kW due to the rise in popularity of 6kW systems. Meanwhile, average prices for popular 5kW systems are \$0.9/W, or about \$4,500 out-of-pocket. 'Premium' and 'microinverter' options for the same size system are coming in at about \$5,650 and \$7,000, respectively. Search Solar Choice's 'Solar Quote Comparisons' for more details or to obtain three quotes.

SA'S BIG BATTERY TO EXPAND

The Tesla Big Battery in South Australia — the largest grid battery in the world — is to expand by 50 per cent. In its first year of operation, the existing battery saved SA consumers more than AUD\$50 million. The expansion, which will be completed in the first half of 2020, will see these savings continue to grow. The 50 MW/64.5 MWh

expansion of the Hornsdale Power Reserve (its official name) will further showcase the complete benefits that grid-scale batteries can provide to the National Electricity Market (NEM) and Australian consumers.

Alongside additional power system reliability and continued cost savings to consumers, the expansion will provide an Australian-first, large-scale demonstration of the potential for battery storage to provide inertia to the network — which is critical to grid stability and the future integration of renewable energy. This will ensure South Australia can continue to harvest its world class wind and solar resources and support the transition to net 100 per cent renewable energy generation in the 2030s, and further drive down electricity prices for all consumers.

The South Australian Government is committing AUD\$3 million per year for five years in grant funding toward the expansion through its Grid Scale Storage Fund, to secure the delivery of the inertia benefits greatly needed by the grid.

The Hornsdale Power Reserve expansion is the first project to receive support from the fund; established in November last year to accelerate the deployment of new storage projects capable of addressing some of the key challenges that are having cost and security impacts on the South Australian power system.

SOLARSHARE: CANBERRA'S COMMUNITY SOLAR

The ACT remains on track to become home to Australia's largest community-owned solar farm after early site preparation works including test pitting for Aboriginal artefacts recently commenced for the 1MW project north of Canberra Airport.

Canberra's SolarShare raised over \$2.36 million from more than 400 Canberra-based community investors for the community solar farm, with the investment based on a long-term power purchase agreement with the ACT



SolarShare principal executive officer, Lawrence McIntosh, who is head of the new community solar farm at Majura in the ACT.

Government. SolarShare also secured an \$800,000 loan from local renewable energy developer CWP Renewables.

Lawrence McIntosh, SolarShare's Principle Executive Officer, said recently: "We hope that learnings from this project can be applied in other parts of Australia to help other communities build their own solar farms. This is just the start. Our vision is to have a string of solar projects, opening the investment pool to more people. We work with owners of large rooftops as well as land. SolarShare can offer to install solar panels free and sell you cost-effective clean energy."

EVS TO DRIVE 20-FOLD INCREASE IN BATTERY STORAGE

Major Australian energy generator and retailer AGL has signalled a new focus on the 'shared economy' in electricity and transport, with the prediction that electric vehicle uptake will drive a 20-fold increase in behind the meter battery storage capacity in the coming decade.

AGL expects EVs to account for half of all new car sales in Australia by 2030 – adding a major new source of demand for electricity, and increasing distributed battery storage capacity to a forecast total of 40GWh.

AGL's head of distributed energy, Dominique Van Den Berg, says the shift to EVs is inevitable, given the expected arrivals of more models, increased range, and projected decreases in cost.

"Half of all new cars sales will be electric vehicles," Van Den Berg said. "The

principle of orchestrating a home battery is exactly the same as for a mobile battery. But when, where and how we charge is more complex. We are looking at more than 7000MW (of storage). That's the equivalent of 28 open cycle gas turbines," she said. "In many respects we have to manage these assets in the same way as we manage gas assets."

AGL wants to be able to manage these assets in much the same way as it does larger assets on the wholesale market, and one of the big targets will be the "solar duck curve" which is lowering demand and prices in the middle of the day. Price variations are increasing and the company intends to use this price signal, and the need for dispatchable and flexible capacity as more coal plants exit the market, to invest in batteries and pumped hydro power station.



EVs, like the new Hyundai Kona, to account for half of all new car sales in Australia by 2030.

PLAN FOR 90 PER CENT RENEWABLES BY 2040

The Australian Energy Market Operator has warned the national grid will need at least 30GW of new wind and solar capacity to replace outgoing coal power plants over the next two decades, and could require up to 47GW if governments got serious about climate change.

The figures were unveiled in January in AEMO's draft Integrated System Plan, which details grid transformation scenarios ranging from 'slow change' through to 'step change' – what must happen if we listen to scientific experts and try to keep average global warming as close as possible to 1.5°C.

In this scenario, AEMO outlines a plan to reach around 90 per cent renewables by 2040, via at least 30GW of new wind and solar – and up to 47GW – and significant amounts of dispatchable capacity.

The bulk of this new capacity would come from large-scale wind and solar, AEMO says, supported by distributed (mostly rooftop) solar, hydro power, and 'dispatchable' technologies like big batteries, and 'virtual power plants'. Black and brown coal, meanwhile, are virtually eliminated from the grid, and gas is priced out by cheaper and more efficient storage technologies.

Whatever the scenario, the key message is that urgent action is needed. The draft plan identifies a series of urgent actions needed to accommodate the inevitable switch to wind, solar and storage, even if the pace of that transition differs in varying scenarios.

"The Draft 2020 ISP sets out how to build a least-cost system for Australia," AEMO chief Audrey Zibelman said in a statement accompanying the report.

—Solar Choice

EARTH MARKET



Mind food! See our website for details of the next Scything PLUS workshop at Hazelcombe Farm, Mudgee. Sustainability, self reliance, fermented foods, innovative tools and practices, horse drawn ploughing, blacksmithing, woodworking, scything and more. Network with enthusiasts from all around Australia.

HAZELCOMBE FARM
1c Totnes Valley Road
Totnes, New South Wales
Phone: (02) 6373 4270
scythesaustralia.com.au

Join WWOOF™ today!
World Wide Opportunities on Organic Farms

Learn about organics, biodynamics and permaculture while volunteering on host properties Australia wide!

Volunteer 4 to 6 hours a day for all your meals & accommodation. 03-5155-0218 wwooof.com.au



World Wide Opportunities on Organic Farms. WWOOFers travel Australia volunteering on organic farms in exchange for food and accommodation. WWOOF hosts Australia-wide to choose from, a great variety of properties and people, practicing biodynamics, organics and permaculture. Make lasting friendships while you learn about organics.

WWOOF AUSTRALIA
2166 Gelantipy Road
W Tree, VIC 3885
Phone: (03) 5155 0218
wwooof@wwooof.com.au
wwooof.com.au
FB: WWOOFingAustralia



Established in 1998, Green Point Design is experienced in all aspects of sustainable architecture. Our clients have diverse requirements which we help transform into beautiful, harmonious and functional buildings. We are a small, friendly office and tailor our services to suit each project.

GREEN POINT DESIGN PTY LTD
320 Neill Street
Ballarat, Victoria 3353
Phone: (03) 5338 8260
greenpointdesign.com.au



Cheeselinks supply a complete range of cheese and yoghurt making ingredients and equipment, including our very own Yoghurt Maker! Our experienced staff are available to help solve any of your cheese and yoghurt making problems.

CHEESELINKS
1/148 McClelland Ave
Lara, Victoria 3212
Phone: (03) 5282 1984
cheeselinks.com.au



These unique, hand forged, Australian made bladed tools of unparalleled quality and traditional design are now available direct from our forge. Used by farmers, government departments, tradespeople and home gardeners for over 15 years. You will love these heirloom tools.

HAND FORGED TOOLS BY MICHAEL DRINKWATER
289 Middle Creek Road,
Greta South, Victoria 3675
Phone: 0417 381 872
handforgedtools.com

EARTH MARKET



Dromanabooks now sells *Earth Garden* books including *Back Yard Farmer* and recent back issues of *Earth Garden* magazine. Online since 2002, we also stock new and used books on a range of interesting topics. Prompt, personalised service – posts daily, tracking provided. Postal discount for bulk orders.

DROMANA BOOKS
dromanabooks@gmail.com
 Phone: (03) 5476 2302
dromanabooks.com



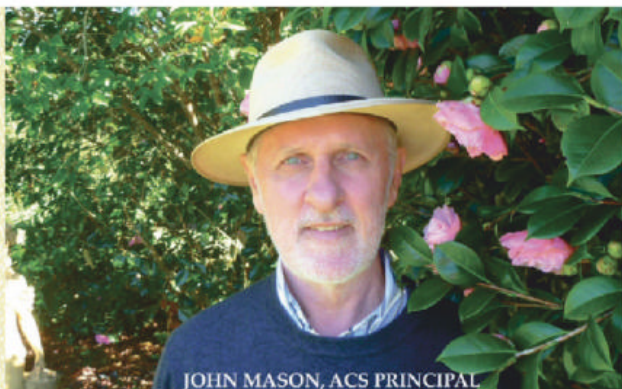
A Skippy grain mill can make fresh flours and rolled grains in your own kitchen, full of nutrition and taste, just as nature intended. Available in both hand and electric models, it's easy and economical, with many top health benefits – a grain mill for life!

SKIPPY GRAIN MILLS
 PO Box 747
 Katoomba, New South Wales
 Phone: (02) 8205 7304
SkippyGrainMills.com.au



The Chicken Feeder – All about backyard chickens. "It is going to make life a lot less wasteful." "It's wonderful. The chooks got used to it very quickly." "Very impressed with the design and workmanship is very professional." "It is lovely to buy something manufactured locally."

THE CHICKEN FEEDER
hello@chickenfeeder.com.au
 Krugers Sheetmetal P/L
 Meredith, Victoria
 Phone: 0409 027 359
chickenfeeder.com.au



Learn from decades of experience! Short courses and more! Landscaping, Permaculture, Organics, Mudbrick Construction, Natural Healthcare for Animals, Self-Sufficiency, Herbs, Poultry, Alternative Energy, Goats, Pigs ... and much more! Also see our range of colourful informative ebooks at www.acsbookshop.com.

ACS DISTANCE EDUCATION
 PO Box 2092, Nerang MDC,
 Queensland 4211
 Phone: (07) 5562 1088
acs.edu.au



Never buy pegs again! Millions of broken clothes pegs are dumped on our planet every day. There is a solution using stainless steel wire pegs – and we save money. They don't rust, break, deteriorate in the sun or fall apart, even if left on the line. Now available: Marine Grade (316SS) Wire Pegs. The best pegs on the planet!

WIRE PEGS
w@wirepegs.com
 Phone: 0402 354 080
wirepegs.com



Scythes

Timeless design, simplicity and efficiency for 2000 years

Blades, accessories to suit your needs

Crock pots

Traditional preservation of vegetables for health and wellbeing

Fermenting pots from 5L to 25L



Workshops

Mind food.
Reviving forgotten skills and knowledge

Family friendly weekend workshops



Call or visit our website for prices and products

www.scythesaustralia.com.au
02 6373 4270

Hazelcombe farm
SIMPLY SUSTAINABLE

Australia's only rainwater harvesting tree guard



REUSABLE, RELIABLE, RECYCLABLE

- Uniquely designed tree guard for Australian conditions.
- Uniquely designed vents allow water that comes in contact with the outer surface to be channeled inside the guard allowing the water to go directly to the roots of the plant.
- Manufactured in Australia
- Available in three different colours
- The Guards are made from Corflute® plastic which is fully UV stabilised.
- Two sets of pre pressed holes allow attachment, by way of UV stabilised ties, to one or two hardwood stakes.
- Will not and can not blow away.
- Simple to use and install using inexperienced volunteers.
- Sustainably harvested Australian hardwood stakes available in correct size.



Rainmaster Tree Guards Australia
Ph: 0409 940 257 Mob: 0407 670 522

E: sales@rainmastertreeguards.com.au W: www.rainmastertreeguards.com.au

Time is running out for Critically Endangered orangutans.

Adopt an orphan orangutan from just \$55/year at
orangutan.org.au or phone
1300 RED APE (1300 733 273)

the
orangutan
project



Help provide sustainable living solutions to Himalayan communities



JOIN THE EARTH GARDEN FOUNDATION

In early January EGFA completed its 58th project at the Pancham village health centre project in the Everest region of Nepal. The health centre has seven rooms, six staff, and serves a surrounding area of around 2700 people, seeing around 30 to 40 patients per day. The manager of EGFA's Nepali partner, the tireless Yadav Gurung, supervised the installation of a 400 watt system with inverter, AC/DC lights, and medical equipment. Early snowfalls greeted our team on the long arduous trip to Pancham village, and they were also treated to clear views of Mt Everest. EGFA is now fundraising for its 59th project.



— Alan Gray, Chairperson, EGFA Limited.

\$66 per year sees every cent delivered to needy Himalayan communities to install solar lighting plants in health posts & schools.

DONATIONS ARE TAX DEDUCTIBLE

1. SECURE WEB ORDERING:

Visit the Foundation's webpage at www.egfa.org.au.

You can pay via our secure online system using either a credit card or direct deposit.
OR

2. Add details below and post with your cheque to: EGFA, PO Box 1318 Broome, WA, 6725
Name:

Address:

Postcode:

Email:



Wobble-Tee™ Water Efficient Sprinklers

CELEBRATING
21 YEARS



Wobble-Tee Sprinkler



Waters a LARGE area up to 15 metre diameter.

Average flow rate of 10 LPM.

Removable filter for dam or river water use.

Able to run multiple sprinklers from the same tap.

PRESSURE P.S.I	5	10	15	20	25	30	40
APPROX DIAMETER IN METRES	6.2	12	13.8	14.5	14.8	15	16
USAGE L.P.M	4.1	6	7.3	9.1	10	10.7	13

Clever Drop Sprinkler



Waters a SMALL area up to 8 metre diameter.

Average flow rate of 4 LPM.

Purpose shaped base for roof cooling.

Removable filter for dam or river water use.

Able to run multiple sprinklers from the same tap.

SIZE OF DISC USED	1.25MM DISC	1.5MM DISC	1.75MM DISC	2.0MM DISC	WITHOUT DISC
WATERING DIAMETER	1.5M TO 3.0M	2.5M TO 4.0M	3.5M TO 5.0M	4.5M TO 6.0M	EFFECTIVE UP TO 8M
APPROX. LITRES/MIN	2.5	3.0	3.5	4.5	6.5

Available from AGnVET, AIRR, Bunnings, CRT, Dahlsens, Elders, Home Hardware, Landmark, Mitre 10, Plants Plus, Pursehouse Rural, Thrifty Link, Total Eden, True Value and Tuckers. **Or ask your local Hardware or Rural Retail Store.**

[facebook.com/Wobble-Tee-Sprinklers](https://www.facebook.com/Wobble-Tee-Sprinklers)

T. 02 4975 3222 | www.wobble-tee.com.au

QLD



CEDAR POCKET ON FIVE ACRES. Comfy cottage packed with features. Situated on approximately 2ha in the sought after Cedar Pocket area, this quaint country home provides for peaceful, comfortable living. Completed in 2003, the downstairs features a timber, galley-style kitchen, dining room opening on to a deck to cater for those *al fresco* dining events; living room with wood-fired combustion heater for winter and air conditioning for the summer, office, bedroom, bathroom and laundry. While upstairs you will find an additional two bedrooms and bathroom. The railway camp wagons were originally used as living quarters while the house was being built. They need a little TLC however would make for a great teenage retreat, guest accommodation or B&B (STCA). The 3 bay American barn shed, complete with mezzanine makes for a great workshop and car accommodation, two other sheds along with an additional two garden sheds give loads of extra storage room. The 2.5 kw solar system has adequately catered for the existing owners but there is room to upgrade. 18,500 gallons of water tank storage, dam and loads of room to create your own



peace of paradise. Ill health has prevented the owner doing final finishing touches. Call real estate agent Karen Corbett, at Noosa Heads on 0427 816156. 📷📷📷📷

LANDLINES – For buying, selling or sharing houses and land. Includes a FREE listing on the *Earth Garden* website for three months and periodic Facebook promotion.

PRICES (includes ONE free photo)

- \$65 for up to 50 words;
- \$115 for up to 100 words;
- \$165 for up to 150 words;
- \$215 for up to 200 words;
- \$265 for up to 250 words.

PHOTOS

- Extra photos – \$30 each.
- Photo size minimum – 1000 pixels wide.

ORDERING

- Deadline for the Winter issue is **1 May 2020**
- Secure credit card ordering at earthgarden.com.au.
- **OR** email landlines@earthgarden.com.au.
- **OR** phone 0499 357 236 for payment only, wording **MUST** be emailed or via the website.
- Please include contact details in your Landline wording.

QLD



BEST OF BOTH WORLDS, Brisbane hinterland. Rural retreat 27km from Brisbane CBD, 45 minutes from airport, 15 minutes from Samford village with school bus at gate. This unique, fully fenced, 41 acre Land for Wildlife property is located at the foothill of Maiala National Park with stunning views of Mount Glorious range and next to platypus-populated Cedar Creek. Four bedrooms, double brick homestead with saltwater pool and a separate 2 bedrooms council-approved cottage (Airbnb/granny flat/rent). Large machinery shed, chook pen, cob oven, cubby house. 5KW grid-connected solar and HWS. Plenty of water (over 100,000 litres in tanks plus permanent creek and dams). Three different ecosystems with abundant diversified wildlife (including koalas) and fantastic birdlife. Established raised vegie garden, producing orchard (50+ fruit trees), bush food. Multiple paddocks, all with water, ideal for livestock/ horses. More details, photos and address available on request. Price \$1,550,000. Contact Sandy 0417 647 089 or email: sfsoftoz@gmail.com. 📷📍

NSW

BETWEEN KEMPSEY AND PORT MACQUARIE NSW. Share in community established in 2001. 1,670 acres bordering on national park, half hour drive to towns. "Off the grid". Share has 5,000 square metres of flat land, domicile 1br + verandahs, bathroom, garage, 6x6m gal-steel workshop on concrete, caravan for overnight guests. Block surrounded by established bamboo plants. Solar power & greywater system; NBN installed; dry-compost toilet; gas for heating, hot water and cooking; 5,000 litre water tank – all council approved. Includes 6 gas bottles, two generators & much other equipment; sale due to health and family reasons \$183,000; photos via sms Ralph 0481 869 189.

NSW



KYOGLE, NSW. Peaceful lifestyle property with the convenience of location within this beautiful Northern rivers town. High set house with 3 bedrooms, study and 2 bathrooms upstairs. Kitchen has stainless steel commercial sized sinks and cupboards, gas/electric stove, solid ironbark cupboards with glass tops. Wood heater in open plan living area. Downstairs is fully enclosed with 3 rooms plus central open area, laundry and bathroom. House has 2kW grid interactive solar power, evacuated tube solar hot water, 22,500 litre stainless steel water tank plumbed to house and garden, with automatic mains water back up if tank level falls too low, also 300 litre stainless steel water tank. Land size 6140 square metres. Two chook coops, tool shed. Suitable for vegetable and fruit growing, free range chooks, native trees, bee keeping, etc or just relaxing and enjoying the abundant bird life. Walking distance to train station (on Brisbane-Sydney line), shops, schools, hospital, GP surgery, art gallery, and weekly farmers' market. 40 minutes by road to Lismore. \$450,000. Enquiries please email: teachustocare@gmail.com. 📷📍

SUSTAINABLE AND PRIVATE. Moonraker Farm is an exceptional 15 hectares (37 acres) only 20 minutes from the centre of Berry. The alternative lifestyle property has a natural spring, 3 fenced paddocks all with water troughs plus extensive organic vegetable gardens and orchards with mature fruit and nut trees. With incredible north and west facing views to Kangaroo Valley and the Illawarra Escarpment, this property is the ideal home for an artistic family interested in a permaculture life. The 3-bedroom home, built in the 1950s with a 1970 addition, has locally milled hardwood floors, a wood-fired combustion stove and gas heating, 1 bathroom/ laundry with separate toilet (composting). Other features: 2 artist studios, double carport, farm sheds, a stable and a train. Constant spring-fed water supply. Extensive low maintenance, permaculture designed, netted vegetable gardens and

NSW



orchards. Orchard with mature fruit and nut trees. Chook run. 50,000 litre water tank. Some river frontage. Contact Perrie Croshaw, phone 0411 700 253, email: sales@inspiredre.com.au. 📷📷📷📷



NATURAL LIVING, ATKINS ROAD, CAWONGLA. This rustic cottage is placed in a beautiful glade set on 22 acres, with stands of magnificent hardwood's with areas of grassy meadows. The cottage is open plan with large living area and loft. Plus a front verandah to sit and look at the property. The property has an abundance of water with a beautiful fast flowing creek with secluded swimming holes lined with tall forest and fern gullies. With good soil for gardens and plenty of room for fruit trees, all located just 5 minutes from Cawongla Village. Call John today to organise an inspection on 0428 200 288. 📷📷📷📷

VIC



WANTED TO RENT Hi. We're an older couple who like to spend every weekend at the Victorian Surf Coast. We're interested in renting a patch of land to leave a small caravan or hut — whichever suits your property, with or without toilet (long drop?), water etc, for about \$100 per week. Please phone Les on 0425 760 808. 📷📶



OAK TREE COTTAGE, ELPHINSTONE. Tucked away at the end of a short cul de sac central to the Elphinstone village. Charming timber cottage offering a picturesque country lifestyle within a short walk to amenities. The property is on approximately 1530 m2 with a magnificent oak tree to the north providing lovely summer shade to the home. Three bedrooms, main with walk in robe, large lounge with open fire place, a country style kitchen with solid fuel and gas stoves and a delightful light filled wide hallway also serving

LAND Lines



as an extra sitting room/sunroom. Externally there is a private outdoor entertaining area, timber garden shed, garage with earthen floor and established gardens of lawns, shrubs and trees. Phone agent, Brett Fitzpatrick on 0419 833 510. 📷📷📶📷📶

WA



ROWE RD, WITCHCLIFFE NEAR MARGARET RIVER. A perfect starter property if you're on a budget but want some space. It's 2.2ha (5.4 acres) and the house is no mansion. There's pasture, some beautiful trees and a fantastic lockup steel workshop

LAND Lines

WA

shed with 3 phase power. Located three minutes from Witchcliffe and eight minutes from Margaret River, this property has value, location and loads of potential. Big verandah, shed, close to town and coast, big trees and some pasture. Call the agent, Bob Scott on 0438 907 656. 📷📷



TAS



EAGLEHAWK NECK/TARANNA Unique off-grid NW facing sandstone clad 240 sq m timber house on hill with extensive views 300m off highway. Large kitchen, walk in pantry. 3 bedrooms, 2 bathrooms. Huge open living area with wood fire, gas cooking. 11+ ha of land, dam piped to house and food growing cages, 85,000 lt tank storage. Classified environmental living. Native bush and animals, 50m clearing around house for fire prevention. Perfect escape 1 hour to Hobart. 18 panel 5 kW solar power with backup plus solar h/w. Sale due ageing. Negotiable mid 600's. WIWO?. Phone 03 6250 3065. 📷📷📶

TASMAN ECOVILLAGE - AMAZING VALUE! On the magnificent Tasman Peninsula, we are an intentional community based on permaculture and cohousing principles, an hour from Hobart Airport. We recently released our first cluster of residential land lots and would love you to join us. Your purchase includes: a freehold strata title to accommodate a house and some personal land, a share in community facilities and 19 acres of common ground, all underground services, residential/commercial zoning allowing a home-based business, NBN and pre-approved planning permits for dwellings. Our property is undulating and diverse, with rural and water views and abundant water. Our central village hub has visitors' accommodation and onsite licensed restaurant. We are five minutes' walk from the centre of Nubeena with a school and other services. We look forward to welcoming you!



Land lot sizes: 114 m² to 314 m². Price from \$49,000. www.tasmanecovillage.org.au. email: ilan@tasmanecovillage.org.au. For more information phone (03) 6250 2000. 📷📷📶



SANDFLY, passive solar open plan design. Mudbrick ground floor construction providing cosy winter warmth. 40,000 litre water tank (no water use costs). 3 generous sized bedrooms, 2 bathrooms. Native garden, established vegetable, berry and fruit gardens and chicken coop. Large dam providing year round garden water. Phone 0499 317 946. 📷📶

WE WANT YOU IN THE EG NEST

under
our
wing



© Earth Garden Pty Ltd,
ABN 69 086 043 567

EG SUBSCRIPTIONS

- ☐ 1 year (4 issues) \$44.00
☐ 2 years (8 issues) \$88.00
☐ overseas (1 year) \$80.00

Start with issue number _____

☐ for myself ☐ gift

MY DETAILS

Name: _____

Address: _____

Postcode: _____

Email: _____

Phone: _____

GIFT SUBSCRIPTION TO

Name: _____

Address: _____

Postcode: _____

Phone: _____

PAYMENT DETAILS

CHEQUE / MONEY ORDER for \$ _____
payable to Earth Garden P/L

OR charge \$ _____

to ☐ VISA ☐ MASTERCARD

Card Number

Expiry Date ____ / ____

CVV ____

Signature _____

Cardholder's Name (please print) _____

NOTE: we do not store credit card details

SEND TO : Earth Garden
PO Box 1318 Broome, WA, 6725

visit earthgarden.com.au phone: 0499 357 236 (please leave a message)