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Spouting

Issue 8

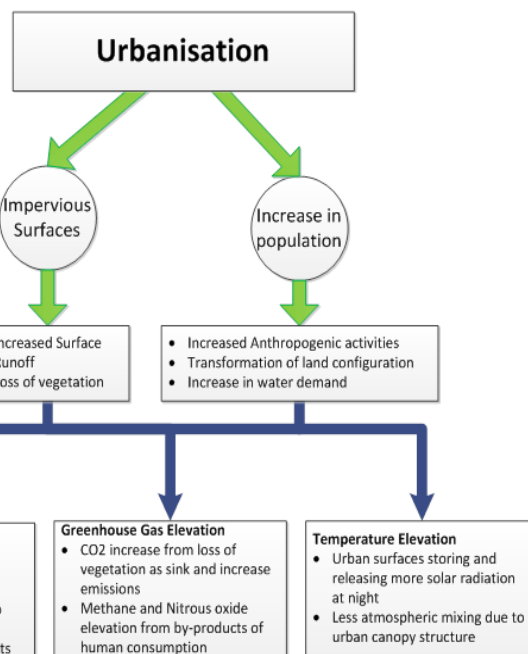
Newsletter Date: April 2012

Biofiltration as the Urban Solution

The dilemma:

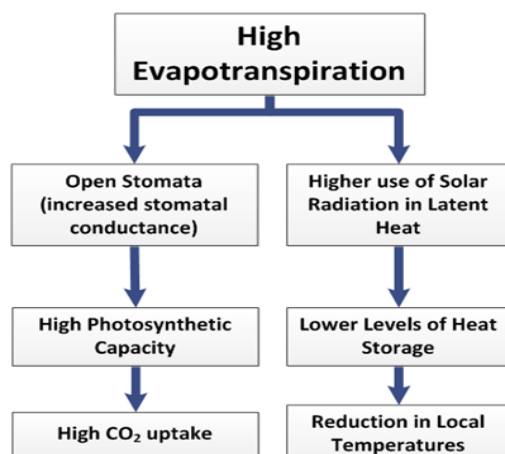
Urbanisation is growing exponentially with the increase in population and the shift away from rural land occupation and towards suburban dwellings, Australia's population living in urban regions now exceeds 80%. Subsequently there are associated problems that have been identified to the detriment of the urban environment, namely stormwater degradation, temperature elevation and increased greenhouse gas (GHG) emissions. The principals of Water Sensitive Urban Design (WSUD) are already well adopted for stormwater treatment and improvement of hydrological performance, however, far less known is the potential improvements to be gained for temperature and GHG levels.

A possible solution: At a micro-scale, the exchanges of mass and nutrients for vegetation occurs inside pores within the epidermis of the leaf and stem of the plant, known as the stoma (plural stomata). Water is up taken from stomata in the roots and transpired through those in the leaves, using solar radiation to fuel the process. This transformation of water as well as the process of evaporation from soil surface are analysed together as the evapotranspiration (ET) loss from the system. When water and heat are readily available, there is a high 'stomatal conductance' allowing for exchanges of gases, including a net sink of CO₂. Because biofilters



have periods of ongoing saturation following a rainfall event, they are likely better able to promote the stomatal conductance required to mitigate CO₂ and temperature levels in urbanisation. Studies within Monash University laboratory and field scale systems indicated maximum ET of up to 8 times that found in natural grasslands. The principle of this research is to demonstrate the extent of their potential to mitigate atmospheric carbon dioxide and temperatures. This indicates a particularly active stomatal community within the biofilter that, with well determined configuration and quantity requirements, could work to alleviate the stressful climactic conditions of the urban atmosphere.

Written by: Scott Dunn & Alice Niculescu. Snr Water Engineers, Engeny Water Management



**CHAT
AROUND
THE
TRAPS**

Room for Improvement at Bay Beaches

In our last issue of 'Spouting', our cover article "It's Time To Clean Up The Bay", by Hon Greg Hunt MP & Andrew McLeod, highlighted the urgent need to implement a 10 year plan to resolve the recent and reoccurring issues of fish kill, sewage leaks & pollutions blooms in the Port Phillip Bay. This month, Hon. Hunt released a media statement to further highlight the 'poor' and 'unacceptable' conditions of the water at our beaches based on EPA data recorded over the last few summers.

"Analysis of EPA data from beaches around Port Phillip Bay over summer confirms that more needs to be done to tackle water quality issues in the Bay, according to the Clean Up the Bay Partnership", the media release states.

"With rainfall over the past two summers significantly higher than in previous years, the data suggests that stormwater flowing into the bay after heavy rain has a major impact on water quality" Mr Hunt said. "The recently-formed Clean Up the Bay Partnership is looking at ways to mitigate this impact and encourage Melburnians to take better care of our Bay".

The partnership is currently investigating ways to improve monitoring of the Bay's water quality and how best to set benchmarks for pollution control. Potential solutions to some of the main pollution factors in the Bay are also being considered.

The statement also emphasises the importance of *"galvanising the community to take an active interest in protecting our Bay",*

The Clean Up the Bay Partnership is an initiative of Shadow Environment Minister Greg Hunt and the Committee for Melbourne. It is headed by marine educator and author Sheree Marris and former Prime Minister's Environmentalist of the Year, Arron Wood.

Also involved are: the City of Melbourne, Environment Victoria, the Dolphin Research Institute, University of Melbourne, Museum Victoria, Association of Bayside Municipalities, Life Saving Victoria, Yachting Victoria, the Boating Industry Association of Victoria, Transfield Services and Humes.

For the full article, or more information, please contact our office or click this link [MEDIA RELEASE](#).

Stormwater12 - Registration Open

The 2nd National Stormwater Conference will be held from the 15th - 19th October 2012 in Melbourne.

[REGISTER NOW](#)

For all Conference enquiries contact
GEMS Event Management on
P: +61 2 9744 5252
F: +61 2 9744 5252
PO Box 1221, Burwood NSW 1805



Stormwater
INDUSTRY ASSOCIATION LTD.

40th Presentation Of EEA: 2-Day Stormwater Management Workshop Melbourne, 2012

A 2-day Workshop entitled "Stormwater Management (source control)" has been organised by EEA (Engineering Education, Australia) for Thursday/Friday 14/15 June in Melbourne. The Notes provided in the course are based on the content of the award-winning manual "WSUD: basic procedures for 'source control' of stormwater – a Handbook for Australian practice" edited by Professor John Argue (University of South Australia). This document is endorsed by Stormwater Industry Association (SIA), Australian Water Association (AWA) and by Dept of Water, Western Australia. The Notes have been updated, most recently in February, 2011.

The content features a balance between the three domains of WSUD (stormwater) practice - quantity control, pollution control and stormwater harvesting. Serious issues of stormwater management in Australia are posed by the prospect of 35 mill. population of Australia by 2050. How will Melbourne's existing stormwater infrastructure and that of other major population centres of other Victorian regions cope with change under the 'high density' option being suggested as a possible re-development scenario? What strategies can be adopted to enable existing (competently-performing) infrastructure to manage these changes *without expensive up-grade*? How can re-development in catchments with existing under-performing stormwater infrastructure be managed to enable the in-ground works to meet greater demand *without expensive upgrade*? Must the creeks and natural waterways falling within the jurisdictions of municipalities outside Melbourne be sacrificed to hard-lining in the wake of the proposed expansion? Positive answers to these and many other questions based on WSUD 'source control' practice will be provided in the Workshop.

The Workshop will also include results of hydrological modelling of high-performing filter-bioretention systems enhanced by treatment taking place in parent soil masses; the fate of dissolved pollutants is singled out for attention.

The short course includes: design procedures based on state-of-the-art analyses and best overseas practices adapted to Australia-wide conditions; case study illustrations drawn from field installations with between 10 and 18 years of Aust operational history; design 'worked examples'; introduction and access to rainwater tank sizing software across Australia. The Workshop is led by Professor John Argue.

Attendance earns 32 hours credit for continuing professional development purposes with Engineers Australia. More information about the workshop including course content, cost and Registration Forms may be obtained from Ms Ann Ellis on (03) 9274 9600 or ann@eeaustralia.com.au



Stormwater Vic/AWA Mini Seminar: What Makes A Successful Stormwater Harvesting Project?

Stormwater Harvesting has been utilised throughout Melbourne, and across Australia, over recent years, and is becoming a more widely accepted and implemented alternative water source.

This seminar will host three key speakers from Melbourne's local councils and water retailers, who will present some of the best practice advances that have been made over recent years.

Who should attend?

- Engineers, scientists, planners
- Project managers, futurists, communications and community engagement practitioners, local government representatives
- Consultants and those with an interest in water
- Health and Environmental Regulators

Tuesday, 29 May 2012 5:30 to 8:00pm

Venue: Norton Rose, Melbourne CBD

Registration:

AWA & SV Member \$40 (Inc GST)

Non Member \$60 (Inc GST)

YWPs & Students \$30 (Inc GST)

For full information on the event and registration, contact our office or click on this link [Event Information](#)

Stormwater Victoria Excellence Awards - Entries Open Soon

The 2012 Stormwater Excellence Awards will be held on 6th September, at Rivers Edge Events in Melbourne. Each year we reward excellence among industry members, with the awards tied into the National Stormwater Excellence Awards program. These awards are designed to provide recognition and celebrate excellence in the innovation, development and management of stormwater projects and the stormwater professionals involved.

The submission for Entries in these awards will be opening next month, and information packs will be available on our website within the next few weeks.

We encourage you to make a submission on your outstanding projects, to demonstrate remarkable methods and practices to your peers in the industry.

For more information, contact our office or visit the website www.stormwatervictoria.com.au

Stormwater Victoria Mini-Seminar Schedule

Save the dates !!! Our Mini-Seminar dates this year are on Tuesdays & Wednesdays, from 5.30pm to 8.00pm as follows:

May 29th (Tuesday) - What Makes A Successful Stormwater Harvesting Project?

July 4th - Topic to be Finalised

Look out for further information, or call Kate in the office

Dates for the Calendar

May 10th, 2012:

Clearwater
Raingarden Essentials Course
Karstens Conference Rooms
9.00am-4.00pm

May 29th, 2012:

AWA/SV Mini Seminar 2
What Makes a Successful
Stormwater Harvesting Project
Norton Rose, Melbourne
5.30pm-8.00pm

June 21st, 2012:

Clearwater
Stormwater Harvesting: C&D
9.00am-5.00pm

July 4th, 2012:

SV Mini Seminar 3
Topic to be confirmed
5.30pm-7.30pm

September 6th, 2012:

Stormwater Victoria
Excellence Awards
Rivers Edge, Melbourne
6.30pm-10.00pm

October 15-19, 2012:

Stormwater I2
National Conference
Sofitel Melbourne on Collins

EVENTS

Clearwater Program

[Clearwater](#) is a leading capacity building program, recognised for its role in providing the urban water industry with the knowledge, tools and skills to drive the transition to water sensitive cities.

They offers a number of capacity building initiatives that can help broaden your skills and knowledge in sustainable urban water management

There are currently two unique development opportunities being delivered:

Raingarden Essentials course

Thursday 10 May

Stormwater Harvesting: Concept and Design

Thursday 21 June

For a full listing of Clearwater events please visit :

http://www.clearwater.asn.au/events_and_training



STORMWATER V I C T O R I A

STORMWATER INDUSTRY ASSOCIATION VICTORIA

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Have Your Say!

We would love to hear from you!
Do you have some comments or feedback about an article published in the newsletter? A suggestion, or an interesting piece of information for the community?

Please forward to:
office@stormwatervictoria.com.au

For further information, please call
Kate Dunn on 0409 978 453

Win Win Win!

This year we have several hot topics coming up in our mini-seminar schedule that you won't want to miss. As a valued member of Stormwater Victoria, we'd love to shout you a free registration to a mini-seminar of your choice this year.

Go into the draw to receive 2 registrations to our May or July mini-seminar (\$60 minimum value) by answering the following question:

Q: What is one of the associated problems identified to the detriment of the urban environment, caused by Urbanisation?

(Hint: read the cover article ...)

Please forward to:
office@stormwatervictoria.com.au

For further information, please call
Kate Dunn on 0409 978 453

IN THE OFFICE

Meet the Committee ...

Committee Member

Peter Diprose (Humes Water Solutions)



Originally from England, Peter trained as a Petroleum Fitter in the British Army, where he served for 12 years and was lucky enough to visit and work across a wide range of civil and mechanical projects in an equally diverse range of locations throughout the UK, Europe, Africa and the Middle East. He continued to work largely in civil engineering afterwards, extending his travels into the USA and even spending a brief but interesting stint in Libya on the Great Man Made River before migrating to Australia in 1989 with his family. He has been based in Melbourne since in a variety of roles, mostly in and around the treatment and supply of water, waste water and more recently stormwater.

A long-term advocate of the potential value of stormwater, a founding member and past president of the Stormwater Industry Association of Victoria – now known as Stormwater Victoria – Peter is currently employed as Southern Region Manager at Humes Water Solutions, a division of Holcim (Australia) Pty Ltd.



Committee Member

Scott Dunn (Engeny Water Management)



Scott grew up on the iconic Kangaroo Island (if you haven't been, make sure you do!) before heading to Adelaide for University. Scott worked for Tonkin Consulting in Adelaide for 3 years where he gained a wide range of stormwater engineering experience and in particular floodplain modelling.

Scott completed a 6 month secondment to BHP Billiton in Roxby Downs as a Site Engineer, overseeing the expansion of the township a role in which he managed a diverse range of contractors and had lot of fun along the way (as the photo shows Roxby Downs is a very sandy town, this photo provided BHP staff with a lot of amusement). Upon completion of his secondment, Scott realised his passion was in the stormwater industry and after a number of visits to Melbourne for big sporting events and concerts decided to move to Melbourne. Now with over 7 years' experience, Scott is Operations Manager for Engeny Water Management in Melbourne where he has continued to gain experience across all facets of stormwater type projects.

Www.StormwaterVictoria.com