

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

NEWSLETTER No. 11 August 2009

EDITORIAL

This year SWANS-SIG is to hold an ‘AGM’ at the Water NZ Annual Conference in Rotorua on Thursday 24 September. This will be the second ‘AGM’ since SWANS-SIG was formed in 2003, the first being following the On-Site Wastewater Workshop held on 5th October 2004 as a pre-conference event at the NZWWA 46th Annual Conference in Christchurch. The workshop attracted some 110 participants with a full schedule of papers. Some 20 attendees stayed on for the AGM. This was a substantial improvement from the attempt to hold an in-augural AGM at the 2003 NZWWA Conference in Auckland when only 7 persons attended. These numbers did not constitute a quorum, so an Acting Management Committee was formed, members of whom were subsequently formally elected at the 2004 meeting.

Although the 2004 AGM resolved to hold future annual meetings in association with NZWWA annual conferences, this became somewhat impractical as the one-day SWANS-SIG conference stream associated with each conference was always timetabled on the same day as the NZWWA AGM. Meanwhile the Management Committee just got on with business in implementing the directions given it by the 2004 meeting in respect of developing a national certification programme for on-site domestic wastewater treatment plants. This year the SWANS-SIG stream at the Rotorua conference is on the day following the Water NZ AGM, so this opens the way for an AGM avoiding the clash of past years. We have an hour and a half to conduct the meeting following the last paper of the day and prior to delegates heading off for the Conference Dinner. The Management Committee looks forward to meeting up with and seeking direction from members on this occasion.

Since 2004 the SWANS-SIG e-mail distribution list has doubled from around 170 members to 340 members. Membership is open to all Water NZ members who indicate by ticking a box on their annual membership renewal form their interest in joining the Special Interest Group (SIG). Water NZ members may thus belong to several SIGs depending on the range of their professional interests and activities. The strong interest in SWANS-SIG topics has been reflected in attendances at paper presentations during annual conferences and the growth in the distribution list. At this stage all members receive from their listing is an electronic newsletter on an occasional basis, access to SWANS information on the Water NZ website SIG link (including back-numbers of all newsletters), and opportunities to participate in the annual conference stream and the occasional joint conferences with the NZ Land Treatment Collective (LTC). NZLTC covers the “natural systems” element of SWANS-SIG, and it is fitting that the two groups get together occasionally in a joint meeting. The next joint event is in Dunedin next year in March.

Finally, readers will be well aware by now that NZWWA has changed its trading name to Water New Zealand as a re-branding exercise. This seems to have been well received by the membership and the community. The use of the term “wastes” in the context of the water environment has become redundant as a more integrated approach to resource use and management has evolved over the years.

Ian Gunn, Editor
[ian.gunn@xtra.co.nz]

WATER NZ holds SIGs FORUM

The relationship between the several Special Interest Groups in Water NZ and the Board and management staff has been maintained over the years via SIG Chair meetings held either individually or collectively with staff and/or with the Drainage Managers or Water Supply Managers Groups [now combined as Water Services Managers Group (WSMG)]. In addition, a SIG liaison staff member is assigned as support person in handling SIG activities through Head Office.

This year Water NZ held a SIG Forum all day meeting in Wellington (31 July) at which SIG Chairs met with President Martin Smith, CEO Murray Gibb, Manager Advocacy and Learning Peter Whitehouse, Administration Officer Jan Lang, and SIG Liaison staff Susannah (Susy) Peddie and Hannah Dawson. [Susy is the SWANS-SIG liaison.] SIG groups represented included Trade Waste, Stormwater, Operations, Backflow, Modelling, Small Water Systems, and Small Wastewater and Natural Systems. Brent Manning of New Plymouth District Council participated for the WSMG, and Mijo Katavic attended as Chair of the Technical Committee (responsible for conference papers and conference programme).

The discussions during the day covered a wide range of topics and included an overview of individual SIG activities. It appears that SWANS-SIG is the only group with a 'regular' newsletter (if one can call 10 newsletters so far in seven years 'regular'). Trade Waste SIG activity is centred on an annual stand-alone conference administered by Avenues Events Management, Water NZ's contracted conference and publishing agency. Other SIGs have one-day streams at annual conference (as does SWAN-SIG) as well as some holding regional meeting programmes.

Overall the discussions on objectives and activities between Water NZ Board, staff and SIG representatives were most useful in fostering 'esprit de corps'. With the government tabling a Cabinet Paper "A New Start for Fresh Water" and Water NZ forming the Turnbull Group as a key initiative in 2008, we look forward to interesting times in the development and implementation of Water NZ's vision of "*ensuring water for our future*".

It has been decided that two SIG Forum meetings per year are desirable, one around February/March, the other prior to annual conference (say in August).

THE TURNBULL GROUP and GOVERNANCE of WATER in NEW ZEALAND

During 2008 Water NZ gathered together a group of individuals, each specialists within their own fields associated with the water environment, as an "independent multi-sector body committed to a solutions-based approach to improved water management" in NZ. The group held its meetings in Turnbull House in Wellington, and adopted its name from this venue. Its report, entitled "Governance of Water", was published on 30 July 2009 as "A proposal from the Turnbull Group", and can be downloaded from the Water NZ web-site www.waternz.org.nz.

The Group identified seven overarching goals "to which proposals for water governance reform should contribute". These, in summary, relate to:

- providing safe drinking water and sound environmental management of wastewater and stormwater;
- supporting safe recreational uses of water along with ensuring sustainable fisheries and wildlife populations;
- ensuring water-dependant industries (agriculture in particular) are sustainable and maintain secure livelihoods for practitioners;

- improving economic performance via efficient water allocation and management;
- enabling electricity generation to contribute to economic development while recognising carbon constraints;
- providing amenity and recreational benefits for community and international visitors; and
- providing for cultural understanding and values related to water management, particularly in relationships between iwi and the Crown.

The 30 July report represents “a considered opinion which reflects the synthesised deliberations of the Turnbull Group”. It does not necessarily accord with the complete views of all participants, nor the organisations to which they belong. In fact, the 18 members of the diverse group were invited to participate as individuals rather than as representatives of those organisations.

The two key areas in which the group seeks to contribute to government initiated reform of environmental management are:

- the establishment of a governance system for management of water allocation and quality which includes an integrated and collaborative framework which facilitates high-quality professional management; and
- the setting up of an operational system for management of water supply, wastewater and stormwater in both urban and rural environments which contributes to economic, environmental and social outcomes.

The report then goes on to outline what the group sees as appropriate governance arrangements for both management of water, and operation of water services. The Group states that “overall, the community expects its water management and services to be effective, efficient, democratically controlled, and oriented to serving the national interest”.

OSET TESTING FACILITY in ROTORUA – TRIAL RESULTS 2005 to 2008 – AN UPDATE

Newsletter No. 10, February 2009, covered in some detail the results of the three Trials undertaken at the Rotorua On-site Effluent Treatment (OSET) testing site [Trial 1 (2005/2006), Trial 2 (2006/2007) and Trial 3 (2007/2008)].

It indicated that, based on the nitrogen reduction performance of tested treatment units those units approved for use within the Rotorua Lakes Catchments were as follows:

<u>Trial 1 (2005/2006):</u>	Innoflow AdvanTex AX20 Supertreat SB440 (N12)
<u>Trial 2 (2006/2007):</u>	Hynds Lifestyle “Ultimate” RX Plastics Airtech 9000 NR
<u>Trial 3 (2006/2007):</u>	Waipapa Tanks Maxi-Treat MV-C3000

In respect of Trial 3, two treatment units (Innoflow AdvanTex AX20 and Oasis S2000) were reported to be still under review as to their performance certification.

Subsequently, Environment Bay of Plenty (EBOP) has changed the details on its web-site [www.envbop.govt.nz/Environment/Rotorua-Lakes-Catchment.aspx] to

- first, remove recognition of the Trial 1 results for the Innoflow AdvanTex AX20 and the Supertreat SB440 (N12) units, and
- second, to add to the Trial 3 results the Oasis Clearwater S2000 unit.

EBOP recently decided that due to the uncertainty surrounding the flow variability throughout Trial 1, the nitrogen reduction approvals based on this trial would be withdrawn. Although Trial 2 (2006/2007) was carried out at the original test facility before the upgrade leading to Trial 3, awareness of the flow control problems of Trial 1, coupled with the installation of water meters and a telemetry system, enabled EBOP to closely monitor Trial 2 flow data and relate this to operation of each system. Trial 2 results thus stand.

The issues relating to further review of Trail 3 results for Innoflow AdvanTex AX20 and Oasis S2000 treatment units centre around a 500L ‘dump’ of inflow during early stages of the nitrogen reduction testing phase, and the fact that temperature variation throughout the winter testing period had an atypical influence on system performance during the 90 day nitrogen reduction evaluation period. The one unit that meet the stringent criteria of 15 g/m³ under the test protocol (the Waipapa Tanks Maxi-Treat MV-C3000) was fully insulated throughout the test, although some other units were insulated at the end of the test run and checked out under further testing beyond the official test period. The Oasis Clearwater S2000 has since been added to the ‘approved’ list following review of the original results. However, Innoflow AdvanTex AX20 is still under review. The final reports for both the Oasis and Innoflow units have yet to be updated by EBOP.

Meanwhile Trial 4 (November 2008 to July 2009) under the management of the National OSET TestFac has been completed, and awaits audit by SWANS-MAG (the Management and Auditing Group of the National OSET TestFac). Trial 3 results have been audited by SWANS-MAG in parallel with the EBOP performance assessment, and the release of this audit is expected this month.

For Trail 5, test site spaces are still available, with testing scheduled to commence in November. To enquire about taking up a test site during October and entering Trial 5, manufacturers or distributors should contact OSET TestFac Data and Reporting Manager Sam Weiss of EBOP [Sam.Weiss@envbop.govt.nz].

COROMANDEL ON-SITE CONSTRUCTED WETLAND COMMISSIONED

The Coromandel “Peninsula Post” of 14 May 2009 carries a report and photograph of the recently commissioned domestic wastewater wetland at the world famous Driving Creek Railway & Potteries owned and operated by Barry Brickell in Coromandel in township. The railway and pottery attracts over 400 visitors daily during peak summer months, and this has recently placed considerable strain on the aging and inadequate septic tank and soakage system. This has all been remedied by the installation of a new septic tank followed by secondary treatment in a two stage constructed wetland treatment system.

The wetland, or “botanical wastewater treatment system”, was designed and installed by Uli Rambeck of Pure By Plants, Waiheke Island. Uli built some 300 wastewater wetland systems in Europe prior to moving to NZ in 1996. Some of the more innovative ones were constructed on the roofs of commercial buildings. Although his wetland design conforms to European and US practices he has had difficulty in getting approving authority acceptance for the Auckland region as a permitted activity secondary treatment system, and has only installed three units on Waiheke Island. The Driving Creek system was processed through Thames Coromandel approval procedures in quick time (five weeks), enabling construction to be completed in March prior to a “good workout” over Easter. The final effluent is distributed via drip irrigation lines into land which is to be revegetated with native plants. [Reproduced from On-Site NewZ, Issue 09/3, July 2009]

**SWANS-SIG STREAM at WATER NZ 51st ANNUAL CONFERENCE and EXPO
“WATER 2020” Rotorua Energy Events Centre – Thursday 24 September 2009**

Papers currently scheduled for presentation in the SWANS-SIG Stream at this year’s annual conference are as follows:

Thursday 24 September:

<u>Time</u>	<u>Topic</u>	<u>Author(s)</u>
10:30am	National Environmental Standard for On-site Domestic Wastewater Management	Barry Johnson, MfE
11:00am	Domestic On-site Wastewater: Real and Relative Risks and Improved Levels of Services to End Users	A. Dakers & K. Morrison
11:30am	Septic Tank Failure in New Zealand: How serious is the Problem?	D. Ray
1:30pm	Unique Challenges of Designing for Small Communities	D. Wilson & D. Railton
2:00pm	Land Area and Pond Size – Do they Balance?	H. Lowe
2:30pm	Ensuring a Quality Outcome – Experiences in Delivering a Three Cubicle Toilet Block in a Semi Rural Environment	G. Williams & A. Andrew
3:30pm	Can Worldwide Examples Help Give Beneficial Use of NZ Biosolids ‘Wings’?	J. Lavery
4:00pm	Greenhouse Gas Emissions from Wastewater Treatment Schemes – Two New Zealand Case Studies	M. Coster
4:30pm	Holistic Sustainable Design Through Implementation of the 12 Principles of Green Engineering	A. Lloyd

The last three papers, 3:30pm to 5:00pm, are scheduled as a “Sustainability (SWANS)” session.

For those members not attending the full three days of the conference, a SWANS-SIG Stream Day Registration is available (to register, go to Water NZ web-site and the conference links).

NZLTC and SWANS-SIG CONFERENCE, DUNEDIN, March 2010

The NZ Land Treatment Collective has invited SWANS-SIG to joining it at its annual conference in Dunedin in mid-March 2010, with dates to be confirmed. This will be the second joint conference involving the two groups, the first being in Nelson 2006 [see Newsletter No. 6, April 2006 (go to the SWANS-SIG link on the Water NZ web-site for all past issues of this newsletter)].

The focus for the conference is to be “Beneficial Use of Wastes in Agricultural Landscapes” with the following areas of interest:

- Issues involving the land application of dairy wastes.
- Small wastewater and natural systems in low permeability soils.
- Waste issues for remote centres (e.g. DoC campsites and huts).
- Cultural, social, economic and environmental impacts of land application of wastes.

NZLTC Technical Manager, Marie Heaphy, advises that the above four areas of interest have been drawn up by the Technical Committee to provide a degree of structure around the conference programme. However, papers are not to be confined just to those topic areas, and contributions from SWANS-SIG members are invited in any of the special interest areas covered by our members experience and professional activity.

At this stage conference venues and confirmed dates are being arranged along with field visits which will include local on-site and/or small community wastewater projects. This newsletter will keep members up to date with organisational progress, and will forward the conference notice and call for papers these become available. Meanwhile, for any queries contact the SWANS-SIG Editor or go direct to Marie at Marie.Heaphy@scionresearch.com.

NOTICE of SWANS-SIG AGM, Thursday 24th September 2009

The Annual general meeting of Water NZ Small Wastewater and Natural Systems Special Interest Group (SWANS-SIG) is called for:

Time and Date: 5:00pm, Thursday 24 September 2008

Venue: Water NZ Annual Conference, Rotorua Energy Events Centre
[Check Room No. with the Conference Programme or the Registration Desk on the day – it will be that used for the SWANS-SIG paper Stream]

Agenda:

- Minutes of 5th October 2004 AGM
- Chair's report on activities over the last 5 years
- Project Report – Establishment and operation of the National OSET TestFac and the SWANS-MAG evaluation of test results
- Project development
- Election of Management Committee
- General business

Contacts:

Ian Gunn, SWANS-SIG Chair [ian.gunn@xtra.co.nz]
Ray Hedgland, SWANS-SIG Secretary [rhedgland@ftl.co.nz]

[**Note:** The meeting will conclude before 6:30pm in order to enable members time to proceed to the Conference Dinner from 7:00pm]
