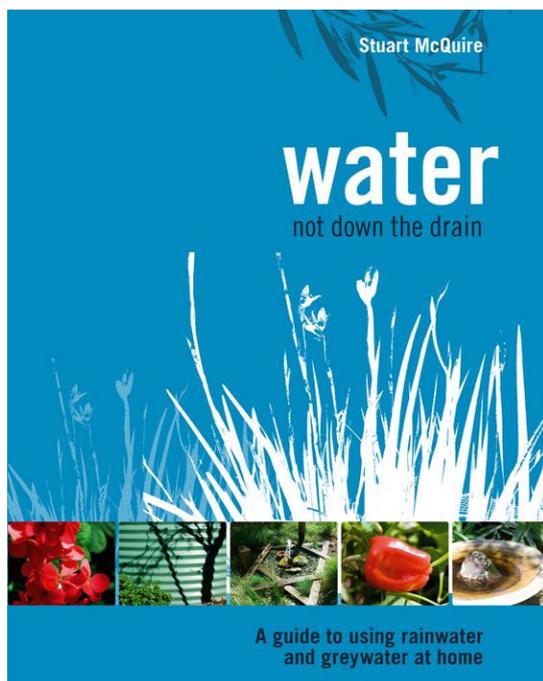


Water book project

Final Report

September 2008

Stuart McQuire



Water, Not Down the Drain

A guide to using rainwater and greywater at home.



Smart Water Fund

Acknowledgments

Many people have helped with the project to produce the book *Water, Not Down the Drain*. Thanks firstly to the Smart Water Fund. For a long time I wanted to write the book and the funding support made it possible.

Thanks to my partner Wendy Orams for her support and comments on early drafts. Thanks to the ATA for publishing the book and particularly Donna Luckman (Publications Manager), Jacinta Cleary (Editor), Kate Allsop (former CEO) and Adam Maxey (water specialist).

Thanks to David Johns & Emily Johns (David Johns Photography), Lisa McQuire (illustrator), and Michael Ruff (graphic designer) for giving the book the look it has.

Special thanks to the following people for contributing to the content and helping to bring this book to production:

Dale Alsford (Smart Water Fund), Amanda Bolton (Melbourne Water), Pablo Brait (MAV), Troy Campbell (Green Taps), John Dahlenburg (WSUD in Sydney program), Clare Diaper (CSIRO), Sandra Falconer (DHS), Chris Gittins, Stephen Lansdell (EPA), Simon Lees (Smart Water Fund), Neale Maxwell (PIC), Helen Millicer (Clearwater at Melbourne Water), Bobbie Novotny (PIC), Noelene O'Keefe (DSE), John Park (PIC), Simon Pearce Higgins (Yarra Valley Water), Nina Rogers (MAV), Georges Ruta (City West Water), Ismael Sosa Sanchez (ESA Envirowater), Brod Street (DSE), Tony Towndrow (Rootzone), and Frazer Wilson (Green Taps).

Thanks also to the many other people who provided information and helped source photographs for the book. And thank you to the media outlets, reviewers, journalists and interviewers that have helped to tell people about the book.

And of course, thanks to all the people who have taken the time to read the book.

Report written by Stuart McQuire

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Web www.greenmakeover.com.au

Produced in an office powered by solar electricity

Contents

Executive Summary.....	4
1 Background	5
2 Project outcomes.....	6
2.1 Book content	6
2.2 Book sales.....	6
2.3 Marketing and promotion	6
Stage 1 Marketing & promotion.....	6
Stage 2 Marketing & promotion.....	7
2.4 Feedback.....	8
3 Future editions.....	8
Appendices	9

Executive Summary

The project has involved the production of a book that is focused on the practical methods of using rainwater and recycled water onsite. The book has been produced in full colour and is aimed at mainstream audiences, with distribution through bookshops, online and via some newsagents. Grant funding from the Smart Water Fund has made the production of the book possible.

The project has focused on water normally sent down the drain and how to maximise its potential as a resource. The project highlights the latest technologies and solutions for onsite use of rainwater and recycled water. The book shows how to make the most of water that is available onsite. The latest water recycling treatment systems are featured, along with the latest water diversion systems. It also includes innovative solutions for the use of rainwater in urban households.

Through the application of the methods and technologies described in the book householders will be able to minimise their reliance on centralised mains water supplies. This will reduce the pressure on centralised water storages and reduce the need for additional centralised infrastructure. It will also allow greater access to water for householders in areas where there are restrictions on mains water use. Onsite use of water also reduces the pressure on centralised stormwater drains and sewers.

The book has also enhanced the ongoing advocacy and promotion of sustainable water use by the ATA and Stuart McQuire. The project has included many radio interviews, newspaper and magazine articles, public presentations and promotion at public events.

The print run of the book was 4000 copies. Sales from December 2007 to September 2008 were 1753. A percentage of the money from sales is being set aside by the ATA to allow additional print runs and revised copies of the book in the future.

1 Background

The project has involved the production of a book that is focused on the practical methods of using rainwater and recycled water onsite. It takes readers through a series of steps to determine the best options for their households. It has built on a previous book ***Not just down the drain, a guide to re-using and treating your household water***, first published in 1995 and funded by Melbourne Water.

The book has been produced in full colour and is aimed at mainstream audiences, with distribution through bookshops, online and via some newsagents. Grant funding from the Smart Water Fund has allowed the cover price of the book to be kept to a minimum, making the book as affordable as possible to wide audiences. The book has also enhanced the ongoing advocacy and promotion of sustainable water use by the ATA and Stuart McQuire.

The book aims to fill a gap by combining the latest information on onsite water recycling systems with information on rainwater systems to produce a single publication with an overall focus on the sustainable use of water. The project has aimed to encourage and accelerate the adoption of innovative solutions to decentralised sustainable water management. The book targets the need for pursuing options for secure, safe, fit-for-purpose supplies of water for cities and towns. It highlights the options for using alternative water supplies, sourced and used at the same location.

The target audience of the book is primarily householders, but the book will also be useful to a range of trades and professions. The book aims to fill the need of householders seeking the best water solutions for their homes. It also aims to be useful for plumbers, builders, and designers seeking to further understand the range of options and best solutions for their clients. The book will also be useful for government environmental and planning officers seeking to promote and regulate best practice. It will also provide a useful resource for sustainability educators.

- Stuart McQuire is an Environmental Scientist (M Env Sci, B Sci). He is a past president of the Alternative Technology Association (1999-2001) and is the author of the book *Not just Down the Drain, a guide to reusing and treating your household water* (Friends of the Earth, 1995). Stuart was the project manager for the West Brunswick Sustainable House Water Systems Retrofit funded through Round 1 of the Smart Water Fund. He was also on the steering committee for the ATA's Grey Water Project and the reference group for Museum Victoria's Water Smart Home Project. Stuart currently operates a business called Green Makeover that assists householders in making their homes sustainable.
- The Alternative Technology Association (ATA) is Australia's leading non-profit environment organisation focused on sustainable technologies. The ATA has considerable experience and expertise as a publisher of books and magazines. The ATA undertook the Grey Water Project with funding from the Smart Water Fund. Donna Luckman, ATA Manager of Publications, has coordinated the ATA's role. Jacinta Cleary, editor of the ATA's ReNew magazine, was the editor of the book.
- The project has involved liaison with the relevant state government departments and agencies in relation to regulation and guidelines for water recycling and rainwater. This has included the EPA, Department of Human Services, Department of Sustainability and Environment and Plumbing Industry Commission. Liaison has also been undertaken with local government representatives including the Municipal Association of Victoria and Victorian Local Governance Association.

2 Project outcomes

The book was completed and launched on 7 December 2007. The initial print run was 4000 copies. The book is 156 pages and is printed in full colour. It includes photographs and diagrams. The book has been printed on recycled paper, with the printer using vegetable based inks and a waterless printing process.

2.1 Book content

The book focuses on how to use rainwater and greywater at home. It also includes a chapter on the use of stormwater. Water conservation is also covered highlighting the methods for avoiding waste of water and using water efficiently.

In developing the content of the book an initial meeting was held with representatives from the Smart Water Fund, EPA, Department of Sustainability and Environment, Department of Human Services and Plumbing Industry Commission. The draft of the text of the book was circulated for comment to these and other agencies including local government. Up to date information on the latest technologies was obtained from equipment manufacturers, suppliers and installers.

2.2 Book sales

Distribution and sale of the book commenced in December 2007 and is ongoing. The book has been sold directly via the ATA and through bookshops, environment shops and newsagents. The number sold from the launch date up until 23 September 2008 was 1753.

The retail sale price was set at \$29.95 after reviewing other books and publications on the market. The wholesale price was set at \$20 (including handling and delivery) for book re-sellers. The wholesale price was set lower for some large orders from re-sellers. The book has been pre-sold to re-sellers rather than distributed on a sales or return basis. This method has minimised the financial risk to the publisher.

One exception to this has been the distribution that was undertaken through the newsagents section at Borders. Distribution via newsagents has proved to be a higher risk method as books are not pre-sold to the newsagents, and any books that are not sold by the newsagent are not returned to the publisher.

2.3 Marketing and promotion

The marketing and promotion for the book was undertaken in two stages. The first and second stages of marketing and promotion have been undertaken. Marketing and promotion of the book is ongoing.

The first stage included the book launch, media notification, distribution of review copies to media outlets, and initial marketing and distribution to book sellers. The second stage has included presentations and promotion by the author, further media interviews, and promotion by the publisher at community events. These are summarised below and samples of articles are included in the appendices of this report.

Stage 1 Marketing & promotion

- Book launch, 7/12/2007.
- Email alert to ATA members and newsletter advertisement.
- Full page advertisement in Sanctuary Magazine and half page advertisement in ReNew Magazine. Postcard insert to ReNew Magazine subscribers.
- Radio interviews have been done on 3CR, 3RRR, Pulse FM, ABC Local Radio NSW.
- Herald Sun article, 7/12/2007.
- Review copies sent to key gardening, home and environment magazines.
- Notification sent to capital city newspapers.
- Internet retail sales, bookshop and re-seller wholesale distribution undertaken.
- Special promotion by Borders Bookshops (Feb 2008).

Stage 2 Marketing & promotion

- Presentations by Stuart McQuire at public forums / workshops: Campbell Turnbull Library in the City of Moreland (28/2/2008), Department of Justice sustainability seminar (29/2/2008), City of Darebin (29/3/2008), ATA water seminar (3/4/2008), Moonee Valley City Council (14/4/2008), Nunawading Library (16/4/2008), City West Water (staff seminar 18/4/2008, Balwyn Library (10/9/2008), Save Water Save Energy Expo (scheduled for October 2008).
- Book promotion by Stuart McQuire at Poynton's Nursery Water Saver Garden Party (9/3/2008), Melbourne International Flower & Garden Show 5 & 6/4/2008.
- Public open day at the West Brunswick Sustainable House (13/4/2008), with 500 people attending.
- RMIT VCAL plumbing students tour 14/4/2008.
- Radio interviews: 774 (Richard Stubbs show 20/2/2008), 3AW (24/2/2008), 774 & ABC Local Radio nationally (Nightlife show 28/2/2008), 3WBC (8/3/2008), Pulse FM (10/4/2008), 3WBC (12/4/2008, 2 shows).
- Advertisements in ReNew and Sanctuary magazines.
- Readers competition in Australian Better Gardens and Home Ideas, August 2008
- Postcard promotion to organic cafes and food outlets, September 2008.

- Articles or reviews:
 - The Age (21/1/2008),
 - Sanctuary (Issue 4), Rainwater gardens article,
 - Smart Water Fund Newsletter (January 2008),
 - Sustainable Gardening Australia Newsletter (4/2/2008),
 - Green Pages Newsletter (28/2/2008),
 - Property Review Weekly (29/2/2008),
 - The Age (8/3/2008),
 - The Herald Sun (8/3/2008),
 - The Weekly Times (19/3/2008),
 - The Age (5/4/2008),
 - The Sydney Morning Herald (8/4/2008),
 - Melbourne Times (9/4/2008),
 - Moreland Leader 14/4/2008),
 - Grass Roots (April 2008),
 - Plumbing Industry Commission Newsletter (April 2008),
 - Gardening Australia Magazine, (May 2008),
 - Village Green Newsletter (May 2008),
 - Plumbing Connection (Summer Edition scheduled),
 - Earth Garden,
 - GreenSmart (2008 Edition),
 - Green Magazine
 - G Magazine (July 2008),
 - Fairfax local papers (August 2008),
 - Backyard Design Ideas Magazine (Water Wise Garden publication September 2008),
 - ParkWatch journal, September 2008.
- ATA promotion at community events:
 - Mildura Sun Festival (12 & 13/10/2007),
 - Australia's Response to Climate Change (Melbourne Town Hall, 24/10/2007),
 - Synod of The Anglican Diocese of Melbourne, St Paul's Cathedral, 10/11/2007
 - Walk Against Warming, Melbourne, 11/11/2007
 - Green City Festival, Adelaide, 17/02/2008
 - Sustainable Living Festival, Federation Square, 15 - 17/2/2008
 - Moora Moora Sustainable Living Festival, Healesville, 1/03/2008
 - HIA Home Show, Melbourne, March 26-30, 2008
 - ATA Water Expo, 3/04/2008
 - Whitehorse Sustainability Expo, Box Hill Town Hall, 20/04/2008
 - Building and Home Improvement Expo, Melbourne, May 16–18, 2008

- Energy Efficient Farm Practices Field Day, Milawa, 1 & 2/6/08
- Going Green Expo, Melbourne, June 5-8, 2008
- Save Water Save Energy, Melbourne, scheduled for October 2008

2.4 Feedback

The book has been well received by reviewers and anecdotal feedback from readers has been positive. At this stage there has been limited feedback received about the book focused on future changes or additions.

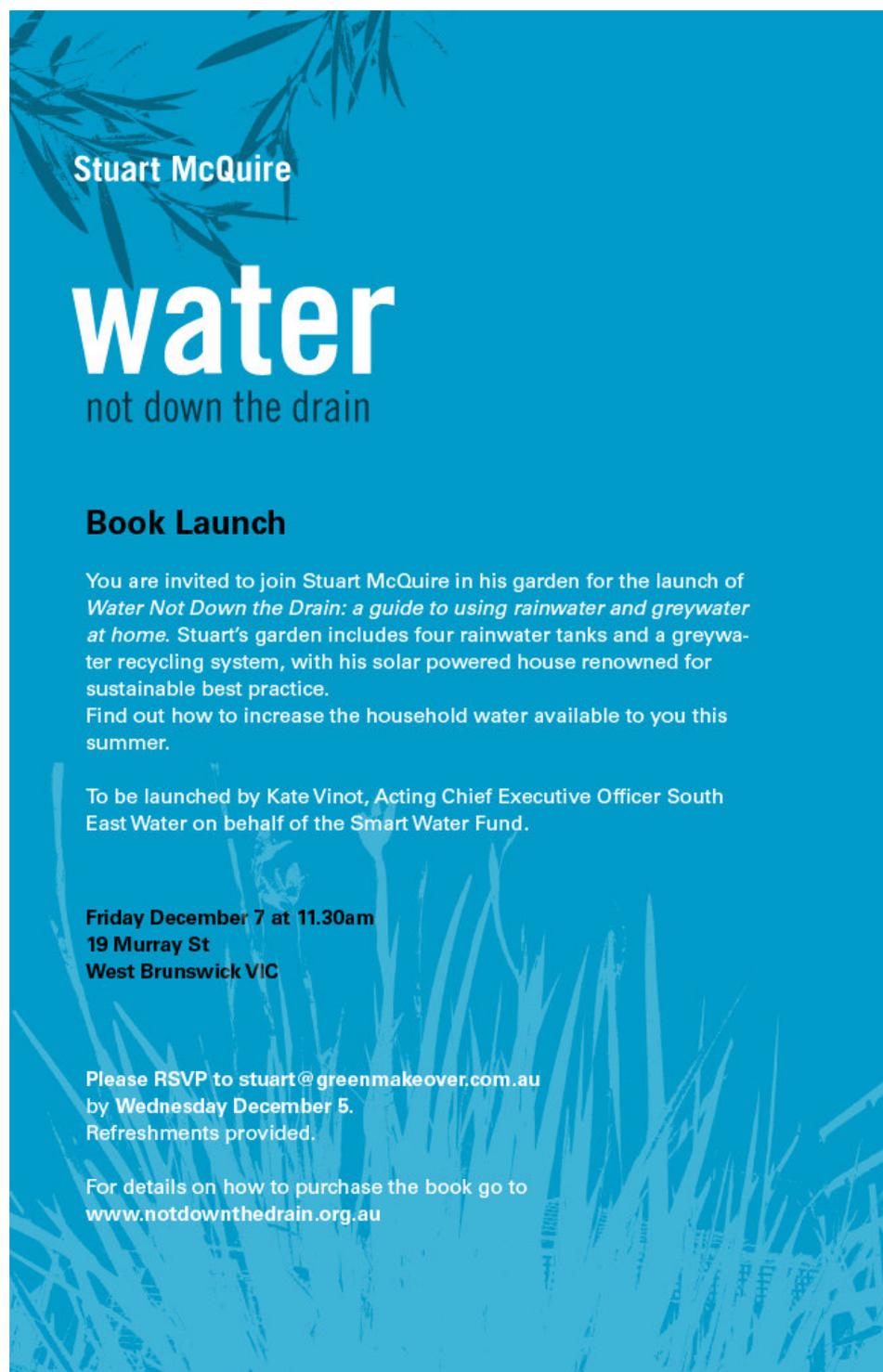
In terms of improvements for any future editions, one suggestion received is to include a chapter on swimming pools that would include specific information on pumps, filters, pool covers that help reduce water use for pools. One review has suggested a need for additional diagrams in the book.

3 Future editions

A percentage (35%) of the money from the sales of books is being set aside by the ATA to allow future print runs and also the production of future revised editions of the book. Subject to sales demand for the book, it is anticipated that the book will be revised within three to five years. Revised editions of the book would incorporate up to date information on new technologies or approaches to using rainwater, greywater and stormwater.

Appendices

Book launch invitation, December 2007



Stuart McQuire

water

not down the drain

Book Launch

You are invited to join Stuart McQuire in his garden for the launch of *Water Not Down the Drain: a guide to using rainwater and greywater at home*. Stuart's garden includes four rainwater tanks and a greywater recycling system, with his solar powered house renowned for sustainable best practice.

Find out how to increase the household water available to you this summer.

To be launched by Kate Vinot, Acting Chief Executive Officer South East Water on behalf of the Smart Water Fund.

Friday December 7 at 11.30am
19 Murray St
West Brunswick VIC

Please RSVP to stuart@greenmakeover.com.au by Wednesday December 5.
Refreshments provided.

For details on how to purchase the book go to www.notdownthedrain.org.au

This book is published by the Alternative Technology Association with generous support from the Smart Water Fund.



Smart Water Fund

Australia's leading not-for-profit organisation, promoting sustainable technology and practice in order to protect our environment



New book shows how to reduce drinking water use by 96% in and around the home

Learn how to reduce drinking water in and around the home by 96% and still have a thriving garden with a new book from the Alternative Technology Association.

Water not down the drain: a guide to using rainwater and greywater at home, provides homeowners with a practical step by step guide to creating water smart homes using rainwater and greywater.

The book was written by Stuart McQuire, whose family home in West Brunswick demonstrates the effectiveness of using rainwater and greywater as a substitution for drinking water.

Using the recommendations outlined in the book, the McQuire family has reduced the use of drinking water in their home by 96%. They currently use less than 20 litres per day.

According to Mr McQuire, using rainwater and greywater is an easy and effective method for homeowners to reduce their reliance on precious drinking water for non-consumptive uses.

"The book shares what we as a family have learned and gives advice on water-saving options, so that readers can make the most of rainwater and greywater."

"In our home we have shown that sustainable water practices can be implemented successfully, even during periods of drought, without the need for costly renovation or rebuilding," Mr McQuire said.

The book contains over 150 pages of comprehensive information and diagrams on how you can sustainably use water including:

- Choosing rainwater tanks and harvesting rainwater
- Setting up a greywater diversion system for the garden
- Greywater treatment systems for the house and garden
- Health and environmental concerns with greywater
- Creating a raingarden to capture stormwater
- Cutting greenhouse emissions while saving water

The production of the book was funded through a Smart Water Fund Round 4 grant and was published by the ATA.

About the Alternative Technology Association (ATA)

The Alternative Technology Association (ATA) is a not-for-profit organisation that has been promoting sustainable building, renewable energy and water conservation since 1980. ATA publishes ReNew: technology for a sustainable future and Sanctuary: sustainable living with style magazines which are read by 60,000 people across Australia.

About the Smart Water Fund

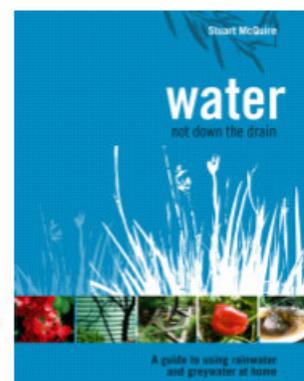
The Smart Water Fund invests in innovation in urban water management initiatives and actively promotes the sharing of knowledge for ongoing benefits to the Victorian community. The Smart Water Fund is a joint initiative of Melbourne's water businesses and the Victorian Government that supports innovative water conservation, water recycling and biosolids management projects throughout urban Victoria.

To arrange an interview with the author contact Stuart McQuire on 0413 125 170

Water not down the drain is available for purchase from www.notdownthedrain.org.au and Borders bookshops

Level 1, 39 Little Collins Street, Melbourne VIC 3000

T: (03) 9639 1500 F: (03) 9639 5814 E: ata@ata.org.au



heraldsun.com.au

Water lovers think tank

State leads the way on saving resources

Sarah Wotherspoon
environment reporter

"The grey water use was a big issue, as was the use of bottled water," Mr Brown said. "We found water savings were higher in the eastern states than the west and up in the Northern Territory, and that would tend to suggest the drought is having a big effect."

Other results included:
MORE than 80 per cent of homes had dual-flush toilets, up from 39 per cent in 1994.
ALMOST 75 per cent of new homes have water-efficient shower heads, compared with just under half of homes older than 30 years.

MORE than eight in 10 homes rely on mains water as their main source of drinking water. The report found water efficiency measures had created the most household savings. "Showering less or taking shorter showers was the way in which the greatest proportion of households reported saving water in the bathroom," it said.

"A substantial proportion of Australian households collected grey water for reuse inside and outside the dwelling, and in the garden."

MORE than 70 per cent of Victorian households are using grey water and nearly one in six has a rainwater tank. Victoria leads the country in grey water use, ahead of Queensland, which has 63 per cent usage.

Nationally, 19 per cent of households have installed grey water reuse, up from 5 per cent in 2001. Australian Bureau of Statistics figures released yesterday show grey water is the main source of garden watering in nearly one quarter of all Australian households.

Grey water has become the second most common source of water in Australia country's households, with the country's that have water tanks that has already been through their washing machines, showers and baths.

Just over half of Victorian homes have water-efficient shower heads, compared with 35 per cent in 2001.

But the *Environmental Issues People Live and Work With* report shows we are still flushing drinking water at an alarming rate. More than 92 per cent of households use mains water in their toilets.

ABS environment and energy statistics director Graeme Brown said grey water use was included in the survey for the first time this year.

Stuart's system

STUART, McQuire's West Brunswick home runs on almost 97 per cent less mains water than the average Melbourne house.

While the average Melbourne household uses about 191,000 litres a year, Mr McQuire uses just over 6000 litres of mains water.

"We only have two taps on mains water - the kitchen cold tap for drinking and the bathroom cold tap for brushing teeth," he said.

All hot taps are fed from a rainwater tank, which also supplies cold water to the washing machine. The toilet and garden use grey water.

Mr McQuire's passion for saving water has led him to write a book to help others, *Water: Not Drown for Drain*, which is available on Amazon.

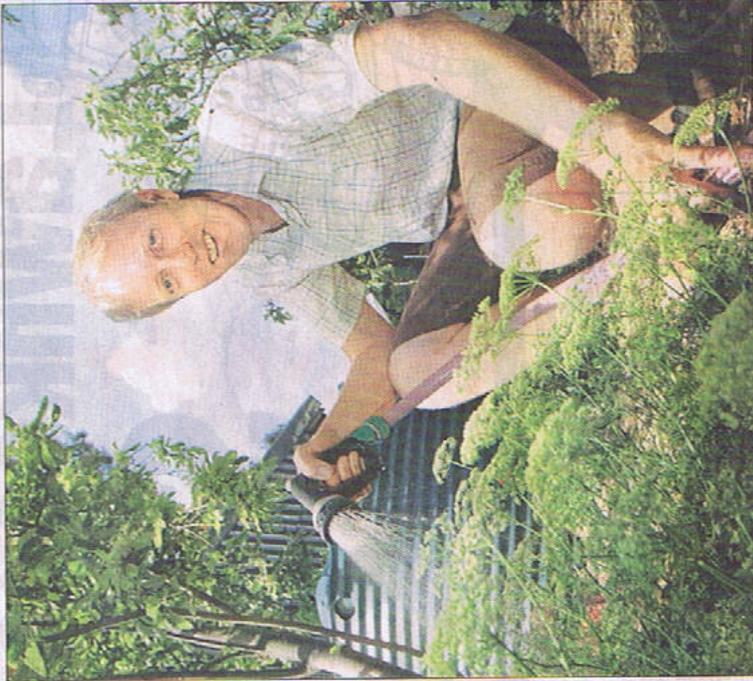
Mr McQuire said there were many different ways people could save water around the home, from collecting shower water in buckets to installing rainwater tanks.

"Lots of people have a rainwater tank, and it's typical to start with just using it on the garden," he said.

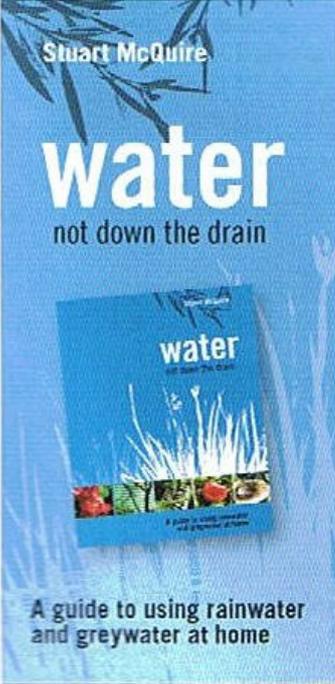
"But you get a lot more benefit if you connect it to something in the house."

"If it's connected to the toilet or laundry, you use it more often, and the next time it rains it will collect more."

Net link: www.nokdownthe drain.org.au



Greening: Stuart McQuire in his garden. Picture: ANDREW HENSHAW



Stuart McQuire
water
not down the drain

A guide to using rainwater and greywater at home

Over 150 pages of comprehensive information and diagrams on how you can sustainably use water around the home. Consult this book before you install rainwater tanks or greywater systems, or even if you just want to reduce your day to day water use.

With Australia facing a water crisis, it's time to think of other ways to secure water for the home. This book shows you how.

The author, Stuart McQuire, has reduced his family's mains water use by 96%, using just two and a half buckets of mains water per day, but still has a thriving garden full of fresh produce.

Only \$29.95
(plus postage and handling)

Order your copy from
www.notdownthedrain.org.au
or call the ATA (03) 9639 1500

Published by the Alternative Technology Association (publishers of ReNew) and supported by the Smart Water Fund.



Website: <http://www.ata.org.au/>

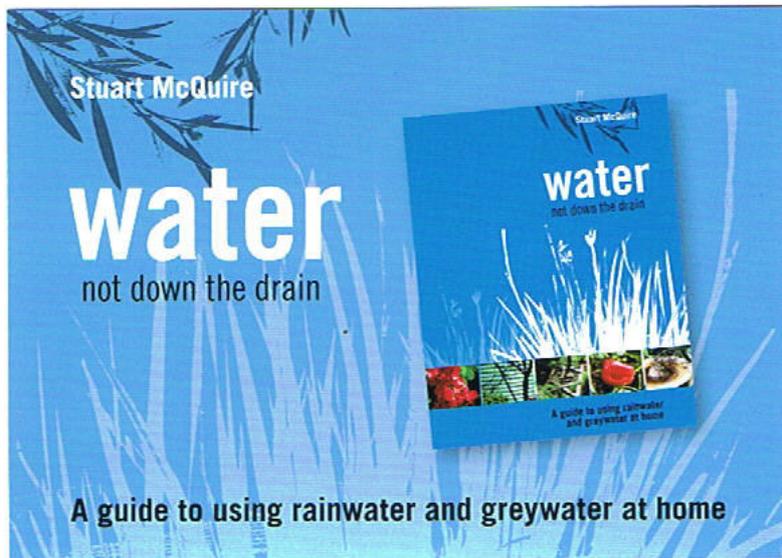
email: ata@ata.org.au

Issue 102

January-March 2008

ReNew 11

Postcard



water
not down the drain

Over 150 pages of comprehensive information and diagrams on how you can sustainably use water around the home.

- * Choosing rainwater tanks and harvesting rainwater
- * Supplying rainwater to the house and garden
- * Setting up a greywater diversion system for the garden
- * Greywater treatment systems for the house and garden
- * Health and environmental concerns with greywater
- * Creating a rain garden to capture stormwater
- * Cutting greenhouse emissions while saving water

The author, Stuart McQuire, has reduced his family's mains water use by 96%, using just two and a half buckets of mains water per day, but still has a thriving garden full of fresh produce.

Published by the Alternative Technology Association and supported by the Smart Water Fund.

 **ATA Smart Water Fund**

A guide to using rainwater and greywater at home

For only \$29.95
plus \$8 postage and handling

Order your copy of *Water Not Down the Drain* with this postcard or go to the website www.notdownthedrain.org.au

Name: _____
Address: _____
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State: _____ Post code: _____
Contact phone: _____
Email: _____
Credit Card type: Visa Mastercard
Cardholders name: _____
Card no. / / /
Expiry: / /
Signature: _____

Send this card in an envelope to:
ATA, Level 1, 39 Little Collins St, Melbourne VIC 3000

Brogdale Gardens in England will talk about her country's national fruit collection. Seasonal food available at the cafe. Adults \$8, children and Digger's members free. Simmons Reef Road, Blackwood (Melway 609 E11).

Autumn show

The Red Hill Gardening Society is holding its autumn flower show today from 1.30-5pm at the Red Hill Hall (Melway 201 B5). Bargain plant stall and gardening advice. Afternoon tea, \$2. Inquiries 5989 2862.

Garden party

Poyntons of Essendon and City West Water are holding a water saver garden party tomorrow and Monday, 11am-3pm, at The Boulevard (corner Vida Street) Essendon. A chance to pick up waterwise gardening advice from Stuart McQuire, author of *Water Not Down the Drain* and also tips on irrigation systems, composting and eco-friendly detergents. Also swap your old showerhead for a water-efficient one (take your old one and a City West water bill with you).



- ▶ Try up the compost in preparation for the cutting of autumn leaves.
- ▶ Plant pansy (right), primula, poppies and polyanthus seedlings for some winter colour.
- ▶ Pinch off the flower heads of basil to prolong its growing season.



Open

Today: Red Hill Gardening Society autumn flower show, Red Hill Hall, Red Hill, 1.30-5pm, \$2. Afternoon teas, plant stall. Ph: 5989 2862.

Today-Mon: For Australia's Open Garden Scheme, gardens will be open at Warrandyte and Colac. Weekend only. Lennox St community garden, Richmond. www.opengarden.org.au

In more

WATER conservation will be the topic of discussion this long weekend, when Poyntons of Essendon Nursery and City West Water host a Water Saver Garden Party tomorrow and Monday.

The garden party, beside the Maribyrnong River, offers green thumbs a way to explore the huge area of water-saving products and plants.

Novice gardeners will have the chance to pick up water-wise gardening advice from special guest speakers such as Stuart McQuire (right), author of *Water Not Down the Drain*.

They will provide tips on irrigation systems, eco-friendly detergents, composting, water-saving products and more.

Customers can save water in the home, too. City West Water is offering to swap old showerheads for three-star, water-efficient ones free. Just bring along your old showerhead and your City West Water bill.



Water Saver Garden Centres are a Victorian Government initiative and provide a one-stop shop for advice on saving water. Centre staff are fully trained on best-practice, modern and long-term water-wise gardening principles.

To learn more about the program call 13 61 86.

WATER STORAGE and PUMPS



77

The Weekly Times, March 19, 2008

Self-sufficient: Stuart McQuire has tips for country people on smart water use.

Make short supply go a long way

By SARAH WARNE

STUART McQuire wants to help country people get the most out of their towns' limited water supplies.

Melbourne resident Stuart, an environmental scientist, feels so strongly about sustainable water use he has written a book to offer people his low-cost water-saving tips.

The book, *Water Not Down the Drain*, is published by the Alternative Technology Association.

Stuart, 27, said that, as a child, he would take family beach holidays or camping trips around Australia and

quickly fell in love with the natural environment.

This led him to study environmental science and he was quick to apply the principles he was learning to his own home in Brunswick.

Since moving in, the McQuire household has cut its mains water use by 96 per cent.

In fact, it uses just 2½ buckets of mains water a day, yet still has a thriving garden full of fresh produce.

All other water comes from the site, either as rainwater or recycled water.

Stuart's house is surrounded by a permaculture garden, with 20 fruit and nut

trees, and features grid-connected solar electricity, solar hot water, rainwater tanks, water recycling, composting and chooks.

His book is based on his own results and guides readers on such simple measures as getting mosquitoes out of rainwater tanks and collecting greywater.

Among the many topics covered are where you can use rainwater, greywater and stormwater, rainwater tanks and where to place them and tank types (including under-floor tanks).

"I want to help rural households establish a quality rainwater system and increase water purity with-

out forking out money for expensive tanks and equipment," he said.

"This, in turn, takes pressure off catchments and the competition for scarce water supplies."

Stuart has received the backing of celebrity radio and television gardener Jane Edmanson.

"Stuart's water-saving advice extends right through from the high tech to the average home gardener," she said.

The book costs \$29.95 and can be found either at Borders book stores or online at www.notdownthedrain.org.au

The Age eg & The Melbourne Times, April 2008
Sustainable house open day tours promotion.



news [12] The Melbourne Times APRIL 9 / 2008



Secrets of a green house

Environment enthusiast Stuart McQuire is opening his house to the public this weekend. The West Brunswick house is a 1929 Californian bungalow that was given a green makeover without the need for a renovation. Mr McQuire said the house used less than two buckets of water per day, thanks to grey-water and rainwater tanks installed in the early 1990s. Tours of the house cost \$5, and proceeds will go to a group that supports renewable energy in East Timor. The house is at 19 Murray Street, West Brunswick, and will be open on Sunday, April 13 between 1pm and 4pm.

GREEN

No, really, good on you for doing the recycling. That's great. It's just that to have a sustainable house you might want to do a bit more. Today Stuart McQuire and Wendy Orams are opening their home to show you how it's possible, from grey water and rainwater recycling to solar hot water and electricity. Funds raised are going to support renewable energy for communities in East Timor.

WHEN: 1 to 4pm today, 19 Murray Street, West Brunswick, \$5, greenmakeover.com.au

Turning off the tap

A family aims to be self-sufficient in water, writes **Denise Gadd.**

water a day and, in the not-too-distant future, they hope to rely solely on what falls from the sky and the grey water they produce in the home.

So how have they become so self-sufficient? Their path to sustainability started in 1991 when they bought a water-efficient shower rose for their West Brunswick home.

They also started matching, put in dual-flush toilet systems, replaced tap washers, diverted grey water into the garden and, over the next five years, bought two rainwater tanks to catch water from the roof, which was also diverted to the garden.

STUART McQUIRE AND HIS partner Wendy Orams have committed themselves to an environmentally sustainable lifestyle.

A significant initiative, given the drought and climate change, has been to reduce their mains water usage, switching to tank and grey water when possible.

The couple and their two daughters now use collectively 20 litres of drinking



Stuart McQuire looks forward to switching off the mains water.

In 2003 McQuire, an environmental scientist, received a grant from the Smart Water Fund to install new rainwater and grey water systems, resulting in the household's mains water consumption plummeting to five litres a day per person.

In his new book, *Water Not Down the Drain*, McQuire offers an informative guide on how to save water in the home from the basics — checking there are no leaking taps — to big-picture solutions such as treatment systems for grey water and the health and environmental concerns over its use.

"A lot has happened with technology since the drought. The system we now have was the first to be used domestically. Industry uses a similar product but on a larger scale," he says.

"We have two bladder-style tanks under the house, which can hold a total of 11,000 litres of recycled water, but they're hardly ever full because at this time of year we use grey water as fast as we produce it, so we're not actually storing much. Overkill, I think."

The drought, he says, has motivated people to turn to grey water to keep their gardens going.

"People have been good with the restrictions and, by and large, adhered to them, which has been frustrating having had to watch their gardens suffer."

"Lots of people have been bucketing grey water out of the home but some are putting in more permanent sophisticated systems."

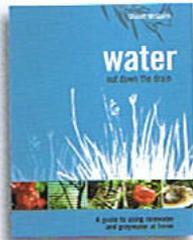
The West Brunswick home has a large permaculture garden including natives, succulents, fruit and nut trees, vegetables, chickens, grid-connected solar electricity, solar hot water, rainwater tanks, a water-recycling treatment system (topped by a water feature) and a composting area.

While the family now has a sophisticated set-up to withstand even the toughest drought, McQuire would like to see better product labelling on detergents given the concern about salt leaching into the water table from recycled grey water.

"A lot of detergents have reasonably good labelling as far as phosphates are concerned, but not salts. So I would like to see legislation to support this," he says.

Eventually the family will switch off the mains water, something of a surprise to McQuire who admits he didn't think they'd be as close to self-sufficient as they are now.

bookreviews



Water Not Down the Drain: A Guide to Using Rainwater and Greywater at Home
by Stuart McQuire

Learn how to reduce drinking water in and around the home by 96 per cent and still have a thriving garden with this new release from the Alternative Technology Association.

This book provides homeowners with a practical step-by-step guide to creating water-smart homes using rainwater and greywater.

It was written by Stuart McQuire, whose family home in West Brunswick demonstrates the effectiveness of using rainwater and greywater as a substitute for drinking water.

The book contains more than 150 pages of comprehensive information and diagrams on how you can sustainably use water.

Available from notdownthedrain.org.au and Borders bookshops
ISBN: 9780957889569
Published by the Alternative Energy Association
RRP: \$29.95

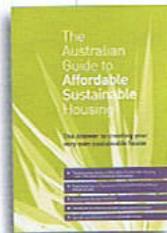
The Australian Guide to Affordable Sustainable Housing
by Libe Chacos

Whether you are building a new home, renovating or simply want to upgrade your home to be more comfortable, more energy efficient and better for the planet, *The Australian Guide to Affordable Sustainable Housing* was written for you.

Produced by the 2007 HIA Australian GreenSmart Professional of the Year and the builder of Tasmania's First Certified GreenSmart home, the guide provides practical solutions in an easy-to-read, accessible resource.

It contains information on how to dramatically increase the affordability of energy efficiency in a home. For example, up to 59 per cent of the energy use in a home can be attributed to heating and cooling, and hot water. By focusing efforts on these areas, real improvements can be made to the energy efficiency of a home along with significant cost benefits.

Available from sunrisehomes.net.au
RRP: \$97

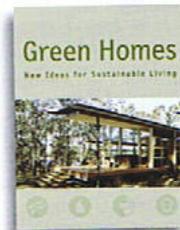


The Green Building Revolution
by Jerry

The green revolution happens! This book readers

of green building and to them and people that are advancing the movement. With interview studies, it does more than report on the revolution; it readers why and how to start about designing, building, operating high performance environmentally aware but conventional budgets.

Available from CSIRO Publishing
ISBN: 9781597261784 (hb)
ISBN: 9781597261791 (pb)
Published by Island Press
RRP: \$99.95 (hb); \$49.95



Green Homes: New Ideas for Sustainable Living
by Se Dura

Green pres innovations in sustainable design. It explores various green design, from its economical benefits, to factors considered when choosing how much energy went into manufacturing the product is long lasting, and whether recycled or safely disposed breaks down over time. Covered include climate drainage systems and planning. Each project includes photographs, floor plans, drawings that illustrate sustainable features.

Available from HarperCollins
ISBN: 9780061348266
Published by Collins Design
RRP: \$50 (HB)

smart
books



Sustainable home provides a model for Melbourne plumbers

The secrets behind an inner-city Melbourne home that saves up to 96 per cent of its water have been released in a new book.

Water not down the drain: a guide to using rainwater and greywater at home, has been written by Stuart McQuire, an environmentalist who lives with his family in the 'West Brunswick Sustainable House'.

This family home demonstrates the effectiveness of using rainwater and greywater as a substitution to using drinking water. Only two taps are connected to mains water, resulting in the McQuire family using two and a half buckets of drinking water per day.

"Consumers are now doing as much as they can to save water and are showing an increasing interest in using rainwater

and greywater for more than just watering their gardens," Mr McQuire said.

"There is an opportunity for plumbers to develop their business by meeting the needs of environmentally minded customers."

Water not down the drain uses examples and case studies from the McQuire house to demonstrate how sustainable water practices can be implemented without costly renovation or rebuilding.

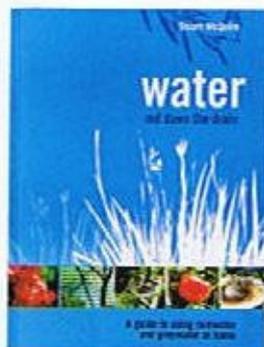
The book covers topics such as regulation and rebate issues, greywater health and safety, and calculating how much water is available from rainwater, greywater and stormwater.

Water not down the drain is available for purchase at www.notdownthedrain.org.au for \$29.95.



Above: Stuart McQuire, an environmentalist who lives with his family in the 'West Brunswick Sustainable House' has released a book that demonstrates how sustainable water practices can be implemented without costly renovation or rebuilding.

Gardening Australia, May 2008



WATER NOT DOWN THE DRAIN

By Stuart McQuire

This book is a timely and comprehensive guide for householders wanting to reduce their dependence on dwindling mains water resources and become more independent through self supply. Written by a man who practises what he preaches, it offers practical advice on using rainwater and greywater at home. To order visit www.notdownthedrain.org.au

Publisher: Alternative Technology Association

RRP \$29.95 ISBN 9780957889569

Josh Byrne

Water: Not Down the Drain

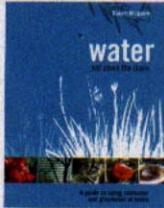
BY STUART MCQUIRE

ISBN 978 0 9578895 6 9

ALTERNATIVE TECHNOLOGY ASSOCIATION

\$29.95

In this informative, hands-on guide to using rainwater and greywater at home, environmental scientist Stuart McQuire shares his immense knowledge with the would-be home water conservationist. In the early 1990s he began using rainwater and recycling greywater in his own home. Since then, he has reduced the household mains water consumption to a mere two and a half buckets per day. The book's



comprehensive rainwater section canvasses everything from rainwater tanks to roof catchment harvesting. The greywater section looks at water treatment and health issues, recycling systems, diversion techniques and regulatory requirements. Other areas covered in the book include gardening, stormwater, and toilet waste management.

The attractive glossy format, earthy colours and slimline design of the book engaged me from the outset, while colour photography, handy tips, facts, figures and diagrams all complement the text nicely.

This book is perfect for readers who are ready to take the next step in water conservation. It shows that it can be done. And done well. — Ross Green

Moreland Leader, April 2008

20 MORELAND LEADER April 14, 2008

Guide to help save water

A LEADING West Brunswick environmentalist who still had 18 litres of water in his tanks during Melbourne's driest spell last year, has released a book to help others save water.



Environmental scientist Stuart McQuire (pictured) received a \$75,000 State Government grant last year to write his new book, *Water not down the drain*, which gives home owners a step-by-step guide to saving drinking water through using rain water and storm water.

Mr McQuire drew upon his experiences of making his West Brunswick home sustainable.

The house has four water tanks that can hold 20,000 litres of rainwater and two grey water sacks that hold another 11,000 litres.

"We wanted to set up a house that was environmentally sustainable and make use of water rather than watching it go down the drain," he said.

Mr McQuire also installed a recycling system which treats water with ultraviolet light killing any remaining harmful organisms, the first system of its kind.

He said his family has reduced drinking water use in their home by 96 per cent.

"In our home we have shown that sustainable water saving practices can be implemented successfully, even during period of drought, without the need for costly renovation," Mr McQuire said.

Water not down the drain can be purchased from www.notdownthedrain.org.au and Borders bookshop.



[...sustainable gardening info pages](#) [...feedback](#) [...links](#) [...contact](#) [...home](#)

WIN A BOOK!

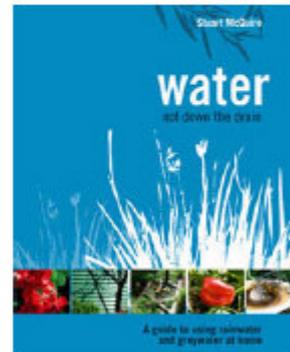
Water not down the drain, by Stuart McQuire, published by the Alternative Technology Association, is a guide to using rainwater and grey water at home.

Simply visit SGA's online garden forum (www.sgaonline.org.au/phpbb/) during February and post a question, an answer, a suggestion or maybe even some photos of your own garden. We'll keep an eye on the posts during February, and the most wisest, wittiest, informative or interesting will win the book. Simple!



The book is available from <http://www.notdownthedrain.org.au/> - \$29.95 plus \$8 postage and handling.

Pictured here is the author, Stuart McQuire, with his grey water system.



Water not down the drain

WIN

A guide to using rainwater and greywater at home.

Learn how to reduce drinking water in and around the home by 96% and still have a thriving garden, with a new book from the Alternative Technology Association (ATA).

Water not down the drain provides homeowners with a practical step by step guide to creating water smart homes using rainwater and greywater.

Using the recommendations outlined in the book, the McQuire family has reduced the use of drinking water in their home by 96%. They currently use less than 20 litres per day - two and a half buckets!

According to author Stuart McQuire, using rainwater and greywater is an easy and effective method for homeowners to reduce their reliance on drinking water for non-consumptive uses.

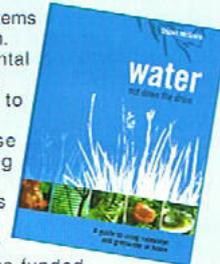
"The book shares what we as a family have learned and gives advice on water-saving options, so that readers can make the most of rainwater and greywater."

"In our home we have shown that sustainable water practices can be implemented successfully, even during periods of drought,

without the need for costly renovation or rebuilding," Mr McQuire said.

The book contains over 150 pages of comprehensive information and diagrams on how you can sustainably use water including:

- Supplying rainwater to the house and garden.
- Setting up a greywater diversion system for the garden.
- Greywater treatment systems for the house and garden.
- Health and environmental concerns with greywater.
- Creating a raingarden to capture stormwater.
- Cutting greenhouse emissions while saving water.
- Choosing rainwater tanks and harvesting rainwater.



The production of **Water not down the drain** was funded through a Smart Water Fund Round 4 grant and was published by the ATA, which is a not-for-profit organisation.

WINWINWIN

For your chance to win one of three copies of the book "**Water not down the drain**", fill in this coupon and send it to: Water Book Competition, Australian Better Gardens and Home Ideas, PO Box 241, Lilydale Vic 3140. Entries close August 31st, 2008.

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PLEASE DO NOT FOLD ENTRY

Australian Better Gardens and Home Ideas - August 2008

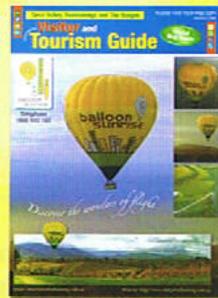
Commodore Visitor and Tourism Guide

Tourism activity throughout the Yarra Valley, Dandenongs and the Ranges region continues to increase and advertising in the Tourism Guide is the ideal way to expose your business to visitors travelling into the area...

The Tourism Guide contains a detailed map of businesses and local attractions, as well as accommodation, eateries, farms and gardens and local wineries. It is designed to highlight various attractions available within each area.

Commodore Press has been printing in the Yarra Valley for over 30 years.

Visit www.commodore.com.au and follow the links or phone (03) 9735 4444.



Page 18

Tank bling

Stuart McQuire, author of *Water: Not Down the Drain*, looks at other accessories you may need to maintain safe and clean water in your rainwater tank

So you have chosen a tank that suits your needs and are ready to install. But before you call the plumber have a think about any other rainwater tank accessories you may need to keep your water clean and healthy. Prevention is better than cure and poorly maintained roofing or guttering, overhanging trees, birds, possums, and air pollution can all affect water quality. There are a number of ways you can minimise the amount of contaminants that enter the tank. Other devices are also available to help you manage your rainwater.

Gutters

Gutter guards or special gutters with filters can be used to prevent leaves and debris entering the guttering. The need for these is dependent on the extent to which the roof of your house has overhanging or nearby trees. Leaves can block the guttering causing the rainwater to overflow rather than go into the tank. Blockages can also cause water to pool in the gutter, providing habitat for mosquitos. Leaves that accumulate in the gutters can also start to break down, causing leaching and discolouring of the water.

Choose gutter guards that install in line with the roof gradient, rather than those that create a curved barrier over the gutter that may collect leaves on the upper side. Alternatively, there is guttering available that has two layers, with filters mounted in the top layer to exclude leaves and debris but which allow water to flow into the bottom layer. The top layer of this guttering is shallower than standard guttering, with the intention that it is self cleaning as the wind blows leaves out of it. This happens to some extent, but it will still require brushing periodically depending on the location.



First rain diverters

First rain diverters are used to divert the first bit of rain—20 to 25 litres for an average roof catchment—away from the rainwater tank along with any accumulated contaminants from the roof or guttering. Health authorities recommend these as an additional barrier to reduce contamination rather than a reason to avoid the maintenance of keeping the roof and gutters clean.

Plumbing and tank suppliers sell a range of first rain diverters. Simple downpipe first rain diverters consist of a vertical pipe with a ball inside. As the pipe fills, the ball floats up and the rain then flows into the tank. The first bit of rain is below the ball and this then drips out to the garden over a period of time, so that next time it rains the diverter is ready to accept more water. The base of the diverter needs to be removed periodically to flush out any accumulated sediment or debris.

Leaf diverters

Leaf diverters can also be used to screen leaves and debris from entering the downpipes and tanks. These are mounted on the downpipe and typically consist of a mesh screen angled to deflect leaves, but that allows water to flow through into the downpipe. If you are already using gutter guards or guttering that screens leaves then these should not be needed. They are an alternative to gutter guards for stopping leaves entering the downpipes, but they don't stop leaves accumulating in the gutters.





Filters

Health authorities don't recommend the use of filters to maintain water quality, but emphasise minimising contamination entering the system as the preferred method of maintaining quality. If filters are used it is important that they are maintained correctly. Poorly maintained filters can make things worse because they collect and concentrate contaminants. If these are then released it can have a tea bag effect on the water, providing a more concentrated dose of contaminants.

The types of filters available include sediment filters to remove suspended particles, carbon filters to remove odour or taste, and finer cartridge filters to remove chemical or biological contamination. Filters can either be fitted to the whole rainwater supply or to parts of it depending on the end use, such as under the kitchen sink. Filters are typically cartridge style that fit into canisters that are connected in-line with the rainwater supply. Some sediment filters are washable and reusable, but most cartridge filters are disposable. Washable disc-style filters can be used as an alternative to cartridge filters for screening sediment.

For more information:

Water: not down the drain
www.notdownthedrain.org.au

Green Makeover
www.greenmakeover.com.au

GreenPlumbers
www.greenplumbers.com.au

Enviroplumber
www.envirop plumber.com.au

Your Home
www.yourhome.gov.au

Alternative Technologies Association
www.ata.org.au/sustainability/rebates

Ultraviolet light disinfectors

Ultraviolet light can be used to disinfect water. It does not leave a residue in the water and is the recommended method if you are looking for a permanent method to disinfect water as it enters the house. Ultraviolet light systems can be installed to disinfect the whole rainwater supply to the house, or can be installed on individual taps such as the kitchen sink. They consist of a cylinder that houses the ultraviolet light tube which is connected in-line with the pipe so that incoming water is exposed to the ultraviolet light as it flows over the tube. Ultraviolet lights need to be cleaned or replaced periodically according to manufacturer's specifications.



Water level indicators

The usual method of working out the water level in rainwater tanks is to tap on the side and listen for a difference in sound. With plastic or metal tanks you can often feel a temperature difference between where the tank has water and where it is just air. Mechanical water level indicators can help monitor the amount of water you have in

your rainwater storage. They can be important where you are manually switching from rainwater to mains water, and can help prevent sudden surprises. They vary from simple clear tubes showing the water level, to float mechanisms, to electronic sensors. The electronic sensors can come with a display that can be mounted inside the house.

Floating pump intake

Floating intakes can be used with submersible pumps to draw water from higher up in the tank if there is concern about the quality of the water at the base of the tank. These use a ball float to suspend the inlet pipe higher up in the water, but below the water surface level.

Overflow vacuum

Overflow vacuums draw water from the bottom of the tank when it is full. These systems are designed to draw some sediment from the bottom and prevent the build up of sediment over time. The bottom of the vertical pipe that draws the water has serrated edges. Near the top of the pipe there is a hole to allow air in to prevent siphoning of all the water from the tank.

Water meters

A water meter can help you understand your rainwater consumption seasonally and over time. If you are curious about how much rainwater you are using, or need to monitor it for a particular reason, then you can get a water meter installed on your rainwater system. The water meter simply fits in-line with the rainwater supply, after the pump and before any taps.

Rainwater tank tips

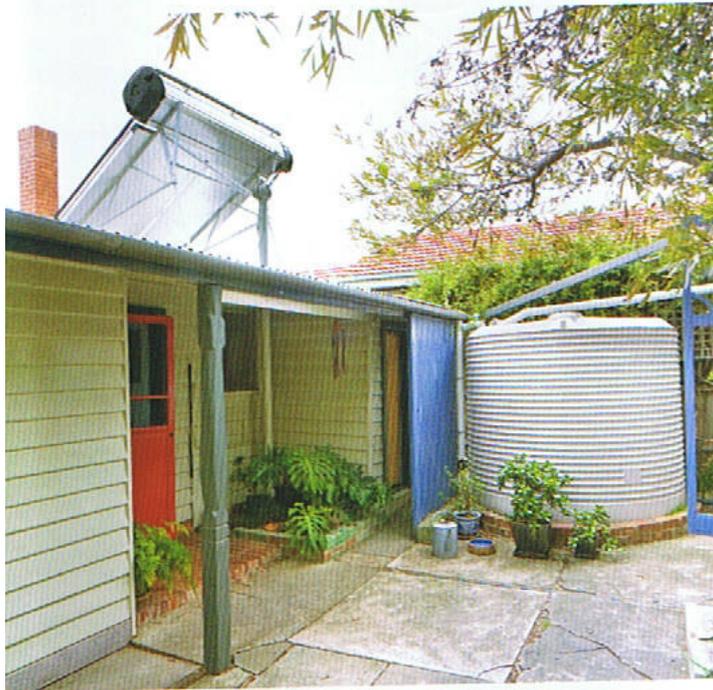
- Use gutter guards, leaf diverters and first rain diverters to minimise contaminants entering rainwater tanks.
- Choose gutter guards that install in-line with the roof gradient to stop leaves collecting on the upper side.
- Flush out first rain diverters every few months or as needed.
- Check with your plumber to see if you need filters where rainwater connects to appliances.
- Check at least monthly cartridge or disc filters and clean regularly.



Nature's way

Learn to maximise on-site water and you can make significant savings

Story: Vikki Mason
Photos: Patrick Redmond



96 per cent. They currently use less than 20 litres day — that's less than five litres per day per person.

But Stuart is quick to point out that it's taken time to reach this point. When they started out in the early 1990s, they started small. One of the first things they did was fit a water-efficient shower rose. Then they mulched the garden and installed a dual-flush toilet.

The next year they started recycling water. Greywater from the bath and shower was funnelled out to the front garden. Another funnel diverted greywater from the laundry to the backyard. With a good supply of water, the trees around the property flourished, providing shade and cooling the house during the summer heat.

In 1994, Stuart and Wendy purchased their first rainwater tank, via the *Trading Post*. It was hooked up to collect rainwater from the bungalow roof, providing water for the vegetable garden and fruit trees. Two years later they added another tank, this one collecting rainwater from the roof of the house.

When Stuart McQuire and his wife Wendy Orams set up home in Melbourne, their goal was to live as sustainably as possible. Having met through a common interest in environmental issues, they wanted their home and garden to reflect their passion and beliefs.

For Stuart, an environmental scientist, that commitment recently found new expression in a book on water-wise practices. *Water Not Down the Drain* was released this year and is a practical reference source for those looking to save water in and around the home.

"*Water Not Down the Drain* aims to help you work out how to make the most of the water available where you live," Stuart explains. "It is not a technical manual, but it does aim to give you practical solutions for using rainwater and greywater."

Using the guidelines and recommendations in the book, Stuart, Wendy and their two children have cut their mains water usage by



TOUR THE MCQUIRE HOME

Stuart McQuire and Wendy Osrarn are committed to helping people and businesses become more environmentally sustainable. They do this through their company, Green Makeover, and by opening their house — dubbed the West Brunswick Sustainable House — to public tours. These tours have been running since 1995 and are designed to inspire and educate anyone seeking to live more sustainably. For more information: www.greenmakeover.com.au



They now had enough rainwater to use in the garden, in the laundry and to flush toilets — and it was at this point their mains water usage began to plummet. They also started to receive a discount from their water retailer as their greywater was being diverted from the sewers. This greywater is treated with an Envirowater unit, which doubles as a water feature. The

system uses biological and mineral filters to treat the water, which after two days is pumped out of the underground treatment tank and surges into the air in a fountain-like display. This aerates the water which then lands on the pebbles below and filters back into the tank. At the end of the process, the treated water is stored in bladders under the house which have →

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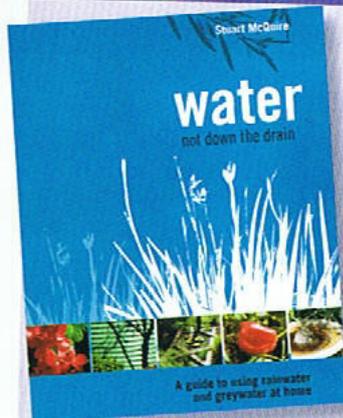


*Onga Pump to value of \$475 available for free when booking and accepting a quote of a WATERLINE SLIMLINE® or WATERPOINT ULTRASLIM® rainwater tank minimum of 2000 litres from Bluescope Water. Offer closes October 31 2016. Only available in Kerburong, Surrey Hills and Tullamarine stores. One pump per customer. Cannot use in conjunction with any other offer. Bluescope and WATERPOINT® are registered trademarks of Bluescope Steel Limited.

WATER-WISE GARDENS



STUART'S TOP 10 TIPS



"We have taken the approach of do what we can, when we can"

a combined capacity of 11,000 litres. In 2003, the McQuire house was lucky enough to receive a grant from the Smart Water Fund. This enabled the family to increase their rainwater system to four tanks with a total holding capacity of 20,300 litres.

Only two taps in their house are connected to the mains: the kitchen cold tap for drinking water and the bathroom basin cold tap for brushing teeth. All other water used comes from the site as either recycled rainwater or treated greywater.

Their house is also energy efficient. As Australia's second grid-connected solar house, it has generated more electricity than it has used for 10 consecutive years. Compared to the typical Melbourne house, it uses 100

per cent less electricity, produces 73 per cent less greenhouse gas emissions and is approximately 73 per cent less connected to the sewer.

For Stuart and Wendy, it is a journey with improvements made all the time. In recent times they have planted some drought-tolerant shrubs and installed a new drip system in the veggie patch.

"We have taken the approach of do what we can, when we can, rather than a 'do it or nothing' approach," says Stuart. "Learn from what others do and do the same."

"Take things at a pace that suits you. Learn from what others do and move towards your own goals."

1. Know where you are using your water. It will help you work out where to focus when making changes to save water.
2. Fit a low-flow shower rose.
3. Install a dual-flush toilet.
4. Wait until you have a full load before washing clothes.
5. Put mulch on your garden.
6. Use low-water-use plants, including indigenous plants.
7. Grow at least some food at home to reduce your water footprint for food production.
8. Cover pools and spas to prevent evaporation when not in use.
9. Direct flows from hard surfaces like driveways or paths to garden beds.
10. Zone plants according to their watering needs.

The above tips were taken from Stuart McQuire's new book *Water Not Down the Drain* (published by the Alternative Technology Association, rrp\$29.95).

