

The ISWR newsletter is a bi-monthly publication. If you have any information you would like included in the ISWR Newsletter please email details and your contact information to maeve.oleary@eng.monash.edu.au Tel: 03 9905 4957

Director's Message

What a busy period it has been and continues to be! With teaching in full swing, some postgrads are close to finishing (Shane Haydon, and soon-to-be Geoff Taylor), lots of things are happening. Amongst all this "rushing around", there are a few things I'd like to draw your attention to:

1. In the next month or so, we will start a "Writing Club", to help people efficiently produce journal papers. The concept is to get together in groups of 4-5, to motivate each other to write a paper over a set period, and to provide peer review for each other.
2. In the urban water area, the next major conference coming up is the Novatech 2007 conference, to be held in Lyon, France (see www.graie.org/novatech). The conference series has an excellent reputation. The call for papers is currently out (closes 20 June, 2006).

Perhaps more importantly, I'd also like to encourage you to support Maeve O'Leary in trying to maintain the identity and communication of ISWR – so that this 'identity' can help to support us in winning research funds and collaboration. There are two specific areas where "we need you":

1. Updating of the ISWR website with your personal information. To date, there have been over 89,000 'hits' on the ISWR website, and individuals (like you) have had 100s of hits on your own page!! So.... it's a bit embarrassing for you if the information on the website is out of date! Maeve is trying to make the updating of the website as painless as possible (for you, not for her!), so help her to help you!
2. The ISWR newsletter. When things are busy, it's hard to find time to write a newsletter article. However, it often takes very little time and/or it can be extracted from something else. There are two advantages to writing an article:
 - a. It keeps communication between individual researchers within the Institute.
 - b. There are many 'external' readers of the newsletter, and I have already had offers of research funding, flowing from an article I wrote in the newsletter.

Happy working!

Tim Fletcher

Tel: (03) 9905 2599

Email: tim.fletcher@eng.monash.edu.au

Report on WSUD Conference 2006

Tim Fletcher and Ana Deletic

The 7th International Urban Drainage Modelling and 4th Water Sensitive Urban Design conferences was held jointly in Melbourne from April 3-7th. The conference was hosted by the Institute for Sustainable Water Resources at Monash University, as well as the International Water Association, Engineers Australia, and the Stormwater Industry Association. eWater CRC were the conference Principal Sponsor. Over 370 people attended the conference, with approximately 120 coming from overseas. The conference discussed the latest advances to modelling urban water issues (including climate change, water quality processes, decision making and risk management). The WSUD theme showcased not only the latest in technological development (a highlight was the advances in biofiltration technology), but also case studies in greenfield and retrofit situations. Social and institutional issues were discussed, with new insights into capacity building being presented.

The conference was organised by a Committee chaired by Ana Deletic and Tim Fletcher (Monash University). The Committee included Tony Wong (Ecological Engineering), Grace Mitchell (Monash University), Rebekah Brown (Monash University), Stephen Gray (CSIRO), Andrew McCowan and Ketah Jansons (Water Technology), Graham Rooney (Melbourne Water) and Peter Diprose (Stormwater Industry Association of Victoria).

Selected papers from the conferences will be produced in Water Science and Technology and a special edition of the Australian Journal of Water Resources. Copies of the **Conference Proceedings** are now available for purchase. To arrange purchase, please visit <http://iswr.eng.monash.edu.au> and download an order form.

Perhaps one of the greatest highlights of the conference was the excellent presentations by all postgraduate students within ISWR; this was commented on by many of our colleagues from other institutions. I am confident that these students will have enhanced their post-study employment prospects with the way they presented and engaged with colleagues at the conference.

As for the conference dinner, we'd best let the 'photos do the talking.....(see last page)'

Tim Fletcher
Tel: (03) 9905 2599
Email: tim.fletcher@eng.monash.edu.au

Ana Deletic
Tel: (03) 9905 2940
Email: ana.deletic@eng.monash.edu.au

The Acerbic Academic

Tony Ladson

Barmah-Forest. In previous articles, I've mentioned the work of the ISWR in relation to the conference '*Barmah-Millewa Forest: Indigenous heritage, ecological challenge*' that was held last June. Papers from the conference have just been released as a special issue of the *Proceedings of the Royal Society of Victoria* (Vol. 117 No. 1). Geoff Lacey (University of Melbourne) and I were guest editors. There has been some interest in the rural press with stories relating to the conference proceedings in the *Border Mail* (1 April), the front page of the *Riverine Herald* (3 April) and the *Country News* (3 April). Most attention has focussed on the link between grazing and declines in the ecological condition of riparian areas but there are also papers on: Yorta Yorta occupation and 'the search for common ground'; Geomorphology of the forest; changing hydrology; water management; summer flooding; fallen-timber; fish; and catchment management. Please let me know if you'd like more information or a copy of the table of contents.

A long way from the Barmah-Forest are the **Mesopotamian Marshes** which form at the junction of the Tigris and Euphrates Rivers in Iraq. Until recently, these marshes formed one of the most ecologically significant wetlands in the world which covered about 20,000 km² (ten times larger than the Barmah-Millewa Forest), in an otherwise arid landscape. During the 1990s the area was largely destroyed by Saddam Hussein's regime through damming and diversion of water. Now, there are plans to rehabilitate areas of the Marshes, but it is not just a matter of bringing the water back. Salinity is a major problem and highly saline water must be contained if surrounding areas are to be restored. Representing the Institute, I was invited to chair a session on the Mesopotamian marshes at a conference organised by the Australian-Iraqi forum held at the University of Melbourne. This rated a mention at the Victorian Legislative Assembly.

If you'd like to know more about any of this research, please contact me at tony.ladson@eng.monash.edu.au.

Tony Ladson
Tel: 9905 4983
tony.ladson@eng.monash.edu.au

Research Funding Success for Further Stormwater Reuse Research

Grace Mitchell

Researchers at the Institute for Sustainable Water Resources was successful in Round 3 of the Smart Water Fund, being awarded over four hundred thousand dollars to conduct research on stormwater reuse. The project is entitled “Quantifying Stormwater Recycling Risks and Benefits” and is a collaboration with researchers at the Universities of New South Wales and Melbourne.

The project will provide crucial knowledge about the actual water harvesting performance of urban stormwater recycling systems, the level of pathogens and other water contaminants moving through the system (from collection to point-of-use) and the associated environmental and human health risk posed.

Our understanding of the performance of the systems that recycle general stormwater is limited and little knowledge exists on human and environmental risks posed by these systems. One of the main problems is the lack of data on system performances – which this important project will address through the monitoring of three operating stormwater reuse systems:

- Royal Park stormwater treatment and reuse system;
- Altona Green stormwater reuse system; and
- Monash University stormwater reuse system.

Considerable support for the project has been provided by the City of Melbourne (Royal Park site) and the City of Hobsons Bay (Altona Green site).



Caption: *Peter, Justin and Frank beginning the process of monitoring system design with Cheryl (UNSW) looking at the site for the first time.*



Caption: *Ana doing a site inspection at the Monash University Stormwater Reuse site.*

Grace Mitchell
Tel: 9905 4947
Email: grace.mitchell@eng.monash.edu.au

What, who, why and where....

James Grove

Since the last ISWR newsletter I have done a little bit more work on the urban geomorphology review, pulling some of the details together for a conference presentation at the Australian New Zealand Geomorphology Group Conference. The conference ran from 13th -17th March in an idyllic location, across the road from the beach at Taipa Bay, North Island, New Zealand. Never before have I given a presentation in wet boardshorts, and with salt encrusted hair.

I presented a longer version of the paper at a department seminar on the 3rd of March, including some extra work on the concept of managing urban streams using a negative reference point. So rather than, how good could the stream become, being the measure, is it not more realistic to talk about how bad it could get. I am hoping to present this to Melbourne Water in the near future.

Work on the geomorphic consequences for Little Stringybark Creek of retrofitting Mt Evelyn is still on-going with EarthTech Consulting. Tony and I have been counting the hours/days/months for that project to reach completion. As I write I am putting finishing touches to the report, that is suggesting that with previous land clearance, and channel incision, the geomorphic effect of urbanization itself is relatively minor.

Another big time-eater at the moment is the Riparian Restoration Experiment that Tony and I are working on with Sam Lake, and Paul Reich in Biology. At the moment I am trying to get a good Differential GPS survey, of the 6 x 1 km reaches, near Castlemaine and Euroa. So far I have the acclaim of being the first person to cause the complete failure of the Trimble controlling station hired to me by Ultimate Positioning. A great honour. So this means I am out again standing in smelly pools, hoping that we can use a detailed survey to work out some of the dynamics of how intermittent streams dry out.



In amongst all this I managed to compete in a cross country marathon from Wanaka to Queenstown, New Zealand. I was hoping that as we were starting in Shania Twain's property she would make an appearance. It was not to be, however, the race was fantastic with amazing hills and lots of river crossings (so that makes it work as far as I am concerned).

James Grove
Tel: 9905 5577
Email: james.grove@eng.monash.edu.au

Rain Gardens to Reduce Pollution in Melbourne's Waterways

Here is an extract from a recent article from the "Monash Journal".

Monash researchers have developed 'rain gardens' that filter Melbourne's storm water, preventing chemically-tainted urban run-off from polluting Port Phillip Bay and local streams.

With research partners, the scientists have developed rain garden biofilters through which rain run-off is channeled and filtered through soil and plants. The run-off is then collected for re-use in irrigation, or piped back into the storm water drain network.

The rain gardens mean cleaner water will trickle into Melbourne's bay -- free of pollutants such as nitrogen and heavy metals.

The Director of Monash's Institute of Sustainable Water Resources, Dr Tim Fletcher, said dirty storm water was the most significant threat to the health of Port Phillip Bay.

"The government's environment strategy is to protect the Bay from nitrogen, and to reduce pollutants in the Yarra River, because their sustainability depends on that," he said.

As a result of work by Melbourne Water and other organisations, including Monash, the rain gardens are already operating in new residential developments, including Docklands, and in inner urban areas such as Richmond. Averaging around five square metres in size, the gardens 'clean' storm water run-off as it passes through a bed of sandy loam soil which is filled with reeds and other water-friendly plants.

These world-leading developments were highlighted at the 7th International Urban Drainage Modelling and 4th Water Sensitive Urban Design International Conferences in Melbourne, organised by Dr Fletcher and Dr Ana Deletic from the Institute.

Next Issue

30 June 2006

