

## **NZWWA SWANS-SIG – Small Wastewater and Natural Systems Special Interest Group**

### **NEWSLETTER No. 9 April 2008**

#### **EDITORIAL**

Since the last issue of the SWANS-SIG Newsletter (No. 8, July 2007) there has been a major development across the Tasman relative to the small wastewater area. During the Armidale “On-site ‘07” conference there was a coming together of NOSSIG (National On-site Systems Special Interest Group) and I&DWS-SN (Integrated & Decentralised Water Systems Specialist Network) to form a new combined group under the umbrella of the AWA (Australian Water Association). This combined group has recently (March 2008) settled on the name “Small Water and Wastewater Systems (SWWS) Specialist Network” with the “small water and wastewater systems” title reflecting that of the similar networking group within the “International Water Association”.

There is a world-wide interest in provision of sustainable water and wastewater services at the small community level which is gaining momentum through the linking of like minded professionals via specialist networks. The Australian network SWWS newsletter has recently made reference to the US initiative by WERF (Water Environment Research Foundation) with the March 2007 development of the Baltimore Charter for Sustainable Water Systems. This charter was the outcome of an international meeting of specialists of many disciplines associated with decentralised water, wastewater and stormwater treatment and management. The charter embraces a commitment to “implementing more sustainable water systems by expanding uses and opening new markets for small-scale treatment processes, advancing research on micro-biological and macro-ecological scales, inventing new technologies based on nature’s lessons, creating new management and financial institutions, reforming government policies and regulations, and elevating water literacy in the public”. The WERF website has numerous references to decentralised wastewater topics and research studies.

Information sources for the above groups are:

SWWS Specialist Network [[www.awa.asn.au](http://www.awa.asn.au) and links to “Networks” then “Small Water and Wastewater Systems”] Contact is Sarah West, President and Newsletter Editor, [sarahmwest@gmx.net](mailto:sarahmwest@gmx.net).

IWA Small Water and Wastewater Specialist Group [[www.iwahq.org](http://www.iwahq.org) and links through “Groups”]

WERF [[www.werf.org](http://www.werf.org) for a range of information on decentralised wastewater systems research] Contact to join the Baltimore Charter group is Valerie Nelson, Director of the Coalition for Alternative Wastewater Treatment, [valerie508@aol.com](mailto:valerie508@aol.com).

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## **ESTABLISHMENT OF a NATIONAL OSET (On-site Effluent Treatment) TESTING FACILITY**

**Origins of the Testing Facility:** An OSET (on-site effluent treatment) testing facility was established in Rotorua in 2005 to assess the nitrogen removal performance of on-site wastewater treatment units in meeting Environment Bay of Plenty (EBOP) and Environment Waikato regional plan requirements for nitrogen discharge limits to sub-surface soakage systems draining to the Rotorua Lakes catchments and the Lake Taupo catchment. The testing programme was developed in conjunction with Rotorua District Council (RDC) who set up and sited the testing facility within the grounds of the Rotorua Wastewater Treatment Plant. RDC provide sampling and laboratory support services in gathering data and compiling analytical results. EBOP manages the project including the database recording and reporting of testing results. Over the 2005/2006 period five treatment plants were involved in the initial testing trials. The results of these first trials have been reported by SWANS-SIG (Newsletter No. 8, July 2007). Currently some seven treatment units are under test, with strong interest from other manufacturers throughout NZ in having their systems tested. The facility was upgraded prior to the commencement of the October 2007 testing programme, and capacity has been provided for assessing up to seven units at a time. The testing procedures cover not only nitrogen reduction performance of these units but the full range of effluent quality parameters.

**SWANS-SIG Interest in the Project:** At the 2004 AGM of SWANS-SIG the Management Committee was directed to develop a project associated with assessing the performance of household size on-site wastewater treatment units. It was recognised that there are some 25 or more manufacturers of such systems in NZ with new models and technologies being continuously introduced and/or developed. During 2005 the Ministry for the Environment, in responding to meetings with Regional Council CEOs at which concerns re the performance of on-site wastewater treatment plants was expressed, undertook an issues and options review of on-site wastewater management in NZ with a view to considering an NES (National Environmental Standard) for on-site wastewater management. This review identified a need for a national testing facility for certifying the performance of ex-factory OSET units. SWANS-SIG subsequently entered into dialog with EBOP and RDC regarding converting the Rotorua testing facility into a National Facility. Both councils indicated support for providing ongoing services in operating and managing the facility in conjunction with SWANS-SIG auditing of test results and the provision of performance certification for tested units.

**The National Facility Proposal:** SWANS-SIG has drawn up a business plan for a three stranded approach to performance certification of OSET systems including ex-factory testing at the Rotorua facility (Strand 1), field performance assessment of tested systems over a 12 month period (Strand 2), and product integrity testing via Telarc SAI (Strand 3, based on SAI Global test procedures to current Australia/New Zealand Standards). The proposal is for Strand 1 of the project to be funded by manufacturers' testing fees covering the RDC testing costs with grants from Regional and District Councils covering the costs associated with EBOP management of the facility and SWANS-SIG auditing procedures and certification. Strand 2 costs would be covered by manufacturers testing fees and council grants, with Strand 3 charged at cost to the manufacturers. Testing facility and field testing results would be managed in a national database accessible to the funding organisations and respective manufacturers, with SWANS-SIG auditing reports being made available to the general public as a service to communities serviced by on-site wastewater systems.

**Current Progress:** Following the presentation of the business plan to a joint meeting of SWANS-SIG, EBOP and RDC representatives in August 2007, exploration of funding options began with approaches to the Ministry for the Environment and groups representing

regional and district councils. These approaches are still in progress. Immediate tasks involve setting up a joint venture governing body involving NZWWA, Environment Bay of Plenty, and Rotorua District Council plus organising a SWANS-SIG auditing group to develop certification evaluation procedures relating to the Strands 1 and 2 testing programme.

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**SWANS-SIG STREAM at NZWWA 50<sup>th</sup> ANNIVERSARY CONFERENCE and EXPO  
Christchurch Convention Centre, 24 – 26 September 2008**

The SWANS-SIG one day stream at the 2007 conference in Rotorua attracted 8 high quality papers attended by between 55 to 90 persons throughout the several presentations. For this year's Anniversary Conference SWANS-SIG is again participating, and paper abstracts are being sought for presentation in the one day stream dealing with research and practice in small community wastewater and natural systems. The overall conference theme is "Ensuring Water for Our Future", and there are clearly opportunities for members of SWANS-SIG to outline via paper presentations the opportunities for decentralised and distributed wastewater servicing options in contributing to future best practice in sustainable wastewater servicing.

Conference **Key Dates** are:

18 April	Submission of Abstracts and Poster Summaries
23 May	Authors advised of selection
11 July	Manuscripts due
8 August	Poster summaries close
22 August	Final manuscripts (with any corrections)
5 September	PowerPoint presentations due

To submit an abstract go to [www.nzwwa.org.nz](http://www.nzwwa.org.nz) and the 50<sup>th</sup> Anniversary Conference link.

**FINAL CALL FOR ABSTRACTS**  
**All accepted Abstracts and Posters received by Friday 18 April will go into a draw for a free conference registration**

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**CONFERENCES**

**APRIL 2008**

**NZLTC Queenstown, Wednesday 16 to Friday 18 April [THIS WEEK]**

This year's annual conference of the NZ Land Treatment Collective (NZLTC) includes two days of paper presentations plus a full day field visit, all on the theme "Decentralised Waste Management". The international keynote speaker is Dr Robert (Bob) A. Rubin of North Carolina State University. For late registrations and details of accommodation, go to [www.ensisjv.com](http://www.ensisjv.com) and the links to "Working with Us", "Collaborations", "NZ Land Treatment Collective", "Annual LTC Conference" and "Next Conference".

Papers to be presented are:

<u>Author/s</u>	<u>Title</u>
Alan Leckie and Peter Clinton	Municipal biosolids application to central South Island radiata pine plantations.
Andrea Donnison and Colleen Ross	Conventional farm dairy ponds as a source of E. coli and Campylobacter in rural streams
Anwar Ghani et al.	Enhancing New Zealand soil carbon sequestration using organic wastes
Barry Johnson	Proposed national environmental standards for on-site waste water systems
Colleen Ross and Andrea Donnison	Faecal bacterial concentrations in surface runoff on a soil from the Toenepi catchment
Dave Stewart	Project pure: Treatment and disposal to land of Wanaka's wastewater
Gerty Gielen et al.	Impact of land application design on removal of sewage derived pharmaceuticals
Greg Barkle and Aaron Wall	Do you know what water you are sampling? Separating groundwater and event water in stream flow
Guna Magesan et al.	Monitoring and sampling soil solution in land based waste treatment systems
Hailong Wang et al.	An overview of technologies for sustainable management of biosolids.
Hamish Lowe and Jayne Hill	Determining minimum lot areas for sustainable on-site waste water discharge
Ian Wallace	The unknown aspects surrounding Nitrogen pollution, regulatory issues and innovative schemes
Jiafa Luo et al.	Mitigation of the greenhouse gas nitrous oxide from deposition of animal excreta and application of effluent to land
John Lavery	Case Studies in the Beneficial Reuse of Biosolids: Are we moving forward or backward?
Keith Martin and Jim Buchan	Accountability in the wastewater industry
Lisa Langer et al.	Community dialogue for water and wastewater management in a peri-urban/peri-rural community: research in progress
Michael Quintern et al.	Vermicomposting of organic wastes in New Zealand – An overview
Phillip Geary et al.	Wastewater treatment in on-site sand mounds
Richard Brice and Tony Barrett	Clandeboye - Fonterra Wastewater Treatment System
Rob Potts and Martin O'Malley	Land treatment in Queenstown – Trials and tribulations
Ron McLaren	Comparison of methods to predict metal solubility and bioavailability in biosolids-amended soils
Sam Weiss	Rotorua on-site effluent treatment trial - latest results
Sandy Ormiston et al.	To reticulate or not to reticulate- That is the question
Tom Speir et al.	Simulation of biosolids metal impacts on soil biological properties and plant germination using heavy metal salts

**SEPTEMBER 2008**

**SWANS-SIG Stream at the NZWWA 50<sup>th</sup> Anniversary Conference, Christchurch Convention Centre, 24 – 26 September 2008,**

Abstracts due this week, 18 April 2008 (see news item above).

**OCTOBER 2008**

**On-site and Decentralised Sewerage Conference, 12 – 15 October 2008, Benalla, VIC “Coming Clean: Sustainable Backyards and Beyond”.**

This conference is sponsored by AWA (Australian Water Association) and organised by the Small Water and Wastewater Systems (SWWS) Specialist Network. Its aim is to address the topic “Achieving Best Practice by 2012 – How do we do it?” The intention is to explore themes around the questions:

- What does best practice look like?
- What do we need to change to achieve best practice?
- How will we know when we are there?
- What are the next steps?
- Who will champion achieving best practice by 2012?

Dr George Tchobanoglous of the University of California, Davis, will be the keynote speaker. Abstracts may be submitted to the AWA website ([www.awa.asn.au](http://www.awa.asn.au)) up to 9<sup>th</sup> May 2008.

**FEBRUARY 2009**

**DEWASIN (Decentralized Water and Wastewater International Network) 3<sup>rd</sup> Specialised Conference, Birendra International Convention Centre & Hyatt Regency, Kathmandu, Nepal, 9 to 11 February, 2009**

Sponsored by the International Water Association (IWA) and its members of Nepal this conference is to cover a range of themes in small scale water and wastewater management. Paper abstracts are invited to be submitted up to 30 July 2008. Further details are available from the conference website [[www.iwa.nepaliko.com](http://www.iwa.nepaliko.com)] or the DEWASIN Conference Secretariat C/o Ishan Regmi, GPO Box 4836, Kathmandu, Nepal, E-mail [ishanregmi@hotmail.com](mailto:ishanregmi@hotmail.com) or the Conference Convener, Megha Raj Regmi at [regmi605@hotmail.com](mailto:regmi605@hotmail.com)

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